

## **Part B 9.0: Specifications**

### **9.3: Particular Material Specifications**

#### **9.3: 9-15 MEP Materials**

## Commercial Roof Drains

### PVC, ABS, and Cast Iron Small Area Roof Drains

Roof Drains provide effective internal drainage of water from the roof surface, and are a practical year-round solution to removing water from the roof surface in any weather or season. Recommended for installation in flat areas with decks that are constructed of steel, wood, or concrete, these roof drains are suitable for many installations. Looking for more drainage solutions? Click [here](#).

#### ~~Sioux Chief 868-15 15" No Hub Cast Iron Roof Drain~~



See Spec Below



#### Features:

- Constructed of a enamel-coated cast iron
- Enamel-coated cast iron dome strainer with gravel guard
- Strainer free area (free grate area): 75.75 square inches
- [No-hub couplings](#) are available separately
- [View dimensions](#)





[3" ABS with Plastic Dome](#)

**Features:**

- ABS or PVC drain bodies fit over sch.40 DWV pipe
- Domes have at least 50 square inches of usable drain space
- View [ABS and PVC 2", 3", and 4" Roof Drain dimensions](#)
- View [6" ABS inlet Roof Drain dimensions](#)
- View [6" PVC inlet Roof Drain dimensions](#)

Roof Drain with Plastic Dome		
<a href="#">3" ABS Drain Body</a> - fits over pipe	\$60.43	<input type="text" value="0"/>
<a href="#">3" PVC Drain Body</a> - fits over pipe	\$57.41	<input type="text" value="0"/>
<a href="#">4" ABS Drain Body</a> - fits over pipe	\$60.96	<input type="text" value="0"/>
<a href="#">4" PVC Drain Body</a> - fits over pipe	\$67.78	<input type="text" value="0"/>
6" ABS Drain Body - <b>fits inside pipe</b>	\$104.98	<input type="text" value="0"/>
<a href="#">6" PVC Drain Body</a> - fits over pipe	\$84.23	<input type="text" value="0"/>

Roof Drain with Cast Iron Dome		
<a href="#">3" ABS Drain Body</a> - fits over pipe	\$66.54	<input type="text" value="0"/>
<a href="#">3" PVC Drain Body</a> - fits over pipe	\$69.00	<input type="text" value="0"/>
<a href="#">4" ABS Drain Body</a> - fits over pipe	\$66.96	<input type="text" value="0"/>
<a href="#">4" PVC Drain Body</a> - fits over pipe	\$66.70	<input type="text" value="0"/>

## SDcSN-Q42095-LP 8" Square Sanitary Design Drain, Light Duty

Sanitary Design Drains are manufactured without any inside seams or welds. The outlet is designed as an intricate part of the drain body to eliminate harborage points for bacteria growth. All drains meet the U.S. FDA Standards and are corrosion resistant.

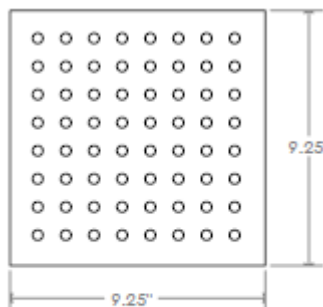
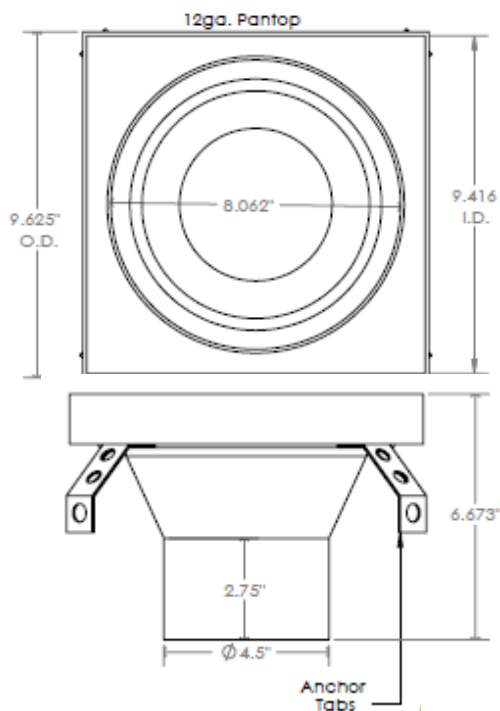
**Typical Applications:** Food and Beverage Manufacturing Plants, Institution and Restaurant Kitchens, Retail Food Preparation Areas and Chemical & Pharmaceutical Processing Plants.

**ENGINEERING SPECIFICATION:** StainlessDrains.com  
SDcSN-Q42095-LP, 8" Square Sanitary Design Drain, 12 Gauge, 304 Stainless Steel with sediment basket and perforated grate for light duty applications.



Standard Outlet Size

3" - 4"



### DRAIN OPTIONS:

- ☐ 316 Stainless Steel
- ☐ 1/2" Primer Tap Connection
- ☐ Schedule 10 or Schedule 40 Outlet
- ☐ Anchor Flange with Seepage Holes and Clamp Device
- ☐ Adjustable Threaded Outlet

### GRATE OPTIONS:

- ☐ 1/2 Grate
- ☐ 3/4 Grate
- ☐ Vandal Resistant Secured Grate

\*\*\*ALL DIMENSIONS ARE NOMINAL DIMENSIONS  
AND ARE SUBJECT TO CHANGE\*\*\*

**NOTE:** Sanitary Drains can be customized to meet specific requirements.



## SDcAD-R42060 6" Area Drain

StainlessDrains.com Area Drains are ideal for low to medium flow areas. All drains meet the U.S. FDA Standards and are corrosion resistant.

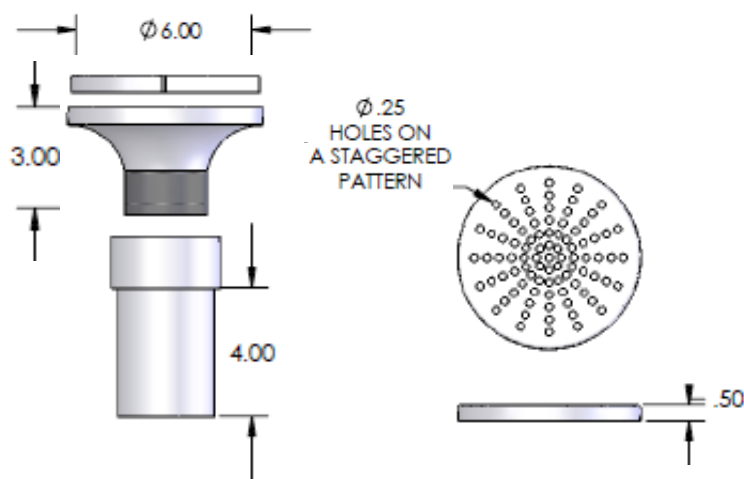
**Typical Applications:** Kitchens, Restrooms, Showers and wet areas, interior overflow applications

**ENGINEERING SPECIFICATION:** StainlessDrains.com  
SDcAD-R42060 6" Round Area Drain, 12 Gauge, 304 Stainless Steel, Adjustable Outlet



Standard Outlet Size

2" - 3" - 4"



\*\*\*ALL DIMENSIONS ARE NOMINAL DIMENSIONS  
AND ARE SUBJECT TO CHANGE\*\*\*

### DRAIN OPTIONS:

- ☐ 316 Stainless Steel
- ☐ 1/2" Primer Tap Connection
- ☐ Schedule 10 or Schedule 40 Outlet
- ☐ Anchor Flange with Seepage Holes and Clamp Device
- ☐ Non-Adjustable Outlet
- ☐ No Hub or TY Seal Connection

### GRATE OPTIONS:

- ☒ Square Top
- ☐ 12 Gauge Light Duty Perforated Grate
- ☐ Heavy Duty 3/8" Slotted Grate
- ☒ 1/2 Grate
- ☐ 3/4 Grate
- ☐ Vandal Resistant Secured Grate

**NOTE:** Area Drains can be customized to meet specific requirements.



# MEP Materials-10.0 Plumbing Fixtures

*American  
Standard*

FSC BLDG-DISABLED WASHROOM LAVATORY

**WHEELCHAIR  
USERS LAVATORY**  
VITREOUS CHINA



## WHEELCHAIR USERS LAVATORY

- Vitreous china
- Wall mount sink
- Front overflow
- For concealed arms support (by others)
- Faucet ledge (faucet not included)

### Faucet Holes on 102mm (4") centers

- ☐ **9141.011** Faucet holes on 102mm (4") centers (Illustrated)
- ☐ **9141.911** (Modification SKU) Faucet holes on 102mm (4") centers
  - Less overflow

### Faucet Holes on 267mm (10-1/2") centers

- ☐ **9140.013** Faucet holes on 267mm (10-1/2") centers
- ☐ **9140.021** (Modification SKU) Faucet holes on 267mm (10-1/2") centers
  - Extra right-hand hole

### Faucet Holes center hole only

- ☐ **9140.047** Center hole only

### Nominal Dimensions:

508 x 686mm  
(20" x 27")

### Bowl Sizes:

14" (356mm) wide  
14-3/4" (375mm) front to back  
4-3/4" (121mm) deep

### Compliance Certifications -

#### Meets or Exceeds the Following Specifications:

- ASME A112.19.2 for Vitreous China Fixtures



SEE REVERSE FOR ROUGHING-IN DIMENSIONS

#### To Be Specified:

- ☐ Color: ☐ White
- ☐ Faucet\*:
- ☐ Faucet Finish:
- ☐ Supplies with Stop:
- ☐ 1-1/4" Trap:
- ☐ Nipple:
- ☐ Concealed Arms Support (by others):
- ☐ Offset Grid Drain Assembly:

\* See faucet section for additional models available



MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.  
Top of front rim mounted 864mm (34") from finished floor.

FINISHED WALL

1-1/4" O.D. TAILPIECE

273mm (10-3/4")

181mm (7-1/8")

102mm (4")

114mm (4-1/2")

191mm (7-1/2")

686mm (27")

(6) 25mm (1") DIA. ACCESS HOLES

178mm (7")

178mm (7")

C/L

508mm (20")

(2) 54mm (2-1/8") DIA. HOLES FOR CONC. ARMS

(2) 11mm (7/16") DIA. ANCHOR SCREW HOLES

425mm (16-3/4")

203mm (8")

44mm (1-3/4")

67mm (2-5/8")

76mm (3")

168mm (6-5/8")

290mm (11-7/16")

229mm (9")

\* 203mm (8")

SUPPLIES AS REQ'D.

1-1/4" O.D. WASTE

1-1/4" O.D. TAILPIECE

156mm (6-3/16")

864mm (34")

SUGGESTED

FINISHED FLOOR

[illegible]

Technical drawing of a manhole assembly, showing top and side views with dimensions and labels.

**Top View Dimensions and Labels:**

- Finished Wall
- 1-1/4" O.D. TAILPIECE
- 273mm (10-3/4")
- 219mm (8-5/8")
- 70mm (2-3/4")
- 114mm (4-1/2")
- 191mm (7-1/2")
- 197mm (7-3/4")
- 686mm (27")
- 267mm (10-1/2")
- 178mm (7")
- 178mm (7")
- 508mm (20")
- C/L
- (6) 25mm (1") DIA. ACCESS HOLES

**Side View Dimensions and Labels:**

- (2) 54mm (2-1/8") DIA. HOLES FOR CONC. ARMS
- 425mm (16-3/4")
- 203mm (8")
- (2) 11mm (7/16") DIA. ANCHOR SCREW HOLES
- 44mm (1-3/4")
- 67mm (2-5/8")
- 165mm (6-1/2")
- 156mm (6-3/16")
- 864mm (34") SUGGESTED
- FINISHED FLOOR
- 1-1/4 O.D. WASTE
- 1-1/4 O.D. TAILPIECE
- 267mm (10-1/2")
- SUPPLIES AS REQ'D.
- 229mm (9")
- 168mm (6-5/8")
- 76mm (3")
- \* 290mm (11-7/16")

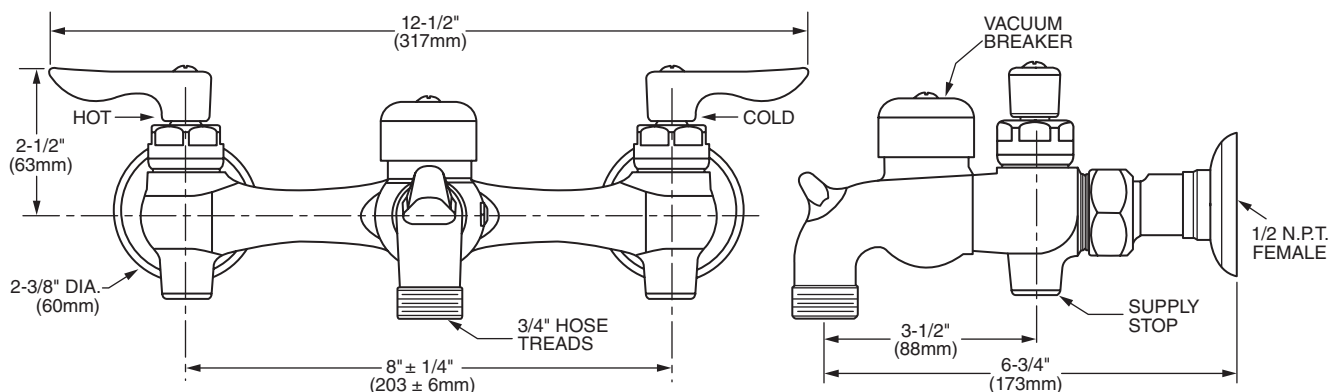
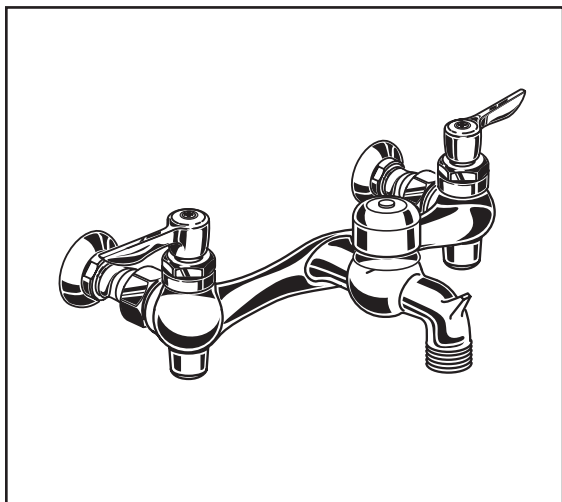
**MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.**  
Top of front rim mounted 864mm (34") from finished floor.

*American Standard*

Style That Works Better

**EXPOSED YOKE WALL-MOUNT  
UTILITY FAUCET  
WITH VACUUM BREAKER****MODEL NUMBER:**

- **8350.243 Exposed Yoke Wall-Mount Utility Faucet**  
 3" Cast brass spout with vacuum breaker. Ceramic disc valves. Integral supply stops. Vandal-resistant metal lever handles. Bucket hook. 3/4" Threaded hose end. 1/2" NPT female inlets.

**GENERAL DESCRIPTION:**

Cast brass body. Metal lever handles with hot and cold indicators and vandal-resistant screws. 1/4 turn ceramic disc valve cartridges. Vacuum breaker prevents back flow. Integral supply stops. Spout with bucket hook and threaded hose end. 1/2" female inlets with adjustable centers from 7-3/4" - 8-1/4" (197mm - 210mm).

**PRODUCT FEATURES:**

**Cast Brass Construction:** Durable - Excellent in high use applications.

**Ceramic Disc Valve Cartridges:** Assure a lifetime of drip-free performance.

**Vacuum Breaker:** Prevents back flow.

**Integral Supply Stops:** Permits easy and convenient access.

**Choice of Finishes:** Available in Polished Chrome (002) or Rough Chrome (004).

**SUGGESTED SPECIFICATION**

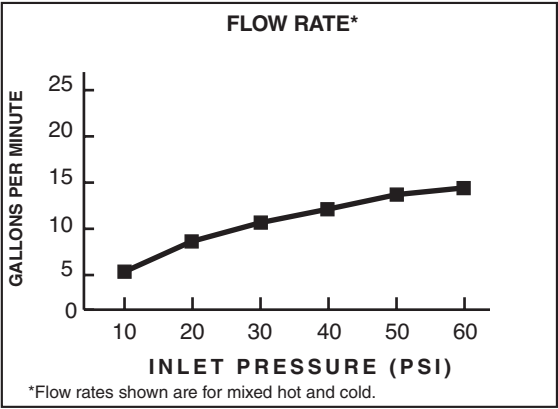
Exposed yoke wall-mount utility faucet shall feature a cast brass body with integral supply stops. Cast brass spout with bucket hook and vandal-resistant metal lever handles. Shall feature a vacuum breaker. Shall also feature 1/4 turn washerless ceramic disc valve cartridges. Fitting shall be American Standard Model # 8350.243.\_\_\_\_.



CODES AND STANDARDS

These products meet or exceed the following codes and standards:

- ASME A112.18.1
- CSA B 125
- ANSI A117.1



Product Number	Description	Finish Options	
		Polished Chrome 002	Rough Chrome 004
8350.243	Exposed yoke wall-mount utility faucet. Ceramic disc valves. Integral supply stops. Vandal-resistant lever handles.		

 MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES-CHECK LOCAL CODES



# CADET® PRO™ ELONGATED TOILET

VITREOUS CHINA

## CADET® PRO™ ELONGATED TOILET

### ❑ 215CA.104

- Features the **Cadet® Flushing System**
- Vitreous china
- High Efficiency Toilet (HET), ultra-low consumption (4.8 Lpf/1.28 gpf), utilizes 20% less water
- Meets EPA WaterSense® criteria
- Trade exclusive tank
- PowerWash® rim scrubs bowl with each flush
- Robust metal trip lever & metal shank fill valve
- Includes EZ-Install Tools w/color match bowl caps
- EverClean® surface included
- 3" flush valve
- Fully-glazed 2-1/8" trapway
- 12" (305mm) rough-in
- Generous 9" x 8" water surface area
- Chrome finish trip lever is supplied
- 1,000g MaP Score\*\* at 1.28 gpf
- 5 year warranty

### ❑ 3517C.101 Elongated Bowl

### ❑ 4188A.104 Tank

### Nominal Dimensions:

767 x 441 x 733mm (30-1/8" x 17-3/8" x 28-7/8")

Fixture only, seat and supply sold separately

### Alternative Tank Configurations Available:

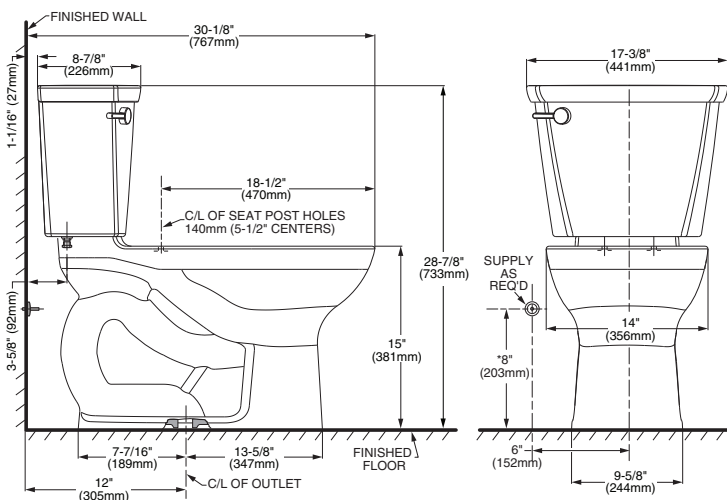
- ❑ **4188A.154** Tank complete with Aquaguard Liner
- ❑ **4188A.155** Tank complete with Aquaguard Liner and trip lever located on right side
- ❑ **4188A.164** Tank complete with tank cover locking device
- ❑ **4188A.174** Tank complete with Aquaguard Liner and tank cover locking device
- ❑ **4188A.105** Tank complete with trip lever located on right side
- ❑ **4188A.165** Tank complete with tank cover locking device and trip lever located on right side

### Compliance Certifications -

### Meets or Exceeds the Following Specifications:

- ASME A112.19.2-2008/CSA B45.1-08 for Vitreous China Fixtures
- US EPA WaterSense® Specification for HETs

\*\* Maximum Performance (MaP) testing performed by IAPMO R&T Lab. MaP Report conducted by Veritec Consulting, Inc. and Koeller and Company.



### NOTES:

THIS TOILET IS DESIGNED TO ROUGH-IN AT A MINIMUM DIMENSION OF 305MM (12") FROM FINISHED WALL TO C/L OF OUTLET. SUPPLY NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY. \* DIMENSION SHOWN FOR LOCATION OF SUPPLY IS SUGGESTED.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

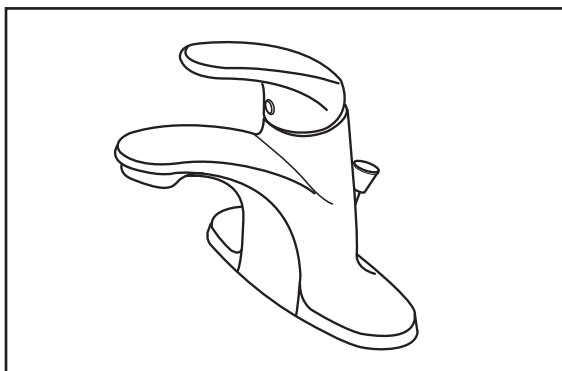
### To Be Specified:

- ❑ Color: ☐ White ☐ Bone ☐ Linen ☐ Black
- ❑ Seat: #5321.110 EverClean® Elongated Seat with Slow Close Snap-Off Hinges
- ❑ Supply with stop:

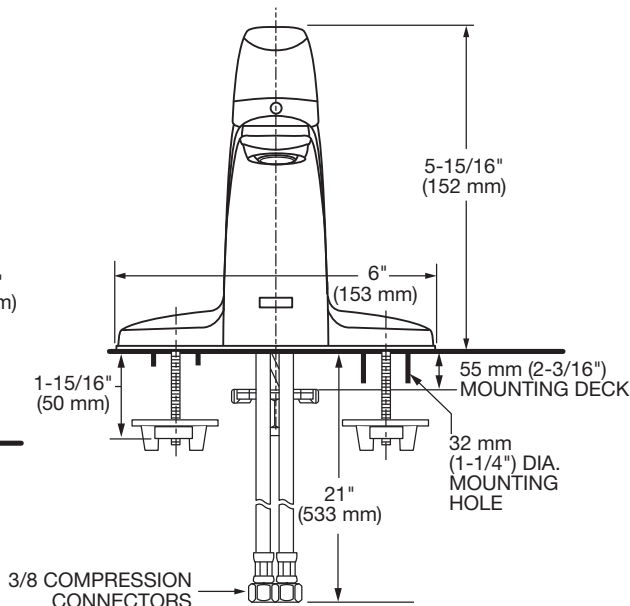
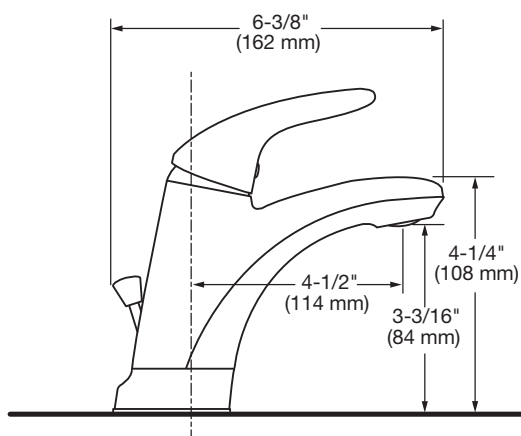


**Cadet® PRO**



*American  
Standard***COLONY® PRO**  
**SINGLE CONTROL LAVATORY FAUCET****7075.050 Shown****MODEL NUMBER:**

- ❑ **7075.050 Single Control Centerset**  
Metal lever handle. Metal pop-up drain.  
0.5 gpm pressure compensating vandal resistant spray.
- ❑ **7075.054 Single Control Centerset**  
Metal lever handle. LESS drain. LESS pop-up hole & rod.  
0.5 gpm pressure compensating vandal resistant spray.
- ❑ **7075.055 Single Control Centerset**  
Metal lever handle. Less drain.  
0.5 gpm pressure compensating vandal resistant spray.
- ❑ **7075.056 Single Control Centerset**  
Metal lever handle. Grid drain. LESS pop-up hole & rod.  
0.5 gpm pressure compensating vandal resistant spray.

**GENERAL DESCRIPTION:**

Metal body with metal lever handle. Washerless 35 mm ceramic disc valve cartridge with integral hot limit safety stop. Braided color-coded flexible supply hoses with 3/8" compression connections. Pressure compensating vandal resistant spray with 0.5 gpm/1.9 L/min. maximum flow rate.

**PRODUCT FEATURES:**

**Pressure Compensating Spray:** Provides a constant water flow of 0.5 gpm throughout the pressure range.

**Ceramic Disc Valve Cartridge:** Assures smooth, precise valve control and a lifetime of drip-free, maintenance-free performance.

**Adjustable Hot Limit Safety Stop:** Limits the amount of hot water allowed to mix with cold. Reduces the risk of accidental scalding.

**Lead Free:** Faucet contains  $\leq 0.25\%$  total lead content by weighted average.

**Simple One-Person Installation:**  
Faucet drops in from top. Quick spin nuts secure faucet in place.



ADA COMPLIANT

WATER  
EFFICIENT**SUGGESTED SPECIFICATION**

Single control lavatory fitting shall feature a metal body with metal lever handle. Shall feature flexible hose connections. Shall also feature a washerless ceramic disc valve cartridge with integral hot limit safety stop. Shall feature water conserving vandal resistant 0.5 gpm/1.9 L/min. pressure compensating spray. Fitting shall be American Standard Model # 7075. ....

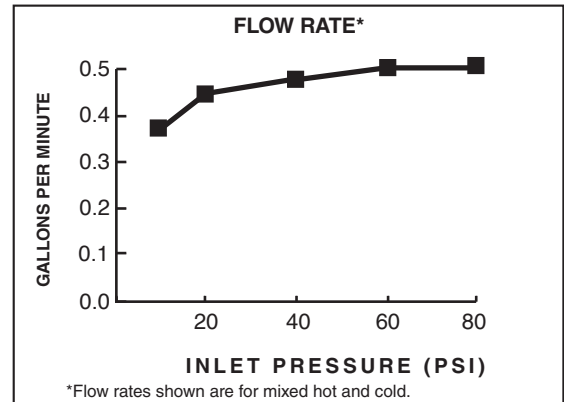


## COLONY® PRO SINGLE CONTROL LAVATORY FAUCET

### CODES AND STANDARDS

These products meet or exceed the following codes and standards:

**ANSI A117.1**  
**ASME A112.18.1**  
**CSA B125.1**  
**NSF 61/Section 9**  
**NSF 372**



Product Number	Description		Finish Option
			Polished Chrome
			002
7075.050	Colony PRO Single Control Centerset. Metal lever handle. Metal pop-up drain. 0.5 gpm pressure compensating vandal resistant spray.		
7075.054	Colony PRO Single Control Centerset. Metal lever handle. LESS drain. LESS pop-up hole & rod. 0.5 gpm pressure compensating vandal resistant spray.		
7075.055	Colony PRO Single Control Centerset. Metal lever handle. LESS drain. With pop-up hole & rod. 0.5 gpm pressure compensating vandal resistant spray.		
7075.056	Colony PRO Single Control Centerset. Metal lever handle. Grid drain. 0.5 gpm pressure compensating vandal resistant spray.		

Meets the American Disabilities Act Guidelines and **ANSI A117.1** Requirements for the physically challenged.

PART OF **LIXIL**

*American  
Standard*

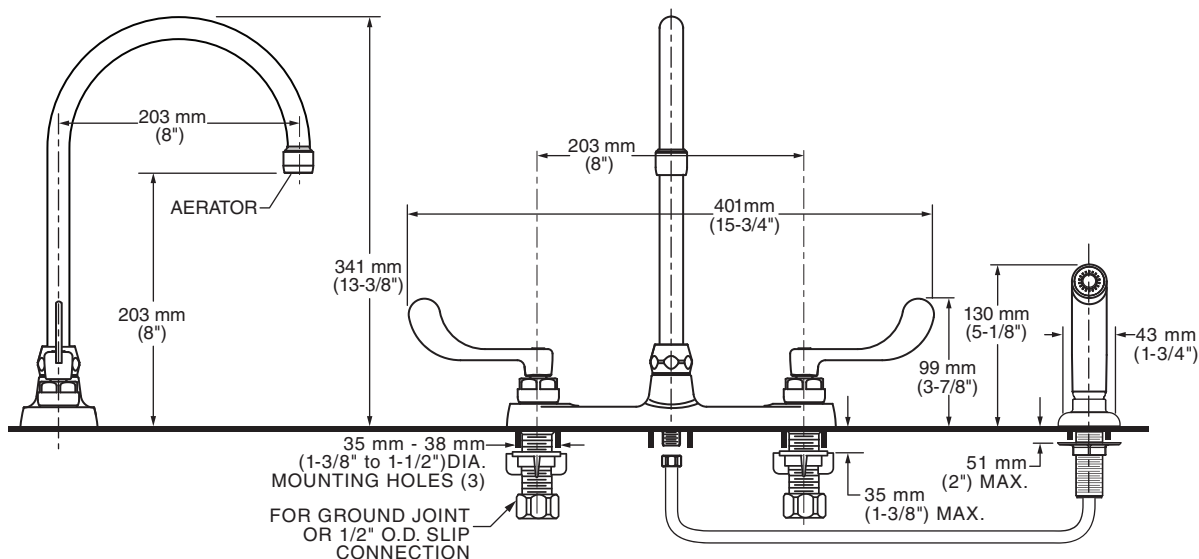
**MONTERREY®**  
**TWO-HANDLE TOP-MOUNT KITCHEN FAUCET**  
RIGID/SWIVEL GOOSENECK SPOUT WITH 8" REACH



6409.171 Shown

**MODEL NUMBER:**

- ☐ **6409.171 Top Mount Faucet with 8" Gooseneck Spout**  
 Field-convertible rigid / swivel gooseneck spout. Vandal-resistant metal wrist blade handles with red/blue indexes. 1.5 gpm pressure compensating aerator. Color matched spray.
- ☐ **6409.170 Top Mount Faucet with 8" Gooseneck Spout**  
 Same as above, less spray.



**GENERAL DESCRIPTION:**

Durable cast brass construction. Field-convertible rigid-swivel gooseneck spout with 8" reach. 1/4 turn ceramic disc valve cartridges. 1/2" male threaded inlet shanks with shank nuts and brass coupling nuts. Vandal-resistant wrist blade handles with blue & red color indexes. 1.5 gpm/5.7 L/min. maximum flow rate.

**PRODUCT FEATURES:**

**Ceramic Disc Valve Cartridges:** Assure a lifetime of drip-free performance.

**Pressure Compensating Aerator:** Provides a constant water flow of 1.5 gpm throughout the pressure range.

**Field-Convertible Rigid / Swivel Gooseneck Spout**

**Solid Brass Construction:** Durable. Excellent in high use applications. Ideal for prolonged contact with water.

**Lead Free:** Faucet contains  $\leq 0.25\%$  total lead content by weighted average.

**SUGGESTED SPECIFICATION:**

Two handle top-mount kitchen faucet shall feature cast brass construction with all brass coupling nuts. Shall feature brass, field-convertible rigid/swivel gooseneck spout with 8" reach. Shall also feature 1/4 turn washerless ceramic disc valve cartridges. Fitting shall be American Standard Model #6409.17\_.002.



# MONTERREY®

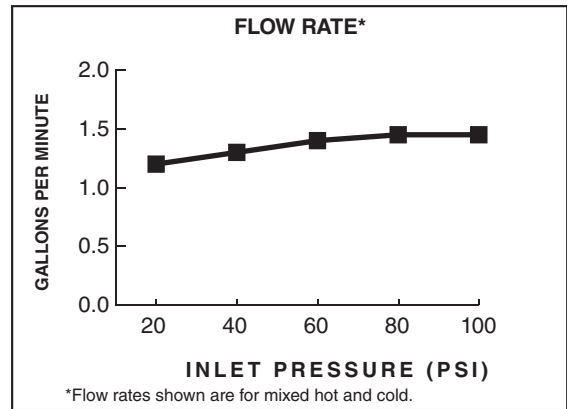
## TWO-HANDLE TOP-MOUNT KITCHEN FAUCET

RIGID/SWIVEL GOOSENECK SPOUT WITH 8" REACH

### CODES AND STANDARDS

These products meet or exceed the following codes and standards:

ASME A112.18.1  
CSA B125.1  
NSF 61/Section 9, Annex G  
CALGreen



Product Number	Description	Finish
		Polished Chrome
		002
6409.171	Top mount faucet with field-convertible 8" rigid / swivel spout. VR wrist blade handles. 1.5 gpm PCA aerator. With color matched spray.	
6409.170	Top mount faucet field-convertible 8" rigid / swivel spout. VR wrist blade handles. 1.5 gpm PCA aerator. Less spray.	



MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES  
AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND  
USABLE BUILDING FACILITIES-CHECK LOCAL CODES

### Other Aerators Available:

Part Suffix	Description
LV15	1.5 gpm (5.7 Lpm) Vandal-Resistant PCA Non-Aerated Laminar Flow Outlet
L15	1.5 gpm (5.7 Lpm) PCA Non-Aerated Laminar Flow Outlet
V15	1.5 gpm (5.7 Lpm) Vandal-Resistant PCA Aerator
LV10	1.0 gpm (3.8 Lpm) Vandal-Resistant PCA Non-Aerated Laminar Flow Outlet
L10	1.0 gpm (3.8 Lpm) PCA Non-Aerated Laminar Flow Outlet
V10	1.0 gpm (3.8 Lpm) Vandal-Resistant PCA Aerator
V05	0.5 gpm (1.9 Lpm) Vandal-Resistant PCA Non-Aerated Spray
V035	0.35 gpm (1.3 Lpm) Vandal-Resistant PCA Non-Aerated Spray

\*PCA - Pressure Compensating

All modifications meet CALGreen Code

*American Standard*

Style That Works Better



BARRIER FREE

**OVALYN™  
UNDERCOUNTER SINK**  
VITREOUS CHINA**OVALYN™ UNDERCOUNTER SINK**

- Classic oval undermount sink
- Made from vitreous china
- Front overflow
- Supplied with mounting kit (047194-0070A) and template

☐ **0495.221 Unglazed rim**

435 x 359mm  
(17-1/8" x 14-1/8")

☐ **0495.300 Glazed underside****Bowl size:**

382mm (15-1/16") wide  
306mm (12-1/16") front to back  
140mm (5-1/2") deep

☐ **0496.221 Unglazed rim**

489 x 413mm  
(19-1/4" x 16-1/4")

☐ **0496.300 Glazed underside****Bowl size:**

432mm (17") wide  
356mm (14") front to back  
140mm (5-1/2") deep

☐ **0497.221 Unglazed rim**

546 x 441mm  
(21-1/2" x 17-3/8")

☐ **0497.300 Glazed underside****Bowl size:**

483mm (19") wide  
391mm (15-3/8") front to back  
140mm (5-1/2") deep

**Compliance Certifications -****Meets or Exceeds the Following Specifications:**

- ASME A112.19.2M for Vitreous China Fixtures
- CAN/CSA B45 series

**To Be Specified:**

- ☐ Color: ☐ White ☐ Bone ☐ Linen  
☐ Silver ☐ Fawn Beige ☐ Black
- ☐ Faucet\*:  
☐ Faucet Finish:  
☐ Supplies:  
☐ 1-1/4" Trap:

\* See faucet section for additional models available



SEE REVERSE FOR ROUGHING-IN DIMENSIONS

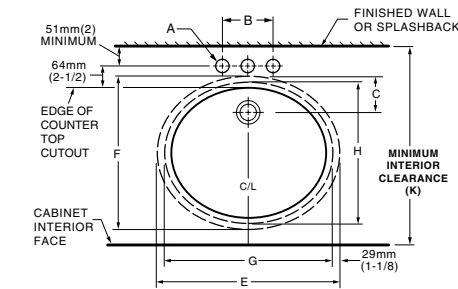
# American Standard

Style That Works Better

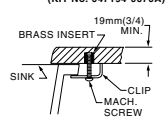
 **BARRIER FREE**

## OVALYN™ UNDERCOUNTER SINK VITREOUS CHINA

**0496/0497**



▼ **DETAIL OF MOUNTING CLIP**  
(KIT No. 047194-0070A)



REFER TO INSTRUCTIONS  
PROVIDED WITH KIT FOR  
ADDITIONAL INFORMATION

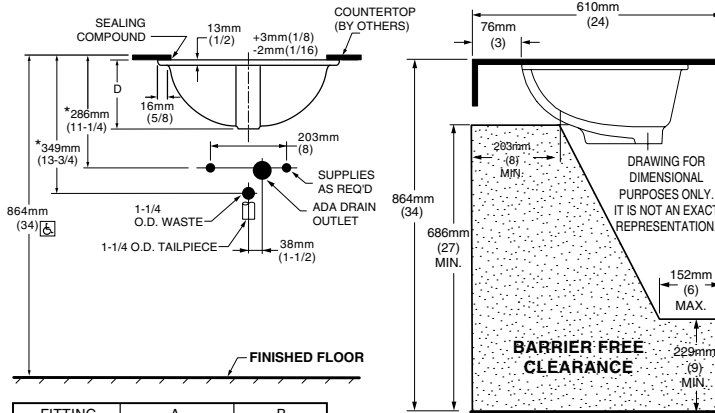
**NOTES:**

\* DIMENSIONS SHOWN FOR LOCATION OF SUPPLIED AND "P" TRAP ARE SUGGESTED.

▼ UNDERCOUNTER MOUNTING KIT SUPPLIED WITH SINK.

**PLEASE NOTE MINIMUM INTERIOR CLEARANCE DIMENSION (K).** FITTINGS NOT INCLUDED AND MUST BE ORDERED SEPARATELY. USE ENCLOSED TEMPLATE FOR COUNTER TOP CUTOUT SEALING COMPOUND SUPPLIED BY OTHERS.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.



FITTING	A	B
CENTERSET	1-1/4 (32mm)	4 (102mm)
SPREAD	1-3/8 (35mm)	8 (203mm)

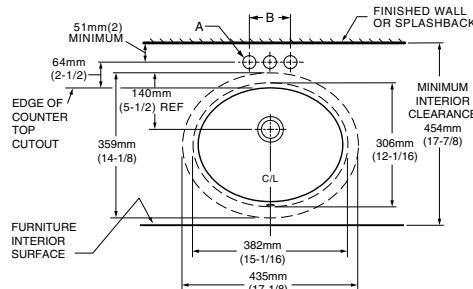
CAT. NO.	E	F	G	H	C	D	J	K
0496.221	489mm (19-1/4)	413mm (16-1/4)	432mm (17)	356mm (14)	103mm (4-1/16)	182mm (7-3/16)	16mm (5/8)	500mm (19-11/16)
0497.221	546mm (21-1/2)	441mm (17-3/8)	483mm (19)	391mm (15-3/8)	95mm (3-3/4)	191mm (7-1/2)	19mm (3/4)	534mm (21-1/16)



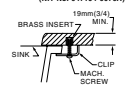
**MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.**

Countertop 864mm (34") from finished floor. Lavatory installed 76mm (3") from front edge of countertop. Countertop thickness to be 25mm (1") maximum.

**0495**



▼ **DETAIL OF MOUNTING CLIP**  
(KIT No. 047194-0070A)



REFER TO INSTRUCTIONS  
PROVIDED WITH KIT FOR  
ADDITIONAL INFORMATION

FITTING	A	B
CENTERSET	1-1/4 (32mm)	4 (102mm)
SPREAD	1-3/8 (35mm)	8 (203mm)

**NOTES:**

USE ENCLOSED TEMPLATE FOR COUNTER TOP CUTOUT. FITTINGS NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY.

\* DIMENSIONS SHOWN FOR LOCATION OF SUPPLIED AND "P" TRAP ARE SUGGESTED.

▼ UNDERCOUNTER MOUNTING KIT SUPPLIED WITH SINK.

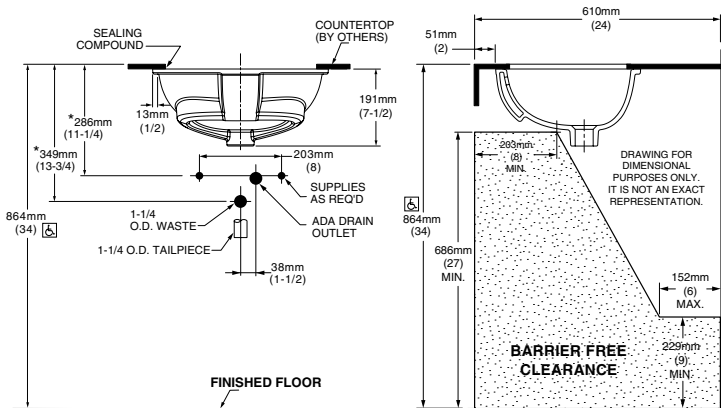
**PLEASE NOTE MINIMUM INTERIOR CLEARANCE DIMENSION (K).** SEALING COMPOUND SUPPLIED BY OTHERS.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages



**MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.**

Countertop 864mm (34") from finished floor. Lavatory installed 51mm (2") from front edge of countertop. Countertop thickness to be 25mm (1") maximum.





# Portsmouth® 23" x 18" ADA Single Bowl Stainless Steel Kitchen Sink

18 GAUGE STAINLESS STEEL

## PORTSMOUTH® 23" x 18" ADA SINGLE BOWL STAINLESS STEEL KITCHEN SINK

### ☐ 18SB6231800S.075

- Single Bowl Stainless Steel kitchen sink
- 18 Gauge Stainless Steel
- 6" depth with offset drain
- Undermount installation
- 26" (660mm) cabinet required
- Includes:
  - 9028000.075 Waste Fitting
  - 791676-100.0070A Undermount Sink Clips
- Features SoundSecure+™ Sound Pads
- Features StoneLock™ Undercoating
- Cutout template and instructions included
- Limited Lifetime Warranty



### Nominal Dimensions:

23-3/8" x 17-3/4" x 6"  
(594 x 451 x 152mm)

### Bowl Size:

21-7/16" (544mm) wide  
15-13/16" (401mm) front to back  
6" (152mm) deep

SEE REVERSE FOR ROUGHING-IN DIMENSIONS  
AND PRODUCT SPECIFICATIONS

### Compliance Certifications - Meets or Exceeds the Following Specifications:

- ASME A112.19.3

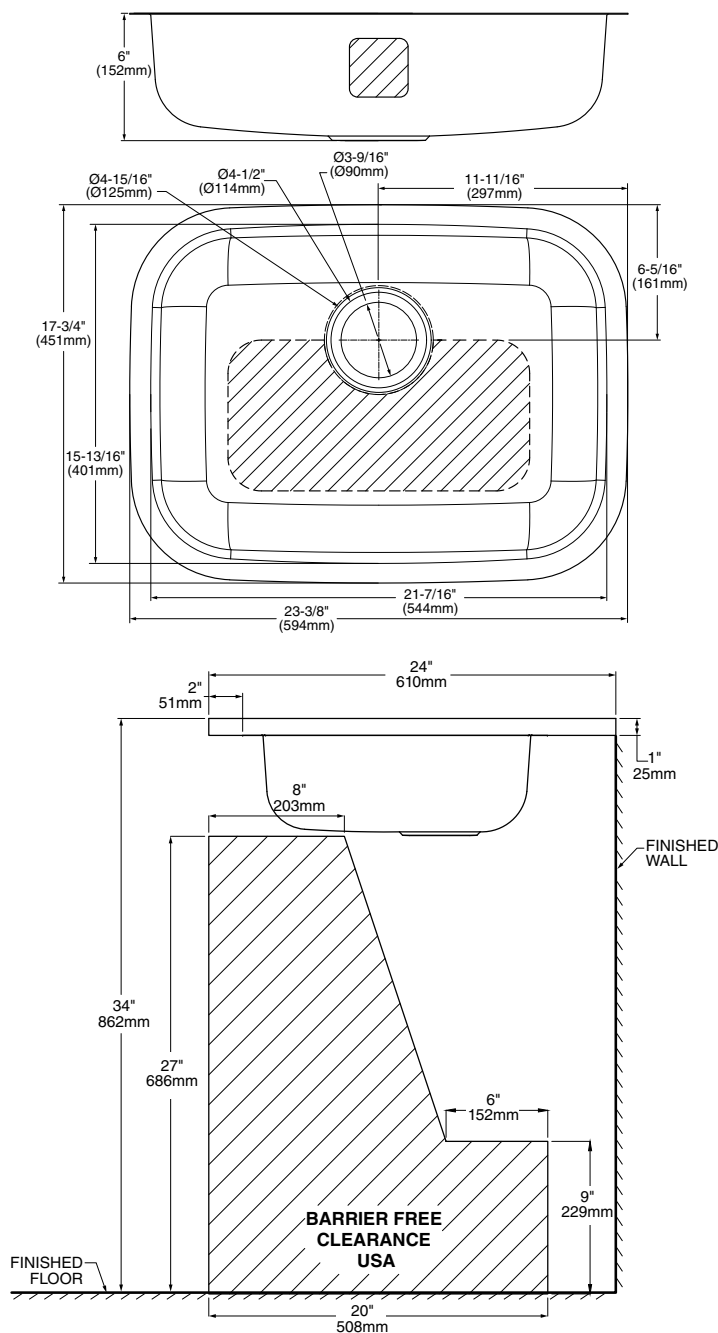
### To Be Specified:

- ☐ Color: Stainless Steel .075



Meets the American Disabilities Act Guidelines and ANSI A117.1  
Requirements for the physically challenged.

# Portsmouth® 23" x 18" ADA Single Bowl Stainless Steel Kitchen Sink 18 GAUGE STAINLESS STEEL



**To ensure ADA compliance:**

- Counter top thickness not to exceed 1" (25mm) thick and surface mounted 34" (863mm) above the finished floor.
- Product to be installed according to installation instructions, diagrams and requirements outlined.

NOTES:

\* DIMENSIONS SHOWN FOR LOCATION OF SUPPLIES AND "P" TRAP ARE SUGGESTED.  
FITTINGS NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY.  
SEALING COMPOUND SUPPLIED BY OTHERS.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME A112.19.3 / CSA B45.4. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.



**STUDIO™ CARRÉ**  
**UNDERCOUNTER SINK**  
VITREOUS CHINA

## STUDIO™ CARRÉ UNDERCOUNTER SINK

- Square undercounter mount sink
- Made from vitreous china
- Customizable overflow position
- Supplied with mounting kit (7301442-0070A) and template

 0426.000

405 x 405mm  
(16" x 16")

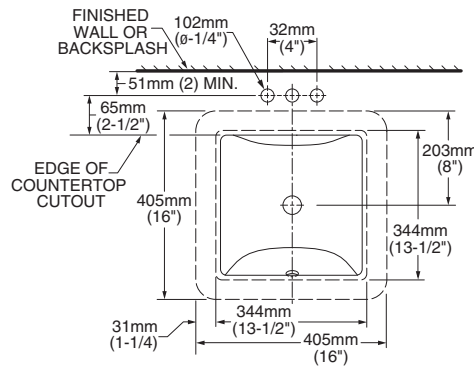
**Bowl size:**

344mm (13-1/2") wide  
344mm (13-1/2") front to back  
121mm (4-3/4") deep

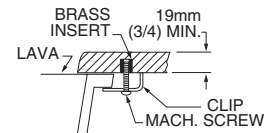


**Compliance Certifications -  
Meets or Exceeds the  
Following Specifications:**

- ASME A112.19.2 / CSA B45.1

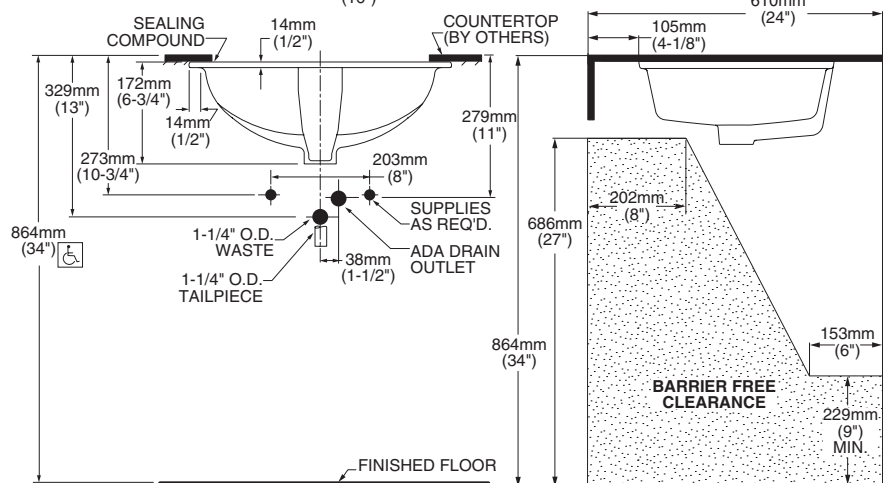


▼ **DETAIL OF MOUNTING CLIP**  
(KIT No. 7301442-0070A)



REFER TO INSTALLATION INSTRUCTIONS

**\* To comply with ADA standards,  
overflow hole must face back.**



**To Be Specified:**

- ☐ Color: ☐ White ☐ Bone  
☐ Linen ☐ Black  
☐ Faucet\*:  
☐ Faucet Finish:  
☐ Supplies:  
☐ 1-1/4" Trap:

\* See faucet section for additional models available

NOTES:

▼ UNDERCOUNTER MOUNTING KIT SUPPLIED WITH SINK.  
FITTINGS NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED  
SEPARATELY.  
SEALING COMPOUND SUPPLIED BY OTHERS.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME A112.19.2 / CSA B45.1. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.



**MEETS THE AMERICANS WITH DISABILITIES ACT  
GUIDELINES AND ANSI A117.1 ACCESSIBLE AND  
USABLE BUILDINGS AND FACILITIES -  
CHECK LOCAL CODES.**

Countertop 864mm (34") from finished floor. Lavatory installed 102mm (4") from front edge of countertop. Countertop thickness to be 25mm (1") maximum.

## SYLVANIA Luminaires

### Vapor Tight



#### Product Features

- Corrosion resistant housing with captive stainless steel mounting accessories and included waterproof compression fitting
- IP65 or IP66 rated, ETL sanitation listed for NSF splash zones, and a wide operating temperature of -40°C to 50°C
- Optional integrated microwave (daylight/motion) sensor for additional energy savings

#### Wattage Comparison Chart

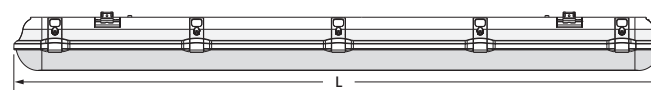
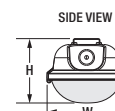
##### Vapor Tight

Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
2 F17 T8	33	20/25	39%/24%
1 F32 T8	27	20/25	26%/7%
35W HPS	45	20/25	56%/44%
50W HPS	62	20/25	68%/60%
70W HPS	92	25	73%
2 F28 T8	50	40/50	20%/0%
2 F32 T8	54	40/50	26%/7%
1 F96 T12	86	40/50	53%/42%
70 W HPS	91	40/50	56%/45%
4 F32 T8	108	65	39%
S F96 T12	172	65	62%
150W HPS	170	65	61%
150W MH	188	65	65%
175W MH	210	65	69%
250W HPS	295	65	78%
250W MH	290	65	77%

Catalog #	Type
Project	
Notes	
Date	
Prepared by	

#### Dimensions

	L	W	H
2 ft 25W	24.9" (632mm)	4.0" (102mm)	3.3" (85mm)
4 ft 20W	48.5" (1232mm)	3.3" (85mm)	3.3" (85mm)
4 ft 40/50W	48.5" (1232mm)	4.0" (102mm)	3.3" (85mm)
4 ft IP66	49.1" (1247mm)	4.7" (120mm)	3.3" (85mm)
8 ft 65W	96" (2438mm)	4.0" (102mm)	3.3" (85mm)



#### Specifications

**Weight:** 2 ft: 2.5 lbs (1.2 kg) 4 ft: 5.8 lbs (2.6 kg) 8 ft: 12.5 lbs (5.7 kg)

**Construction:** One-piece polycarbonate housing with one-piece polycarbonate lens and stainless steel clips. The standard color is gray.

**LED System:** LED system with a life rating of ≥84,000 hours (HUV) L<sub>70</sub> @25°C. Luminaire efficacy up to 140 LPW.

**Electrical:** Offered in 20, 25, 40, 50 and 65 Watts, the luminaire is designed to operate through the 120V-277VAC universal voltage and 347-480VAC high universal voltage range. The LED driver has a 2.5kV inherent surge suppression and is a constant current device, meeting UL1310 and UL48 Class 2 with built-in over temperature protection. The power factor is ≥90% and THD is ≤20%.

**Dimming:** The driver is 0-10V dimmable (down to 6%). Please reference the dimmer compatibility document (LEDLUM012).

**Color Characteristics:** CRI>80; CCT of 4000K or 5000K.

**Optics:** Type V distribution with a clear etched polycarbonate lens or optional diffuse lens (sold separately).

**Installation:** Luminaire mounts to recessed outlet box or can be surface or chain mounted (chain not included). Connector available for tandem wiring. External controls can be added through existing knockouts.

**Operating Temperature:** -40°F to +122°F (-40°C to +50°C);  
EM: +14°F to +122°F (-10°C to +50°C).

**Listings:** cULus listed to UL1598 standards for wet locations, IP65 or IP66 rated, and ETL Sanitation listed for NSF splash zones.

**Warranty:** Standard 5-year luminaire warranty (LEDLUM001).

**Note:** Specifications subject to change without notice. IES files available online.



\*Please see pages 2 and 3 for DLC listings.

Intertek

#### Ordering Guide

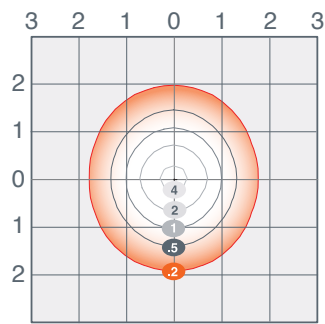
Item Number:

VAPOR	XX	/	XXX	XXX	D	8	XX	/	XX	XX	/	GR	/	XX
Product Name	Generation		Wattage	Voltage	Dimming	CRI	Color Temp		Size	Optics		Color/Finish		Options
VAPOR	1A		020 = 20 Watts	UNV = 120-277V	D = 0-10V	8 ≥ 80	(CCT)		24 = 24" long	EC = Etched Lens		GR = Gray		Blank = No Option
	1B		025 = 25 Watts	HUV = 347-480V*			40 = 4000K		48 = 48" long	Type V Distribution				D = Motion/Daylighting Sensor
	2B		040 = 40 Watts				50 = 5000K		96 = 96" long					E = Emergency
			050 = 50 Watts											
			065 = 65 Watts											

\*HUV version only available in 50W

Photometric Data

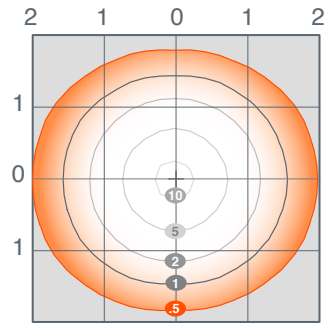
2 ft VAPOR1A/025UNVD840  
Isofootcandle Lines at 15' Mounting Height



For other mounting heights apply the following multipliers:

Mounting Height	10'	12'	15'	18'	20'
Multiplier	2.25	1.56	1.00	0.44	0.36

4 ft VAPOR1B/040UNVD840  
Isofootcandle Lines at 12' Mounting Height



For other mounting heights apply the following multipliers:

Mounting Height	8'	10'	12'	15'	16'	18'
Multiplier	2.25	1.44	1.00	0.73	0.56	0.44

\*For 20W use 0.5 multiplier

Fixture Spacing Chart

	VAPOR1A/025UNVD840/24EC/GR			VAPOR1B/040UNVD840/48EC/GR		
	On Center Fixture Spacing			On Center Fixture Spacing		
	8'x10'	10'x10'	10'x12'	8'x10'	10'x10'	10'x12'
8'	39	29	23.2	65.6	51.2	40.2
10'	37.9	28.1	22.5	63.6	49.9	39.2
12'	35.2	27.3	21.9	63.4	48.3	38.1
14'	34.2	26.6	21.3	61.7	47.3	37.2
16'	33.2	25.6	20.7	55.5	46.3	36.2
18'	32.3	24.9	20.1	53.9	44.7	35.3

Average Illuminance (fc) at 0" AFF.  
80/50/20 reflectances.

Options Information

**Sensor:** Motion and Daylight sensors are both available.

**Motion Sensor (Default Setting):**

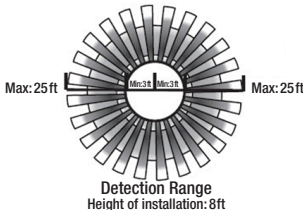
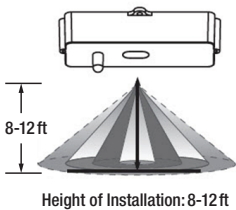
Motion	100% lumen output
≥5min with no motion	30% lumen output
≥60min with no motion	Off

**Daylight (Default Setting):** 5fc/24H

**For customized settings:** Purchase remote control separately and refer to the Vapor Tight Remote document LEDLUM015 for further instructions.

**Emergency Battery Backup:**

Activates when normal power supply to the fixture fails, providing a minimum of 500 lumens for at least 90 minutes.



## Ordering Information

Item Number	Ordering Abbreviation	Ingress Protection	Power (W)	Input Voltage	Color Temp (CCT)	Total Fixture Lumens Clear Lens	Diffuse Lens	LPW* Clear Lens	Diffuse Lens	DLC** Clear Lens	Diffuse Lens	Options
<b>2ft Vapor Tight</b>												
74530	VAPOR1A/025UNVD840/24EC/GR	IP65	25	120-277	4000K	3100	2800	135	121	Prm	Std	—
74531	VAPOR1A/025UNVD850/24EC/GR	IP65	25	120-277	5000K	3100	2800	137	123	Prm	Std	—
74532	VAPOR1B/025UNVD840/24EC/GR/D	IP65	25	120-277	4000K	3100	2800	135	121	Prm	—	Sensor
74533	VAPOR1B/025UNVD850/24EC/GR/D	IP65	25	120-277	5000K	3100	2800	137	123	Prm	—	Sensor
60074	VAPOR1B/025UNVD840/24EC/GR/E	IP65	25	120-277	4000K	3100	2800	135	121	Prm	—	Emergency
60075	VAPOR1B/025UNVD850/24EC/GR/E	IP65	25	120-277	5000K	3100	2800	137	123	Prm	—	Emergency
<b>4ft Vapor Tight</b>												
74534	VAPOR1B/020UNVD840/48EC/GR	IP65	20	120-277	4000K	2500	2300	130	114	Prm	—	—
74535	VAPOR1B/020UNVD850/48EC/GR	IP65	20	120-277	5000K	2500	2300	130	115	Prm	—	—
74536	VAPOR1B/020UNVD840/48EC/GR/D	IP65	20	120-277	4000K	2500	2300	130	114	Prm	—	Sensor
74537	VAPOR1B/020UNVD850/48EC/GR/D	IP65	20	120-277	5000K	2500	2300	130	115	Std	—	Sensor
60043	VAPOR1B/020UNVD840/48EC/GR/E	IP65	20	120-277	4000K	2500	2300	130	114	Prm	—	Emergency
60044	VAPOR1B/020UNVD850/48EC/GR/E	IP65	20	120-277	5000K	2500	2300	130	115	Prm	—	Emergency
60045	VAPOR1B/020UNVD840/48EC/GR/DE	IP65	20	120-277	4000K	2500	2300	130	114	Prm	—	Sensor, Emergency
60046	VAPOR1B/020UNVD850/48EC/GR/DE	IP65	20	120-277	5000K	2500	2300	130	115	Prm	—	Sensor, Emergency
74376	VAPOR1B/040UNVD840/48EC/GR	IP65	40	120-277	4000K	5300	4600	139	120	Prm	Std	—
74377	VAPOR1B/040UNVD850/48EC/GR	IP65	40	120-277	5000K	5300	4700	137	122	Prm	Std	—
74378	VAPOR1B/040UNVD840/48EC/GR/D	IP65	40	120-277	4000K	5400	4500	140	116	Prm	Std	Sensor
74379	VAPOR1B/040UNVD850/48EC/GR/D	IP65	40	120-277	5000K	5400	4600	137	119	Prm	Std	Sensor
74554	VAPOR1B/040UNVD840/48EC/GR/E	IP65	40	120-277	4000K	5300	4600	139	120	Prm	Std	Emergency
74555	VAPOR1B/040UNVD850/48EC/GR/E	IP65	40	120-277	5000K	5300	4700	137	122	Prm	Std	Emergency
74556	VAPOR1B/040UNVD840/48EC/GR/DE	IP65	40	120-277	4000K	5400	4500	140	116	Prm	Std	Sensor, Emergency
74557	VAPOR1B/040UNVD850/48EC/GR/DE	IP65	40	120-277	5000K	5400	4600	137	119	Prm	Std	Sensor, Emergency
74552	VAPOR1A/050HUV840/48EC/GR	IP65	50	347-480	4000K	5700	—	111	—	Std	—	—
74553	VAPOR1A/050HUV850/48EC/GR	IP65	50	347-480	5000K	5700	—	111	—	Std	—	—
60047	VAPOR2B/040UNVD840/48EC/GR	IP66	40	120-277	4000K	5300	4600	139	120	Prm	—	—
60048	VAPOR2B/040UNVD850/48EC/GR	IP66	40	120-277	5000K	5300	4700	137	122	Prm	—	—
60049	VAPOR2B/040UNVD840/48EC/GR/D	IP66	40	120-277	4000K	5300	4600	139	120	Prm	—	Sensor
60050	VAPOR2B/040UNVD850/48EC/GR/D	IP66	40	120-277	5000K	5300	4700	137	122	Prm	—	Sensor
<b>8ft Vapor Tight</b>												
60355	VAPOR1B/065UNVD840/96EC/GR	IP65	65	120-277	4000K	8450	—	130	—	—	—	—
60356	VAPOR1B/065UNVD850/96EC/GR	IP65	65	120-277	5000K	8450	—	130	—	—	—	—
60357	VAPOR1B/065UNVD840/96EC/GR/D	IP65	65	120-277	4000K	8450	—	130	—	—	—	Sensor
60358	VAPOR1B/065UNVD850/96EC/GR/D	IP65	65	120-277	5000K	8450	—	130	—	—	—	Sensor
60359	VAPOR1B/065UNVD840/96EC/GR/E	IP65	65	120-277	4000K	8450	—	130	—	—	—	Emergency
60360	VAPOR1B/065UNVD850/96EC/GR/E	IP65	65	120-277	5000K	8450	—	130	—	—	—	Emergency
60361	VAPOR1B/065UNVD840/96EC/GR/DE	IP65	65	120-277	4000K	8450	—	130	—	—	—	Sensor, Emergency
60362	VAPOR1B/065UNVD850/96EC/GR/DE	IP65	65	120-277	5000K	8450	—	130	—	—	—	Sensor, Emergency

\*LPW per LM79 Report

\*\*Std for DLC Standard, Prm for DLC Premium

## Accessories and Replacement Parts

Item Number	Ordering Abbreviation	Item Description
74310	VAPOR1A/REMOTE	Vapor Tight Sensor Remote compatible with VAPOR1A
74541	VAPOR1B/REMOTE	Vapor Tight Sensor Remote compatible with VAPOR1B and VAPOR2B
74744	VAPOR1X/LENS/24D5	2ft Diffused Lens
74538	VAPOR1X/LENS/48D5	4ft Diffused Lens
74448	VAPOR1A/LENS/48EC	4ft Replacement Lens
74920	VAPOR1A/CONN/BL	Tandem Wiring Connector

LEDVANCE LLC

200 Ballardvale Street

Wilmington, MA 01887 USA

Phone 1-800-LIGHTBULB (1-800-544-4828)

www.sylvania.com

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All other trademarks are those of their respective owners.

Licensee of product trademark SYLVANIA in general lighting.

Specifications subject to change without notice.



# SYLVANIA Luminaires

## Edge-Lit Panel



### Product Features

The Edge-Lit Panels are environmentally preferable LED alternatives to traditional fluorescent luminaires, offering up to 47% in energy savings. Ideal in place of traditional luminaires, or as new installations, the Edge-Lit Panels are offered in three sizes for illuminating offices, retail or hospitality areas.

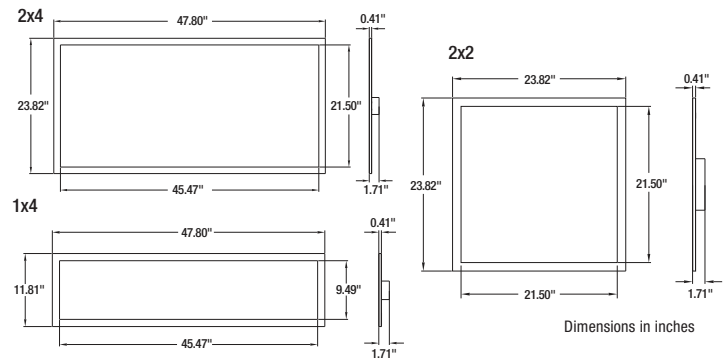
The slim design of these luminaires is beneficial for installation in tight ceilings spaces and they offer low glare and uniform illumination. SYLVANIA luminaires assure optimum light engine performance for extended service and rated life ( $\geq 50,000$  hours  $L_{70}$ ).

### Wattage Comparison Chart

Edge-Lit Panel Size	Traditional Source	Traditional System Wattage	LED System Wattage	Energy Savings
1x4	2x28W T8	49	32	35%
	2x32W T8	56	32	43%
2x2	3x17W T8	48	32	33%
	2U31 T8	56	32	43%
2x4	2x28W T8	49	32	35%
	2x32W T8	56	32	43%
	3x28W T8	58	40	31%
	3x32W T8	75	40	47%

Catalog #	Type
Project	
Notes	
Date	
Prepared by	

### Dimensions



### Specifications

**Weight:** 1x4 & 2x2: 7.96lbs (3.6 kg) Standard 2x4: 14.33lbs (6.5 kg) Standard  
1x4 & 2x2: 10.14lbs (4.6 kg) Emergency 2x4: 16.54lbs (7.5 kg) Emergency

**Construction:** Extruded aluminum frame with sheet metal back plate, earthquake clips and PMMA diffused flat lens. The standard color is white.

**LED System:** LED system with a life rating of  $\geq 50,000$  hours at  $L_{70}$  @ 25°C. Luminaire efficacy up to 114 LPW.

**Electrical:** Offered in 32 and 40 Watts, the luminaire is designed to operate through the 120-277 VAC universal voltage range. The LED driver has a 0.5kV inherent surge suppression and is a constant current device. The power factor is  $\geq 90\%$  and THD is  $\leq 20\%$ .

**Dimming:** The driver is 0-10V dimmable (down to 10%). Please reference the dimmer compatibility document (LEDLUM012).

**Color Characteristics:** CRI  $> 80$ ; CCT of 3500K, 4000K or 5000K.

**Optics:** White flat edge-lit PMMA diffuser lens.

**Options Available:** Emergency Battery Backup.

**Installation:** Luminaire lays in standard 15/16" and 9/16" T-grid ceilings.

**Operating Temperature:** -4°F to +104°F (-20°C to +40°C);

EM: +32°F to +104°F (0°C to +40°C).

**Listings:** cETLus listed to UL1598 standards, IC and dry rated.

**Warranty:** Standard 5-year luminaire warranty (LEDLUM001).

**Note:** Specifications subject to change without notice. IES files available online.



\*\*DLC not applicable to emergency versions

### Ordering Guide

Item Number:

PANELF	1A	/	XXX	XXX	D	8	XX	/	XX	G	/	WH	/	X
Product Name	Generation		Wattage	Voltage	Dimming	CRI	Color Temp (CCT)		Dimension	Mounting		Color/Finish		Option
PANELF	1A		032 = 32 Watts 040 = 40 Watts*	UNV = 120-277V	D = 0-10V	$\geq 80$	35 = 3500K 40 = 4000K 50 = 5000K		14 = 1x4 22 = 2x2 24 = 2x4	G = Grid		WH = White		Blank = No Option E = Emergency

\*Only available in 2x4 size.



Photometric Data

Average Illuminance (FC) at 30" AFF and avg/min uniformity  
80/50/20 Reflectances

			8 ft Mounting Height			10 ft Mounting Height			12 ft Mounting Height		
			On Center Fixture Spacing			On Center Fixture Spacing			On Center Fixture Spacing		
			8'x10'	10'x10'	10'x12'	8'x10'	10'x10'	10'x12'	8'x10'	10'x10'	10'x12'
1'x4'	32W	PANELF1A/032UNVD835/14G/WH	44fc / 3.2	36fc / 2.9	32fc / 2.0	43fc / 2.7	35fc / 2.4	31fc / 1.8	42fc / 2.5	34fc / 2.3	31fc / 1.8
		PANELF1A/032UNVD840/14G/WH									
2'x2'	32W	PANELF1A/032UNVD835/22G/WH	47fc / 3.2	39fc / 2.9	35fc / 2.0	46fc / 2.7	38fc / 2.4	33fc / 1.8	44fc / 2.4	37fc / 2.3	33fc / 1.8
		PANELF1A/032UNVD840/22G/WH									
2'x4'	32W	PANELF1A/032UNVD835/24G/WH	44fc / 3.3	36fc / 2.8	32fc / 2.0	43fc / 2.7	35fc / 2.4	31fc / 1.8	42fc / 2.5	34fc / 2.3	31fc / 1.7
		PANELF1A/032UNVD840/24G/WH									
	40W	PANELF1A/040UNVD835/24G/WH	62fc / 3.3	51 fc /2.8	46fc / 2.0	60fc / 2.7	50fc / 2.4	44fc / 1.8	59fc / 2.5	48fc / 2.3	43fc / 1.7
		PANELF1A/040UNVD840/24G/WH									

\*Table also applicable to emergency versions.

Ordering Information

Item Number	Ordering Abbreviation	Power (W)	Input Voltage	Dimming	CRI	Color Temp (CCT)	Size	Total Fixture Lumens	LPW*	DLC**	Options
74243	PANELF1A/032UNVD835/14G/WH	32	120-277V	0-10V	>80	3500K	1x4	3200	102	Std	—
74244	PANELF1A/032UNVD840/14G/WH	32	120-277V	0-10V	>80	4000K	1x4	3300	104	Std	—
74938	PANELF1A/032UNVD850/14G/WH	32	120-277V	0-10V	>80	5000K	1x4	3500	110	Std	—
74251	PANELF1A/032UNVD835/22G/WH	32	120-277V	0-10V	>80	3500K	2x2	3500	110	Std	—
74252	PANELF1A/032UNVD840/22G/WH	32	120-277V	0-10V	>80	4000K	2x2	3500	110	Std	—
74797	PANELF1A/032UNVD850/22G/WH	32	120-277V	0-10V	>80	5000K	2x2	3500	114	Std	—
74247	PANELF1A/032UNVD835/24G/WH	32	120-277V	0-10V	>80	3500K	2x4	3300	104	Std	—
74248	PANELF1A/032UNVD840/24G/WH	32	120-277V	0-10V	>80	4000K	2x4	3300	104	Std	—
74935	PANELF1A/032UNVD850/24G/WH	32	120-277V	0-10V	>80	5000K	2x4	3500	112	Std	—
74249	PANELF1A/040UNVD835/24G/WH	40	120-277V	0-10V	>80	3500K	2x4	4200	109	Std	—
74250	PANELF1A/040UNVD840/24G/WH	40	120-277V	0-10V	>80	4000K	2x4	4200	110	Std	—
74934	PANELF1A/040UNVD850/24G/WH	40	120-277V	0-10V	>80	5000K	2x4	4300	113	Std	—
74245	PANELF1A/032UNVD835/14G/WH/E	32	120-277V	0-10V	>80	3500K	1x4	3200	102	—	Emergency Battery Backup
74246	PANELF1A/032UNVD840/14G/WH/E	32	120-277V	0-10V	>80	4000K	1x4	3300	104	—	Emergency Battery Backup
74939	PANELF1A/032UNVD850/14G/WH/E	32	120-277V	0-10V	>80	5000K	1x4	3500	110	—	Emergency Battery Backup
74253	PANELF1A/032UNVD835/22G/WH/E	32	120-277V	0-10V	>80	3500K	2x2	3500	110	—	Emergency Battery Backup
74254	PANELF1A/032UNVD840/22G/WH/E	32	120-277V	0-10V	>80	4000K	2x2	3500	110	—	Emergency Battery Backup
74798	PANELF1A/032UNVD850/22G/WH/E	32	120-277V	0-10V	>80	5000K	2x2	3500	114	—	Emergency Battery Backup
74239	PANELF1A/032UNVD835/24G/WH/E	32	120-277V	0-10V	>80	3500K	2x4	3300	104	—	Emergency Battery Backup
74240	PANELF1A/032UNVD840/24G/WH/E	32	120-277V	0-10V	>80	4000K	2x4	3300	104	—	Emergency Battery Backup
74937	PANELF1A/032UNVD850/24G/WH/E	32	120-277V	0-10V	>80	5000K	2x4	3500	112	—	Emergency Battery Backup
74241	PANELF1A/040UNVD835/24G/WH/E	40	120-277V	0-10V	>80	3500K	2x4	4200	109	—	Emergency Battery Backup
74242	PANELF1A/040UNVD840/24G/WH/E	40	120-277V	0-10V	>80	4000K	2x4	4200	110	—	Emergency Battery Backup
74936	PANELF1A/040UNVD850/24G/WH/E	40	120-277V	0-10V	>80	5000K	2x4	4300	113	—	Emergency Battery Backup

\*LPW per LM79 report.

\*\*Std for DLC Standard.

For further information and to learn more about utility rebates, contact your local SYLVANIA sales representative.

Options Information

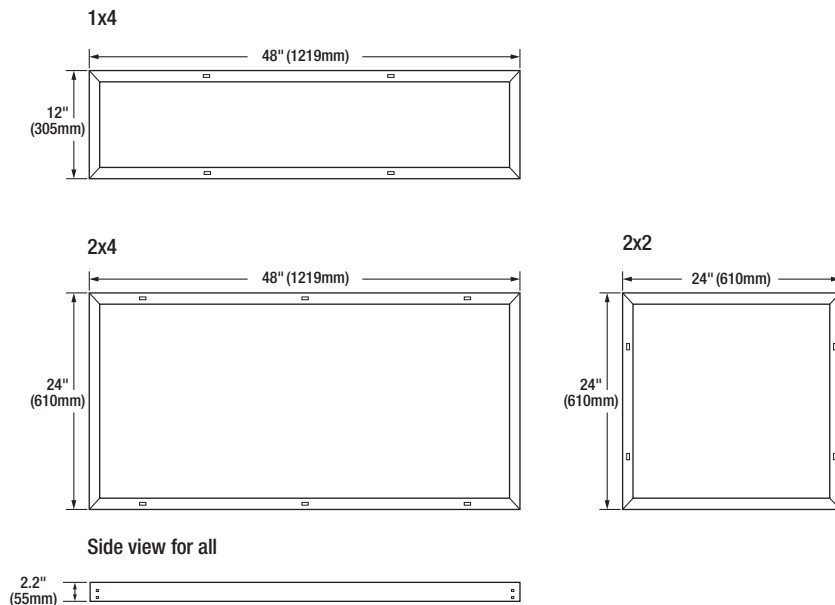
Emergency Battery Backup:

Activates when normal power supply to the fixture fails, providing a minimum of 650 lumens (700 nominal lumens) for at least 90 minutes.

## Accessories and Replacement Parts

Item Number	Ordering Abbreviation	Item Description
70132	SMKIT1A/14A/WH	1x4 Surface Mount Kit, White Finish
70380	SMKIT1A/22A/WH	2x2 Surface Mount Kit, White Finish
70381	SMKIT1A/24A/WH	2x4 Surface Mount Kit, White Finish

\*Please see Surface Mount Kit installation manual for instructions.



LEDVANCE LLC  
 200 Ballardvale Street  
 Wilmington, MA 01887 USA  
 Phone 1-800-LIGHTBULB (1-800-544-4828)  
[www.sylvania.com](http://www.sylvania.com)

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 Specifications subject to change without notice.







LASTING  
CONNECTIONS

100  
YEARS

# MK ESSENTIALS

## DESIGNED FOR VALUE












Product Selector

Switchsocket Outlets

FLUSH  
13 AMP



**MV2757WHI**  
1 GANG SP WITH DUAL EARTH TERMINALS

**MV2747WHI**  
2 GANG SP WITH DUAL EARTH TERMINALS

**MV2657WHI**  
1 GANG SP WITH DUAL EARTH TERMINALS WITH NEON

**MV2647WHI**  
2 GANG SP WITH DUAL EARTH TERMINALS WITH NEON

**MV2757DPWHI**  
1 GANG DP WITH DUAL EARTH TERMINALS

**MV2747DPWHI**  
2 GANG DP WITH DUAL EARTH TERMINALS

**MV2657DPWHI**  
1 GANG DP WITH DUAL EARTH TERMINALS WITH NEON

**MV2647DPWHI**  
2 GANG DP WITH DUAL EARTH TERMINALS WITH NEON

**MV24354WHI**  
1 GANG DP WITH 2 X USB CHARGING PORTS AND DUAL EARTH TERMINALS

**MV24344WHI**  
2 GANG DP WITH 2 X USB CHARGING PORTS AND DUAL EARTH TERMINALS

**MV24345WHI**  
2 GANG WITH 2 X USB CHARGING PORTS AND DUAL EARTH TERMINALS

**MV780WHI**  
1 GANG SP WITH DUAL EARTH TERMINALS

**MV781WHI**  
2 GANG SP WITH DUAL EARTH TERMINALS

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC

35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)

DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm

FIXING CENTRES  
60.3mm  
BS 1363-2:2016

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC

35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)

DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm

FIXING CENTRES  
60.3mm  
BS 1363-2:2016

MOUNTING BOX  
35MM  
1 GANG 866ZIC  
2 GANG 886ZIC

DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm

FIXING CENTRES  
120.6mm  
BS 1363-2:2016  
IEC 61558-2-16

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC



35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)

DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm

FIXING CENTRES  
60.3mm  
BS 1363-2:2016

Socket Outlets

FLUSH  
13 AMP



**MV780WHI**  
1 GANG SP WITH DUAL EARTH TERMINALS

**MV781WHI**  
2 GANG SP WITH DUAL EARTH TERMINALS

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC




35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)

DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm

FIXING CENTRES  
60.3mm  
BS 1363-2:2016

Switchsocket Outlets

ROUND PIN  
FLUSH



**MV2891WHI**  
1 GANG SP 5A

**MV2893WHI**  
1 GANG SP 15A

**MV2493WHI**  
1 GANG SP 15A WITH NEON

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm



FIXING CENTRES  
60.3mm  
BS 1363-2:201

5A SWITCHSOCKETS  
BS 546:1950

15A SWITCHSOCKET  
BS 546:1950

Socket Outlets

ROUND PIN  
FLUSH



**MV771WHI**  
1 GANG 5A SHUTTERED

**MV772WHI**  
1 GANG 15A SHUTTERED





MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm

FIXING CENTRES  
60.3mm  
BS 546:1950

Connection Units

SWITCHED  
13 AMP



**MV1040WHI**  
DP WITH FUSE

**MV1042WHI**  
DP WITH NEON AND FUSE

**MV1041WHI**  
DP WITH FRONT FLEX OUTLET AND FUSE

**MV1070WHI**  
DP WITH NEON, FRONT FLEX OUTLET AND FUSE

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm





FIXING CENTRES  
60.3mm  
BS 1363-4:2016

FLEX OUTLET COMPLIES WITH  
BS 5733:2010

FUSES COMPLY WITH  
BS 1362:1973

Connection Units

UNSWITCHED  
13, 25 AND 45 AMP



**MV1031WHI**  
13A WITH FRONT FLEX OUTLET AND FUSE

**MV1030WHI**  
13A WITH NEON, FRONT FLEX OUTLET AND FUSE

**MV1080WHI**  
25A WITH FRONT FLEX OUTLET

**MV1090WHI**  
45A COOKER CONNECTION UNIT

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm

FIXING CENTRES  
60.3mm  
BS 1363-4:2016

FLEX OUTLET COMPLIES WITH  
BS 5733:2010

FUSES COMPLY WITH  
BS 1362:1973

COOKER CONNECTION UNIT  
BS EN 60670-22:2006

USB Charging Sockets each capable of supporting 2.4A charge (total of 2.4A per socket)




Dual Earth: Fitted with two earth terminals to provide a double earth facility connection as specified within BS 7671

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Product Selector

Switchsocket Outlets

ROUND PIN  
FLUSH



**MV2891WHI**  
1 GANG SP 5A

**MV2893WHI**  
1 GANG SP 15A

**MV2493WHI**  
1 GANG SP 15A WITH NEON

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm



FIXING CENTRES  
60.3mm  
BS 1363-2:201

5A SWITCHSOCKETS  
BS 546:1950

15A SWITCHSOCKET  
BS 546:1950

Socket Outlets

ROUND PIN  
FLUSH



**MV771WHI**  
1 GANG 5A SHUTTERED

**MV772WHI**  
1 GANG 15A SHUTTERED





MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm

FIXING CENTRES  
60.3mm  
BS 546:1950

Connection Units

SWITCHED  
13 AMP



**MV1040WHI**  
DP WITH FUSE

**MV1042WHI**  
DP WITH NEON AND FUSE

**MV1041WHI**  
DP WITH FRONT FLEX OUTLET AND FUSE

**MV1070WHI**  
DP WITH NEON, FRONT FLEX OUTLET AND FUSE

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm





FIXING CENTRES  
60.3mm  
BS 1363-4:2016

FLEX OUTLET COMPLIES WITH  
BS 5733:2010

FUSES COMPLY WITH  
BS 1362:1973

Connection Units

UNSWITCHED  
13, 25 AND 45 AMP



**MV1031WHI**  
13A WITH FRONT FLEX OUTLET AND FUSE

**MV1030WHI**  
13A WITH NEON, FRONT FLEX OUTLET AND FUSE

**MV1080WHI**  
25A WITH FRONT FLEX OUTLET

**MV1090WHI**  
45A COOKER CONNECTION UNIT

MOUNTING BOX  
35MM  
866ZIC

DIMENSIONS  
86 x 86mm

FIXING CENTRES  
60.3mm  
BS 1363-4:2016

FLEX OUTLET COMPLIES WITH  
BS 5733:2010

FUSES COMPLY WITH  
BS 1362:1973

COOKER CONNECTION UNIT  
BS EN 60670-22:2006

15

Product Selector

High Current  
DP Switches

20 AMP AND 32 AMP

45 AMP

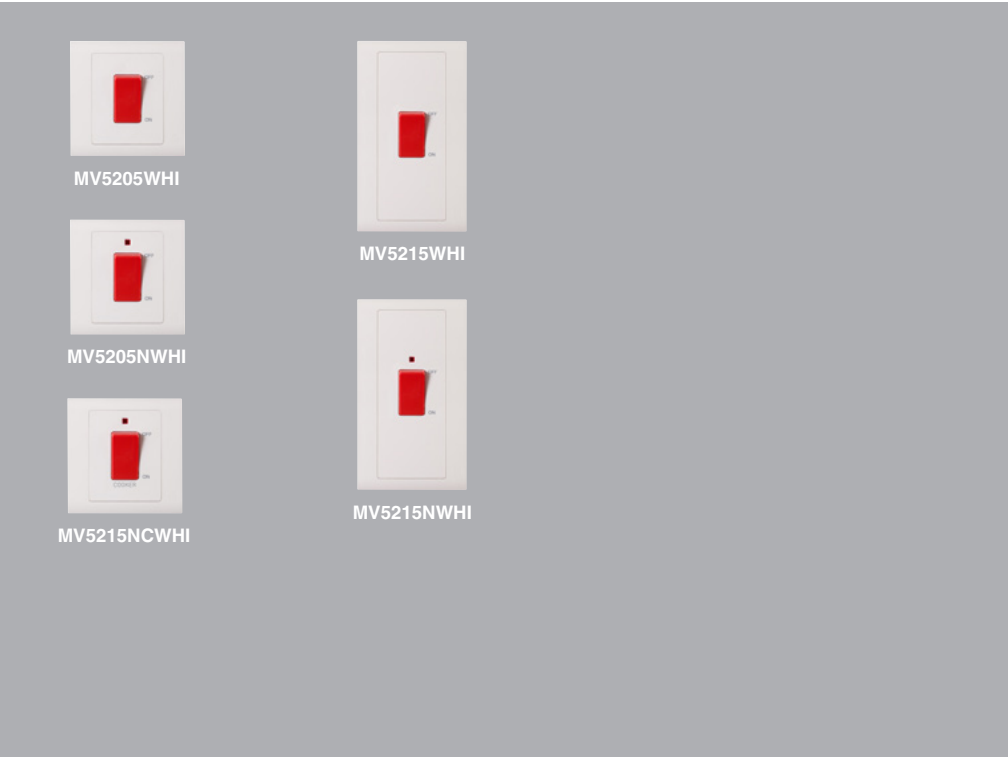


**MV4787NWHI**  
1 GANG 20A DP WIDE ROCKER SWITCH WITH NEON  
**MV8423WHWHI**  
1 GANG 20A DP SWITCH WITH NEON AND MARKED 'WATER HEATER'  
**MV5105WHI**  
1 GANG 32A DP SWITCH WITH NEON

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

**MV8423WHI**  
2 GANG 20A DP SWITCH WITH NEON  
**MV5205WHI**  
1 GANG DP SWITCH WITH NEON  
**MV5215NCWHI**  
1 GANG DP SWITCH WITH NEON AND MARKED 'COOKER'

MOUNTING BOX  
35MM  
886ZIC  
DIMENSIONS  
146 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018



**MV5205WHI**  
1 GANG DP SWITCH  
**MV5205NWHI**  
1 GANG DP SWITCH WITH NEON  
**MV5215NCWHI**  
1 GANG DP SWITCH WITH NEON AND MARKED 'COOKER'

MOUNTING BOX  
35MM  
886ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

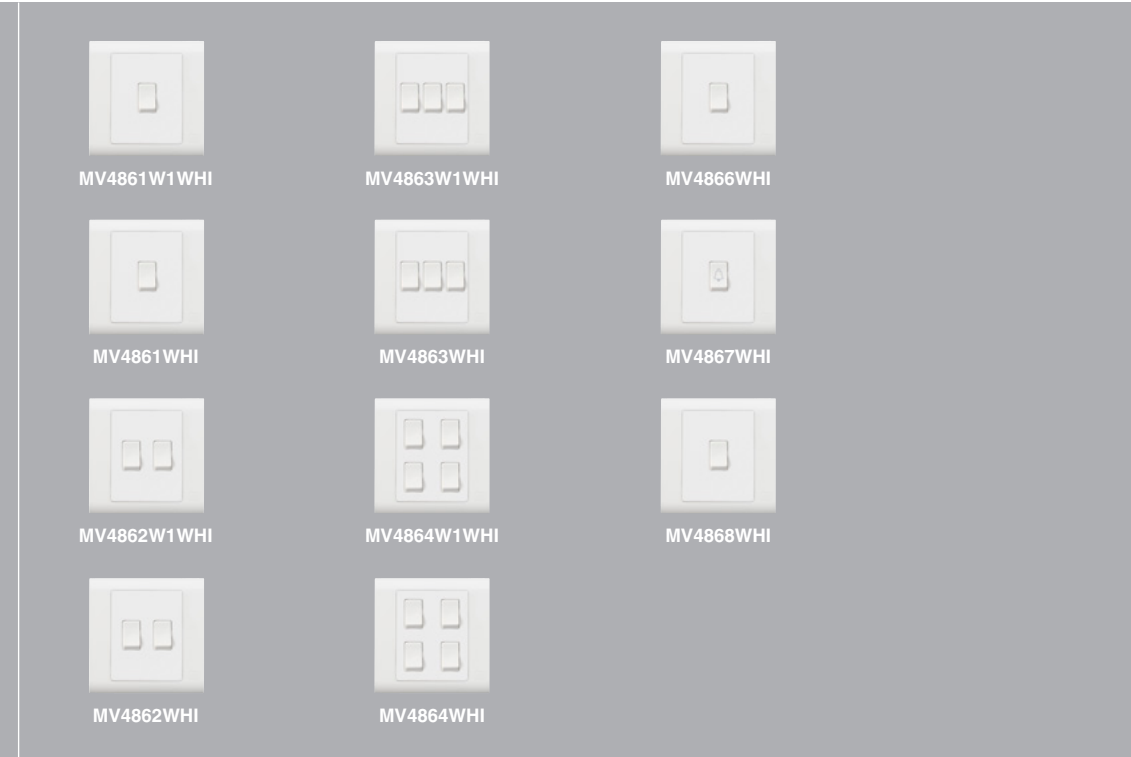
**MV5215WHI**  
2 GANG DP SWITCH  
**MV5215NWHI**  
2 GANG DP SWITCH WITH NEON

MOUNTING BOX  
35MM  
886ZIC  
DIMENSIONS  
146 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

Product Selector

Plateswitches

FLUSH  
10 AMP



**MV4861W1WHI**  
1 GANG SP ONE-WAY  
**MV4861WHI**  
1 GANG SP TWO-WAY  
**MV4862W1WHI**  
2 GANG SP ONE-WAY  
**MV4862WHI**  
2 GANG SP TWO-WAY

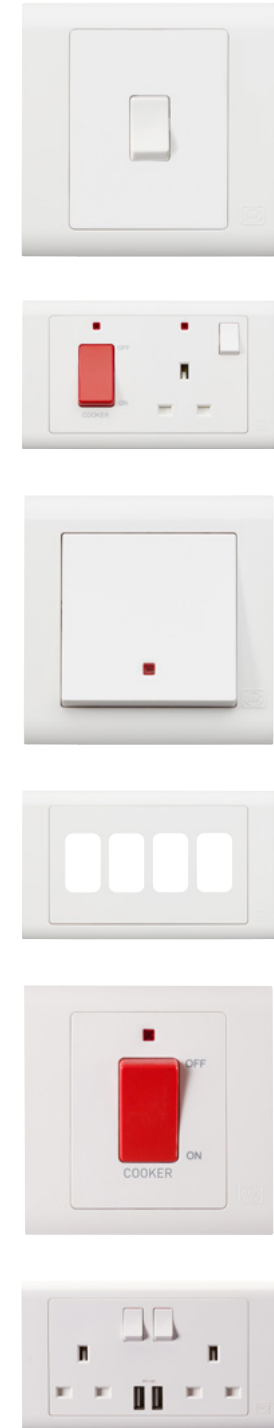
MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

**MV4863W1WHI**  
3 GANG SP ONE-WAY  
**MV4863WHI**  
3 GANG SP TWO-WAY  
**MV4864W1WHI**  
4 GANG SP ONE-WAY  
**MV4864WHI**  
4 GANG SP TWO-WAY

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

**MV4866WHI**  
1 GANG SP INTERMEDIATE  
**MV4867WHI**  
1 GANG SP PUSH SWITCH WITH BELL SYMBOL  
**MV4868WHI**  
1 GANG SP PUSH SWITCH

MOUNTING BOX  
35MM  
886ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
120.6mm  
BS EN 60669-1:2018

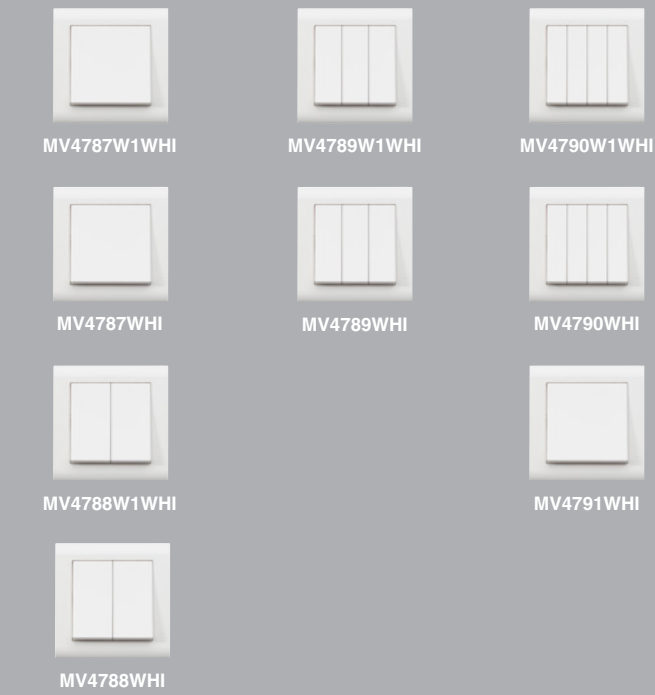


Product Selector

Wide Rocker  
Switches

FLUSH  
10 AMP

SWITCHES  
20 AMP



**MV4781W1WHI**  
1 GANG SP ONE-WAY  
**MV4781WHI**  
1 GANG SP TWO-WAY  
**MV4782W1WHI**  
2 GANG SP ONE-WAY  
**MV4782WHI**  
2 GANG SP TWO-WAY

**MV4783W1WHI**  
3 GANG SP ONE-WAY  
**MV4783WHI**  
3 GANG SP TWO-WAY  
**MV4784W1WHI**  
4 GANG SP TWO-WAY  
**MV4784WHI**  
4 GANG SP ONE-WAY

**MV4778BWHI**  
1 GANG SP PUSH SWITCH  
WITH BELL SYMBOL  
**MV4786WHI**  
1 GANG SP PUSH SWITCH  
**MV4786PWHI**  
1 GANG SP PUSH SWITCH  
MARKED 'PRESS'  
**MV4785WHI**  
1GANG SP INTERMEDIATE

**MV4787W1WHI**  
1 GANG SP ONE-WAY  
**MV4787WHI**  
1 GANG SP TWO-WAY  
**MV4788W1WHI**  
2 GANG SP ONE-WAY  
**MV4788WHI**  
2 GANG SP TWO-WAY

**MV4789W1WHI**  
3 GANG SP ONE-WAY  
**MV4789WHI**  
3 GANG SP TWO-WAY

**MV4790W1WHI**  
4 GANG SP ONE-WAY  
**MV4790WHI**  
4 GANG SP TWO-WAY  
**MV4791WHI**  
1GANG SP INTERMEDIATE

**MV1523WHI**  
1 GANG LED DIMMER  
**MV1524WHI**  
2 GANG LED DIMMER

**MV5060WHI**  
DP SWITCH AND 13A  
SWITCHSOCKET OUTLET  
**MV5061WHI**  
DP SWITCH AND 13A  
SWITCHSOCKET OUTLET WITH  
NEON

**MV701WHI**  
SHAVER/TOOTHBRUSH  
SUPPLY UNIT  
DUAL VOLTAGE  
115/230V OUTPUT  
(220/240V 50/60HZ INPUT)

**MV4859WHI**  
1 GANG THREE POLE FAN  
ISOLATOR SWITCH

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
120.6mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
120.6mm  
BS EN 60669-1:2018

MOUNTING BOX  
35MM  
866ZIC  
1 GANG 866ZIC  
2 GANG 866ZIC  
DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-2-1  
IEC 60669-2-1  
  
RC dimmer (trailing edge)  
Voltage: 220-240V AC  
Frequency: 50/60Hz  
Rating:  
Incandescent: 10-200W  
Halogen lamp with electronic transformer:  
35-200W  
Dimmable LEDs: 6-100W

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 146mm  
FIXING CENTRES  
60.3mm  
BS 4177:1992

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
146 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 61558-2-5:1998

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-2-4:2005

Product Selector

Intelligent LED  
Dimmer Switches

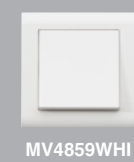
220V TO 240V A.C. 50HZ  
LED, TUNGSTEN FILAMENT  
AND LOW VOLTAGE  
HALOGEN LIGHTING

Cooker Controls

MOULDED  
FLUSH  
45 AMP

Shaver/  
Toothbrush  
Supply Unit

Three Pole  
Fan Isolator



Product Selector

Blank  
Plates

Hotel  
Pack

Grid Plus  
Frontplates

Euro Modular  
Frontplates

Data, Voice  
and TV

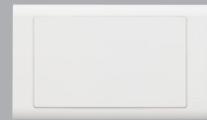
DATA  
SOCKETS

TELEPHONE  
OUTLET

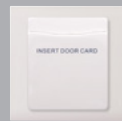
TV  
OUTLETS



MV3827WHI



MV3828WHI



MV4324WHI



MV4327WHI



MV4328WHI



MV4329WHI



MV3631WHI



MV3632WHI



MV3633WHI



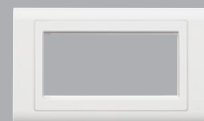
MV3634WHI



MV181WHI



MV182WHI



MV184WHI



MV428WHI



MV429WHI



MV417WHI



MV418WHI



MV422WHI



MV427WHI



MV3520WHI



MV3521WHI



MV3522WHI



MV3523WHI



MV3553WHI



MV3529WHI

**MV3827WHI**  
1 GANG BLANK PLATE  
**MV3828WHI**  
2 GANG BLANK PLATE

**MV4324WHI**  
KEY CARD SWITCH 50HZ/60HZ  
**MV4327WHI**  
2 GANG 10A SERVICE AND DO NOT DISTURB SWITCH WITH INDICATOR  
**MV4328WHI**  
1 GANG TWO-WAY BELL SWITCH WITH INDICATOR  
**MV4329WHI**  
2 GANG SHUTTER SWITCH FOR ROLLER BLINDS

**MV3631WHI**  
1 MODULE FRONT PLATE  
**MV3632WHI**  
2 MODULE FRONT PLATE  
**MV3633WHI**  
3 MODULE FRONT PLATE  
**MV3634WHI**  
4 MODULE FRONT PLATE

**MV181WHI**  
1 GANG FRONTPLATE ONE MODULE APERTURE SIZE 25 X 50MM  
**MV182WHI**  
1 GANG FRONTPLATE TWO MODULE APERTURE SIZE 50 X 50MM  
**MV184WHI**  
2 GANG FRONTPLATE FOUR MODULE APERTURE SIZE 100 X 50MM

**MV428WHI**  
1 GANG RJ45 CAT6 DATA SOCKET  
**MV429WHI**  
1 GANG DOUBLE RJ45 CAT6 DATA SOCKET

**MV417WHI**  
1 GANG RJ11 4 WIRE TELEPHONE SOCKET  
**MV418WHI**  
1 GANG DOUBLE RJ11 4 WIRE TELEPHONE SOCKET  
**MV422WHI**  
1 GANG BT TELEPHONE SOCKET (MASTER)  
**MV427WHI**  
1 GANG BT TELEPHONE SOCKET (SECONDARY)

**MV3520WHI**  
1 GANG SINGLE OUTLET MALE NON-ISOLATED TV SOCKET  
**MV3521WHI**  
1 GANG SINGLE FEMALE NON-ISOLATED TV SOCKET  
**MV3522WHI**  
1 GANG SINGLE OUTLET ISOLATED TV SOCKET  
**MV3523WHI**  
TWIN TV/FM DIPLEXER

**MV3553WHI**  
1 GANG TRIPLE OUTLET TV-FM-SAT TRIPLEXER SOCKET  
**MV3529WHI**  
1 GANG SINGLE OUTLET CABLE TV 'F' TYPE CONNECTOR

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC  
35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)  
DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm  
FIXING CENTRES  
60.3mm  
BS 5733:2010

MOUNTING BOX  
35MM  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
KEY CARD SWITCH  
BS EN 60669-2-1:2004

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC  
35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)  
MOUNTING FRAMES  
1G: K3701  
2G: K3702  
3G: K3703  
4G: K3704  
DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm  
FIXING CENTRES  
60.3mm  
BS 5733:2010

MOUNTING BOX  
25MM  
1 GANG 861ZIC  
2 GANG 862ZIC  
35MM  
1 GANG 866ZIC (for extra wiring space)  
2 GANG 886ZIC (for extra wiring space)  
DIMENSIONS  
1G: 86 x 86mm  
2G: 86 x 146mm  
FIXING CENTRES  
60.3mm  
BS 5733:2010

MOUNTING BOX  
46MM  
877ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
IEC 1180  
EN 50173  
TIA 568  
EN41003

MOUNTING BOX  
25MM  
861ZIC  
35MM  
866ZIC (for extra wiring space)  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
MV417WHI & MV418WHI  
FCC68  
EN41003

MV422WHI & MV427WHI  
BS6312

MOUNTING BOX  
25MM  
861ZIC  
35MM  
866ZIC (for extra wiring space)  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS 5733:2010


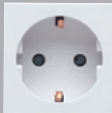





























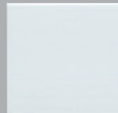

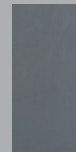


MOUNTING BOX  
25MM  
861ZIC  
35MM  
866ZIC (for extra wiring space)  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS 5733:2010

Product Selector

Euro Power Modules

Euro Datacom Modules

Euro Multimedia Modules

	RJ11/12	RJ45 CAT 6	RJ45 CAT 5e	TELEPHONE	TV CO-AXIAL OUTLETS FOR DIGITAL TV SCREENED NON ISOLATED	HDMI	AUDIO	BLANKS
<div><div> K5830WHI</div><div> K5831WHI</div><div> K5832WHI</div><div><div> K5833WHI</div><div> K5834WHI</div><div> K5837WHI</div></div></div>	<div> K5887WHI</div> <div> K5887BLK</div>	<div> K5846WHI</div> <div> K5846SBLK</div> <div> K5864WHI</div>	<div> K5844WHI</div> <div> K5845WHI</div> <div> K5845BLK</div>	<div> K5820WHI</div> <div> K5821WHI</div> <div> K5821BLK</div>	<div><div> K5850WHI</div><div> K5850BLK</div></div> <div><div> K5851WHI</div><div> K5851BLK</div></div> <div><div> K5855WHI</div><div> K5855BLK</div></div>	<div><div><div> K5852WHI</div><div> K5852DABWHI</div><div> K5853WHI</div></div><div><div> K5853DABWHI</div><div> K5854DABWHI</div></div></div>	<div> K5807WHI</div> <div><div> K5805WHI</div><div> K5806WHI</div></div>	<div> K180WHI</div> <div><div> K188WHI</div><div> K188BL</div></div> <div><div> K186WHI</div><div> K186BL</div></div>

<p><b>K5830WHI</b> <b>K5830BLK</b> UK 1 GANG EURO 2 MODULE 13A 250V SHUTTERED</p> <p><b>K5831WHI</b> <b>K5831BLK</b> GERMAN 2P+E 16A 250V SHUTTERED EURO 2 MODULE (<b>NON UK</b>)</p> <p><b>K5832WHI</b> <b>K5832BLK</b> AMERICAN 2P+E 15A 127V SHUTTERED EURO 2 MODULE (<b>NON UK</b>)</p> <p><b>K5833WHI</b> <b>K5833BLK</b> UK 1 GANG EURO 2 MODULE 5A 250V SHUTTERED</p> <p><b>K5834WHI</b> <b>K5834BLK</b> FRENCH/BELGIAN 2P+E 16A 250V SHUTTERED EURO 2 MODULE (<b>NON UK</b>)</p> <p><b>K5837WHI</b> <b>K5837BLK</b> USB CHARGING MODULE EURO 2 MODULE</p> <p><b>K5830</b> MOUNTING BOX 35mm minimum 46mm (for extra wiring space) <b>DIMENSIONS</b> 50 x 50mm BS 1363 Pt2:1995 <b>K5831</b> MOUNTING BOX 46mm <b>DIMENSIONS</b> 50 x 50mm IEC 60884-1:2006 <b>K5832</b> MOUNTING BOX 35mm 46mm (for extra wiring space) <b>DIMENSIONS</b> 50 x 50mm SASO 2204:2003</p>	<p><b>K5833</b> MOUNTING BOX 35mm minimum 46mm (for extra wiring space) <b>DIMENSIONS</b> 50 x 50mm BS 546:1950 <b>K5834</b> MOUNTING BOX 46mm <b>DIMENSIONS</b> 50 x 50mm NF C61-314 <b>K5837</b> MOUNTING BOX 35mm, 46mm (for extra wiring space) <b>DIMENSIONS</b> 50 x 50mm USB charging sockets, each capable of supporting 2A charge (total of 2A). IEC 60950-1 IEC 61000-6-1/3</p>	<p>Suitable for both RJ11 and RJ12 jacks RJ11: 4 wire RJ12: 6 wire <b>MOUNTING BOXES</b> Minimum box depth 25mm FCC68 EN 41003</p>	<p>Cat 6 performance. Suitable for both 568A and 568B wiring schemes. <b>MOUNTING BOXES</b> Minimum Box Depth 35mm ISO/IEC 11801 EN 50173 TIA 568 EN 41003</p>	<p>Enhanced Cat 5 performance. Suitable for both 568A and 568B wiring schemes. Supplied with cable tie and cable anchors to secure wires in the connectors. <b>MOUNTING BOXES</b> Minimum box depth 25mm standard ISO/IEC 11801 EN 50173 TIA 568 EN 41003</p>	<p><b>MOUNTING BOXES</b> Minimum depth 25mm BS 6312 Pt 2</p>	<p>Fully screened non isolated TV outlets containing a combination of single, TV/FM Diplexer and TV/FM/SAT Triplexer for use within digital TV systems and interactive TV services. Single outlets for connection to a single TV, FM or Satellite co-axial aerial lead.</p> <p><b>K5850WHI</b> <b>K5850BLK</b> SINGLE OUTLET (IEC MALE) ONE MODULE 25 X 50MM</p> <p><b>K5851WHI</b> <b>K5851BLK</b> SINGLE OUTLET (IEC FEMALE) ONE MODULE 25 X 50MM</p> <p><b>K5855WHI</b> <b>K5855BLK</b> SINGLE F-TYPE SATELLITE SOCKET ONE MODULE 25 X 50MM</p>	<p><b>K5852WHI</b> <b>K5852BLK</b> TWIN OUTLET TV/FM DIPLEXER TWO MODULE 50 X 50MM (<b>IRELAND ONLY</b>)</p> <p><b>K5852DABWHI</b> <b>K5852DABBLK</b> TWIN OUTLET TV-FM/DAB DIPLEXER TWO MODULE 50 X 50MM</p> <p><b>K5853WHI</b> <b>K5853BLK</b> TRIPLE OUTLET TV/FM/SATELLITE TRIPLEXER TWO MODULE 50 X 50MM (<b>IRELAND ONLY</b>)</p> <p>TV/FM diplexer units for connection to a single co-axial aerial lead with combined TV and FM signals. TV/FM/SAT triplexer units for connection to a single co-axial aerial lead with combined TV, FM and Satellite signals</p>	<p><b>K5853DABWHI</b> <b>K5853DABBLK</b> TRIPLE OUTLET TV-FM/DAB-SAT TRIPLEXER TWO MODULE 50 X 50MM</p> <p><b>K5854DABWHI</b> <b>K5854DABBLK</b> QUAD OUTLET TV-FM/DAB-2XSAT TWO MODULE 50 X 50MM</p>	<p><b>K5807WHI</b> <b>K5807BLK</b> FEMALE HDMI OUTLET</p> <p><i>K5807 Female HDMI Outlet is HDMI 1.1, 1.2, 1.3 and 1.4 compatible, HDCP compliant.</i> <b>DATA RATE</b> Up to 2.25 Gbps <b>SCAN</b> Up to 1080p/1920x1200 <b>INPUT CONNECTOR</b> 1 x HDMI Female (Type A) <b>OUTPUT CONNECTOR</b> 1 x HDMI Female (Type A) Supports high resolution input PC VGA, SVGA, SXVGA (1280x1024) and UXGA (1600x1200, 1920x1200) <b>HDTV</b> 480p, 720p, 1080i and 1080p HDMI input cable should be no larger than 20m. <b>DIMENSIONS</b> 50 x 50 x 20mm</p>	<p><b>K5805WHI</b> <b>K5805BLK</b> AUDIO BINDING POST SET FOR SINGLE LOUD SPEAKER</p> <p><b>K5806WHI</b> <b>K5806BLK</b> RCA TO SCREW TERMINATION SET 1 RED AND 1 BLACK</p> <p><b>DIMENSIONS</b> 50 x 25 x 28mm</p>	<p><b>K180WHI</b> TWO MODULE BLANK 50 X 50MM</p> <p><b>K188WHI</b> <b>K188BLK</b> ONE MODULE BLANK 25 X 50MM</p> <p><b>K186WHI</b> <b>K186BLK</b> HALF MODULE BLANK 12.5 X 50MM</p> <p>BS 5733:2010 where applicable</p>
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Mains operated products and extra low voltage modules must not be installed within the same frontplate.  
Refer to BS 7671 IET Wiring Regulations for details.







Product Selector

TV CO-AXIAL OUTLETS FOR DIGITAL TV SCREENED NON ISOLATED







HDMI AUDIO BLANKS







Blank Inserts							Switch Modules 10 Amp						
1 MODULE							1 WAY SP 10 AMP	1 WAY DP 10 AMP	2 WAY SP 10 AMP	2 WAY RETRACTIVE SWITCH SP 10 AMP	2 WAY RED RETRACTIVE SWITCH SP 10 AMP		
FINISHES													
WHITE	K4880WHI	10	K4881WHI	10	K4981WHI	10	K4882WHI	10	K4885WHI	10	K4885RED	1	
BLACK	K4880BLK	10	K4881BLK	10	K4981BLK	10	K4882BLK	1	K4885BLK	10	K4885REDB	1	
GRAPHITE	K4880GRA	10	K4881GRA	10			K4882GRA	10					
							NOTE These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999						

Switch Modules 20 Amp							Switch Modules 20 Amp						
1 WAY PUSH TO BREAK RETRACTIVE DP 20 AMP							1 WAY RED ROCKER PUSH TO BREAK RETRACTIVE DP 20 AMP	2 WAY SP 20 AMP	2 WAY RED ROCKER SP 20 AMP	2 WAY SWITCH WITH INTEGRAL NEON LOCATOR SP 20 AMP	2 WAY AND CENTRE OFF SP 20 AMP		
FINISHES													
WHITE	K4915WHI	10	K4915RED	10	K4892WHI	10	K4892RED	10	K4892LWHI	10	K4899WHI	10	
BLACK	K4915BLK	10	K4915REDB	1	K4892BLK	10	K4892REDB	1	K4892LBLK	1	K4899BLK	10	
GRAPHITE													
							NOTE Push switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999						

B suffix on the list number denotes black inserts

2 WAY RETRACTIVE SWITCH MARKED WITH BELL SYMBOL SP 10 AMP			2 WAY RETRACTIVE SWITCH MARKED 'PRESS' SP 10 AMP			2 WAY CENTRE OFF RETRACTIVE SWITCH SP 10 AMP			Switch Modules 20 Amp			1 WAY RED ROCKER PUSH TO MAKE DP 20 AMP					
																	
K4885BWHI1			K4885PWHI10			K4900WHI10			K4891WHI10			K4910WHI10			K4910RED10		
K4885BBLK1			K4885PBLK1			K4900BLK10			K4891BLK10			K4910BLK10			K4910REDB1		
									K4891GRA10								
NOTE Push switches are not designed for fluorescent loads. BS EN 60669-1:1999			NOTE Push switches are not designed for fluorescent loads. BS EN 60669-1:1999			NOTE Push switches are not designed for fluorescent loads. BS EN 60669-1:1999			These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999			NOTE Push switches are not designed for fluorescent loads. BS EN 60669-1:1999			NOTE Push switches are not designed for fluorescent loads. BS EN 60669-1:1999		

RED ROCKER 2 WAY AND CENTRE OFF SP 20 AMP			INTERMEDIATE 20 AMP			INTERMEDIATE RED ROCKER 20 AMP			1 WAY DP 20 AMP			1 WAY NEON DP 20 AMP		
1 WAY WITH WINDOW DP 20 AMP														
FINISHES														
WHITE	K4899RED	10	K4893WHI	10	K4893RED	10	K4896WHI	10	K4896NWHI	1	K4896WWHI	10		
BLACK	K4899REDB	1	K4893BLK	10	K4893REDB	10	K4896BLK	10	K4896NBLK	1	K4896WBLK	10		
GRAPHITE							K4896GRA	10	K4896NGRA	1				
			NOTE These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999			NOTE These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999			NOTE These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999			NOTE These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999		

B suffix on the list number denotes black inserts

Switch Modules  
20 Amp

Printed Modules with and without Neon

1 WAY  
RED ROCKER DP  
20 AMP

1 WAY  
BOILER DP  
20 AMP

1 WAY  
BOILER  
NEON DP  
20 AMP

1 WAY  
DISHWASHER DP  
20 AMP

1 WAY  
DISHWASHER  
NEON DP  
20 AMP

1 WAY  
COOKER HOOD DP  
20 AMP

1 WAY  
COOKER HOOD  
NEON DP  
20 AMP

1 WAY  
FAN DP  
20 AMP

1 WAY FAN  
NEON DP  
20 AMP

1 WAY  
FRIDGE DP  
20 AMP

FINISHES

WHITE

K4896RED 10

K4896BRWHI 1

K4896NBRWHI 1

K4896DWWHI 1

K4896NDWWHI 1

K4896CHWHI 1

K4896NCHWHI 1

K4896FNWHI 1

K4896NFNWHI 1

K4896FGWHI 1

BLACK

K4896REDB 1

K4896BRBLK 1

K4896NBRBLK 1

K4896DWBLK 1

K4896NDWBLK 1

K4896CHBLK 1

K4896NCHBLK 1

K4896FNBLK 1

K4896NFNBLK 1

K4896FGBLK 1

These switches do NOT have  
to be derated when used with  
fluorescent or inductive loads.  
BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

Printed Modules with and without Neon

1 WAY  
FRIDGE  
NEON DP  
20 AMP

1 WAY  
FREEZER DP  
20 AMP

1 WAY  
FREEZER  
NEON DP  
20 AMP

1 WAY  
FRIDGE  
FREEZER DP  
20 AMP

1 WAY  
FRIDGE FREEZER  
NEON DP  
20 AMP

1 WAY  
WASTE  
DISPOSAL DP  
20 AMP

1 WAY  
WASTE DISPOSAL  
NEON DP  
20 AMP

1 WAY  
WASHING  
MACHINE DP  
20 AMP

1 WAY  
WASHING  
MACHINE  
NEON DP  
20 AMP

1 WAY  
TUMBLE  
DRYER DP  
20 AMP

1 WAY  
TUMBLE DRYER  
NEON DP  
20 AMP

FINISHES

WHITE

K4896NFGWHI 1

K4896FZWHI 1

K4896NFZWHI 1

K4896FFWHI 1

K4896NFFWHI 1

K4896WDWHI 1

K4896NWDWHI 1

K4896WMWHI 1

K4896NWMWHI 1

K4896TDWHI 1

K4896NTDWHI 1

BLACK

K4896NFGBLK 1

K4896FZBLK 1

K4896NFZBLK 1

K4896FFBLK 1

K4896NFFBLK 1

K4896WDBLK 1

K4896NWDBLK 1

K4896WMBLK 1

K4896NWMBLK 1

K4896TDBLK 1

K4896NTDBLK 1

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

Printed Modules with and without Neon

1 WAY  
WASHER DRYER DP  
20 AMP

1 WAY  
WASHER DRYER  
NEON DP  
20 AMP

1 WAY  
MICROWAVE DP  
20 AMP

1 WAY  
MICROWAVE  
NEON DP  
20 AMP

1 WAY  
HEATER DP  
20 AMP



FINISHES
WHITE
BLACK

K4896WDRWHI	1	K4896NDRWHI	1	K4896MWWHI	1	K4896NMWWHI	1	K4896HRWHI	1
K4896WDRBLK	1	K4896NDRBLK	1	K4896MWBLK	1	K4896NMWBLK	1	K4896HRBLK	1

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

1 WAY  
HEATER  
NEON DP  
20 AMP

1 WAY  
OVEN DP  
20 AMP

1 WAY  
OVEN NEON DP  
20 AMP

1 WAY  
HOB DP  
20 AMP

1 WAY  
HOB NEON DP  
20 AMP

1 WAY  
IMMERSION  
HEATER DP  
20 AMP



K4896NHRWHI	1	K4896OVWHI	1	K4896NOVWHI	1	K4896HBWHI	1	K4896NHBWHI	1	K4896IHWHI	1
K4896NHRBLK	1	K4896OVBLK	1	K4896NOVBLK	1	K4896HDBLK	1	K4896NHDBLK	1	K4896IHBLK	1

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

Printed Modules with and without Neon

1 WAY  
IMMERSION  
HEATER NEON DP  
20 AMP

1 WAY  
PLINTH HEATER DP  
20 AMP

1 WAY  
PLINTH HEATER  
NEON DP  
20 AMP

1 WAY  
WORKTOP  
LIGHTING DP  
20 AMP

1 WAY  
WORKTOP  
LIGHTING  
NEON DP  
20 AMP



FINISHES
WHITE
BLACK

K4896NIHWHI	1	K4896PHWHI	1	K4896NPHWHI	1	K4896WLWHI	1	K4896NWLWHI	1
		K4896PHBLK	1			K4896WLBLK	1	K4896NWLBLK	1

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

1 WAY  
WINE COOLER DP  
20 AMP

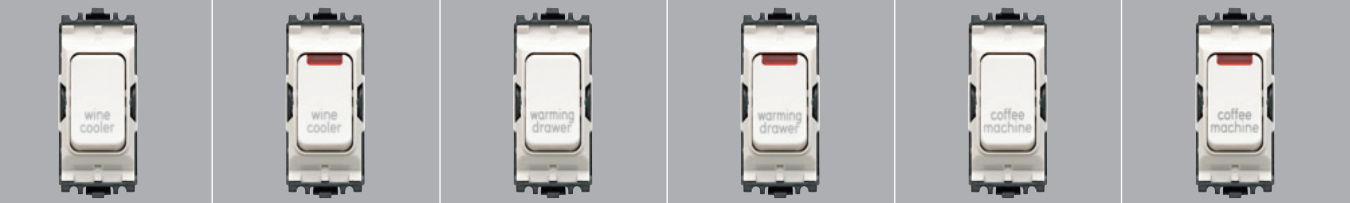
1 WAY  
WINE COOLER  
NEON DP  
20 AMP

1 WAY  
WARMING  
DRAWER DP  
20 AMP

1 WAY  
WARMING  
DRAWER NEON DP  
20 AMP

1 WAY  
COFFEE  
MACHINE DP  
20 AMP

1 WAY  
COFFEE MACHINE  
NEON DP  
20 AMP



K4896WCWHI	1	K4896NWCWHI	1	K4896WDAWHI	1	K4896NWDAWHI	1	K4896CMWHI	1	K4896NCMWHI	1
K4896WCBLK	1	K4896NWCBLK	1	K4896WDABLK	1	K4896NWDABLK	1	K4896CMBLK	1	K4896NCMBLK	1

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999

BS EN 60669-1:1999



Secret Key Switch Modules

INTERMEDIATE  
SECRET KEY  
SWITCH  
20 AMP

2 WAY  
SECRET KEY  
SWITCH SP  
20 AMP

2 WAY  
SECRET KEY  
SWITCH MARKED  
'EMG LTG TEST' SP  
20 AMP

1 WAY  
SECRET KEY  
SWITCH DP  
20 AMP

EMERGENCY  
LIGHTING DP  
20 AMP



These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999 Key (3405ZIC) is supplied.

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These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999 Key (3405ZIC) is supplied.

2 WAY  
SECRET KEY  
SWITCH (BIASED  
1 WAY) SP  
20 AMP



K4918WHI 10

K4918BLK 10

These switches do NOT have to be derated when used with fluorescent or inductive loads. BS EN 60669-1:1999 Key (3405ZIC) is supplied.

Indicator Unit Modules

200-250V  
NEON



K4889RED 10

K4889REDB 1

200-250V  
NEON



K4889AMB 10

200-250V  
FLUORESCENT



K4889GRN 10

21-36V  
FILAMENT



K4836RED 10

21-36V  
FILAMENT



K4836AMB 10

BS 5733:2010

BS 5733:2010

BS 5733:2010

BS 5733:2010

BS 5733:2010

B suffix on the list number denotes black inserts

Will Operate On Both A.C. And D.C

Indicator Unit Modules

21-36V  
FILAMENT



K4836GRN 10

Dimmer Switch Modules

TUNGSTEN FILAMENT AND LOW VOLTAGE LIGHTING

40W/VA-220W/  
180VA MAX  
230V A.C., 50HZ  
1 MODULE



K4501WHILV 1

K4501BLKLV 1

60W/VA-400W/  
320VA MAX  
230V A.C., 50HZ  
2 MODULE



K4500WHILV 1

K4500BLKLV 1

0-10V/1-10V  
FLUORESCENT  
CONTROLLER  
1 MODULE



K4499WHI 1

K4499BLK 1

40-220W/180VA/  
4-70W  
LED INTELLIGENT  
DIMMER  
1 MODULE



K4511WHILV 1

K4511BLKLV 1

BS 5733:2010

Will Operate On Both A.C. And D.C

These dimmers employ the latest microcontroller based circuitry to provide electronic soft start and overload protection. Suitable for use with good quality electronic or wire wound transformers. Can also be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability. K4501WHI/BLK Max. No. of low voltage T/F's - 3 K4500WHI/BLK Max. No. of low voltage T/F's - 5 Not suitable for fluorescent loads. All dimmers have push on - push off, 2 way switches, integral with rotary control. NOTE Refer to technical section for derating. Conform to BS EN 60669-2-1 and BS EN 55015

MK Fluorescent Grid Dimmers are low voltage controllers for connection to 1-10V controllable ballasts.

K4511WHILV 1 Module 2 Way 40-220W/180VA/4-70W LED Intelligent Dimmer.

K4511BLKLV 1 Module 2 Way 40-220W/180VA/4-70W LED Intelligent Dimmer.

Accessory Modules

SINGLE TV  
CO-AXIAL  
OUTLET  
NON-ISOLATED



K4520WHI 10

K4520BLK 10

SINGLE TV  
CO-AXIAL  
OUTLET  
ISOLATED



K4521WHI 10

K4521BLK 10

200-250V A.C.  
BUZZER UNIT



K4000WHI 10

21-36V A.C.  
BUZZER UNIT



K4001WHI 10

16A  
CORD  
OUTLET



K4886WHI 10

K4886BLK 10

13A  
FUSE UNIT



K4890WHI 10

K4890BLK 10

13A  
FUSE UNIT WITH  
TAMPERPROOF  
SCREW



K4890KOWHI 10

K4890KOBLK 10

For direct connection to TV or FM aerial co-axial download. NOT to be used in same enclosure as mains exceeding 50V. BS 3041:1977 IEC 169-2:1965 BS 5733:2010 where applicable.

For direct connection to TV or FM aerial co-axial download. NOT to be used in same enclosure as mains exceeding 50V. BS 3041:1977 IEC 169-2:1965 BS 5733:2010 where applicable.

SOUND OUTPUT LEVEL Av 61 db @ 15 feet. BS 5733:2010

SOUND OUTPUT LEVEL Av 61 db @ 15 feet. BS 5733:2010

Complete with 3 pairs of terminals. The supply terminals are suitable for up to 2 x 2.5mm² or 1 x 4mm² solid conductors. The load terminals are suitable for one 1.5mm² flexible cord. A cord grip is also fitted. BS 5733:2010

Fuse carrier comes with 13A cartridge fuse link to BS 1362. BS 5733:2010

Fuse carrier comes with 13A cartridge fuse link to BS 1362. BS 5733:2010 Key (3405ZIC) is supplied.

## LOW VOLTAGE CABLES SPECIFICATIONS

The low voltage cables specified for the transformer secondaries to the main L.V. panelboard, and/or from the main L.V. panelboard to the various distribution panels and thereafter to the various sub-panels etc. shall be carried out using the following:

**1. *Single core P.V.C. insulated copper cable, non-armoured (with or without sheath)***

TYPE DESIGNATION: PVC or PVC/PVC  
RATED VOLTAGE: 600/1000 volts  
DESIGN STANDARD: B.S. 6004

**2. *Single core X.L.P.E. insulated copper cable, non-armoured (with or without sheath)***

TYPE DESIGNATION: X.L.P.E.  
RATED VOLTAGE: 600/1000 volts  
DESIGN STANDARD: B.S. 5467

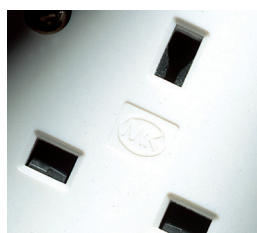
**3. *Twin and multicore, steel wire armoured, P.V.C. insulated, P.V.C. sheathed cables (copper conductors)***

TYPE DESIGNATION: PVC/SWA/PVC  
RATED VOLTAGE: 600/1000 volts  
DESIGN STANDARD: B.S. 6346

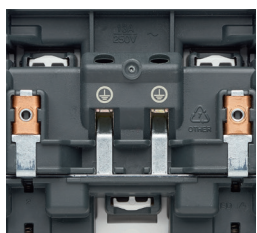
**4. *Twin and multicore, steel wire armoured, X.L.P.E. insulated, P.V.C. sheathed cables (copper conductors)***

TYPE DESIGNATION: X.L.P.E.  
RATED VOLTAGE: 600/1000 volts  
DESIGN STANDARD: B.S. 5467

## Specification Notes



The 3 pin operated safety shutter makes Logic Plus™ sockets the safest available.



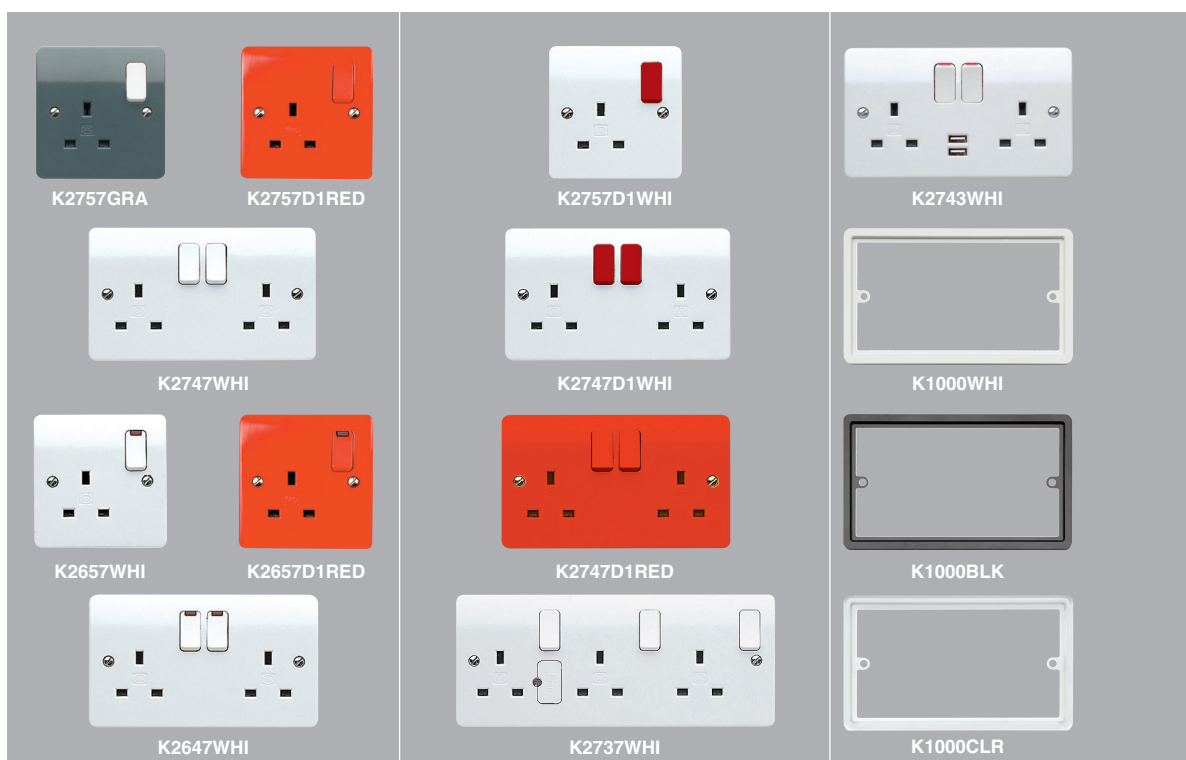
Many sockets are fitted with two earth terminals to provide high integrity earthing.



Terminals are grouped in-line with terminal screws backed out ready for easy wiring. Clear marking on dark background makes the terminals easily identifiable.

## Switchsocket Outlets

FLUSH  
13 AMP



<b>K2757WHI</b>	10
<b>K2757GRA</b>	10
1 GANG DP WITH DUAL EARTH TERMINALS	
<b>K2757D1RED</b>	5
1 GANG DP WITH RED FRONTPLATE, RED ROCKER AND DUAL EARTH TERMINALS	
<b>K2747WHI</b>	50
2 GANG DP	
<b>K2657WHI</b>	10
<b>K2657GRA</b>	10
1 GANG DP WITH NEON AND DUAL EARTH TERMINALS	
<b>K2657D1RED</b>	5
1 GANG DP WITH RED FRONTPLATE, RED ROCKER, NEON AND DUAL EARTH TERMINALS	
<b>K2647WHI</b>	5
2 GANG DP WITH NEONS	

<b>MOUNTING BOXES</b>	3 GANG: K2153WHI
<b>FLUSH 25MM</b>	
1 GANG: 861ZIC	
2 GANG: 862ZIC	
<b>FLUSH 35MM</b>	
(for extra wiring space)	
1 GANG: 866ZIC	
2 GANG: 866ZIC	
3 GANG: K863	
<b>SURFACE</b>	
1 GANG: K2140WHI	
2 GANG: K2142WHI	

<b>DIMENSIONS</b>
1 GANG: 86 x 86mm
2 GANG: 86 x 146mm
3 GANG: 86 x 206mm
<b>FIXING CENTRES</b>
1 GANG: 60.3mm
2 GANG: 120.6mm
3 GANG: 180.9mm
BS 1363 Pt 2:1995

<b>K2757D1WHI</b>	10
1 GANG DP WITH RED ROCKER AND DUAL EARTH TERMINALS	
<b>K2757D2WHI</b>	10
1 GANG DP WITH GREEN ROCKER AND DUAL EARTH TERMINALS	
<b>K2747D1WHI</b>	5
2 GANG DP WITH RED ROCKERS	
<b>K2747D1RED</b>	5
2 GANG DP WITH RED FRONTPLATE AND RED ROCKERS	
<b>K2737WHI</b>	5
3 GANG DP WITH DUAL EARTH TERMINALS	

**HIGH INTEGRITY EARTHING**  
**K2757, K2657, K2743 and K2737**  
Fitted earth terminals to provide a double earth facility for use when installations require a high integrity protective connection as specified within BS 7671 IET Wiring Regulations

**K2737**  
13A fuse protects all three outlets

<b>K2743WHI</b>	1
<b>K2743GRA</b>	1
2 GANG DP WITH 2 X USB CHARGING PORTS AND DUAL EARTH TERMINALS	
<b>K1000WHI</b>	1
2 GANG 10MM WHITE PATRESS	
<b>K1000BLK</b>	1
2 GANG 10MM BLACK PATRESS	
<b>K1000CLR</b>	1
2 GANG 10MM CLEAR PATRESS	

**MOUNTING BOXES**  
**FLUSH 35MM**  
886ZIC  
**FLUSH 47MM**  
(for extra wiring space)  
887ZIC  
BS 5733:2010

**K2743WHI**  
Features 2 USB charging sockets, each capable of supporting 2A charge (total of 2A)

**K1000WHI, K1000BLK, K1000CLR**  
Patresses for use where existing back box is too shallow



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# Logic Plus™

WIRING DEVICES  
**WHITE**

WITH OUTBOARD  
ROCKERS  
FLUSH  
13 AMP



K2746WHI



K2746GRA



K2476WHI



K2476GRA



K2746D1WHI



K2746D1RED



K2746D2WHI



**K2746WHI** 10  
**K2746GRA** 10  
2 GANG DP  
WITH OUTBOARD ROCKERS  
AND DUAL EARTH TERMINALS  
**K2746CEWHI** 10  
2 GANG DP  
WITH OUTBOARD ROCKERS  
AND 'CLEAN EARTH' FACILITY  
**K2476WHI** 10  
**K2476GRA** 10  
2 GANG DP  
WITH OUTBOARD ROCKERS  
DUAL EARTH AND NEONS  
**K2746CEWHI** 10  
2 GANG DP  
WITH OUTBOARD ROCKERS,  
NEONS AND 'CLEAN EARTH'  
FACILITY

K2746CEWHI & K2476CEWHI  
Provided with facility for 'clean earth' connection

#### DIMENSIONS

86 x 146mm

FIXING CENTRES

120.6mm

BS 1363 Pt 2:1995

#### HIGH INTEGRITY EARTHING

Fitted earth terminals to provide a double earth  
facility for use when installations require a high  
integrity protective connection as specified within  
BS 7671 IET Wiring Regulations

**K2746D1WHI** 10  
**K2746D1RED** 10  
2 GANG DP  
WITH RED OUTBOARD  
ROCKERS AND DUAL  
EARTH TERMINALS  
**K2746CED1RED** 10  
2 GANG DP WITH RED  
OUTBOARD ROCKERS  
WITH CLEAN EARTH  
FACILITY  
**K2476D1WHI** 10  
**K2476D1RED** 10  
2 GANG DP  
WITH RED OUTBOARD  
ROCKERS, NEONS AND  
DUAL EARTH TERMINALS  
**K2746D2WHI** 10  
2 GANG DP  
WITH GREEN OUTBOARD  
ROCKERS AND DUAL  
EARTH TERMINALS

#### DIMENSIONS

86 x 146mm

FIXING CENTRES

120.6mm

BS 1363 Pt 2:1995

# Logic Plus™

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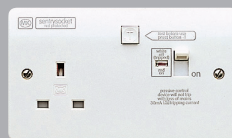
RCD PROTECTED  
FLUSH  
13 AMP



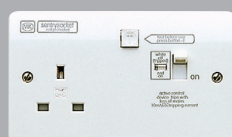
K6231WHI



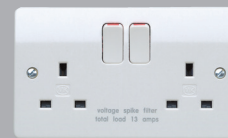
K6233WHI



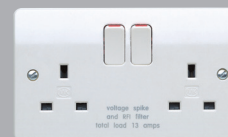
K6300WHI



K6303WHI



K1816WHI



K1826WHI



K1800WHI

**K6231WHI** 1  
2 GANG SP  
30mA RATED TRIPPING  
CURRENT  
ACTIVE CONTROL CIRCUIT  
**K6233WHI** 1  
2 GANG SP  
30mA RATED TRIPPING  
CURRENT  
PASSIVE CONTROL CIRCUIT

#### MOUNTING BOXES FLUSH

886ZIC – 35mm deep

#### SURFACE

K2140WHI – 30mm deep

#### EARTH PIN OPERATED SHUTTER

These a.c. and pulsating d.c. fault current sensitive products have up to 15mm thick frontplates and are suitable for boxes with 30mm min. depth and supply voltages of 240V 50Hz.

A 25mm deep box (862ZIC) can be used but conduit entry is restricted.

Refer to Sentrysocket section, page 288, for more information on active and passive control circuits.

#### DIMENSIONS

86 x 146mm

#### FIXING CENTRES

120.6mm

BS 7288:1990

All units are a.c. and pulsating d.c. fault current sensitive devices.

Maximum total load 13A

**K6300WHI** 1  
1 GANG DP  
30mA RATED TRIPPING  
CURRENT ACTIVE  
CONTROL CIRCUIT  
**K6303WHI** 1  
1 GANG DP  
30mA RATED TRIPPING  
CURRENT PASSIVE  
CONTROL CIRCUIT

#### MOUNTING BOXES FLUSH

886ZIC – 35mm deep

#### SURFACE

K2140WHI – 30mm deep

#### EARTH PIN OPERATED SHUTTER

These a.c. and pulsating d.c. fault current sensitive products have up to 15mm thick frontplates and are suitable for boxes with 30mm min. depth and supply voltages of 240V 50Hz.

A 25mm deep box (862ZIC) can be used but conduit entry is restricted.

Refer to Sentrysocket section, page 288, for more information on active and passive control circuits.

#### DIMENSIONS

86 x 146mm

#### FIXING CENTRES

120.6mm

BS 7288:1990

All units are a.c. and pulsating d.c. fault current sensitive devices.

Maximum total load 13A

FILTERED  
FLUSH  
13 AMP

**K1816WHI** 1  
2 GANG DP  
SPIKE  
**K1826WHI** 1  
2 GANG DP  
SPIKE AND RFI  
**K1800WHI** 5  
REPLACEMENT FILTER  
CASSETTE

#### MOUNTING BOXES

##### FLUSH

886ZIC

##### SURFACE

K2172WHI

##### K1816

Provides filtering to reduce voltage spikes only.

##### K1826

Provides two way filtering to reduce voltage spikes and radio frequency interference on the mains. Protected by thermal cut-out.

BS 5733:2010



## Multimedia Plates

FLUSH  
13 AMP



**K2741WHI** 1  
2 GANG DP  
COMBINATION PLATE  
WITH 4 X EURO APERTURE  
**K2740WHI** 1  
4 GANG DP  
COMBINATION PLATE WITH  
TV/FM/DAB/SAT X 2 QUAD,  
TV, TELEPHONE AND  
4 X EURO APERTURE

MOUNTING BOXES  
FLUSH 35MM

2 GANG: 857ZIC\*  
4 GANG: 853ZIC\*

FLUSH 47MM  
2 GANG: 858ZIC\*  
4 GANG: 854ZIC\*

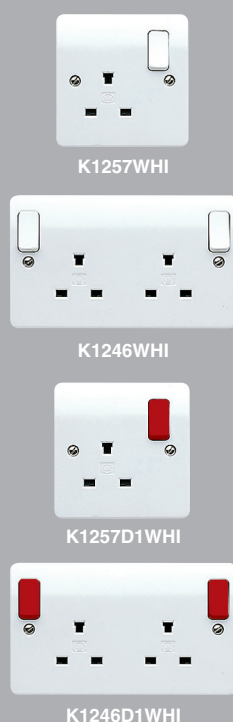
### DIMENSIONS

K2741: 173 x 146mm  
K2740: 173 x 294mm  
BS 1363 Pt 2:1995

\*Provides segregation between power and TV/FM/SAT/DAB/  
Euro Module sections

## Switchsocket Outlets

NON STANDARD  
FLUSH  
13 AMP



**K1257WHI** 10  
1 GANG DP  
**K1246WHI** 5  
2 GANG DP  
**K1257D1WHI** 10  
1 GANG DP  
WITH RED ROCKER  
**K1246D1WHI** 5  
2 GANG DP  
WITH RED ROCKERS  
**K1246D1RED** 5  
2 GANG DP  
WITH RED FRONTPLATE  
AND RED ROCKERS

MOUNTING BOXES  
FLUSH 25MM

1 GANG: 861ZIC  
2 GANG: 862ZIC

FLUSH 35MM (for extra wiring space)  
1 GANG: 866ZIC, 2 GANG: 886ZIC

### SURFACE

1 GANG: K2140WHI, 2 GANG: K2142WHI

These products are provided with facilities for 'clean earth'  
connection and are suitable for non standard plugs with 'T'  
shaped earth pin. See page 240.

### DIMENSIONS

1 GANG: 86 x 86mm  
2 GANG: 86 x 146mm

### FIXING CENTRES

1 GANG: 60.3mm  
2 GANG: 120.6mm

BS 1363 Pt 2:1995 where relevant

ROUND PIN  
FLUSH



**K2891WHI** 10  
1 GANG  
5A DP SHUTTERED  
**K2893WHI** 10  
1 GANG  
15A DP SHUTTERED  
**K2493WHI** 10  
1 GANG  
15A DP SHUTTERED  
WITH NEON

MOUNTING BOXES

FLUSH

861ZIC (25mm)

866ZIC (35mm for extra wiring space)

SURFACE

K2140WHI

DIMENSIONS

86 x 86mm

FIXING CENTRES

60.3mm

BS 546:1950

# Logic Plus™

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## Socket Outlets

FLUSH  
13 AMP

ROUND PIN  
FLUSH

127V  
FLUSH  
15 AMP  
(NON UK)



K780WHI



K781WHI



K781RED



K770WHI



K771WHI



K772WHI



K2251WHI



K2252WHI

### K780WHI 10

1 GANG

### K781WHI 5

2 GANG

WITH DUAL EARTH  
TERMINALSMOUNTING BOXES  
FLUSH 25MM

1 GANG: 861ZIC

2 GANG: 862ZIC

FLUSH 35MM

(for extra wiring space)

1 GANG: 866ZIC

2 GANG: 886ZIC

SURFACE

1 GANG: K2140WHI

2 GANG: K2142WHI

K781 is fitted with two earth terminals to provide a double  
earth facility for use when installations require a high  
integrity protective connection as specified within  
BS 7671 IET Wiring Regulations

DIMENSIONS

1 GANG: 86 x 86mm

2 GANG: 86 x 146mm

FIXING CENTRES

1 GANG: 60.3mm

2 GANG: 120.6mm

BS 1363: Pt2:1995

### K770WHI 10

1 GANG

2A SHUTTERED

### K771WHI 10

1 GANG

5A SHUTTERED

### K772WHI 10

1 GANG

15A SHUTTERED

MOUNTING BOXES

FLUSH

861ZIC (25mm)

866ZIC

(35mm for extra wiring space)

SURFACE

K2140WHI

DIMENSIONS

86 x 86mm

FIXING CENTRES

60.3mm

BS 546:1950

### K2251WHI 10

1 GANG

SHUTTERED

(NON UK)

### K2252WHI 5

2 GANG

SHUTTERED

(NON UK)

MOUNTING BOXES

FLUSH 25MM

1 GANG: 861ZIC

2 GANG: 862ZIC

FLUSH 35MM

(for extra wiring space)

1 GANG: 866ZIC

2 GANG: 886ZIC

SURFACE

1 GANG: K2140WHI

2 GANG: K2142WHI

DIMENSIONS

1 GANG: 86 x 86mm

2 GANG: 86 x 146mm

FIXING CENTRES

1 GANG: 60.3mm

2 GANG: 120.6mm

SASO 2204:2003





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+44 (0)1268 563720

# Logic Plus™

WIRING DEVICES  
**WHITE**

## Socket Outlets

2P + E  
FLUSH  
16 AMP  
(NON UK)



K4150WHI



K4152WHI

## Three Pole Fan Isolator

FLUSH  
10 AMP



K4857WHI



K4859WHI



K4858



K2000

## Shaver Socket Outlet



K700WHI

## Shaver/Toothbrush Supply Units



K701WHI



K706WHI

### K4150WHI

1 GANG  
16A 250V  
SHUTTERED  
(NON UK)

### K4152WHI

2 GANG  
16A 250V  
SHUTTERED  
(NON UK)

MOUNTING BOXES  
FLUSH 35MM

1 GANG: 866ZIC  
2 GANG: 886ZIC

SURFACE

1 GANG: K2031WHI  
2 GANG: K2172WHI

These products are not suitable for installation in 25mm boxes.

DIMENSIONS

1 GANG: 86 x 86mm  
2 GANG: 86 x 146mm

FIXING CENTRES

1 GANG: 60.3mm  
2 GANG: 120.6mm  
IEC 60884-1:2006

10

5

### K4857WHI

WITH SWITCHLOCK  
AND PADLOCK

### K4859WHI

WITHOUT SWITCHLOCK

### K4858

SWITCHLOCK  
FOR FAN ISOLATOR

### K2000

PADLOCK

MOUNTING BOXES

FLUSH

3995ZIC

SURFACE

K2160WHI

For local isolation of fans with or without timers for repair or routine maintenance.

DIMENSIONS

86 x 86mm

FIXING CENTRES

60.3mm

BS EN 60669-2-4

1

10

10

1

### K700WHI

SHAVER SOCKET OUTLET  
200-250 VOLTS 50/60HZ  
FUSED  
INCORPORATES A SELF-RESETTING  
OVERLOAD DEVICE, LIMITING  
CURRENT TO 20VA.

MOUNTING BOXES

FLUSH

861ZIC

SURFACE

K2140WHI

Must not be installed in a bathroom or shower room.

Designed for wiring onto lighting circuits.

DIMENSIONS

86 x 86mm

FIXING CENTRES

60.3mm

BS 4573:1970

1

### K701WHI

SHAVER/TOOTHBRUSH  
SUPPLY UNIT  
DUAL VOLTAGE  
115/230V OUTPUT  
(220/240V 50/60HZ INPUT)

### K706WHI

SHAVER/TOOTHBRUSH  
SUPPLY UNIT  
DUAL VOLTAGE  
115/230V OUTPUT  
(120/130V 50/60HZ INPUT)  
(NON UK)

MOUNTING BOXES

FLUSH

878ZIC

SURFACE

K2172WHI

This design incorporates a double wound isolating transformer rated 20VA at 230 or 115 volts it meets BS EN 61558 making it safe for use in bathrooms. Insertion of a shaver/toothbrush plug automatically switches on by energising the primary side of the isolating transformer – removal automatically switches off. The transformer is protected against overload by an automatic solid state overload device with automatic resetting.

DIMENSIONS

146 x 86mm

FIXING CENTRES

120.6mm

BS EN 61558-2-5:1998

1

1

## Features and Benefits



A screwless cord grip automatically clamps and securely holds the cable in connection units with base and front flex outlets



Switched units are double pole with neutral pole contacts 'making' before and 'breaking' after live contacts. Rockers with built-in indicators are available



When servicing or repairing appliances, fuse carriers remain attached to the frontplate when opened and can be padlocked for safety



An optional tamperproof screw on fuse carriers is particularly useful for appliances in public areas



In-line terminals, backed out captive terminal screws and clear marking make installation easy

## Connection Units

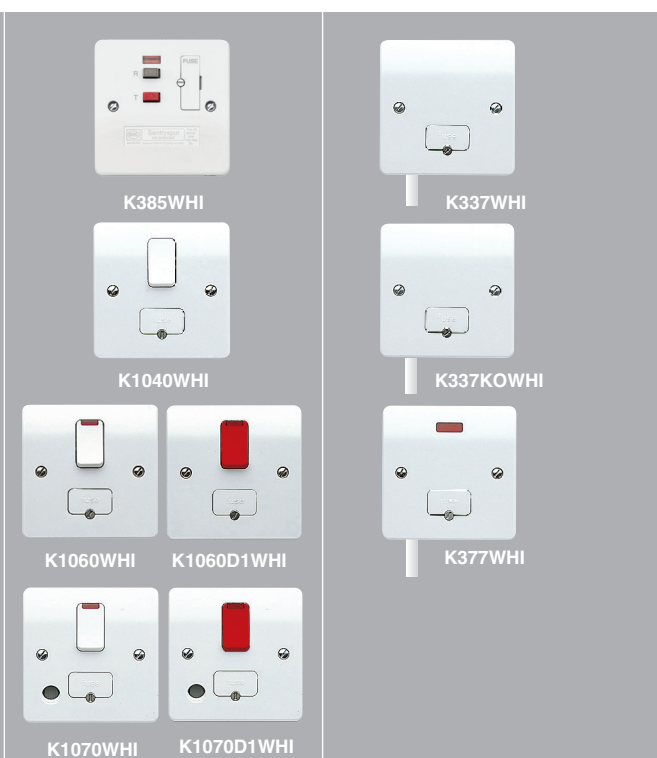
### SWITCHED 13 AMP



- |  |    |
|--|----|
| <b>K330WHI</b>   | 10 |
| <b>K330GRA</b>   | 10 |
| DP WITH FLEX OUTLET IN BASE AND THICK FRONTPLATE                   |    |
| <b>K370WHI</b>   | 10 |
| <b>K370GRA</b>   | 10 |
| DP WITH NEON, FLEX OUTLET IN BASE AND THICK FRONTPLATE             |    |
| <b>K370D1WHI</b>   | 10 |
| DP WITH NEON, FLEX OUTLET IN BASE, THICK FRONTPLATE AND RED ROCKER |    |
| <b>K1030WHI</b>  | 10 |
| DP WITH FRONT FLEX OUTLET  |    |

**MOUNTING BOXES**  
**K1030, K1040, K1060 and K1070**  
 FLUSH  
 866ZIC (35mm)  
**SURFACE**  
 K2031WHI  
**K330, K385 and K370**  
 FLUSH  
 866ZIC (35mm)  
**SURFACE**  
 K2140WHI  
 All units are fitted with a 13A fuse-link to BS 1362. See page 222 for spare fuse-links.  
 The fuse carrier can be locked in the open position by removing the fuse and using K2000 fuse carrier padlock

### UNSWITCHED 13 AMP



- |   |    |  |    |
|---|----|--|----|
| <b>K385WHI</b>  | 10 | <b>K337WHI</b>   | 10 |
| 13A RCD CONNECTION UNIT 30mA PASSIVE AND THICK FRONTPLATE |    | WITH FLEX OUTLET IN BASE AND THICK FRONTPLATE  |    |
| <b>K1040WHI</b>   | 10 | <b>K337KOWHI</b>   | 10 |
| DP  |    | WITH FLEX OUTLET IN BASE, THICK FRONTPLATE AND TAMPERPROOF SCREW FOR FUSE CARRIER  |    |
| <b>K1040KOWHI</b>   | 10 | <b>K377WHI</b>   | 10 |
| DP WITH TAMPERPROOF SCREW                                 |    | WITH FLEX OUTLET IN BASE, NEON AND THICK FRONTPLATE  |    |
| <b>K1060WHI</b>   | 10 |  |    |
| DP WITH NEON  |    | <b>MOUNTING BOXES:</b>   |    |
| <b>K1060D1WHI</b>   | 10 | FLUSH  |    |
| DP WITH NEON AND RED ROCKER                               |    | 866ZIC (35mm)  |    |
| <b>K1070WHI</b>   | 10 | <b>SURFACE</b>   |    |
| DP WITH FRONT FLEX OUTLET AND NEON                        |    | K2140WHI   |    |
| <b>K1070D1WHI</b>   | 10 | All units are fitted with a 13A fuse-link to BS 1362. See page 222 for spare fuse-links.   |    |
| DP WITH FRONT FLEX OUTLET, NEON AND RED ROCKER            |    | Base entry frontplates are 12.5mm deep. The fuse carrier can be locked in the open position by removing the fuse and using K2000 fuse carrier padlock. |    |
| <b>K2000</b>  | 1  | <b>DIMENSIONS</b>  |    |
| PADLOCK   |    | 86 x 86mm  |    |

**K1030 and K1070** front flex outlet products cannot be mounted directly onto M1 Cable Box K2131WHI. A mounting frame K2134WHI will have to be used between the product and the box.  
 Base entry frontplates are 12.5mm deep.  
**DIMENSIONS**  
 86 x 86mm  
**FIXING CENTRES**  
 60.3mm  
 BS 1363 Pt 4:1995  
**K1040KO AND K337KO**  
 Key (3405ZIC) is supplied



Technical Hotline  
+44 (0)1268 563720

# Logic Plus™

WIRING DEVICES  
**WHITE**

## Dual Switch

FLUSH  
20 AMP



K5208WHI



K5207WHI

## DP Switches

FLUSH  
20 AMP



K5403WHI



K5423WHI



K5423WHWHI



K5423D1WHI

FLUSH  
32 AMP



K5105WHI

MOULDED  
FLUSH  
50 AMP



K5205WHI



K5215CKWHI

METAL  
50 AMP



K5230WHI



K5012WHI

**K5208WHI**  
**K5207WHI**  
WITH NEON

10  
10

FOR CONTROLLING DUAL  
IMMERSION HEATERS  
MOUNTING BOXES  
FLUSH  
866ZIC (35mm)  
SURFACE:  
K2140WHI

Only mounting boxes with an earth  
terminal should be used.  
These products are marked 'on' and  
'off' against the one-way DP switch and  
'sink' and 'bath' against the two-way  
SP switch.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS EN 60669-1:1999

**K5403WHI**  
WITH FLEX OUTLET IN BASE  
**K5423WHI**  
WITH FLEX OUTLET IN BASE  
AND NEON

10  
10

**K5423WHWHI**  
WITH FLEX OUTLET IN BASE,  
NEON AND MARKED  
'WATER HEATER'.

10

**K5423D1WHI**  
WITH FLEX OUTLET IN BASE,  
NEON AND RED ROCKER

10

**MOUNTING BOXES:**  
FLUSH  
866ZIC (35mm)

**SURFACE**  
K2140WHI  
K2031WHI (for extra wiring space)  
Base entry frontplates are  
12.5mm deep.

All switches are complete with earth  
terminals.  
Not recommended for switching large  
banks of PCs.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS EN 60669-1:1999

**K5105WHI**  
WITH NEON  
**K5105GRA**  
WITH NEON

1  
1

**MOUNTING BOXES:**  
FLUSH  
866ZIC (6mm<sup>2</sup> conductors)  
877ZIC (10mm<sup>2</sup> conductors)  
**SURFACE**

K2140WHI (6mm<sup>2</sup> conductors)  
K2031WHI (10mm<sup>2</sup> conductors)  
Supplied with 8 self-adhesive plastic  
identification labels marked hob,  
fan, oven, water heater, shower, air  
conditioner, cooker and washing  
machine.

Not recommended for switching large  
banks of PCs.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS EN 60669-1:1999

**K5205WHI**  
**K5215WHI**  
WITH NEON  
**K5215CKWHI**  
WITH NEON  
AND MARKED 'COOKER'  
**K5215SHWHI**  
WITH NEON  
AND MARKED 'SHOWER'

1  
1  
1  
1

**MOUNTING BOXES:**  
FLUSH  
886ZIC (6mm<sup>2</sup> conductors)  
878ZIC (10mm<sup>2</sup> conductors)

**SURFACE**  
K2172WHI  
**K5205WHI** and **K5215WHI**  
Supplied with 8 self-adhesive plastic  
identification labels marked hob,  
fan, oven, water heater, shower, air  
conditioner, cooker and washing  
machine.

Not recommended for switching large  
banks of PCs.

**DIMENSIONS**  
86 x 146mm  
**FIXING CENTRES**  
120.6mm  
BS EN 60669-1:1999

**K5230WHI**  
WITH NEON  
SURFACE MOUNTED  
**K5012WHI**  
WITH NEON  
FLUSH MOUNTED

1  
1  
1

**K5230**  
Supplied with mounting box.  
Earth terminal fitted on base of box.  
Not recommended for switching  
large banks of PCs.

**DIMENSIONS**  
150 x 89 x 50mm  
**KNOCKOUTS**  
8 x 20mm

**K5012**  
Not supplied with mounting box.  
**FLUSH**  
5120ALM  
Supplied with earth terminals.  
Not recommended for switching  
large banks of PCs.

**DIMENSIONS**  
178 x 165mm  
BS EN 60669-1:1999

# Logic Plus™

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## Cooker Connection Unit

45 AMP



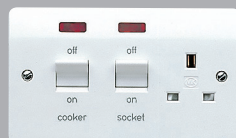
K5045WHI

## Cooker Controls

MOULDED  
FLUSH  
45 AMP



K5060WHI

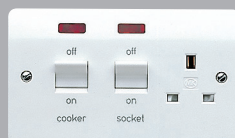


K5061WHI

MOULDED  
SURFACE  
45 AMP

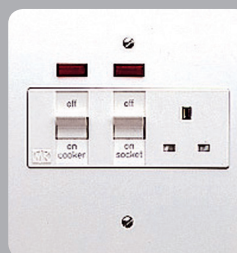


K5040WHI



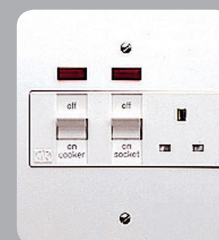
K5041WHI

METAL  
FLUSH  
45 AMP



K5011WHI

METAL  
SURFACE  
45 AMP



K5001WHI

### K5045WHI

10

MOUNTING BOX  
FLUSH

877ZIC (46mm)

Supplied complete with terminal block, each terminal of which will accommodate up to two 10mm<sup>2</sup> conductors.

Moulded cover plate, cable clamp included.

#### DIMENSIONS

86 x 86mm

#### FIXING CENTRES

60.3mm

BS EN 60670-22:2006

### K5060WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET

### K5061WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET WITH NEONS

MOUNTING BOXES  
FLUSH

886ZIC (6mm<sup>2</sup> conductors)878ZIC (10mm<sup>2</sup> conductors)

Rotary operated shutter.

#### DIMENSIONS

86 x 146mm

#### FIXING CENTRES

120.6mm

BS 4177:1992

### K5040WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET

### K5041WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET WITH NEONS

Supplied complete with mounting box and cable restraint.

Fitted with earth terminals.

Rotary operated shutter.

#### DIMENSIONS

86 x 146 x 60mm

BS 4177:1992

### K5011WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET WITH NEONS

MOUNTING BOX  
FLUSH

5120ALM

Fitted with earth terminals.

Rotary operated shutter.

#### DIMENSIONS

178 x 165mm

BS 4177:1992

### K5001WHI

1

45A DP MAIN SWITCH  
AND 13A SWITCHSOCKET  
OUTLET WITH NEONS

Supplied complete with mounting box.

Fitted with earth terminals.

Rotary operated shutter.

#### DIMENSIONS

156 x 144 x 67mm

#### KNOCKOUTS

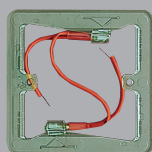
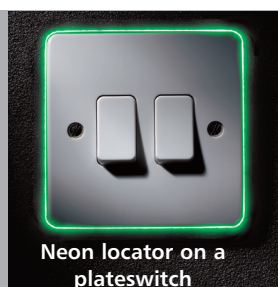
5 x 25mm.

Two in each of top and bottom, one in back.

BS 4177:1992

## Plateswitches

### NEON LOCATOR



K3041

### FLUSH 10 AMP



K4870GRA



K4871WHI



K4872WHI



K4872GRA

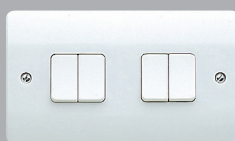
### FLUSH 10 AMP



K4875WHI



K4873WHI



K4874WHI



K4879WHI

### FLUSH 20 AMP



K4870D2WHI



K4871D2WHI



K4872D2WHI



K4873D2WHI

### FLUSH 10 AMP



K4878BWHI



K4878PWHI

**K3041** 5  
NEON PLATESWITCH  
LOCATOR  
200-250V, 50HZ.  
TUNGSTEN GLS LAMPS ONLY

Neon Plateswitch Locator is for use with any 1, 2 and 3 GANG Logic Plus™ plateswitches.  
Used for location of switches in dark situations.  
FIXING CENTRES  
60.3mm  
BS 5733:2010

**K4870WHI** 10  
**K4870GRA** 10  
1 GANG SP  
ONE-WAY  
**K4871WHI** 10  
**K4871GRA** 10  
1 GANG SP  
TWO-WAY  
**K4872WHI** 10  
**K4872GRA** 10  
2 GANG SP  
TWO-WAY

MOUNTING BOXES  
FLUSH

1, 2 & 3 GANG: 861ZIC  
4 & 6 GANG: 862ZIC

SURFACE

1, 2 & 3 GANG: K2160WHI  
4 & 6 GANG: K2161WHI

These switches do not have to be derated when used with fluorescent or inductive loads.

**K4871, K4872, K4873, K4874, K4879**

These switches can be wired as either one-way or two-way.

**K4875WHI** 10  
1 GANG  
INTERMEDIATE  
**K4876WHI** 10  
1 GANG DP  
ONE-WAY  
**K4873WHI** 10  
3 GANG SP  
TWO-WAY  
**K4874WHI** 5  
4 GANG SP  
TWO-WAY  
**K4879WHI** 5  
6 GANG SP  
TWO-WAY

DIMENSIONS

1, 2 & 3 GANG: 86 x 86mm  
4 & 6 GANG: 86 x 146mm

FIXING CENTRES

1, 2 & 3 GANG: 60.3mm  
4 & 6 GANG: 120.6mm

BS EN 60669-1:1999

**K4870D2WHI** 10  
1 GANG SP  
ONE-WAY  
**K4871D2WHI** 10  
1 GANG SP  
TWO-WAY  
**K4872D2WHI** 10  
2 GANG SP  
TWO-WAY  
**K4873D2WHI** 10  
3 GANG SP  
TWO-WAY  
**K4874D2WHI** 5  
4 GANG SP  
TWO-WAY  
**K4875D2WHI** 10  
1 GANG INTERMEDIATE

MOUNTING BOXES

FLUSH  
861ZIC

SURFACE  
K2160WHI

DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm

**K4878BWHI** 10  
1 GANG SP  
TWO WAY  
PUSH SWITCH WITH BELL  
SYMBOL  
PUSH TO MAKE OR BREAK  
**K4878PWHI** 10  
1 GANG SP  
TWO WAY  
PUSH SWITCH MARKED  
'PRESS'  
PUSH TO MAKE OR BREAK

MOUNTING BOXES

FLUSH  
861ZIC

SURFACE  
K2160WHI

DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:1999



# Logic Plus™

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## Plateswitches

DP FLUSH  
20 AMP



K4867WHI



K4868WHI

## Lockable Fire Alarm Isolator Switch

DP FLUSH  
20 AMP



K4780WHI

## Architrave Switches

FLUSH  
10 AMP



K4841WHI



K4842WHI



K4848BWHI



K4848PWHI

## Wide Rocker Switches

FLUSH  
10 AMP



K4781GRA



K4782GRA



K4783WHI



K4785WHI

**K4867WHI** 10  
1 GANG DP  
**K4868WHI** 10  
2 GANG DP

MOUNTING BOXES  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS EN 60669-1:1999

**K4780WHI** 1  
20A DP LOCKABLE FIRE  
ALARM ISOLATOR SWITCH

MOUNTING BOXES  
866ZIC  
DIMENSIONS  
86 x 86mm  
FIXING CENTRES  
60.3mm  
BS 60669-2-4:2005

**K4841WHI** 5  
1 GANG SP  
TWO-WAY  
**K4842WHI** 5  
2 GANG SP  
TWO-WAY  
**K4848BWHI** 5  
1 GANG SP PUSH SWITCH  
WITH BELL SYMBOL  
PUSH TO MAKE OR BREAK  
**K4848PWHI** 5  
1 GANG SP PUSH SWITCH  
MARKED 'PRESS'  
PUSH TO MAKE OR BREAK

MOUNTING BOXES  
FLUSH

1 GANG: 3921ZIC  
2 GANG: 3922ZIC

SURFACE

1 GANG: k2151WHI  
2 GANG: k2152WHI

These switches do not have to be derated when used with fluorescent or inductive loads.

**K4841, K4842** These switches can be wired as either one-way or two-way.

DIMENSIONS

1 GANG: 86 x 32mm;  
2 GANG: 146 x 32mm

FIXING CENTRES

1 GANG: 60.3mm;  
2 GANG: 120.6mm

BS EN 60669-1:1999

**K4781WHI** 10  
**K4781GRA** 10  
1 GANG SP TWO-WAY  
WITH WIDE ROCKER  
**K4782WHI** 10  
**K4782GRA** 10  
2 GANG SP TWO-WAY  
WITH WIDE ROCKERS  
**K4783WHI** 10  
3 GANG SP TWO-WAY  
WITH WIDE ROCKERS  
**K4785WHI** 10  
**K4785GRA** 10  
1 GANG SP INTERMEDIATE  
WITH WIDE ROCKER  
**K4787WHI** 10  
1G 20A DP ONE-WAY  
WITH WIDE ROCKER  
**K4788WHI** 10  
2 GANG DP WITH  
WIDE ROCKER

MOUNTING BOXES

FLUSH

861ZIC

SURFACE

K2160WHI  
K2140WHI (for extra  
wiring space)

These switches do not have to be derated when used with fluorescent or inductive loads.

DIMENSIONS

86 x 86mm

FIXING CENTRES

60.3mm

BS EN 60669-1:1999

20A DP VERSIONS

K4787WHI is 20A DP

1 way version of K4781.

BS EN 60669-1: 1999

K4788WHI is 20A DP

1 way version of K4782.

BS EN 60669-1:1999



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# Logic Plus™

WIRING DEVICES  
**WHITE**

## Intelligent LED Dimmer Switch

220V TO 240V A.C. 50HZ  
LED, TUNGSTEN FILAMENT  
AND LOW VOLTAGE  
HALOGEN LIGHTING



K1523WHILV



K1524WHILV

## Intelligent Dimmer Switches

230V A.C. 50HZ  
TUNGSTEN FILAMENT  
AND LOW VOLTAGE  
HALOGEN LIGHTING



K1501WHILV



K1521WHILV



K1522WHILV

## Standard Dimmer Switches

230V A.C. 50HZ  
TUNGSTEN FILAMENT



K1511WHI



K1531WHI



K1532WHI



K1533WHI

## Dimmer Switches (NON UK)

200-250V A.C.  
50 OR 60HZ



K1541WHI



K1561WHI



K1661WHI



4053PLWHIT9

### K1523WHILV

1 GANG SINGLE  
2 WAY  
40W/VA - 300W/240VA  
LED: 4-70W

### K1524WHILV

1 GANG DOUBLE  
2 WAY  
40W/VA - 300W/240VA  
LED: 4-70W

#### MOUNTING BOXES

##### FLUSH

861ZIC – 25mm deep min

##### SURFACE

K2140WHI – 30mm deep

Micro controller based circuitry to provide electronic soft-start and overload protection. Suitable for use with most major manufacturers LED lamps or electronic / wire wound transformers. Can also be used with good quality mains voltage GU10 halogen lamps.

Do not mix load types

This dimmer offers the user the ability to adjust the minimum brightness level.

Max number of lamps (10)

#### DIMENSIONS

86 x 86mm

#### FIXING CENTRES

60.3mm

BS EN 60669-2-1

### K1501WHILV

1 GANG SINGLE  
TWO WAY 60W/VA-500W/400 VA

### K1521WHILV

1 GANG SINGLE  
TWO WAY 40W/VA-300W/240 VA

### K1522WHILV

1 GANG DOUBLE  
TWO WAY 2 X 40W/VA-300W/240 VA

#### FLUSH

861ZIC/866ZIC

#### SURFACE

K2140WHI

Micro controller based circuitry to provide electronic soft-start and overload protection. Suitable for use with good quality electronic or wire wound transformers. Can also be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability.

#### DIMENSIONS

86 x 86mm

#### FIXING CENTRES

60.3mm

Conforms to BS EN 60669-2-1

### K1511WHI

1 GANG SINGLE  
ONE WAY 65-450W

### K1531WHI

1 GANG SINGLE  
ONE WAY 40-250W

### K1532WHI

1 GANG DOUBLE  
ONE WAY 2 X 40-250W

### K1533WHI

1 GANG DOUBLE  
TWO WAY 2 X 40-250W

### K1534WHI

1 GANG SINGLE  
TWO WAY 40-250W

### K1535WHI

1 GANG SINGLE  
TWO WAY 65-450W

#### MOUNTING BOXES

##### FLUSH

861ZIC/866ZIC

##### SURFACE

K2140WHI

Not suitable for fluorescent lamps or low voltage lighting.

#### DIMENSIONS

86 x 86mm

#### FIXING CENTRES

60.3mm

Conforms to BS EN 60669-2-1

### K1541WHI

1 GANG SINGLE  
ONE WAY

75-500W 50HZ

### K1561WHI

1 GANG SINGLE  
TWO WAY  
100-1000W 50HZ

### K1641WHI

1 GANG SINGLE  
ONE WAY  
75-500W 60HZ

### K1661WHI

1 GANG SINGLE  
TWO WAY  
100-1000W 60HZ

#### MOUNTING BOXES

##### FLUSH

861ZIC/866ZIC

##### SURFACE

K2140WHI

##### PATRESS

For mounting in 16mm deep boxes a mounting frame 40533PLWHIT9 is available.

#### DIMENSIONS

86 x 86mm

#### FIXING CENTRES

60.3mm

### 40533PLWHIT9

CAN BE USED WITH  
LOGIC PLUS DIMMERS TO  
STAND PRODUCT FROM  
MOUNTING SURFACE  
WHERE BACK BOX DEPTH  
IS NOT SUFFICIENT

#### DIMENSIONS

86 x 86mm

Patress thickness is 5mm

#### FIXING CENTRES

60.3mm



## Blank Plates

Flex Outlet  
FrontplateEuro Modular  
FrontplatesEuro Power  
Modules

20 AMP



K3825WHI

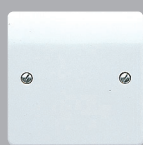
K3827WHI



K3828WHI



K5033WHI



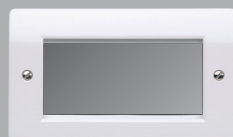
K1090WHI



K181WHI



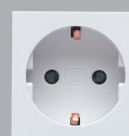
K182WHI



K184WHI



K5830WHI



K5831WHI



K5832WHI



K5833WHI



K5834WHI



K5837WHI

**K3825WHI** 10  
1 GANG MOULDED  
ARCHITRAVE

**K3827WHI** 10  
1 GANG MOULDED

**K3828WHI** 10  
2 GANG MOULDED

**K5033WHI** 1  
METAL

**K3825WHI**  
For use with 3921ZIC and K2151WHI  
MOUNTING BOXES.

**K5033WHI**  
For use with 5120ALM deep metal box.

**DIMENSIONS**  
K3825WHI: 86 x 31mm  
K3827WHI: 86 x 86mm  
K3828WHI: 86 x 146mm  
K5033WHI: 178 x 165mm

**FIXING CENTRES**  
K3825WHI: 60.3mm  
K3827WHI: 60.3mm  
K3828WHI: 120.6mm  
K5033WHI: 133mm  
BS 5733:2010

**K1090WHI** 10  
FLEX OUTLET FRONTPLATE  
UNFUSED

Complete with three pairs of terminals, each  
suitable for 2 x 2.5mm<sup>2</sup> conductors and a  
1.5mm<sup>2</sup> flexible cord.  
A cord-grip is also fitted.

Frontplate thickness is 12.5mm.  
Cable entry diameter is 11mm.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS EN 60670-22:2006

**K181WHI** 10  
1 GANG EURO FRONTPLATE  
ONE MODULE

**K182WHI** 10  
**K182GRA** 10  
APERTURE SIZE 25 X 50MM

**K182WHI** 10  
1 GANG EURO FRONTPLATE  
TWO MODULE

**K184WHI** 10  
**K184GRA** 10  
APERTURE SIZE 50 X 50MM

**K184WHI** 10  
2 GANG EURO FRONTPLATE  
FOUR MODULE

**K185WHI** 10  
APERTURE SIZE 100 X 50MM  
3 GANG EURO FRONTPLATE  
SIX MODULE

**MOUNTING BOXES**  
Suitable for flush boxes to  
BS 4662:2006 and surface boxes to  
BS 5733:2010 Refer to appropriate  
module for minimum box depth.

**K185WHI MOUNTING BOX**  
35mm VTS8035 (For use with  
Pinnacle and Premier cable  
management systems) K2153WHI  
30mm

**FIXING CENTRES**  
1 GANG: 60.3mm 2 GANG: 120.6mm  
BS 5733:2010 where applicable  
Note: No grid required, modules just  
clip into place

**K5830WHI** 1  
**K5830BLK** 1  
UK 1 GANG EURO 2 MODULE  
13A 250V SHUTTERED

**K5831WHI** 10  
**K5831BLK** 10  
GERMAN 2P+E  
16A 250V SHUTTERED

**K5832WHI** 10  
**K5832BLK** 10  
EURO 2 MODULE (NON UK)

**K5832WHI** 10  
AMERICAN 2P+E  
15A 127V SHUTTERED  
EURO 2 MODULE (NON UK)

**K5830**  
**MOUNTING BOX**  
35mm minimum  
46mm (for extra wiring space)

**DIMENSIONS**  
50 x 50mm  
BS 1363 Pt2:1995

**K5831**  
**MOUNTING BOX**  
46mm

**DIMENSIONS**  
50 x 50mm  
IEC 60884-1:2006

**K5832**  
**MOUNTING BOX**  
35mm  
46mm (for extra wiring space)

**DIMENSIONS**  
50 x 50mm  
SASO 2204:2003

**K5833WHI** 10  
**K5833BLK** 10  
UK 1 GANG EURO 2 MODULE  
5A 250V SHUTTERED

**K5834WHI** 10  
**K5834BLK** 10  
FRENCH/BELGIAN 2P+E  
16A 250V SHUTTERED

**K5837WHI** 1  
**K5837BLK** 1  
EURO 2 MODULE (NON UK)

**K5837WHI** 1  
USB CHARGING MODULE  
EURO 2 MODULE

**K5833**  
**MOUNTING BOX**  
35mm minimum  
46mm (for extra wiring space)

**DIMENSIONS**  
50 x 50mm  
BS 546:1950

**K5834**  
**MOUNTING BOX**  
46mm

**DIMENSIONS**  
50 x 50mm  
NF C61-314

**K5837**  
**MOUNTING BOX**  
35mm, 46mm (for extra wiring space)

**DIMENSIONS**  
50 x 50mm  
USB charging sockets, each capable of  
supporting 2A charge (total of 2A).  
IEC 60950-1  
IEC 61000-6-1/3



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# Logic Plus™

WIRING DEVICES  
**WHITE**

## Euro Datacom Modules

### RJ11/12



K5887WHI



K5887BLK

**K5887WHI**  
**K5887BLK**  
RJ11/12  
ONE MODULE 25 X 50MM

Suitable for both RJ11 and RJ12 jacks  
RJ11: 4 wire  
RJ12: 6 wire  
**MOUNTING BOXES**  
Minimum box depth 25mm  
FCC68  
EN 41003

### RJ45 CAT 6



K5846WHI



K5846SBLK



K5864WHI

**K5846WHI**  
**K5846BLK**  
RJ45 CAT 6  
ONE MODULE 25 X 50MM  
**K5846SWHI**  
**K5846SBLK**  
RJ45 CAT 6 SCREENED  
ONE MODULE 25 X 50MM  
**K5864WHI**  
RJ45 CAT 6 ANGLED  
ONE MODULE 25 X 50MM

Cat 6 performance.  
Suitable for both 568A and 568B wiring schemes.  
**MOUNTING BOXES**  
Minimum Box Depth 35mm  
ISO/IEC 11801  
EN 50173  
TIA 568  
EN 41003

### RJ45 CAT 5e



K5844WHI



K5845WHI



K5845BLK

**K5844WHI**  
RJ45 CAT 5e ANGLED  
ONE MODULE 25 X 50MM  
**K5845WHI**  
**K5845BLK**  
RJ45 CAT 5e  
ONE MODULE 25 X 50MM

Enhanced Cat 5 performance.  
Suitable for both 568A and 568B wiring schemes.  
Supplied with cable tie and cable anchors to secure wires in the connectors.  
**MOUNTING BOXES**  
Minimum box depth 25mm standard  
ISO/IEC 11801  
EN 50173  
TIA 568  
EN 41003

### TELEPHONE



K5820WHI



K5821WHI



K5821BLK

**K5820WHI**  
**K5820BLK**  
TELEPHONE MASTER  
ONE MODULE 25 X 50MM  
**K5821WHI**  
**K5821BLK**  
TELEPHONE SECONDARY  
ONE MODULE 25 X 50MM

**MOUNTING BOXES**  
Minimum depth 25mm  
BS 6312 Pt 2

Mains operated products and extra low voltage modules must not be installed within the same frontplate.  
Refer to BS 7671 IET Wiring Regulations for details.

## Euro Multimedia Modules

TV CO-AXIAL OUTLETS FOR DIGITAL TV SCREENED  
NON ISOLATED



K5850WHI



K5850BLK



K5851WHI



K5851BLK



K5855WHI



K5855BLK



K5852WHI



K5852DABWHI



K5853WHI



K5853DABWHI



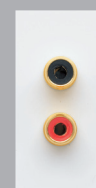
K5854DABWHI



K5807WHI



K5805WHI



K5806WHI

**K5850WHI** 5  
**K5850BLK** 5  
SINGLE OUTLET (IEC MALE)  
ONE MODULE 25 X 50MM  
**K5851WHI** 5  
**K5851BLK** 5  
SINGLE OUTLET  
(IEC FEMALE)  
ONE MODULE 25 X 50MM  
**K5855WHI** 5  
**K5855BLK** 5  
SINGLE F-TYPE SATELLITE  
SOCKET  
ONE MODULE 25 X 50MM

Fully screened non isolated TV outlets  
containing a combination of single, TV/  
FM Diplexer and TV/FM/SAT Triplexer  
for use within digital TV systems and  
interactive TV services. Single outlets  
for connection to a single TV, FM or  
Satellite co-axial aerial lead.

**K5852WHI** 5  
**K5852BLK** 5  
TWIN OUTLET  
TV/FM DIPLEXER  
TWO MODULE 50 X 50MM  
(IRELAND ONLY)  
**K5852DABWHI** 5  
**K5852DABBLK** 5  
TWIN OUTLET TV-FM/DAB  
DIPLEXER  
TWO MODULE 50 X 50MM  
**K5853WHI** 5  
**K5853BLK** 5  
TRIPLE OUTLET  
TV/FM/SATELLITE TRIPLEXER  
TWO MODULE 50 X 50MM  
(IRELAND ONLY)

TV/FM diplexer units for connection to a single co-axial aerial lead with combined  
TV and FM signals.  
TV/FM/SAT triplexer units for connection to a single co-axial aerial lead with  
combined TV, FM and Satellite signals

**K5853DABWHI** 5  
**K5853DABBLK** 5  
TRIPLE OUTLET  
TV-FM/DAB-SAT TRIPLEXER  
TWO MODULE 50 X 50MM  
**K5854DABWHI** 5  
**K5854DABBLK** 5  
QUAD OUTLET  
TV-FM/DAB-2XSAT  
TWO MODULE 50 X 50MM

**K5807WHI** 5  
**K5807BLK** 5  
FEMALE HDMI OUTLET  
  
K5807 Female HDMI Outlet is HDMI  
1.1, 1.2, 1.3 and 1.4 compatible, HDCP  
compliant.  
DATA RATE  
Up to 2.25 Gbps  
SCAN  
Up to 1080p/1920x1200  
INPUT CONNECTOR  
1 x HDMI Female (Type A)  
OUTPUT CONNECTOR  
1 x HDMI Female (Type A)  
Supports high resolution input  
PC  
VGA, SVGA, SXVGA (1280x1024)  
and UXGA (1600x1200, 1920x1200)  
HDTV  
480p, 720p, 1080i and 1080p  
HDMI input cable should be no larger  
than 20m.  
DIMENSIONS  
50 x 50 x 20mm

**K5805WHI** 5  
**K5805BLK** 5  
AUDIO BINDING POST  
SET FOR SINGLE LOUD  
SPEAKER  
**K5806WHI** 5  
**K5806BLK** 5  
RCA TO SCREW  
TERMINATION SET  
1 RED AND 1 BLACK  
  
DIMENSIONS  
50 x 25 x 28mm

These products are fully compatible with Labgear TV distribution systems and are approved for use in "Sky Homes" and "Homes On" specifications

### MOUNTING BOXES

Min box depth 32mm

### DIMENSIONS

1 Module 25 x 50mm  
2 Module 50 x 50mm  
BS 3041:1997  
IEC 169-2:1965  
BS EN 50083 & BS 5733:2010  
where applicable

### PERFORMANCE

#### SINGLE OUTLETS

TV/FM Iec Male Or Female

DC-950MHz

SAT F-TYPE

DC-1.75GHz

### TV/FM/SAT PRODUCTS

Outlet:

TV:

FM/DAB:

SAT:

Outlet:

TV:

FM:

SAT1:

SAT2:

SAT3:

SAT4:

SAT5:

SAT6:

SAT7:

SAT8:

SAT9:

SAT10:

### TV/FM/DAB/SAT PRODUCTS FOR DIGITAL RADIO

Outlet:

TV:

FM/DAB:

SAT OR SAT1:

SAT2:

Outlet:

TV:

FM:

SAT1:

SAT2:

SAT3:

SAT4:

SAT5:

SAT6:

SAT7:

SAT8:

SAT9:

SAT10:



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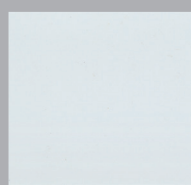
# Logic Plus™

WIRING DEVICES  
**WHITE**

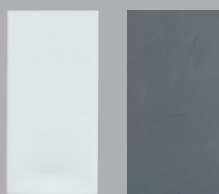
## LJU6C Datacom Frontplates

## LJU6C Datacom Modules

### BLANKS



K180WHI



K188WHI

K188BLK



K186WHI

K186BLK



K172WHI



K5787WHI



K5746WHI



K5746BLK



K5746SWHI



K5746SBLK



K5745WHI



K5745BLK



K170WHI



K170BLK

### RJ11/12

### RJ45 CAT 6

### RJ45 CAT 5e

### BLANKS

**K180WHI** 10  
TWO MODULE  
BLANK 50 X 50MM  
**K188WHI** 10  
**K188BLK** 10  
ONE MODULE  
BLANK 25 X 50MM  
**K186WHI** 10  
**K186BLK** 10  
HALF MODULE  
BLANK 12.5 X 50MM

BS 5733:2010 where  
applicable

**K172WHI** 10  
1 GANG TWIN  
LJU6C FRONTPLATE  
TWO MODULE  
APERTURE SIZE  
22 X 37MM

**MOUNTING BOXES**  
suitable for flush boxes to  
BS 4662:2006 and surface  
boxes to BS 5733:2010  
Refer to appropriate module  
for minimum box depth.

**FIXING CENTRES**  
1 GANG: 60.3mm  
2 GANG: 120.6mm  
BS 5733:2010 where applicable  
Note: No grid required,  
modules just clip into place.

**K5787WHI** 5  
RJ11/12  
ONE MODULE  
Suitable for both RJ11 and  
RJ12 jacks.  
RJ11: 4 wire  
RJ12: 6 wire  
**MOUNTING BOXES**  
Minimum box depth 25mm  
FCC68  
EN41003

**K5746WHI** 5  
**K5746BLK** 5  
RJ45 CAT 6  
ONE MODULE  
**K5746SWHI** 5  
**K5746SBLK** 5  
RJ45 CAT 6  
SCREENED  
ONE MODULE  
Cat 6 performance.  
Suitable for both 568A and  
568B wiring schemes.  
**MOUNTING BOXES**  
Minimum Box Depth 35mm  
ISO/IEC 11801  
EN 50173  
TIA 568  
EN 41003

**K5745WHI** 5  
**K5745BLK** 5  
RJ45 CAT 5e  
ONE MODULE  
Enhanced Cat 5 performance.  
Suitable for both 568A and 568B  
wiring schemes.  
**MOUNTING BOXES**  
Minimum box depth 25mm  
ISO/IEC 11801  
EN 50173  
TIA 568  
EN 41003

**K170WHI** 10  
**K170BLK** 10  
ONE MODULE BLANK  
BS 5733:2010 where applicable

# Logic Plus™

mkelectric.co.uk



## Telephone Socket Outlets

FLUSH

## TV/FM and Satellite Co-Axial Socket Outlets

FOR DIGITAL AND INTERACTIVE SERVICES  
SCREENED, NON ISOLATED  
FLUSH



K422WHI



K427WHI



K4817WHI



K3540WHI



K3550WHI



K3551WHI



K3555WHI



K3552WHI



K3552DABWHI



K3553WHI



K3553DABWHI



K3554DABWHI

**K422WHI** 10  
1 GANG  
TELEPHONE MASTER

**K427WHI** 10  
1 GANG  
TELEPHONE SECONDARY

**K4817WHI** 10  
1 GANG  
RJ11 TELEPHONE SOCKET

**K3540WHI** 10  
3 PIN WITH  
TELEPHONE SYMBOL  
(NON UK)

**400NAT** 10  
IDC INSERTION TOOL

BS 6312 Pt 2  
K4817 FCC 68  
K3540  
Accepts standard BS 546  
2A 2 pin and earth plug where 2 pins are  
used for telephone circuits and the earth  
pin is used to ensure correct polarity.  
BS 546:1950 where applicable

**K3550WHI** 1  
SINGLE OUTLET  
(IEC MALE)

**K3551WHI** 5  
SINGLE OUTLET  
(IEC FEMALE)

**K3555WHI** 1  
SINGLE OUTLET  
F-TYPE SATELLITE SOCKET

**K3552WHI** 5  
TWIN TV/FM  
DIPLEXER

Fully screened non isolated TV outlets  
containing a combination of single,  
TV/FM Diplexer, TV/FM/SAT Triplexer  
and secondary telephone outlets for  
use within digital TV systems and  
interactive TV services.

**K3552DABWHI** 1  
TWIN TV/FM  
DAB DIPLEXER

**K3553WHI** 5  
TRIPLE TV/FM/SAT  
TRIPLEXER

**K3553DABWHI** 1  
TRIPLE TV/FM DAB/SAT  
TRIPLEXER

**K3554DABWHI** 1  
QUAD TV/FM DAB/SATX2  
QUADPLEXER

Single outlets for connection to a single  
TV, FM or Satellite co-axial aerial lead.  
TV/FM diplexer units for connection to a  
single co-axial aerial lead with combined  
TV and FM signals.

**MOUNTING BOXES**  
Minimum box depth 32mm  
1 GANG: Flush: 866ZIC  
Surface: K2181WHI  
2 GANG: Flush: 886ZIC  
Surface: K2183WHI

**DIMENSIONS**  
1 GANG: 86 x 86mm  
2 GANG: 86 x 146mm

**FIXING CENTRES**  
1 GANG: 60.3mm  
2 GANG: 120.6mm

**PERFORMANCE**  
Refer to page 474 for technical  
specification.

## TV/FM and Satellite Co-Axial Socket Outlets with Telephone Outlet

FOR DIGITAL AND INTERACTIVE TV SERVICES  
FLUSH



K3557WHI



K3561WHI



K3560DABWHI



K3561DABWHI



K3562WHI



K3563WHI



K3563DABWHI



K3564DABWHI



K3565DABWHI



K3566DABWHI

**K3557WHI**  
SINGLE OUTLET  
(IEC MALE)  
WITH TELEPHONE  
SECONDARY

1

**K3561WHI**  
TRIPLE TV/FM/SAT  
TRIPLEXER  
WITH TELEPHONE  
SECONDARY

5

Single outlets for connection to a single TV, FM or Satellite co-axial aerial lead.  
TV/FM diplexer units for connection to a single co-axial aerial lead with combined TV and FM signals.

**K3560DABWHI**  
TWIN TV/FM DAB DIPLEXER  
WITH TELEPHONE SECONDARY

1

**K3561DABWHI**  
TRIPLE TV/FM DAB/SAT TRIPLEXER  
WITH TELEPHONE SECONDARY

1

**K3562WHI**  
TWIN TV/FM DIPLEXER  
WITH SINGLE TV (IEC MALE)  
AND TELEPHONE SECONDARY

5

**K3563WHI**  
TRIPLE TV/FM/SAT TRIPLEXER  
WITH SINGLE TV (IEC MALE)  
AND TELEPHONE SECONDARY

5

Telephone Secondary outlet for use with interactive TV digital services.

**K3562** and **K3563** outlets with additional single TV (male) outlet for secondary distribution of TV signal

**K3563DABWHI**  
TRIPLE TV/FM/DAB/SAT TRIPLEXER  
WITH SINGLE TV (IEC MALE)  
AND TELEPHONE SECONDARY

1

**K3564DABWHI**  
QUAD TV/FM DAB/SATx2 QUADPLEXER  
WITH TELEPHONE SECONDARY

1

**K3565DABWHI**  
QUADPLEXER + RJ45  
AND TELEPHONE SECONDARY

1

**K3566DABWHI**  
QUADPLEXER  
WITH TELEPHONE SECONDARY  
AND SINGLE TV (IEC MALE)

1



## TV/FM and Satellite Co-Axial Socket Outlets

NON ISOLATED  
FLUSH

ISOLATED  
FLUSH



K3520WHI



K3523WHI



K3525WHI



K3525D1WHI



K3521WHI



K3522WHI



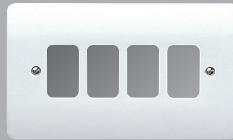
K3631GRA



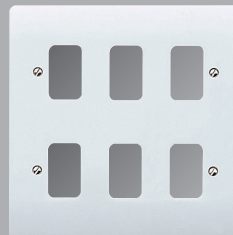
K3632WHI



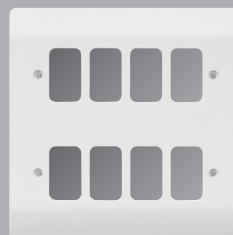
K3633GRA



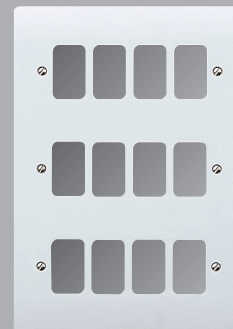
K3634WHI



K3636WHI



K3638WHI



K3639WHI

**K3520WHI** 10  
SINGLE OUTLET  
**K3523WHI** 10  
TWIN OUTLET  
**K3525WHI** 10  
SINGLE F TYPE  
SATELLITE SOCKET  
**K3525D1WHI** 10  
TWIN F TYPE  
SATELLITE SOCKET

**MOUNTING BOXES**  
FLUSH  
861ZIC (25mm)  
SURFACE  
K2140WHI

Single outlet for connection to a single TV or FM co-axial aerial lead. Twin outlet for connection to each of two separate TV/FM, co-axial aerial leads.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS 5733:2010 where applicable  
BS 3041:1977  
IEC 169-2:1965

**K3521WHI** 10  
SINGLE OUTLET  
**K3522WHI** 10  
TWIN OUTLET  
WITH FM/TV DIPLEXER

**MOUNTING BOXES**  
FLUSH  
861ZIC (25mm)  
SURFACE  
K2140WHI

Provides safety isolation rated at 2000V a.c. between aerial lead and socket.  
Single outlet for connection to a single TV or FM co-axial aerial lead.  
Twin outlet with TV/FM diplexer for connection to single co-axial aerial lead with combined TV & FM signals.

**DIMENSIONS**  
86 x 86mm  
**FIXING CENTRES**  
60.3mm  
BS 5733:2010 where applicable  
BS 3041:1977 IEC 169-2:1965

**K3631WHI** 10  
**K3631GRA** 10  
1 MODULE  
**K3632WHI** 10  
**K3632GRA** 10  
2 MODULE  
**K3633WHI** 10  
**K3633GRA** 10  
3 MODULE  
**K3634WHI** 10  
**K3634GRA** 10  
4 MODULE

All modules from the Grid Plus range can be used with these frontplates.

**DIMENSIONS**  
1 & 2 MODULE: 86 x 86mm  
3 & 4 MODULE: 86 x 146mm  
6 & 8 MODULE: 146 x 146mm  
12 MODULE: 206 x 146mm  
BS 5733:2010

**K3636WHI** 1  
**K3636GRA** 1  
6 MODULE  
**K3638WHI** 1  
**K3638GRA** 1  
8 MODULE

**K3639WHI** 1  
12 MODULE



Catalog Number
Notes
Type

## FEATURES & SPECIFICATIONS

**INTENDED USE** — The 6" Wafer-Thin LED recessed downlight with remote driver box combines high quality light output and efficiency while eliminating the pot light housing for competitive affordability. This innovative wafer-slim Type IC design allows easy installation for new construction or remodel from below the ceiling without the requirement of a pot light housing. The LED module maintains at least 70% light output for 36,000 hours. These LED Wafer downlights are intended for closets, attics, hallways, bathrooms, kitchens, basements, soffits, entryways, porches, garages, stairwells, corridors, nursing/retirement homes, condos, elevators, apartments, and any other small areas.

**CONSTRUCTION** — Ideal for shallow ceiling plenum since a pot light housing is NOT required. IC rated driver and fixture - approved for direct contact with insulation. Aluminum die cast outer frame. Durable, powder coat paint to prevent rust. Round fixture with integral edge-lit LED's. Steel spring clip for easy installation. Plenum rated cable connector to connect from module to remote driver box. Isolated driver integrated inside steel remote box with four 7/8" knockouts with slots for pryout. Suitable for pulling wires with the 12 cubic-inch wiring compartment to accommodate up to (8) 14 gauge insulated conductors, or (6) 12 gauge insulated conductors; making the Wafer LED Downlights much easier to wire in 2in/2out (plus ground) daisy-chain applications and contractor friendly.

### PATENT PENDING.

**INSTALLATION** — Ideal for shallow ceiling plenum; no housing required. Steel spring clip for easy installation. 6" cut out template is provided to ensure a correct sized hole is cut into ceiling for proper installation of the trim. Size of hole should not exceed 6 1/4 inches for this product. Suitable for installation in t-grid and drop ceiling applications. 2" plenum space required for installation of the remote driver box.

**OPTICS** — Wafer-Thin downlight edge-lit LED technology uses light guided plate to distribute light. Polycarbonate lens provides even illumination throughout the space. Utilized 2700K, 3000K, 3500K, 4000K, and 5000K color temperature LEDs.

**ELECTRICAL** — Connect directly to 120V power supply via provided UL recognized driver. High efficient driver with power factor > 0.9. Ambient operating temperature: -40°F (-40°C) to +104°F (+40°C). Dimming down to 10% (See page 2 for recommended dimmers). Standard input wattage is 13W, 79 lumens per watt. Replaces 75W incandescent for 865 lumens and 100W incandescent for 1020 lumens.

**LISTINGS** — CSA certified to US and Canadian safety standards. ENERGY STAR® certified product. Wet location. Air Tight certified in accordance with ASTM E283-2004. NOM Certified.

**WARRANTY** — 5-year limited warranty. Complete warranty terms located at:

[www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

**Note:** Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

### Wafer LED Recessed Downlight

# WF6

## 6" LED Module

IC/Non-IC  
New Construction/Remodel



Matte black



Brushed nickel

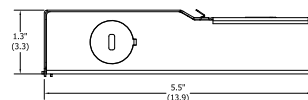
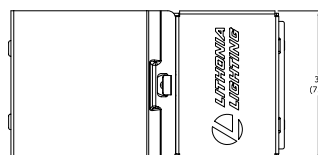
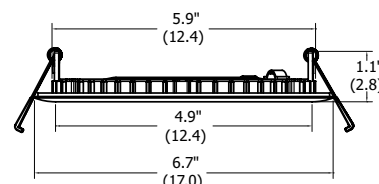


Oil-rubbed bronze



### Specifications

Aperture:	4.9 (12.4)
Ceiling opening:	6 (15.2)
Overlap trim:	6.7 (17)
Height:	1.1 (2.8)



All dimensions are inches (centimeters) unless otherwise indicated.

# WF6 6" LED Wafer Module

## ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

**Example: WF6 LED 30K MW**

WF6				
Series	Lamp	CCT/CRI/W/Lumens <sup>1</sup>		Finish
WF6 6" wafer-thin LED downlight	LED LED	<b>27K<sup>2</sup></b>	2700K/80CRI/13.8W/1000L	<b>MW</b> Matte white <b>MB</b> Matte black <b>BN</b> Brushed nickel <b>ORB</b> Oil-rubbed bronze
		<b>30K</b>	3000K/80CRI/13W/1020L	
		<b>35K<sup>2</sup></b>	3500K/80CRI/13.4W/1100L	
		<b>40K</b>	4000K/80CRI/13.6W/1200L	
		<b>50K<sup>2</sup></b>	5000K/80CRI/14.4W/1210L	
	LL LED Low Lumen LED	<b>27K</b>	2700K/80CRI/12.7W/780L	
		<b>30K</b>	3000K/80CRI/12.6W/800L	
		<b>35K<sup>2</sup></b>	3500K/80CRI/12W/840L	
		<b>40K</b>	4000K/80CRI/12.9W/850L	
		<b>50K<sup>2</sup></b>	5000K/80CRI/12W/900L	

### Accessories: Order as separate catalog number.

WF6 PAN R12	6" new construction pan, retail pack of 12
WFJB U	Remodel Joist Bar
WFEXC6 U	6' FT4 cable
WFEXC10 U	10' FT4 cable
WFEXC20 U	20' FT4 cable



WF6\_Pan



Remodel Joist Bar



Extension Cable

### Notes

- 1 Total system delivered lumens.
- 2 Only stocked in Matte White finish, enter non-stock order for other color finishes.

## PHOTOMETRICS

### Distribution Curve

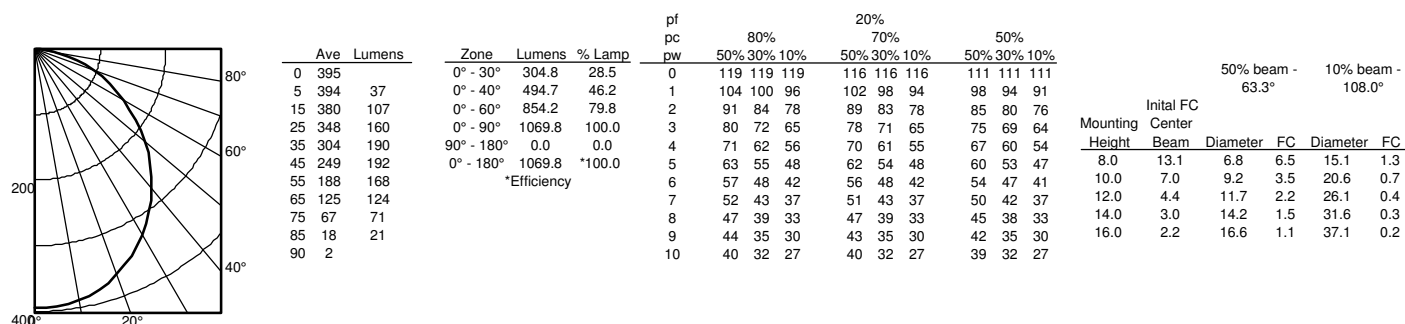
### Distribution Data

### Output Data

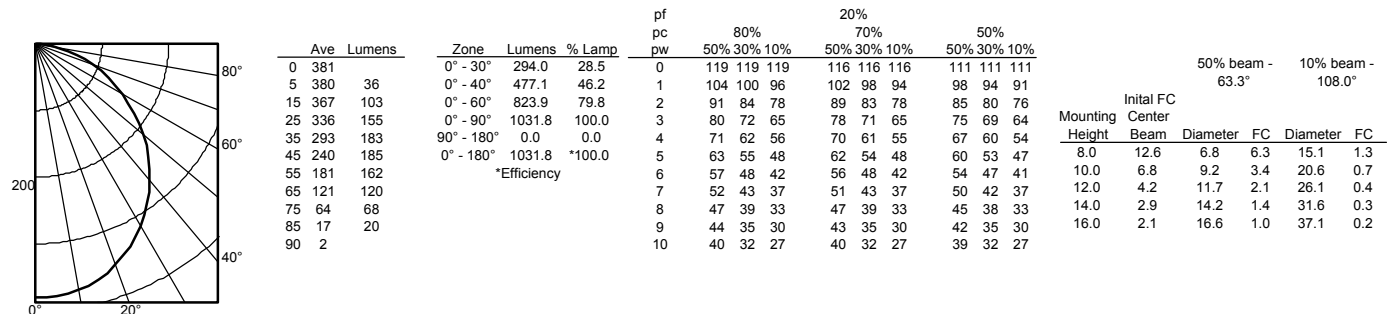
### Coefficient of Utilization

### Illuminance Data at 30" Above Floor for a Single Luminaire

**WF6 LED27K**, 2700 K LEDs, input watts: 13.7, delivered lumens: 1069, LM/W=78, test no. ISF 30024P2

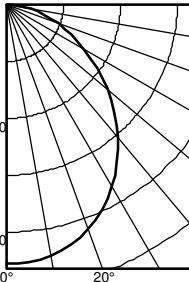


**WF6 LED 30K**, 3000 K LEDs, input watts: 13, delivered lumens: 1020, LM/W=78.5, test no. ISF 30024

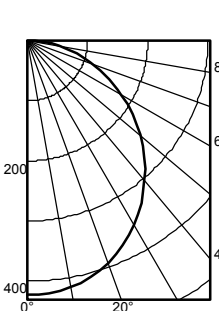


# WF6 6" LED Wafer Module

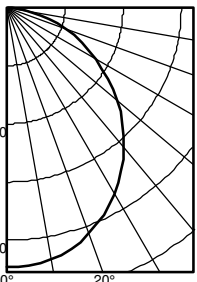
## PHOTOMETRICS

Distribution Curve	Distribution Data		Output Data			Coefficient of Utilization			Illuminance Data at 30" Above Floor for a Single Luminaire										
WF6 LED 35K, 3500K LEDs, input watts: 13.4, delivered lumens: 1158, LM/W=86, test no. ISF 35161																			
	Ave	Lumens	Zone	Lumens	% Lamp	pf pc pw	80%			20%			50%			50% beam - 62.2°		10% beam - 105.9°	
	0	456	0° - 30°	348.8	30.1	0	119	119	119	116	116	116	111	111	111				
	5	455	0° - 40°	560.0	48.3	1	104	100	96	102	98	95	98	95	92				
	15	436	0° - 60°	939.4	81.1	2	91	85	79	90	84	78	86	81	77				
	25	397	0° - 90°	1158.6	100.0	3	81	73	66	79	72	66	76	70	65				
	35	338	90° - 120°	0.1	0.0	4	72	63	57	71	63	56	68	61	56				
	45	267	90° - 130°	0.1	0.0	5	64	56	49	63	55	49	61	54	48				
	55	194	90° - 150°	0.1	0.0	6	58	49	43	57	49	43	55	48	43				
	65	126	90° - 180°	0.1	0.0	7	53	44	38	52	44	38	51	43	38				
	75	68	0° - 180°	1158.7	*100.0	8	48	40	34	48	40	34	46	39	34				
	85	20		*Efficiency		9	45	36	31	44	36	31	43	36	31				
	90	0				10	41	33	28	41	33	28	40	33	28				
						Mounting Height	Initial Center Beam	Diameter	FC	Diameter	FC								
						8.0	15.1	6.6	7.5	14.6	1.5								
						10.0	8.1	9.0	4.1	19.9	0.8								
						12.0	5.1	11.5	2.5	25.2	0.5								
						14.0	3.4	13.9	1.7	30.5	0.3								
						16.0	2.5	16.3	1.3	35.8	0.3								

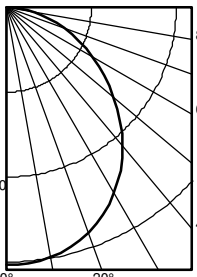
WF6 LED 40K, 4000 K LEDs, input watts: 13.6, delivered lumens: 1200, LM/W=88.2, test no. ISF 30376

	Ave Lumens		Zone Lumens % Lamp	pf pc pw	80% 50% 30% 10%			20% 70% 50% 30% 10%			50% 50% 30% 10%			50% beam - 63.7°		10% beam - 109.1°	
	0	423	0° - 30° 327.3 27.2	0	119	119	119	116	116	116	111	111	111	Initial FC			
	5	422	0° - 40° 533.5 44.4	1	104	99	95	101	97	94	97	94	91	Mounting Height	Center Beam	Diameter	FC
	15	407	0° - 60° 936.3 77.9	2	90	83	77	88	82	76	85	79	75	8.0	14.0	6.8	7.0
	25	374	0° - 90° 1201.8 100.0	3	79	71	64	77	70	63	74	68	62	10.0	7.5	9.3	3.8
	35	330	90° - 180° 0.0 0.0	4	70	61	54	69	60	54	66	59	53	12.0	4.7	11.8	2.3
	45	276	0° - 180° 1201.8 *100.0	5	62	53	47	61	53	46	59	52	46	14.0	3.2	14.3	1.6
	55	214	*Efficiency	6	56	47	41	55	47	41	53	46	40	16.0	2.3	16.8	1.2
	65	149		7	51	42	36	50	42	36	49	41	36				
	75	84		8	47	38	32	46	38	32	44	37	32				
	85	26		9	43	34	29	42	34	29	41	34	29				
	90	1		10	39	31	26	39	31	26	38	31	26				

WF6 LED 50K, 5000K LEDs, input watts: 14.31, delivered lumens: 1209, LM/W=84, test no. ISF 30024P3

	Ave Lumens		Zone Lumens % Lamp	pf pc pw	80% 50% 30% 10%			20% 70% 50% 30% 10%			50% 50% 30% 10%			50% beam - 63.3°		10% beam - 108.0°	
	0	447	0° - 30° 344.7 28.5	0	119	119	119	116	116	116	111	111	111	Initial FC			
	5	446	0° - 40° 559.4 46.2	1	104	100	96	102	98	94	98	94	91	Mounting	Center	Diameter	FC
	15	430	0° - 60° 966.0 79.8	2	91	84	78	89	83	78	85	80	76	Height	Beam	Diameter	FC
	25	394	0° - 90° 1209.8 100.0	3	80	72	65	78	71	65	75	69	64	8.0	14.8	6.8	7.4
	35	343	90° - 180° 0.0 0.0	4	71	62	56	70	61	55	67	60	54	10.0	7.9	9.2	4.0
	45	282	0° - 180° 1209.8 *100.0	5	63	55	48	62	54	48	60	53	47	12.0	4.9	11.7	2.5
	55	212	*Efficiency	6	57	48	42	56	48	42	54	47	41	14.0	3.4	14.2	1.7
	65	142		7	52	43	37	51	43	37	50	42	37	16.0	2.5	16.6	1.2
	75	75		8	47	39	33	47	39	33	45	38	33				
	85	20		9	44	35	30	43	35	30	42	35	30				
	90	2		10	40	32	27	40	32	27	39	32	27				

WF6 LL LED 27K, 2700 K LEDs, input watts: 12.7, delivered lumens: 819, LM/W=64.4, test no. ISF 32780P1

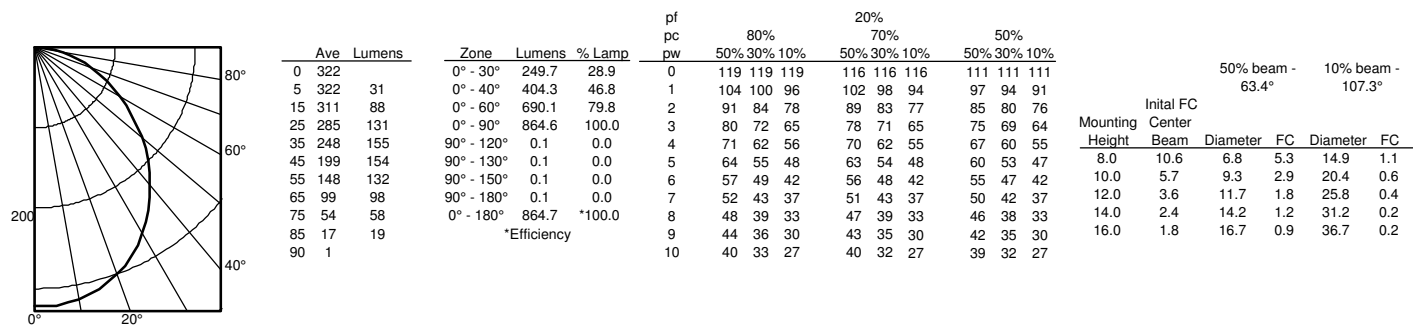
	Ave Lumens		Zone Lumens % Lamp	pf pc pw	80% 50% 30% 10%			70% 50% 30% 10%			50% 50% 30% 10%			50% beam - 63.4°		10% beam - 107.4°	
	0	304	0° - 30° 235.3 28.7	0	119	119	119	116	116	116	111	111	111	Initial FC			
	5	303	0° - 40° 381.3 46.6	1	104	100	96	102	98	94	97	94	91	Mounting Height	Center Beam	Diameter	FC
	15	293	0° - 60° 652.9 79.7	2	91	84	78	89	83	77	85	80	76	8.0	10.0	6.8	5.0
	25	269	0° - 90° 819.0 100.0	3	80	72	65	78	71	65	75	69	64	10.0	5.4	9.3	2.7
	35	234	90° - 120° 0.1 0.0	4	71	62	56	70	62	55	67	60	54	12.0	3.4	11.7	1.7
	45	189	90° - 130° 0.1 0.0	5	64	55	48	62	54	48	60	53	47	14.0	2.3	14.2	1.1
	55	140	90° - 150° 0.1 0.0	6	57	48	42	56	48	42	55	47	41	16.0	1.7	16.7	0.8
	65	94	90° - 180° 0.1 0.0	7	52	43	37	51	43	37	50	42	37				
	75	52	0° - 180° 819.1 *100.0	8	48	39	33	47	39	33	46	38	33				
	85	16	*Efficiency	9	44	36	30	43	35	30	42	35	30				
	90	1		10	40	32	27	40	32	27	39	32	27				

# WF6 6" LED Wafer Module

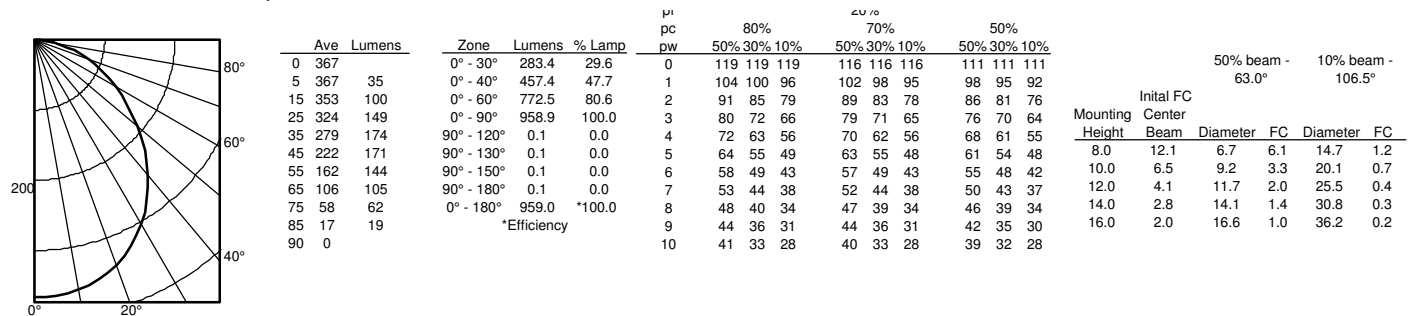
## PHOTOMETRICS

Distribution Curve	Distribution Data	Output Data	Coefficient of Utilization	Illuminance Data at 30" Above Floor for a Single Luminaire
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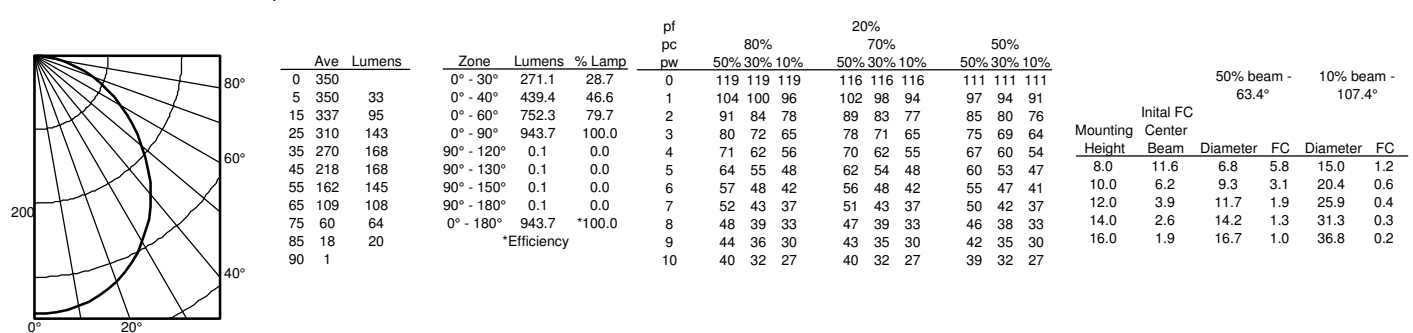
**WF6 LL LED 30K**, 3000 K LEDs, input watts: 12.6, delivered lumens: 865, LM/W=68.7, test no. ISF 32781



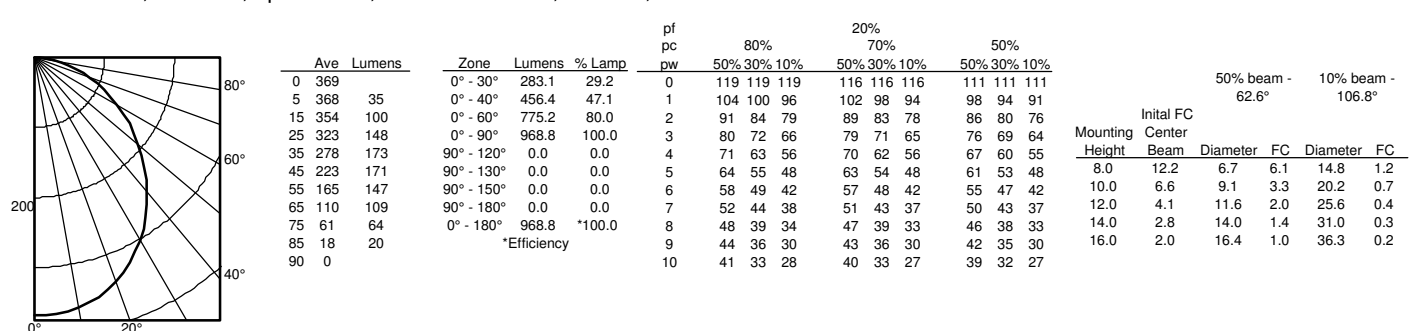
**WF6 LL LED 35K**, 3500K LEDs, input watts: 12, delivered lumens: 959, LM/W=80, test no. ISF 35160



**WF6 LL LED 40K**, 4000 K LEDs, input watts: 12.9, delivered lumens: 944, LM/W=73.2, test no. ISF 32780



**WF6 LL LED 50K**, 5000K LEDs, input watts: 12, delivered lumens: 968, LM/W=80, test no. ISF 35159



## ENERGY DATA &amp; DIMMING CAPABILITY

6" ENERGY DATA					
Color Temperature	2700K	3000K	3500K	4000K	5000K
Lumens	1000	1020	1100	1200	1210
CRI	80	80	80	80	80
Lumens/Watt	72.5	78.5	82	88.2	84
Min. starting temperature	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)
EMI/RFI	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B
Sound rating	Class A Standards	Class A Standards	Class A Standards	Class A Standards	Class A Standards
Input voltage	120V	120V	120V	120V	120V
Min. power factor	.99	.99	.99	.99	.99
Input frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated wattage	13.8W	13W	13.4W	13.6W	14.4W
Input power	13.8W	13W	13.4W	13.6W	14.4W
Input current	0.12A	0.11A	0.12A	0.11A	0.12A

6" LOW LUMEN ENERGY DATA					
Color Temperature	2700K	3000K	3500K	4000K	5000K
Lumens	780	800	840	850	900
CRI	80	80	80	80	80
Lumens/Watt	61.3	63.5	70	65.9	75
Min. starting temperature	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)	-40°C (-40°F)
EMI/RFI	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B	FCC Title 47 CFR, Part 15, Class B
Sound rating	Class A Standards	Class A Standards	Class A Standards	Class A Standards	Class A Standards
Input voltage	120V	120V	120V	120V	120V
Min. power factor	0.99	0.99	.99	0.99	0.99
Input frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated wattage	12.7W	12.6W	12W	12.9W	12W
Input power	12.7W	12.6W	12W	12.9W	12W
Input current	0.11A	0.11A	0.10A	0.11A	0.10A

COMPATIBLE DIMMERS			
Leviton	Lutron	Sensorswitch	Synergy/Leviton
6633-PA	DV-603P-LA	nSP5 PCD 2W	ISD 600 I 120/IPI06
IPL06-LED/INC mode	CT-603PR-WH	nSP5 PCD ELV 120	ISD 400 ELV 120/IPE04
6615-P	DVELV-300P		
	NTELV-300P		
	NLV600		
	300P-SELV		
	DV-600P		
	Caseta PD-6WCL*		

\*Requires Lutron Smart Bridge L-BDG2-WH (sold separately)

## LIGHTING FACTS

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 1000  
**Watts** 13.8  
**Lumens per Watt (Efficacy)** 72.46

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 2700 (Warm White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-QRE1B3 (6/20/2017)  
Model Number: WF6 LED 27K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 1020  
**Watts** 13  
**Lumens per Watt (Efficacy)** 78.46

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 3000 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-DA1SC6 (3/15/2016)  
Model Number: WF6 LED 30K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 1100  
**Watts** 13.4  
**Lumens per Watt (Efficacy)** 82.09

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 3500 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-ZZFC1V (6/28/2017)  
Model Number: WF6 LED 35K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 1200  
**Watts** 13.6  
**Lumens per Watt (Efficacy)** 88.24

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 4000 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-WQ6E6W (3/15/2016)  
Model Number: WF6 LED 40K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 1210  
**Watts** 14.4  
**Lumens per Watt (Efficacy)** 84.03

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 5000 (Daylight)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-C14WHV (6/20/2017)  
Model Number: WF6 LED 50K  
Type: Luminaire - Downlight



## LIGHTING FACTS

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 780  
**Watts** 12.73  
**Lumens per Watt (Efficacy)** 61.27

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 2700 (Warm White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-QBTA5U (11/5/2017)  
Model Number: WF6 LLED 27K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 800  
**Watts** 12.6  
**Lumens per Watt (Efficacy)** 63.49

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 3000 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-A6485S (12/1/2016)  
Model Number: WF6 LLED 30K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 840  
**Watts** 12  
**Lumens per Watt (Efficacy)** 70

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 3500 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-SN25W5 (6/28/2017)  
Model Number: WF6 LLED 35K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 850  
**Watts** 12.9  
**Lumens per Watt (Efficacy)** 65.89

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 4000 (Bright White)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-PKWQC4 (12/1/2016)  
Model Number: WF6 LLED 40K  
Type: Luminaire - Downlight

**LED lighting facts®**  
A Program of the U.S. DOE

**Light Output (Lumens)** 900  
**Watts** 12  
**Lumens per Watt (Efficacy)** 75

**Color Accuracy**  
Color Rendering Index (CRI) 80

**Light Color**  
Correlated Color Temperature (CCT) 5000 (Daylight)

Warm White Bright White Daylight  
2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-UDNCEH (6/28/2017)  
Model Number: WF6 LLED 50K  
Type: Luminaire - Downlight



## FEATURES & SPECIFICATIONS

### INTENDED USE

Combination emergency lighting unit and exit. Suitable for illuminating the path of egress and for marking the means of egress in accordance with Life Safety Code NFPA 101. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate.** [Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.](#)

### CONSTRUCTION

Injection-molded, flame-retardant, high-impact, thermoplastic housing with snap-fit design components for easy installation. Universal J-box pattern. Universal chevrons are easily removed for directional indication. Fully assembled single face with extra faceplate for easy field-conversion to double face. Track and swivel arrangement permits full range of lamp adjustment.

Letters 6" high with 3/4" stroke, with 100 ft viewing distance rating, based on UL924 standards.

### OPTICS

The typical life of the LED lamp is 10 years. Two 1W LED lamps for emergency light.

### ELECTRICAL

Dual-voltage input 120V or 277V AC; 9.6V output. Emergency combo provided with test switch, status indicator and rechargeable battery. Maintenance-free nickel-cadmium battery provides 90 minutes of emergency power. High output (HO) option provides up to 3W of LED remote capacity.

### INSTALLATION

Top, back or end mounting capability (canopy included).

### LISTINGS

UL Listed. Meets UL 924, NFPA 101, NFPA 70-NEC and OSHA illumination standards. Indoor damp location 50°F to 104°F (10°C to 40°C) listed standard.

### WARRANTY

5-year limited warranty. (Battery is prorated.) Complete warranty terms located at: [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

**NOTE:** Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25°C.

Specifications subject to change without notice.

Catalog Number
Notes
Type

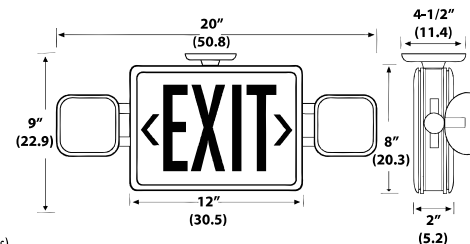
## LED Exit/Unit Combos



ECR LED



ECG LED



All dimensions are inches (centimeters).

Shipping weight: 3.6 lbs. (1.6 kgs.).

### ORDERING INFORMATION

Catalog Number	UPC	Description	Supply Voltage	Input Wattage	Pallet Qty.	Standard Carton Qty.
ECR LED M6	784231874516	LED Exit/Unit combo, Red Letters, White	120/277	3.8	108	6
ECG LED M6	784231874592	LED Exit/Unit combo, Green Letters, White	120/277	3.2	108	6
ECR LED HO M6	784231874561	LED Exit/Unit combo, Red Letters, White, High-output	120/277	3.8	108	6
ECG LED HO M6	784231874615	LED Exit/Unit combo, Green Letters, White, High-output	120/277	3.2	108	6
ECG LED HO RO M6	888791130461	LED Exit, Less heads, Green Letters, White, High-output	120/277	3.2	108	6
ECR LED HO RO M6	888791130423	LED Exit, Less heads, Red Letters, White, High-output	120/277	3.8	108	6

Accessories: Order as separate catalog number.	
ELA WG3	Wireguard (back mount only) <sup>1</sup>
ELA LED M12	Single remote lamp <sup>2,3</sup>
ELA LED T M12	Double remote lamp <sup>2,3</sup>
ELA LED WP M12	Single, weather-proof remote lamp <sup>2,3</sup>
ELA LED T WP M12	Double, weather-proof remote lamp <sup>2,3</sup>

### Notes

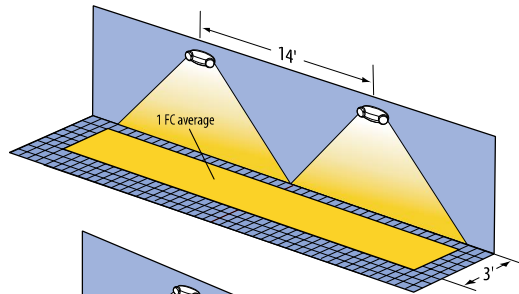
- See spec sheet [ELA-WG](#).
- See spec sheet [LED-Remote Lamps](#).
- Only available with HO option.

## SPACING GUIDELINES

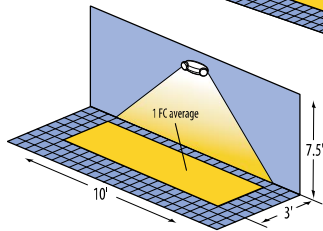
Maximum Spacing Guidelines - ECR LED / ECG LED <sup>1</sup>						
Mounting Height	Illumination Level	Single Luminaire		Multiple Luminaires		Application Notes
		3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
7.5'	1FC Avg	10'	6'	14'	11'	"100' Corridor 8' wide, and 9' high with 80/50/20 reflectances"

Notes:

- Also meets the additional illumination requirements of NFPA 101: 1FC minimum and max/min ratio of 40:1.



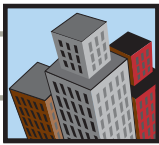
Example of multiple ECR LED/ECG LED luminaires illuminating a 3' path of egress.



Example of single ECR LED/ECG LED illuminating a 3' path of egress.

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## DECORA® DEVICE FEATURES

### Commercial Grade Wiring devices

#### LEVITON'S DECORA DESIGNER LINE OF WIRING DEVICES ADDS CONTEMPORARY STYLING TO ANY RESIDENTIAL OR COMMERCIAL APPLICATION.

*Decora Devices are built to the highest performance standards to provide a long, trouble-free service life. The Decora Devices line represents a broad selection of switches, receptacles, surge suppressor receptacles, SmartLock® GFCI receptacles, combination devices, wall jacks and wallplates.*

#### Features and Benefits

- Decora Devices are engineered for beauty, versatility and durability
- All Decora Plus Commercial Grade devices feature heavy-duty construction
- All Decora devices meet or exceed applicable UL, CSA and NOM testing standards
- Backed by a Limited 10-Year Warranty

#### DECORA COLORS

*Decora devices are offered in a wide range of colors and finishes, which includes Almond, Light Almond, White, Ivory, Gray, Red, Ebony (Black) and Mahogany Brown. A selection of metal Decora wallplates comes in Brushed Brass, Polished Brass, satin-finish Stainless Steel and Aluminum.*



#### Decora Switches

A complete range of single pole, double pole, 3 and 4-way switches in both residential and commercial grades.  
**5691-2E, 5621-2W shown**

#### Decora Receptacles

A broad selection of amperages and NEMA configurations in Industrial, Commercial and Residential grades with an array of colors from which to choose.  
**16352-GY shown**

#### Decora Illuminated Switches

Pilot Light, Illuminated Rocker, Maintained and Momentary Contact versions.  
**5631-2I, 5628-2A shown**

#### Decora Hospital Grade Receptacles

Leviton's selection includes Isolated Ground, Tamper Resistant, Surge Protected, GFCI and Power Indication versions.  
**16262-IGR shown**

#### Decora Combo Devices

Compact design fits dual or triple switch, switch/receptacle, or switch/GFCI receptacle into standard wallboxes.  
**7299-I shown**

#### Decora Communications Wiring Devices

Pre-configured and field-configurable jacks accommodate Decora wallplates, complementing other Decora wiring devices, and fit in standard NEMA wallboxes.  
**41658-W shown**

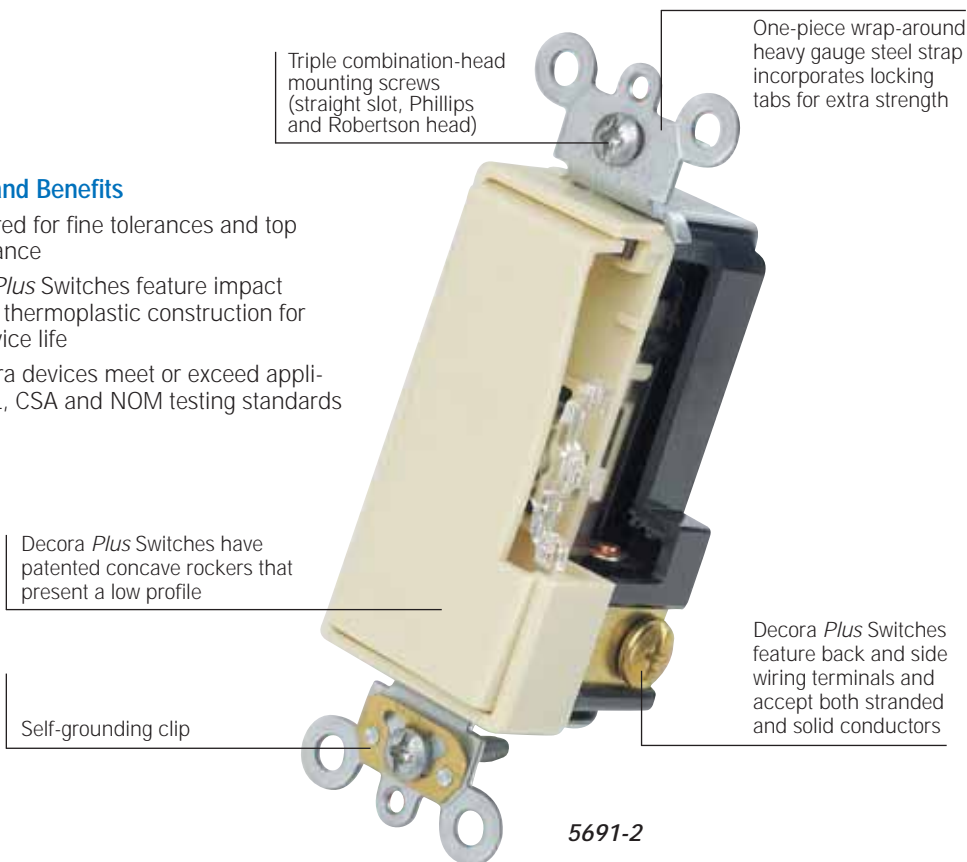


### DECORA PLUS SWITCHES ENHANCE EVERY INTERIOR

Leviton's Decora line of designer-style switches are available in a complete range of single pole, double pole, 3 and 4-way switches in both residential and commercial grades. They come in a cascade of contemporary shades and add an air of distinction and value to contemporary commercial and residential design schemes.

#### Features and Benefits

- Engineered for fine tolerances and top performance
- Decora Plus Switches feature impact resistant thermoplastic construction for long service life
- All Decora devices meet or exceed applicable UL, CSA and NOM testing standards



#### Decora Plus Switches

A complete range of rugged Commercial Specification Grade single pole, double pole, 3 and 4-way switches.

5691-2E, 5621-2W shown



#### Illuminated Switches

Rocker lens is illuminated when load is OFF.

5631-2I shown



#### Pilot Light Switches

Rocker lens is illuminated when load is ON.

5628-2A shown



#### Momentary Contact Switches

Combines Decora styling and rugged construction for momentary contact closure (single-pole, double-throw, center OFF switching).

5657-2A shown



#### Maintained Contact Switches

Rugged Decora styling for maintained contact closure (single-pole, double-throw, center OFF switching).

5685-2E shown



#### Residential Grade Switches

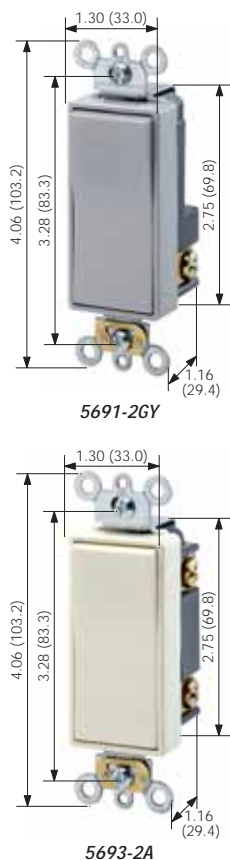
Engineered for smooth, quiet operation and a long trouble-free service in fine residential interiors.

5601-2I shown



# DECORA® PLUS SWITCHES 15 and 20 AMP 120/277V

## Commercial Grade Switches









### Decora Plus AC Quiet Rocker Switches

#### Back and Side Wired 120/277V AC

DESCRIPTION	15 AMP	20 AMP	ROCKER & FRAME COLOR*
			<i>Basic Cat. No. Denotes Mahogany</i>
Single-Pole	5691-2	5621-2†	I, W, A, T, GY, E
Three-way	5693-2	5623-2†	I, W, A, T, GY, E
Four-way	—	5624-2	I, W, A, T, GY

†Available in Red (-R)

### Wallplates

THERMOPLASTIC		POLYCARBONATE SCREWLESS SNAP-ON		302 STAINLESS STEEL	
					
80401-NT	80409-NT	80301-SGY	80309-SGY	84401-40	84409-40

For complete Decora wallplate selection, see pages B20–B24.

### SPECIFICATIONS AND FEATURES

#### Back and Side Wired

- Full rated current capacity with tungsten, fluorescent or resistive loads. Motor capacity is 80% of switch rating
- Back and side-wiring terminals accept both solid and stranded wire to ease installation
- New architecturally-styled smooth-action concave rocker
- Heavy-duty impact-resistant thermoplastic construction for long service life in commercial applications
- Two ground connection options: a green grounding screw and a self-grounding clip
- For Canadian 347V Decora Plus Switches, see page B19

### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Compliance with the latest Federal Specification WS-896
- Backed by a Limited 10-Year Warranty

### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY), Black (-E), Red (-R).

#### Imprinted Decora Switches

Custom orders available in Ivory (-I), White (-W).

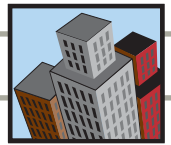
### HORSEPOWER

15A	20A
1/2 @ 120V	1 @ 120V
2 @ 240V	2 @ 240V

### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C





### Decora Plus Momentary and Maintained Switches







#### Back and Side Wired Momentary Contact 15 AMP 120/277V AC

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole, Double Throw, Center OFF	5657-2	I, W, A, T, GY, E <small>Basic Cat. No. Denotes Mahogany</small>

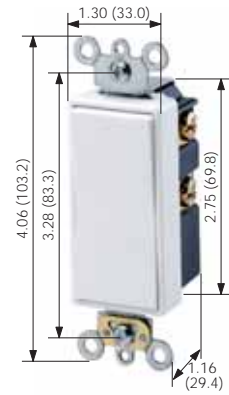
#### Back and Side Wired Maintained Contact 15 AMP 120/277V AC

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole, Double-Throw, Center OFF	5685-2	I, W, A, T, GY, E
Double-Pole, Double-Throw, Center OFF	5686-2	I, W, A, T (No Mahogany)

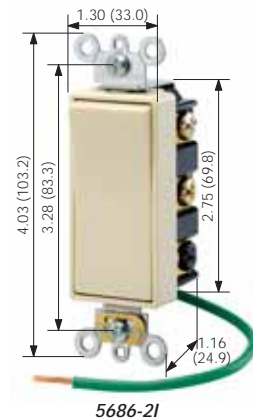
### Wallplates

THERMOSET	THERMOPLASTIC	POLISHED BRASS
 80401-W  80601-W Midway Size	 80401-NW  80409-NW	 81401-PB  81409-PB

For complete Decora wallplate selection, see pages B20-B24.



5657-2W



5686-2I

#### SPECIFICATIONS AND FEATURES

- Full rated current capacity with tungsten, fluorescent or resistive loads. Motor capacity is 80% of switch rating
- Wrap-around heavy-gauge strap with locking tabs for added strength
- Back and side-wiring terminals accept both solid and stranded wire to ease installation

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Meets requirements of latest Federal Specification WS-896
- Backed by a Limited 10-Year Warranty

#### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY), Black (-E).

#### HORSEPOWER

15A  
1/2 @ 120V  
2 @ 240V

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C

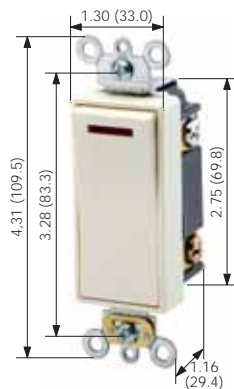


# DECORA® PLUS SWITCHES 20 AMP 120 and 277V

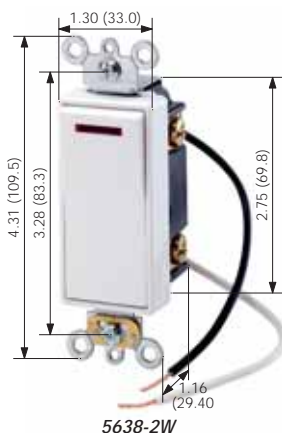
## Commercial Grade Switches



5631-2W



5628-2A



5638-2W

### Decora Plus Illuminated and Pilot Light Switches

**20 AMP Back and Side Wired Illuminated**   
(Illuminated when load is OFF—Does not require a neutral wire)

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole, 120V AC	5631-2	I, W, A, T, E
Three-way, 120V AC	5633-2	I, W, A, T
Single-Pole, 277V AC	5649-2	I, W
Three-way, 277V AC	5659-2	W

**20 AMP Back and Side Wired Pilot Light**   
(Illuminated when load is ON—Requires a neutral wire)

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole, 120V AC	5628-2	I, W, A, T
Three-way, 120V AC	5638-2	I, W, A
Three-way, 277V AC	5639-2	W

### Wallplates

THERMOSET		THERMOPLASTIC		ALUMINUM	
80601-A Midway Size	80609-A Midway Size	80401-NW	80409-NW	83401	83409

For complete Decora wallplate selection, see pages B20–B24.

#### SPECIFICATIONS AND FEATURES

- 20A, 120 and 277V single-pole and 3-way versions
- Pilot Light rocker visible when ON even in bright light
- Back and side-wiring terminals accept both solid and stranded wire to ease installation
- Two ground connection options: a green grounding screw and a self-grounding clip

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Compliance with the latest Federal Specification WS-896
- Backed by a Limited 10-Year Warranty

#### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Black (E).

#### HORSEPOWER

20A  
1 @120V  
2 @ 240V

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C



## Decora AC Quiet Rocker Switches

15 AMP Quickwire Push-In and Side Wired 120/277V AC

DESCRIPTION	CAT. NO.	ROCKER/FRAME COLOR*
Single-Pole	5601	Mahogany
	5601-1	Ivory
	5601-W	White
	5601-2	Mahogany
	5601-2I	Ivory
	5601-2W	White
	5601-2A	Almond
	5601-2T	Light Almond
	5601-2E	Ebony
	5601-2GY	Gray
	5601-S2I†	Ivory
	5601-S2W†	White
	5601-S2A†	Almond
Double-Pole	5602-2	Mahogany
	5602-2I	Ivory
	5602-2W	White
	5602-2GY	Gray
	5602-2A	Almond
	5602-2T	Light Almond
	5602-2E	Ebony
Three-Way	5603	Mahogany
	5603-1	Ivory
	5603-W	White
	5603-2	Mahogany
	5603-2I	Ivory
	5603-2W	White
	5603-2A	Almond
	5603-2T	Light Almond
	5603-2E	Ebony
	5603-2GY	Gray
	5603-S2I†	Ivory
	5603-S2W†	White
	5603-S2A†	Almond
Four-Way	5604-2	Mahogany
	5604-2I	Ivory
	5604-2W	White
	5604-2A	Almond
	5604-2T	Light Almond
	5604-2E	Ebony
	5604-2GY	Gray

Note: To order Decora rocker switches with grounding screw add suffix -2 (e.g. 5601-2I)

† Self-grounding when installed in a properly grounded metal wallbox.

## Wallplates

THERMOSET		POLYCARBONATE SCREWLESS SNAP-ON		302 STAINLESS STEEL	
80401-GY	80409-GY	80301-SI	80309-SI	84401-40	84409-40

For complete Decora wallplate selection, see pages B20–B24.

## SPECIFICATIONS AND FEATURES

- Switch frame shields against dust and fits in wallplate to prevent rocker binding
- Side Wire and Quickwire (No.12 or No.14 copper or copper-clad wire) push-in terminal wiring options
- Sturdy construction for long service life
- Full rated current capacity with tungsten, fluorescent or resistive loads. Motor capacity is 80% of switch rating
- Conform to all NEMA standard specifications

## TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Backed by a Limited Two-Year Warranty

## \*COLOR

Rocker/Frame colors available as listed.

## HORSEPOWER

**15A**  
 1/2 @120V  
 2 @ 240V

## MATERIAL CHARACTERISTICS

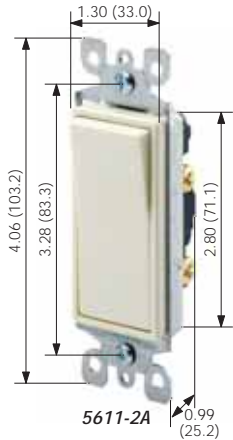
Environmental: Flammability UL-94, V2 Rating  
 Operating Temperature: -40°C to 120°C





# DECORA® SWITCHES 15 AMP 120 and 120/277V

## Residential Grade Switches



### Decora AC Quiet Rocker Switches

Quickwire® and Side Wired Illuminated 15 AMP 120/277V AC   
(Illuminated when load is OFF—Does not require a neutral wire)

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole	5611-I	Ivory
	5611-W	White
	5611-2A	Almond
	5611-2T	Light Almond
Three-Way	5613-I	Ivory
	5613-W	White
	5613-2A	Almond
	5613-2T	Light Almond
Four-Way	5614-2I	Ivory
	5614-2W	White
	5614-2A	Almond
	5614-2T	Light Almond

Note: To order Decora rocker switches with grounding screw add suffix -2 (e.g. - 5611-2I)

Quickwire and Side Wired Pilot Light 15 AMP 120V AC   
(Illuminated when load is ON—Requires a neutral wire)

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole	5618-2	I, W, A, T

Quickwire and Side Wired Imprinted 15 AMP 120/277V AC

DESCRIPTION	STOCK MESSAGES AVAILABLE	CAT. NO.	COLOR*
Single-Pole, Stock or Custom Imprinted	FAN, DISPOSAL, OIL BURNER	5601-Z2	I, W

Quickwire and Side Wired Molded 15 AMP 120/277V AC

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole ON/OFF Molded in Rocker	5601-X2	I, W, A, T, E

### 911 Flasher Switch

500 WATTS 120V

DESCRIPTION	CAT. NO.	COLOR*
3-Position Emergency Flasher Rocker Switch	911	I, W, A

### Wallplates

THERMOSET				ALUMINUM	
80401-W	80409-W	80601-I Midway Size	80609-I Midway Size	83401	83409

For complete Decora wallplate selection, see pages B20–B24.

#### SPECIFICATIONS AND FEATURES

- Illuminated Switch rocker illuminated when load is OFF
  - Pilot Light switch rocker visible when ON even in bright light
  - Switch border shields against dust and fits in wallplate to prevent rocker binding
  - Side-wiring terminals accept both solid and stranded wire to ease installation
  - Full rated current capacity with tungsten, fluorescent or resistive loads. Motor capacity is 80% of switch rating
  - Conform to all NEMA standard specifications
- Imprinted Decora Switches**
- Stock Decora switches available with choice of three imprints on rocker: FAN, DISPOSAL, OIL BURNER

#### 911 Switch

- 911 Switch provides standard ON/OFF control plus a special illuminated FLASH function will flash controlled lighting ON and OFF at one-second intervals
- Replaces standard single-pole switch—flash function alerts neighbors and helps emergency personnel locate a house quickly

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Backed by a Limited Two-Year Warranty

#### \*COLOR

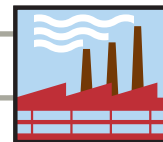
For color choice add suffix as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T).

#### HORSEPOWER

15A  
1/2 @120V  
2 @ 240V

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C

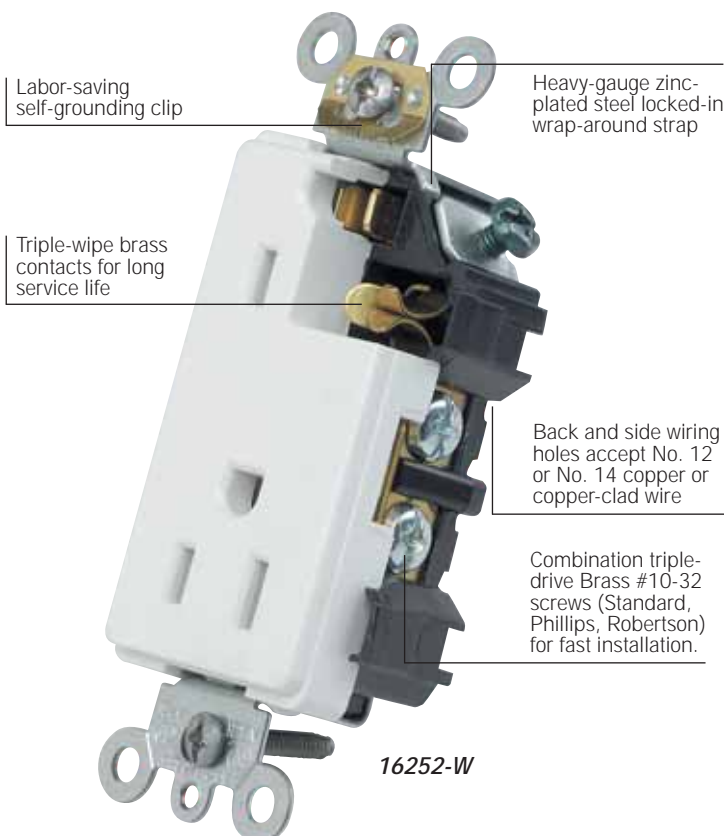


### THE BEAUTY, DURABILITY AND VERSATILITY OF DECORA RECEPTACLES

Leviton's Decora line of designer-style receptacles are available in Industrial Grade (including Hospital Grade), Commercial Grade and Residential Grade, with a number of wiring options and features. They come in a variety of contemporary shades and add contemporary style to fine interiors everywhere.

#### Features and Benefits

- Engineered for fine appearance and top performance in demanding commercial and institutional applications using a durable, thermoplastic face and impact-resistant construction
- Shallow design for maximum wiring room in wallbox
- Back Wire and Side Wire terminal wiring options for ease of installation
- Heavy-gauge zinc-plated steel locked-in wrap-around strap
- Triple-wipe brass contacts for long service life
- Exclusive V-shaped, serrated back wiring clamps for superior contact and conductivity
- Available in an array of colors to coordinate with any interior
- Backed by a Limited 10-Year Warranty



#### Hospital Grade Tamper Resistant Receptacles

These Hospital Grade receptacles incorporate a unique shutter mechanism that opens easily for insertion of 2 or 3-prong plugs, but prevents the insertion of small objects into either slot.

16262-SGI shown



#### Dual Voltage Receptacles

Maintain the consistent look of Decora style receptacles throughout commercial settings even when the need arises for Dual Voltage 15A 125 and 15A 250V duplex receptacles.

16292-I shown



#### Surge Suppressor Receptacles

Decora-style single and duplex surge-protective receptacles, including versions with audible alarm, LED indicator light and Isolated Ground.

8280-IGB shown



#### Hospital Grade Power Indication™ Receptacles

Power Indication meets UL 498 Hospital Grade identification requirements and provides visual confirmation that the device is energized.

16362-PLR shown



#### SmartLockPRO® GFCI Receptacles

SmartLockPRO GFCI meets or exceeds UL 2006 requirements and features a patented lockout action that blocks RESET if GFCI protection has been compromised.

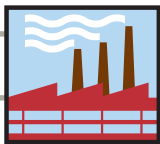
7599-W shown



#### Residential Grade Receptacles

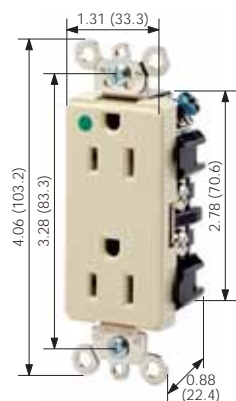
Receptacles engineered for elegant appearance, speedy installation and a long trouble-free service life for fine residential applications.

5325-I shown

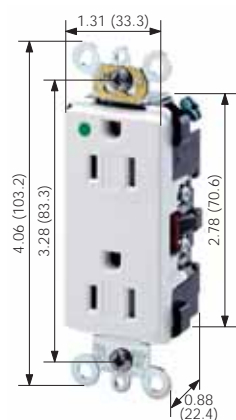


# DECORA® PLUS RECEPTACLES 15 and 20 AMP 125V • 20 AMP 250V

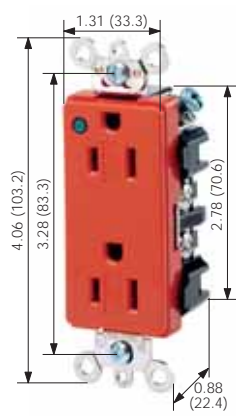
## Industrial Grade Receptacles



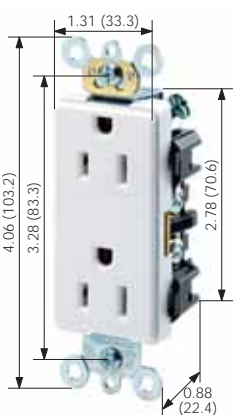
16262-HG



16262-SGW



16262-PLR





16262-W


### Decora Plus Receptacles

#### Back and Side Wired NEMA 5-15R & 5-20R

(Basic Cat. No. denotes Mahogany device except where noted)

DESCRIPTION	CAT. NO./COLOR* 15A-125V	CAT. NO./COLOR* 20A-125V
		
Hospital Grade, Duplex	<b>16262-HG</b> I, W, G, R (No Mahogany)	<b>16362-HG</b> I, W, A, G, R (No Mahogany)
Hospital Grade, Tamper Resistant Duplex	<b>16262-SG</b> I, W, A, R	
Hospital Grade, Isolated Ground Duplex (Not Self-Grounding)	<b>16262-IG</b> (Basic Cat. No. Orange) B, I, W, G, R, E	<b>16362-IG</b> (Basic Cat. No. Orange) B, I, W, G, R
Hospital Grade, Power Indication Duplex	<b>16262-PL</b> I, W, R (No Mahogany)	<b>16362-PL</b> I, W, R (No Mahogany)
Industrial Grade, Duplex	<b>16262</b> I, W, GY, E	<b>16362</b> I, W, A, T, GY, E









#### Back and Side Wired NEMA 6-20R

DESCRIPTION	CAT. NO./COLOR* 20A-250V
	
Hospital Grade, Duplex	<b>16462-HG</b> I, W (No Mahogany)

#### Wallplates for Isolated Ground Devices Engraved with "Isolated Ground"

DESCRIPTION	CAT. NO.	COLOR*
Decora Receptacle Wallplate	<b>80401-IG</b>	Orange only

#### Wallplates

THERMOPLASTIC				POLYCARBONATE SCREWLESS SNAP-ON		302 STAINLESS STEEL	
							
80401-NI	80409-NI	PJ26-I Midway Size	80409-NR	80301-SW	80309-SW	84401-40	84409-40

For complete Decora wallplate selection, see pages B20-B24.

#### SPECIFICATIONS AND FEATURES

- Durable thermoplastic face in an array of contemporary colors
- Receptacles have a locked-in mounting strap with a self-grounding clip riveted to the strap (Except Isolated Ground devices)
- Hospital Grade Tamper-resistant receptacles include a unique shutter mechanism that opens easily for the insertion of 2 or 3-prong plugs while preventing entry by other small objects into either outlet slot
- Hospital Grade Isolated Ground receptacles (identified by an orange face or triangle on the face) protect sensitive electronic equipment and eliminate electromagnetic interference by providing a separate path to ground
- Power Indication meets UL 498 Hospital Grade identification requirements and provides visual confirmation that the device is energized.
- Back and side wiring terminals permit fast installation of up to No. 10 solid or stranded conductors
- Triple-wipe copper alloy contacts ensure maximum conductivity

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-13399)
- CSA Certified (File #LR-406)
- NOM Certified (#057)
- Backed by a Limited 10-Year Warranty

#### \*COLOR

Basic Cat. Nos. denote Mahogany device (unless indicated) and Orange for Isolated Ground (-IG) Devices. Isolated Ground Receptacle is distinguished by an orange triangle on its face. For other color selections, add suffix to the catalog number as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Mahogany (for IG devices only, add -B), Red (-R), Gray (-G or -GY) and Black (-E).

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 60°C Maximum Continuous





## Decora Plus Receptacles

Back and Side Wired, Self-Grounding† NEMA 5-15R, 6-15R, 5-20R & 6-20R

(Basic Cat. No. denotes Mahogany device\*)

DESCRIPTION	CAT. NO./COLOR 15A/125V	CAT. NO./COLOR 15A/250V	CAT. NO./COLOR 20A/125V	CAT. NO./COLOR 20A/250V
	5-15R	6-15R	5-20R	6-20R
Duplex	<b>16252</b> I, W, A, T, GY, E	<b>16662</b> I, W (No Mahogany)	<b>16352</b> I, W, A, T, GY, E	<b>16462</b> I, W (No Mahogany)
Single	<b>16251</b> I, W	<b>16651</b> I, W (No Mahogany)	<b>16351</b> I, W	<b>16451</b> I, W (No Mahogany)
Tamper Resistant Duplex	<b>DR15S-G</b> I, W, A (No Mahogany)			

†Self-grounding when installed in a properly grounded metal wallbox

Side Wired, Self-Grounding† NEMA 5-15R, 6-15R, 5-20R & 6-20R

(Basic Cat. No. denotes Mahogany device\*)

DESCRIPTION	CAT. NO./COLOR 15A/125V	CAT. NO./COLOR 15A/250V	CAT. NO./COLOR 20A/125V	CAT. NO./COLOR 20A/250V
	5-15R	6-15R	5-20R	6-20R
Duplex	<b>16242</b> I, W, E		<b>16342</b> I, W, GY, E	
Single	<b>16241</b> I, W (No Mahogany)	<b>16641</b> I, W (No Mahogany)	<b>16341</b> I, W, A, T, GY, E	<b>16441</b> I, W, A, T (No Mahogany)

†Self-grounding when installed in a properly grounded metal wallbox

Back and Side Wired, Self-Grounding† 125V/250V Dual Voltage  
NEMA 5-15R & 6-15R

DESCRIPTION	CAT. NO.	COLOR*
Duplex, Dual Voltage	<b>16292</b>	I, W

†Self-grounding when installed in a properly grounded metal wallbox

## Wallplates

THERMOSET	POLYCARBONATE SCREWLESS SNAP-ON	THERMOPLASTIC
 80401 80609-A Midway Size	 SJ26-SA Midway Size SJ262-SA Midway Size	 80401-NGY 80409-NGY

For complete Decora wallplate selection, see pages B20-B24.

### SPECIFICATIONS AND FEATURES

- Back Wire and Side Wire terminal options
- Heavy-gauge zinc-plated steel locked-in wrap-around strap
- Terminal screws accept up to No. 10 copper or copper-clad wire, solid or stranded
- Back wire terminals accept up to No. 10 copper or copper-clad wire, solid or stranded
- Labor-saving self-grounding clip
- Heavy-duty triple-wipe brass contacts for long service life
- Impact-resistant thermoplastic construction

### TESTING AND CODE COMPLIANCE

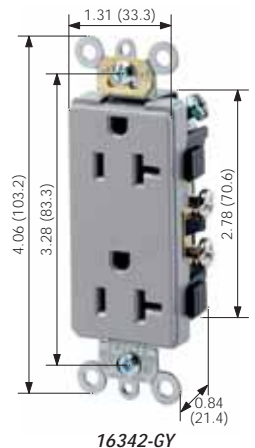
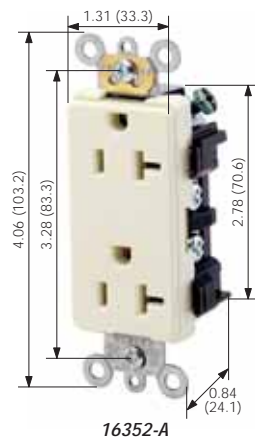
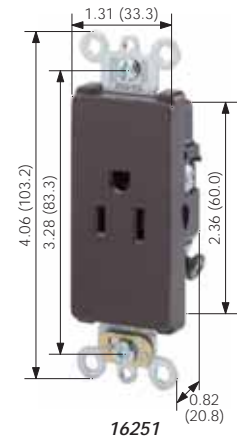
- UL Listed (File #E-13399)
- CSA Certified (File #LR-406)
- NOM Certified (#057)
- Backed by a Limited 10-Year Warranty

### \*COLOR

Basic Cat. No. denotes Mahogany device (unless indicated). For other color selections, add suffix to the catalog number as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY) and Black (-E).

### MATERIAL CHARACTERISTICS

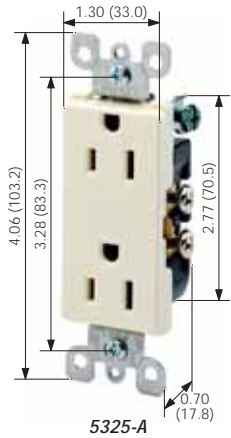
Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 60°C Maximum Continuous



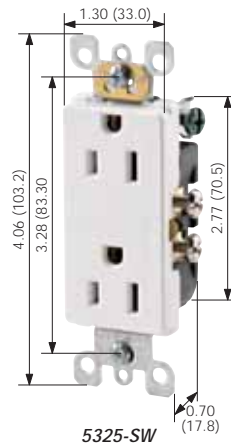


# DECORA® RECEPTACLES 15 AMP 125V

## Residential Grade Receptacles



5325-A



5325-SW



5328-W

### Decora AC Receptacles

Side Wire and Quickwire NEMA 5-15R  

DESCRIPTION

CAT. NO.

COLOR\*

*Basic Cat. No. Denotes Mahogany*



Duplex

5325

I, W, A, T, GY, E

Duplex, Self-Grounding Clip

5325-S†

I, W, A, T (No Mahogany)









Duplex, 8-Hole Quickwire

5328

I, W, A (No Mahogany)

*†Self-grounding when installed in a properly grounded metal wallbox*

### Wallplates

THERMOSET			THERMOPLASTIC		POLISHED BRASS	302 STAINLESS STEEL	
							
80401-A	80409-E	80411-E	80401-NT	80409-NT	81401-PB	84401-40	84409-40

*For complete Decora wallplate selection, see pages B20–B24.*

#### SPECIFICATIONS AND FEATURES

- Side Wire and Quickwire™ holes accept No. 14 AWG copper wire for Cat. No. 5325
- Heavy-gauge zinc-plated steel mounting strap
- Heavy duty double-wipe brass contacts for long service life

#### TESTING AND CODE COMPLIANCE

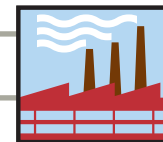
- UL Listed (File #E-13399)
- CSA Certified (File #LR-406)
- NOM Certified (#057)
- Backed by a Limited One-Year Warranty

#### \*COLOR

Basic Cat. No. denotes Mahogany (Brown) device unless indicated. For other color selections, add suffix to the catalog number as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY), and Black (-E).

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 60°C Maximum Continuous



## Decora Surge Protective Receptacles

Back and Side Wired NEMA 5-15R &amp; 5-20R

(Basic Cat. No. denotes Mahogany device except where noted)

DESCRIPTION	CAT. NO./COLOR* 15A-125V 	CAT. NO./COLOR* 20A-125V 
Hospital Grade, Surge Duplex with Indicator Light and Audible Alarm	<b>8280</b> I, W, A, T, R, B	<b>8380</b> I, W, GY, R, B
Hospital Grade, Surge Single with Indicator Light and Audible Alarm	—	<b>8381</b> I (No Mahogany)
Hospital Grade, Isolated Ground, Surge Duplex with Indicator Light and Audible Alarm	<b>8280-IG</b> I, W, A, G, B, O (No Mahogany)	<b>8380-IG</b> I, W, G, B, O (No Mahogany)
Hospital Grade, Isolated Ground, Surge Single with Indicator Light and Audible Alarm	<b>8281-IG</b> I, O (No Mahogany)	<b>8381-IG</b> I, W, B (No Mahogany)
Industrial Grade, Surge Duplex with Indicator Light and Audible Alarm	<b>7280</b> I, W, A, GY, B	<b>7380</b> I, W, GY, B
Industrial Grade, Surge Duplex with Indicator Light	<b>5280</b> I, W, A, T, GY, B	<b>5380</b> I, W, GY, B
Industrial Grade, Isolated Ground, Surge Duplex with Indicator Light	<b>5280-IG</b> I, W, A, G, B, O	<b>5380-IG</b> I, W, G, B, O

For more information regarding Surge Protective Devices, refer to Section R.

## Wallplates

THERMOSET	POLYCARBONATE SCREWLESS SNAP-ON	BRASS	302 STAINLESS STEEL
 80401-NB  PJ26-BU Midway Size	 80309-SA  SJ262-SA Midway Size	 81401  81409	 84401-40  84409-40

For complete Decora wallplate selection, see pages B20–B24.

## SPECIFICATIONS AND FEATURES

- Decora-styled TVSS receptacles protect sensitive electronic equipment against transient voltage surges
- UL 1449 Suppressed Voltage Ratings: 400V for all 3 modes (line-neutral, line-ground, neutral ground)
- Hospital Grade versions (indicated by green dot on receptacle face) are suitable for high-abuse health care, industrial and commercial applications
- Isolated Ground versions (indicated by orange color or orange triangle on receptacle face) provide a pure ground path for use with isolated grounding systems
- Monitor/Indicator LED is ON continuously when protection is active and OFF when protection circuit is deactivated due to excessive transients
- All Hospital Grade devices and Cat. Nos. 7280 and 7380 Industrial devices also provide an audible tone alert that sounds if protection is lost
- Maximum Continuous Operating Voltage: 150V
- Maximum single-pulse transient current (8 x 20µs Amps peak) 24,000A (L-N), 12,000A (L-G), 12,000 (N-G)
- Rated single pulse transient energy (10 x 1000µs, impulse) 320 Joules
- RFI and EMI noise filtration (-35db, @5KHz-5MHz)

## TESTING AND CODE COMPLIANCE

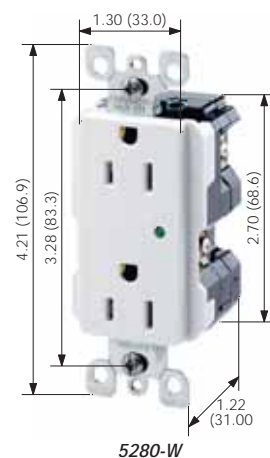
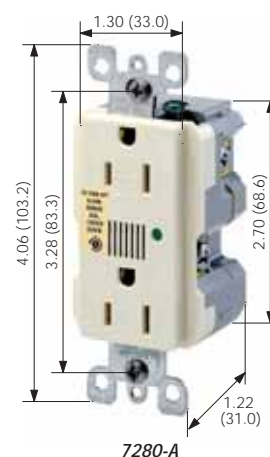
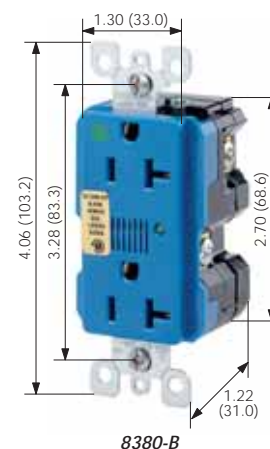
- UL Listed (File #E-13399)
- CSA Certified (File #LR-406)
- NOM Certified (#057)
- UL Standard 1449-2nd ED
- Backed by a Limited 10-Year Warranty

## \*COLOR

Basic Cat. Nos. denote Mahogany device, unless indicated. Isolated Ground Receptacle is distinguished by an orange triangle on its face. For other color selections, add suffix to the catalog number as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Red (-R), Gray (-G or -GY), Blue (-B) and Orange (-O).

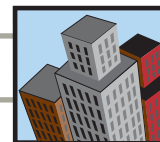
## MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C




# SMARTLOCK<sup>PRO</sup>® GFCI RECEPTACLES 15 AMP 125V • 20 AMP 125V

## Commercial and Hospital Grade GFCI Personnel Protection Devices




### Hospital Grade SmartLock<sup>PRO</sup>® GFCI Receptacles

#### Back and Side Wired 15 AMP 125V at Receptacle, 20 AMP Feed-Through


DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Duplex with LED Indicator Light, buttons match face color	7599-HG	I, W, A, T, G, R	5-15R 
Duplex with LED Indicator Light, buttons match face color. DIN-Rail mounting with terminal wiring block. UL Recognized Component	7599-DIN	Black Only	

#### Back and Side Wired 20 AMP 125V at Receptacle and Feed-Through


DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Duplex with LED Indicator Light, buttons match face color	7899-HG	I, W, A, T, G, R	5-20R 

### Commercial Grade SmartLock<sup>PRO</sup>® GFCI Receptacles

#### Back and Side Wired 15 AMP 125V at Receptacle, 20 AMP Feed-Through


DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Duplex with Indicator Light, buttons match face color	7599	I, W, A, T, GY, R, E	5-15R 
Duplex with LED Indicator Light, Black & Red buttons. With 6" leads	7599-L	I, W (No Brown)	

#### Back and Side Wired 20 AMP 125V at Receptacle and Feed-Through

DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Duplex with LED Indicator Light, buttons match face color	7899	I, W, A, T, GY, E	5-20R 
Duplex with LED Indicator Light, Black & Red buttons. With 6" leads	7899-L	I, W (No Brown)	

### Combination Switch/SmartLock<sup>PRO</sup>® GFCI Outlet

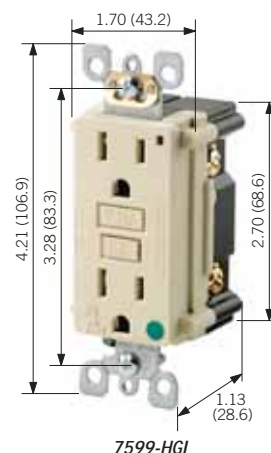
#### 15 AMP @ 125V Side Wired AC Switch Rating, 15 AMP 125V at Receptacle, 20 AMP Feed-Through

DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Single-Pole Switch and SmartLock GFCI-Protected Outlet, buttons match face color	7299	I, W, A	5-15R 

### Blank Face SmartLock<sup>PRO</sup>® GFCI









#### Back and Side Wired 20 AMP 125V Feed-Through

DESCRIPTION	CAT. NO.	COLOR*
Blank Face, No Indicator Light, buttons match face color	8590	I, W, A, T, E



Decora Devices

### Wallplates

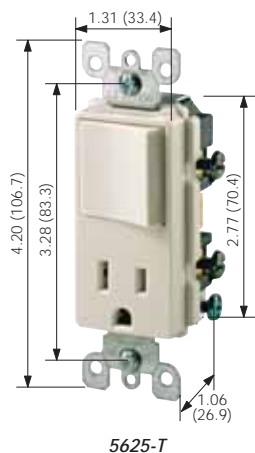
THERMOSET	POLYCARBONATE SCREWLESS SNAP-ON	POLISHED BRASS	302 STAINLESS STEEL
 80401-NT	 80301-SW	 81401-PB	 84401-40
 80409-NT	 80309-SW	 81409-PB	 84409-40

For complete Decora wallplate selection, see pages B20–B24.

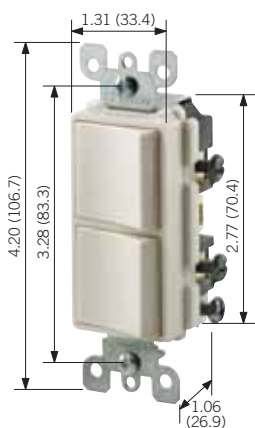


# DECORA® COMBINATION DEVICES 15 and 20 AMP • 120 and 120/277V

## Commercial Grade Combination Devices



5625-T



5634-T

### Decora Combination Devices






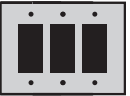
#### 15 AMP

DESCRIPTION	RATING	CAT. NO.	COLOR*
Single-Pole Switch/Receptacle	Switch: 15A-120V AC Receptacle: 15A-125V	<b>5625</b>	I, W, A, T, GY, E
Single-Pole Switch/Pilot Light	Switch: 15A-120V AC Pilot: 1/25W-125V AC	<b>5626</b>	I, W, A
Two Single-Pole Switches	15A-120/277V AC	<b>5634</b>	I, W, A, T, GY, E
3-Way Switch/Single-Pole Switch	15A-120/277V AC	<b>5641</b>	I, W, A, T, E
Two 3-Way Switches	15A-120/277V AC	<b>5643</b>	I, W, A, T
3-Way Switch/Receptacle	Switch: 15A-120V AC Receptacle: 15A-125V	<b>5645</b>	I, W, A, E
3-Way Switch/Pilot Light	Switch: 15A-120V AC Pilot: 1/25W-125V	<b>5646</b>	I, W, A

#### 20 AMP

DESCRIPTION	RATING	CAT. NO.	COLOR*
Two Single-Pole Switches	20A-120/277V AC	<b>5627</b>	I, W, A, T
Single-Pole Switch/Receptacle	Switch: 20A-120V AC Receptacle: 20A-125V	<b>5636</b>	I, W, A
Single-Pole Switch/Pilot Light	Switch: 20A-120V AC Pilot: 1/25W-125V AC	<b>5637</b>	I, W, A
Two 3-Way Switches	20A-120/277V AC	<b>5640</b>	I, W, A, T

### Wallplates

THERMOSET	THERMOPLASTIC	POLYCARBONATE	SCREWLESS SNAP-ON	302 STAINLESS STEEL
 80401-W	 80409-W	 80409-NI	 80309-SI	 80311-SI
				 84411-40

For complete Decora wallplate selection, see pages B20-B24.

#### SPECIFICATIONS AND FEATURES

- Elegant Decora styling provides multiple control in a single-gang wallbox
- All devices have grounding screw
- Fit standard wall boxes

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)
- NOM Certified (#057)
- Backed by a Limited Two-Year Warranty

#### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY) and Black (-E).

#### HORSEPOWER

15A	20A
1/2 @ 120V	1 @ 120V
2 @ 240V	2 @ 240V

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C



## Decora Combination Switches

Individual Switches: 15 AMP 120V/Device Total: 20 AMP-120V†  

DESCRIPTION	CAT. NO.	COLOR*
Dual Rocker Switches	1754	I, W, A, T
Dual Rocker Switches with Ground Screw	1754-2	W
Illuminated Dual Rocker Switches light is ON when top rocker is off	1754-IL	I, W, A
Three Rocker Switches	1755	I, W, A, T
Three Rocker Switches with Ground Screw	1755-2	I, W
Three Rocker Switches (Double Pole ON-OFF-ON Top Switch; Two Single-Pole Switches)	1759	I, W







†WARNING: Although each individual rocker switch is rated up to 15A 120V, the total combined load for both duplex or all three triplex switches MUST NOT EXCEED 20 AMPS.

## Decora Combination Switch/SmartLockPRO® GFCI Outlet

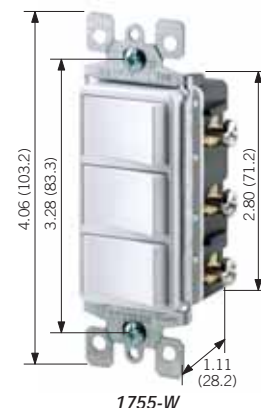
Receptacle: 15 AMP 125V/Feed-through: 20 AMP 125V

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole Switch and SmartLockPRO GFCI-Protected Outlet with Indicator Light	7299	I, W, A

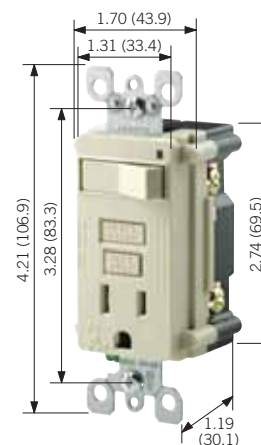
## Wallplates

THERMOSET		POLYCARBONATE SCREWLESS SNAP-ON			BRASS
					
80401-I	80409-I	80301-SW	80309-SW	80311-SW	81401

For complete Decora wallplate selection, see pages B20–B24.



1755-W



7299-I

### SPECIFICATIONS AND FEATURES

- Multi-switch combination devices save space and add convenience
- Common shunted internally to all switches
- Elegant Decora styling permits ganging with other Decora devices
- Switch/SmartLockPRO® GFCI Receptacle replaces standard switch/outlet combination devices in commercial or residential installations
- Space-saving SmartLockPRO® GFCI protection in new or retrofit construction
- Switch/SmartLockPRO® GFCI Receptacle permits multiple wiring options that allow six different applications

#### SmartLockPRO® GFCI

- Meets or exceeds UL 2006 Code Requirements for line-load reversal indication during installation and end-of-life indication
- Exclusive, patented lockout-action: RESET button is blocked if GFCI protection has been compromised, eliminating the risk of end-users incorrectly assuming that a reset GFCI is providing ground fault protection when it actually is not

### TESTING AND CODE COMPLIANCE

#### Decora Switches

- UL Listed (File #7458)
- CSA (File #LR-3413)
- NOM Certified (#057)
- Backed by a Limited Two-Year Warranty

#### Switch/SmartLockPRO® GFCI Receptacle

- UL Listed (File #48380)
- Listed UL Standard 943, Class A
- CSA Certified (File #LR-57811)
- NOM Certified (#057)
- Backed by a Limited Two-Year Warranty

#### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T).

#### MATERIAL CHARACTERISTICS

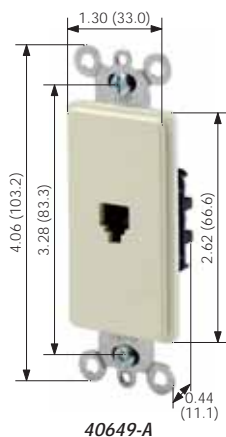
Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C



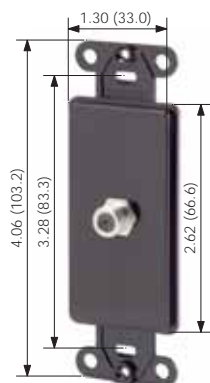


# DECORA® VOICE, DATA and VIDEO DEVICES

## Commercial Grade Wall Jacks



40649-A



40681



40682-GY

### Wall Jacks

#### Type 625 Single Telephone Wall Jacks

DESCRIPTION	CAT. NO.	COLOR*
4-Conductor	40649	I, W, A, GY, E
6-Conductor	40638	I, W, A, T, GY, E
8-Conductor	40680	I, W

#### F Connector Wall Jacks\*







DESCRIPTION	CAT. NO.	COLOR*
Single F Connector	40681	I, W, A, T, GY
Duplex F Connector	40682	I, W, A, T, GY
Single F Connector (includes Snap-On Decora Plus Wallplate)	80381	I, W, A, T, GY

\*Standard bulkhead F connector for CATV or other video applications. These jacks are not rated UL94V-O.

#### Decora® Plus Voice/Data Jacks with QuickPort® Snap-in Modules

DESCRIPTION	CAT. NO.	COLOR*
Empty, 2-Port Platform, No Jacks	41642	I, W, A, T, GY, B
Platform with Two 6-Conductor Jacks	41666	I, W
Platform with Two 8-Conductor Jacks	41688	I, W, T
Platform with One 6-Conductor Jack and One F Connector	41658	I, W
Platform with One 6-Conductor Jack and One 8-Conductor Jack	41668	I, W

### Wallplates

THERMOSET	THERMOPLASTIC	POLYCARBONATE SCREWLESS SNAP-ON
  80401-A 80601-A Midway Size	  PJ26-GY 80409-NGY Midway Size	  80301-S SJ262-S Midway Size

For complete Decora wallplate selection, see pages B20-B24.

#### SPECIFICATIONS AND FEATURES

- All wall jacks are compatible with Decora Plus snap-on wallplates and Decora standard wallplates
- All wall jacks can be used with single or multiple-gang wall boxes
- Modular Jacks have 50 micro-inches hard gold-plated phosphor bronze spring wire contacts.
- Jacks can be used for 75-OHM cable connections for televisions, VCR's and receivers
- Decora Plus Duplex Jack uses snap-in modules with quick-connect insulation displacement terminals for 22 or 24 AWG wire

#### TESTING AND CODE COMPLIANCE

- UL Listed (File #109712) in accordance with NEC Article 800-51(-I)
- CSA Certified (File #80287 for all cat. nos. except 80381, which is File #LR-20064)
- NOM Certified (#057)

- Decora F-Connector Wall Jacks meet specs. for UL 1863
- Meet FCC Part 68 requirements
- All Decora Plus Voice/Data Jack Snap-in QuickPort modules meet TIA-568A electrical, mechanical and transmission requirements
- Wall Jacks' housings of high-impact, self-extinguishing plastic, rated UL 94 V-O
- Backed by a Limited Two-Year Warranty

#### \*COLOR

Basic Cat. No. denotes Mahogany device (unless indicated). For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY), Black (-E), Brown (-B).

#### MATERIAL CHARACTERISTICS

Environmental Flammability: Meet specs for UL1863

For QuickPort® Snap-in Modules, see section "S"



## Canadian 347V AC Quiet Rocker Switches

### Back and Side Wired 15 AMP 347V AC



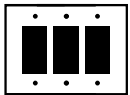
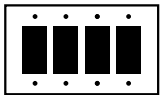
DESCRIPTION	CAT. NO.	COLOR*
Single-Pole Rocker Switch	5691-C	I, W, A, G, E
3-Way Rocker Switch	5693-C	I, W, A, E
4-Way Rocker Switch	5694-C	W

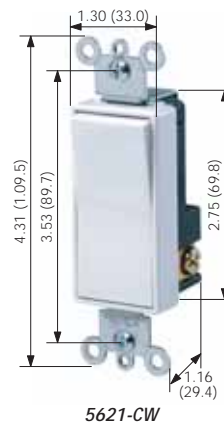
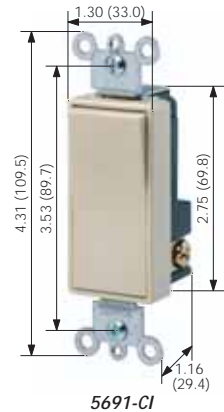
### Back and Side Wired 20 AMP 347V AC

DESCRIPTION	CAT. NO.	COLOR*
Single-Pole Rocker Switch	5621-C	I, W, G
3-Way Rocker Switch	5623-C	W, G
4-Way Rocker Switch	5624-C	W

## Midway Nylon Wallplates

### For Canadian 347V Decora Devices

DESCRIPTION	CAT. NO.	COLOR*
1-Gang 1-Decora 	80401-CN	I, W, A, G, E
2-Gang 2-Decora 	80409-CN	I, W, A, G, E
3-Gang 3-Decora 	80411-CN	I, W, G, E
4-Gang 4-Decora 	80412-CN	I, W, G



#### SPECIFICATIONS AND FEATURES

- New architecturally-styled smooth-action concave rocker
- Heavy-duty impact-resistant thermoplastic construction for long service life in commercial applications
- Full rated current capacity with tungsten, fluorescent or resistive loads. Motor capacity is 80% of switch rating
- Wrap-around heavy-gauge strap with locking tabs for added strength
- Back and side-wiring terminals accept both solid and stranded wire to ease installation
- Green grounding screw
- Canadian 347V Decora wallplates available in a number of colors
- **Note:** Decora Plus Canadian 347V switches fit only those wallplates designated for 347V AC devices
- **Note:** Canadian 347V Decora wallplates fit "Commander Type" boxes

#### TESTING AND CODE COMPLIANCE

##### Switches

- UL Listed (File #E-7458)
- CSA Certified (File #LR-3413)

##### Wallplates

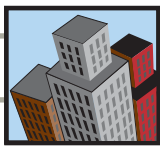
- UL Listed (File #E-13397)
- CSA (File #LR-16347)
- NOM Certified (#057)
- Fully compliant with NEMA Standards WD-1
- Backed by a Limited 10-Year Warranty

#### \*COLOR

For color selection, add suffix to catalog number as follows: Ivory (-I), White (-W), Almond (-A), Gray (-G), Black (-E) and Red (-R).

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C



# DECORA® PLUS SCREWLESS SNAP-ON WALLPLATES

## Commercial Grade Wallplates

### Decora Plus Screwless Snap-On Wallplates

- Sleek, smooth contemporary architectural styling enhances fine décor
- Exclusive new design eliminates subplate screws
- "Hook and Snap" subplate and wallplate mounting provides easy, time saving installation
- Decora-compatible two-piece kit allows easy retrofit to any Decora installation
- Tough, unbreakable polycarbonate construction
- Now available in standard and midway sizes that can be mounted onto larger-volume wallboxes and/or used to hide wall irregularities.

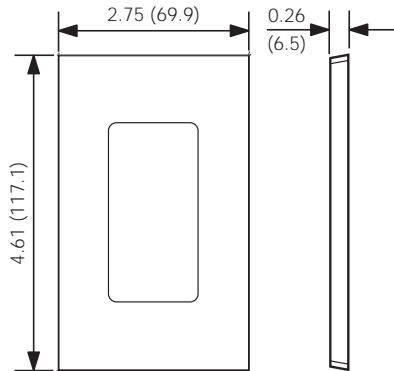


**80301-SW**  
Standard Size



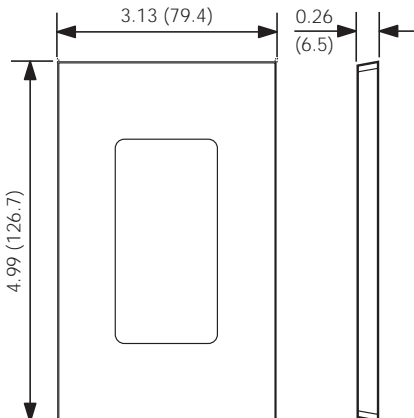
**SJ26-SW**  
Midway Size

**Standard Size**  
Single-Gang Screwless Snap-On Wallplate



**80301-S**

**Midway Size**  
Single-Gang Screwless Snap-On Wallplate



**SJ26-S**

Midway wallplates can be mounted onto larger-volume outlet boxes and/or used to hide wall irregularities. Midway wallplates are a full 0.375" higher and wider than standard size wallplates.

NOTE: Add 1.81" (46.0mm) for each additional gang.

### Decora Plus Screwless Snap-On Wallplates

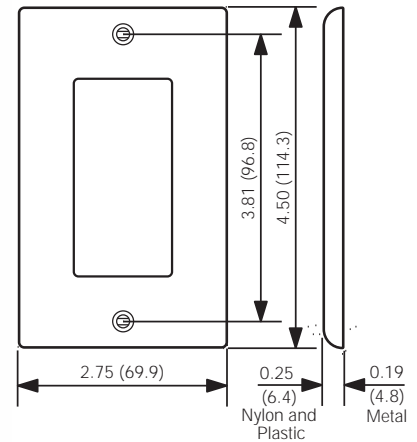
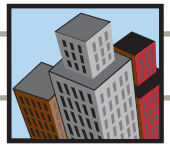
DESCRIPTION	COLOR	STANDARD	MIDWAY
1-Gang 1-Decora	Ivory	80301-SI	SJ26-SI
	Ebony/Black	80301-SE	SJ26-SE
	Gray	80301-SGY	SJ26-SGY
	White	80301-SW	SJ26-SW
	Mahogany/Brown	80301-S	SJ26-S
	Almond	80301-SA	SJ26-SA
	Light Almond	80301-ST	SJ26-ST
2-Gang 2-Decora	Ivory	80309-SI	SJ262-SI
	Ebony/Black	80309-SE	SJ262-SE
	Gray	80309-SGY	SJ262-SGY
	White	80309-SW	SJ262-SW
	Mahogany/Brown	80309-S	SJ262-S
	Almond	80309-SA	SJ262-SA
	Light Almond	80309-ST	SJ262-ST
3-Gang 3-Decora	Ivory	80311-SI	SJ263-SI
	Ebony/Black	80311-SE	SJ263-SE
	White	80311-SW	SJ263-SW
	Almond	80311-SA	SJ263-SA
	Light Almond	80311-ST	SJ263-ST
4-Gang 4-Decora	Ivory	80312-SI	SJ264-SI
	White	80312-SW	SJ264-SW
	Almond	80312-SA	SJ264-SA
	Light Almond	80312-ST	SJ264-ST
5-Gang 5-Decora	Ivory	80321-SI	SJ265-SI
	White	80321-SW	SJ265-SW
	Almond	80321-SA	SJ265-SA
	Light Almond	80321-ST	SJ265-ST
6-Gang 6-Decora	Ivory	80326-SI	SJ266-SI
	White	80326-SW	SJ266-SW
	Almond	80326-SA	SJ266-SA
	Light Almond	80326-ST	SJ266-ST

#### TESTING AND CODE COMPLIANCE

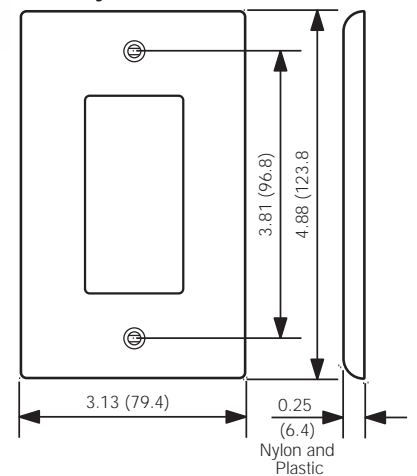
- UL Listed (File #E-13397)
- Meets NEMA Standards WD-1, WD-6
- CSA Certified (File #LR-16347)
- NOM Certified (File #057)
- Backed by a Limited Ten-Year Warranty

#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C

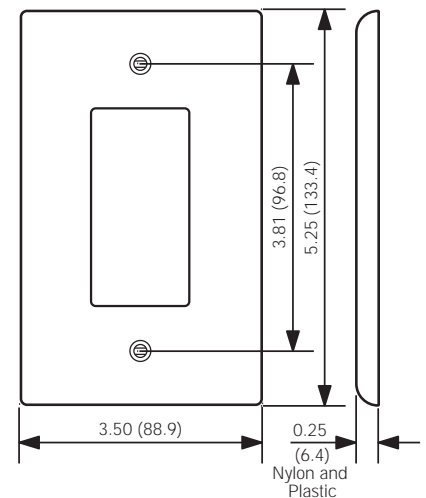


Standard Size Single-Gang



Midway Size Single-Gang

Midway wallplates can be mounted onto larger-volume outlet boxes and/or used to hide wall irregularities. Midway wallplates are a full 0.375" higher and wider than standard size wallplates.



Oversized Single-Gang

Oversized wallplates are used to conceal greater wall irregularities than those hidden by Midway wallplates. Oversized wallplates are a full 0.75" higher and wider than standard size wallplates.

NOTE: Add 1.81" (46.0mm) for each additional gang.

### All Decora Wallplates

- Accent any wall covering with a wide selection of colors and finishes
- Smooth face and rounded edges resist dust accumulation
- Individual plastic wrapping to protect wallplate's surface
- Color-matched metal mounting screws supplied

### Residential Grade Thermoset Wallplates

- Photoelectrically color-matched to Leviton Decora devices
- Designed for high dielectric strength and arc resistance
- Meet or surpass UL 514 testing requirements
- Resistant to fading, discoloration, grease, oils, organic solvents and moisture scratches
- Backed by a Limited Two-Year Warranty

### Commercial Grade Thermoplastic Wallplates

- Molded thermoplastic for maximum resistance to impact, abrasion, fading and discoloration
- Resistant to mechanical stress associated with high abuse applications
- Backed by a Limited Ten-Year Warranty

### Commercial Grade Metal Wallplates

- Rounded edges to prevent injury and wall damage
- Deluxe stainless steel is non-magnetic Type 302, .032" thick
- Standard magnetic stainless steel Type 430, .032" thick, also available
- Brass is 70/30 alloy 260, .040" thick
- Aluminum is 3004 alloy, .040" thick
- Backed by a Limited Ten-Year Warranty

#### TESTING AND CODE COMPLIANCE

- Thermoplastic and Thermoset: UL Listed (File #E-13397)
- Metal: UL Listed (File #E-16347)
- Meets NEMA Standards WD-1, WD-6
- CSA Certified (File #LR-16347)
- NOM Certified (File #057)




#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C



# DECORA® WALLPLATES

## Residential and Commercial Grade Decora Wallplates

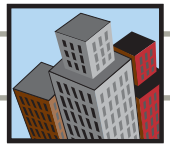
	Thermoset			Thermoplastic		Screwless Snap-On Polycarbonate		Assorted Metals		
DESCRIPTION 1-Gang 1-Decora 										
COLOR	STANDARD P26	MIDWAY SPJ26	OVERSIZE P026	STANDARD N26	MIDWAY PJ26	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80401-I	80601-I	86601	80401-NI	PJ26-I	80301-SI	SJ26-SI	Chrome	*	_____
Black	80401-E	_____	_____	80401-NE	PJ26-E	80301-SE	SJ26-SE	Aluminum	<b>A26</b> 83401	_____
Gray	80401-GY	_____	_____	80401-NGY	PJ26-GY	80301-SGY	SJ26-SGY	Brass	<b>B26</b> 81401	_____
White	80401-W	80601-W	88601	80401-NW	PJ26-W	80301-SW	SJ26-SW	Polished Brass	81401-PB	_____
Brown	80401	80601	_____	80401-N	PJ26	80301-S	SJ26-S	430 S/S	*	*
Almond	80401-A	80601-A	82601	80401-NA	PJ26-A	80301-SA	SJ26-SA	302 S/S	<b>SN26-N</b> 84401-40	<b>SO26</b> SO26
Light Almond	80401-T	80601-T	_____	80401-NT	PJ26-T	80301-ST	SJ26-ST			
Red	_____	_____	_____	80401-NR	PJ26-R	_____	_____			
Blue	_____	_____	_____	80401-NB	PJ26-BU	_____	_____			
DESCRIPTION 2-Gang 2-Decora 										
COLOR	STANDARD P262	MIDWAY SPJ262	OVERSIZE P0262	STANDARD N262	MIDWAY PJ262	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80409-I	80609-I	86602	80409-NI	PJ262-I	80309-SI	SJ262-SI	Chrome	*	_____
Black	80409-E	_____	_____	80409-NE	PJ262-E	80309-SE	SJ262-SE	Aluminum	<b>A262</b> 83409	_____
Gray	80409-GY	_____	_____	80409-NGY	PJ262-GY	80309-SGY	SJ262-SGY	Brass	<b>B262</b> 81409	_____
White	80409-W	80609-W	88602	80409-NW	PJ262-W	80309-SW	SJ262-SW	Polished Brass	81409-PB	_____
Brown	80409	80609	_____	80409-N	_____	80309-S	SJ262-S	430 S/S	*	*
Almond	80409-A	80609-A	82602	80409-NA	PJ262-A	80309-SA	SJ262-SA	302 S/S	<b>S262-N</b> 84409-40	<b>SO262</b> SO262
Light Almond	80409-T	80609-T	_____	80409-NT	PJ262-T	80309-ST	SJ262-ST			
Red	_____	_____	_____	80409-NR	_____	_____	_____			
Blue	_____	_____	_____	80409-NB	_____	_____	_____			
DESCRIPTION 3-Gang 3-Decora 										
COLOR	STANDARD P263	MIDWAY SPJ263	OVERSIZE	STANDARD N263	MIDWAY PJ263	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80411-I	80611-I	_____	80411-NI	PJ263-I	80311-SI	SJ263-SI	Chrome	*	_____
Black	80411-E	_____	_____	80611-E	_____	80311-SE	SJ263-SE	Aluminum	<b>A263</b> 83411	_____
Gray	80411-GY	_____	_____	80411-NGY	PJ263-GY	_____	_____	Brass	<b>B263</b> 81411	_____
White	80411-W	80611-W	_____	80411-NW	PJ263-W	80311-SW	SJ263-SW	Polished Brass	81411-PB	_____
Brown	80411	80611	_____	80411-N	_____	_____	_____	430 S/S	*	*
Almond	80411-A	80611-A	_____	80411-NA	PJ263-A	80311-SA	SJ263-SA	302 S/S	<b>S263-N</b> 84411-40	<b>SO263</b> SO263
Light Almond	80411-T	80611-T	_____	80411-NT	PJ263-T	80311-ST	SJ263-ST			




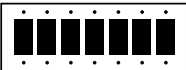

\*Consult your Leviton representative for ordering details: allow 3-4 weeks for delivery.

For Decora Combination Wallplates, see Section E.

**NOTE:** Where applicable, Industry Number indicated in BOLD FACE. For some wallplates, Industry Number and Leviton Catalog Number are identical.

## Residential and Commercial Grade Decora Wallplates



	Thermoset			Thermoplastic		Screwless Snap-On Polycarbonate		Assorted Metals		
<div>DESCRIPTION 4-Gang 4-Decora</div> <div></div>										
COLOR	STANDARD P264	MIDWAY SPJ264	OVERSIZE	STANDARD N264	MIDWAY PJ264	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80412-I	80612-I	_____	80412-NI	PJ264-I	80312-SI	SJ264-SI	Chrome	*	_____
Black	80412-E	_____	_____	_____	_____	80312-SE	SJ264-SE	Brass	<b>B264</b> 81412	_____
Gray	80412-GY	_____	_____	_____	PJ264-GY	_____	_____	430 S/S	*	_____
White	80412-W	80612-W	_____	80412-NW	PJ264-W	80312-SW	SJ264-SW	302 S/S	<b>S264-N</b> 84412-40	_____
Brown	80412	80612	_____	80412-N	_____	80312	_____			
Almond	80412-A	80612-A	_____	80412-NA	PJ264-A	80312-SA	SJ264-SA			
Light Almond	80412-T	80612-T	_____	80412-NT	PJ264-T	80312-ST	SJ264-ST			
<div>DESCRIPTION 5-Gang 5-Decora</div> <div></div>										
COLOR	STANDARD P265	MIDWAY	OVERSIZE	STANDARD N265	MIDWAY	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80423-I	_____	_____	_____	_____	80321-SI	SJ265-SI	Brass	<b>B265</b> 81423	_____
Black	80423-E	_____	_____	_____	_____	_____	_____	430 S/S	*	_____
Gray	80423-GY	_____	_____	_____	_____	_____	_____	302 S/S	<b>S265</b> 84423-40	_____
White	80423-W	_____	_____	_____	_____	80321-SW	SJ265-SW			
Brown	80423	_____	_____	_____	_____	_____	_____			
Almond	80423-A	_____	_____	_____	_____	80321-SA	SJ265-SA			
Light Almond	80423-T	_____	_____	80423-NT	_____	80321-ST	SJ265-ST			
<div>DESCRIPTION 6-Gang 6-Decora</div> <div></div>										
COLOR	STANDARD P266	MIDWAY	OVERSIZE	STANDARD N266	MIDWAY	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80436-I	_____	_____	_____	_____	80326-SI	SJ266-SI	Brass	<b>B266</b> *	_____
Black	80436-E	_____	_____	_____	_____	_____	_____	430 S/S	_____	_____
Gray	80436-GY	_____	_____	_____	_____	_____	_____	302 S/S	<b>S266-N</b> 84436-40	_____
White	80436-W	_____	_____	_____	_____	80326-SW	SJ266-SW			
Brown	80436	_____	_____	_____	_____	_____	_____			
Almond	80436-A	_____	_____	80436-NA	_____	80326-SA	SJ266-SA			
Light Almond	80436-T	_____	_____	_____	_____	80326-ST	SJ266-ST			
<div>DESCRIPTION 7-Gang 7-Decora</div> <div></div>										
COLOR	STANDARD S607	MIDWAY	OVERSIZE	STANDARD	MIDWAY	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	80407-I†	_____	_____	_____	_____	_____	_____	Brass	<b>B607</b> *	_____
White	80407-W†	_____	_____	_____	_____	_____	_____	430 S/S	*	_____
								302 S/S	<b>S607-N</b> *	_____
<div>DESCRIPTION 8-Gang 8-Decora</div> <div></div>										
COLOR	STANDARD S609	MIDWAY	OVERSIZE	STANDARD	MIDWAY	STANDARD	MIDWAY	MATERIAL	STANDARD	OVERSIZE
Ivory	_____	_____	_____	_____	_____	_____	_____	Brass	<b>B609</b> *	_____
White	80408-W†	_____	_____	_____	_____	_____	_____	430 S/S	*	_____
								302 S/S	<b>S609-N</b> *	_____

\*Consult your Leviton representative for ordering details: allow 3-4 weeks for delivery. †Painted metal

NOTE: Where applicable, Industry Number indicated in BOLD FACE. For some wallplates, Industry Number and Leviton Catalog Number are identical.





## DECORA® WALLPLATE ACCESSORIES

### Residential Grade



DECORA REPLACEMENT SCREWS



80400-I



80414-W



6197-W

#### Wallplate Replacement Screws (5/16"–6x32 threads)

DESCRIPTION	CAT. NO.	DESCRIPTION	CAT. NO.
Almond 100 per box	82400	Ivory 100 per box	86400
Stainless Steel 100 per box	84400	Gray 100 per box	87400
Brown 100 per box	85400	White 100 per box	88400

#### Standard Size Plastic Adapters

DESCRIPTION	CAT. NO.	COLOR*
		<i>Basic Cat. No. Denotes Mahogany</i>
Dimmer Shaft (.406" hole)	80400	I, W, A, T, GY, E
Blank (no hole)	80414	I, W, A, T, GY, E
CATV Jack	40681-I	I, W, A, T, GY, E
Wallbox Adapter Extends shallow wallbox to fit GFCI/Decora devices	6197	I, W

#### Decora® Plus Standard Size Plastic Adapters

DESCRIPTION	CAT. NO.	COLOR*
CATV Jack	80381	I, W, A, T, GY, E
Blank (no hole)	80314	I, W, A, T, GY, E

#### TESTING AND CODE COMPLIANCE

- Backed by a Limited Two-Year Warranty

#### \*COLOR

Colors available as listed. For other color selections, add suffix to catalog numbers as follows: Ivory (-I), White (-W), Almond (-A), Light Almond (-T), Gray (-GY), Black (-E).

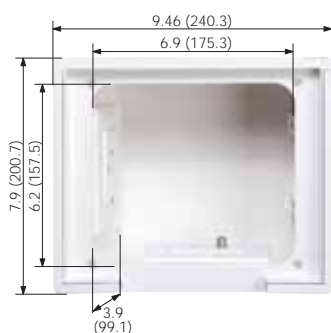
#### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40°C to 120°C

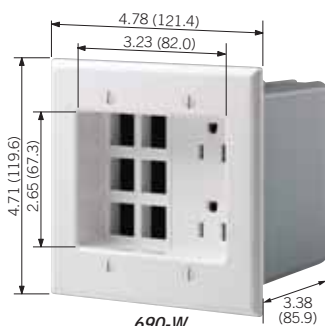


## DECORA®-STYLE RECESSED DEVICES

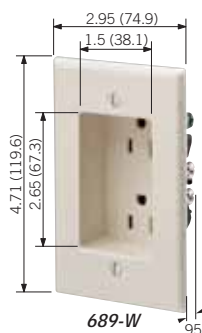
### Residential Grade Recessed Devices



47617-RBH



690-W



689-W





688-W


### Recessed Entertainment Box

DESCRIPTION	CAT. NO.	COLOR*
REB Box with Low-Profile Frame	47617-REB	White
High-Profile Cover	47617-HPC	White
Low-Profile Frame	47617-LPF	White
Replacement Snap-In Plates (2/Bag)	47617-PLT	White
REB Box with High-Profile Cover	47617-RBH	White

### Decora Recessed Receptacles

#### Duplex Recessed Receptacles


15A-125V AC, 2-Pole, 3-Wire, NEMA 5-15R  

DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
Two-Gang Duplex Receptacle with Openings for 6 QuickPort Connectors (4 blank inserts included)†	690	I, W, T, E	5-15R 
One-Gang Duplex Receptacle	689	I, W, T, E	


† QuickPort Connectors not included.

#### Single Recessed Receptacles

Side-Wired 15A-125V AC, 2-Pole, 3-Wire, NEMA 5-15R  

DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
One-Gang Single Receptacle with Clock Hanger Hook	688	I, W	5-15R 
One-Gang Single Receptacle with Clock Hanger Hook	5261-CH	Stainless Steel	

Side-Wired 20A-125V AC, 2-Pole, 3-Wire, NEMA 5-20R  

DESCRIPTION	CAT. NO.	COLOR*	NEMA CONFIG.
One-Gang Single Receptacle with Clock Hanger Hook	5361-CH	Stainless Steel	5-20R 

### SPECIFICATIONS AND FEATURES

#### Recessed Entertainment Box

- Manages home theater, satellite TV, Internet, whole-house audio/video and home-networking electronics from a single location
- Ideal for new construction (stud-mounted) and retrofit (wall-mounted) applications
- Low-profile frame provides neat, clean recessed installation
- Optional high-profile cover includes sliding plastic front panel and channels all wires through the bottom of the REB
- Any combination of line and low-voltage products can be configured in the three device opening
- Paintable white ABS molded plastic for structural integrity

#### Recessed Two-Gang Duplex Receptacle with QuickPort Openings

- Provides 2 15A/125V AC NEMA 5-15R power outlets and openings for 6 installer-selected QuickPort connectors or blank inserts (4 inserts included)
- Fully compatible with Leviton's QuickPort Snap-In modules, including component video and S-video signal connectors (not included)
- Includes plastic electrical box designed for use in new and retrofit construction and a barrier to separate line and low-voltage conductors
- Wallplate built into device

#### Recessed One-Gang Duplex Receptacle

- Installs invisibly behind wall units, signature artwork and wall-mounted flat-panel TVs
- Supplies AC power for two components (flat panel TVs and video receiver)
- Fits most common electrical boxes available (electrical box not included)

#### Recessed One-Gang Single Receptacles

- Includes clock-hanger hook
- Flush mount with square recess

### TESTING AND CODE COMPLIANCE

#### Recessed Receptacles

- cULus Listed
- NOM Certified (#057)

#### All Recessed Devices

- Backed by a Limited Two-Year Warranty

### \*COLOR

For color selection, add suffix to catalog number as follows: Ivory (-I), White (-W), Light Almond (-T) and Black (-E).

### MATERIAL CHARACTERISTICS

Environmental: Flammability UL-94, V2 Rating  
Operating Temperature: -40° to 120°C

**NON-LINEAR LOAD ISOLATION  
TRANSFORMER SPECIFICATION**

**RATING:**

The ventilated dry type transformer(s) specified for use with non-linear, non-sinusoidal loads shall meet or exceed the following standards - ***U.L. Listing: Standard 506 and 1561, NEMA ST-20 - 1992*** and the relevant ***ANSI*** and ***IEEE Standards***. The unit(s) shall be housed in a ***NEMA 2*** drip-proof metal enclosure with natural-draft ventilation. The core and coil assembly shall be mounted rubber isolation pads to reduce noise, in accordance with the relevant ***ANSI*** and ***NEMA Standards*** for sound levels.

<b><i>Type:</i></b>	Isolation - Dry type air-cooled
<b><i>'K' Factor:</i></b>	<b>13</b>
<b><i>kVA:</i></b>	<b>As indicated on drawings</b>
<b><i>Frequency:</i></b>	60 Hertz
<b><i>Phase:</i></b>	Three
<b><i>Primary Voltage:</i></b>	400-volts 10kV BIL (delta-connected)
<b><i>Secondary Voltage:</i></b>	208/120-volts 10kV BIL (wye-connected))
<b><i>Temperature Class:</i></b>	220°C insulation 150°C rise
<b><i>Taps:</i></b>	2 1/2% taps - 2 No. above and 4 No. below rated primary voltage
<b><i>Manufacturer:</i></b>	Square 'D', General Electric, ACME or equal approved.

**DESIGN**

The transformer(s) shall be designed to supply rated current at **100%** linear load, in addition to the percent of non-linear odd order load up to the **25<sup>th</sup> harmonic** as listed in the table below:

<b><u>K-FACTOR LOAD RELATIONSHIP</u></b>			
<b><u>K Factor</u></b>	<b><u>% Linear Load</u></b>	<b><u>Plus</u></b>	<b><u>% Non-Linear Load</u></b>
4	100%	+	50% (1/h)
13	100%	+	150% (1/h)
20	100%	+	125% (1/h)
30	100%	+	150% (1/h)

**(where  $h = 3$  through 25 for odd harmonics)**

**NON-LINEAR LOAD ISOLATION  
TRANSFORMER SPECIFICATION**

**CONSTRUCTION**

The transformer windings and terminals shall be aluminium.

The temperature rise at the rated voltage and rated K-Factor shall not exceed 150 degrees Centigrade, when measured by the resistance method as listed in *ANSI/IEEE C57.12.91* with a 220 degree Centigrade *UL Component Recognition Insulation System*.

The primary and secondary conductor shall be sized, shaped and transposed where necessary, to keep eddy currents losses to an absolute minimum.

The primary winding current also shall be sized to carry the triplen harmonic circulating current effect in the delta winding without overheating.

The secondary neutral shall have twice (2x) the ampacity rating of the secondary phase conductors to cater for triplens and unbalanced single-phase loads.

The enclosure shall be rated *NEMA-1*.

A full electrical width electrostatic shield be placed between the primary and secondary windings of each coil, with the shield grounded to a common point and the transformer connected under normal loaded conditions,.

The attenuation of common mode line noise and transients shall be similar as listed below –

15 to 50 kVA -	45 dB
51 to 150 kVA	50 dB
151 to 300 kVA -	55 dB
301 to 500 kVA -	60 dB
501 to 700 kVA -	62 dB
701 to 1000 kVA -	64 dB
1001 to 1500 kVA -	65 dB
1501 to 2000 kVA-	66 dB

The transformer(s) is to be supplied with an *ANSI #24* external paint finish.

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## Selecting a Concrete Floor Box

To assist with the floor box selection process, please have the following information available:

Electrical requirements:	Application:	Cover style:
Power (each electrical device requires one gang) Data/AV (consult manufacturers' specification for size/volume requirements), number required.  Add up total number to determine needed capacity. If necessary capacity is not shown round up to next size. Example: 9-Gang rounds up to a 10-Gang floor box	On-grade (OG) Above-grade (AG)  Minimum concrete pour depth	Round Rectangular

Once this information is gathered start on the capacity column:

- 1 Capacity: Select necessary box.
- 2 Application: Select the concrete pour depth and on-grade or above-grade application.
- 3 Cover style: Select round or rectangular cover.
- 4 Locate interconnecting point of all three categories and move to right to select correct catalog number.

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Application - Minimum Pour Depth ②													
2 ½ in.		3 in.		3 ¼ in.		3 ¾ in.		5 ½ in.		6 ¼ in.			
AG	OG	AG	OG	AG	OG	AG	OG	AG	OG	AG	OG		
2-Gang	•												CFB2G25
		•											CFB2G25CR
			•										CFB2G30
				•									CFB2G30CR
					•								CFB2G25R
						•							CFB2G25RCR
							•						CFB2G30R
								•					CFB2G30RCR
4-Gang	•												CFB4G25
		•											CFB4G25CR
			•										CFB4G30
				•									CFB4G30CR
					•								CFB4G25R
						•							CFB4G25RCR
							•						CFB4G30R
								•					CFB4G30RCR
				•									CFB4G30CI
							•					CFB4G30RCI	
6-Gang				•									CFB6G30
					•								CFB6G30CR
							•						CFB6G30R
								•					CFB6G30RCR
10-Gang									•				CFB10G55
										•			CFB10G55CR
											•		CFB10G55R
												•	CFB10G55RCR
Rectangular		Rectangular		Round		Round		Rectangular		Round			
Cover Style ③													

Electrical Requirements - Capacity ①

Select Correct Catalog Number ④

## Hubbell SystemOne 2-Gang Floor Boxes



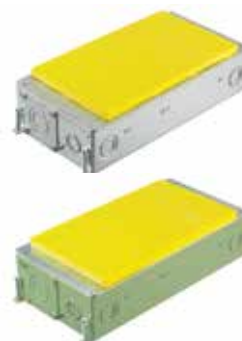
### CFB2G30 Series - Rectangular Cover for 3 in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a rectangular cover
- When a 3 in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

Includes:

- Two removable knock-out plates (1 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed
- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB2G30</b> <b>CFB2G30CR</b>	Standard On-grade	3 in.	2 ½ in.	35 cu. in.	<b>24G/2GFF</b>	½ in. to 2 in.*



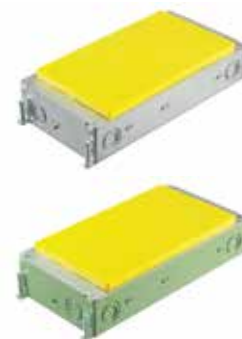
### CFB2G25 Series - Rectangular Cover for 2 ½ in. Minimum Pour

- Designed for applications requiring up to 1 in. conduits and a rectangular cover
- When a 2 ½ in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

Includes:

- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB2G25</b> <b>CFB2G25CR</b>	Standard On-grade	2 ½ in.	2 ½ in.	30 cu. in.	<b>24G/2GFF</b>	½ in. to 1 in.



### CFB2G30R Series - Round Cover for 3 ¾ in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a round cover
- Minimum concrete pour of 3 ¾ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

Includes:

- Two removable knock-out plates (1 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB2G30R</b> <b>CFB2G30RCR</b>	Standard On-grade	3 ¾ in.	2 ½ in.	35 cu. in.	<b>CFBS1R6/</b> <b>CFBS1R6FF</b>	½ in. to 2 in.*



### CFB2G25R Series - Round Cover for 3 ¼ in. Minimum Pour

- Designed for applications requiring up to 1 in. conduits and a round cover
- Minimum concrete pour of 3 ¼ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB2G25R</b> <b>CFB2G25RCR</b>	Standard On-grade	3 ¼ in.	2 ½ in.	30 cu. in.	<b>CFBS1R6/</b> <b>CFBS1R6FF</b>	½ in. to 1 in.



\* 2 in. conduits require the use of **CFBHUB2** (purchased separately). See page 9.



## Hubbell SystemOne 2-Gang Covers

UL 514A Listed 

### Surface Style Rectangular Covers (for use with carpet, tile, VCT and other engineered floors)

- Compatible with **CFB2G25**, **CFB2G25CR**, **CFB2G30** and **CFB2G30CR**
- Cover dimensions 11 11/16 in. x 7 3/16 in. and two large cable egress doors and access 180° opening
- Maximum static load of 800 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert	Furniture Feed (1 in. and 2 in. Plugs)
Aluminum Powder Coated	<b>24GCCVRLU</b>	<b>24GCCVRLUC</b>	<b>2GCFFCVRLU</b>
Black Powder Coated	<b>24GCCVRBK</b>	<b>24GCCVRBKC</b>	<b>2GCFFCVRBK</b>
Brass Powder Coated	<b>24GCCVRBRS</b>	<b>24GCCVRBRSC</b>	<b>2GCFFCVBRS</b>
Bronze Powder Coated	<b>24GCCVRBRZ</b>	<b>24GCCVRBRZC</b>	<b>2GCFFCVBRZ</b>
Satin Nickel Powder Coated	<b>24GCCVRNK</b>	<b>24GCCVRNKC</b>	<b>2GCFFCVRNK</b>



### Flush Style Rectangular Covers (for use with tile, finished concrete and Terrazzo floors)

- Compatible with **CFB2G25**, **CFB2G25CR**, **CFB2G30** and **CFB2G30CR**
- Cover dimensions 10 11/16 in. x 6 3/16 in. and two large cable egress doors and access 180° opening
- Maximum static load of 800 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert	Furniture Feed (1 in. and 2 in. Plugs)
Aluminum Powder Coated	<b>24GTCVRLU</b>	<b>24GTCVRLUC</b>	<b>2GTFFCVRLU</b>
Black Powder Coated	<b>24GTCVRBK</b>	<b>24GTCVRBKC</b>	<b>2GTFFCVRBK</b>
Brass Powder Coated	<b>24GTCVRBRS</b>	<b>24GTCVRBRSC</b>	<b>2GTFFCVBRS</b>
Bronze Powder Coated	<b>24GTCVRBRZ</b>	<b>24GTCVRBRZC</b>	<b>2GTFFCVBRZ</b>
Satin Nickel Powder Coated	<b>24GTCVRNK</b>	<b>24GTCVRNKC</b>	<b>2GTFFCVRNK</b>



### Round Covers (for use with all floor types)

- Compatible with **CFB2G25R**, **CFB2G25RCR**, **CFB2G30R** and **CFB2G30RCR**
- Cover has a 7 1/2 in. outer diameter and two large cable egress doors and access 180° opening
- Maximum static load of 1000 lbs. with 2x safety factor\*

Finish	Flush Surface	Furniture Feed (3/4 in. and 2 in. Plugs)
Brushed Aluminum	<b>CFBS1R6CVRLU</b>	<b>CFBS1R6FFCVRLU</b>
Black Powder Coated	<b>CFBS1R6CVRBLK</b>	<b>CFBS1R6FFCVRBLK</b>
Brass Plated	<b>CFBS1R6CVRBRS</b>	<b>CFBS1R6FFCVBRS</b>
Bronze Plated	<b>CFBS1R6CVRBRZ</b>	<b>CFBS1R6FFCVBRZ</b>
Satin Nickel Plated	<b>CFBS1R6CVRNKL</b>	<b>CFBS1R6FFCVRNKL</b>















\* Load applied through a 3 in. (76mm) mandrel in center of the cover.

## Hubbell SystemOne 2-Gang Plates and Accessories



### Plates for use in 2-, 4- and 6-Gang Floor Boxes

- UL 514A listed

Plate Style	(1) Decorator Opening	(1) Duplex Opening	(2) Extron® MAAP Openings	(2) Extron® Openings
Cat. No.	<b>FBMPREC</b>	<b>FBMPDUP</b>	<b>FBMPMAAP</b>	<b>FBMPAAP</b>
				
Plate Style	(2) 1U Hubbell iStation Openings	(1) 1.5U Hubbell iStation Opening	(1) Simplex Opening 1.40 in. Diameter	(1) Twist-Lock® Opening 1.60 in. Diameter
Cat. No.	<b>FBMP2IM</b>	<b>FBMP15IM</b>	<b>FBMP139</b>	<b>FBMP156</b>
				
Plate Style	1-Gang Blank	Cable Feed Through with Bushing	(1) Opening for TracJack® or Series II®	(1) Opening with Hubbell ISF6 Frame for Keystone Jacks
Cat. No.	<b>FBMPBNK</b>	<b>FBMPFT</b>	<b>FBMPTRAC</b>	<b>FBMP6KS</b>
				

### Pre-Wired Device Plates

- Reduces wiring and installation times
- 8 in. stranded leads mounted to the face plate

Description	Type	15A	20A
Duplex, Gray	Standard Tamper-Resistant	<b>PWFBMPCR15GRY</b> <b>PWFBMPCR15GRYTR</b>	<b>PWFBMPCR20GRY</b> <b>PWFBMPCR20GRYTR</b>
Decorator, Gray	Standard Tamper-Resistant	<b>PWFBMPDR15GRY</b> <b>PWFBMPDR15GRYTR</b>	<b>PWFBMPDR20GRY</b> <b>PWFBMPDR20GRYTR</b>



### Accessories

Description	Catalog Number
2 in. threaded zinc hub for use with <b>CFB2G30</b> , <b>CFB4G30</b> and <b>CFB6G30</b> series floor boxes; replaces <b>CFBKOPATE</b>	<b>CFBHUB2</b>
Replacement knock-out plate	<b>CFBKOPATE</b>
Replacement knock-out plate with epoxy coating	<b>CFBKOPATECR</b>
Replacement wire-way, used to pass wires from one compartment to the other, for use in <b>CFB2G30/CR</b> rectangular boxes	<b>CFB2WW</b>
Stackable ring to increase box height and concrete pour depth by ¼ in. increments above top plane of floor box. One ring per ¼ in. depth increase. Must be installed before concrete pour.	<b>CFB6RCVRR075</b>
Finished floor height adjustment ring - increase post pour adjustment; use with <b>CFBS1R6</b> cover series	0 - ¼ in. <b>CFB6RCVRR1*</b> ¼ in. - ½ in. <b>CFB6RCVRR2</b> ½ in. - ¾ in. <b>CFB6RCVRR3</b>

\*Included with standard **CFB2G30R** and **CFB2G25R** series.



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## Hubbell SystemOne 4-Gang Floor Boxes



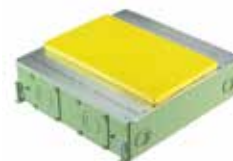
### CFB4G30 Series – Rectangular Covers for 3 in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a rectangular cover
- When a 3 in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

**Includes:**

- Four removable knock-out plates (1 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed
- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB4G30</b>	Standard	3 in.	2 ½ in.	32.5 cu. in.	24G	½ in. to 2 in.*
<b>CFB4G30CR</b>	On-grade					
<b>CFB4G30CI</b>	Cast Iron	3 ¾ in.	2 ½ in.	32.5 cu. in.	24G	¾ in. to 1 ½ in.



### CFB4G25 Series – Rectangular Covers for 2 ½ in. Minimum Pour

- Designed for applications requiring up to 1 in. conduits and a rectangular cover
- When a 2 ½ in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

**Includes:**

- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB4G25</b>	Standard	2 ½ in.	2 ½ in.	26.5 cu. in.	24G	½ in. to 1 in.
<b>CFB4G25CR</b>	On-grade					



### CFB4G30R Series – Round Covers for 3 ¾ in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a round cover
- Minimum concrete pour of 3 ¾ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

**Includes:**

- Four removable knock-out plates (1 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB4G30R</b>	Standard	3 ¾ in.	2 ½ in.	32.5 cu. in.	CFBS1R8	½ in. to 2 in.*
<b>CFB4G30RCR</b>	On-grade					
<b>CFB4G30RCI</b>	Cast Iron	4 in.	2 ½ in.	32.5 cu. in.	CFBS1R8	¾ in. to 1 ½ in.



### CFB4G25R Series – Round Covers for 3 ¼ in. Minimum Pour

- Designed for applications requiring up to 1 in. conduits and a round cover
- Minimum concrete pour of 3 ¼ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB4G25R</b>	Standard	3 ¼ in.	2 ½ in.	26.5 cu. in.	CFBS1R8	½ in. to 1 in.
<b>CFB4G25RCR</b>	On-grade					



\* 2 in. conduits require the use of **CFBHUB2** (purchased separately). See page 13.

## Hubbell SystemOne 4-Gang Covers

UL 514A Listed 

### Surface Style Rectangular Covers (for use with carpet, tile, VCT and other engineered floors)

- Compatible with **CFB4G25, CFB2G25CR, CFB4G30, CFB4G30CR** and **CFB4G30CI**
- Cover dimensions 11 11/16 in. x 7 3/16 in. and two large cable egress doors and access 180° opening
- Maximum static load of 800 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>24GCCVRLU</b>	<b>24GCCVRLUC</b>
Black Powder Coated	<b>24GCCVRBK</b>	<b>24GCCVRBKC</b>
Brass Powder Coated	<b>24GCCVRBRS</b>	<b>24GCCVRBRSC</b>
Bronze Powder Coated	<b>24GCCVRBRZ</b>	<b>24GCCVRBRZC</b>
Satin Nickel Powder Coated	<b>24GCCVRNK</b>	<b>24GCCVRNKC</b>



### Flush Style Rectangular Covers (for use with tile, finished concrete and Terrazzo floors)

- Compatible with **CFB4G25, CFB2G25CR, CFB4G30, CFB4G30CR** and **CFB4G30CI**
- Cover dimensions 10 11/16 in. x 6 3/16 in. and two large cable egress doors and access 180° opening
- Maximum static load of 800 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>24GTCVRLU</b>	<b>24GTCVRLUC</b>
Black Powder Coated	<b>24GTCVRBK</b>	<b>24GTCVRBKC</b>
Brass Powder Coated	<b>24GTCVRBRS</b>	<b>24GTCVRBRSC</b>
Bronze Powder Coated	<b>24GTCVRBRZ</b>	<b>24GTCVRBRZC</b>
Satin Nickel Powder Coated	<b>24GTCVRNK</b>	<b>24GTCVRNKC</b>



### Round Covers (for use with all floor types)

- Compatible with **CFB4G25R, CFB4G25RCR, CFB4G30R, CFB4G30RCR** and **CFB4G30RCI**
- Cover has a 9 1/2 in. outer diameter and two large cable egress doors and access 180° opening
- Maximum static load of 1000 lbs. with 2x safety factor\*

Finish	Flush Surface
Brushed Aluminum	<b>CFBS1R8CVRLU</b>
Black Powder Coated	<b>CFBS1R8CVRBLK</b>
Brass Plated	<b>CFBS1R8CVRBRS</b>
Bronze Plated	<b>CFBS1R8CVRBRZ</b>
Satin Nickel Plated	<b>CFBS1R8CVRNKL</b>















\* Load applied through a 3 in. (76mm) mandrel in center of the cover.

## Hubbell SystemOne 4-Gang Plates and Accessories



### Plates for use in 2-, 4- and 6-Gang Floor Boxes

- UL 514A listed

Plate Style	(1) Decorator Opening	(1) Duplex Opening	(2) Extron® MAAP Openings	(2) Extron® Openings
Cat. No.	<b>FBMPREC</b>	<b>FBMPDUP</b>	<b>FBMPMAAP</b>	<b>FBMPAAP</b>
				
Plate Style	(2) 1U Hubbell iStation Openings	(1) 1.5U Hubbell iStation Opening	(1) Simplex Opening 1.40 in. Diameter	(1) Twist-Lock® Opening 1.60 in. Diameter
Cat. No.	<b>FBMP2IM</b>	<b>FBMP15IM</b>	<b>FBMP139</b>	<b>FBMP156</b>
				
Plate Style	1-Gang Blank	Cable Feed Through with Bushing	(1) Opening for TracJack® or Series II®	(1) Opening with Hubbell ISF6 Frame for Keystone Jacks
Cat. No.	<b>FBMPBNK</b>	<b>FBMPFT</b>	<b>FBMPTRAC</b>	<b>FBMP6KS</b>
				

### Pre-Wired Device Plates

- Reduces wiring and installation times
- 8 in. stranded leads mounted to the face plate

Description	Type	15A	20A
Duplex, Gray	Standard Tamper-Resistant	<b>PWFBMPCR15GRY</b> <b>PWFBMPCR15GRYTR</b>	<b>PWFBMPCR20GRY</b> <b>PWFBMPCR20GRYTR</b>
Decorator, Gray	Standard Tamper-Resistant	<b>PWFBMPDR15GRY</b> <b>PWFBMPDR15GRYTR</b>	<b>PWFBMPDR20GRY</b> <b>PWFBMPDR20GRYTR</b>



### Accessories

Description	Catalog Number
2 in. threaded zinc hub for use with <b>CFB2G30</b> , <b>CFB4G30</b> and <b>CFB6G30</b> series floor boxes; replaces <b>CFBKOPLATE</b>	<b>CFBHUB2</b>
Replacement knock-out plate	Standard Epoxy Coating <b>CFBKOPLATE</b> <b>CFBKOPLATECR</b>
Replacement wire-way, used to pass wires from one compartment to the other, for use in rectangular boxes	CFB4G30/CR <b>CFB46WW</b> CFB4G25/CR <b>CFB4WW</b>
Stackable ring to increase box height and concrete pour depth by ¼ in. increments above top plane of floor box. One ring per ¼ in. depth increase. Must be installed before concrete pour.	<b>CFB8RCVRR075</b>
Finished floor height adjustment ring - increase post pour adjustment; use with <b>CFBS1R8</b> cover series	0 - ¼ in. <b>CFB8RCVRR1*</b> ¼ in. - ½ in. <b>CFB8RCVRR2</b> ½ in. - ¾ in. <b>CFB8RCVRR3</b>
Replacement low voltage divider	<b>CFB46DIV</b>

\*Included with standard **CFB4G30R** and **CFB4G25R** series.



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## Hubbell SystemOne 6-Gang Floor Boxes

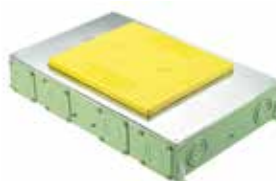


### CFB6G30 Series – Rectangular Covers for 3 in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a rectangular cover
- When a 3 in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

#### Includes:

- Eight removable knock-out plates (1 per center device, 2 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed
- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums



Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB6G30</b>	Standard	3 in.	2 ½ in.	33 cu. in./	<b>610G</b>	½ in. to 2 in.*
<b>CFB6G30CR</b>	On-grade			89 cu. in		

### CFB6G30R Series – Round Covers for 3 ¾ in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (with use of **CFBHUB2**) and a round cover
- Minimum concrete pour of 3 ¾ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

#### Includes:

- Eight removable knock-out plates (1 per center device, 2 per gang) can be replaced with 2 in. zinc conduit hub (**CFBHUB2**) when needed



Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB6G30R</b>	Standard	3 ¾ in.	2 ½ in.	33 cu. in./	<b>CFBS1R8</b>	½ in. to 2 in.*
<b>CFB6G30RCR</b>	On-grade			89 cu. in		

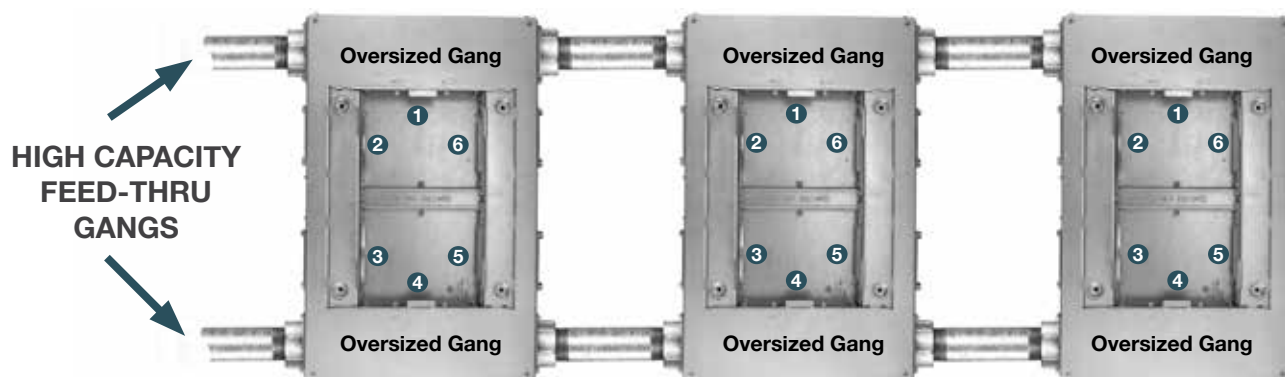
\* 2 in. conduits require the use of **CFBHUB2** (purchased separately). See page 17.

### Oversized Gangs

The 6-Gang floor box provides:

- Two (2) high capacity feed-thru gangs - allow for extra capacity when pulling wires or cables for a run of boxes. Only one gang is needed when feeding a single service.
- Four (4) standard gangs - allow for maximum flexibility in configuring the box.

Note: Each box has a total of 6 1-Gang positions as shown below.





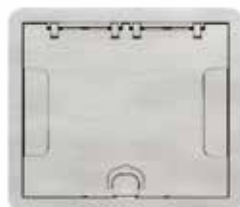
## Hubbell SystemOne 6-Gang Covers

UL 514A Listed 

### Surface Style Rectangular Covers (for use with carpet, tile, VCT and other engineered floors)

- Compatible with **CFB6G30** and **CFB6G30CR**
- Cover dimensions 11 ½ in. x 10 in. and two large cable egress doors and access 180° opening
- Maximum static load of 1500 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>610GCCVRLU</b>	<b>610GCCVRLUC</b>
Black Powder Coated	<b>610GCCVRBK</b>	<b>610GCCVRBKC</b>
Brass Powder Coated	<b>610GCCVRBRS</b>	<b>610GCCVRBRSC</b>
Bronze Powder Coated	<b>610GCCVRBRZ</b>	<b>610GCCVRBRZC</b>
Satin Nickel Powder Coated	<b>610GCCVRNK</b>	<b>610GCCVRNKC</b>



### Flush Style Rectangular Covers (for use with tile, finished concrete and Terrazzo floors)

- Compatible with **CFB6G30** and **CFB6G30CR**
- Cover dimensions 10 ½ in. x 9 in. and two large cable egress doors and access 180° opening
- Maximum static load of 1500 lbs. with 2x safety factor\*

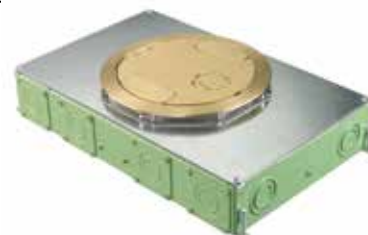
Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>610GTCVRLU</b>	<b>610GTCVRLUC</b>
Black Powder Coated	<b>610GTCVRBK</b>	<b>610GTCVRBKC</b>
Brass Powder Coated	<b>610GTCVRBRS</b>	<b>610GTCVRBRSC</b>
Bronze Powder Coated	<b>610GTCVRBRZ</b>	<b>610GTCVRBRZC</b>
Satin Nickel Powder Coated	<b>610GTCVRNK</b>	<b>610GTCVRNKC</b>



### Round Covers (for use with all floor types)

- Compatible with **CFB6G30R** and **CFB6G30RCR**
- Cover has a 9 ½ in. outer diameter and two large cable egress doors and access 180° opening
- Maximum static load of 1000 lbs. with 2x safety factor\*

Finish	Flush Surface
Brushed Aluminum	<b>CFBS1R8CVRLU</b>
Black Powder Coated	<b>CFBS1R8CVRBLK</b>
Brass Plated	<b>CFBS1R8CVRBRS</b>
Bronze Plated	<b>CFBS1R8CVRBRZ</b>
Satin Nickel Plated	<b>CFBS1R8CVRNKL</b>















\* Load applied through a 3 in. (76mm) mandrel in center of the cover.

## Hubbell SystemOne 6-Gang Plates and Accessories



### Plates for use in 2-, 4- and 6-Gang Floor Boxes

- UL 514A listed

Plate Style	(1) Decorator Opening	(1) Duplex Opening	(2) Extron® MAAP Openings	(2) Extron® Openings
Cat. No.	<b>FBMPREC</b>	<b>FBMPDUP</b>	<b>FBMPMAAP</b>	<b>FBMPAAP</b>
				
Plate Style	(2) 1U Hubbell iStation Openings	(1) 1.5U Hubbell iStation Opening	(1) Simplex Opening 1.40 in. Diameter	(1) Twist-Lock® Opening 1.60 in. Diameter
Cat. No.	<b>FBMP2IM</b>	<b>FBMP15IM</b>	<b>FBMP139</b>	<b>FBMP156</b>
				
Plate Style	1-Gang Blank	Cable Feed Through with Bushing	(1) Opening for TracJack® or Series II®	(1) Opening with Hubbell ISF6 Frame for Keystone Jacks
Cat. No.	<b>FBMPBNK</b>	<b>FBMPFT</b>	<b>FBMPTRAC</b>	<b>FBMP6KS</b>
				

### Pre-Wired Device Plates

- Reduces wiring and installation times
- 8 in. stranded leads mounted to the face plate

Description	Type	15A	20A
Duplex, Gray	Standard Tamper-Resistant	<b>PWFBMPCR15GRY</b> <b>PWFBMPCR15GRYTR</b>	<b>PWFBMPCR20GRY</b> <b>PWFBMPCR20GRYTR</b>
Decorator, Gray	Standard Tamper-Resistant	<b>PWFBMPDR15GRY</b> <b>PWFBMPDR15GRYTR</b>	<b>PWFBMPDR20GRY</b> <b>PWFBMPDR20GRYTR</b>



### Accessories

Description		Catalog Number
2 in. threaded zinc hub for use with <b>CFB2G30</b> , <b>CFB4G30</b> and <b>CFB6G30</b> series floor boxes; replaces <b>CFBKOPATE</b>		<b>CFBHUB2</b>
Replacement knock-out plate	Standard Epoxy Coating	<b>CFBKOPATE</b> <b>CFBKOPATECR</b>
Replacement wire-way, used to pass wires from one compartment to the other, for use in rectangular boxes	CFB4G30/CR	<b>CFB46WW</b>
Stackable ring to increase box height and concrete pour depth by ¼ in. increments above top plane of floor box. One ring per ¼ in. depth increase. Must be installed before concrete pour.		<b>CFB8RCVRR075</b>
Finished floor height adjustment ring - increase post pour adjustment; use with <b>CFBS1R8</b> cover series	0 - ¼ in. ¼ in. - ½ in. ½ in. - ¾ in.	<b>CFB8RCVRR1*</b> <b>CFB8RCVRR2</b> <b>CFB8RCVRR3</b>
Replacement low voltage divider		<b>CFB46DIV</b>

\*Included with standard **CFB6G30R** series.

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## Hubbell SystemOne 10-Gang Floor Boxes



### CFB10G55 Series – Rectangular Covers for 5 ½ in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (integrated 2 in. knockouts) and a rectangular cover
- When a 5 ½ in. concrete pour is required the insert is removed and requires the finished floor type to be carpet or another engineered floor type

Includes:

- A ½ in. plastic cover insert is included and allows for easy use in tile, finished concrete or other mediums

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB10G55</b> <b>CFB10G55CR</b>	Standard On-grade	5 ½ in.	2 ½ in.	33 cu. in./ 89 cu. in	610G	¾ in. to 2 in.




### CFB10G55R Series – Round Covers for 6 ¼ in. Minimum Pour

- Designed for applications requiring up to 2 in. conduits (integrated 2 in. knockouts) and a round cover
- Minimum concrete pour of 6 ¼ in. and includes a collar for post pour adjustment of ¼ in.
- Suitable for all floor finish types

Catalog Number	Box Type	Min.Pour Depth	Plate Depth	Device Volume	Cover Series	Knockouts
<b>CFB10G55R</b> <b>CFB10G55RCR</b>	Standard On-grade	6 ¼ in.	2 ½ in.	33 cu. in./ 89 cu. in	CFBS1R8	¾ in. to 2 in.



### Plate Layout - NEC® Required Volume

CFB10NEMA46	148 cu. in.				
CFB10NEMA	68 cu. in.			80 cu. in.	
Standard layout	25 cu. in.	48 cu. in.		71 cu. in.	
	1	2	3	4	5
					
	10	9	8	7	6
Standard layout	25 cu. in.	48 cu. in.		71 cu. in.	
CFB10NEMA	68 cu. in.			80 cu. in.	
FB10MPNEMA4G	148 cu. in.				



CFB10NEMA



FB10MPNEMA4G

## Hubbell SystemOne 10-Gang Covers

UL 514A Listed 

### Surface Style Rectangular Covers (for use with carpet, tile, VCT and other engineered floors)

- Compatible with **CFB10G55** and **CFB10G55CR**
- Cover dimensions 11 ½ in. x 10 in. and two large cable egress doors and access 180° opening
- Maximum static load of 1500 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>610GCCVRALU</b>	<b>610GCCVRALUC</b>
Black Powder Coated	<b>610GCCVRBK</b>	<b>610GCCVRBKC</b>
Brass Powder Coated	<b>610GCCVRBRS</b>	<b>610GCCVRBRSC</b>
Bronze Powder Coated	<b>610GCCVRBRZ</b>	<b>610GCCVRBRZC</b>
Satin Nickel Powder Coated	<b>610GCCVRNK</b>	<b>610GCCVRNKC</b>



### Flush Style Rectangular Covers (for use with tile, finished concrete and Terrazzo floors)

- Compatible with **CFB10G55** and **CFB10G55CR**
- Cover dimensions 10 ½ in. x 9 in. and two large cable egress doors and access 180° opening
- Maximum static load of 1500 lbs. with 2x safety factor\*

Finish	Flush Surface	With Insert
Aluminum Powder Coated	<b>610GTCVRALU</b>	<b>610GTCVRALUC</b>
Black Powder Coated	<b>610GTCVRBK</b>	<b>610GTCVRBKC</b>
Brass Powder Coated	<b>610GTCVRBRS</b>	<b>610GTCVRBRSC</b>
Bronze Powder Coated	<b>610GTCVRBRZ</b>	<b>610GTCVRBRZC</b>
Satin Nickel Powder Coated	<b>610GTCVRNK</b>	<b>610GTCVRNKC</b>



### Round Covers (for use with all floor types)

- Compatible with **CFB10G55R** and **CFB10G55RCR**
- Cover has a 9 ½ in. outer diameter and two large cable egress doors and access 180° opening
- Maximum static load of 1000 lbs. with 2x safety factor\*

Finish	Flush Surface
Brushed Aluminum	<b>CFBS1R8CVRALU</b>
Black Powder Coated	<b>CFBS1R8CVRBLK</b>
Brass Plated	<b>CFBS1R8CVRBRS</b>
Bronze Plated	<b>CFBS1R8CVRBRZ</b>
Satin Nickel Plated	<b>CFBS1R8CVRNKL</b>



\* Load applied through a 3 in. (76mm) mandrel in center of the cover.



## Hubbell SystemOne 10-Gang Plates and Accessories



### CFB10 Series – Plates

Plate Style	(1) Decorator Opening	(1) Duplex Opening	Blank	Decorator Opening Plate Including Hubbell ISF6GY	(2) Openings to Accommodate (6) Ortronics TrackJack®
Cat. No.	<b>FB10MPREC</b>	<b>FB10MPDUP</b>	<b>FB10MPBNK</b>	<b>FB10MPKEY</b>	<b>FB10MPTRAC</b>



Plate Style	(2) Decorator	(4) Extron® MAAP Modules	(4) Extron® AAP Modules	For (6) 1U Hubbell iStation Modules	Replacement Spacer Around Wire-Way
Cat. No.	<b>FB10MP2A</b>	<b>FB10MPMAAP</b>	<b>FB10MPAAP</b>	<b>FB10MP2B</b>	<b>FB10MPX</b>



Plate Style	(1) Twist-Lock® Opening 1.60 in. Dia. (Uses 2 Gangs)	(1) Simplex Opening 1.40 in. Dia. (Uses 2 Gangs)	(2) Twist-Lock® Opening 1.60 in. Dia. (Uses 3 Gangs)	(2) Simplex Opening 1.40 in. Dia. (Uses 3 Gangs)	(1) Opening for Appliance Receptacle (Uses 3 Gangs)
Cat. No.	<b>FB10TLA</b>	<b>FB10TLX</b>	<b>FB10TLB</b>	<b>FB10TLY</b>	<b>FB10MP3GAPP</b>



Plate Style	(3) Twist-Lock® Opening 1.60 in. Dia. (Uses 5 Gangs)	(3) Simplex Opening 1.40 in. Dia. (Uses 5 Gangs)	(2) 2-Gang. Meets NEMA Spacing Ideal for Crestron® DM –TX Product and Power	(4) Single Service Openings Utilizing NEMA Wallplate (Uses 5 Gangs)
Cat. No.	<b>FB10TLC</b>	<b>FB10TLZ</b>	<b>CFB10NEMA</b>	<b>FB10MPNEMA4G</b>



### Pre-Wired Device Plates

- Reduces wiring and installation times
- 8 inch stranded leads mounted to the face plate

Description	Type	15A	20A
Duplex, Gray	Standard	<b>PWFB10MPCR15GRY</b>	<b>PWFB10MPCR20GRY</b>
	Tamper-Resistant	<b>PWFB10MPCR15GRYTR</b>	<b>PWFB10MPCR20GRYTR</b>
Decorator, Gray	Standard	<b>PWFB10MPDR15GRY</b>	<b>PWFB10MPDR20GRY</b>
	Tamper-Resistant	<b>PWFB10MPDR15GRYTR</b>	<b>PWFB10MPDR20GRYTR</b>



### Accessories

Description	Catalog Number
Replacement wire-way, used to pass wires from one compartment to the other, for use in <b>CFB10G55/CR</b> rectangular boxes	<b>CFB10WW</b>
Replacement low voltage divider	<b>CFB10DIV</b>
Stackable ring to increase box height and concrete pour depth by ¼ in. increments above top plane of floor box. One ring per ¼ in. depth increase. Must be installed before concrete pour.	<b>CFB8RCVRR075</b>
Finished floor height adjustment ring - increase post pour adjustment; use with <b>CFB10G30R</b> cover series	0 - ¼ in. <b>CFB8RCVRR1*</b> ¼ in. - ½ in. <b>CFB8RCVRR2</b> ½ in. - ¾ in. <b>CFB8RCVRR3</b>



\*Included with standard **CFB10G30R** series.

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## Selecting a Raised Access Floor Box

To assist with the floor box selection process please have the following information available:

Electrical requirements:	Box depth	Cover style:
Power (each electrical device requires one gang) Data/AV (consult manufacturers' specification for size/volume requirements), number required.  Add up total number to determine needed capacity. If necessary capacity is not shown round up to next size. Example: 9-Gang rounds up to a 10-Gang floor box.	Determine maximum tile thickness and station height and add together. Box depth can not exceed total.	Round Rectangular

Once this information is gathered start on the right column "capacity" select necessary box, then select the concrete pour depth and on-grade or above-grade application, and finally cover style. Locate inter connecting point of all three categories and move to right to select correct catalog number.

- 1 Capacity: Select necessary box.
- 2 Box Depth: Determine maximum possible depth (tile and station height total) and select a depth less than the calculated height.
- 3 Cover Style: Select Round or Rectangular, not all box sizes are available in round.
- 4 Locate interconnecting point of all three categories and move to right to select correct catalog number.

		Box Depth ②						
		2 ½ in.	3 in.	2 ½ in.	5 in.	5 ½ in.	6 ¼ in.	
Capacity ①	2-Gang			•				AFB2G25
				•				AFB2G25CHI
					•			AFB2G50
					•			AFB2G50CHI
	4-Gang	•						AFB4G25
		•						AFB4G25CHI
					•			AFB4G50
					•			AFB4G50CHI
							•	RAFB4BASE
	10-Gang					•		AFB10G55
						•		AFB10G55CHI
		Rectangular	Rectangular	Furniture Feed	Furniture Feed	Rectangular	Round	
	Cover Style ③							

Select Correct Catalog Number ④

Select Correct Catalog Number ④





## 2-Gang Rectangular Floor Boxes, Covers and Plates



### AFB2G Series – Rectangular Box

- Designed for wood and tile applications
- 5 in. deep box allows for 2 in. conduits - ideal for furniture feed applications
- 2 ½ in. provides a solution for floors using short pedestals

Catalog Number	Box Type	Knockouts	Box Depth	Max Tile Thickness	Plate Depth	Device Volume	Cover Series
<b>AFB2G50</b>	Standard	½ in. to 2 in.	5 in.	2 in.	2 ½ in.	60 cu. in.	<b>2GAFB</b>
<b>AFB2G50CHI</b>	Chicago	None					
<b>AFB2G25</b>	Standard	½ in. and ¾ in.	2 ½ in.	2 in.	2 ½ in.	30 cu. in.	<b>2GAFB</b>
<b>AFB2G25CHI</b>	Chicago	None					



### Rectangular Covers (for use with raised access tiles and wood floors)

- Die cast construction available in five finishes
- UL 514A listed
- Furniture feed includes one 2 in. conduit hub and one 1 in. conduit hub with reducer to ¾ in.
- Maximum static load of 800 lbs with 2x safety factor\*

Finish	Surface Style Cover	Surface Style Cover with Insert	Furniture Feed Cover
Aluminum Powder Coated	<b>2GAFBCVRLU</b>	<b>2GAFBCVRLUC</b>	<b>2GAFBFFCVRLU</b>
Black Powder Coated	<b>2GAFBCVRBK</b>	<b>2GAFBCVRBKC</b>	<b>2GAFBFFCVRBK</b>
Brass Powder Coated	<b>2GAFBCVRBRS</b>	<b>2GAFBCVRBRSC</b>	<b>2GAFBFFCVBRRS</b>
Bronze Powder Coated	<b>2GAFBCVRBRZ</b>	<b>2GAFBCVRBRZC</b>	<b>2GAFBFFCVBRZ</b>
Satin Nickel Powder Coated	<b>2GAFBCVRNK</b>	<b>2GAFBCVRNKC</b>	<b>2GAFBFFCVRNK</b>

\* Load applied through a 3 in. (76mm) mandrel in center of the cover.



### Plates - for use in 2, 4 and 6-Gang Floor Boxes

- UL 514A listed

Plate Style	(1) Decorator Opening	(1) Duplex Opening	(2) Extron® MAAP Openings	(2) Extron® Openings
Cat. No.	<b>FBMPREC</b>	<b>FBMPDUP</b>	<b>FBMPMAAP</b>	<b>FBMPAAP</b>



Plate Style	(2) 1U Hubbell iStation Openings	(1) 1.5U Hubbell iStation Opening	(1) Simplex Opening 1.40 in. Diameter	(1) Twist-Lock® Opening 1.60 in. Diameter
Cat. No.	<b>FBMP2IM</b>	<b>FBMP15IM</b>	<b>FBMP139</b>	<b>FBMP156</b>



Plate Style	1-Gang Blank	Cable Feed Through with Bushing	(1) Opening for TracJack® or Series II®	(1) Opening w/ Hubbell ISF6 Frame for Keystone Jacks
Cat. No.	<b>FBMPBNK</b>	<b>FBMPFT</b>	<b>FBMPTRAC</b>	<b>FBMP6KS</b>



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## 4-Gang Floor Rectangular Boxes, Covers and Plates



### AFB4G Series – Rectangular Box

- Designed for wood and tile applications
- 2 ½ in. provides a solution for floors using short pedestals
- 5 in. deep box allows for 2 in. conduits - ideal for furniture feed applications

Catalog Number	Box Type	Knockouts	Box Depth	Max Tile Thickness	Plate Depth	Device Volume	Cover Series
<b>AFB4G50</b>	Standard	½ in. to 2 in.	5 in.	2 in.	2 ½ in.	57.5 cu. in.	<b>4GAFB</b>
<b>AFB4G50CHI</b>	Chicago	None					
<b>AFB4G25</b>	Standard	½ in. and ¾ in.	2 ½ in.	2 in.	2 ½ in.	26.5 cu. in.	<b>4GAFB</b>
<b>AFB4G25CHI</b>	Chicago	None					



### Rectangular Covers (for use with raised access tiles and wood floors)

- Die cast construction available in five finishes
- UL 514A listed
- Maximum static load of 1500 lbs with 2x safety factor\*

Finish	Surface Style Cover	Surface Style Cover with Insert
Aluminum Powder Coated	<b>4GAFBCVRALU</b>	<b>4GAFBCVRALUC</b>
Black Powder Coated	<b>4GAFBCVRBK</b>	<b>4GAFBCVRBK</b>
Brass Powder Coated	<b>4GAFBCVRBRS</b>	<b>4GAFBCVRBRSC</b>
Bronze Powder Coated	<b>4GAFBCVRBRZ</b>	<b>4GAFBCVRBRZC</b>
Satin Nickel Powder Coated	<b>4GAFBCVRNK</b>	<b>4GAFBCVRNKC</b>

\* Load applied through a 3 in. (76mm) mandrel in center of the cover.



### Plates for use in 2, 4 and 6-Gang Floor Boxes

- UL 514A listed

Plate Style	(1) Decorator Opening	(1) Duplex Opening	(2) Extron® MAAP Openings	(2) Extron® Openings
Cat. No.	<b>FBMPREC</b>	<b>FBMPDUP</b>	<b>FBMPMAAP</b>	<b>FBMPAAP</b>
Plate Style	(2) 1U Hubbell iStation Openings	(1) 1.5U Hubbell iStation Opening	(1) Simplex Opening 1.40 in. Diameter	(1) Twist-Lock® Opening 1.60 in. Diameter
Cat. No.	<b>FBMP2IM</b>	<b>FBMP15IM</b>	<b>FBMP139</b>	<b>FBMP156</b>
Plate Style	1-Gang Blank	Cable Feed Through with Bushing	(1) Opening for TracJack® or Series II®	(1) Opening w/ Hubbell ISF6 Frame for Keystone Jacks
Cat. No.	<b>FBMPBNK</b>	<b>FBMPFT</b>	<b>FBMPTRAC</b>	<b>FBMP6KS</b>

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## 4-Gang Round Floor Boxes, Covers and Plates



### RAFB4 Series – Round Floor Box

Includes:

- Base box shipped with temporary install cover

Catalog Number	Cover Series	Depth	Tile Thickness	Plate Depth	Knockouts	Diameter
<b>RAFB4BASE</b>	<b>CFBS1R8</b>	6 ¼ in.	¾ in. - 2 in.	2 ¾ in.	¾ in. - 2 in.	8 in.

### RAFB4 Series – Round Floor Box with Cover







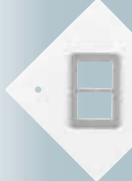


Includes:

- **RAFB4BASE** and 8 in. cover

Cover Finish	Catalog Number
Brushed Aluminum	<b>RAFB4ALU</b>
Black Powder Coated	<b>RAFB4BLK</b>
Brass Plated	<b>RAFB4BRS</b>
Bronze Plated	<b>RAFB4BRZ</b>
Satin Nickel Plated	<b>RAFB4NKL</b>

### RAFB4 Series – Plates

- All **RAFB4SP** series plates are powder coated white

Plate Style	(1) Decorator	(1) Duplex	Blank
Cat. No.	<b>RAFB4SPDECO</b>	<b>RAFB4SPDUPLEX</b>	<b>RAFB4SPBLANK</b>
			
Plate Style	(1) Simplex Opening 1.40 in. Dia.	(1) Twist-Lock® Opening 1.60 in. Diameter	(1) Hubbell iStation Opening for 3 Units
Cat. No.	<b>RAFB4SPTL14</b>	<b>RAFB4SPTL16</b>	<b>RAFB4SP3UIS</b>
			
Plate Style	Opening to Accept Bezels for Ortronics TracJack®	(3) Extron® MAAP Modules	(2) Extron® AAP Modules
Cat. No.	<b>RAFB4SPORT</b>	<b>RAFB4SP3MAAP</b>	<b>RAFB4SP2AAP</b>
			



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## 10-Gang Floor Rectangular Boxes, Covers and Plates



### AFB10G Series – Rectangular Box

- Designed for wood and tile applications
- 5 1/2 in. deep box allows for 2 in. conduits - ideal for furniture feed applications

Catalog Number	Box Type	Knockouts	Box Depth	Max Tile Thickness	Plate Depth	Device Volume	Cover Series
<b>AFB10G55</b>	Standard	1/2 in. to 2 in.	5.5 in.	2.0 in.	2.5 in	57.5 cu. in.	10GAFB
<b>AFB10G55CHI</b>	Chicago	None					



### Rectangular Covers (for use with raised access tiles and wood floors)

- Die cast construction available in five finishes
- UL 514A listed
- Maximum static load of 1500 lbs with 2x safety factor\*

Finish	Surface Style Cover	Surface Style Cover with Insert
Aluminum Powder Coated	<b>10GAFBCVRLU</b>	<b>10GAFBCVRLUC</b>
Black Powder Coated	<b>10GAFBCVRBK</b>	<b>10GAFBCVRBKC</b>
Brass Powder Coated	<b>10GAFBCVRBRS</b>	<b>10GAFBCVRBRSC</b>
Bronze Powder Coated	<b>10GAFBCVRBRZ</b>	<b>10GAFBCVRBRZC</b>
Satin Nickel Powder Coated	<b>10GAFBCVRNK</b>	<b>10GAFBCVRNKC</b>

\* Load applied through a 3 in. (76mm) mandrel in center of the cover.



### CFB10 Series – Plates

Plate Style	(1) Decorator Opening	(1) Duplex Opening	Blank	Decorator Opening Plate Including Hubbell ISF6GY	(2) Openings to Accommodate (6) Ortronics TrackJack®
Cat. No.	<b>FB10MPREC</b>	<b>FB10MPDUP</b>	<b>FB10MPBNK</b>	<b>FB10MPKEY</b>	<b>FB10MPTRAC</b>



Plate Style	(2) Decorator	(4) Extron® MAAP Modules	(4) Extron® AAP Modules	For (6) 1U Hubbell iStation Modules	Replacement Spacer Around Wire-Way
Cat. No.	<b>FB10MP2A</b>	<b>FB10MPMAAP</b>	<b>FB10MPAAP</b>	<b>FB10MP2B</b>	<b>FB10MPX</b>



Plate Style	(1) Twist-Lock® Opening 1.60 in. Dia. (Uses 2 Gangs)	(1) Simplex Opening 1.40 in. Dia. (Uses 2 Gangs)	(2) Twist-Lock® Opening 1.60 in. Dia. (Uses 3 Gangs)	(2) Simplex Opening 1.40 in. Dia. (Uses 3 Gangs)	(1) Opening for Appliance Receptacle (Uses 3 Gangs)
Cat. No.	<b>FB10TLA</b>	<b>FB10TLX</b>	<b>FB10TLB</b>	<b>FB10TLY</b>	<b>FB10MP3GAPP</b>

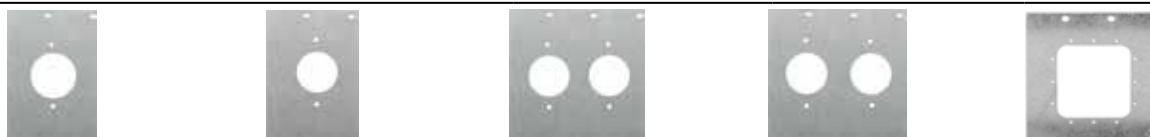


Plate Style	(3) Twist-Lock® Opening 1.60 in. Dia. (Uses 5 Gangs)	(3) Simplex Opening 1.40 in. Dia. (Uses 5 Gangs)	(2) 2-Gang. Meets NEMA Spacing Ideal for Crestron® DM –TX Product and Power	(4) Single Service Openings Utilizing NEMA Wallplate (Uses 5 Gangs)
Cat. No.	<b>FB10TLC</b>	<b>FB10TLZ</b>	<b>CFB10NEMA</b>	<b>FB10MPNEMA4G</b>



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Crestron® is a registered trademark of Crestron Electronics, Inc.

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Catalog Number
Notes
Type

## FEATURES & SPECIFICATIONS

**INTENDED USE** — Provides a minimum of 90 minutes illumination for the rated wattage upon loss of AC power to meet and exceed code required emergency lighting. Ideal for applications requiring attractive LED unit equipment with quick installation and unparalleled performance for mounting heights from 7.5' to 30'.

**Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate.**

[Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.](#)

**CONSTRUCTION** — The housing is a standard white (black optional) thermoplastic with a compact and low-profile contemporary design. It is SVA flame rated, impact-resistant, scratch-resistant and corrosion proof. The UV-stable resin resists discoloration from natural and man-made light sources. There is a low-profile, integrated and back-lit test switch with an easily visible multi-color LED status indicator. The back-plate contains a universal j-box mounting pattern to facilitate ease of installation on a wide variety of j-boxes and the front housing allows tool-less access for ease of maintenance. **US Patents Pending.**

The lamp heads have a unique track-and-swivel arrangement permitting full range of direction of optical aiming.

**OPTICS** — The ELM4L features two high-performance LEDs rated at 3.3 watts per lamp head and delivers a total of 640 lumens in a spot pattern (SP640L).

The ELM6L features three high-performance LEDs rated at 5.3 watts per lamp head and delivers a total of 1,100 lumens in a spot pattern (SP1100L).

The typical life of an LED is 10 years. The LED light sources typically never need to be replaced under normal conditions for normal off applications.

CCT: 5000K

**ELECTRICAL** — Orderable in multiple voltages (see ordering tree for specific voltages.)

Current-limiting charger maximizes battery life and minimizes energy consumption to provide low operating costs. Small battery chargers Certified in the CA Title 20 Appliance Efficiency Database.

Short-circuit protection — current-limiting charger circuitry protects printed circuit board from shorts.

Regulated charge voltage maintains a stable charge voltage over a wide range of line voltages.

Prevents over/undercharging that shortens battery life and reduces capacity. Filtered charger input minimizes charge voltage ripple and extends battery life.

**BATTERY:** Sealed, maintenance-free nickel-cadmium (ELM4L only) or Lithium Iron Phosphate battery. Optional High-Output (HO option) and Extra High Output (EHO option), LTP battery type only, provides a wide variety of remote capacities and/or extended run-times.

### SELF-DIAGNOSTICS and REMOTE TEST (SDRT option):

Automatic 24-hour recharge after a 90-minute discharge.

Advanced electrical design provides constant light output throughout the entire discharge period.

Brownout protection is automatically switched to emergency mode when supply voltage drops below approximately 80 percent nominal of 120, 220, 277 or 347. Other input voltages may vary.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Self-Diagnostics: Continuously monitors AC functionality. Test switch and remote tester (RTKIT accessory) provide manual activation of 30-second diagnostic testing for on-demand visual inspection. Standard derangement monitoring will indicate disconnected battery, charger failure and displays green flashing indicator light while in emergency mode. Single multi-chromatic LED indicator to display two-state charging, test activation and three-state self-diagnostics.

Self-diagnostic testing: Five minutes every 30 days and 90 minutes annually. Diagnostic evaluation of lamps, AC to DC transfer, battery charging and condition of microprocessor. Automatic test is easily postponed for eight hours by activating manual test switch or use of remote tester (RTKIT accessory).

**INSTALLATION** — Wall and ceiling mount standard. Blind-mate connector ensures easy installation and safe maintenance. 7/8" entrance provision at top of unit for standard 1/2" conduit entry. Tool-less removal of front cover from back-plate for ease of installation and maintenance.

**LISTINGS** — UL damp location listed standard and wet location listed when used with the WPVS accessory, all at 50-104°F (10-40°C). Meets or exceeds all applicable requirements for UL 924, NFPA 101 (current Life Safety code), NFPA 70 (NEC), NOM (Norma Oficial Mexicana), California Energy Commission Title 20 section 1605.3 (W)(4), FCC Title 47, Part 15, Subpart B and OSHA. List and labeled to comply with Canadian Standards C22.2 No. 141-10.

**WARRANTY** — 5-year limited warranty. Complete warranty terms located at:

[www.acuitybrands.com/support/customer-support/terms-and-conditions](http://www.acuitybrands.com/support/customer-support/terms-and-conditions)

**NOTE:** Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

† Small Battery Chargers Certified in the CA Title 20 Appliance Efficiency Database.



Contemporary Commercial LED Emergency Light



**ELM4L**  
640 Lumens

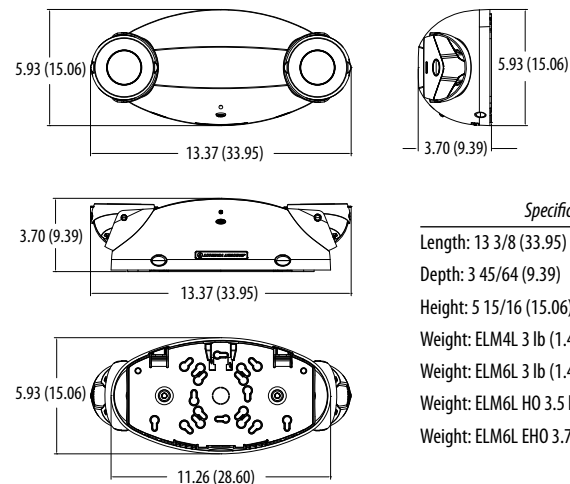
**ELM6L**  
1100 Lumens

**LITHIUM IRON PHOSPHATE  
NICKEL CADMIUM**



## MOUNTING

All dimensions are inches (centimeters) unless otherwise indicated.



### Specifications

Length: 13 3/8 (33.95)

Depth: 3 45/64 (9.39)

Height: 5 15/16 (15.06)

Weight: ELM4L 3 lb (1.4kg)

Weight: ELM6L 3 lb (1.4kg)

Weight: ELM6L HO 3.5 lbs (1.59 kg)

Weight: ELM6L EHO 3.75 lbs (1.7 kg)



# ELM4L-ELM6L Quantum® LED Contemporary Commercial Emergency Light



Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to [www.contractorselect.com](http://www.contractorselect.com)

## NICKEL CADMIUM BATTERY MODELS

### ORDERING INFORMATION

For shortest lead times, configure product using **bolded options**.

**Example:** ELM4L

Series	Lamp Type	Housing Color	Voltage	Battery Type	Automatic Testing	Options
<b>ELM4L</b> <sup>1</sup> 640 lumens, adjustable optics	<b>(blank)</b> SP640L 640 lumen, 6.6 watt, Spot Pattern, two lamp	<b>(blank)</b> White B Black	<b>(blank)</b> 120-277 VAC, 50/60Hz <b>UVOLT</b> 120 - 347 VAC, 50/60Hz	<b>(blank)</b> Nicad	<b>(blank)</b> None SDRT Self Diagnostics, Remote Test <sup>2</sup>	<b>(blank)</b> none WPVS Wet protective vandal shield <sup>3</sup> USPOM Assembled in the US

#### Notes

- Does not support remote loads.
- SDRT only available with UVOLT
- Must be ordered when using for wet location applications.. WPVS breaks out and ships separately and color will match (ex: WPVS LRG B). Decreases delivered lumens up to 20%. See spec sheet [WPVS](#) for more information.

## LITHIUM IRON PHOSPHATE BATTERY MODELS

### ORDERING INFORMATION

For shortest lead times, configure product using **bolded options**.

**Example:** ELM6L UVOLT LTP SDRT

Series <sup>1</sup>	Lamp Type	Housing Color	Voltage	Battery Type	Automatic Testing	Options
<b>ELM4L</b> 640 lumens, adjustable optics	<b>(blank)</b> SP640L 640 lumen, 6.6 watt, Spot Pattern, two lamp	<b>(blank)</b> White B Black	<b>UVOLT</b> 120 - 347 VAC, 50/60Hz	<b>LTP</b> Lithium Iron Phosphate	<b>(blank)</b> none <sup>2</sup> SDRT Self-diagnostics, remote test <sup>3</sup>	LLH Less lamp heads <sup>4</sup>
<b>ELM6L</b> 1100 lumens, adjustable optics	<b>(blank)</b> SP1100L 1100 lumen, 10.6 watt, Spot Pattern, two lamp					HO High-output battery EHO Extra High-output battery WPVS Wet protective vandal shield <sup>5</sup> USPOM Assembled in the US PM Pendant mount <sup>6</sup>

#### Notes

- Extended run-time or remote capacity is standard. New ELMRE style remotes are compatible with both SDRT and non-SDRT versions (see page 3).
- Only available with ELM4L.
- SDRT not compatible to run previous generation ELA style remotes (see page 3).
- ELM4L with LLH (less lamp heads) not available with SDRT. Order ELM6L with LLH if SDRT is required.
- Must be ordered when using for wet location applications. WPVS breaks out and ships separately and color will match (ex: WPVS LRG B). Decreases delivered lumens up to 20%. See spec sheet [WPVS](#) for more information.
- Pendant mount option will include a 12" long 3/8-16 UNC threaded rod and hardware. Not available with any other lengths. Only available with ELM6L series, not available with ELM4L series.

#### Other Accessories: Order as separate catalog number.

WPVS LRG W	Wet protective vandal shield, white (must be used for wet location applications)
WPVS LRG B	Wet protective vandal shield, black (must be used for wet location applications)
ELA WG1	Wireguard, 13 3/4"H x 15 1/4"W x 6"D (see spec sheet <a href="#">ELA-WG</a> ).
RTKIT	Remote test kit, up to 40' away (includes goggles, laser and battery)



ELM4L-ELM6L mounted inside the WPVS



# ELM4L-ELM6L Quantum® LED Contemporary Commercial Emergency Light

## SPACING GUIDELINES

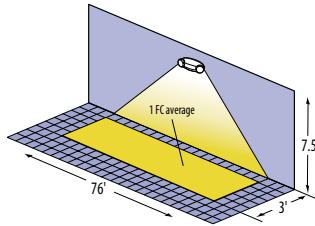
\*Note: To see complete photometric report or download the .ies file for this product, visit Lithonia Lighting ELM4L and ELM6L home page.

Maximum Spacing Guidelines — ELM4L <sup>1</sup>						
Mounting Height	Illumination Level	Single Luminaire		Multiple Luminaire		Application Notes
		3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
7.5'	1FC Avg <sup>1</sup>	62'	58'	67'	60'	100' Corridor, 8' wide, and 12' high with 80/50/20 reflectances
10'	1FC Avg <sup>1</sup>	62'	58'	67'	60'	
7.5'	1FC Avg <sup>1</sup>	52'	40'	66'	58'	Retail open area: 200' X 15' X 30' with 80/50/20 reflectances
10'	1FC Avg <sup>1</sup>	52'	48'	64'	60'	
12'	1FC Avg <sup>1</sup>	52'	48'	62'	59'	
16'	1FC Avg <sup>1</sup>	52'	44'	61'	58'	
20'	1FC Avg <sup>1</sup>	44'	42'	60'	58'	
24'	1FC Avg <sup>1</sup>	34'	34'	42'	58'	

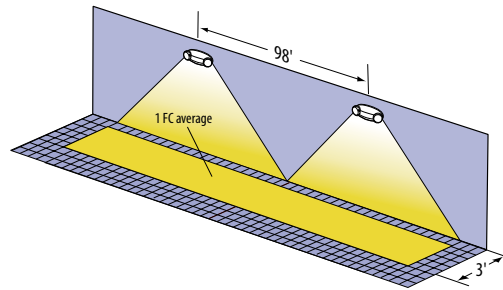
Maximum Spacing Guidelines — ELM6L <sup>1</sup>						
Mounting Height	Illumination Level	Single Luminaire		Multiple Luminaire		Application Notes
		3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
7.5'	1FC Avg <sup>1</sup>	76'	74'	98'	90'	100' Corridor, 8' wide, and 12' high with 80/50/20 reflectances
10'	1FC Avg <sup>1</sup>	76'	74'	98'	88'	
7.5'	1FC Avg <sup>1</sup>	60'	48'	77'	68'	Retail open area: 200' X 15' X 30' with 80/50/20 reflectances
10'	1FC Avg <sup>1</sup>	78'	56'	85'	82'	
12'	1FC Avg <sup>1</sup>	68'	66'	77'	74'	
16'	1FC Avg <sup>1</sup>	72'	68'	72'	74'	
20'	1FC Avg <sup>1</sup>	66'	64'	70'	68'	
24'	1FC Avg <sup>1</sup>	66'	56'	65'	62'	

Notes:

1. Also meets the additional illumination requirements of NFPA 101: 1FC minimum and max/min ratio of 40:1.



Example of single ELM4L illuminating a 3' path of egress



Example of multiple ELM6L units illuminating a 3' path of egress

## REMOTES

BATTERY CAPACITY AND LOADING - INDOOR/ DAMP LOCATION REMOTES						Outdoor/ Wet Location Remotes
Battery Option (LTP Only)	Battery Voltage	Total Capacity 90 Minutes	LP220L (1.2 Watts each) Maximum # Remote Lamps <sup>1</sup>	SP640L (3.3 Watts each) Maximum # Remote Lamps <sup>1</sup>	SP1100L (5.3 Watts each) Maximum # Remote Lamps <sup>1</sup>	ELA QWP (1.5 Watts each) Maximum # Remote Lamps <sup>1,2</sup>
ELM4L LTP	9.6V	11 watts	3	1	0	2
ELM4L LTP HO	9.6V	22 watts	12	4	2	10
ELM4L LTP EHO	12.6V	32 watts	21	7	6	N/A
ELM6L LTP	9.6V	11 watts	0	0	0	N/A
ELM6L LTP HO	9.6V	22 watts	9	3	2	N/A
ELM6L LTP EHO	12.6V	32 watts	17	6	4	N/A
ELM6L LLH LTP	9.6V	11 watts	9	3	2	N/A
ELM6L LLH LTP HO	9.6V	22 watts	18	6	4	N/A
ELM6L LLH LTP EHO	12.6V	32 watts	26	9	6	N/A

Notes:

1 These are in addition to the lamp heads on the product.

2 Not compatible with SDRT. For ELA QWP ordering information, please see spec sheet [ELA-Q-LED](#).

For wet location applications, must order ELMRE remote with WPVS accessory when ordering ELM6L UVOLT LTP SDRT.

### ELMRE Compatible Remotes<sup>1,2</sup>

LTP Compatible Remote Accessories: Order as separate catalog number.	
ELMRE LP220L SGL	Single LED Indoor remote head, white.
ELMRE LP220L T	Twin LED Indoor remote heads, white.
ELMRE SP640L SGL	Single LED Indoor remote head, white.
ELMRE SP640L T	Twin LED Indoor remote heads, white.
ELMRE SP1100L SGL	Single LED Indoor remote head, white.
ELMRE SP1100L T	Twin LED Indoor remote heads, white.

Notes:

1 Compatible with SDRT and non-SDRT versions.

2 Order the WPVS accessory for wet location listing and vandal protection.



ELA QWP



ELA T QWP



ELMRE LP220L SGL



ELMRE LP220L SGL



ELMRE SP640L SGL



ELMRE SP640L T



ELMRE SP100L SGL



ELMRE SP1100L T



ELMRE LP220L T with WPVS SML W (order WPVS separately)

# ELM4L-ELM6L Quantum® LED Contemporary Commercial Emergency Light

## SPECIFICATIONS

ELECTRICAL			
Primary Circuit			
Type	Volts	Input amps	Watts
Nicad	120	0.032	3.15
	347	0.036	3.15
Lithium Iron Phosphate (SDRT)	120	0.028	2.78
	347	0.033	2.78
Lithium Iron Phosphate (HO option)	120	0.046	4.77
	347	0.046	4.77
Lithium Iron Phosphate (EHO option)	120	0.052	5.95
	347	0.045	5.95

BATTERY CAPACITY FOR EXTENDED RUN-TIMES				
Battery Option	Total Capacity 2 hours	Remote Capacity 2 hours*	Total Capacity 4 hours	Remote Capacity 4 hours*
ELM4L - LTP	8.25 watts	NA	NA	NA
ELM4L - HO	16.5 watts	9.9 watts	8.25 watts	NA
ELM4L EHO	24 watts	17.4 watts	12 watts	5.4 watts
ELM6L - LTP	8.25 watts**	8.25 watts**	NA	NA
ELM6L HO	16.5 watts	5.9 watts	8.25 watts**	8.25 watts**
ELM6L EHO	24 watts	13.4 watts	12 watts	12 watts**

\* Remote capacity left after using standard lamps shipped mounted on luminaire. ELM4L standard high performance LED lamp heads are rated at 3.3 watts each, delivering a total of 640 lumens. ELM6L standard high performance LED lamp heads are rated at 5.3 watts each, delivering a total of 1,100 lumens. These lamps are different in both wattage and performance from the LT24 compatible remotes.

\*\* LLH option only

BATTERY			
Nicad (6V)			
Typical Shelf life <sup>1</sup>	Typical life <sup>1</sup>	Maintenance <sup>2</sup>	Temperature range <sup>3,4</sup>
3 years	7-9 years	none	50-104°F (10-40°C)
Lithium Iron Phosphate (standard and HO option) (9.6V)			
Typical Shelf life <sup>1</sup>	Typical life <sup>1</sup>	Maintenance <sup>2</sup>	Temperature range <sup>3,4</sup>
1 year	7-9 years	none	50-104°F (10-40°C)
Lithium Iron Phosphate (EHO option) (12.8V)			
Typical Shelf life <sup>1</sup>	Typical life <sup>1</sup>	Maintenance <sup>2</sup>	Temperature range <sup>3,4</sup>
1 year	7-9 years	none	50-104°F (10-40°C)

### Notes

- 1 At 77°F ambient temperature, charge/discharge cycles and prolonged full discharge may reduce useful life.
- 2 All life safety equipment, including emergency lighting for path of egress must be tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required testing could jeopardize the safety of occupants and will void all warranties.
- 3 Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.
- 4 Battery life is negatively impacted by many variables including temperature, charging rates, number of cycles and deep discharges due to long periods of time without AC power.

## GENERAL PURPOSE DRY TYPE TRANSFORMER SPECIFICATION

The dry type general purpose transformer(s) specified shall meet or exceed the following standards - ***U.L. Listing: Standard 506 and 1561, NEMA ST-20 - 1992*** and the relevant ***ANSI*** and ***IEEE Standards***.

The unit(s) shall be housed in a ***NEMA 2*** drip-proof metal enclosure with natural-draft ventilation. The core and coil assembly shall be mounted rubber isolation pads to reduce noise, in accordance with the relevant ***ANSI*** and ***NEMA Standards*** for sound levels.

<b><i>Type:</i></b>	Dry type air-cooled
<b><i>kVA:</i></b>	As indicated on the drawings
<b><i>Frequency:</i></b>	60 Hertz
<b><i>Phase:</i></b>	Three
<b><i>Primary Voltage:</i></b>	400-volts
<b><i>Secondary Voltage:</i></b>	208/120-volts
<b><i>Temperature Class:</i></b>	220°C insulation 150°C rise
<b><i>Taps:</i></b>	2 1/2% taps - 2 No. above and 2 No. below rated primary voltage
<b><i>Manufacturer:</i></b>	Square 'D', General Electric, Westinghouse or equal approved.

The transformer(s) is to be supplied with an ***ANSI #24*** external paint finish.

# MEP Materials-12.0 HVAC Plant Fitting & Fixtures

## XID

### Centrifugal metal inline fans



#### The Range

The XID inline range is manufactured in zinc coated corrosion resistant sheet metal with 30mm long spigot connections for ease of connection to ductwork.

The practical, reliable fans are ideal for ducted applications in shops, schools, factories, offices, pubs, hotels, restaurants and kitchens. They are available in 100-315mm duct size diameters to suit any application. The fan unit is speed controllable to offer flexibility and individual control.

#### Key Features

- Compact and robust zintec steel construction
- ErP compliant
- Can be mounted at any angle
- Universal mounting bracket supplied
- Insulation Class F
- Fitted with safety thermal overload protection - protected to IPX2
- Supply voltage: 220-240V 50Hz

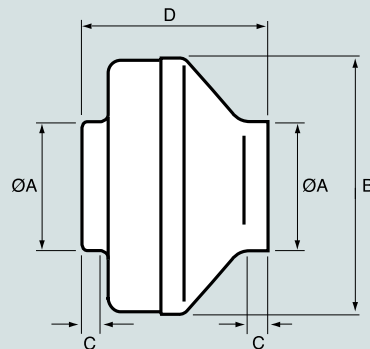
#### Models

<b>XID100</b> Metal inline fan (Ø100mm duct)	<b>Ref. 90101AA</b>
<b>XID125</b> Metal inline fan (Ø125mm duct)	<b>Ref. 90102AA</b>
<b>XID150</b> Metal inline fan (Ø150mm duct)	<b>Ref. 90103AA</b>
<b>XID200</b> Metal inline fan (Ø200mm duct)	<b>Ref. 90104AA</b>
<b>XID250</b> Metal inline fan (Ø250mm duct)	<b>Ref. 90208AA</b>
<b>XID315</b> Metal inline fan (Ø315mm duct)	<b>Ref. 90106AA</b>

#### Ancillaries

See pages 72-87

Dimensions (mm)



Dimensions (mm)

Model	ØA	B	C	D
<b>XID100</b>	97	320	30	240
<b>XID125</b>	123	320	30	240
<b>XID150</b>	147	360	30	250
<b>XID200</b>	197	404	35	250
<b>XID250</b>	247	404	35	260
<b>XID315</b>	312	444	40	260

Product Selector		XID100	XID125	XID150	XID200	XID250	XID315
Reference number		90101AA	90102AA	90103AA	90104AA	90208AA	90106AA
Spigot diameter (mm)		97	123	147	197	247	312
Extract performance (m³/s)	0Pa	0.08	0.11	0.17	0.29	0.34	0.46
	100Pa	0.06	0.09	0.12	0.23	0.29	0.41
	200Pa	0.04	0.06	0.07	0.17	0.24	0.35
	300Pa	0.01	0.03	0.02	0.12	0.17	0.28
	400Pa				0.08	0.11	0.22
	500Pa				0.02	0.04	0.16
	600Pa						0.09
700Pa							0.03
Sound pressure level (dB(A)@3m)		25	26	26	29	32	36
Max. electrical power rating (W)		85	85	99	157	194	244
Weight (kg)		2.5	2.5	3.7	5	5.6	6.5
UK Guarantee (years)		2	2	2	2	2	2

## GX6 & GXC6

### 150mm (6") AC axial extract fans



#### The Range

Xpelair GX models are purpose designed for use in kitchens and utility rooms and can be window or panel mounted as supplied, or wall mounted using an optional wall kit.

GXC models have an integral pullcord actuator. Timer and humidistat versions are also available, along with multi-speed models. A trickle ventilation facility is available for background ventilation when not in use.

#### Key Features

- Single and two speed axial extract fans
- Two speed model operation requires COS switch accessory
- GX models silent electro-thermal actuated shutter remotely switched
- GXC pullcord operated with mechanical louvred backdraught shutter
- Remote switched, pullcord, timer and humidistat control model options
- Lubricated for life motors with thermal cut-out protection
- Clip-off front cover for ease of cleaning
- BEAB approved

#### Dimensions (mm)

A	B	C	D	E	F	ØG	H	J	K
226	210	119	107	109	101	184/203	32	4-35	113

#### Ancillaries

See pages 72-87

#### Models

**GX6** **Ref. 90800AW**  
Single speed extract fan | Operated by remote switch or sensor (not supplied)

**GX6T** **Ref. 90812AW**  
Single speed extract fan | Integral run-on timer (adjustable from 2-20 mins) operated by lighting circuit

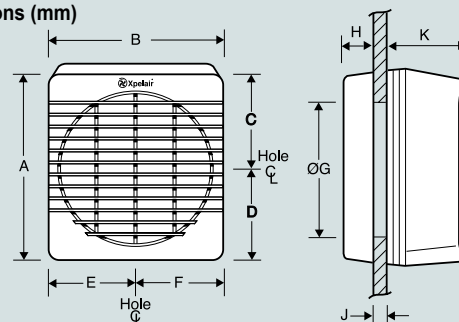
**GX6HT** **Ref. 90814AW**  
Single speed extract fan | Integral automatic humidistat operation adjustable between 50-90% RH | Integral run-on timer operated by the lighting circuit | Timer adjustable from 2-20 mins

**GX6HT2** **Ref. 90863AW**  
Two speeds and humidistat or manual control selectable using an Xpelair TBS control (not supplied) | Silent electrothermal shutter | Automatic humidistat operation adjustable between 50-90% RH | Integral run-on timer operated by room lighting circuit | Timer adjustable from 2-20 mins

**GXC6** **Ref. 90850AW**  
Single speed extract fan | Integral pullcord switches fan on and opens shutter

**GXC6T** **Ref. 90861AW**  
Single speed extract fan | Integral pullcord switches fan on and opens the shutter | Pullcord off action actuates timer overrun

#### Dimensions (mm)



Product Selector		GX6	GX6T	GX6HT	GX6HT2	GXC6	GXC6T
Reference number		90800AW	90812AW	90814AW	90863AW	90850AW	90861AW
Speeds		1	1	1	2	1	1
Electrical power rating (W)		30	30	30	30	30	30
Hole diameter (mm)		184	184	184	184	184	184
Hole diameter with wall liner (mm)		203	203	203	203	203	203
Weight (kg)		1.9	1.9	1.9	1.9	1.9	1.9
UK Guarantee (years)		2	2	2	2	2	2
Extract performance (FID, m³/h)	high	266	266	266	266	266	266
	low				222		
Extract performance (FID, l/s)	high	74	74	74	74	74	74
	low				62		
Sound pressure level (dB(A)@3m)	high	37	37	37	37	37	37
	low				34		



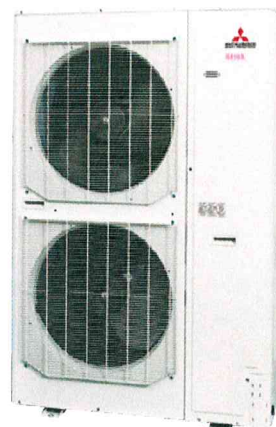


# Micro model Heat pump systems

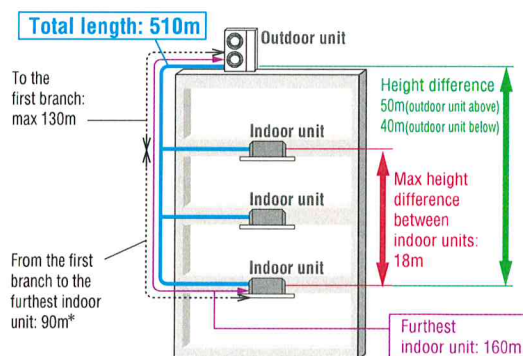
## 8, 10, 12HP (22.4kW~33.5kW)

Model No.	Nominal Cooling Capacity
FDC224KXZME1	22.4kW
FDC280KXZME1	28.0kW
FDC335KXZME1	33.5kW

**NEW**

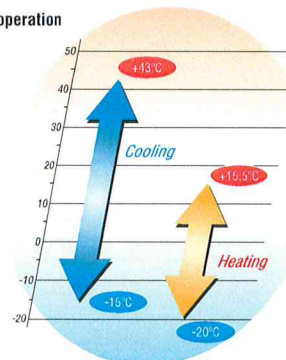


- Connect up to 24 indoor units/up to 150% capacity.
- High efficiency with COP (in cooling) up to 4.0.
- These units employ DC inverter compressors ONLY.
- Industry leading total piping length up to 510m and a maximum pipe run of 160m.



\* The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m.

Range of operation



## Specifications

Item	Model		FDC224KXZME1	FDC280KXZME1	FDC335KXZME1
Nominal horse power			8HP	10HP	12HP
Power source			3 Phase 380-415V, 50Hz		
Starting current	A		5		
Max current	A		20		23
Nominal capacity	Cooling	kW	22.4	28.0	33.5
	Heating		22.4	28.0	33.5
Electrical characteristics	Power consumption	kW	5.59	7.90	10.26
	Cooling Heating		4.97	6.53	8.44
Exterior dimensions	HxWxD		mm 1675x1080x480		
Net weight			kg 221		224
Sound pressure level	Cooling/Heating	dB(A)	58/59	60/60	60/60
Refrigerant	Type / GWP	kg/TCO <sub>2</sub> Eq	R410A / 2088		
	Charge		11.5 / 24.012		
Refrigerant piping size	Liquid line	mm(in)	ø9.52(3/8")		ø12.7(1/2")
	Gas line		ø19.05(3/4")	ø22.22(7/8")	ø25.4(1") [ø22.22(7/8")]
Capacity connection	%		50~150		
Number of connectable indoor units			22	24	24

1. The data are measured under the following conditions (ISO-T1, H1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.

2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

3. 'tonne(s) of CO<sub>2</sub> equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.

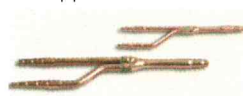
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.



## Refrigerant piping

Outdoor unit (HP)		8	10	12
Gas pipe	Furthest indoor unit ≤90m	ø19.05	ø22.22	ø25.4(ø22.22)
Liquid pipe		ø9.52	ø12.7	
Gas pipe	90m	ø22.22	ø25.4(ø22.22)	
Liquid pipe	≤Furthest indoor unit		ø12.7	

Branch pipes



DIS-22-1G  
DIS-180-1G



DIS-371-1G

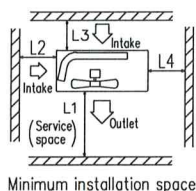
Header pipe



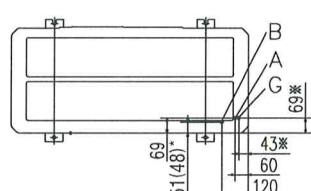
HEAD4-22-1G  
HEAD6-180-1G  
HEAD8-371-2

## Dimensions

All measurements in mm.



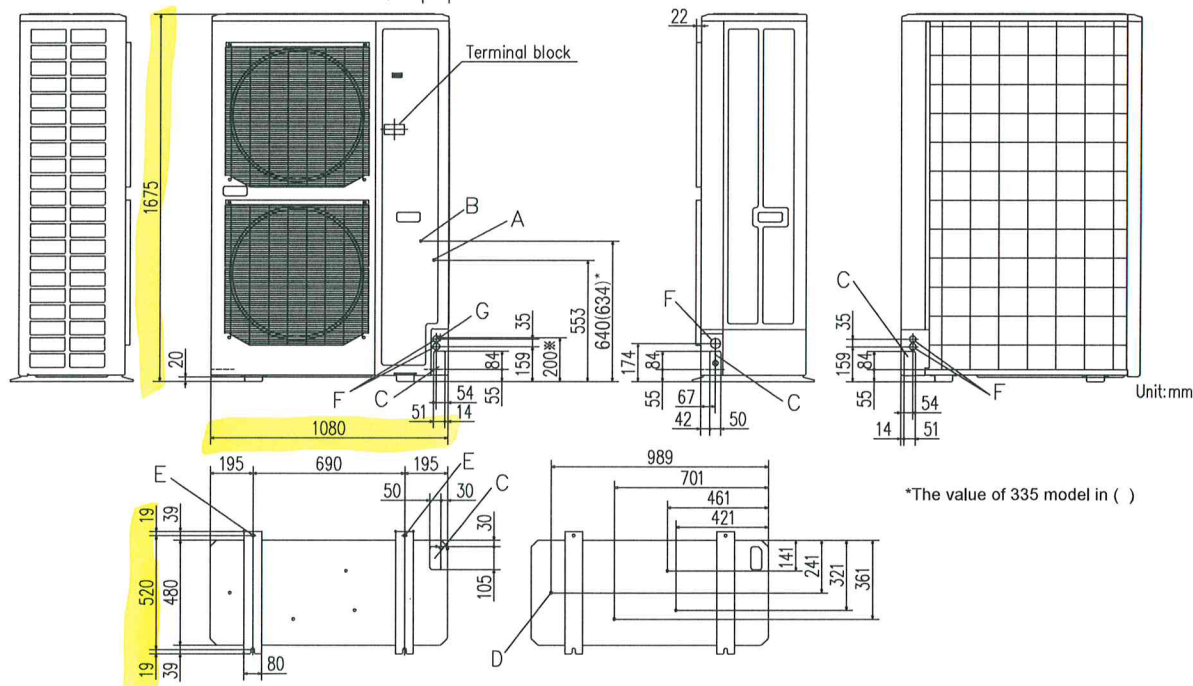
Minimum installation space



	I	II	III
L1	Open	Open	1500(500)* <sup>1</sup>
L2	300	5	Open
L3	300	300	300
L4	250(5)* <sup>2</sup>	250(5)* <sup>2</sup>	250(5)* <sup>2</sup>

Notes:

- \*1 Figure in ( ) shows the value applicable when the flex flow adaptor is installed.  
\*2 Under the setting condition as specified in ( ), it is necessary to secure 250 mm for the dimension L4 when replacing the compressor. Establish this for example by moving the unit during the work.



\*The value of 335 model in ( )

Mark	Content	224	280	335
A	Service valve connection of the attached connecting pipe (gas side)	ø19.05 (3/4") (Flare)	ø19.05 (3/4") (Flare)	ø19.05 (3/4") (Flare)
B	Service valve connection (liquid side)	ø9.52 (3/8") (Flare)	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
C	Pipe/cable draw-out hole	4places	4places	4places
D	Drain discharge hole	ø20 x 4places	ø20 x 4places	ø20 x 4places
E	Anchor bolt hole	M10 x 4places	M10 x 4places	M10 x 4places
F	Cable draw-out hole	ø30 x 2places (front) ø45 (side) ø30 x 2places (back)	ø30 x 2places (front) ø45 (side) ø30 x 2places (back)	ø30 x 2places (front) ø45 (side) ø30 x 2places (back)
G	Connecting position of the local pipe. (gas side)	ø19.05 (3/4") (Brazing)	ø22.22 (7/8") (Brazing)	ø25.4 (1") (Brazing)

Notes:

- It must not be surrounded by walls on the four sides.
- The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- Where the unit is subject to strong winds, the blower outlet should face perpendicularly to the dominant wind direction.
- Leave a 1m or more space above the unit.
- A wall in front of the blower outlet must not exceed the unit's height.
- The model name label is attached on the lower right corner of the front.
- Connect the Service valve with local pipe by using the pipe of the attachment. (Gas side only)
- Mark ※ shows the connecting position of the local pipe. (Gas side only)



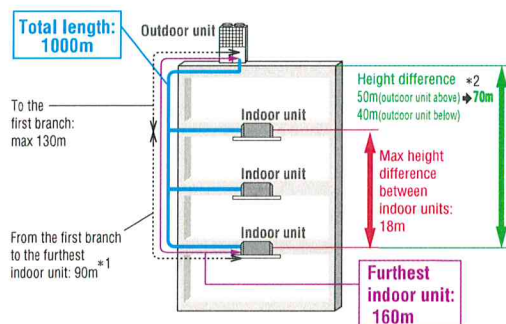
## KXZ Heat pump systems 10, 12HP (28.0kW, 33.5kW)

Model No.	Nominal Cooling Capacity
FDC280KXZE1	28.0kW
FDC335KXZE1	33.5kW

- Connect up to 29 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.9.
- These units employ DC inverter multiport compressors with concentrated winding motor.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

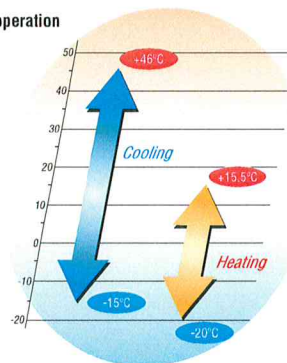


Uniform footprint of models (10,12HP)  
allows continuous side-by-side installation



- \*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)  
\*2 In case of height difference up to 70m, please contact your dealer.  
Height difference up to 90m is possible with High Head series.  
Please refer to page66.

Range of operation



## Specifications

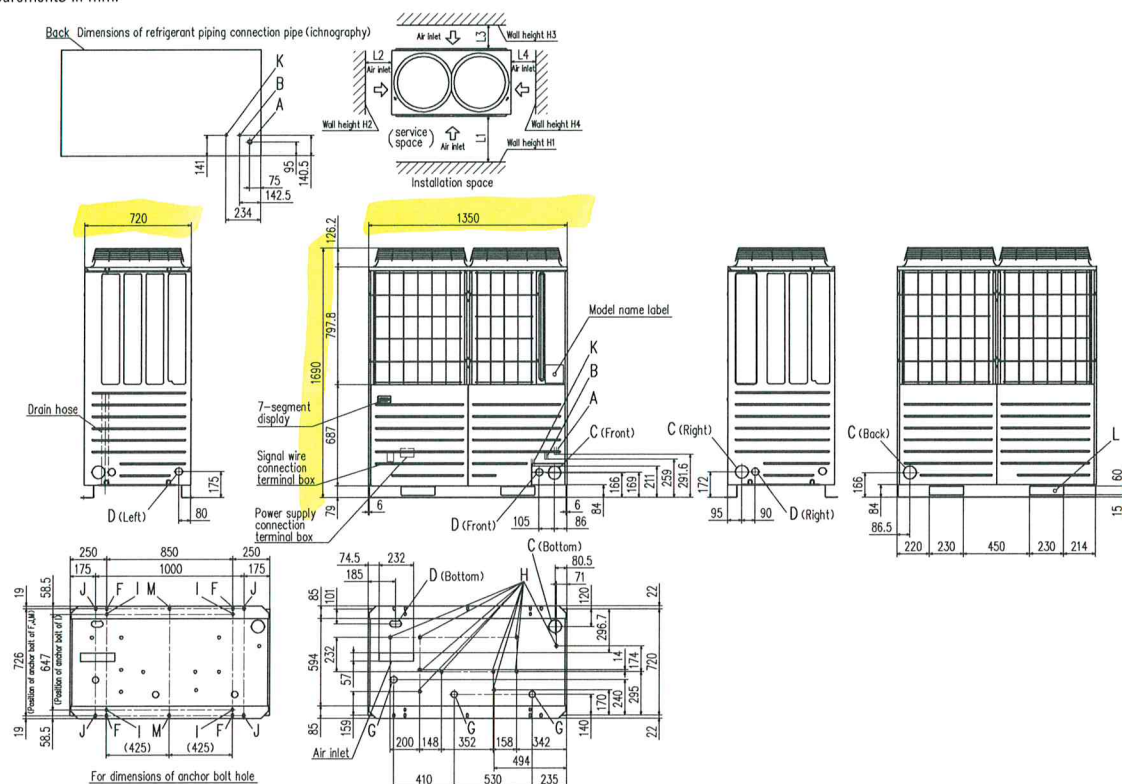
Item		Model	FDC280KXZE1	FDC335KXZE1
Nominal horse power			10HP	12HP
Power source			3 Phase 380-415V, 50Hz	
Starting current		A	5	
Max current		A	21.2	
Nominal capacity	Cooling	kW	28.0	33.5
	Heating		31.5	37.5
Electrical characteristics	Power consumption	kW	7.24	8.96
	Cooling Heating		7.28	9.04
Exterior dimensions	HxWxD	mm	1690x1350x720	
Net weight		kg	272	
Sound pressure level	Cooling/Heating	dB(A)	55/57	61/58
Refrigerant	Type / GWP	R410A / 2088		
	Charge	kg/TCO <sub>2</sub> Eq	11.0 / 22.968	
Refrigerant piping size	Liquid line	mm(in)	ø9.52(3/8")	ø12.7(1/2")
	Gas line		ø22.22(7/8")	ø25.4(1") [ø22.22(7/8")]
Capacity connection		%	50~130	
Number of connectable indoor units			24	29

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.  
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.  
3. 'tonne(s) of CO<sub>2</sub> equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.  
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.



# Dimensions

All measurements in mm.

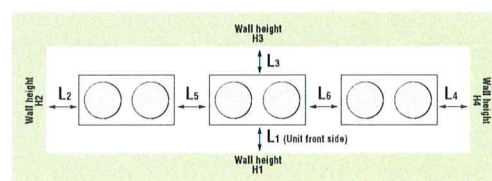


Mark	Content	280	335
A	Refrigerant gas piping connection pipe	ø22.22(Brazing)	ø25.4(Brazing)
B	Refrigerant liquid piping connection pipe	ø9.52(Flare)	ø12.7(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)	
D	Power supply entry hole	ø50 (right · left · front), long hole 40 x 80 (bottom)	
F	Anchor bolt hole	M10 x 4 places	
G	Drain waste water hose hole	ø45 x 3 places	
H	Drain hole	ø20 x 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L1	500	Open
L2	10(30)	10(30)
L3	100	100
L4	10(30)	Open
H1	1500	Open
H2	No limit	No limit
H3	1000	No limit
H4	No limit	Open

( ) : In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43°C or more.

## When more than one unit is installed



Installation example		
Dimensions	1	2
L1	500	Open
L2	10(30)	200
L3	100	300
L4	10(30)	Open
L5	10(30)	400
L6	10(30)	400
H1	1500	Open
H2	No limit	No limit
H3	1000	No limit
H4	No limit	Open

( ) : In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43°C or more.

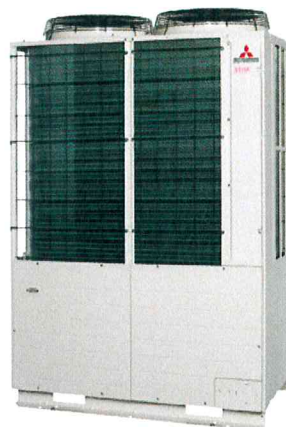


# KXZ Heat pump systems

## 14, 16, 17, 18, 20HP (40.0kW~56.0kW)

Model No.	Nominal Cooling Capacity
FDC400KXZE1	40.0kW
FDC450KXZE1	45.0kW
FDC475KXZE1	47.5kW
FDC500KXZE1	50.0kW
FDC560KXZE1	56.0kW

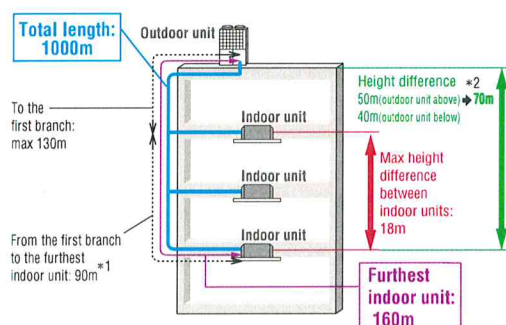
- Connect up to 48 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.6.
- These units employ DC inverter multiport compressors with concentrated winding motor.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



Blue  
Fin

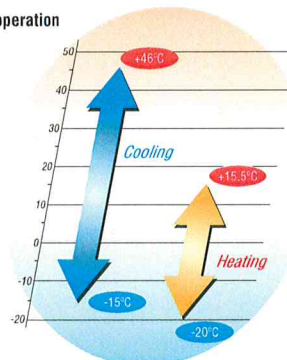


Uniform footprint of all models (from 14HP~20HP) allows continuous side-by-side installation



- \*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
- \*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series. Please refer to page66.

Range of operation



## Specifications

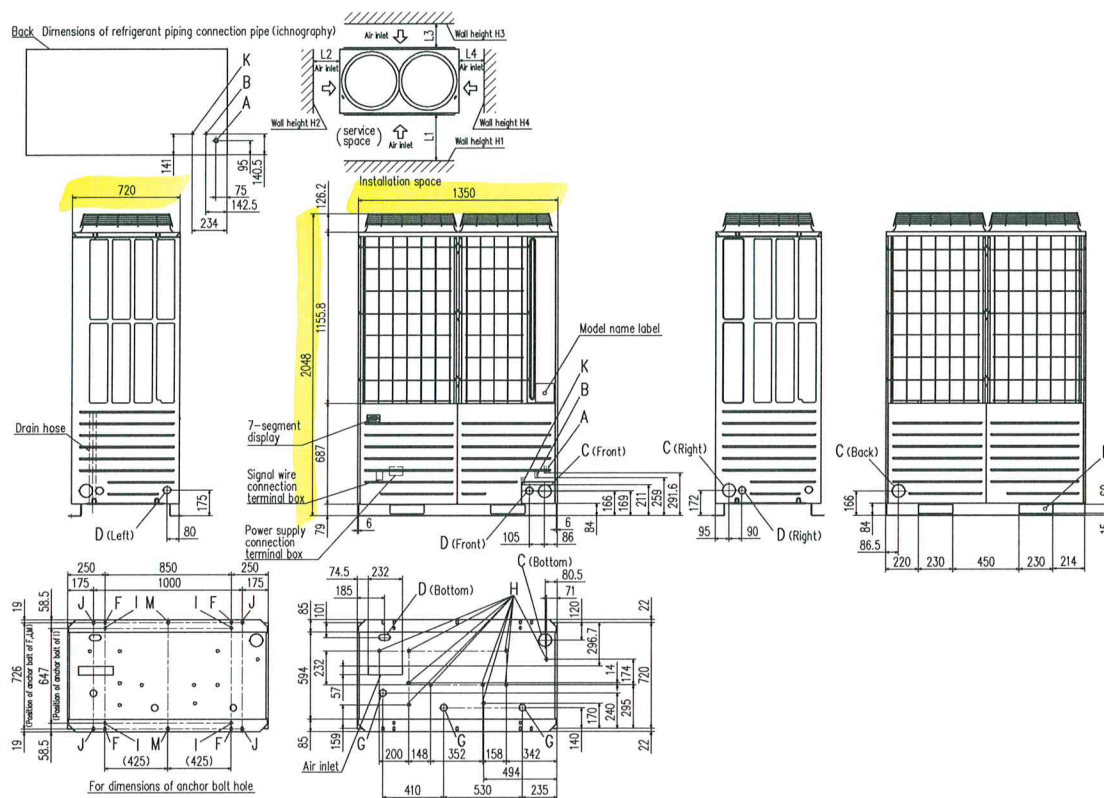
Item			Model	FDC400KXZE1	FDC450KXZE1	FDC475KXZE1	FDC500KXZE1	FDC560KXZE1
Nominal horse power				14HP	16HP	17HP	18HP	20HP
Power source				3 Phase 380-415V, 50Hz				
Starting current			A	5		8		
Max current			A	32		42.4		
Nominal capacity	Cooling		kW	40.0	45.0	47.5	50.0	56.0
	Heating			45.0	50.0	53.0	56.0	63.0
Electrical characteristics	Power consumption	Cooling Heating	kW	10.96	13.98	13.98	13.97	16.62
				10.69	12.50	13.00	13.49	15.95
Exterior dimensions	HxWxD		mm	2048x1350x720				
Net weight			kg	317		370		
Sound pressure level	Cooling/Heating		dB(A)	60/62	61/62	61/61	61/62	64/66
Refrigerant	Type / GWP		kg/TCO <sub>2</sub> Eq	R410A / 2088				
	Charge			11.5 / 24.012				
Refrigerant piping size	Liquid line		mm(in)	ø12.7(1/2")				
	Gas line			ø25.4(1") [ø28.58(1 1/8")] ø28.58(1 1/8")				
Capacity connection			%	50~130				
Number of connectable indoor units				34	39	41	43	48

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of CO<sub>2</sub> equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.



# Dimensions

All measurements in mm.



Mark	Content	400	450, 475, 500, 560
A	Refrigerant gas piping connection pipe	ø25.4(Brazing)	ø28.58(Brazing)
B	Refrigerant liquid piping connection pipe	ø12.7(Flare)	
C	Refrigerant piping exit hole	ø88(or ø100)	
D	Power supply entry hole	ø50 (right · left · front), long hole 40 x 80 (bottom)	
F	Anchor bolt hole	M10 x 4 places	
G	Drain waste water hose hole	ø45 x 3 places	
H	Drain hole	ø20 x 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L1	500	Open
L2	10(30)	10(30)
L3	100	100
L4	10(30)	Open
H1	1500	Open
H2	No limit	No limit
H3	1000	No limit
H4	No limit	Open

( ) :In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43°C or more.



# KXZ Heat pump combination systems

## 22, 24HP (61.5kW, 67.0kW)



### Model No.

FDC615KXZE1 (FDC280+FDC335)

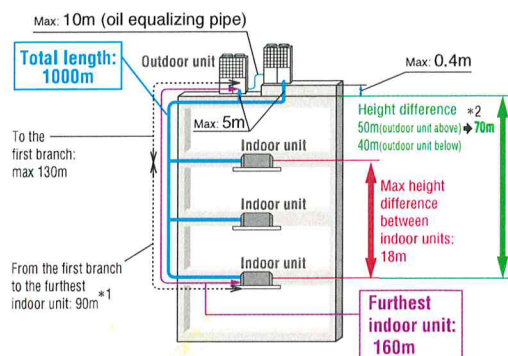
FDC670KXZE1 (FDC335+FDC335)

### Nominal Cooling Capacity

61.5kW

67.0kW

- Connect up to 58 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.8.
- These units employ DC inverter multiport compressors with concentrated winding motor.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

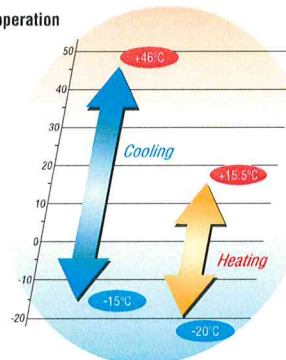


- \*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
- \*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series. Please refer to page66.



Uniform footprint of all models (from 22HP, 24HP) allows continuous side-by-side installation

### Range of operation



## Specifications

Exterior dimension : Please refer to page37.

Item	Model	FDC615KXZE1	FDC670KXZE1
Combination (FDC)		280KXZE1	335KXZE1
Nominal horse power		22HP	24HP
Power source		3 Phase 380-415V, 50Hz	
Starting current	A	10	
Max current	A	42.4	
Nominal capacity	Cooling	61.5	67.0
	Heating	69.0	75.0
Electrical characteristics	Power consumption	16.20	17.92
	Cooling Heating	16.32	18.08
Exterior dimensions	HxWxD	mm 1690x2700x720	
Net weight		kg 544	
Refrigerant charge	R410A	kg 11.0x2	
Refrigerant piping size	Liquid line	mm(in) ø12.7(1/2")	
	Gas line	mm(in) ø28.58(1 1/8")	
Capacity connection	%	50~130	
Number of connectable indoor units		53	58

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.

2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

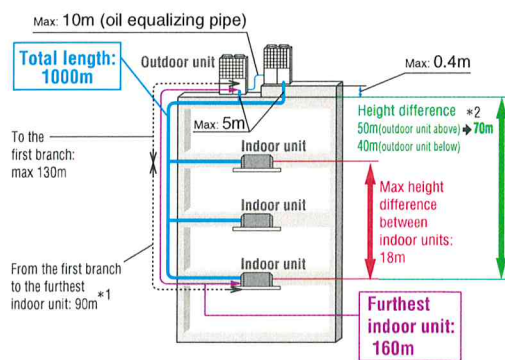


# KXZ Heat pump combination systems

## 26, 28, 30, 32, 34, 36, 38, 40HP (73.5kW~112.0kW)

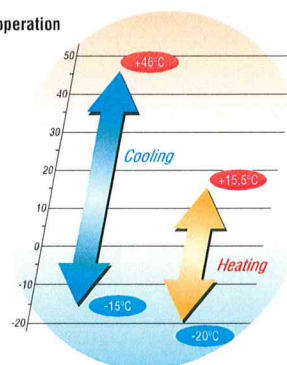
Model No.	Nominal Cooling Capacity
FDC735KXZE1 (FDC335+FDC400)	73.5kW
FDC800KXZE1 (FDC400+FDC400)	80.0kW
FDC850KXZE1 (FDC400+FDC450)	85.0kW
FDC900KXZE1 (FDC450+FDC450)	90.0kW
FDC950KXZE1 (FDC475+FDC475)	95.0kW
FDC1000KXZE1 (FDC500+FDC500)	100.0kW
FDC1060KXZE1 (FDC500+FDC560)	106.0kW
FDC1120KXZE1 (FDC560+FDC560)	112.0kW

- Connect up to 80 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.7.
- These units employ DC inverter multiport compressors with concentrated winding motor.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



- \*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)  
 \*2 In case of height difference up to 70m, please contact your dealer.  
 Height difference up to 90m is possible with High Head series.  
 Please refer to page66.

Range of operation



## Specifications

Exterior dimension : Please refer to page37,39.

</

1. The data are measured under the following conditions (ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.  
 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.  
 3. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

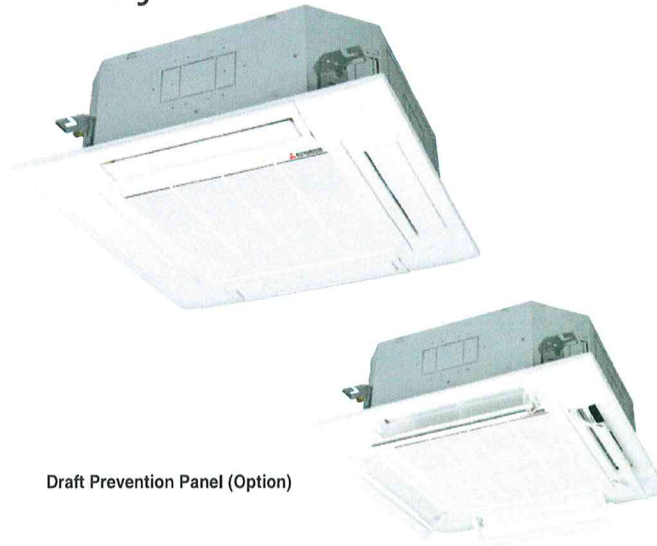




# Ceiling Cassette -4way- FDT

## Model No.

FDT28KXZE1  
FDT36KXZE1  
FDT45KXZE1  
FDT56KXZE1  
FDT71KXZE1  
FDT90KXZE1  
FDT112KXZE1  
FDT140KXZE1  
FDT160KXZE1



Draft Prevention Panel (Option)

## Remote control (option)

### Wired



RC-EX3A



RC-E5



RCH-E3

### Wireless

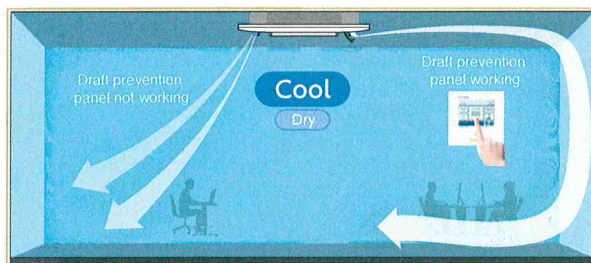


RCN-T-5AW-E2

## Draft Prevention Panel

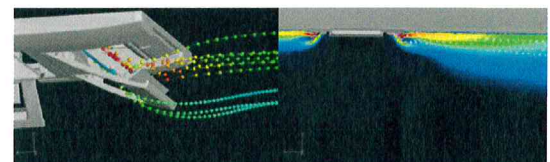
(Option)

Draft Prevention Panel prevents cold / hot draft being blown directly on the user.  
It is possible to set Draft Prevention Panel for each air outlet.

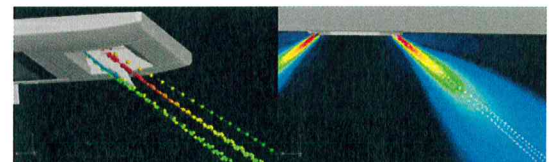


User can position Draft Prevention Panel panels by using the remote controller only (RC-EX3A, RCN-T-5AW-E2).

Advanced airflow control technology cultivated through aircraft development.



Draft Prevention Panel working

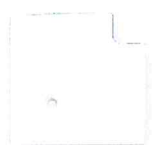


Draft Prevention Panel placed at off position

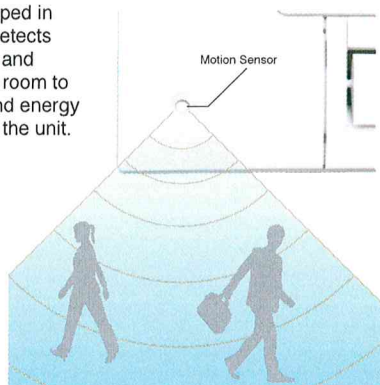
## Motion Sensor

(Option)

Motion sensor is equipped in the panel corner and detects the presence/absence and activity of humans in a room to improve the comfort and energy saving performance of the unit.



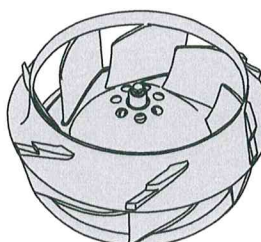
LB-T-5W-E



## Improve the aerodynamic performance of the unit

New designed component can have better aerodynamic performance and achieve lower noise.

## New design turbo fan



## Fan guard (standard equipment)

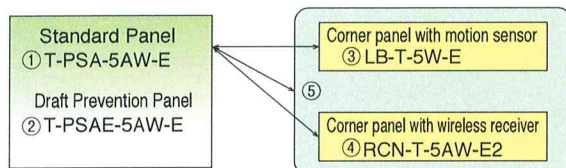




## Panel select pattern

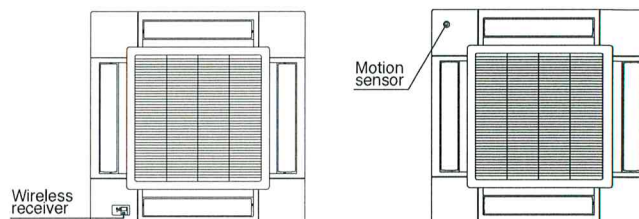
(Option)

8 patterns of panel are available.



- ① Standard Panel only
- ①+③ Standard Panel with corner panel with motion sensor
- ①+④ Standard Panel with corner panel with wireless receiver
- ①+⑤ Standard Panel with corner panel with motion sensor & corner panel with wireless receiver
- ② Draft Prevention Panel only
- ②+③ Draft Prevention Panel with corner panel with motion sensor
- ②+④ Draft Prevention Panel with corner panel with wireless receiver
- ②+⑤ Draft Prevention Panel with corner panel with motion sensor & corner panel with wireless receiver

Installation position of Wireless kit and Motion sensor kit



\*Wireless receiver and Motion sensor can be installed to the position as shown

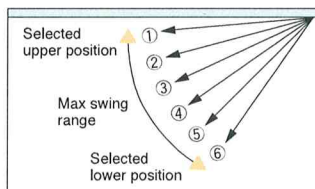
## Individual flap control system

According to room conditions, four directions of air flow can be controlled individually by utilizing the flap control system. Individual flap control is available even after installation.



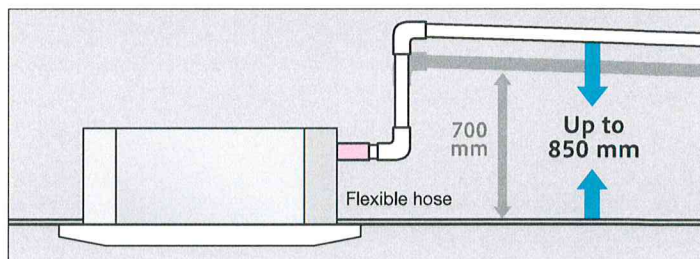
Flap can swing within an upper and lower flap range position within can be selected with a wired remote control.

※The wireless remote control is not applicable to the Individual flap control system.



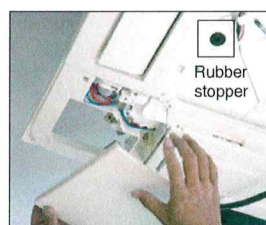
## 850mm Drain Pump

Drain can be discharged upwards by 850mm from the ceiling surface. It allows a piping layout with a high degree of freedom. Depending on the installation location and 185mm flexible hose as a standard equipment supports easy workability.



## Easy check of drain pan

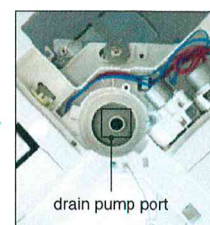
Easy check of drain pan condition is available by removing corner lid only.



Remove corner lid.



Remove drain cap cover and check the condition. It is necessary to clean-up, firstly remove the rubber stopper to drain water out and secondly remove the drain cap.



Clean up the area around the drain pump port.





## Specifications

Item	Model	FDT28KXZE1	FDT36KXZE1	FDT45KXZE1	FDT56KXZE1	FDT71KXZE1
Nominal cooling capacity	kW	2.8	3.6	4.5	5.6	7.1
Nominal heating capacity	kW	3.2	4.0	5.0	6.3	8.0
Power source		1 Phase 220-240V, 50Hz				
Power consumption	Cooling	0.02-0.02	0.03-0.03	0.04-0.04	0.08-0.08	
	Heating	0.02-0.02	0.03-0.03	0.04-0.04	0.08-0.08	
Sound power level	dB(A)	49	50	55	62	
Sound pressure level	dB(A)	P-Hi:37 Hi:33 Me:30 Lo:28	P-Hi:38 Hi:33 Me:31 Lo:29	P-Hi:47 Hi:35 Me:32 Lo:28		
Exterior dimensions H x W x D	mm	Unit:236x840x840 Panel:35x950x950				
Net weight	kg	Unit:20 Standard Panel:5			Unit:21.5 Standard Panel:5	
Air flow	m <sup>3</sup> /min	P-Hi:15 Hi:14 Me:12 Lo:10	P-Hi:16 Hi:14 Me:12 Lo:10	P-Hi:17 Hi:15 Me:13 Lo:10	P-Hi:20 Hi:16 Me:13 Lo:11	P-Hi:28 Hi:17 Me:14 Lo:12
Outside air intake		Possible				
Panel		T-PSA-5AW-E, T-PSAE-5AW-E				
Air filter, Q'ty		Pocket Plastic net x1 (Washable)				
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5AW-E2				
Installation data		Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")				
Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")				
		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")				

Item	Model	FDT90KXZE1	FDT112KXZE1	FDT140KXZE1	FDT160KXZE1
Nominal cooling capacity	kW	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	10.0	12.5	16.0	18.0
Power source		1 Phase 220-240V, 50Hz			
Power consumption	Cooling	0.13-0.13	0.14-0.14	0.14-0.14	
	Heating	0.13-0.13	0.14-0.14	0.14-0.14	
Sound power level	dB(A)	65	66		
Sound pressure level	dB(A)	P-Hi:49 Hi:38 Me:36 Lo:31	P-Hi:49 Hi:39 Me:37 Lo:31	P-Hi:49 Hi:42 Me:39 Lo:32	P-Hi:49 Hi:42 Me:39 Lo:33
Exterior dimensions H x W x D	mm	Unit:298x840x840 Panel:35x950x950			
Net weight	kg	Unit:25 Standard Panel:5			
Air flow	m <sup>3</sup> /min	P-Hi:37 Hi:25 Me:22 Lo:15	P-Hi:38 Hi:26 Me:23 Lo:17	P-Hi:38 Hi:28 Me:25 Lo:18	P-Hi:38 Hi:29 Me:26 Lo:19
Outside air intake		Possible			
Panel		T-PSA-5AW-E, T-PSAE-5AW-E			
Air filter, Q'ty		Pocket Plastic net x1 (Washable)			
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5AW-E2			
Installation data		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			
Refrigerant piping size	mm(in)	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.  
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.





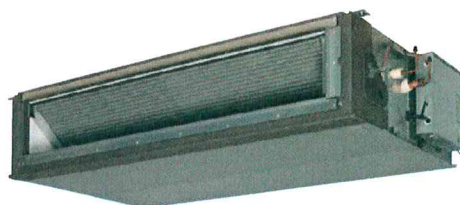




# Duct Connected -High Static Pressure- FDU

## Model No.

FDU45KXE6F  
FDU56KXE6F  
FDU71KXE6F  
**FDU90KXE6F**  
**FDU112KXE6F**  
FDU140KXE6F  
FDU160KXE6F



## Model No.

FDU224KXE1  
**FDU280KXE1**

## Remote control (option)

### Wired



RC-EX3A RC-E5 RCH-E3

### Wireless



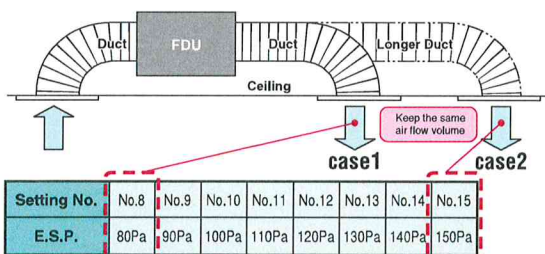
RCN-KIT4-E2

## External Static Pressure(E.S.P) control

You can set External Static Pressure (E.S.P.) by method of manual setting on remote control. Indoor unit will control fan-speed to keep rated air flow volume at each fan speed setting. You can set required E.S.P. by wired remote control that calculated with the set air flow rate and pressure loss of the duct connected.



**E.S.P. button** RC-E5  
External Static Pressure (E.S.P.) can be set by E.S.P. button.



\*Range of 80~150 Pa is set at ex-factory default.

Range of 10~200 Pa is available by setting SW8-4 switch on at site.

## <Expansion of external static pressure range>

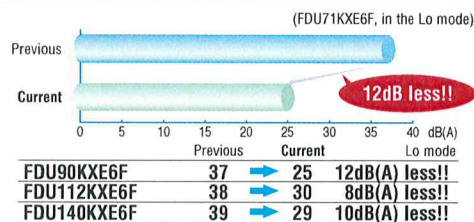
Previous  
**10~130Pa** → **Current**  
**10~200Pa**

## Thin design



	Previous	Current	
FDU71KXE6F	297	280	17mm less!!
FDU112/140KXE6F	350	280	70mm less!!

## Reduction of sound pressure level

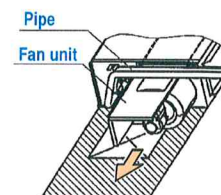


## Transparent inspection window

Dirt condition of the bottom of a drain pan can be checked through this transparent inspection window without removing drain pan. (Please refer to P84)

## Improvement of the serviceability

Fan unit (impeller and motor) can be pulled out from the right side of the unit. Maintenance can be available from the right side or the bottom side. (Common for FDU22~160KXE6F & FDU45~160KXE6F)



## Specifications

Item	Model	FDU45KXE6F	FDU56KXE6F	FDU71KXE6F	FDU90KXE6F	FDU112KXE6F	FDU140KXE6F	FDU160KXE6F
Nominal cooling capacity	kW	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source		1 Phase 220-240V, 50Hz						
Power consumption	Cooling	0.10-0.10		0.24-0.25		0.31-0.32		0.42-0.43
	Heating	0.10-0.10		0.24-0.25		0.31-0.32		0.42-0.43
Sound power level	dB(A)	60		65		—		
Sound pressure level	dB(A)	P-Hi:37 Hi:32 Me:29 Lo:26		P-Hi:38 Hi:33 Me:29 Lo:25		P-Hi:44 Hi:38 Me:36 Lo:30	P-Hi:45 Hi:40 Me:34 Lo:29	P-Hi:47 Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D	mm	280x750x635		280x950x635		280x1370x740		
Net weight	kg	29		34		54		
Air flow	m <sup>3</sup> /min	P-Hi:13 Hi:10 Me:9 Lo:8		P-Hi:24 Hi:19 Me:15 Lo:10		P-Hi:36 Hi:28 Me:25 Lo:19	P-Hi:39 Hi:32 Me:26 Lo:20	P-Hi:48 Hi:35 Me:28 Lo:22
Maximum external static pressure	Pa	200						
Outside air intake		Possible						
Air filter		Procure locally						
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3    wireless:RCN-KIT4-E2						
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 60Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Item	Model	FDU224KXZE1	FDU280KXZE1
Nominal cooling capacity	kW	22.4	28.0
Nominal heating capacity	kW	25.0	31.5
Power source		1 Phase 220-240V, 50Hz	
Power consumption	Cooling	1.16-1.20	
	Heating	1.16-1.20	
Sound pressure level	dB(A)	P-Hi:52 Hi:50 Me:47 Lo:45	
Exterior dimensions H x W x D	mm	379x1600x893	
Net weight	kg	89	
Air flow	m <sup>3</sup> /min	P-Hi:80 Hi:72 Me:64 Lo:56	
Maximum external static pressure	Pa	200	
Outside air intake		Possible(on return duct)	
Air filter		Procure locally	
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-KIT4-E2	
Installation data Refrigerant piping size	mm(in)	Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 72Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

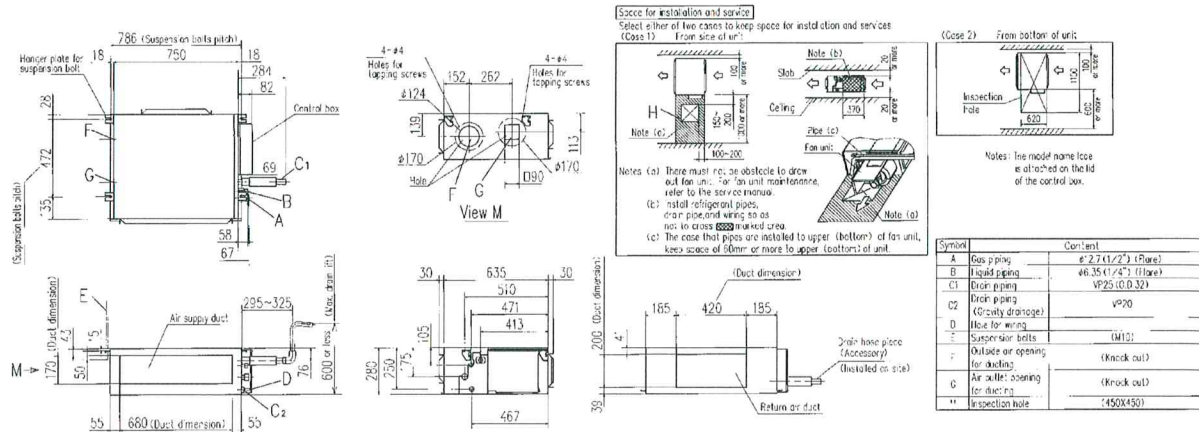




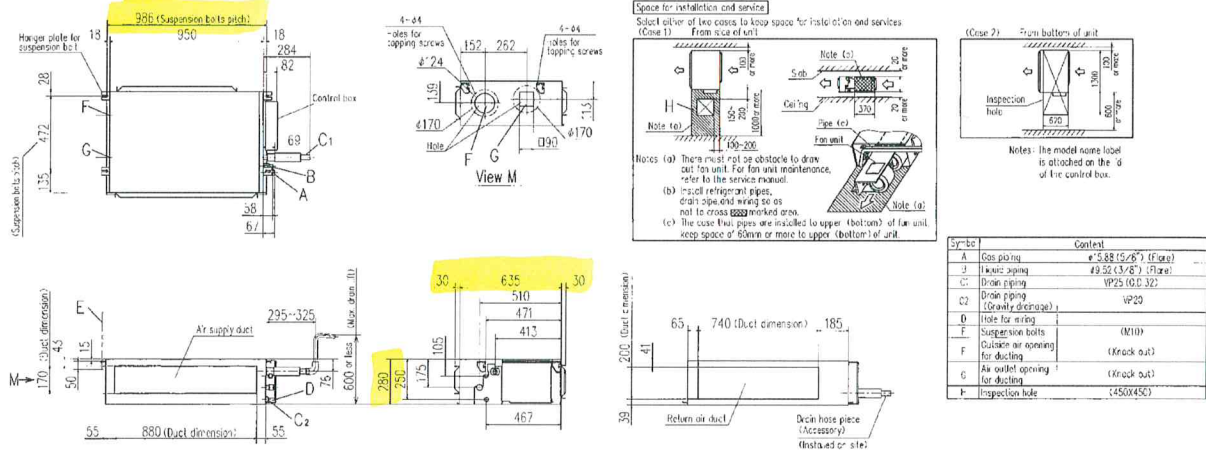
## Dimensions

All measurements in mm.

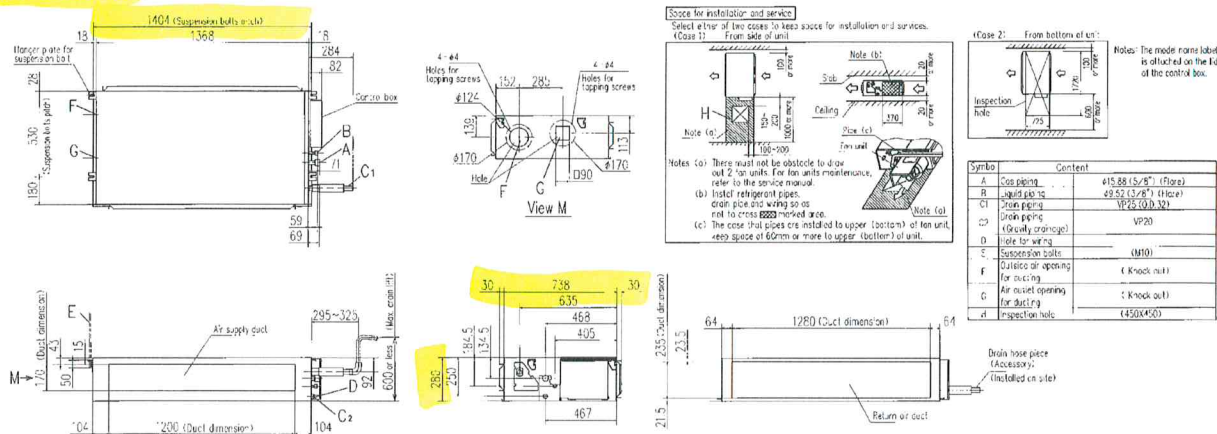
### FDU45KXE6F, 56KXE6F



### FDU71KXE6F, 90KXE6F



### FDU112KXE6F, 140KXE6F, 160KXE6F









# Duct Connected -Low/Middle Static Pressure- FDUM

## Model No.

FDUM22KXE6F	FDUM71KXE6F
FDUM28KXE6F	FDUM90KXE6F
FDUM36KXE6F	FDUM112KXE6F
FDUM45KXE6F	FDUM140KXE6F
FDUM56KXE6F	FDUM160KXE6F

## Filter kit (option)

UM-FL1EF : for 22~56  
UM-FL2EF : for 71, 90  
UM-FL3EF : for 112, 140, 160



\* Filter pressure loss: 5Pa



## Remote control (option)

Wired



RC-EX3A RC-E5 RCH-E3

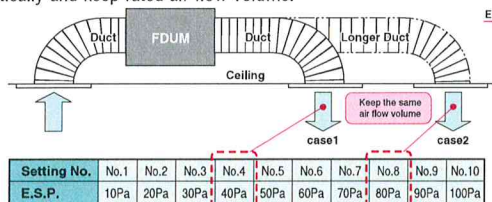
Wireless



RCN-KIT4-E2

## Automatic external static pressure (E.S.P.) control

Duct design was simplified.  
Using DC motor, the most optimum air flow volume can be achieved by this automatic control.  
Indoor unit will recognize external static pressure by itself automatically and keep rated air flow volume.



External static pressure (E.S.P.) can be set by E.S.P. button.

## Thin design

The height of all FDUM models is only 280mm.



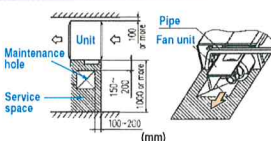
FDUM112/140KXE6F



FDUM22~90KXE6F

## Improvement of the serviceability

Fan unit (impeller and motor) can be pulled out from the right side or the bottom side of the unit.  
Maintenance can be available from the right side or the bottom side.



## Transparent inspection window

Dirt condition of the bottom of a drain pan can be checked through this transparent inspection window without removing drain pan. (Please refer to P84)

## Specifications

Item	Model	FDUM22KXE6F	FDUM28KXE6F	FDUM36KXE6F	FDUM45KXE6F	FDUM56KXE6F	FDUM71KXE6F	FDUM90KXE6F	FDUM112KXE6F	FDUM140KXE6F	FDUM160KXE6F
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source		1 Phase 220-240V, 50Hz									
Power consumption	Cooling	0.10-0.10					0.20-0.20		0.29-0.29	0.33-0.33	0.45-0.45
	Heating	0.10-0.10					0.20-0.20		0.29-0.29	0.33-0.33	0.45-0.45
Sound power level	dB(A)	60					65		—		
Sound pressure level	dB(A)	P-Hi:37 Hi:32 Me:29 Lo:26					P-Hi:38 Hi:33 Me:29 Lo:25		P-Hi:44 Hi:38 Me:36 Lo:30	P-Hi:45 Hi:40 Me:34 Lo:29	P-Hi:47 Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D	mm	280 x 750 x 635					280 x 950 x 635		280 x 1370 x 740		
Net weight	kg	29					34		54		
Air flow	m³/min	P-Hi:13 Hi:10 Me:9 Lo:8					P-Hi:24 Hi:19 Me:15 Lo:10		P-Hi:36 Hi:28 Me:25 Lo:19	P-Hi:39 Hi:32 Me:26 Lo:20	P-Hi:48 Hi:35 Me:28 Lo:22
Maximum external static pressure	Pa	100									
Outside air intake		Possible									
Air filter		Filter kit:UM-FL1EF/UM-FL2EF/UM-FL3EF(option)									
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3    wireless:RCN-KIT4-E2									
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")			Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 35Pa(22/28/36/45/56/71/90). 60Pa(112/140/160).

2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.







# Wall Mounted FDK

## Model No.

FDK15KXZE1  
FDK22KXZE1  
FDK28KXZE1  
FDK36KXZE1  
FDK45KXZE1  
FDK56KXZE1  
FDK71KXZE1  
FDK90KXZE1



FDK15~56



FDK71,90

## Remote control (option)

### Wired



RC-EX3A RC-E5 RCH-E3

### Wireless



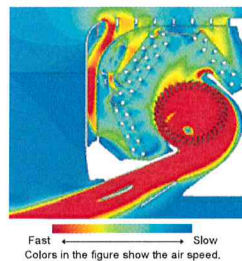
RCN-K-E2: FDK15~56  
RCN-K71-E2: FDK71,90

## Elegant Timeless Design

The new FDK series air-conditioners have been stylishly designed with rounded contours that fit beautifully into any of Europe's diverse interior settings. The design was created by the Italian industrial design studio Tensa srl, based in Milan, to respond to a broad spectrum of local user needs. (15~56KXZE1)



## Jet Technology

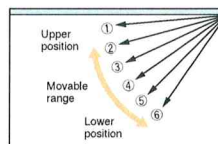


FDK models adopt the air flow design that's proven to minimise resistance in a CFD analysis to achieve uniform air conditioning to the furthest corners of the room.

## Flap control system

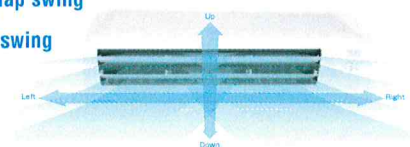
Selection of flap position is possible. A flap can be set at different angles.

\* The wireless remote control is not applicable to the flap control system.



**Lateral Swing** ▶ flap swings from right to left automatically

**Up/Down Flap swing + Lateral swing**



# Specifications

Item	Model	FDK15KXZE1	FDK22KXZE1	FDK28KXZE1	FDK36KXZE1	FDK45KXZE1	FDK56KXZE1	FDK71KXZE1	FDK90KXZE1
Nominal cooling capacity	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	9.0
Nominal heating capacity	kW	1.7	2.5	3.2	4.0	5.0	6.3	8.0	10.0
Power source		1 Phase 220-240V, 50Hz							
Power consumption	Cooling	0.02-0.02			0.03-0.03			0.04-0.04	0.05-0.05
	Heating	0.02-0.02			0.03-0.03			0.04-0.04	0.05-0.05
Sound power level	dB(A)	54	55	58	58	Cooling:58 Heating:61	59	61	61
Sound pressure level	Cooling	P-Hi:38 Hi:34 Me:31 Lo:28	P-Hi:38 Hi:36 Me:32 Lo:28	P-Hi:40 Hi:38 Me:33 Lo:28	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:42 Hi:40 Me:37 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35
	Heating	P-Hi:38 Hi:34 Me:31 Lo:28	P-Hi:38 Hi:36 Me:32 Lo:28	P-Hi:40 Hi:38 Me:33 Lo:28	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:44 Hi:42 Me:37 Lo:35	P-Hi:42 Hi:40 Me:37 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35
Exterior dimensions H x W x D	mm	290 x 870 x 230						339 x 1197 x 262	
Net weight	kg	11.5	11	11.5	11.5	17	17	17	17
Air flow	Cooling	P-Hi:5.7 Hi:5 Me:4.5 Lo:3.6	P-Hi:8.5 Hi:8 Me:6 Lo:5	P-Hi:11 Hi:10 Me:8 Lo:7	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:21 Hi:19 Me:16 Lo:14	P-Hi:23 Hi:21 Me:19 Lo:16
	Heating	P-Hi:5.7 Hi:5 Me:4.5 Lo:3.6	P-Hi:8.5 Hi:8 Me:6 Lo:5	P-Hi:11 Hi:10 Me:8 Lo:7	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:12 Hi:11 Me:9 Lo:8	P-Hi:21 Hi:19 Me:16 Lo:14	P-Hi:23 Hi:21 Me:19 Lo:16
Outside air intake		Not possible							
Air filter, Q'ty		Polypropylene net x2 (Washable)							
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-K-E2, RCN-K71-E2							
Installation data	Liquid line	ø6.35(1/4")			ø6.35(1/4")			ø9.52(3/8")	
	Gas line	ø9.52(3/8")			ø12.7(1/2")			ø15.88(5/8")	

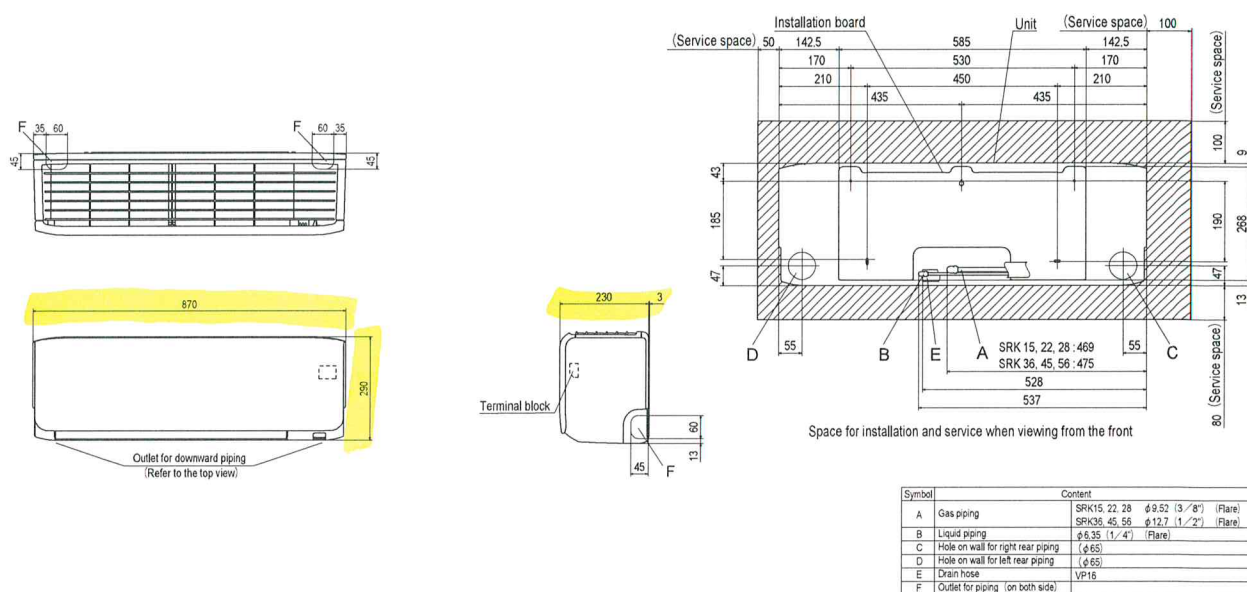
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.  
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.



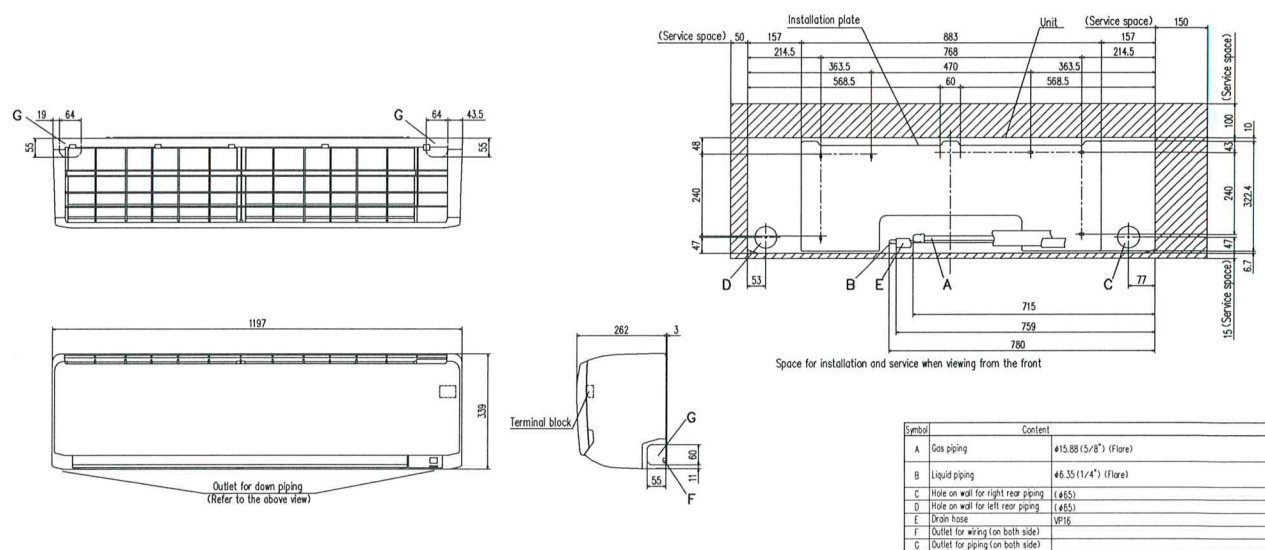
# Dimensions

All measurements in mm.

FDK15KXZE1, 22KXZE1, 28KXZE1, 36KXZE1, 45KXZE1, 56KXZE1



FDK71KXZE1, 90KXZE1





# Outdoor Air Processing unit FDU-F

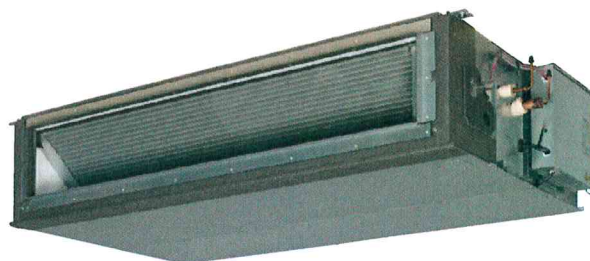
## Model No.

FDU650FKXZE1

FDU1100FKXZE1

FDU1800FKXZE1

FDU2400FKXZE1



## Remote control (option)

### Wired



RC-EX3A

RC-E5

RCH-E3

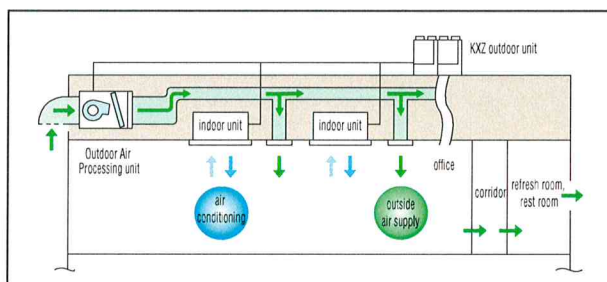
### Wireless



RCN-KIT4-E2

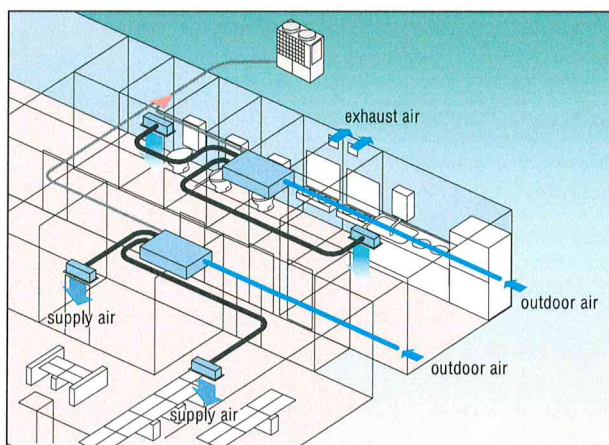
## Air conditioning and intake of outdoor air are in the same system

Outdoor Air processing unit can be connected in a KXZ system as one of indoor unit series and can create fresh and comfortable air supply together from our high advanced technology.



## Compact design

Compact design at just 280(650, 1100), 379(1800, 2400)mm in height, high static pressure of 200Pa and the industry's lowest noise level can meet various kind of installation location for office, refresh room, restroom and kitchen of restaurant etc.



- (1) This unit is the specific unit for processing the outdoor air temperature closer to the room temperature. For conditioning the room temperature a dedicated air-conditioner is required additionally.
- (2) This unit monitors the outdoor air temperature and controls thermostat ON/OFF at the setting temperature by the remote controller, which indicates the outdoor air temperature for controlling thermostat ON/OFF. When thermostat is turned OFF, the operation is changed to the fan mode so that unprocessed outdoor air will be blown into the room directly. Therefore place the air outlet port or orient the air outlet direction not to blow air directly to persons in the room, especially in the small room such as a restroom and/or sanitary hot water supplying room.
- (3) It is strictly prohibited to monitor the room temperature by switching to the thermistor at remote controller side and/or the optional remote thermistor. Otherwise dew formation at air outlet port and/or dew dripping may occur during cooling operation due to the lower outdoor air temperature. Therefore keep the remote controller of this unit in place closer to the administrator so as not to be touched it freely by the end user.
- (4) Dehumidifying operation with this unit is prohibited.
- (5) When handing over this unit to the end user, make sure to explain sufficiently about the foregoing cautions, the installation place and usage of remote control for this unit and the location of the air outlet.

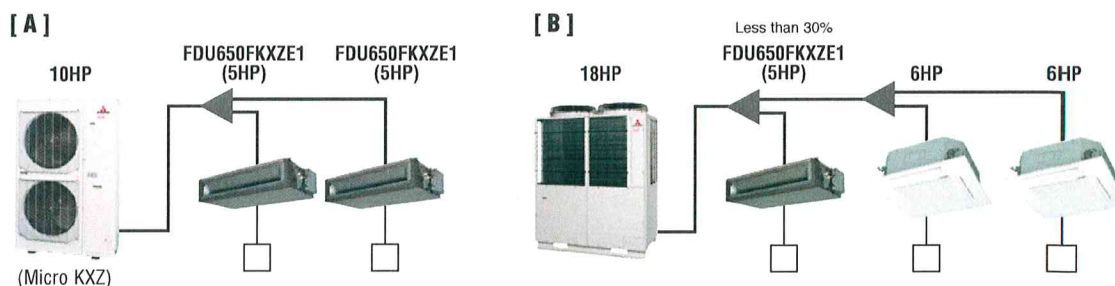


## Connectivity with Outdoor units

FDU-F series are connectable to 8~60HP outdoor units, not connectable to 4~6HP, KXZ Lite.

## Combination with Outdoor units

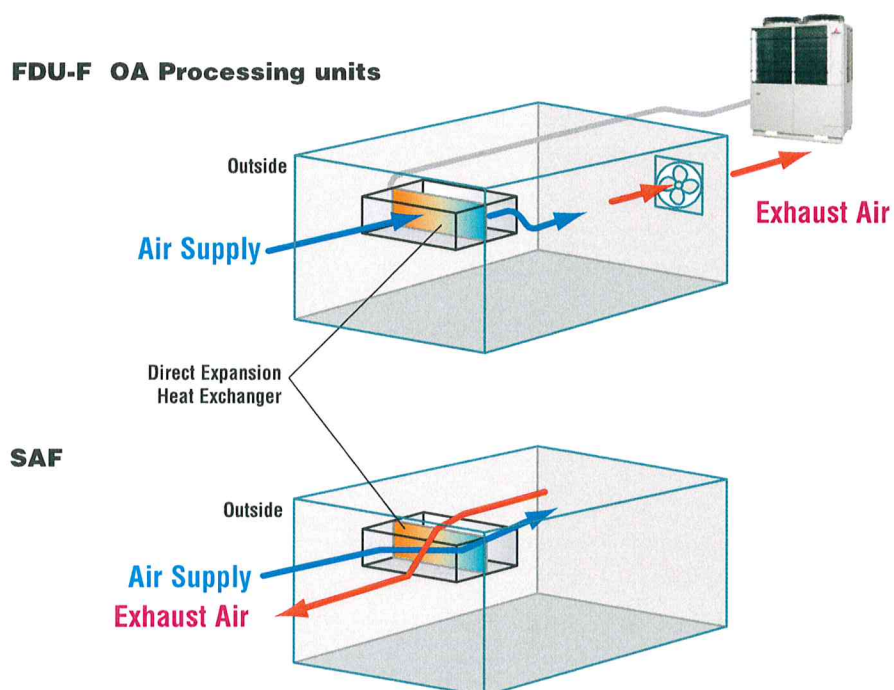
	case	Combination
A	In case OA processing units only are connected with outdoor units.	The total capacity of FDU-F is 50~100% of outdoor capacity and max quantity of FDU-F is 2 units.
B	In case both of OA processing units and dedicated air-conditioner are connected with outdoor units.	The total capacity of FDU-F and dedicated air-conditioners is 50~100% of outdoor capacity and max quantity of FDU-F should be below 30% of outdoor unit capacity.



## Concept (Difference between FDU-F and SAF)

SAF is the energy recovery ventilation unit which can recover heat energy from exhaust air to supply air and "has no air processing function, but FDU-F is air processing unit which can treat the supply air closer to room temperature by cooling or heating in connection with KXZ refrigerant system and exhaust air is discharged to outside of the room.

### FDU-F OA Processing units







## Specifications

Item	Model	FDU650FKXZE1	FDU1100FKXZE1	FDU1800FKXZE1	FDU2400FKXZE1
Nominal cooling capacity	kW	9.0	14.0	22.4	28.0
Nominal heating capacity	kW	6.5	10.5	16.0	21.5
Power source		1 Phase 220-240V, 50Hz			
Power consumption	Cooling	0.24-0.25	0.35-0.36	1.16-1.20	1.16-1.20
	Heating	0.24-0.25	0.35-0.36	1.16-1.20	1.16-1.20
Sound pressure level	dB(A)	Hi:31	Hi:37	Hi:42	Hi:45
Exterior dimension HxWxD	mm	280x950x635	280x1370x740	379x1600x893	
Net weight	kg	34	54	89	89
Air flow (Standard)	m <sup>3</sup> /min	Hi:11	Hi:18	Hi:30	Hi:40
External static pressure	Pa	200 (at Hi Air flow)			
Air filter, Qty		Procure locally			
Remote control(option)		wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-KIT4-E2			
Installation data	mm	Liquid line:ø9.52(3/8")		Liquid line:ø9.52(3/8")	Liquid line:ø9.52(3/8")
Refrigerating piping size	(in)	Gas line:ø15.88(5/8")		Gas line:ø19.05(3/4")	Gas line:ø22.22(7/8")

1. The data are measured at 33°CDB 28°CWB (68%RH) during cooling and 0°CDB-2.9°CWB (50%RH) during heating (no frost).

2. Temperature range of outdoor air must be 20~40°CDB (32°CWB) during cooling and 0~24°CDB during heating.

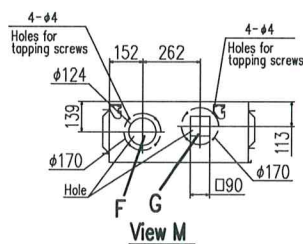
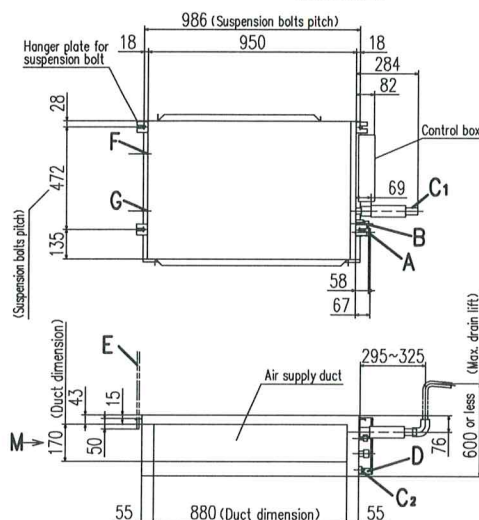
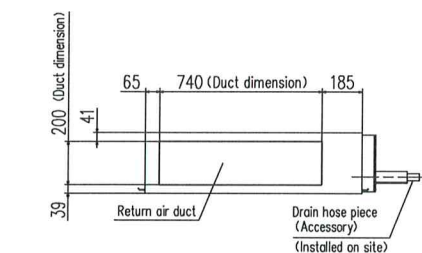
3. Sound level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient conditions.

4. The factory E.S.P. setting is set within the range of 10 - 120Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa. (with RC-EX3A and RC-E5 only)

## Dimensions

All measurements in mm.

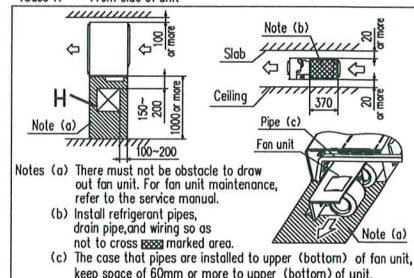
### FDU650FKXZE1



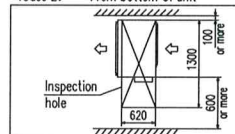
Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1	Drain piping	VP25(O.D.32)
C2	Drain piping(Gravity drainage)	V20(O.D.26)
D	Hole for wiring	
E	Suspension bolts	M10
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450X450)

#### Space for installation and service

Select either of two cases to keep space for installation and services.  
(Case 1) From side of unit



(Case 2) From bottom of unit



Note (1) The model name label is attached on the lid of the control box.





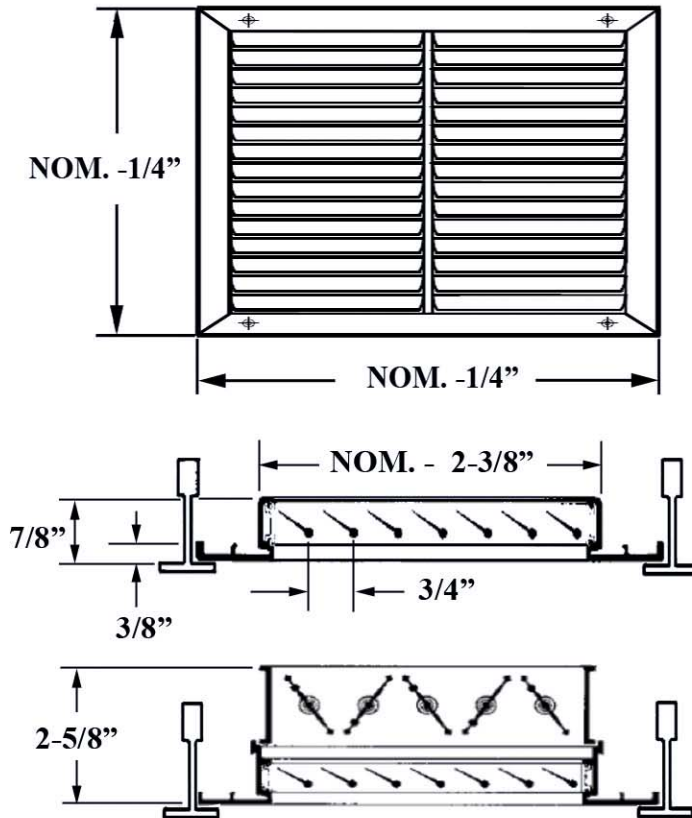
## T-BAR DIFFUSERS

RETURN LAY-IN GRILLES AND REGISTERS FOR T-BAR APPLICATIONS

**MODELS: RA-T, RA OB-T**

**SUSTAINABLE EXTRUDED ALUMINUM**

**Dimensions are in inches (mm)**



### MODEL:

**RA-T**



#### ☐ RA-T

Return air grille to fit T-bar mounting

#### ☐ RAOB-T

Return air register with opposed blade damper for T-bar mounting

### DESCRIPTION:

1. The square contour frame and blades are 6063 extruded aluminum alloy with 200-R1 satin anodized finish. The frame has a typical wall thickness of .050", and is separated from the blades by an extruded rigid PVC track that becomes an integral part of the frame. This method of assembly eliminates corrosion and vibration.
2. The blades are in a fixed position. When airfoil in design, they can be mounted only at the fixed 38° and 0° settings and are spaced 3/4" on center.
3. An optional opposed blade damper mounts with a series of spring clips and is screwdriver-operated through the face of the unit. The damper frame is separated from the blades with injection-molded nylon bushings. This will eliminate corrosion and vibration.
4. Suitable for T-bar applications.

### OPTIONS:

#### 1. Finish

- ☐ ANOD Clear Anodized
- ☐ WHITE
- ☐ MB Medium Bronze
- ☐ B Black
- ☐ Custom \_\_\_\_\_

#### 2. Other

- ☐ RAME,RAME-CB
- ☐ RAME-CB-OB, RAME-CB-OB-PLT
- ☐ RAME-OB-PLT

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

**DATE**

**SERIES**

**DRAWING NO.**

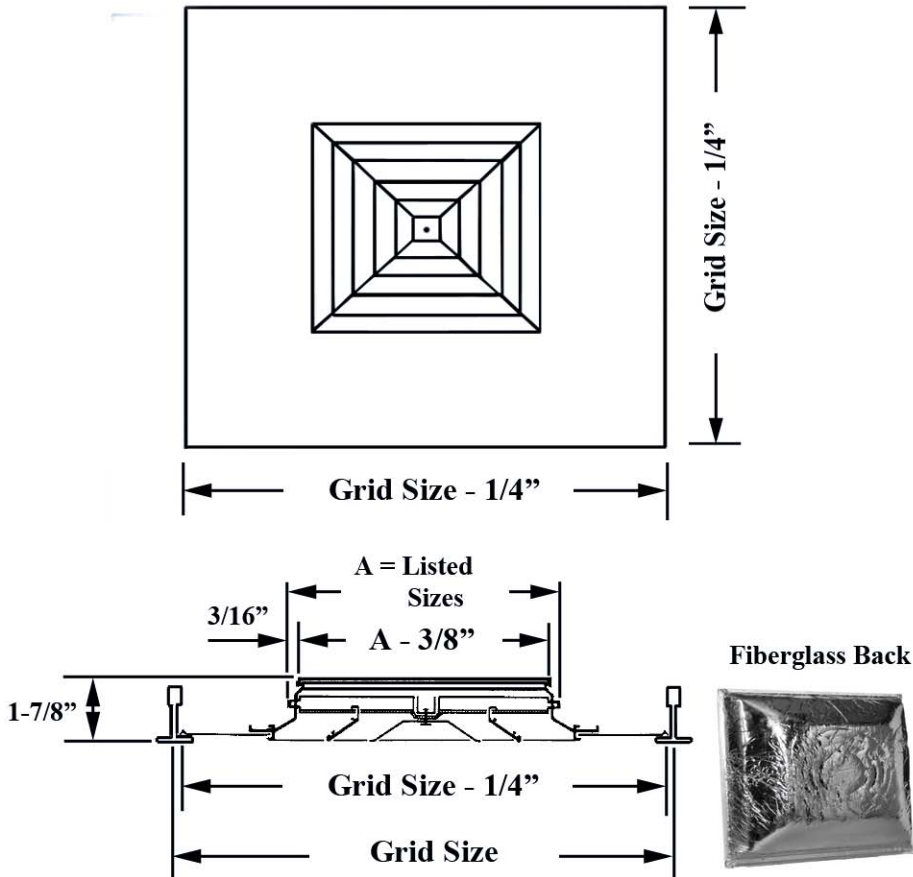
## CEILING DIFFUSERS

PANEL MOUNTED CEILING DIFFUSERS FOR T-BAR MOUNTING

MODELS: JSPLT, JSPLTFGB

SUSTAINABLE EXTRUDED ALUMINUM

Dimensions are in inches (mm)



MODEL:

**JS-PLT-4**



☐ **JSPLT**

Panel mounted ceiling diffuser

☐ **JSPLT-FGB**

Panel mounted ceiling diffuser with fiberglass back

### OPTIONS:

#### 1. Finish

☐ ANOD Clear Anodized

☐ WHITE

☐ MB Medium Bronze

☐ B Black

☐ Custom \_\_\_\_\_

#### 2. Options:

☐ JST-1,2,3,4

☐ JSRPLT-1,2,3,4

☐ JSPLTOB-1,2,3,4

☐ JSPLTOBFL-1,2,3,4

### DESCRIPTION:

1. This model is assembled in a two-part system: one is the ceiling diffuser itself with frame and blades extruded from 6063 aluminum alloy, the other is the aluminum panel into which the diffuser with its extruded frame is mounted.
2. The core is non-removable. The diffuser increases in 2" increments beginning with 6"x6" through 18"x18" as the largest available size. It is available in square configurations only.
3. This model is designed to fit the following T-bar systems: 24"x24", 24"x36", 24"x48", 36"x36", and 48"x48".
4. An optional OB damper mounts through a series of spring clips and is lever-operated from the face of the unit.
5. This model is painted either in white or aluminum in color.

PROJECT:

ENGINEER:

CONTRACTOR:

DATE

SERIES

DRAWING NO.

## FAPT-851

### Acclimate Plus™ Multi-Sensor Low-Profile Intelligent Detector

**Intelligent/Addressable Devices**

#### General

The Notifier FAPT-851 Acclimate Plus™ detector is an intelligent, addressable, multi-sensing, low-profile detector designed for use with the Notifier AFP-300, AFP-400, AFP1010, AM2020 (classic mode only); and with the ONYX® Series NFS-640, NFS2-640, NFS-3030 and NFS2-3030 (classic or FlashScan® modes) Fire Alarm Control Panels.

The Acclimate Plus detector uses a combination of photoelectric and thermal sensing technologies that are designed to increase immunity to false alarms. Unlike traditional intelligent detectors, the Acclimate Plus detector has a microprocessor in the detector head that processes alarm data. As a result, the Acclimate Plus detector adjusts its sensitivity automatically, without needing operator intervention or control panel programming.

Areas where the Acclimate Plus detector is especially useful include office complexes, schools, college campuses, manufacturing and industrial facilities, and anywhere else the use of a particular area may change. The Acclimate Plus detector automatically adjusts its sensitivity to the environment.

FlashScan (U.S. Patent 5,539,389) is a communication protocol developed to greatly enhance the speed of communication between analog intelligent devices and compatible systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

#### Features

- Automatically adjusts sensitivity levels without the need for operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based, combination photo and thermal technology.
- FlashScan (NFS-640, NFS2-640, NFS-3030 and NFS2-3030) and classic system (NFS-640, NFS2-640, NFS-3030, NFS2-3030AFP-300, AFP-400, AFP1010, and AM2020) compatible.
- Addressable-analog communication.
- Sleek, low-profile design.
- Two-wire SLC connection.
- Sleek, low-profile design.
- Rotary, decimal addressing (1 – 99 on current classic systems; 1 – 159 on ONYX Series FlashScan systems).
- Addresses can be viewed and changed without the need for electronic programmers.
- Dual bi-color LED design provides 360° viewing angle.
- LEDs lock red when in Alarm. In FlashScan, LEDs flash green in standby for normal condition.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white Bayblend®, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.

**FAPT-851 in B710LP base**

- Several base options, including relay, isolator, and sounder.
- Remote test feature from the panel.
- Built-in functional test switch activated by external magnet.
- Listed to UL 268.
- Capable of heat-only alarm mode, enabled by a special command from the panel. Smoke alarms are ignored.
- Backwards-compatible on most panels.
- Low-temperature signal at 45°F +/- 10°F (7.22°C +/- 5.54°C).

#### Specifications

**Sensitivity:** auto-adjusting levels: 1 to 2%/ft. and 2 to 4%/ft. with classic CLIP systems; 1 to 2, 2 to 3, and 3 to 4%/ft. with FlashScan systems; *fixed-sensitivity levels:* 1, 2, and 4%/ft. with classic CLIP systems; 0.5, 1, 2, 3, and 4%/ft. with FlashScan systems.

**Size:** 2.1" (5.3 cm) high x 4.1" (10.4 cm) diameter installed in B501 base, 6.1" (15.5 cm) diameter installed in B710LP base.

**Shipping weight:** 5.2 oz. (147 g).

**Operating temperature:** 0°C to 38°C (32°F to 100°F).

**UL-Listed velocity range:** 0 – 4000 ft./min. (1219.2 m/min.), suitable for installation in ducts.

**Relative humidity:** 10% – 93% noncondensing.

**Thermal sensing rating:** fixed-temperature setpoint 135°F (57°C).

#### ELECTRICAL SPECIFICATIONS:

**Voltage range:** 15 – 32 volts DC peak.

**Standby current (max. avg.):** 250 µA @ 24 VDC (without communication); 360 µA @ 24 VDC (one communication every 5 seconds with LED enabled).

**Loop resistance:** 40 ohms maximum; varies according to control panel used. Refer to panel installation manuals.

**LED current (max.):** 6.5 mA @ 24 VDC ("ON").

#### BASES AVAILABLE:

**B710LP:** 6.1" (15.5 cm) diameter.

**B501:** 4.1" (10.4 cm) diameter.

**B501BH or B501BHT:** Sounder base assembly. Includes B501 base.



**B224RB Relay Base:** Screw terminals: up to 14 AWG (2.0 mm<sup>2</sup>). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive. Dimensions: 6.2" (15.748 cm) x 1.2" (3.048 cm).

**B224BI Isolator Base:** Dimensions: 6.2" (15.748 cm) x 1.2" (3.048 cm). Maximum: 25 devices between isolator bases.

## Installation

The FAPT-851 plug-in detector uses a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove detectors without using a ladder. Mount base on an electrical back-box at least 1.5" (3.81 cm) deep. Suitable mounting base boxes include:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B501BH or B501BHT base, use a 4.0" (10.16 cm) square box.
- With B224RB or B224BI base, use a 3.5" (8.89 cm) octagonal box, or a 4.0" (10.16 cm) octagonal or square box.

**NOTE: 1)** Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. **2)** When using relay or sounder bases, consult data sheet DN-2243 (ISO-X) for device limitations between isolator modules and isolator bases.

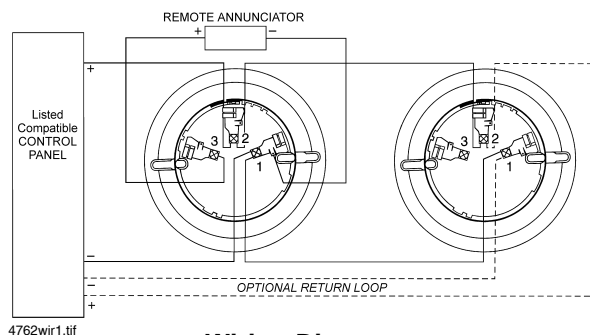
**APPLICATION NOTE:** The FAPT-851 detector has the unique ability to adjust sensitivity according to the environment, based on heat and smoke levels. Avoid installing these detectors in locations that are susceptible to rapid and high temperature changes. An example of an incorrect application would be near or in line with the output of a self-contained heater.

**DETECTOR SPACING:** Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceilings, space detectors 30 feet (9.144 m). For specific information regarding detector spacing, placement, and special applications, refer to NFPA 72. System Smoke Detector Application Guide, document A05-1003, is available at [systemsensor.com](http://systemsensor.com).

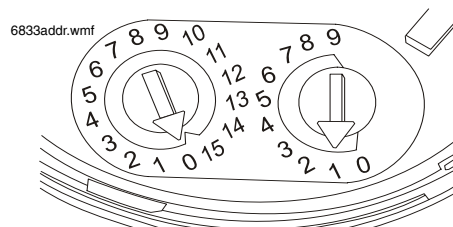
## Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S1115
- **ULC Listed:** CS308 (ML154)(FAPT-851A)
- **MEA Listed:** 225-02-E
- **FM Approved**
- **CSFM:** 7272-0028:206
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 02/60007 (NFS-640)
- **Maryland State Fire Marshal:** Permit # 2122



Wiring Diagram



Address dial on back of detector

## Ordering Information

**NOTE:** "A" suffix indicates ULC Listed model.

**FAPT-851:** Low-profile intelligent multi-sensor detector. Must be mounted to one of the bases listed below.

**FAPT-851A:** Same as FAPT-851 but with ULC Listing.

### BASES:

**B710LPBP:** Standard U.S. low-profile base, pkg. of 10.

**B710LPA:** Standard U.S. low-profile base, ULC Listing.

**B501BP:** Standard European flangeless base, pkg. of 10.

**B501A:** Standard European flangeless base, ULC Listing.

**B501BH(A):** Sounder base, includes B501(A) base above.

**B501BHT(A):** Same as B501BH(A), but includes temporal sounder.

**B224RB(A):** Intelligent relay base.

**B224BI(A):** Intelligent isolator base. Isolates SLC from loop shorts.

### ACCESSORIES:

**F110:** Retrofit replacement flange for older high profile bases. Converts bases for use with FlashScan® detectors.

**RA400Z(A):** Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B710LPBP(A) and B501(A) bases only.

**SMK400:** Surface mounting kit provides for entry of surface wiring conduit. For use with B501(A) base only.

**RMK400:** Recessed mounting kit. For use with B501(A) base only.

**SMB600:** Surface mounting kit for use with B710LPBP(A).

**BCK-200B:** Black detector covers, box of 10.

**M02-04-01:** Test magnet.

**M02-09-00:** Test magnet with telescope stick.

**XR2B:** Detector removal tool. Allows installation and/or removal of FlashScan® Series detector heads from base in high ceiling installations.

**T55-127-000:** Detector removal tool without pole.

**XP-4:** Extension pole for XR2B. Comes in three 5-ft. sections.

### DETECTOR GUARDS:

**NOTE:** Some guards listed below may not be applicable.

**SDG-773:** Smoke detector guard; cover is 7.0" (17.78 cm) square x 3.0" (7.62 cm) deep. This guard, although mechanically compatible, is NOT UL-compatibility Listed with the FAPT-851.

**STI9601:** Low-profile, flush-mount smoke detector guard, wire.\*

**STI9602:** Low-profile, surface-mount, smoke detector guard, wire.\*

**STI9609:** High-profile, flush-mount, smoke detector guard, wire.\*

**STI9605:** High-profile, surface-mount, smoke detector guard, wire.\*

**STI9604:** Flush-mount heat detector guard, wire.\*

**STI9610:** Surface-mount heat detector guard, wire.\*

\* For dimensions and additional information on STI Steel Web Stoppers, see data sheet DN-4936.

**STI8200-SS:** Flush-mount stainless steel smoke detector guard (compatibility pending).

**STI8230-SS:** Surface-mount stainless steel smoke detector guard (compatibility pending).

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This document is not intended to be used for installation purposes.  
We try to keep our product information up-to-date and accurate.  
We cannot cover all specific applications or anticipate all requirements.  
All specifications are subject to change without notice.



Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.  
[www.notifier.com](http://www.notifier.com)

# FDU-80

## 80 Character Liquid Crystal Display


**Annunciators**

### GENERAL

The FDU-80 is a compact, cost-effective, 80 character, backlit LCD Fire Annunciator for use with the NOTIFIER FireWarden-100-2, NFS-640, NFS2-640, and NFS-320 Fire Alarm Control Panels (FACPs). The FDU-80 mimics the display of the control panel and displays complete system point status information. Up to 32 FDU-80s may be connected onto the EIA-485 Terminal Mode port of each control panel. The FDU-80 requires no programming, which saves time during system commissioning.

#### NOTES:

1. The FDU-80 is compatible with the NOTIFIER NFS-640 Rev. 2.01 or higher.
2. The FDU-80 can be used on the same data loop as the LCD-80/LCD-80TM annunciators revision 1.6 software or higher.

### FEATURES

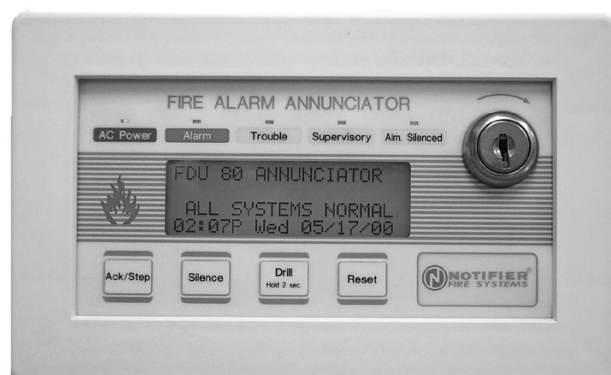
- 80-character Liquid Crystal Display.
- Mimics all display information from the host panel.
- Control switches for System Acknowledge, Signal Silence, Drill and Reset with enable key.
- System status LEDs for Power, Alarm, Trouble, Supervisory, and Alarm Silenced.
- No programming necessary — FDU-80 connects to the terminal mode port.
- Displays device type identifiers, individual point alarm, trouble or supervisory, zone and custom alpha labels.
- Time and date display field.
- Aesthetically pleasing design.
- May be powered by 24 VDC from the host FACP or by remote power supplies (requires 24 VDC).
- Up to 32 FDU-80 annunciators per FACP.
- Plug-in terminal blocks for ease of installation and service.
- Can be remotely located up to 6,000 feet (1828.8 m) from host control panel.
- Local piezo sounder with alarm and trouble resound.
- Semi-flush-mounts to 2.188"/5.556 cm (minimum) deep, three-gang electrical box (NOTIFIER P/N 10103) or three-gangable electrical switchbox.
- Surface-mounts to NOTIFIER SBB-3 surface backbox.

### OPERATION

The FDU-80 annunciator provides the FACP with point annunciation with full display text on an 80-character LCD display. The FDU-80 also provides an array of LEDs to indicate system status, and also includes control switches for remote control of critical system functions.

The FDU-80 provides the FACP with up to 32 remote serially connected annunciators. All field-wiring terminations on the FDU-80 use removable, compression-type terminal blocks for ease of wiring and circuit testing.

Communication between the FACP and the annunciators is accomplished over an EIA-485 serial interface, which greatly reduces wire and installation cost over traditional systems. Six



6820fdu8.jpg

wires total are required: four for the EIA-485 communications (two in and two return); and two for the 24 VDC regulated power. Dip switches control local functions such as: piezo disable, control switches/key switch disable, transmit/receive mode.

### INSTALLATION

The FDU-80 can be semi-flush mounted to a 2.188"/5.556 cm (minimum) deep, three-gang electrical box (NOTIFIER P/N 10103) or three-gangable electrical switchboxes. Alternately, an SBB-3 surface backbox is available for surface-mount applications.

### AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** CS100
- **MEA Listed:** 245-00-E
- **CSFM:** 7120-0028:209
- **FM Approved**

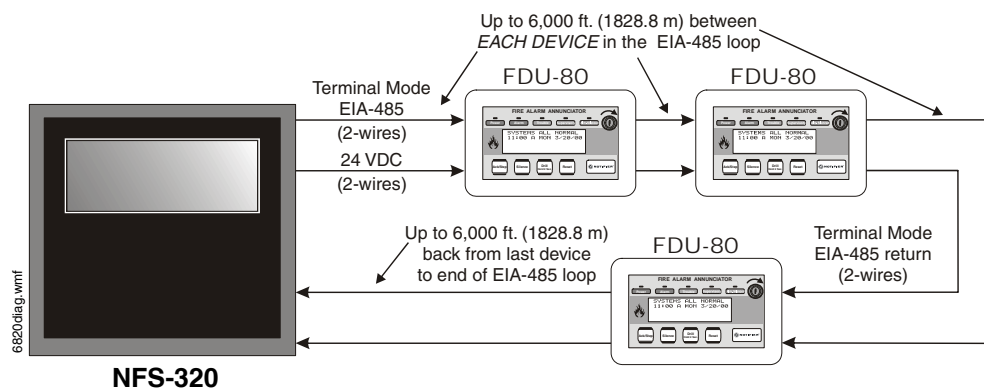
### ORDERING INFORMATION

**FDU-80** 80 character, backlit, LCD Fire Annunciator with control switches for remote control of system functions, and key-switch lock.

**10103** Three-gang electrical box, minimum 2.188" (5.556 cm) deep, for semi-flush-mount applications.

**SBB-3** Three-gang surface backbox for surface-mount applications.

## FDU-80 TERMINAL MODE WIRING EXAMPLE



### NOTES:

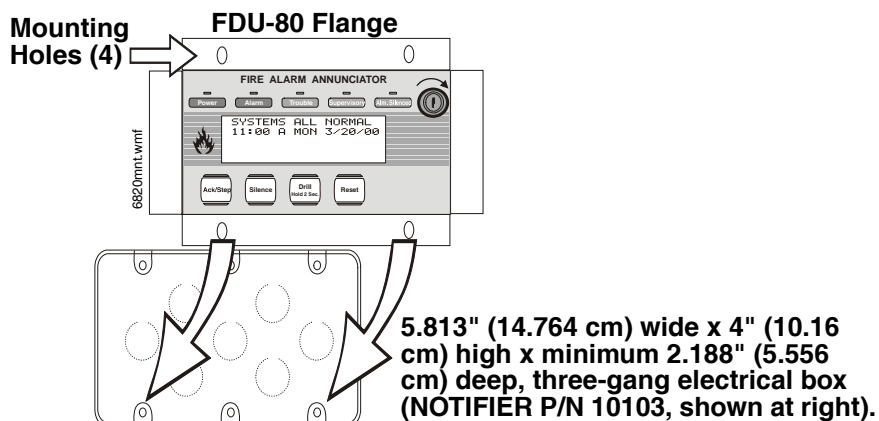
1. EIA-485: Maximum of 6,000 feet (1828.8 m) cable length from FACP to FDU-80 annunciators and back to FACP (6,000 feet [1828.8 m] total). Circuit is power-limited.
2. Up to 32 FDU-80 annunciators may be used on the EIA-485 circuit. When multiple FDU-80s are used, certain panels will require additional power supplies (refer to panel documentation).
3. Between each FDU-80 annunciator are four wires: a twisted-shielded pair for data communications and a pair for 24 VDC power. The return circuit only requires two wires for data communication supervision, wired from the last FDU-80 annunciator on the loop.
4. On the AFP-300/400, software revision 3.62 or higher is required.

## MOUNTING TO BACKBOX(ES)

The FDU-80 annunciators can be semi-flush-mounted in a three-gang electrical box with a minimum depth of 2.188" (5.556 cm) (NOTIFIER P/N 10103).

The FDU-80 annunciators can be mounted in three gangable electrical switch boxes connected together.

**NOTE:** Alternately, FDU-80 annunciators can be mounted to the SBB-3 surface backbox for surface-mount applications.



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www.notifier.com



# NBG-12LX

## Addressable Manual Pull Station



Intelligent/Addressable Devices

### General

The Notifier NBG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface for any Notifier intelligent control panel except FireWarden series panels. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

### Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word “ACTIVATED” appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm<sup>2</sup> wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Up to 99 NBG-12LX stations per loop on CLIP protocol systems.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol systems.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

### Construction

Shell, door, and handle are molded of durable LEXAN® (or polycarbonate equivalent) with a textured finish.

### Specifications

- Normal operating voltage: 24 VDC.
- Maximum SLC loop voltage: 28.0 VDC.
- Maximum SLC loop current: 375  $\mu$ A.
- Ambient Temperature: 32°F to 120°F (0°C to 49°C)
- Relative Humidity: 93%  $\pm$  2% RH (noncondensing) at 32°C  $\pm$  2°C (90°F  $\pm$  3°F)
- For use indoors in a dry location



The NBG-12LX  
Addressable Manual Pull Station

### Installation

The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

### Operation

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word “ACTIVATED” (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

### Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang,

or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

## Product Line Information

**NBG-12LX:** Dual-action addressable pull station. Includes key locking feature.

**SB-10:** Surface backbox; metal.

**SB-I/O:** Surface backbox; plastic.

**BG12TR:** Optional trim ring.

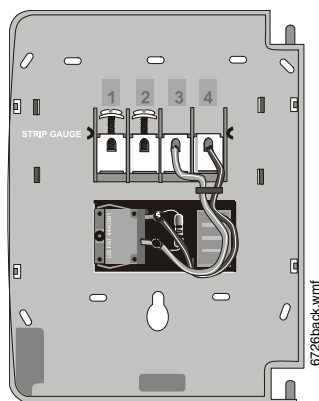
**17021:** Keys, set of two.

**NY-Plate:** New York City trim plate

## Agency Listings and Approvals

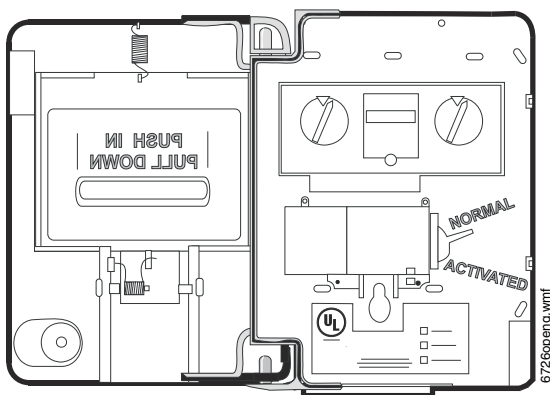
In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S692 (listed for Canadian and non-Canadian applications)
- **MEA:** 67-02-E
- **CSFM:** 7150-0028:199
- **BSMI:** CI313066760047
- **U.S. Coast Guard:** 161.002/23/3 (AFP-200); 161.002/27/3 (AM-2020/AFP-1010); 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 02/6007 (NFS-640); 94/60004 (E2) (AFP-200); 03/60011 (E1); 07/60007 (NFS2-3030)
- **FM Approved**



**Back of station without door**

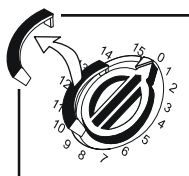
Terminal Connections:  
1 SLC (-); 2 SLC (+)



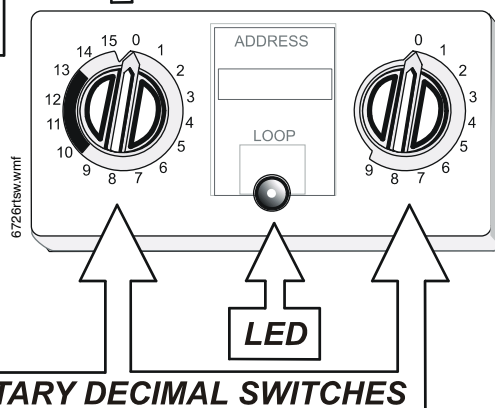
**Cover open to show easy access to miniature monitor module, rotary switch, and UL label.**

**Patented:**

U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.



**Detail of  
BREAKAWAY TAB\***



**ROTARY DECIMAL SWITCHES**

\* Remove tab to select addresses above 99 (FlashScan systems only).

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www.notifier.com

# FST-851 Series

## Intelligent Thermal (Heat) Detectors with FlashScan®



Intelligent/Addressable Devices

### General

Notifier FST-851 Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with decade address switches, providing exact detector locations for selective maintenance when chamber contamination reaches an unacceptable level. FST-851 Series thermal detectors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (FST-851) and rate-of-rise thermal detection (FST-851R) in a low-profile package. FST-851H provides fixed high-temperature detection at 190°F/88°C. These thermal detectors provide cost effective, intelligent property protection in a variety of applications. FST-851 Series detectors are compatible with all Notifier intelligent Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier Engineering that greatly enhances the speed of communication between analog intelligent devices and certain NOTIFIER systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

### Features

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Rate-of-rise model (FST-851R), 15°F (8.3°C) per minute.
- Factory preset at 135°F (57°C); high-temperature model at 190°F (88°C).
- Addressable by device.
- FlashScan® (NFS-640, NFS-3030) and classic CLIP system (AFP-100, AFP-200, AFP-300, AFP-400, NFS-640, AFP1010, AM2020, NFS-3030, NFS2-3030) compatible.
- Rotary, decimal addressing (1 – 99 on current classic systems, 1 – 159 on FlashScan® systems).
- Two-wire SLC connection.
- Visible LEDs “blink” every time the unit is addressed.
- 360°-field viewing angle of the visual alarm indicators (two bi-color LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
- Integral communications and built-in device-type identification.
- Remote test feature from the panel.
- Built-in functional test switch activated by external magnet.
- Walk test with address display (an address of 121 will blink the detector LED 12-(pause)-1).
- Low standby current.
- Listed to UL 521.
- Backward-compatible.
- Built-in tamper-resistant feature.
- Designed for direct-surface or electrical-box mounting.
- Sealed against back pressure.



FST-851 Series in B710LP base

- Plugs into separate base for ease of installation and maintenance. Separate base allows interchange of photoelectric, ionization and thermal sensors.
- SEMS screws for wiring of the separate base.
- Constructed of off-white Bayblend®, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- Remote LED output connection to optional RA400Z remote LED annunciator.
- Optional sounder, relay, and isolator bases.
- Optional recessed (RMK400) or surface (SMK400) base mounting kits.

### Specifications

**Size:** 2.1" (5.3 cm) high x 4.1" (10.4 cm) diameter installed in B501 base, 6.1" (15.5 cm) diameter installed in B710LP base.

**Shipping weight:** 4.8 oz. (137 g).

**Operating temperature range:** FST-851 Series, FST-851R: –20°C to 38°C (–4°F to 100°F); FST-851H: –20°C to 66°C (–4°F to 150°F).

**Detector spacing:** UL approved for 50 ft. (15.24 m) center to center. FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing.

**Relative humidity:** 10% – 93% noncondensing.

**Thermal ratings:** fixed-temperature setpoint 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C).

### ELECTRICAL SPECIFICATIONS:

**Voltage range:** 15 - 32 volts DC peak.

**Standby current (max. avg.):** 200 µA @ 24 VDC (without communication); 300 µA @ 24 VDC (one communication every 5 seconds with LED enabled).

**LED current (max.):** 6.5 mA @ 24 VDC (“ON”).

Bases available:

**B710LP:** 6.1" (15.5 cm) diameter.

**B501:** 4.1" (10.4 cm) diameter.

**B501BH or B501BHT:** Sounder base assembly. Includes B501 base.

**B224RB Relay Base:** Screw terminals: up to 14 AWG (2.0 mm²). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive. Dimensions: 6.2" (15.748 cm) x 1.2" (3.048 cm).

**B224BI Isolator Base:** Dimensions: 6.2" (15.748 cm) x 1.2" (15.748 cm). Maximum: 25 devices between isolator bases. See Note 2 under Installation.

## Applications

Use thermal detectors for protection of property. For further information, go to [systemsensor.com](http://systemsensor.com) for manual I56-407-00, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

## Installation

The FST Series plug-in intelligent thermal detector uses a separate base to simplify installation, service, and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. Suitable boxes include:

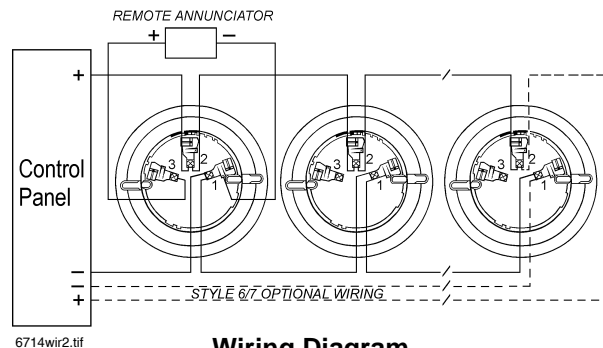
- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B501BH or B501BHT base, use a 4.0" (10.16 cm) square box.
- With B224RB or B224BI base, use a 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or a 4.0" (10.16 cm) square box.

**NOTE: 1)** Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. **2)** When using relay or sounder bases, consult data sheet DN-2243 (ISO-X) for device limitations between isolator modules and isolator bases.

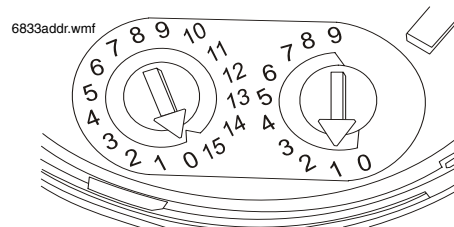
## Agency Listings and Approvals

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- **UL Listed:** S747
- **ULC Listed:** CS630 (ML255)(FST-851A, FST-851HA, FST-851RA)
- **MEA Listed:** 383-02-E
- **FM Approved**
- **CSFM:** 7270-0028:196
- **BSMI:** CI313066760025
- **CCCF:** Certif. # 2004081801000018
- **U.S. Coast Guard:** 161.002/23/3 (AFP-200); 161.002/27/3 (AFP1010/AM2020); 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 03/60011



**Wiring Diagram**



**Address dial on back of detector**



## Product Line Information

"A" suffix indicates ULC Listed model.

FST-851 Series: Intelligent thermal detector. Must be mounted to one of the bases listed below.

FST-851 SeriesA: Same as FST-851 Series but with ULC Listing.

FST-851R: Intelligent thermal detector with rate-of-rise feature.

FST-851RA: Same as FST-851R but with ULC Listing.

FST-851H: Intelligent high-temperature thermal detector.

FST-851HA: Same as FST-851H but with ULC Listing.

### BASES:

B710LPBP: Standard U.S. low-profile base, pkg. of 10.

B710LPA: Standard U.S. low-profile base, ULC Listing.

B501BP: Standard European flangeless base, pkg. of 10.

B501A: Standard European flangeless base, ULC Listing.

B501BH(A): Sounder base, includes B501(A) base.

B501BHT(A): Same as B501BH(A), but includes temporal sounder.

B224RB(A): Intelligent relay base.

B224BI(A): Intelligent isolator base. Isolates SLC from loop shorts.

### ACCESSORIES:

F110: Retrofit replacement flange for older style high profile bases. Converts bases for use with FlashScan® detectors.

RA400Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B710LPBP(A) and B501(A) bases only.

SMK400: Surface mounting kit provides for entry of surface wiring conduit. For use with B501(A) base only.

RMK400: Recessed mounting kit. For use with B501(A) base only.

SMB600: Surface mounting kit for use with B710LPBP(A).

BCK-200B: Black detector covers, box of 10.

M02-04-01: Test magnet.

M02-09-00: Test magnet with telescope stick.

XR2B: Detector removal tool. Allows installation and/or removal of FlashScan® Series detector heads from base in high ceiling installations.

T55-127-000: Detector removal tool without pole.

XP-4: Extension pole for XR2B. Comes in three 5-ft. sections.

### DETECTOR GUARDS:

NOTE: Some guards listed below may not be applicable to FST Series.

STI9601: Low-profile, flush-mount smoke detector guard, wire.\*

STI9602: Low-profile, surface-mount, smoke detector guard, wire.\*

STI9609: High-profile, flush-mount, smoke detector guard, wire.\*

STI9605: High-profile, surface-mount, smoke detector guard, wire.\*

STI 9604: Flush-mount heat detector guard, wire.\*

STI 9610: Surface-mount heat detector guard, wire.\*

\*For dimensions and additional information on STI Steel Web Stoppers, see data sheet DN-4936.

STI8200-SS: Flush-mount stainless steel smoke detector guard (compatibility pending).

STI8230-SS: Surface-mount stainless steel smoke detector guard (compatibility pending).

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# NFS-320(E)

## Intelligent Addressable Fire Alarm System



### Intelligent Fire Alarm Control Panels

#### General

The NFS-320 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meet virtually every application requirement.

Designed with modularity and ease of system planning, the NFS-320 can be configured with just a few devices for small building applications, or for a large campus or high-rise application. Simply add additional peripheral equipment to suit the application.

**NOTE:** Unless called out with a version-specific "R" or "E" at the end of the part number, "NFS-320" refers to models NFS-320, NFS-320R, and NFS-320E; similarly, "CPU-320" refers to the main circuit board for CPU-320, and CPU-320E.

#### Features

- Listed to UL Standard 864, 9th edition.
- One isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors (any mix of ion, photo, thermal, or multi-sensor) and 159 modules (Addressable pull stations, normally open contact devices, two-wire smoke, notification, or relay). 318 devices maximum.
- Standard 80-character display.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NCA-2, DVC, ONYXWorks, NCS, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NCA-2, DVC, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC is used in network paging.
- 6.0 amp power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Optional universal 318-point DACT.
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with tally.
- Autoprogramming and Walk Test reports.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- NAC coding functions:
  - March time.
  - Temporal.
  - California two-stage coding.
  - Canadian two-stage.
  - Strobe synchronization.



NFS-320

- Field-programmable on panel or on PC, with VeriFire Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 amp hour batteries
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.

#### FLASHSCAN® INTELLIGENT FEATURES:

- Poll up to 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — nine levels.
- Pre-alarm ONYX intelligent sensing — nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - Ion – 0.5 to 2.5%/foot obscuration.
  - Photo – 0.5 to 2.35%/foot obscuration.
  - Laser (VIEW®) – 0.02 to 2.0%/foot obscuration.
  - Acclimate Plus™ – 0.5 to 4.0%/foot obscuration.
  - IntelliQuad – 1.0 to 4.0%/foot obscuration.
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the CPU-320 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the CPU-320 NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

### **FSC-851 INTELLIQUAD**

#### **ADVANCED MULTI-CRITERIA DETECTOR**

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.
- Six sensitivity levels.

### **FSL-751 VIEW (VERY INTELLIGENT EARLY WARNING)**

#### **SMOKE DETECTION TECHNOLOGY:**

- Revolutionary spot laser design.
- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- No moving parts to fail or filters to change.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

### **FAPT-851 ACCLIMATE PLUS**

#### **LOW-PROFILE INTELLIGENT MULTI-SENSOR:**

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- FlashScan or classic mode compatible.
- Low-temperature warning signal at  $40^{\circ}\text{F} \pm 5^{\circ}\text{F}$  ( $4.44^{\circ}\text{C} \pm 2.77^{\circ}\text{C}$ ).

#### **RELEASING FEATURES:**

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).

- Abort (four options).
- Low-pressure CO<sub>2</sub> listed.

#### **HIGH-EFFICIENCY OFFLINE SWITCHING**

##### **3.0 AMP POWER SUPPLY (6.0 A IN ALARM):**

- 120 VAC (NFS-320); 240 VAC (NFS-320E).
- Displays battery current/voltage on panel (with display).

#### **VOICE FEATURES:**

- Integrates with FireVoice-25/50 Series (see DN-7004).
- Integrates via serial connection with FireVoice-25/50ZS Series (see DN-7003).

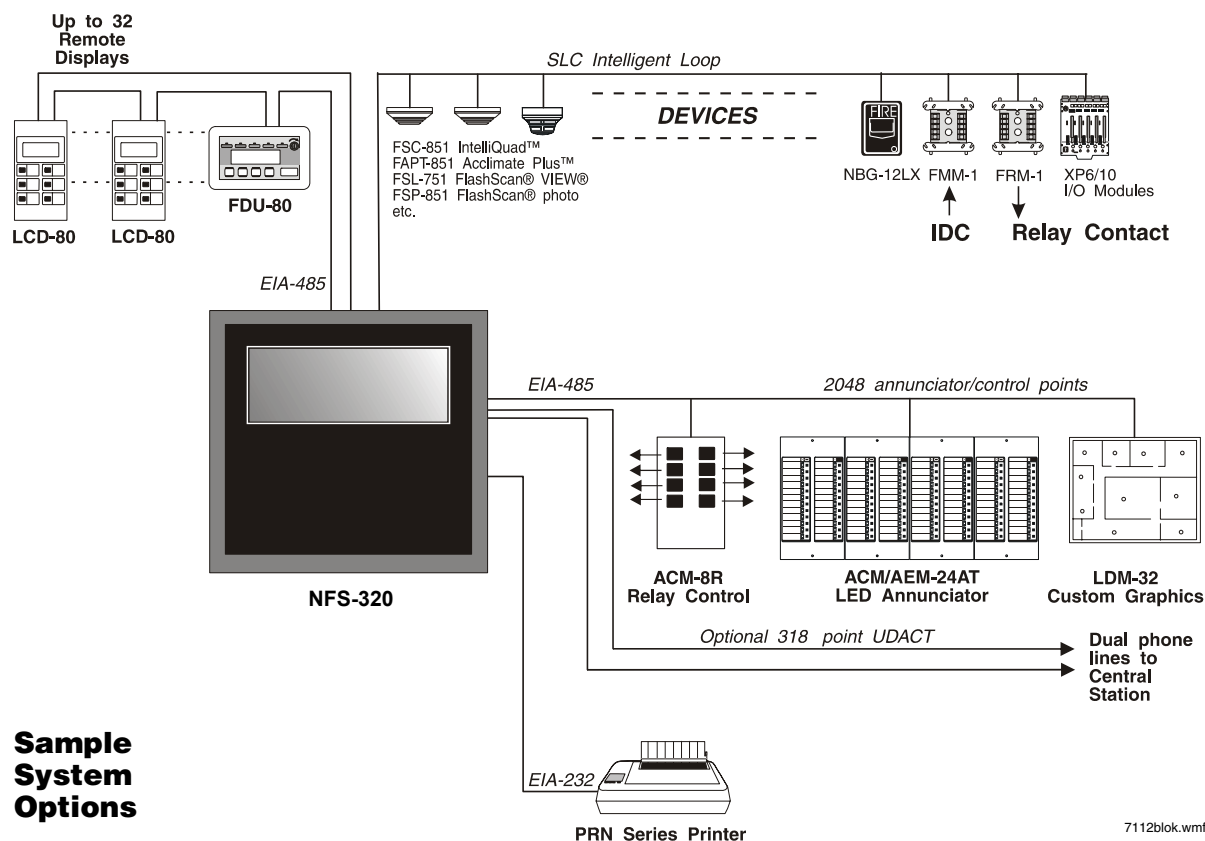
## **FlashScan, Exclusive World-Leading Detector Protocol**

At the heart of the NFS-320 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this new protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS-320 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

## **ONYX Intelligent Sensing**

Intelligent sensing is a set of software algorithms that provides the NFS-320 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS-320.



**Sample  
System  
Options**

7112blok.wmf

**Drift Compensation and Smoothing:** Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

**Maintenance Warnings:** When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

**Sensitivity Adjust:** Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

**Self-Optimizing Pre-Alarm:** Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

**Cooperating Multi-Detector Sensing:** A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

## Field Programming Options

**Autoprogram.** This timesaving feature is a special software routine. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

**Keypad Program Edit (with KDM-R2)** The NFS-320, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, **while continuing to provide fire protection.** The architecture of the NFS-320 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS-320 simultaneously monitors other (already installed) points for alarm conditions.

**VeriFire Tools** is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS-320 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

## Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS-320's flexible system design.

**Wiring:** When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the NFS-320 Installation Manual.

It is critical that all mounting holes of the NFS-320 are secured with a screw or standoff to ensure continuity of Earth Ground.

**Networking:** If networking two or more control panels, each unit requires a Network Control Module or High-Speed Network Control Module (see "Network Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of them.

## KDM-R2 Controls and Indicators

**Program Keypad:** QWERTY type (keyboard layout).

**12 LED Indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

**Keypad Switch Controls:** Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

**LCD Display:** 80 characters (2 x 40) with long-life LED backlight.

## Configuration Guidelines

*The NFS-320 system ships assembled; description and some options follow.*

*Note: Stand-alone and network systems require a main display. On stand-alone systems, the panel's keypad provides the required display. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required.*

**NFS-320:** The standard, factory-assembled NFS-320 system includes the following components: one CPU-320 control panel mounted on chassis (120 V operation — ships with grounding cable, battery interconnect cables, and document kit); includes integral power supply mounted to the CPU-320; one primary display KDM-R2 keypad/display; and one cabinet for surface or semi-flush mounting. *Purchase batteries separately. One or two option boards may be mounted inside the NFS-320 cabinet; additional option boards can be utilized in remote cabinets.*

**NFS-320R:** Same as NFS-320 above, but in red enclosure.

**NOTE:** For information on the ULC-listed version, see DN-60085.

**NFS-320E:** Same as NFS-320 above, but with 240 V operation.

**TR-320:** Trim ring for the NFS-320 cabinet.

## Option Modules

**FCPS-24S6/-24S8:** Remote six-amp and eight-amp power supplies with battery charger. *See DN-6927.*

### COMPATIBLE DEVICES, EIA-232 PORTS

**PRN-6:** 80-column printer. *See DN-6956.*

**VS4095/5:** Printer, 40-column, 24 V. Mounted in external back-box. *See DN-3260.*

### COMPATIBLE DEVICES, EIA-485 PORTS

**ACM-24AT:** ONYX Series ACS annunciator — up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

**AEM-24AT:** Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

**ACM-48A:** ONYX Series ACS annunciator — up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

**AEM-48A:** Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See DN-6862.*



**TM-4:** Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit; mount on NFS-320 chassis or remotely. *See DN-6860.*

**LCD-80/FDU-80:** 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See LCD-80/-80TM (DN-3198) and FDU-80 (DN-6820).*

**LDM:** Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom driver modules. *See LDM data sheet, DN-0551.*

**ACM-8R:** Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See ACM-8R data sheet, DN-3558.*

**SCS:** Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits. *See SCS data sheet DN-4818.*

**UDACT:** Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-4867.*

**UZX-256:** Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). *See DN-3404.*

### COMPATIBLE INTELLIGENT DEVICES

**BEAMHK:** Heating kit for transmitter/receiver unit of FSB-200(S) below. *See DN-6985.*

**BEAMHRK:** Heating kit for use with the reflector of FSB-200(S) below. *See DN-6985.*

**BEAMLRK:** Long-range accessory kit, FSB-200(S) below. *See DN-6985.*

**BEAMMRK:** Multi-mount kit, FSB-200(S) below. *See DN-6985.*

**BEAMSMK:** Surface-mount kit, FSB-200(S) below. *See DN-6985.*

**FSB-200:** Intelligent beam smoke detector. *See DN-6985.*

**FSB-200S:** Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

**FSC-851:** FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

**FSI-851:** Low-profile FlashScan ionization detector. *See DN-6934.*

**FSP-851:** Low-profile FlashScan photoelectric detector. *See DN-6935.*

**FSP-851T:** Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

**FST-851:** FlashScan thermal detector 135°F (57°C). *See DN-6936.*

**FST-851R:** FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

**FST-851H:** FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

**DNR:** InnovairFlex low-flow non-relay duct-detector housing (order FSP-851 separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

**DNRW:** Same as above with NEMA-4 rating, watertight. *See DN-60429.*

**FAPT-851:** FlashScan Acclimate Plus low-profile multi-sensor detector. *See DN-6937.*

**FSL-751:** FlashScan VIEW laser photo detector. *See DN-6886.*

**B224RB:** Low-profile relay base. *See DN-60054.*

**B224BI:** Isolator base for low-profile detectors. *See DN-60054.*

**B710LP:** Low-profile base. Standard U.S. style. *See DN-60054.*

**B501:** European-style, 4" (10.16 cm) base. *See DN-60054.*

**B501BH-2:** Standard sounder base. *See DN-60054.*

**B501BHT-2:** Temporal tone sounder base. *See DN-60054.*

**FMM-1:** FlashScan monitor module. *See DN-6720.*

**FDM-1:** FlashScan dual monitor module. *See DN-6720.*

**FZM-1:** FlashScan two-wire detector monitor module. *See DN-6720.*

**FMM-101:** FlashScan miniature monitor module. *See DN-6720.*

**FCM-1-REL:** FlashScan releasing control module. *See DN-60390.*

**FCM-1:** FlashScan NAC control module. *See DN-6724.*

**FRM-1:** FlashScan relay module. *See DN-6724.*

**NBG-12LX:** Manual pull station, addressable. *See DN-6726.*

**ISO-X:** Isolator module. *See DN-2243.*

**XP6-C:** FlashScan six-circuit supervised control module. *See DN-6924.*

**XP6-MA:** FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

**XP6-R:** FlashScan six-relay (Form-C) control module. *See DN-6926.*

**XP10-M:** FlashScan ten-input monitor module. *See DN-6923.*

### NETWORK OPTIONS

**NCM-W, NCM-F:** Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861.*

**HS-NCM-W/MF/SF/WMF/WSF/MFSF:** High-speed network communications modules. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

**RPT-W, RPT-F, RPT-WF:** Standard-network repeater board with wire connection (RPT-W), fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). *See DN-6971.*

**NCS5-W-ONYX:** Network Control Station, Wire. UL-Listed graphics PC with mouse, 19" color flat-screen LCD monitor. Order as necessary for network systems. Each NCS consumes one of 103 network addresses. *See ONYX DN-6869.*

**NCS5-F-ONYX:** Network Control Station, Fiber. UL-Listed graphics PC with mouse, 19" color flat-screen LCD monitor. Order as necessary for network systems. Each NCS consumes one of 103 network addresses. *See ONYX DN-6869.*

**ONYXWorks-NW:** UL-listed graphics PC workstation for standard NOTI•FIRE•NET with wire media. Includes NFN Gateway wire version (NFN-GW-PC-W) and 19" color flat-screen LCD monitor. Each ONYXWorks workstation consumes one of 103 network addresses. *See DN-7048.*

**ONYXWORKS-HNW:** UL-listed graphics PC workstation for wire high-speed NOTI•FIRE•NET. Includes HS-NFN Gateway (NFN-GW-PC-HNW) and 19" color flat-screen LCD monitor. Each ONYXWorks consumes one of up to 200 network addresses. *See DN-7048.*

**ONYXWorks-NF:** UL-listed graphics PC workstation for standard NOTI•FIRE•NET with fiber media. Includes NFN Gateway wire version (NFN-GW-PC-F) and 19" color flat-screen LCD monitor. Each ONYXWorks workstation consumes one of 103 network addresses. *See DN-7048.*

**ONYXWORKS-HNSF:** UL-listed graphics PC workstation for single-mode-fiber high-speed NOTI•FIRE•NET. Includes HS-NFN Gateway (NFN-GW-PC-HNSF) and 19" color flat-screen LCD monitor. Each ONYXWorks consumes one of up to 200 network addresses. *See DN-7048.*

**ONYXWORKS-HNMF:** UL-listed graphics PC workstation for multi-mode-fiber high-speed NOTI•FIRE•NET. Includes HS-NFN Gateway (NFN-GW-PC-HNMF) and 19" color flat-screen LCD monitor. Each ONYXWorks consumes one of up to 200 network addresses. *See DN-7048.*

**NFN-GW-EM:** NFN Gateway, embedded.

## **OTHER OPTIONS**

**DPI-232:** Direct Panel Interface, specialized modem for extending serial data links to remotely located FACP's and/or peripherals; mount on NFS-320 chassis. *See DN-6870.*

**VeriFire-TCD:** VeriFire Tools CD-ROM. Contains programming software for the ONYX Series. Includes local panel connection cable. *See DN-6871.*

**BAT Series:** Batteries. NFS-320 utilizes two 12 volt, 18 to 200 AH batteries. This series of products replaces the previous PS Series. *See DN-6933.*

**NFS-LBB:** Battery Box (required for batteries larger than 25 AH).

**NFS-LBBR:** Same as above, but red.

**411:** Slave Digital Alarm Communicator. *See DN-6619.*

**411UDAC:** Digital Alarm Communicator. *See DN-6746.*

# SYSTEM SPECIFICATIONS

## System Capacity

- Intelligent Signaling Line Circuits ..... 1
- Intelligent detectors ..... 159
- Addressable monitor/control modules ..... 159
- Programmable internal hardware and output circuits ..... 4
- Programmable software zones ..... 99
- Special programming zones ..... 14
- LCD annunciators per CPU-320/-320E ..... 32
- ACS annunciators  
per CPU-320/-320E ..... 32 addresses x 64 points

## Specifications

- Primary input power, **CPU-320 board**: 120 VAC, 50/60 Hz, 3.0 A. **CPU-320E board**: 220/240 VAC, 50/60 Hz, 1.5 A.
- Total output 24 V power: 6.0 A in alarm.

**NOTE:** The power supply has a total of 6.0 A of available power. This is shared by all internal circuits.

- Standard notification circuits (4): 1.5 A each.
- Four-wire detector power: 1.25 A.
- Non-resettable regulated power outputs: 1.25 A each.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 25 AH.
- Optional high-capacity (25 – 120 AH) battery charger: CHG-120 (see CHG-120 data sheet, DN-6040).
- Float rate: 27.6 V.

## Cabinet Specifications

NFS-320 cabinet dimensions: **BACKBOX, OUTSIDE**: 18.240" (46.33 cm) height, 5.77" (14.656 cm) deep. **WITH DOOR**: 18.870" (47.93 cm) wide x 18.469" (46.911 cm) high x 5.817" (14.775 cm) deep. **BACKBOX, INSIDE**: 18.120" (46.025 cm) inner width, 5.175" (13.145 cm) inner depth.

## Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH

(noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

## Agency Listings and Approvals

The listings and approvals below apply to the basic NFS-320 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** file S635
- **CSFM:** 7170-0028:244; 7165-0028:243
- **FM Approved**
- **MEA:** 128-07-E, **FDNY** Certificate #6007, #6025
- **FDNY COA # 6022** (HS-NCM)
- **City of Chicago**

**NOTE:** For ULC-listed model NFS-320C, see DN-60085.

## Standards

The NFS-320 complies with the following UL Standards and NFPA 72 Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **CENTRAL STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires UDACT).
- **EMERGENCY VOICE/ALARM.**

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# SpectrAlert®

Selectable Output P1224MC Horns/Strobes,  
S1224MC Strobes, & H12/24 Horns



Audio/Visual Devices

## General

System Sensor® SpectrAlert® Selectable Output Horns, Strobes, and Horn/Strobes offer enhanced features that include the widest range of candela options available and the capability to recognize and self-adjust for either 12- or 24-volt operation. With an overall feature set that combines performance, installation ease, flexibility, and a consistent, aesthetically pleasing appearance, the SpectrAlert Selectable Output devices provide both the innovation and efficiency synonymous with the SpectrAlert name.

**Performance.** SpectrAlert selectable output wall-mount horns, strobes, and horn/strobes offer key performance features long associated with the SpectrAlert name. The selectable-candela strobes and horn/strobes offer average current draws that are not only lower than conventional fixed-candela SpectrAlert products, but also lower than similar selectable-candela products. By consuming less current, the ability to connect even more devices per loop is possible, resulting in a lower installed cost.

**Installation.** SpectrAlert selectable output horns, strobes, and horn/strobes offer the same installation-friendly features synonymous with the SpectrAlert name, such as the option of two- and four-wire operation; the ability to use standard-sized backboxes with no encroachment into the box; and universal mounting incorporating the labor-saving QuickClick™ feature. Such labor-saving features make wire connections simple and fast, further reducing installed cost.

**Flexibility.** SpectrAlert selectable output strobes and horn/strobes offer the broadest range of candela options. In addition, the selectable output strobes and horn/strobes can operate on either 12 V or 24 V, with no setting required; the device recognizes and self-adjusts to the correct current automatically. Temporal 3 or Continuous tone options continue to be available, in either an Electromechanical or 3 kHz pattern.

**Aesthetics.** SpectrAlert selectable output horns, strobes, and horn/strobes incorporate the same stylish, low-profile design of the conventional SpectrAlert products, for a consistent and aesthetically pleasing appearance across the entire product line.

## Features

- Operate on either 12 V or 24 V.
- Widest range of candela options:
- **12 V:** 15 and 15/75 candela.
- **24 V:** 15, 15/75, 30, 75, 110 candela.
- Easy candela selection.
- Lower current draw.
- Easy DIP switch selection for horn options.
- Easy mounting with QuickClick.
- Synchronizable with MDL Sync•Circuit™ module.
- Meets UL 1971, NFPA 72, and ADA signaling requirements.

**NOTE:** All strobe and horn/strobe models incorporate a new patented voltage booster design that has a more consistent flash bulb voltage over the range of candela selections. The benefit to the customer is a high quality strobe device.

## P1224MC Horn/Strobe



S1224MC Strobe

6941cov6.jpg

## Engineering Specifications

SpectrAlert horns, strobes and horn/strobes shall be capable of mounting to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox or a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox using the universal mounting plate included with each SpectrAlert product. Also, SpectrAlert products, when used in conjunction with the accessory Sync•Circuit Module, shall be powered from a non-coded power supply and shall operate on 12 or 24 volts. 12-volt rated devices shall have an operating voltage range of 9 – 17.5 volts. 24-volt rated devices shall have an operating voltage range of 17 – 33 volts. SpectrAlert products shall have an operating temperature of 32° to 120°F (0°C to 49°C) and operate from a regulated DC or full-wave-rectified, unfiltered power supply.

### STROBE

Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### HORN/STROBE COMBINATION

Horn/Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. Horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a Temporal 3 pattern and a Non-Temporal Continuous pattern.

Strobes shall be powered independently of the sounder with the removal of factory-installed jumper wires. The horn on



horn/strobe models shall operate on a coded or non-coded power supply (the strobe must be powered continuously).

## SYNCHRONIZATION MODULE

Module shall be a System Sensor Sync-Circuit \_\_\_\_\_ listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, the module shall silence the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) back-box and shall control two Style Y (Class B) or one Style Z (Class A) circuit. Module shall be capable of multiple zone synchronization by daisy-chaining multiple modules together and re-synchronizing each other along the chain. The module shall not operate on a coded power supply.

## Operating Specifications

**Walk test:** SpectrAlert horn/strobe and horn-only work on "walk tests" with time durations of 4 seconds or greater.

**Input terminals:** 12 to 18 AWG (3.31 to 0.821 mm<sup>2</sup>).

**Dimensions:** *strobe and horn/strobe with universal plate:* 5.0" x 5.625" x 2.938" (12.7 x 14.288 x 7.461 cm); *strobe and horn/strobe with small-footprint plate:* 3.375" x 5.625" x 2.313" (8.573 x 14.288 x 5.874 cm); *horn with universal mounting plate:* 5.0" x 5.625" x 1.313" (12.7 x 14.288 x 3.334 cm); *horn without mounting plate:* 2.938" x 5.313" x 1.313" (7.461 x 13.494 x 3.334 cm).

**Weight, horn only:** 7.2 oz. (204.117 g).

**Weight, strobe and horn/strobe:** 8.8 oz. (249.476 g).

**Mounting:** standard boxes 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) or 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm).

**Operating temperature (indoor):** 32°F to 120°F (0°C to 49°C).

**Maximum humidity (indoor):** 95% as tested per UL 464.

**Operating temperature (K Series, outdoor):** -40°F to 151°F (-40°C to 66°C).

**Outdoor rating:** NEMA 3R (per UL 50).

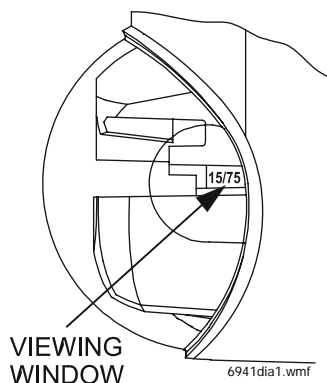
## SpectrAlert Strobe Candela Selections

For strobe candela selection, adjust slide switch located on the rear of the product while watching the viewing window on the side of the reflector.

**Permissible candela settings:**

**For 12 V operating voltage:** 15 or 15/75.

**For 24 V operating voltage:** 15, 15/75, 30, 75, 110.



**Voltages:** 12 or 24 VDC and FWR unfiltered. **NOTE:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

**Operating voltage range:** **12 V:** 8 – 17.5 V; **24 V:** 16 – 33 V.

**Operating voltage range with Sync-Circuit module MDL:** **12 V:** 9 – 17.5 V; **24 V:** 17 – 33 V. **NOTE:** The MDL causes a one-volt voltage drop in the notification appliance circuit.

**Explanation of published voltage, current, and SPL specifications:** In May 2004, Underwriters Laboratories changed standard UL 1971 to require that operating current measurements are made using RMS (root mean square) instead of peak or average values. RMS measurements more accurately predict the power consumption of a device since they take into account the entire current draw profile including surge, repetitive surge, and peak values. The published RMS current is the maximum operating current of that device within its operating voltage range. This current maximum may or may not occur at the endpoints of the voltage range. Similarly, UL tests the audibility of devices in accordance with UL 464 by measuring them across the operating voltage range to determine the minimum sound pressure level produced at any particular setting.

During May 2004, UL also changed the way they list the voltage range of a device. All 12 V products will be listed between 8 – 17.5 V and all 24 V products will be listed between 16 – 33 V. Those devices are considered "regulated." Any product that does not operate within these ranges will be listed as a "special application" with its operating voltage specified on the device.

**U.S. Patent numbers:** 5,593,569. 5,914, 665. 6,049,446.

## Current Draw Tables

**NOTE:** 1) Current draw for *strobe-only* products is shown in Table 1-A. 2) Current draw for *horn-only* products is shown in Table 1-B. 3) **12 VDC two-wire horn/strobe** current is shown in Table 1-C. 4) **24 VDC two-wire horn/strobe** current draw is shown in Table 1-D. 5) Current draw for *other horn/strobe power supplies* can be calculated by adding the strobe current in Table 1-A to the horn current in Table 1-B from the chosen settings.

Current Draw Table 1-A:  
STROBE, UL Maximum (mA RMS)

Candela Setting	FWR Operating Current, STROBE (mA RMS)		DC Operating Current, STROBE (mA RMS)	
	8 – 17.5 V	16 – 33 V	8 – 17.5 V	16 – 33 V
15	112	64	127	59
15/75	135	74	127	69
30		93		90
75		158		160
110		208		209

Current draw tables continued on next page.

Current Draw Table 1-B:  
HORN, UL Maximum (mA RMS)

Selectable Horn Tones		DC 8–17.5V	DC 16–33V	FWR 8–17.5V	FWR 16–33V
Temporal, LOW Volume	Electromechanical	15	23	13	23
	3000 Hz Interrupted	15	33	13	23
Temporal, HIGH Volume	Electromechanical	36	53	20	44
	3000 Hz Interrupted	43	57	21	40
Non-Temporal, LOW Volume	Electromechanical	16	37	19	29
	3000 Hz Interrupted	16	32	18	33
Non-Temporal, HIGH Volume	Electromechanical	38	49	46	49
	3000 Hz Interrupted	44	56	42	58

Current Draw Table 1-C:  
12 VDC HORN/STROBE,  
UL Maximum (mA RMS)

Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	111	111	112	112
15/75	127	127	126	129
<b>NON-TEMPORAL</b>				
15	113	112	114	115
15/75	128	128	130	134

Current Draw Table 1-D:  
24 VDC HORN/STROBE,  
UL Maximum (mA RMS)

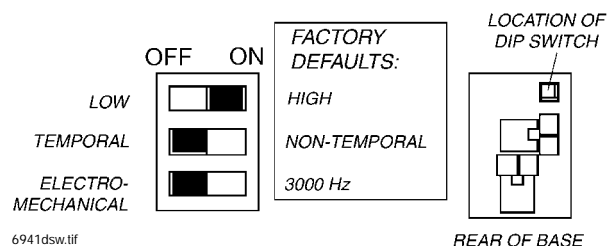
Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	71	70	73	75
15/75	86	85	87	88
30	99	98	100	100
75	166	166	167	170
110	209	209	210	213
<b>NON-TEMPORAL</b>				
15	74	74	79	82
15/75	86	88	93	96
30	101	101	107	110
75	167	167	173	176
110	213	213	218	222

## Agency Listings and Approvals

The listings and approvals below apply to SpectraAlert Selectable Output Strobe, Horn, and Horn/Strobes. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL** Listed: files S5512, S4011.
- **ULC** Listed: file C5549, C5548.
- **MEA** approved: files 122-02-E, 126-02-E.
- **CSFM** approved: files 7125-1653:162, 7135-1653:163.
- **FM** approved.

## DIP Switch Operation on P1224MC



## Typical Weatherproof Mounting with Universal Plate

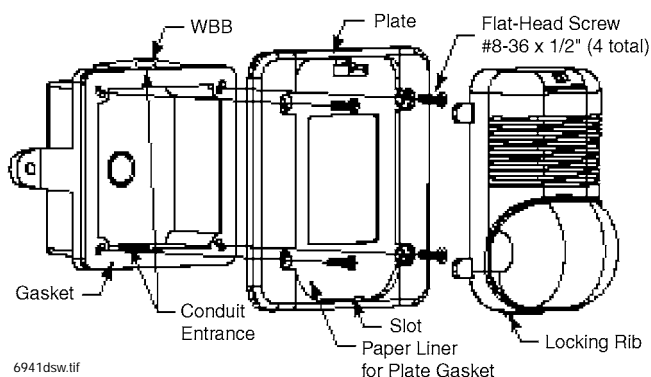


Table 2: HORN Sound Measurements (dBA)

Selectable Horn Tones		8 – 17.5 V	16 – 33 V
Temporal, LOW Volume	Electromechanical	67	75
	3000 Hz Interrupted	68	75
Temporal, HIGH Volume	Electromechanical	71	80
	3000 Hz Interrupted	72	81
Non-Temporal, LOW Volume	Electromechanical	71	79
	3000 Hz Interrupted	72	79
Non-Temporal, HIGH Volume	Electromechanical	76	84
	3000 Hz Interrupted	77	86

## Ordering Information

Model	Description	Model	Description
<b>HORN/STROBES</b>		<b>STROBES</b>	
P1224MC	Selectable output horn/strobe, 12/24 volt, red.	S1224MC	Selectable output strobe, 12/24 volt, red.
P1224MCW	Selectable output horn/strobe, 12/24 volt, white.	S1224MCW	Selectable output strobe, 12/24 volt, white.
P1224MCP	Selectable output horn/strobe, 12/24 volt, red, plain housing.	S1224MCP	Selectable output strobe, 12/24 volt, red, plain housing.
P1224MCPW	Selectable output horn/strobe, 12/24 volt, white, plain housing.	S1224MCPW	Selectable output strobe, 12/24 volt, white, plain housing.
P1224MCK	Selectable output horn/strobe, 12/24 volt, red, outdoor.	S1224MCK	Selectable output strobe, 12/24 volt, red, outdoor.
P1224MCSP	Selectable output horn/strobe, 12/24 volt, red, "FUEGO" housing.	S1224MCSP	Selectable output strobe, 12/24 volt, red, "FUEGO" housing.
<b>HORNS</b>		<b>MOUNTING ACCESSORIES</b>	
H12/24	Horn, 12/24 volt, red.	S-MP	Small-footprint mounting plate, red, for single-gang backbox.
H12/24W	Horn, 12/24 volt, white.	S-MPW	Small-footprint mounting plate, white, for single-gang backbox.
H12/24K	Horn, 12/24 volt, red, outdoor.	BBS	Surface-mount backbox skirt, red.
<b>SYNC MODULES</b>		BBSW	Surface-mount backbox skirt, white.
MDL	Sync•Circuit module, red.	D-MP	Universal mounting plate (replacement), red.
MDLW	Sync•Circuit module, white.	D-MPW	Universal mounting plate (replacement), white.
MDLWA	Sync•Circuit module, white, Canadian model.	WBB	Weatherproof backbox.
<b>NOTE:</b> 1) All of these SpectraAlert products are designed for wall-mounting only. 2) All outdoor models MUST use weatherproof backbox model WBB. 3) Installation of less than 75 candela strobes may be permissible under the equivalent facilitation clause of the ADAAG (Sec. 2.2). However, it is the responsibility of the person or entity designing the fire alarm system to determine the acceptability of less than 75 candela strobes. 4) All 15/75 candela strobes or horn/strobes are recommended for 20' x 20' (6.096 m x 6.096 m) rooms or less.			

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www.notifier.com



Made in the U.S. A.

# SpectrAlert®

Selectable Output P1224MC Horns/Strobes,  
S1224MC Strobes, & H12/24 Horns



Audio/Visual Devices

## General

System Sensor® SpectrAlert® Selectable Output Horns, Strobes, and Horn/Strobes offer enhanced features that include the widest range of candela options available and the capability to recognize and self-adjust for either 12- or 24-volt operation. With an overall feature set that combines performance, installation ease, flexibility, and a consistent, aesthetically pleasing appearance, the SpectrAlert Selectable Output devices provide both the innovation and efficiency synonymous with the SpectrAlert name.

**Performance.** SpectrAlert selectable output wall-mount horns, strobes, and horn/strobes offer key performance features long associated with the SpectrAlert name. The selectable-candela strobes and horn/strobes offer average current draws that are not only lower than conventional fixed-candela SpectrAlert products, but also lower than similar selectable-candela products. By consuming less current, the ability to connect even more devices per loop is possible, resulting in a lower installed cost.

**Installation.** SpectrAlert selectable output horns, strobes, and horn/strobes offer the same installation-friendly features synonymous with the SpectrAlert name, such as the option of two- and four-wire operation; the ability to use standard-sized backboxes with no encroachment into the box; and universal mounting incorporating the labor-saving QuickClick™ feature. Such labor-saving features make wire connections simple and fast, further reducing installed cost.

**Flexibility.** SpectrAlert selectable output strobes and horn/strobes offer the broadest range of candela options. In addition, the selectable output strobes and horn/strobes can operate on either 12 V or 24 V, with no setting required; the device recognizes and self-adjusts to the correct current automatically. Temporal 3 or Continuous tone options continue to be available, in either an Electromechanical or 3 kHz pattern.

**Aesthetics.** SpectrAlert selectable output horns, strobes, and horn/strobes incorporate the same stylish, low-profile design of the conventional SpectrAlert products, for a consistent and aesthetically pleasing appearance across the entire product line.

## Features

- Operate on either 12 V or 24 V.
- Widest range of candela options:
- **12 V:** 15 and 15/75 candela.
- **24 V:** 15, 15/75, 30, 75, 110 candela.
- Easy candela selection.
- Lower current draw.
- Easy DIP switch selection for horn options.
- Easy mounting with QuickClick.
- Synchronizable with MDL Sync•Circuit™ module.
- Meets UL 1971, NFPA 72, and ADA signaling requirements.

**NOTE:** All strobe and horn/strobe models incorporate a new patented voltage booster design that has a more consistent flash bulb voltage over the range of candela selections. The benefit to the customer is a high quality strobe device.

## P1224MC Horn/Strobe



S1224MC Strobe

6941cov6.jpg

## Engineering Specifications

SpectrAlert horns, strobes and horn/strobes shall be capable of mounting to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox or a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox using the universal mounting plate included with each SpectrAlert product. Also, SpectrAlert products, when used in conjunction with the accessory Sync•Circuit Module, shall be powered from a non-coded power supply and shall operate on 12 or 24 volts. 12-volt rated devices shall have an operating voltage range of 9 – 17.5 volts. 24-volt rated devices shall have an operating voltage range of 17 – 33 volts. SpectrAlert products shall have an operating temperature of 32° to 120°F (0°C to 49°C) and operate from a regulated DC or full-wave-rectified, unfiltered power supply.

### STROBE

Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### HORN/STROBE COMBINATION

Horn/Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. Horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a Temporal 3 pattern and a Non-Temporal Continuous pattern.

Strobes shall be powered independently of the sounder with the removal of factory-installed jumper wires. The horn on



horn/strobe models shall operate on a coded or non-coded power supply (the strobe must be powered continuously).

## SYNCHRONIZATION MODULE

Module shall be a System Sensor Sync-Circuit \_\_\_\_\_ listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, the module shall silence the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) back-box and shall control two Style Y (Class B) or one Style Z (Class A) circuit. Module shall be capable of multiple zone synchronization by daisy-chaining multiple modules together and re-synchronizing each other along the chain. The module shall not operate on a coded power supply.

## Operating Specifications

**Walk test:** SpectrAlert horn/strobe and horn-only work on "walk tests" with time durations of 4 seconds or greater.

**Input terminals:** 12 to 18 AWG (3.31 to 0.821 mm<sup>2</sup>).

**Dimensions:** *strobe and horn/strobe with universal plate:* 5.0" x 5.625" x 2.938" (12.7 x 14.288 x 7.461 cm); *strobe and horn/strobe with small-footprint plate:* 3.375" x 5.625" x 2.313" (8.573 x 14.288 x 5.874 cm); *horn with universal mounting plate:* 5.0" x 5.625" x 1.313" (12.7 x 14.288 x 3.334 cm); *horn without mounting plate:* 2.938" x 5.313" x 1.313" (7.461 x 13.494 x 3.334 cm).

**Weight, horn only:** 7.2 oz. (204.117 g).

**Weight, strobe and horn/strobe:** 8.8 oz. (249.476 g).

**Mounting:** standard boxes 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) or 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm).

**Operating temperature (indoor):** 32°F to 120°F (0°C to 49°C).

**Maximum humidity (indoor):** 95% as tested per UL 464.

**Operating temperature (K Series, outdoor):** -40°F to 151°F (-40°C to 66°C).

**Outdoor rating:** NEMA 3R (per UL 50).

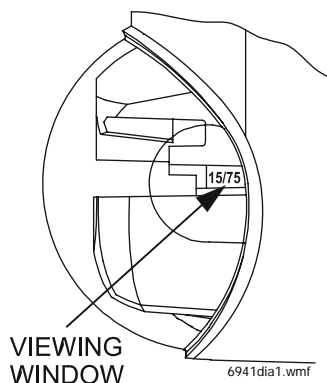
## SpectrAlert Strobe Candela Selections

For strobe candela selection, adjust slide switch located on the rear of the product while watching the viewing window on the side of the reflector.

**Permissible candela settings:**

**For 12 V operating voltage:** 15 or 15/75.

**For 24 V operating voltage:** 15, 15/75, 30, 75, 110.



**Voltages:** 12 or 24 VDC and FWR unfiltered. **NOTE:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

**Operating voltage range:** **12 V:** 8 – 17.5 V; **24 V:** 16 – 33 V.

**Operating voltage range with Sync-Circuit module MDL:** **12 V:** 9 – 17.5 V; **24 V:** 17 – 33 V. **NOTE:** The MDL causes a one-volt voltage drop in the notification appliance circuit.

**Explanation of published voltage, current, and SPL specifications:** In May 2004, Underwriters Laboratories changed standard UL 1971 to require that operating current measurements are made using RMS (root mean square) instead of peak or average values. RMS measurements more accurately predict the power consumption of a device since they take into account the entire current draw profile including surge, repetitive surge, and peak values. The published RMS current is the maximum operating current of that device within its operating voltage range. This current maximum may or may not occur at the endpoints of the voltage range. Similarly, UL tests the audibility of devices in accordance with UL 464 by measuring them across the operating voltage range to determine the minimum sound pressure level produced at any particular setting.

During May 2004, UL also changed the way they list the voltage range of a device. All 12 V products will be listed between 8 – 17.5 V and all 24 V products will be listed between 16 – 33 V. Those devices are considered "regulated." Any product that does not operate within these ranges will be listed as a "special application" with its operating voltage specified on the device.

**U.S. Patent numbers:** 5,593,569. 5,914, 665. 6,049,446.

## Current Draw Tables

**NOTE:** 1) Current draw for *strobe-only* products is shown in Table 1-A. 2) Current draw for *horn-only* products is shown in Table 1-B. 3) **12 VDC two-wire horn/strobe** current is shown in Table 1-C. 4) **24 VDC two-wire horn/strobe** current draw is shown in Table 1-D. 5) Current draw for *other horn/strobe power supplies* can be calculated by adding the strobe current in Table 1-A to the horn current in Table 1-B from the chosen settings.

Current Draw Table 1-A:  
STROBE, UL Maximum (mA RMS)

Candela Setting	FWR Operating Current, STROBE (mA RMS)		DC Operating Current, STROBE (mA RMS)	
	8 – 17.5 V	16 – 33 V	8 – 17.5 V	16 – 33 V
15	112	64	127	59
15/75	135	74	127	69
30		93		90
75		158		160
110		208		209

Current draw tables continued on next page.

Current Draw Table 1-B:  
HORN, UL Maximum (mA RMS)

Selectable Horn Tones		DC 8–17.5V	DC 16–33V	FWR 8–17.5V	FWR 16–33V
Temporal, LOW Volume	Electromechanical	15	23	13	23
	3000 Hz Interrupted	15	33	13	23
Temporal, HIGH Volume	Electromechanical	36	53	20	44
	3000 Hz Interrupted	43	57	21	40
Non-Temporal, LOW Volume	Electromechanical	16	37	19	29
	3000 Hz Interrupted	16	32	18	33
Non-Temporal, HIGH Volume	Electromechanical	38	49	46	49
	3000 Hz Interrupted	44	56	42	58

Current Draw Table 1-C:  
12 VDC HORN/STROBE,  
UL Maximum (mA RMS)

Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	111	111	112	112
15/75	127	127	126	129
<b>NON-TEMPORAL</b>				
15	113	112	114	115
15/75	128	128	130	134

Current Draw Table 1-D:  
24 VDC HORN/STROBE,  
UL Maximum (mA RMS)

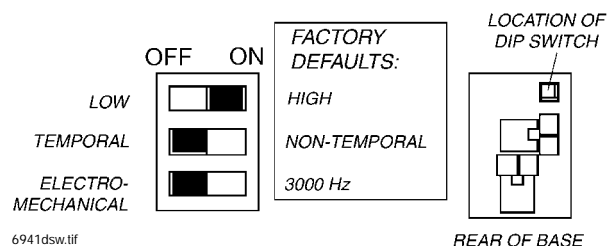
Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	71	70	73	75
15/75	86	85	87	88
30	99	98	100	100
75	166	166	167	170
110	209	209	210	213
<b>NON-TEMPORAL</b>				
15	74	74	79	82
15/75	86	88	93	96
30	101	101	107	110
75	167	167	173	176
110	213	213	218	222

## Agency Listings and Approvals

The listings and approvals below apply to SpectraAlert Selectable Output Strobe, Horn, and Horn/Strobes. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL** Listed: files S5512, S4011.
- **ULC** Listed: file C5549, C5548.
- **MEA** approved: files 122-02-E, 126-02-E.
- **CSFM** approved: files 7125-1653:162, 7135-1653:163.
- **FM** approved.

## DIP Switch Operation on P1224MC



## Typical Weatherproof Mounting with Universal Plate

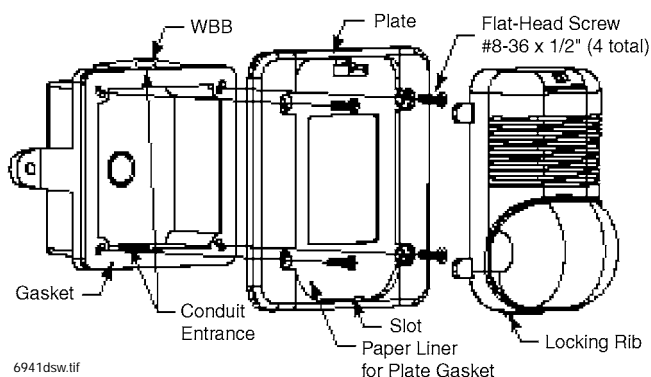


Table 2: HORN Sound Measurements (dBA)

Selectable Horn Tones		8 – 17.5 V	16 – 33 V
Temporal, LOW Volume	Electromechanical	67	75
	3000 Hz Interrupted	68	75
Temporal, HIGH Volume	Electromechanical	71	80
	3000 Hz Interrupted	72	81
Non-Temporal, LOW Volume	Electromechanical	71	79
	3000 Hz Interrupted	72	79
Non-Temporal, HIGH Volume	Electromechanical	76	84
	3000 Hz Interrupted	77	86

## Ordering Information

Model	Description	Model	Description
<b>HORN/STROBES</b>		<b>STROBES</b>	
P1224MC	Selectable output horn/strobe, 12/24 volt, red.	S1224MC	Selectable output strobe, 12/24 volt, red.
P1224MCW	Selectable output horn/strobe, 12/24 volt, white.	S1224MCW	Selectable output strobe, 12/24 volt, white.
P1224MCP	Selectable output horn/strobe, 12/24 volt, red, plain housing.	S1224MCP	Selectable output strobe, 12/24 volt, red, plain housing.
P1224MCPW	Selectable output horn/strobe, 12/24 volt, white, plain housing.	S1224MCPW	Selectable output strobe, 12/24 volt, white, plain housing.
P1224MCK	Selectable output horn/strobe, 12/24 volt, red, outdoor.	S1224MCK	Selectable output strobe, 12/24 volt, red, outdoor.
P1224MCSP	Selectable output horn/strobe, 12/24 volt, red, "FUEGO" housing.	S1224MCSP	Selectable output strobe, 12/24 volt, red, "FUEGO" housing.
<b>HORNS</b>		<b>MOUNTING ACCESSORIES</b>	
H12/24	Horn, 12/24 volt, red.	S-MP	Small-footprint mounting plate, red, for single-gang backbox.
H12/24W	Horn, 12/24 volt, white.	S-MPW	Small-footprint mounting plate, white, for single-gang backbox.
H12/24K	Horn, 12/24 volt, red, outdoor.	BBS	Surface-mount backbox skirt, red.
<b>SYNC MODULES</b>		BBSW	Surface-mount backbox skirt, white.
MDL	Sync•Circuit module, red.	D-MP	Universal mounting plate (replacement), red.
MDLW	Sync•Circuit module, white.	D-MPW	Universal mounting plate (replacement), white.
MDLWA	Sync•Circuit module, white, Canadian model.	WBB	Weatherproof backbox.
<b>NOTE:</b> 1) All of these SpectraAlert products are designed for wall-mounting only. 2) All outdoor models MUST use weatherproof backbox model WBB. 3) Installation of less than 75 candela strobes may be permissible under the equivalent facilitation clause of the ADAAG (Sec. 2.2). However, it is the responsibility of the person or entity designing the fire alarm system to determine the acceptability of less than 75 candela strobes. 4) All 15/75 candela strobes or horn/strobes are recommended for 20' x 20' (6.096 m x 6.096 m) rooms or less.			

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## KMS Series Alarm Bells

Section: Audio/Visual Appliances

### GENERAL

The NOTIFIER **KMS Series** bells are low-current, audible signaling devices for use in fire alarm systems or other signaling applications.

### FEATURES

- Under-dome design.
- Available in three gong sizes (6", 8", and 10" diameter).
- Low operating current.
- Low "kick" current.
- Indoor/outdoor installation.
- Mount to standard 4" square electrical box.
- Complies with UL 864.

### OPERATION

The KMS Series bells use a low-current, high efficiency DC motor to drive the striker. All DC models are polarized for use with supervision circuitry. The operating mechanism is completely enclosed in a cast aluminum base.

### APPLICATIONS

KMS Series bells are ideally suited for almost any kind of alarm signaling application. They can be used in schools, factories, office buildings, or private residences. Their low current consumption means additional savings on standby power.

### CONSTRUCTION

Each bell gong is made of steel finished in red enamel. The striker is also made of steel, and the mechanism housing is made of cast aluminum. Optional backboxes are of steel finished with red enamel to match the gong.

### INSTALLATION

Bells may be installed on a wall surface or semi-flush. A weatherproof backbox (WBB) also permits installation on an exterior wall surface.



S748



CS47021



California  
State Fire  
Marshal

7135-0028:117

**BSA**

1070-80-SA



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12 Clintonville Road, Northford, Connecticut 06472

#### ISO-9001

Engineering and Manufacturing  
Quality System Certified to  
International Standard ISO-9001

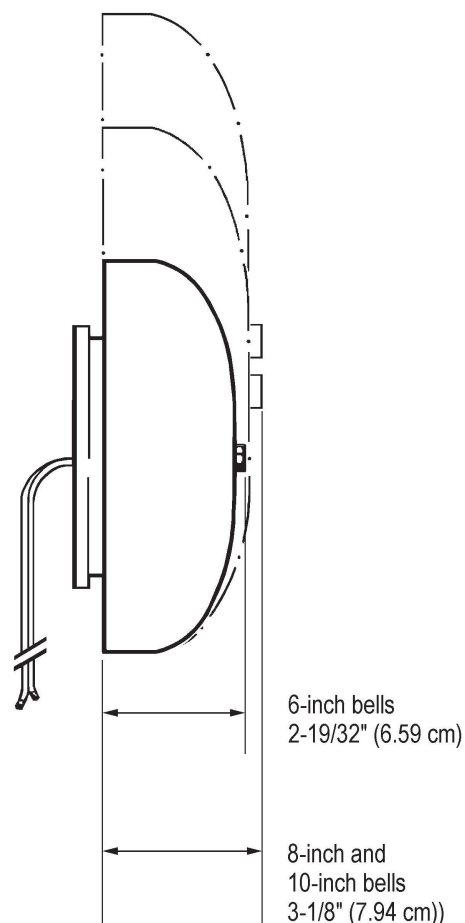
## PRODUCT LINE INFORMATION

Model Number	Gong Size	SPL Measurement at 10 ft. (3.048 m)*	Rated Input Voltage	Rated Current (mA)	Minimum Starting Voltage
<b>KMS-6-24</b>	6" (15.24 cm)	85 dB	24 VDC	30	12 VDC
<b>KMS-8-24</b>	8" (20.32 cm)	85 dB	24 VDC	30	12 VDC
<b>KMS-10-24</b>	10" (25.40 cm)	85 dB	24 VDC	30	12 VDC
<b>WBB</b>	Surface-mount weatherproof backbox, metal, red.				
<b>BB-R</b>	Standard 4" square electrical backbox - red enamel finish.				
<b>SFP-R</b>	Semiflush plate, mounting trim, metal, red.				
<b>MP-SF/R</b>	Semiflush plate, mounting trim, plastic, red.				

### Notes:

\* Sound Pressure Level (SPL) measured in accordance with UL Standard 464. UL Standard 464 requires that:

- The units be measured in a reverberant room qualified for pure tones under the methods for Determination of Sound Power Levels of Small Sources in Reverberation Rooms, ANSI S1.21-1972.
- The units be capable of providing a sound output of not less than the sound level provided by an omnidirectional source having an A-weighted sound pressure level equal to the level specified on the unit marking and not less than 75 decibels in any case.





## 1. GENERAL

The generator package shall each consist of a fully automatic diesel engine driven generator, complete with an automatic transfer switch and an acoustically lined weatherproof enclosure and critical silencer to attenuate the sound level(s) within limits as specified in *Section 2.9*.

The generator shall be manufactured and installed in compliance with the following Codes and Standards –

- **British Standards Institute** – Standard for the Classification of Insulating Materials for Electrical Machinery and Apparatus on the Basis of Thermal Stability in Service – **BSI 2725**.
- **International Electrotechnical Committee** – Standard for Rotating Electrical Machines, Part 1 (Rating and Performance – **IES 34-1**.
- **International Standards Organisation** – Standard for Reciprocating Internal Combustion Driven Alternating Current Generator Sets, Parts 1 to 9 – **ISO 8528**.
- **National Electrical Manufacturer's Association** – Standard for Motors and Generators – **NEMA MG1-1**.
- **NFPA 37** – Stationary Combustion Engines and Gas Turbines.
- **NFPA 70** – National Electrical Code.
- **NFPA 101** – Life Safety Code.
- **NFPA 110** – Emergency and Standby Power Systems.

## 2. GENERATOR

The generator shall be rated as follows –

**125kW / 156kVA 400/230V 3-Phase 1800 RPM 60 Hz**

Each generator shall be three-phase, single-bearing, synchronous type, wet wound, tropicalised and built by **NEMA** standards. **Class F** insulation shall be used on the stator and rotor, and both shall be further protected with an asphalt-modified epoxy on all end coils.

Each generator shall incorporate a resettable thermal protector and fuse for exciter/regulator protection against extended low power loads and faults.

## **2. GENERATOR**

Each generator rotor shall be dynamically balanced within **0.0005 inch** peak-to-peak amplitude displacements at both ends of the shaft and shall sustain **25%** overspeed conditions.

Each set shall be supplied with a governor to maintain a steady speed within limits as specified by **B.S. 649 – Class ‘A’**.

### **2.1 Regulator**

An automatic volts-per-hertz type, solid-state exciter/regulator, manufactured by the generator manufacturer shall be included and shock resistant mounted inside the generator.

Voltage regulation shall be  $\pm 1\%$  from no-load to full rated load. Readily accessible voltage droop, voltage level and voltage gain controls shall be included in the module.

Voltage level adjustment shall be a minimum of  $\pm 10\%$ . The module shall include the following protective devices:

- a) Current limiting circuits shall restrain the exciter field current while allowing full-forcing voltage to be applied to obtain rapid response during transient conditions or service overloading on the generator.
- b) A time-delay circuit shall sense the current limit operation and remove all field current to the generator after a period of **ten (10) seconds**.

### **2.2 Starting Motor**

The engine shall be equipped with a **24-volt** electric starting system with a positive engagement drive and be so rated as to crank the engine at a speed that will start the engine under operating conditions.

The starting pinion will disengage automatically when the engine starts.

The starting system shall incorporate an automatically reset circuit-breaker for anti-ratchet engagement.

### **2.3 Automatic Controls**

Fully automatic **START-STOP** controls shall be provided in the generator control panel. Controls shall provide automatic shutdown for the following -

- a) Low oil pressure.
- b) High water temperature.
- c) Loss of coolant.
- d) Overspeed.
- e) Overcrank.

One (1) auxiliary contact shall be provided for activating accessory items.

The automatic controls shall also include **one (1) 30-second** cranking cycle fitted with a lockout and manual reset feature.

### **2.4 Battery & Battery Charger**

A lead/acid storage battery set of the heavy-duty diesel engine starting type shall be provided. The battery voltage shall be compatible with the starting system voltage.

The battery set shall be rated at no less than **220 ampere-hours**. The batteries shall be capable of cranking the engine at the rated ambient for a minimum of **five (5) minutes**.

A current-limiting, float-equalising charger shall be furnished to automatically recharge the batteries.

The charger shall float at **2.17-volts** per cell and equalise at **2.33-volts** per cell. The charger shall be provided with the following:

- a) Overload protection.
- b) Silicon diode full-wave rectifiers.
- c) Voltage surge suppressors.
- d) DC. ammeter.
- e) Fused AC. output.

The AC. input voltage shall be **240-volts**, single phase and the amperage output shall not be less than **5 amperes**.

The charger shall be a wall-mounting type in a **NEMA 1** enclosure.

## **2. GENERATOR**

### **2.5 Generator Control Panels**

The Control Panels shall be obtained from the generator set manufacturer, which shall include a warranty, and local access to both manufacturer's parts and service support.

A generator-mounted **NEMA 1** type, vibration isolated, dead front, #14-gauge steel Control Panel shall be provided and shall contain, but not be limited to, the following equipment:

- a) Illuminating lights and switch.
- b) AC. voltmeter, 3 1/2 inch (9 mm), **2%** accuracy.
- c) AC. ammeter, 3 1/2 inch (9 mm), **2%** accuracy.
- d) Ammeter-voltmeter phase selector switch.
- e) Frequency meter, 3 1/2 inch (9 mm), dial type (**45-65 Hertz**).
- f) Automatic starting controls as specified.
- g) Voltage adjustment level rheostat.
- h) Dry contacts for remote alarms wired to terminal strips.
- i) Fault indicators for low oil pressure, high water temperature, overspeed and overcrank.
- j) Four-position function switch marked '**AUTO**', '**MANUAL**', '**OFF/RESET**' and '**STOP**'.
- k) Hinged solid protective cover equipped with a lock.

### **2.6 Accessories**

The generator shall be provided with the following accessories:

- a) High deflection spring-type vibration isolators.
- b) **8-hour** base-mounted standby fuel tank
- c) Set-mounted serviceman isolators as follows –

**415V 400A-3P 22 kAIC**

## **2.7 Cable Terminations**

The generator supplier shall ensure that adequate provisions are made for the terminations of power cables (supplied by others) onto the Service Isolator lugs as follows –

**4C x 240mm<sup>2</sup> X.L.P.E.**

## **2.9 Weatherproof Enclosure**

Each generator shall be supplied with an acoustically lined **residential sound-attenuated** weatherproof enclosure and critical silencer to attenuate the noise level(s) at the property line to –

<i>Peak Day Time</i>	<i>Peak Night Time</i>	<i>Continuous Day Time</i>	<i>Continuous Night Time</i>
57 dB (A)	52 dB (A)	55 dB (A)	47 dB (A)

The weatherproof enclosure to meet the following requirements -

- a) The enclosure and all associated items are to be designed and built by the engine manufacturer as an integral part of the generator set and shall be so designed as to perform without overheating within the ambient temperature specified.
- b) Constructed of **#14 / 16 gauge** sheet metal, suitably reinforced to be vibration free in the operating mode.
- c) Hinged doors to provide complete access without their removal, with each door having at least two (2) latch-bearing points, and fitted with locks on all doors.
- d) Side and rear panels to be easily removable to facilitate major service access.
- e) Roof to be peaked to allow drainage of rainwater.
- f) Baked enamel finish with primer and finish coat to be painted prior to assembly. All fasteners are to be rust-resistant.
- g) The unit shall have sufficient metal screens to prevent entry by small animals.
- h) Batteries are to be mounted inside the enclosure and alongside the engine (Batteries located under the generator will not be permitted).
- i) The unit shall have both coolant and oil drains outside the enclosure to facilitate maintenance. Each drain line is to be provided with a high quality valve located near the fluid source.



### **3. AUTOMATIC TRANSFER SWITCH**

An automatic three phase transfer switch shall be provided by the generator supplier, which shall include a warranty, and local access to both manufacturer's parts and service support, as outlined below -

#### **3.1 Scope**

Furnish and install automatic transfer switch (ATS) with number of poles, amperage, voltage, withstand and close-on ratings as shown on the plans. The automatic transfer shall consist of an inherently double-throw power transfer switch mechanism and a microprocessor controller to provide automatic operation. The transfer switch and controller shall be the products of the same manufacturer.

##### **3.1.1 Codes and Standards**

The automatic transfer switches and controls shall conform to the requirements of:

- **UL 1008** - Standard for Transfer Switch Equipment
- **IEC 947-6-1** Low-voltage Switchgear and Controlgear; Multifunction equipment; Automatic Transfer Switching Equipment
- **NFPA 70** - National Electrical Code
- **NFPA 99** - Essential Electrical Systems for Health Care Facilities
- **NFPA 110** - Emergency and Standby Power Systems
- **IEEE Standard 446** - IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- **NEMA Standard ICS10-1993** (formerly ICS2-447) - AC Automatic Transfer Switches
- **UL 508** Industrial Control Equipment

##### **3.1.2 Acceptable Manufacturers**

Automatic transfer switch shall be **ASCO 300 Series 415V 400A** or equal approved. Alternate bids must list any deviations from this specification.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.2 Mechanically Held Transfer Switch**

- A.** The transfer switch shall be electrically operated and mechanically held. The electrical operator shall be a momentarily energized, single-solenoid mechanism. Main operators which include overcurrent disconnect devices, linear motors or gears shall not be acceptable. The switch shall be mechanically interlocked to ensure only two possible positions, normal or emergency.
- B.** All transfer switch sizes shall use only one type of main operator for ease of maintenance and commonality of parts.
- C.** The switch shall be positively locked and unaffected by momentary outages, so that contact pressure is maintained at a constant value and contact temperature rise is minimized for maximum reliability and operating life.
- D.** All main contacts shall be silver composition. Switches rated 600 amperes and above shall have segmented, blow-on construction for high withstand and close-on capability and be protected by separate arcing contacts.
- E.** Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. Switches rated 600 amps and higher shall have front removable and replaceable contacts. All stationary and moveable contacts shall be replaceable without removing power conductors and/or bus bars.
- F.** Designs utilizing components of molded-case circuit breakers, contactors, or parts thereof, which are not intended for continuous duty, repetitive switching or transfer between two active power sources are not acceptable.
- G.** Where neutral conductors must be switched as shown on the plans, the ATS shall be provided with fully rated overlapping neutral transfer contacts. The neutrals of the normal and emergency power sources shall be connected together only during the transfer and retransfer operation and remain connected together until power source contacts close on the source to which the transfer is being made. The overlapping neutral contacts shall not overlap for a period greater than 100 milliseconds. Neutral switching contacts which do not overlap are not acceptable.
- H.** Where neutral conductors are to be solidly connected as shown on the plans, a neutral conductor plate with fully rated AL-CU pressure connectors shall be provided.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.3 Microprocessor Controller**

- A.** The controller's sensing and logic shall be provided by a single built-in microprocessor for maximum reliability, minimum maintenance, and the ability to communicate serially through an optional serial communication module.
- B.** A single controller shall provide twelve selectable nominal voltages for maximum application flexibility and minimal spare part requirements. Voltage sensing shall be true RMS type and shall be accurate to  $\pm 1\%$  of nominal voltage. Frequency sensing shall be accurate to  $\pm 0.2\%$ . The panel shall be capable of operating over a temperature range of **-20 to +60 degrees C** and storage from **-55 to +85 degrees C**.
- C.** The controller shall be connected to the transfer switch by an interconnecting wiring harness. The harness shall include a keyed disconnect plug to enable the controller to be disconnected from the transfer switch for routine maintenance. Sensing and control logic shall be provided on multi-layer printed circuit boards. Interfacing relays shall be industrial grade plug-in type with dust covers. The panel shall be enclosed with a protective cover and be mounted separately from the transfer switch unit for safety and ease of maintenance. The protective cover shall include a built-in pocket for storage of the operator's manuals.
- D.** All customer connections shall be wired to a common terminal block to simplify field-wiring connections.
- E.** The controller shall meet or exceed the requirements for **Electromagnetic Compatibility (EMC)** as follows:
  - 1. IEEE472 (ANSI C37.90A) Ring Wave Test.**
  - 2. ENC55011 1991 Class A** Conducted and Radiated Emission.
  - 3. EN61000-4-2** Electrostatic Discharge Immunity, Direct Contact & Air Discharge.
  - 4. EN61000-4-3** Radiated Electromagnetic Field Immunity.
  - 5. EN61000-4-4** Electrical Fast Transient Immunity.
  - 6. EN61000-4-5** Surge Immunity.
  - 7. ENV50141 HF** Conducted Disturbances Immunity.

##### **3.3.1 Enclosure**

- A.** The ATS shall be furnished in a **NEMA Type 1** enclosure unless otherwise shown on the plans.
- B.** All standard and optional door-mounted switches and pilot lights shall be **16-mm** industrial grade type or equivalent for easy viewing & replacement. Door controls shall be provided on a separate removable plate, which can be supplied loose for open type units.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.4 OPERATION**

##### **3.4.1 Controller Display and Keypad**

**A.** A four-line, **20 character LCD** display and keypad shall be an integral part of the controller for viewing all available data and setting desired operational parameters. Operational parameters shall also be available for viewing and limited control through the serial communications input port. The following parameters shall only be adjustable via DIP switches on the controller:

1. Nominal line voltage and frequency
2. Single or three phase sensing
3. Operating parameter protection
4. Transfer operating mode configuration  
(Open transition, Closed transition, or Delayed transition)

All instructions and controller settings shall be easily accessible, readable and accomplished without the use of codes, calculations, or instruction manuals.

##### **3.4.2 Voltage, Frequency and Phase Rotation Sensing**

**A.** Voltage and frequency on both the normal and emergency sources (as noted below) shall be continuously monitored, with the following pickup, dropout, and trip setting capabilities (values shown as % of nominal unless otherwise specified):

<u>Parameter</u>	<u>Sources</u>	<u>Dropout / Trip</u>	<u>Pickup / Reset</u>
Undervoltage	N&E, 3 $\phi$	70 to 98%	85 to 100%
Overvoltage	N&E, 3 $\phi$	102 to 115%	2% below trip
Underfrequency	N&E	85 to 98%	90 to 100%
Overfrequency	N&E	102 to 110%	2% below trip
Voltage unbalance	N&E	5 to 20%	1% below dropout

- B.** Repetitive accuracy of all settings shall be within  $\pm 0.5\%$  over an operating temperature range of **-20°C to 60°C**.
- C.** Voltage and frequency settings shall be field adjustable in **1%** increments either locally with the display and keypad or remotely via serial communications port access.
- D.** The controller shall be capable (when activated by the keypad or through the serial port) of sensing the phase rotation of both the normal and emergency sources. The source shall be considered unacceptable if the phase rotation is not the preferred rotation selected (ABC or CBA).
- E.** Source status screens shall be provided for both normal & emergency to provide digital readout of voltage on all 3 phases, frequency, and phase rotation.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.4 OPERATION**

##### **3.4.3 Time Delays**

- A.** An adjustable time delay of **0-6 seconds** shall be provided to override momentary normal source outages and delay all transfer and engine starting signals. Capability shall be provided to extend this time delay to **60 minutes** by providing an external 24 VDC power supply.
- B.** A time delay shall be provided on transfer to emergency, adjustable from **0-60 minutes**, for controlled timing of transfer of loads to emergency.
- C.** Two time delay modes (which are independently adjustable) shall be provided on re-transfer to normal. One time delay shall be for actual normal power failures and the other for the test mode function. The time delays shall be adjustable from **0-60 minutes**. Time delay shall be automatically bypassed if the emergency source fails and the normal source is acceptable.
- D.** A time delay shall be provided on shut down of engine generator for cool down, adjustable from **0-60 minutes**.
- E.** A time delay activated output signal shall also be provided to drive an external relay(s) for selective load disconnect control. The controller shall have the ability to activate an adjustable 0 to 5 minute time delay in any of the following modes:
  - 1.** Prior to transfer only.
  - 2.** Prior to and after transfer.
  - 3.** Normal to emergency only.
  - 4.** Emergency to normal only.
  - 5.** Normal to emergency and emergency to normal.
  - 6.** All transfer conditions or only when both sources are available.
- F.** The controller shall also include the following built-in time delays for optional Closed Transition and Delayed Transition operation:
  - 1.** **1-5 minute** time delay on failure to synchronize normal and emergency sources prior to closed transition transfer.
  - 2.** **0.1-9.99** second time delay on an extended parallel condition of both power sources during closed transition operation.
  - 3.** **0-5** minute time delay for the load disconnect position for delayed transition operation.
- G.** All time delays shall be adjustable in 1 second increments, except the extended parallel time, which shall be adjustable in .01 second increments.
- H.** All time delays shall be adjustable by using the LCD display and keypad or with a remote device connected to the serial communications port.



### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.4 OPERATION**

##### **3.4.4 Additional Features**

- A.** A three position momentary-type test switch shall be provided for the *test / automatic / reset* modes. The test position will simulate a normal source failure. The reset position shall bypass the time delays on either transfer to emergency or retransfer to normal.
- B.** A set of DPDT gold-flashed contacts rated 10 amps, 32 VDC shall be provided for a low-voltage engine start signal. The start signal shall prevent dry cranking of the engine by requiring the generator set to reach proper output, and run for the duration of the cool down setting, regardless of whether the normal source restores before the load is transferred.
- C.** Auxiliary contacts, rated 10 amps, 250 VAC shall be provided consisting of one contact, closed when the ATS is connected to the normal source and one contact closed, when the ATS is connected to the emergency source.
- D.** LED indicating lights (16 mm industrial grade, type 12) shall be provided; one to indicate when the ATS is connected to the normal source (green) and one to indicate when the ATS is connected to the emergency source (red).
- E.** LED indicating lights (16 mm industrial grade, type 12) shall be provided and energized by controller outputs. The lights shall provide true source availability of the normal and emergency sources, as determined by the voltage sensing trip and reset settings for each source.

**The following features shall be built-in to the controller, but capable of being activated through keypad programming or the serial port only when required by the user:**

- F.** Provide the ability to select “commit/no commit to transfer” to determine whether the load should be transferred to the emergency generator if the normal source restores before the generator is ready to accept the load.
- G.** Terminals shall be provided for a remote contact which opens to signal the ATS to transfer to emergency and for remote contacts which open to inhibit transfer to emergency and/or retransfer to normal. Both of these inhibit signals can be activated through the keypad or serial port.
- H.** An inphase monitor shall be provided in the controller. The monitor shall control transfer so that motor load inrush currents do not exceed normal starting currents, and shall not require external control of power sources. The inphase monitor shall be specifically designed for and be the product of the ATS manufacturer. The inphase monitor shall be equal to ASCO Feature 27.
- I.** The controller shall be capable of accepting a normally open contact that will allow the transfer switch to function in a non-automatic mode using an external control device.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.4 OPERATION**

##### **3.4.4 Additional Features**

- J. Engine Exerciser** - The controller shall provide an internal engine exerciser. The engine exerciser shall allow the user to program up to seven different exercise routines.

For each routine, the user shall be able to:

1. Enable or disable the routine.
2. Enable or disable transfer of the load during routine.
3. Set the start time, .
  - time of day
  - day of week
  - week of month (1st, 2nd, 3rd, 4th, alternate or every)
4. Set the duration of the run.

At the end of the specified duration the switch shall transfer the load back to normal and run the generator for the specified cool down period. A 10-year life battery that supplies power to the real time clock in the event of a power loss will maintain all time and date information.

- K. System Status** - The controller LCD display shall include a “System Status” screen which shall be readily accessible from any point in the menu by depressing the “ESC” key a maximum of two times. This screen shall display a clear description of the active operating sequence and switch position. For example,

*Normal Failed  
Load on Normal  
TD Normal to Emergency  
2min15s*

Controllers that require multiple screens to determine system status or display “coded” system status messages, which must be explained by references in the operator’s manual, are not permissible.

- L. Self Diagnostics** - The controller shall contain a diagnostic screen for the purpose of detecting system errors. This screen shall provide information on the status input signals to the controller which may be preventing load transfer commands from being completed.
- M. Communications Interface** – The controller shall be capable of interfacing, through an optional serial communication module, with a network of transfer switches, locally (up to 4000 ft.) or remotely through modem serial communications. Standard software specific for transfer switch applications shall be available by the transfer switch manufacturer. This software shall allow for the monitoring, control and setup of parameters.

### **3. AUTOMATIC TRANSFER SWITCH**

**N. Data Logging** – The controller shall have the ability to log data and to maintain the last 99 events, even in the event of total power loss. The following events shall be time and date stamped and maintained in a non-volatile memory:

#### **1. Event Logging**

1. Data and time and reason for transfer normal to emergency.
2. Data and time and reason for transfer emergency to normal.
3. Data and time and reason for engine start.
4. Data and time engine stopped.
5. Data and time emergency source available.
6. Data and time emergency source not available.

#### **2. Statistical Data**

1. Total number of transfers.
2. Total number of transfers due to source failure.
3. Total number of day's controller is energized.
4. Total number of hours both normal and emergency sources are available.

**O. Communications Module** - A full duplex RS485 interface shall be installed in the ATS controller to enable serial communications. The serial communications shall be capable of a direct connect or multi-drop configured network. This module shall allow for the seamless integration of existing or new communication transfer devices. The serial communication interface shall be equal to **ASCO Accessory 72**.

### **3.5 ADDITIONAL REQUIREMENTS**

#### **3.5.1 Withstand and Closing Ratings**

- A.** The ATS shall be rated to close on and withstand the available RMS symmetrical short circuit current at the ATS terminals with the type of overcurrent protection shown on the plans.
- B.** The ATS shall be UL listed in accordance with **UL 1008** and be labeled in accordance with that standard's **1½ and 3 cycle**, long-time ratings. Arts which are not tested and labeled with **1½ and 3 cycle** (any breaker) ratings and have series, or specific breaker ratings only, are not acceptable.

#### **3.5.2 Tests and Certification**

- A.** The complete ATS shall be factory tested to ensure proper operation of the individual components and correct overall sequence of operation and to ensure that the operating transfer time, voltage, frequency and time delay settings are in compliance with the specification requirements.

### **3. AUTOMATIC TRANSFER SWITCH**

#### **3.5.2 Tests and Certification - continued**

- B.** Upon request, the manufacturer shall provide a notarized letter certifying compliance with all of the requirements of this specification including compliance with the above codes and standards, and withstand and closing ratings. The certification shall identify, by serial number(s), the equipment involved. No exceptions to the specifications, other than those stipulated at the time of the submittal, shall be included in the certification.
- C.** The ATS manufacturer shall be certified to **ISO 9001 International Quality Standard** and the manufacturer shall have third party certification verifying quality assurance in design/development, production, installation and servicing in accordance with **ISO 9001**.

#### **3.5.3 Service Representation**

- A.** The ATS manufacturer shall maintain a national service organization of company-employed personnel located throughout Trinidad and Tobago. The service center's personnel must be factory trained and must be on call 24 hours a day, 365 days a year.
- B.** The manufacturer shall maintain records of each switch, by serial number, for a minimum of 20 years.

#### **3.5.4 Cable Terminations**

The ATS manufacturer is to ensure that adequate provisions are made for the termination of cables onto the transfer switch, and if necessary, an external cable box will have to be provided to accommodate the following –

**4C x 240mm<sup>2</sup> X.L.P.E.**

### **4.0 GENERATOR MANUFACTURERS**

The following manufacturers have been approved:

1. Caterpillar
2. SDMO
3. F. G. Wilson
4. Cummins
5. Dawson & Kieth
6. Westac Powerpac

- or equal approved

# SHARK<sup>®</sup> MP200<sup>™</sup>

**MULTI-POINT WiFi COMMUNICATING MULTIFUNCTION  
POWER AND ENERGY METERING SYSTEM**



## Multiple Meters in One Compact Unit

- Save Space by Metering 8 Three Phase or 24 Single Phase Circuits with One Unit
- Create Energy Reports and Submetering Bills
- Communicate via Ethernet, WiFi, RS485, or USB
- Up to 32 MegaBytes Memory for Energy Usage Trending
- Modbus RTU, ASCII or TCP/IP Standard Open Communication Protocols
- Highly Accurate: 0.5% Class Energy Accuracy per Circuit
- Field Upgradeable with V-Switch<sup>™</sup> Technology
- Logging with V-Switch<sup>™</sup> Keys 2 and 3, Including One Configurable and One Pre-configured Historical Trending Log
- Optional Touch Screen HMI Display for Remote Read



## DESCRIPTION

The MP200™ high density metering system measures and reports on energy usage from up to 8 three phase Wye circuits or up to 24 single phase circuits. The unit is designed to consolidate many metering points to provide useful energy reporting. Its compact, highly rugged multi-circuit design saves you mounting space, installation time and equipment costs. The MP200™ unit is ideal for any industrial, campus or multi-tenant commercial installations. With the MP200™ unit, connecting multiple loads is both easy and highly cost effective. It is perfect for both new and retrofit projects.

Using EIG's software solutions with the MP200™ metering system, you can easily trend energy and other commodity usage; generate reports to analyze the data; compare usage for different customer locations, billing periods, and meters; and generate customer billing.

### The MP200™ Metering System is Ideal for Use in:

- High Density Electrical Distribution Panels
- LEED Projects
- Shopping Malls
- Healthcare Facilities
- Data Centers
- Mixed-Use Commercial High Rise Complexes
- Branch Circuits
- Reducing Campus Carbon Footprints by Monitoring Cost Allocation

### The MP200™ Metering System Lets You:

- Generate Accurate Reports of Energy Consumption
- Analyze Peak Demand per Measured Circuit
- Control Outputs to Curb Peak Demand Usage
- Bill Tenants Based on Usage and Demand

### Advanced Communication Options:

- Two Standard RS485 Ports
- Optional RJ45 Wired or 802.11 Wireless Ethernet (WiFi)
- Standard USB Port
- Standard Protocol Support - Modbus ASCII, RTU, TCP/IP

### V-Switch™ Keys:

- V1 - Basic Transducer with Real Time Data
- V2 - Basic Logger – 100 to 300 Days
- V3 - Advanced Logger – Up to 2400 Days



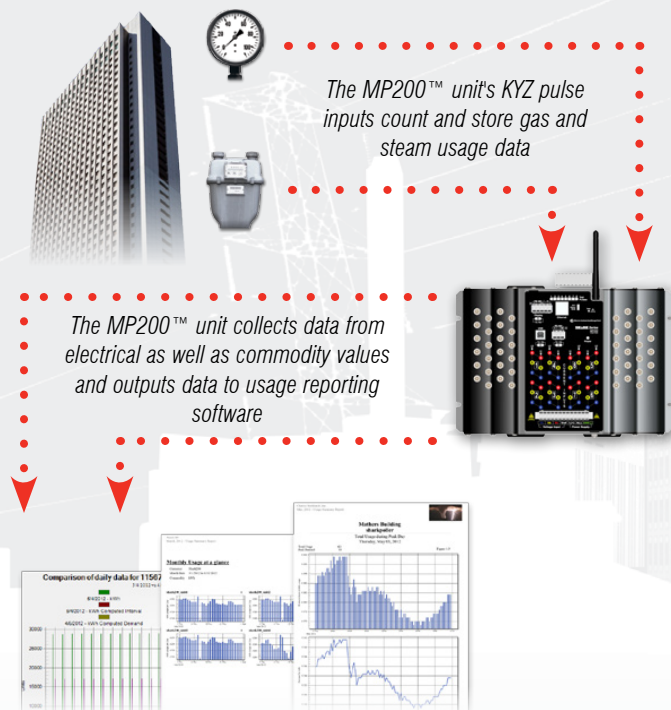
## COMMODITY METERING AND CONTROL OUTPUTS

### KYZ Pulse Counting Inputs for Commodity Metering

The MP200™ metering system has 4 KYZ pulse counting inputs. These dry contact inputs are designed to count pulses from other devices such as gas meters, water meters, condensate (steam) meters or any other commodity meter that provides a pulse output. This feature is ideal for a total energy management solution and the information it provides can be used as part of a comprehensive energy usage reporting system.

### Control Outputs and Limit Alarms

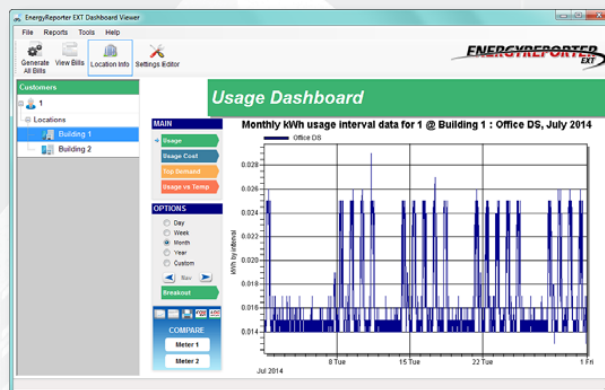
The MP200™ metering system has 2 relay outputs for control applications. This is an essential feature when looking to control equipment on alarm condition or to reduce peak demand by shutting down equipment or generating a peak demand alarm. The meter can be configured to trigger relay output when an alarm condition occurs. Up to 16 limits can be assigned.



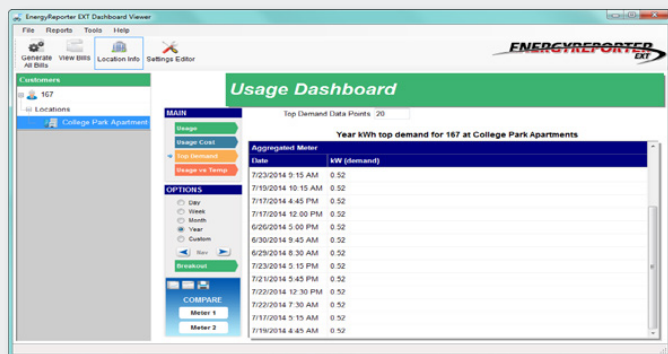
## MP200™ UNIT ENERGY USAGE ANALYSIS AND BILLING

### Use EnergyReporter EXT™ Software with the MP200™ Metering System to Analyze Energy and Other Commodity Usage:

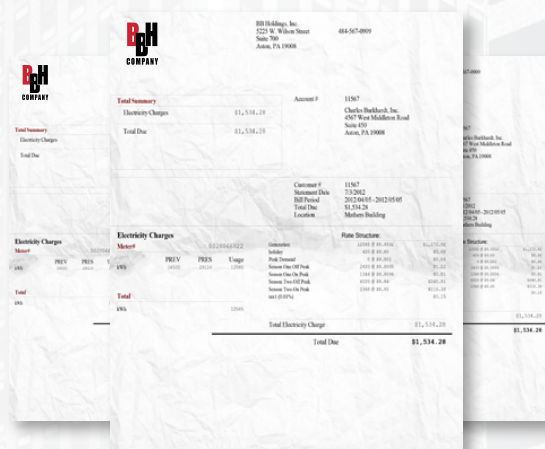
- Automatically Import Usage Data from the MP200™ Unit
- Track Energy Use by Customer/Location/Meter
- Generate Tenant Submetering Billing
- Accurately Bill for Energy Use
- Reduce Energy Costs by Allocating Energy Properly
- Status Inputs Let You Count Pulses from Gas, Steam, and Other Commodity Meters
- Generate Custom Trends and Graphs
- Compare Locations for Energy Efficiency
- Analyze Peak Demand
- View Data Over Current and Prior Months
- Conduct Energy Efficiency Audits
- Copy and Paste Data or Charts into Word Processors, Spreadsheets or Emails
- Compare Usage with Temperature, Humidity, or Pressure



Energy Usage Over Time



View Peak Demand Comparisons

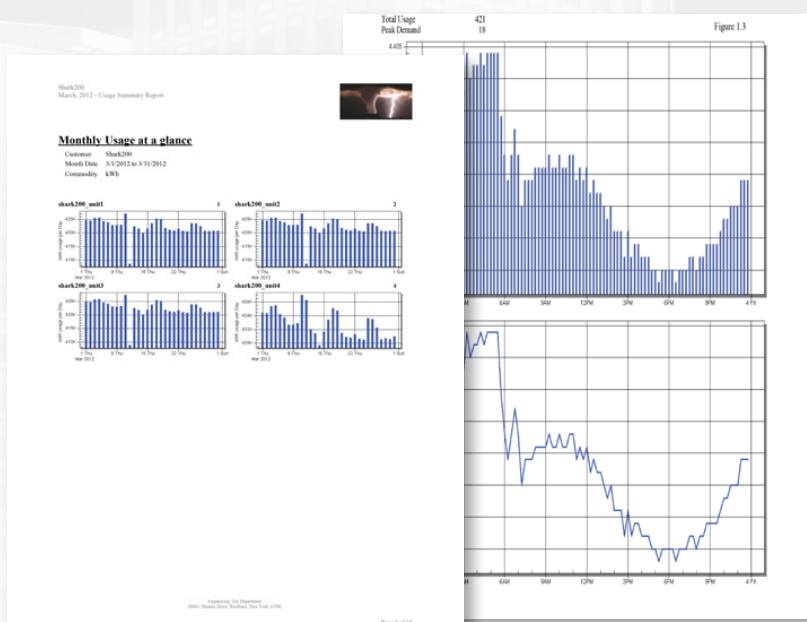


Generate Utility Bills

## MP200™ UNIT USAGE REPORTING

### Use EnergyReporter EXT™ Software with the MP200™ Metering System to Generate Detailed Usage Reports:

- Select Customer
- Select Commodity
- Select Month and Starting Date
- Select Report Options - File Format, Commodity, Full Report or Summary, Display Usage and Interval Data Together or Separately, Display Demand
- Collect Useful Energy Usage Data System-wide for Smart Decisions
- View Enterprise Usage
- View Peak Demand



View Monthly Usage and Peak Demand

View Highest Peak Demand by Day



## OPTIONAL TOUCH SCREEN HMI DISPLAY

The MP200™ metering system offers an optional HMI 65k color touch screen LED display. The display comes in two sizes - the larger display (MDLN) is 5.7" and the smaller display (MDSN) is 3.5". The display is easy to install and operate. It can communicate with the MP200™ metering system through the MP200™ unit's Port 3 (RS485 serial) or through the optional RJ45 Ethernet port.

### Features of the Display Include:

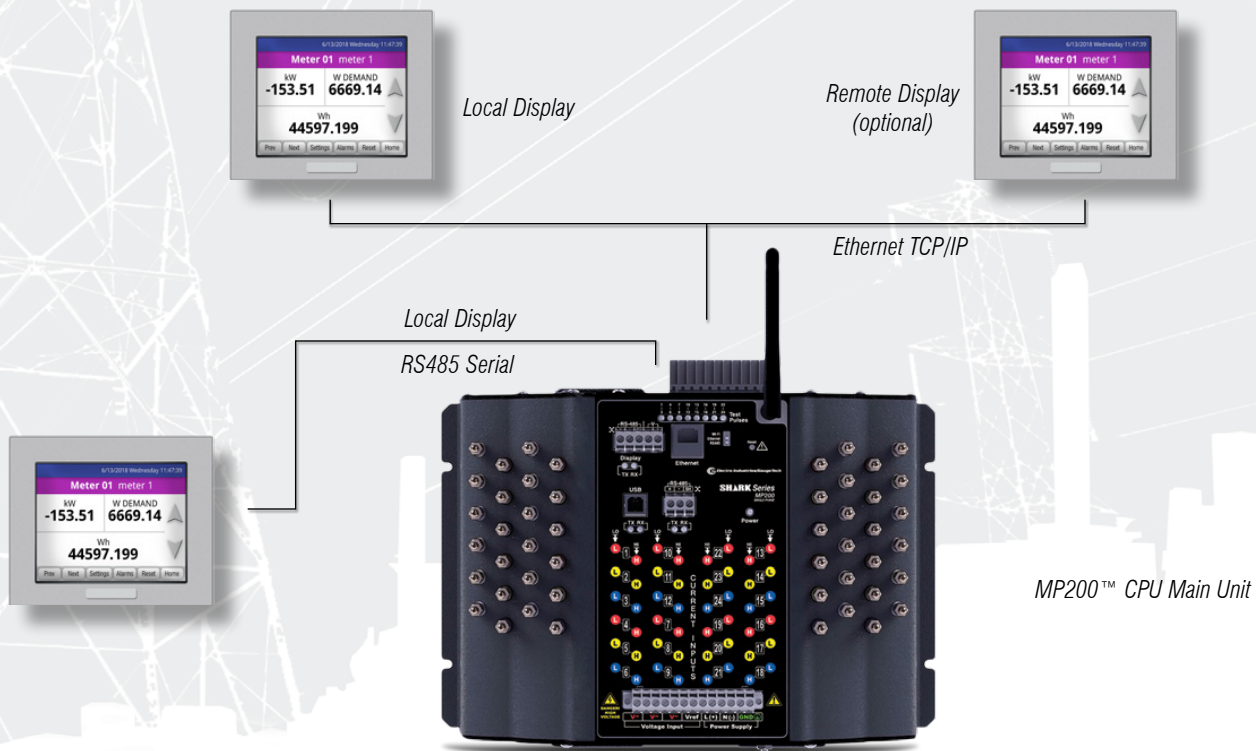
- Two compact sizes - 3.5" or 5.7"
- Multiple connection types - serial and Ethernet (display auto-detects connection)
- Low power consumption
- Easy to install - fits in 22mm mounting hole for quick in-field installation
- Can be used for remote or local display
- 65k color, touch screen technology
- Pre-configured to provide readings for MP200™-Y three phase metering system and MP200™-S single phase metering system
- Pre-configured to provide Watts, Energy and Demand for every metering point
- Phasor diagrams for each circuit let you check wiring conditions

### Easy-to-Install Display Kit:

The display is powered by 24VDC and comes equipped with a standard plug power supply to remotely power the unit. Also included with the display kit are tools for easily mounting the unit. The display comes pre-programmed and is ready to use out of the box, but you can easily make desired adjustments to the display settings, for example, changing the default touch screen settings, or configuring Ethernet communication settings.

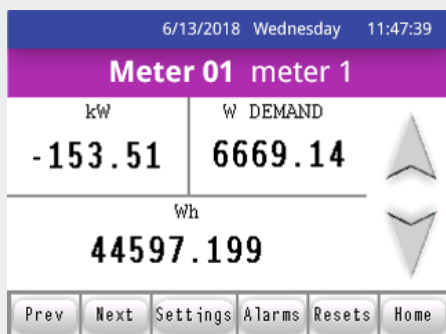


### Example of Local and Remote Display Connection

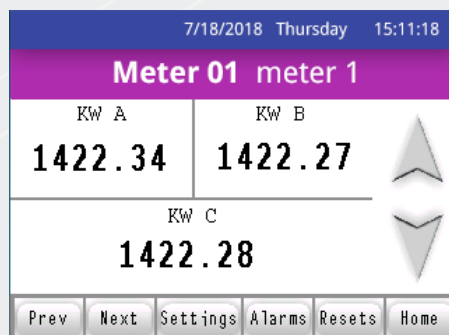


**Connect Either Serial and/or Ethernet to Provide Local and Remote Display Capability**

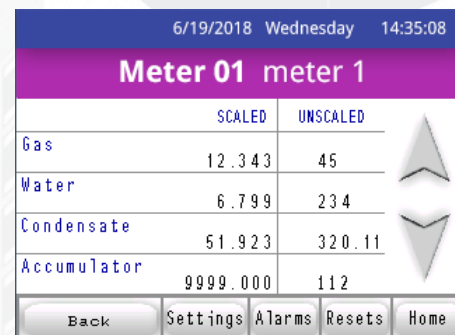
## EXAMPLE SCREENS



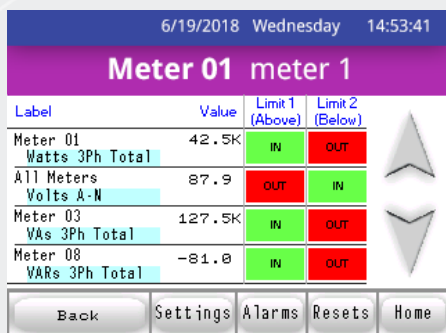
kWatts, W Demand, Watt-hours



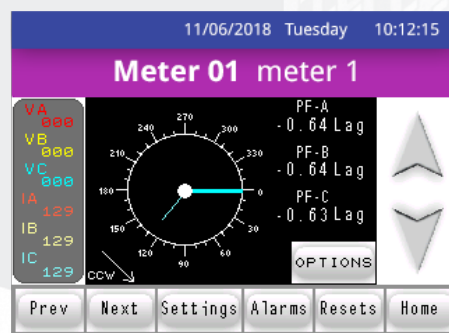
KWatts Phase A, KWatts Phase B, KWatts Phase C



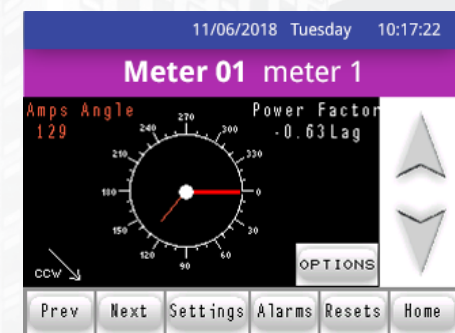
Pulse Inputs



Out of Limit Alarm



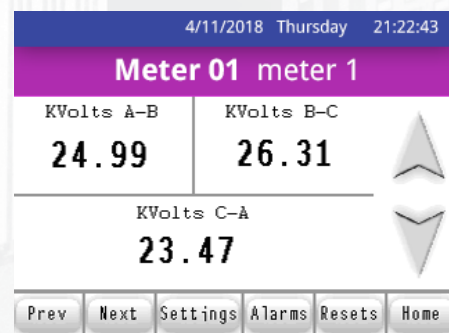
Three Phase Phasor Diagram  
MP200-Y Unit



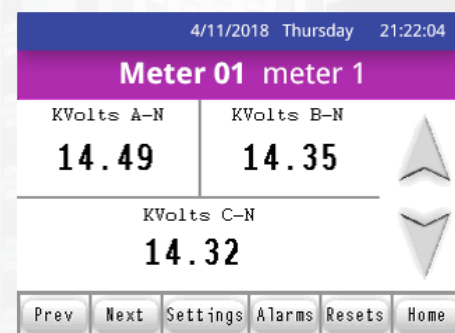
Single Phase Phasor Diagram  
MP200-S Unit



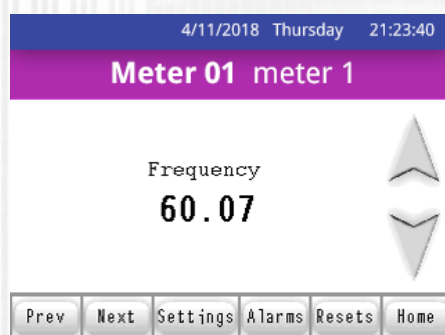
2 CT Delta Phasor Diagram



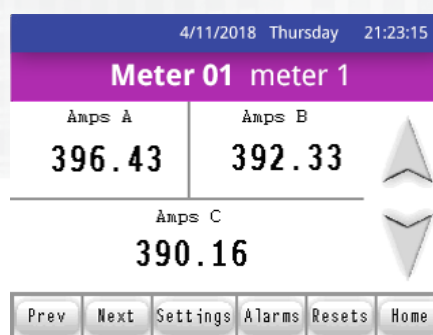
Voltage Phase to Phase



Voltage Phase to Reference



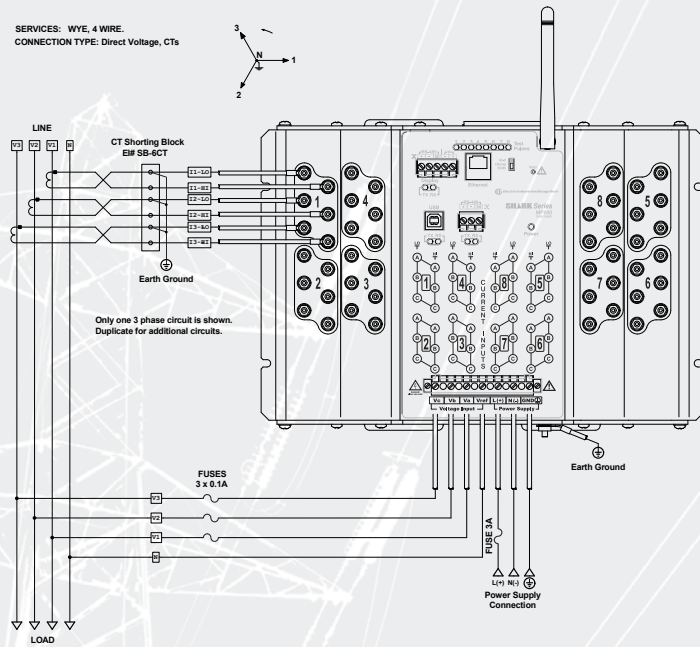
Frequency



Current

**Simple to Read, User-friendly User Interface**

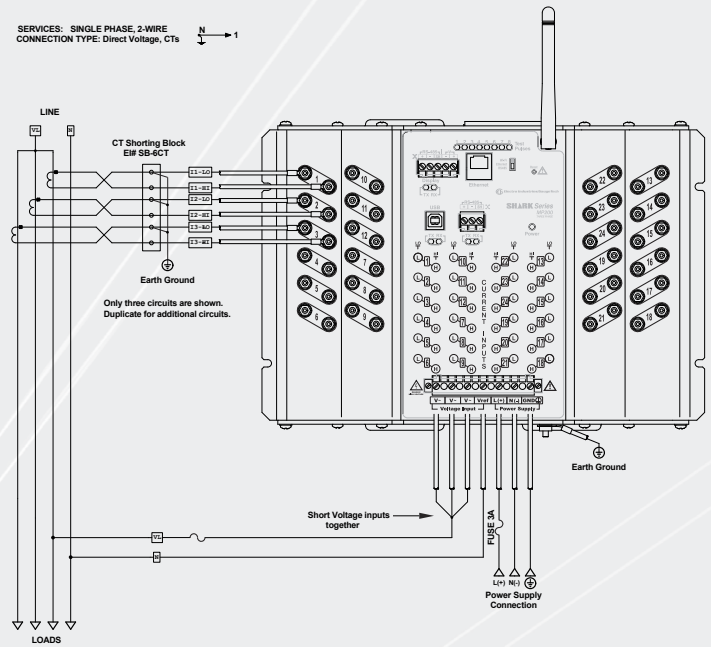
**Note:** See the *MP200™ Metering System Installation and Operation Manual* for additional wiring diagrams and instructions.



## Three Phase, 4-Wire WYE System with 3 CTs: MP200™-Y Metering System

One 3 Phase circuit shown. Multiply by up to 8 circuits.

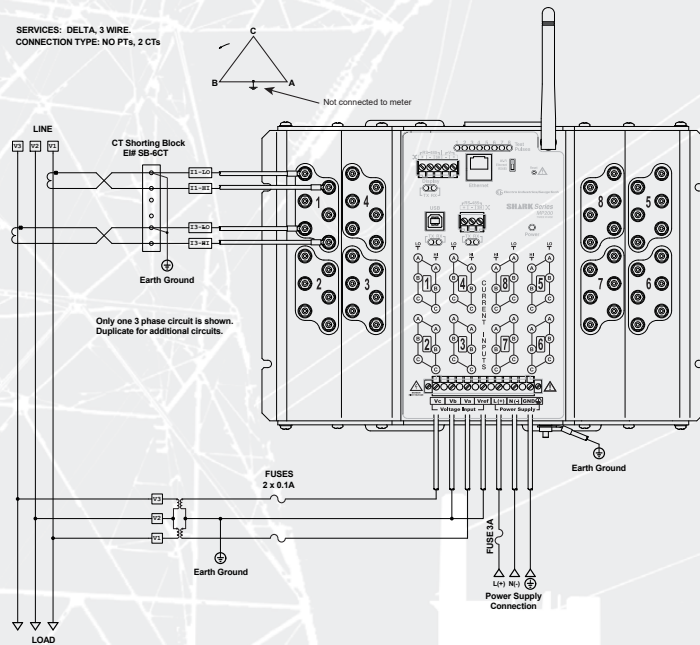
**Note:** All Voltages must be common per phase on each circuit.



## Single Phase, 2-Wire Direct: MP200™-S Metering System

3 Circuits are shown. Multiply by up to 24 circuits.

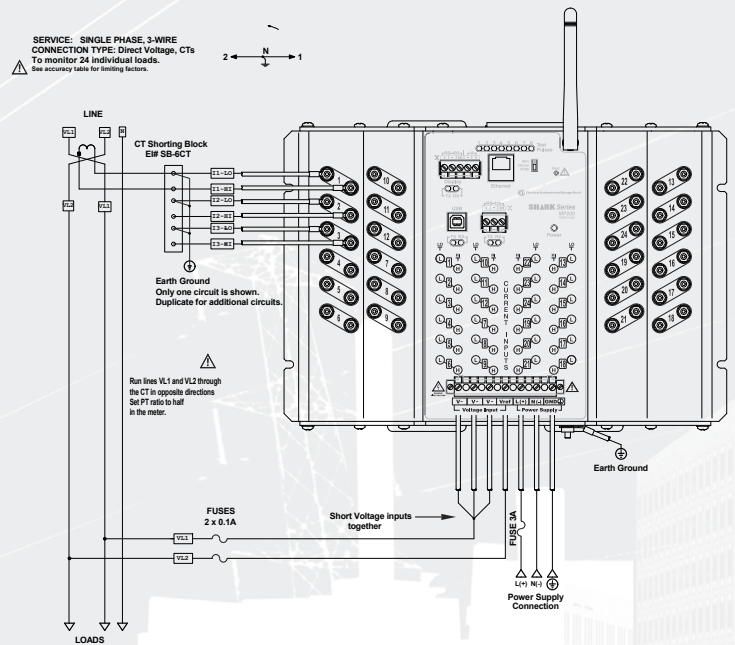
**Note:** All Current must originate from a common Voltage source.



## Three Phase, 3-Wire Delta System with 2 CTs: MP200™-Y Metering System

One 3 Phase circuit shown. Multiply by up to 8 circuits.

**Note:** All Voltages must be common per phase on each circuit.



## Single Phase, 3-Wire Direct with 1 CT: MP200™-S Metering System

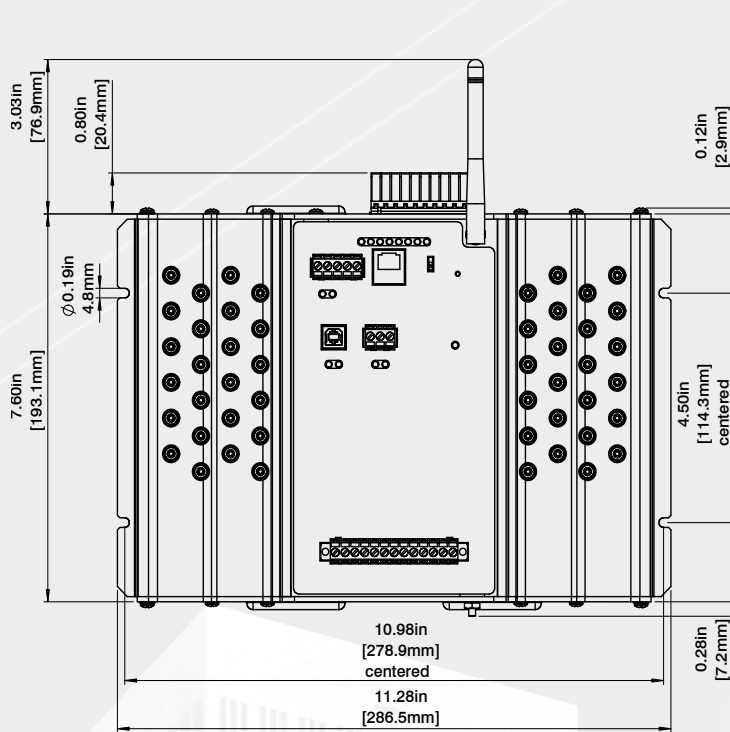
1 Circuit is shown. Multiply by up to 24 circuits.

**Note:** All Current must originate from a common Voltage source.

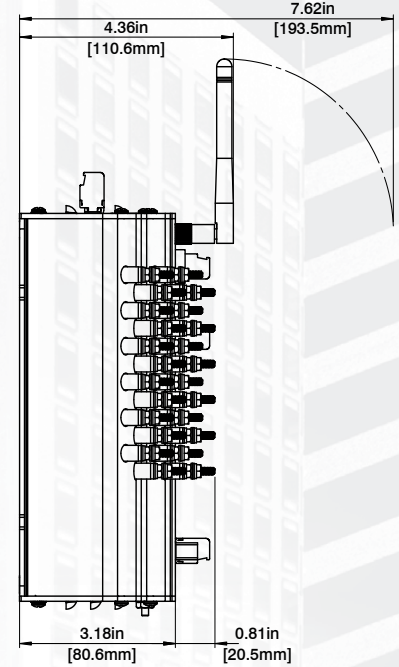


## DIMENSIONAL DRAWINGS

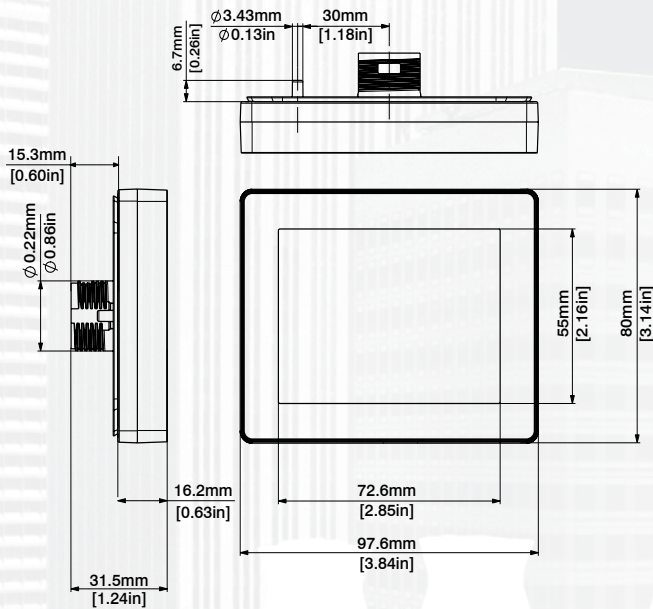
**Note:** See the MP200™ Metering System Installation and Operation Manual for full installation instructions.



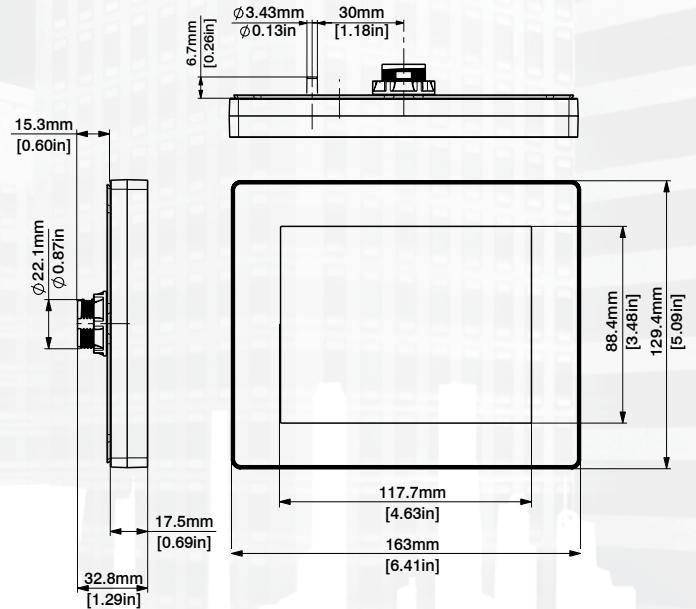
**MP200™ Unit's Front Dimensions**



**MP200™ Unit's Side Dimensions**



**MDSN Dimensions  
3.5" Display**



**MDLN Dimensions  
5.7" Display**

## Specifications

### Voltage Inputs

- Up to 576 V Line to Neutral, Up to 721 V Line to Line
- Universal Voltage Input
- Input withstand Capability - Meets IEEE C37.90.1 (Surge Withstand Capability)
- Programmable Voltage Range to Any PT Ratio
- Supports: 3 Element WYE, 3-Wire Delta, Single Phase 2 and 3-Wire
- Burden: 0.09 VA/Phase Max at 600 V, 0.014 VA at 120 V
- Input wire Gauge: AWG 12-26 (0.08-2.5) mm<sup>2</sup>

### Current Inputs

- Class 10: (0 to 10) A, 5 A nominal, 10 A Maximum
- Class 2: (0 to 2) A, 1 A Nominal, 2 A Maximum
- Programmable Current to Any CT Ratio
- Burden 0.005 VA Per Input Max at 11 A
- Pickup Current: 0.1% of Nominal
  - Class 10: 5 mA
  - Class 2: 1 mA
- Continuous Current Withstand: 20 A

### Isolation

- All Inputs and Outputs are Galvanically Isolated to 2500 V

### Environmental Rating

- Storage: (-20 to +70) °C / (-4 to +158) °F
- Operating: (-20 to +60) °C / (-4 to +140) °F
- Humidity: to 95% RH Non-Condensing

### Sensing Method

- RMS
- Sampling at 400+ Samples per cycle on All channels Measured Readings Simultaneously

### Update Rate

- Once per Second

### Power Supply

- (90-300) V AC @ 50/60 Hz or (150) V DC

### Communication Format

- RS485 (Com 1 and Com 3)
  - Baud Rate: 9,600 to 57,600
  - Address: 001-247
  - 8 Bit, Even, Odd, No Parity
  - Modbus RTU, Modbus ASCII
- Ethernet/WiFi (Optional for Com 1)
  - RJ45 or 802.11b Wireless
  - 10/100BaseT Ethernet
  - Modbus TCP/IP
- USB (Com 2)
  - Port Baud Rate: 57,600

- Modbus ASCII

### Shipping Dimensions and Weights

- MP200 Unit Shipping Dims: 12.81(L) x 15.31(W) x 8.13(H) in./32.54(L) x 38.89(W) x 20.65(H) cm
- MP200 Unit Shipping Weight: 7 lbs.
- Display Shipping Dims: 12.25(L) x 8.75(W) x 10(H) in. /31.12(L) x 22.23(W) x 25.4(H) cm
- Display Shipping Weight: 2.6 lbs.

### Meter Accuracy

- Voltage L-N 0.3% of reading @ (69 to 480) V
- Voltage L-L 0.5% of reading @ (120 to 600) V
- Current Phase: 0.3% of reading @ (0.15 to 5) A
- W/Wh: 0.5% of reading @ (0.15 to 5) A @ (69 to 480) V @ +/- (0.5 to 1) lag/lead PF
- VAR/VARh: 1.0% of reading @ (0.15 to 5) A @ (69 to 480) V @ +/- (0 to 0.8) lag/lead PF
- VA/VAh/PF: 1.0% of reading @ (0.15 to 5) A @ (69 to 480) V @ +/- (0.5 to 1) lag/lead PF
- Frequency: +/- 0.01 Hz
- See product documentation for complete accuracy specifications

### Enclosure

- Rugged Aluminum for Transducer

### MDLN/MDSN Specifications

- QVGA (320x240)
- LED Backlight - 50,000 MBTF
- UL, CE and RoHS Compliant
- Rated for Indoor Use
- Storage: (-20 to +60) °C / (-4 to +140) °F
- Operating: (0 to +50) °C / (+32 to +122) °F
- Power Consumption - 6.8 Watts
- 24 V DC Power Input

### Compliance

- UL Listing: UL61010-1, CAN/CSA C22.2 No. 61010-1, UL file number E250818
- IEC 62053-22 (0.5% Class)
- ANSI C12.20 (0.5% Accuracy)
- ANSI (IEEE) C37.90.1 Surge Withstand
- ANSI C62.41 (Burst)
- EN61000-6-2 Immunity for Industrial Environments: 2005
- EN61000-6-4 Emission Standards for Industrial Environments: 2007
- EN61326 EMC Requirements: 2006
- CE Marked

## Ordering Information

All fields must be filled in to create a valid part number.

	Model	Circuit Configuration		Frequency	Current Class		V-Switch Pack	Com
Option Numbers:	-	-	-	-	-	-	-	-
Example:	MP200	-	Y	60	-	10	V2	WiFi
	MP200	Y	Three Phase WYE/Delta	50 50 Hz	10 10 A Secondary	V1 Transducer		X RS485 Only
		S	Single Phase ONLY	60 60 Hz	2 2 A Secondary	V2 Basic Logger		WiFi Ethernet and WiFi
						V3 Advanced Logger		

### Optional LCD Displays

**MDSN** : 3.5" Touch Screen HMI Display with installation kit

**MDLN** : 5.7" Touch Screen HMI Display with installation kit

**Display Installation Kit includes:** Display and Rear Module, RS485 Serial cable, Power Supply, Mounting Hardware

### Additional Accessories

#### Communication Converters

**Unicom 2500** : RS485 to RS232 Converter

**Unicom 2500-F** : RS485 to RS232 to Fiber Optic Converter

#### Compliance Documents

**Certificate of Calibration, Part #: CCal** - This provides Certificate of Calibration with NIST traceable Test Data.

#### Software Option Numbers

**COMEXT4P** : Communicator EXT™ Software Single License

#### Shorting Block

**EI SB-6TC** : CT Shorting Block

#### Solid Core Current Transformers\*

**EI-2DARL-101** : ANSI Rated 100/5A solid core CT with 1.0" window

**EI-2DARL-201** : ANSI Rated 200/5A solid core CT with 1.0" window

**EI-5ARL-401** : ANSI Rated 400/5A solid core CT with 1.5" window

#### Split Core Current Transformers\*

**EI-1SP-100-00** : 100/5A split core CT with 0.84" x 2.00" window

**EI-1SP-200-00** : 200/5A split core CT with 0.84" x 2.00" window

**EI-WC4-400-RA05** : 400/5A split core CT with 1.3" x 1.7" window

#### NEMA 1 Rated Enclosure available

\*Note: For three phase applications EIG recommends the EI SB-6TC Shorting Block and 3 CTs per three phase circuit.

ENCMP200  
Web Page



MP200  
Web Page



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