

# Customer manual



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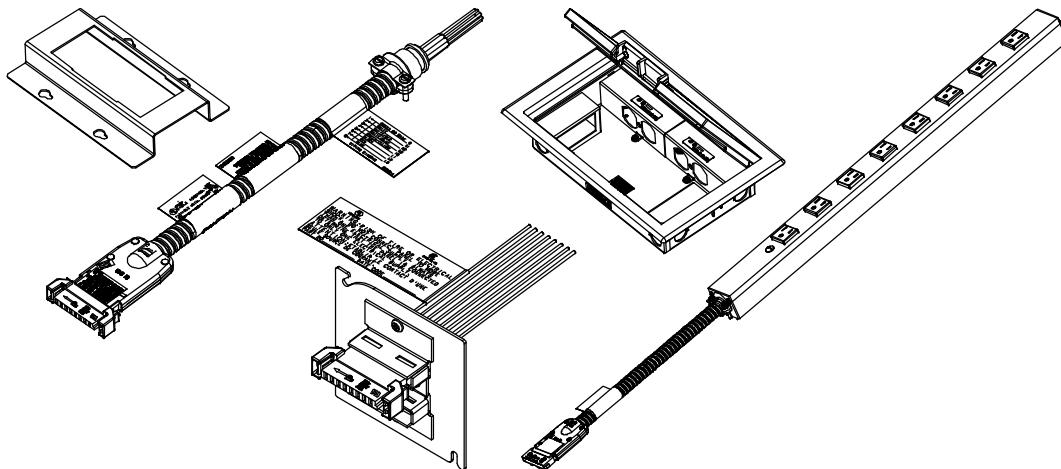
Document Part Number 1518483-1

## ***PRODUCT INFORMATION***

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## 1. INTRODUCTION

AMPINNERY modular power distribution system is a bi-directional power distribution system. This customer manual includes physical and functional descriptions of the components in the system and suggestions and considerations for system layouts.

This customer manual supercedes Manual 124235.

When reading this manual, pay particular attention to **DANGER**, **CAUTION**, **NOTE** statements.

**DANGER**

*Denotes an imminent hazard which may result in moderate or severe injury.*

**CAUTION**

*Denotes a condition which may result in product or equipment damage.*

**NOTE**

*Highlights special or important information.*



This system is rated at 20A by Underwriters Laboratories Inc. (UL) and 15A by CSA International per circuit and 125/250 VAC. The system is Listed by UL under File E132626 as a manufactured wiring system (refer to UL 183). The system is Certified by CSA International under File 7189 as a manufactured wiring system (refer to CSA C22.2 No. 203.1). The system complies with Articles 300.22(c), 604, and 605 of the National Electrical Code (NEC) and Section 12 of the Canadian Electrical Code (CEC) regarding the uses of manufacturing wiring systems.

The system has the capability of providing electrical power in a variety of commercial and industrial locations including, but not limited to, modular office panels, lighting fixtures, retail racks and display cases, gaming cabinets, under access or raised floors, environmental air space above ceilings, and other accessible and dry locations as allowed by Article 604 of the NEC. The system is designed so that the removal and re-location of individual electrical devices may be accomplished without a major interruption in operation to other electrical devices and/or lighting fixtures.

**DANGER**

*This system is not for interrupting current.*



Because it is designed for optimum wiring requirements, this system addresses the following wire configurations (refer to Figure 1 for wiring diagrams):

- 5-wire/3-circuit (3-1-1) shared neutral system; color-coded and identified by WHITE connectors
- 8-wire/4-circuit (4-2-2) shared neutral system with one additional neutral dedicated to the 4th circuit and isolated ground capability; color-coded and identified by BLACK connectors
- 8-wire/3-circuit (3-3-2) dedicated neutral system with isolated ground capability; color-coded and identified by National Electrical Manufacturers Association (NEMA) GRAY connectors

**CAUTION**


AMPINNERY system component connectors are color-coded and keyed to denote different wiring system configurations. Differently-colored connectors MUST NOT be connected together. The polarization keying features of the connectors MUST NOT be overcome.

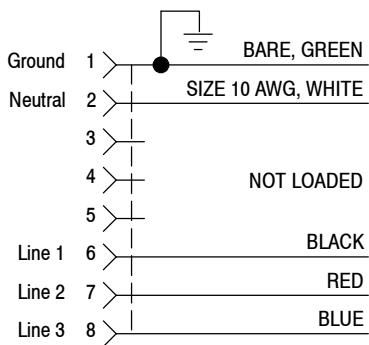
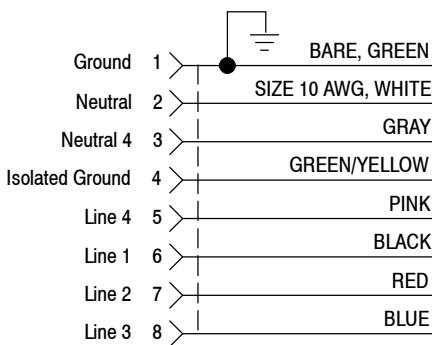
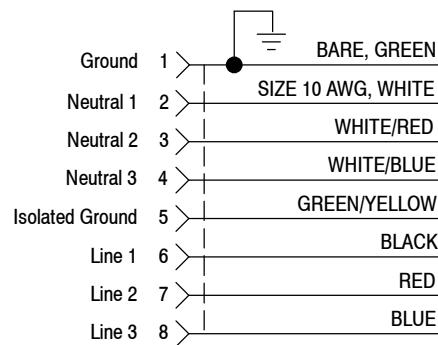
**Wiring Diagram**
**5-Wire/3 Circuit (3-1-1) Configuration  
Shared Neutral System**

**8-Wire/4 Circuit (4-2-2) Configuration  
Shared Neutral System**

**8-Wire/3-Circuit (3-3-2) Configuration  
Dedicated Neutral System**


Figure 1

**NOTE**

Dimensions in this manual are in metric units [with U.S. customary units in brackets].



Reasons for reissue of this customer manual are provided in Section 7, REVISION SUMMARY.

## 2. LAYOUT

### 2.1. Responsibility

The procedures provided in this manual are intended to assist professional engineers, contractors, facilities managers, and electrical design personnel in making accurate layouts, working drawings, and material lists of the AMPINNERY modular power distribution system. Tyco Electronics cannot assume responsibility for knowledge of local codes and construction practices that may affect installations of this type. Any electrical working drawing or layout must be reviewed and approved by a licensed professional electrical engineer in accordance with appropriate federal and state laws governing such practices.

Any layouts or drawings MUST conform to NEC or CEC as appropriate, as well as any state, city, county, or local building code requirements. Tyco Electronics cannot be responsible for any misuse or misapplication of the product or for any code violations resulting from misuse or misapplication of the product.

Tyco Electronics reserves the right to make product revisions at any time which may affect layout methods as stated herein. If any question exists, contact Tyco Electronics prior to performing any layout work.

NEMA is a trademark of National Electrical Manufacturers Association Corporation

## 2.2. Preparation

Before any of the components in the AMPINNERY modular power distribution system are installed, an accurate and scaled layout plan that shows the location and orientation of all the components should be made.

This plan will serve the following purposes:

- to locate the components so as to avoid interference
- to provide working drawings for the actual installation
- to define the number and type of components needed
- to provide a permanent record that can be referenced for maintenance or for future relocations

## 2.3. Planning

The AMPINNERY modular power distribution system uses Type THHN wire size 12 AWG and, in addition, the shared neutral wiring configurations also use an oversized Type THHN neutral wire size 10 AWG for accommodating higher currents generated due to third-order harmonics present with some installations. The appropriate articles and rules of the NEC and CEC, respectively, should be used as a minimum guideline when designing branch circuits and cable lengths.

The following criteria should be taken into consideration when planning layouts:

1. Total power requirement — branch circuit calculations should be determined for the specific application and installation using the NEC or CEC as appropriate.
2. Number and type of components — the number will be largely dependent on the power requirements determined as above.
3. Number, type, and length of cables — maximum cable run should be calculated using the NEC or CEC as appropriate. One common method of design for voltage drop of longer cable lengths is to use wire size 10 AWG or larger (customer-supplied) between the panel board and the location of transition between building wiring and manufactured wiring.
4. Location of components — this may greatly affect the lengths of required cabling.
5. Amount of area required for each component — specific items to consider may be (but are not necessarily limited to) the height and thickness of any access floor tiles or the size, length, and shape of columns, power poles, furniture raceways, or display cabinets.
6. Shared neutral or dedicated neutral configuration — this determination may be based on designer preference or it may be based on state, city, county, or local building codes, depending on the installation location. Check with the authority having jurisdiction.
7. Isolated grounding — this determination may be based on designer preference for the reduction of electrical noise on the grounding circuit and is discussed in NEC Article 250 and Section 10 of the CEC.

## 3. OVERVIEW

### 3.1. System Description

The AMPINNERY modular power distribution system consists of individual power connector cable assemblies connected between building wiring and power distribution modules (PDM). From the PDMs, power connector cable assemblies must be attached to power outlet locations, such as access floor workstation modules, modular office panels, lighting fixtures, or power junction boxes. See Figure 2.

The flexibility of this system is provided by the location and type of PDMs and by the ability of the system to isolate various parts of the system to disconnect and reposition for changing power requirements of the user. All components are pluggable and have the capability of mating with other components. No tooling is required when mating or un-mating components. All system components are keyed to maintain system polarity and prevent the system from being installed incorrectly.

The AMPINNERY Modular Power Distribution System components are acceptable for use in environmental air-handling spaces, other than ducts and plenums, per Article 300.22(c) of the NEC.

### 3.2. Common System Configuration

The most common configuration of the system components is summarized in Figure 3. This configuration applies to most installations regardless of type or location.

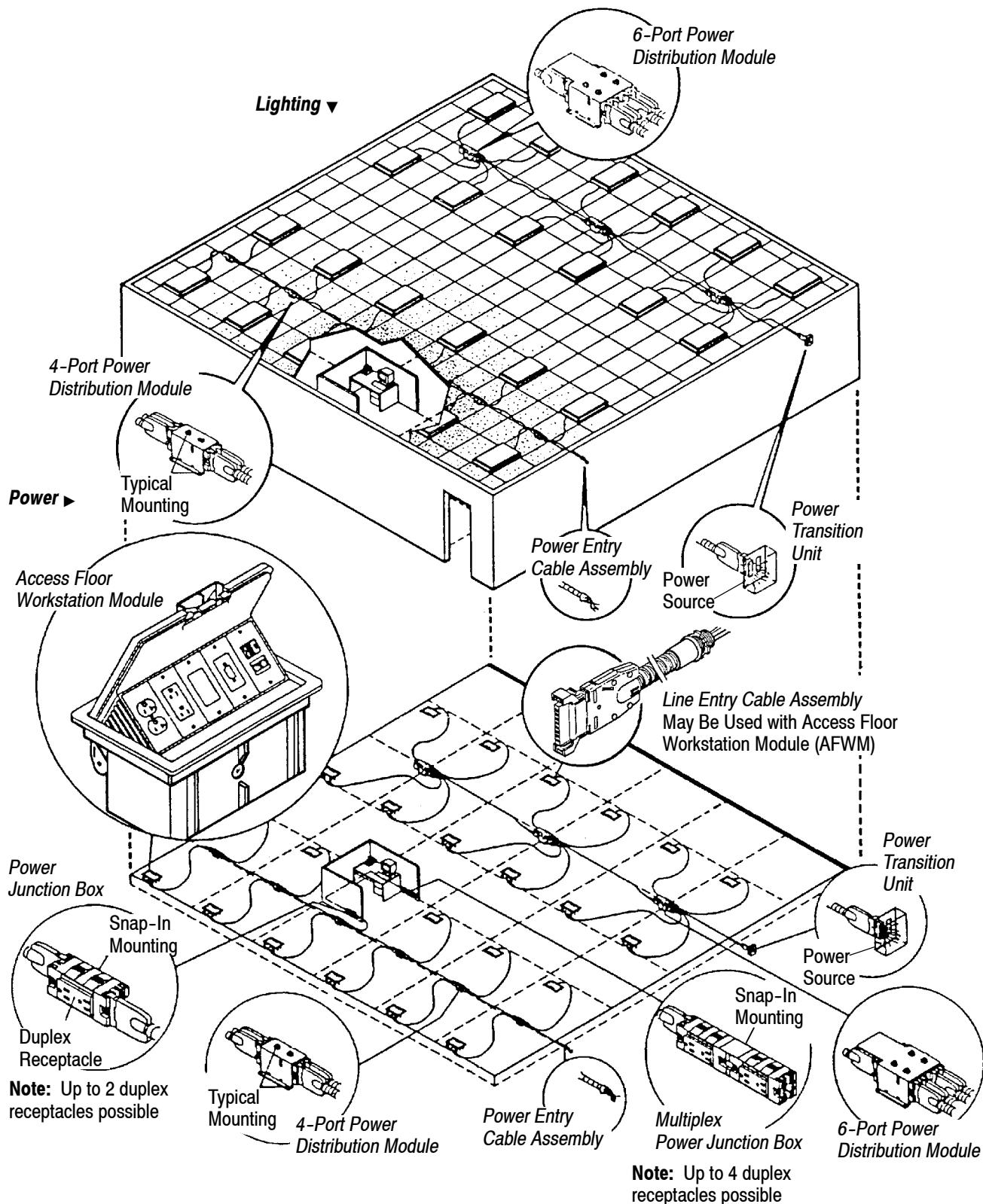
*System Description*

Figure 2

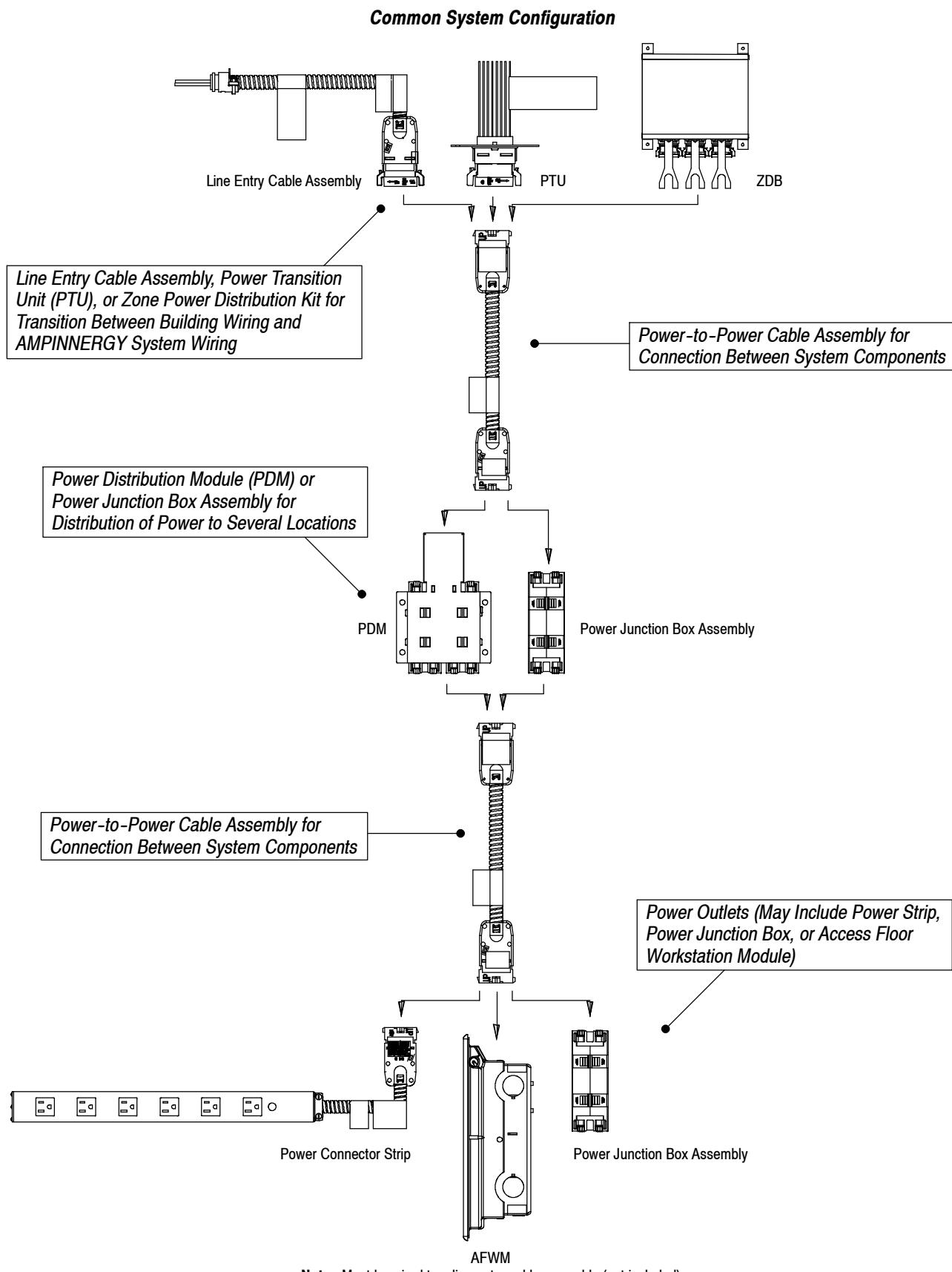


Figure 3

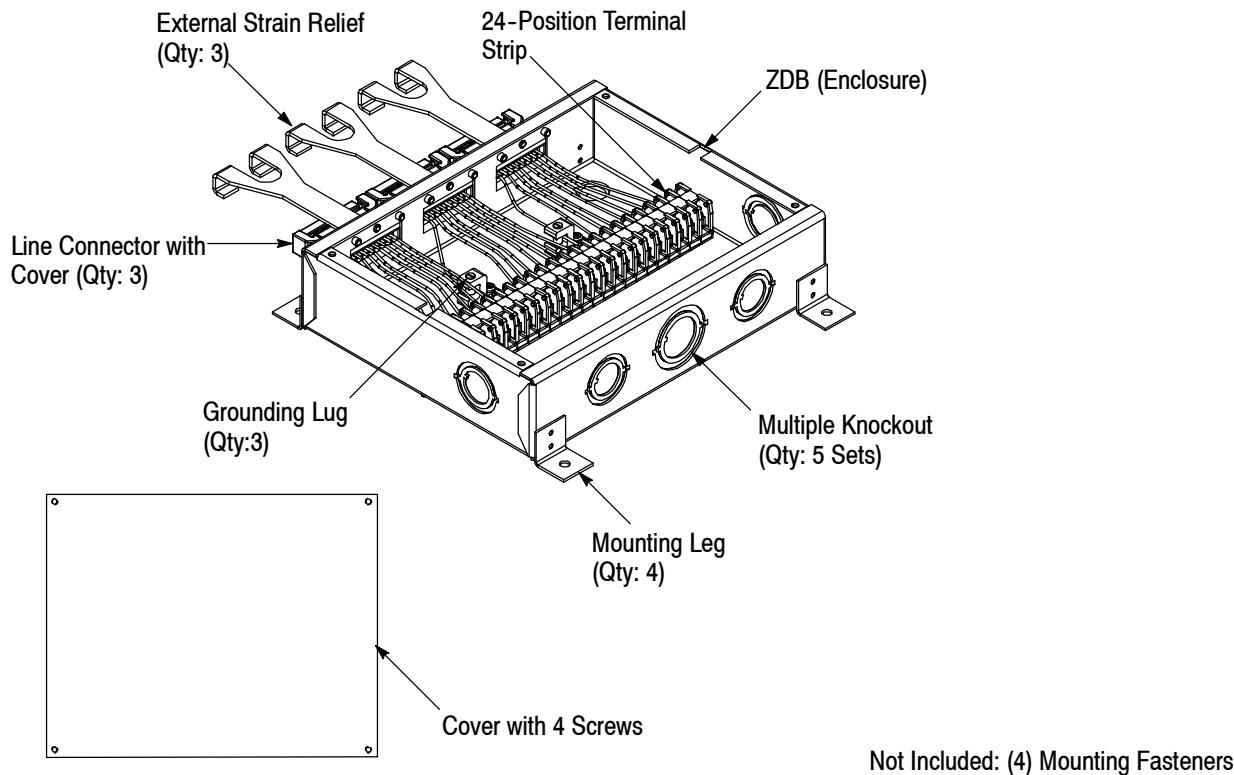
## 4. COMPONENT DESCRIPTION

A thorough understanding of the physical and functional description of components is necessary before planning the layout. The following information will aid in the identification and selection of components when planning the layout and when using in the Material Take-Off List (see Section 6).

### 4.1. Interface with Building Power

#### A. Zone Power Distribution Kit

The zone power distribution kit includes a low-profile zone distribution box (ZDB) (or enclosure) equipped with three hard-wired line connectors that provide an interface directly between building wiring and manufactured wiring. The line connectors are polarized to mate with power connector cable assemblies. Refer to Figure 4.



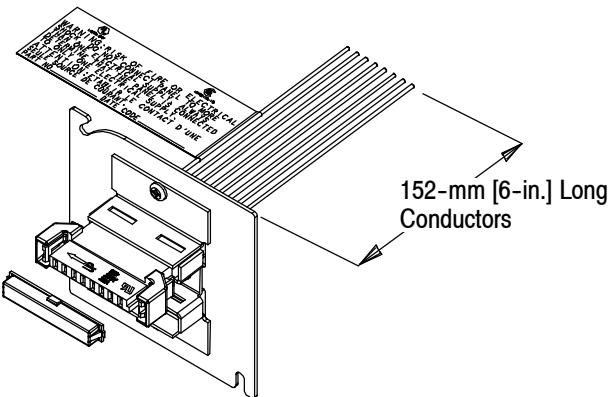
PART NUMBER	CONTENT	TOTAL NO. OF CIRCUITS	CONNECTOR COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
1933419-8	Enclosure (Pre-Wired and Cover Installed)	12	Black	5 or 8 (4-2-2)	408-10304
1933419-3	Enclosure (Pre-Wired and Cover Installed)	9	NEMA Gray	8 (3-3-2)	

Figure 4

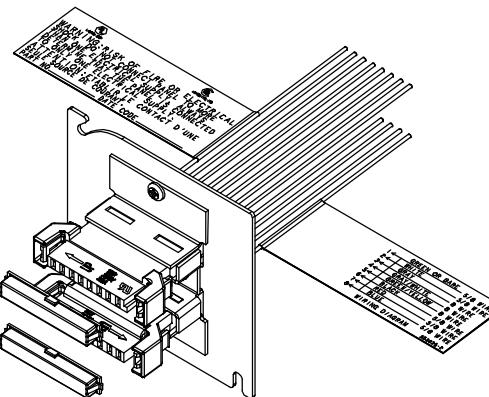
## B. Power Transition Unit (PTU)

The PTU can be mounted to a standard 102-mm [4-in.] square box (customer supplied) for interface directly between building wiring and manufactured wiring for up to 8 individual circuits. The line connectors are polarized to mate with power connector cable assemblies. Refer to Figure 5.

Single-Port PTU



Dual-Port PTU



PART NUMBER	CONTENT	CONNECTOR COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
556190-1	(1) Faceplate with Dual-Mount Bracket (1) Line Connector with Dust Cover (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	White	5	
556190-2	(1) Faceplate with Dual-Mount Bracket (2) Line Connectors with Dust Covers (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	White	5	
556191-1	(1) Faceplate with Dual-Mount Bracket (1) Line Connector with Dust Cover (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	Black	8 (4-2-2)	408-3259
556191-2	(1) Faceplate with Dual-Mount Bracket (2) Line Connectors with Dust Covers (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	Black	8 (4-2-2)	408-3259
1933399-1	(1) Faceplate with Dual-Mount Bracket (1) Line Connector with Dust Cover (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	NEMA Gray	8 (3-3-2)	
1933399-2	(1) Faceplate with Dual-Mount Bracket (2) Line Connectors with Dust Covers (1) Line Connector Assembly Mounting Bracket (2) Line Connector Mounting Clamps (4) 8-32 UNC 2A Screws	NEMA Gray	8 (3-3-2)	

Figure 5

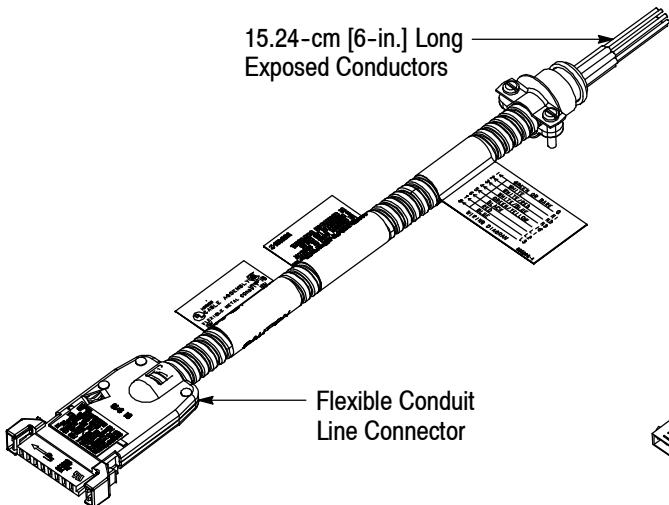
### C. Line Entry Cable Assembly

The line entry cable assembly provides connection between building power and system components. The line connector is polarized to mate with the power connector cable assembly. See Figure 6.

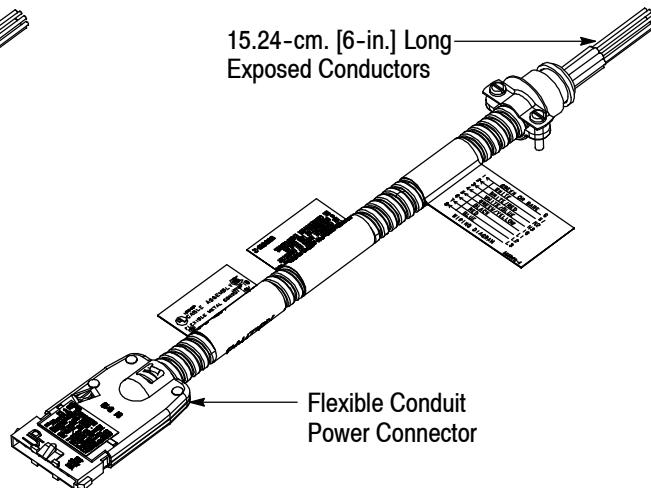
### D. Power Entry Cable Assembly

The power entry cable assembly provides connection between building power and system components such as PDMs, but is most often used as the load-side connection point between the system and modular office panels or similar connections. The power connector is polarized to mate with line entry cable assembly, ZDB, PTU, PDM, power junction box, and line connector power strip. See Figure 6.

*Line Entry Cable Assembly*



*Power Entry Cable Assembly*



PART NUMBER #	CONTENT	CONNECTOR COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
557652-[]	(1) Line Entry Cable Assembly	White	5	—
556148-[]	(1) Line Entry Cable Assembly	Black	8 (4-2-2)	
1933403-[]	(1) Line Entry Cable Assembly	NEMA Gray	8 (3-3-2)	
555858-[]	(1) Power Entry Cable Assembly	White	5	—
555856-[]	(1) Power Entry Cable Assembly	Black	8 (4-2-2)	
1933402-[]	(1) Power Entry Cable Assembly	NEMA Gray	8 (3-3-2)	

■ Dash Number Indicates Cable Length

*Figure 6*

## 4.2. Jumper Cable Assemblies

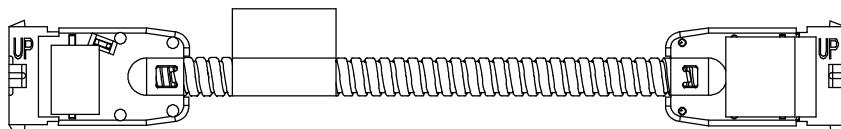
### A. Power-to-Power Cable Assembly

The power-to-power cable assembly is a 5- or 8-wire cable with a power connector at each end both having strain relief. The power connectors are polarized to mate with line connector cable assembly, ZDB, PTU, PDM, power junction boxes, and line connector power strips. This cable assembly provides connection between system components. See Figure 7.

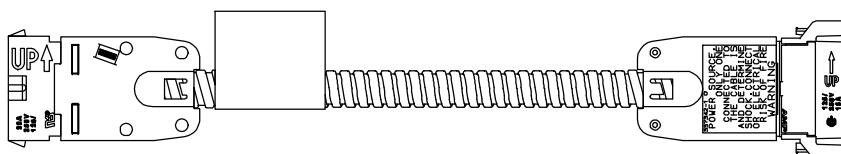
### B. Power-to-Line Cable Assembly

The power-to-line cable assembly is a 5- or 8-wire cable with a line connector at one end and power connector at the other end both having strain relief. The line connector is polarized to mate with power connector cable assemblies; and the power connector is polarized to mate with line connector cable assembly, ZDB, PTU, PDM, power junction box, and line connector power strip. This cable assembly provides connection between system components and is most often used to extend the length of a power-to-power cable assembly. See Figure 7.

#### *Power-to-Power Cable Assembly*



#### *Power-to-Line Cable Assembly*



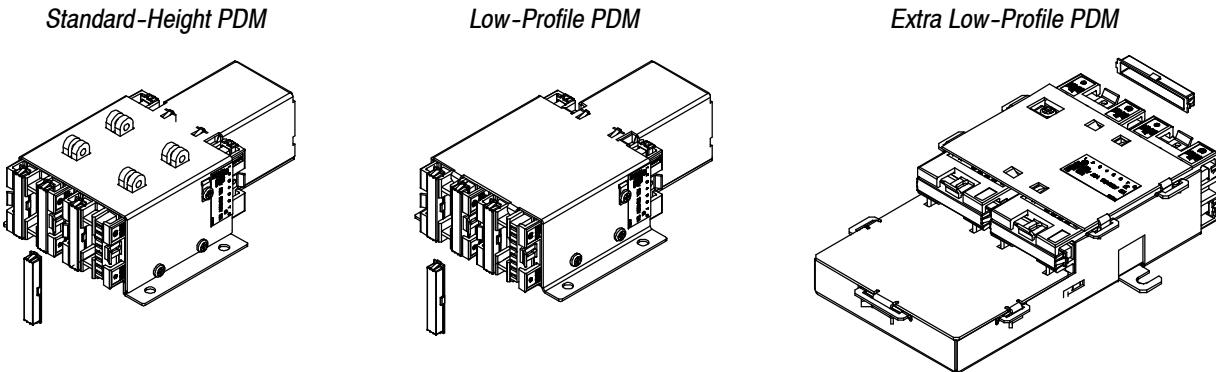
PART NUMBER#	CONTENT	CONNECTOR COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
556212-[]	(1) Power-to-Power Cable Assembly	White	5	—
556127-[]	(1) Power-to-Power Cable Assembly	Black	8 (4-2-2)	
1933400-[]	(1) Power-to-Power Cable Assembly	NEMA Gray	8 (3-3-2)	
556730-[]	(1) Power-to-Line Cable Assembly	White	5	—
556731-[]	(1) Power-to-Line Cable Assembly	Black	8 (4-2-2)	
1933401-[]	(1) Power-to-Line Cable Assembly	NEMA Gray	8 (3-3-2)	

■ Dash Number Indicates Cable Length

Figure 7

### 4.3. Power Distribution Module (PDM)

The PDM consists of a cover(s), base, power junction box, ground jaw, and line connectors (each with a dust cover), and mounting brackets or external lug mounts. The PDM is available in standard-height, low-profile, or extra low-profile. The PDM is designed to split a branch circuit into 3 or 5 directions for 3 or 4 individual circuits. The line connectors are polarized to mate with power connector cable assemblies. See Figure 8.



Not Included: (4) 8-32 UNC-2B Mounting Screws or Cable Ties

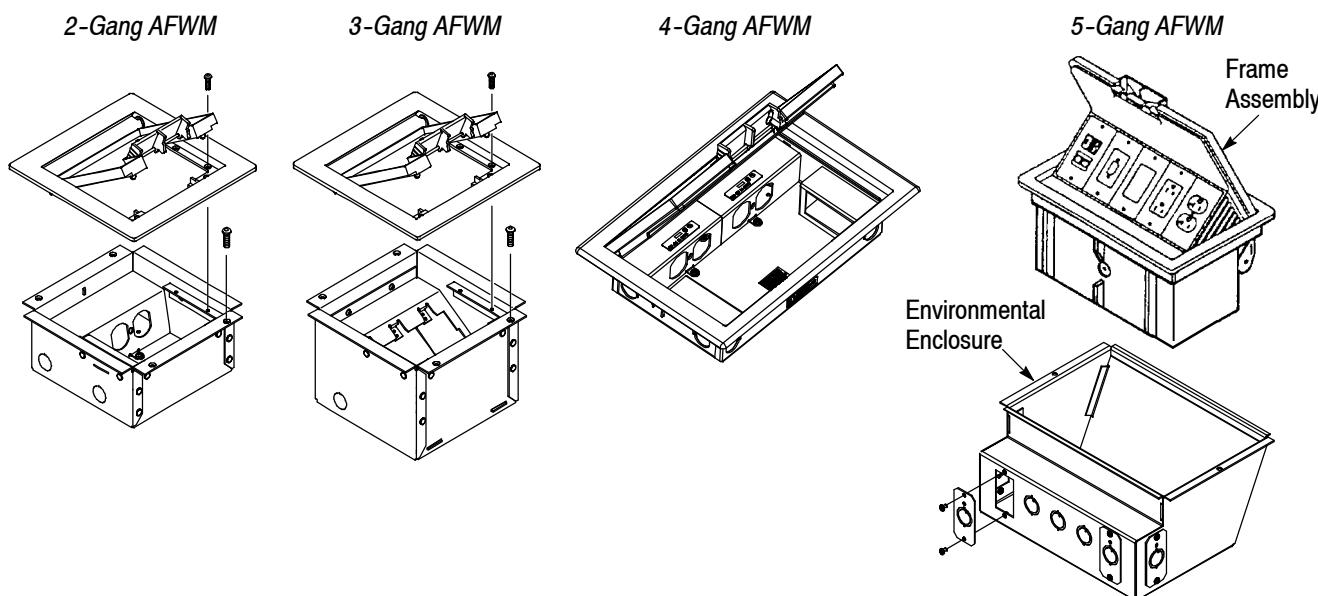
PART NUMBER	CONTENT <sup>■■</sup>	CONNECTOR		WIRE CONFIGURATION	INSTRUCTION SHEET
		AMOUNT	COLOR		
556173-2	(1) Standard-Height Power Junction Box	4	White	5	408-3252
406478-2	(1) Low-Profile Power Junction Box				
1375052-2	(1) Extra Low-Profile Power Junction Box				
556173-1	(1) Standard-Height Power Junction Box	4	Black	8 (4-2-2)	408-3252
406478-1	(1) Low-Profile Power Junction Box				
1375052-1	(1) Extra Low-Profile Power Junction Box				
1933405-1	(1) Standard-Height Power Junction Box	4	NEMA Gray	8 (3-3-2)	408-3252
1933406-1	(1) Low-Profile Power Junction Box				
1933407-1	(1) Extra Low-Profile Power Junction Box				
556794-2	(1) Standard-Height Power Junction Box	6	White	5	408-3252
406221-2	(1) Low-Profile Power Junction Box				
1375041-2	(1) Extra Low-Profile Power Junction Box				
556794-1	(1) Standard-Height Power Junction Box	6	Black	8 (4-2-2)	408-3252
406221-1	(1) Low-Profile Power Junction Box				
1375041-1	(1) Extra Low-Profile Power Junction Box				
1933472-1	(1) Standard-Height Power Junction Box	6	NEMA Gray	8 (3-3-2)	408-3252
1933473-1	(1) Low-Profile Power Junction Box				
1933474-1	(1) Extra Low-Profile Power Junction Box				

<sup>■■</sup> Standard-Height is 7.07 mm [2.78 in.] High, Low-Profile is 5.33 mm [2.10 in.] High, and Extra Low-Profile is 4.53 mm [1.79 in.] High

Figure 8

#### 4.4. Access Floor Workstation Module (AFWM)

The AFWM is designed to be mounted onto an access floor panel and to provide an interconnection point between access floor wiring systems and workstation or retail equipment cables. The AFWM will accept any combination of power, data, or communication services. The AFWM is available in 2-, 3-, 4-, and 5-gang configurations. Refer to Figure 9.



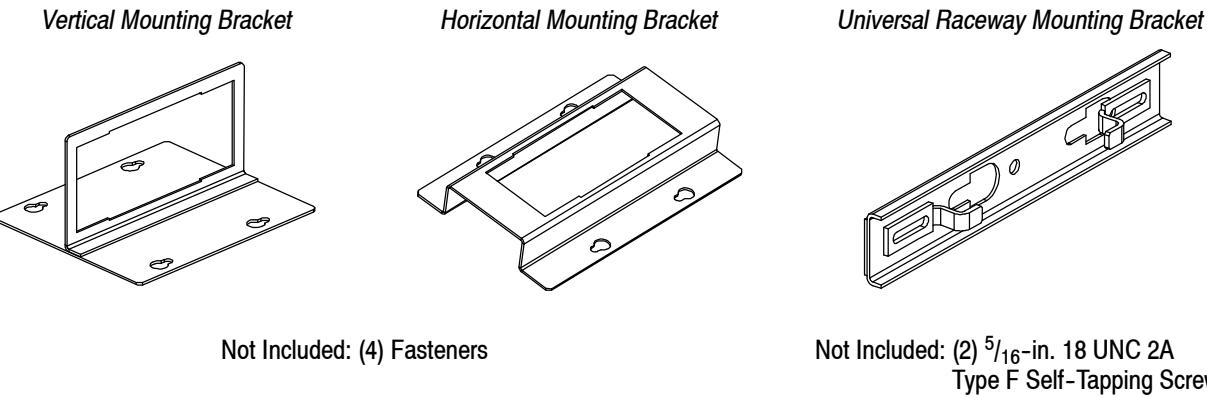
PART NUMBER #:	CONTENT	TYPE	WIRE CONFIGURATION	INSTRUCTION SHEET
558718-[]	(1) Box Assembly (1) Lid Cover Kit (2) Duplex Inserts and Hardware (4) No. 6× <sup>3</sup> / <sub>4</sub> -in. Long Mounting Screws	2-Gang	—	408-3356
558716-[]	(1) Box Assembly (1) Lid Cover Kit (1) Insert and Hardware (1) Separator Plate (4) No. 6× <sup>3</sup> / <sub>4</sub> -in. Long Mounting Screws	3-Gang	—	408-3356
406376-[]	(1) Box Assembly (1) Lid Cover Kit (2) Duplex Brackets (2) Voice/Data Brackets and Hardware (1) Separator Plate (1) Ground Screw (2) No. 6× <sup>3</sup> / <sub>4</sub> -in. Long Mounting Screws	4-Gang	—	408-3397
557601-[]	(1) Frame Assembly (1) Cover and Bezel (1) Separator Plate (2) Brackets and Hardware	5-Gang	—	408-3287
1479499-1	(1) Environmental Enclosure (4) Brackets and Hardware			

■ Dash Number Indicates Color: -1 is Almond, -3 is Black, -4 is NEMA Gray

Figure 9

#### 4.5. Power Junction Box Mounting Brackets

The vertical and horizontal mounting brackets are used to secure the snap-in mount power junction boxes to a wall or panel, and the universal raceway mounting bracket kit is used to retrofit the bracket mount power junction box in the raceways of existing modular furniture panels. The brackets are made of pre-galvanized carbon steel. See Figure 10.



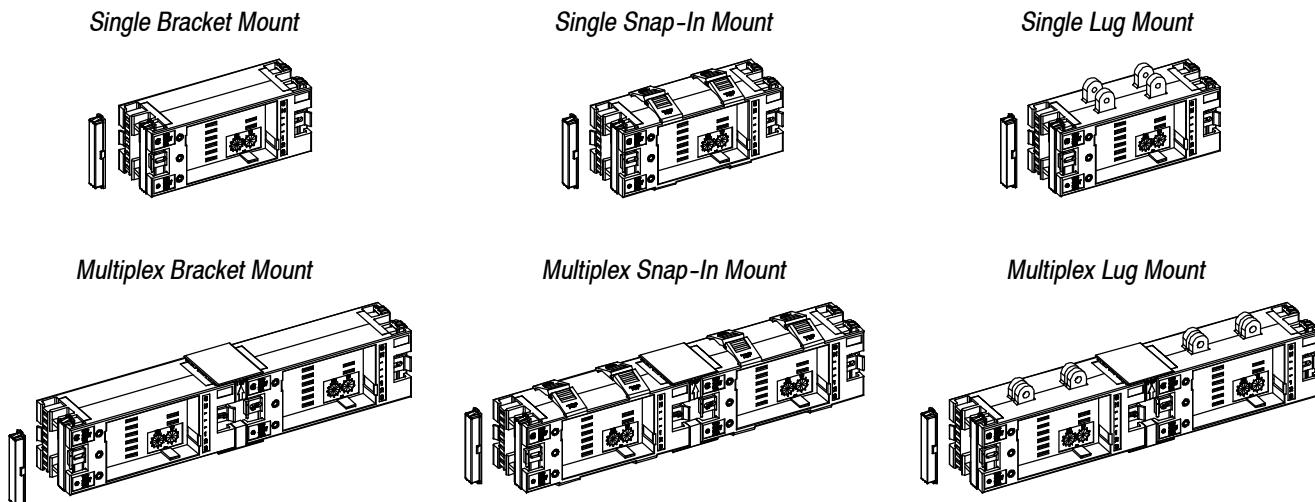
PART NUMBER	CONTENT	TYPE	WIRE CONFIGURATION	INSTRUCTION SHEET
1933781-1	(1) Vertical Keyhole Snap-In Mounting Bracket	Single	—	—
1933781-2		Multiplex		
1479217-1	(1) Horizontal Keyhole Snap-In Mounting Bracket	Single	—	—
1479219-1		Multiplex		
556920-1	(1) Universal Raceway Mounting Bracket Kit	Single	—	—
556944-1		Multiplex		

Figure 10

## 4.6. Power Outlets

### A. Power Junction Box Assembly

The power junction box assembly accepts 2 (single) or 4 (multiplex) duplex receptacles to provide power outlet capabilities and supply feed-through capabilities to and from other power outlet locations. The power junction box assembly consists of a junction box with 4 line connectors (each with a dust cover). The line connectors are polarized to mate with power connector cable assemblies. Mounting brackets are available to mount power junction box to a wall or panel.



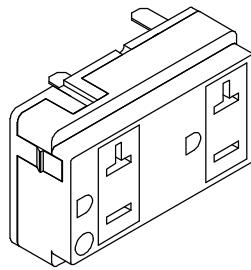
PART NUMBER	CONTENT	CONNECTOR COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
556887-1	(1) Single Bracket Mount Junction Box	White	5	—
556888-1		Black	8 (4-2-2)	
1933381-1		NEMA Gray	8 (3-3-2)	
556209-1	(1) Single Snap-In Mount Junction Box	White	5	—
556124-1		Black	8 (4-2-2)	
1933382-1		NEMA Gray	8 (3-3-2)	
557634-1	(1) Single Lug Mount Junction Box	White	5	—
556132-1		Black	8 (4-2-2)	
1933383-1		NEMA Gray	8 (3-3-2)	
556886-1	(1) Multiplex Bracket Mount Junction Box	White	5	—
556946-1		Black	8 (4-2-2)	
1933384-1		NEMA Gray	8 (3-3-2)	
555844-1	(1) Multiplex Snap-In Mount Junction Box	White	5	—
555843-1		Black	8 (4-2-2)	
1933385-1		NEMA Gray	8 (3-3-2)	
555848-1	(1) Multiplex Lug Mount Junction Box	White	5	—
555847-1		Black	8 (4-2-2)	
1933386-1		NEMA Gray	8 (3-3-2)	

Figure 11

## B. Duplex Receptacles

Duplex receptacles are powered modules that are fully polarized and keyed to properly snap directly into the power junction box assembly. The active line (circuit) number is marked on the face of the receptacle. The receptacles are available in standard ground or isolated ground. The isolated ground receptacles are marked with an orange triangle. These receptacles are suitable for panel thickness of 50.8 mm [2 in.] (panel thickness is the total thickness of the power junction box with receptacles installed into both sides). See Figure 12.

The receptacles can be extracted, exchanged for a different line circuit configuration, or re-installed to accommodate phase load balancing as necessary. These receptacles meet NEMA 5-15R and NEMA 5-20R requirements and are rated 125 Vac.



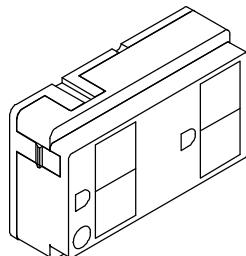
PART NUMBER	CONTENT	AMPERAGE	MODULE COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET	
556100-1	(1) Line 1 Duplex Receptacle	15	Black	5 or 8 (4-2-2)	—	
556101-1	(1) Line 2 Duplex Receptacle					
556102-1	(1) Line 3 Duplex Receptacle					
556103-1	(1) Line 4 Duplex Receptacle	15	Black	8 (4-2-2)	—	
556104-1	(1) Line 1G Duplex Receptacle	15	Black	8 (4-2-2)		
556105-1	(1) Line 2G Duplex Receptacle					
556106-1	(1) Line 3G Duplex Receptacle					
556107-1	(1) Line 4G Duplex Receptacle	20	Black	5 or 8 (4-2-2)	—	
406248-1	(1) Line 1 Duplex Receptacle					
406249-1	(1) Line 2 Duplex Receptacle					
406250-1	(1) Line 3 Duplex Receptacle	20	Orange	8 (4-2-2)	—	
406251-1	(1) Line 4 Duplex Receptacle					
406252-2	(1) Line 1G Duplex Receptacle					
406253-2	(1) Line 2G Duplex Receptacle	20	Black	8 (3-3-2)	—	
406254-2	(1) Line 3G Duplex Receptacle					
406255-2	(1) Line 4G Duplex Receptacle					
1933393-1	(1) Line 1 Duplex Receptacle	20	Orange	8 (3-3-2)	—	
1933394-1	(1) Line 2 Duplex Receptacle					
1933395-1	(1) Line 3 Duplex Receptacle					
1933396-2	(1) Line 1G Duplex Receptacle	20	Black	8 (3-3-2)	—	
1933397-2	(1) Line 2G Duplex Receptacle					
1933398-2	(1) Line 3G Duplex Receptacle					

Note: G is Isolated Ground

Figure 12

### C. Blank Duplex Receptacle

The blank receptacle is a non-powered module used to cover the opening in the power junction box assembly at locations where power outlets are not needed. The blank receptacle snaps directly into the power junction box assembly. The blank receptacle has no markings on the face. See Figure 13.

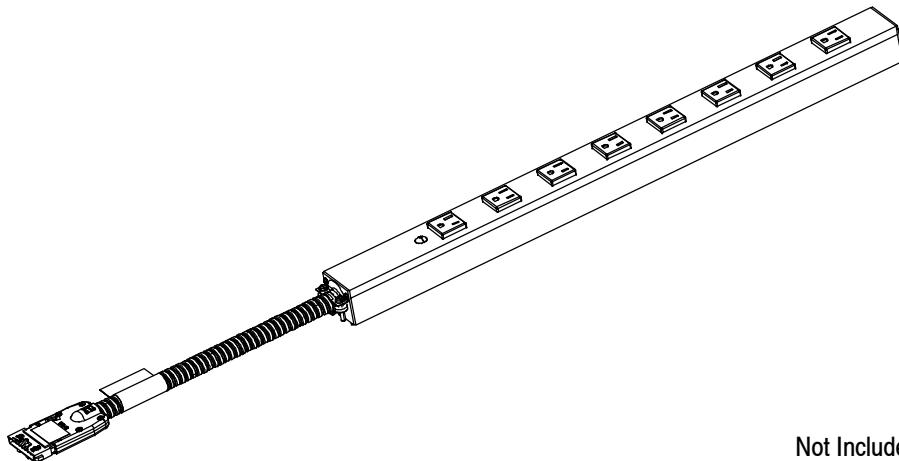


PART NUMBER	CONTENT	MODULE COLOR	WIRE CONFIGURATION	INSTRUCTION SHEET
1933011-1	(1) Blank Duplex Receptacle	Black	—	—

Figure 13

### D. Power Connector Power Strip

The power connector power strip provides power outlet capabilities. The simplex receptacles are not re-configurable; although, the power strip is available for any of circuit lines 1, 2, 3, or 4. The power connector is attached to a flexible metal conduit and is polarized to mate with the line connector cable assembly, ZDB, PTU, PDM, power junction box, and line connector power strip. The power connector power strip is brushed aluminum. Refer to Figure 14.



Not Included: (2) No. 8 Fasteners

PART NUMBER #	CONTENT	WIRE CONFIGURATION	INSTRUCTION SHEET
557958-[ ]	(1) 6 or 8 Simplex Receptacles, Single-Sided Power Strip with Power Connector Cable Assembly (1) Mounting Bracket Kit	5 or 8 (4-2-2)	408-10066

■ Dash Number Indicates Circuit Line Number

Figure 14

## 5. INSTALLATION

The following is an abbreviated guide to help identify common system components and show how they are installed. For specific installation instructions, refer to the instruction sheets packaged with the components.

**CAUTION**

*To avoid damage to system components, ALWAYS turn the power to the system OFF before connecting or disconnecting system components.*

**CAUTION**

*AMPINNERY system component connectors are color-coded and keyed to denote different wiring system configurations. DO NOT attempt to connect differently-colored connectors together. DO NOT attempt to overcome the keying features of the connectors by force.*

### 5.1. Power Connector to Line Connector (See Figure 15)

Refer to 408-3210.

#### A. Connection

1. Ensure that the power to the system is OFF.
2. Locate the polarizing key and the "UP" arrow on each of the power connector and line connector.
3. Plug the power and line connectors together until the two locking latches of the line connector engage. There will be an audible "click" as the latches engage. Ensure proper insertion by pulling back on the power connector.

#### B. Disconnection

1. Ensure that the power to the system is OFF.
2. Depress the line connector two locking latches of the line connector, and gently but firmly pull the power connector away from the line connector.

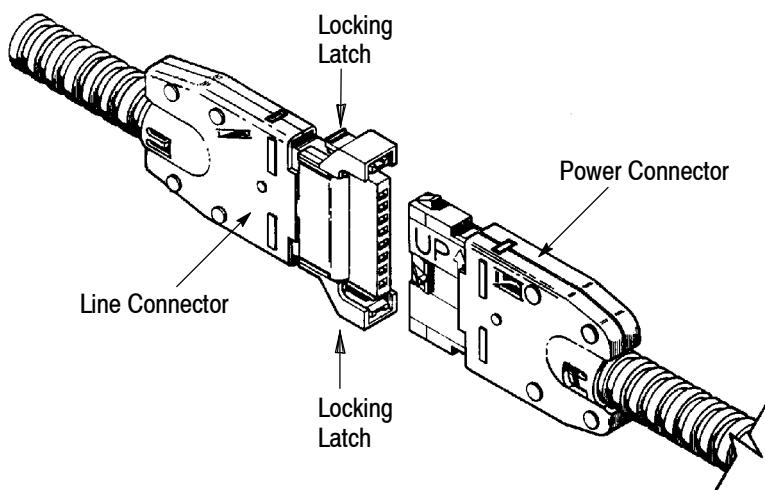


Figure 15

## 5.2. Power Connector to Power Junction Box (See Figure 16)

Refer to 408-3247.

### A. Connection

1. Ensure that the power to the system is OFF.
2. Locate the polarizing key and the "UP" arrow on the power connector. The arrow should be oriented toward the top (side adjacent to the word "AMP" or TE logo) of the power junction box.
3. Plug the power connector into the power junction box until the locking latch of the power junction box engages. There will be an audible "click" as the latches engage. Ensure proper insertion by pulling back on the power connector.

**NOTE**

*Depending on the installation, the top of the power junction box may or may not be oriented upright.*



### B. Disconnection

1. Ensure that the power to the system is OFF.
2. Lift the locking latch of the power junction box, and gently but firmly pull the power connector away from the power junction box.

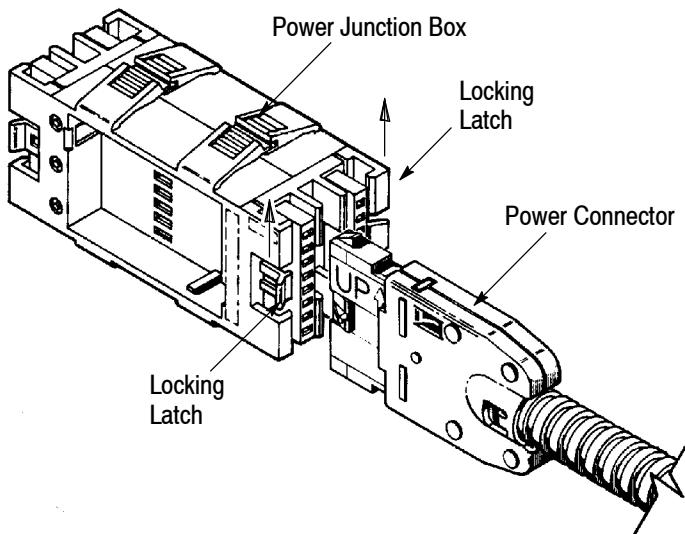


Figure 16

## 5.3. Power Connector to PDM or Power Strip (See Figure 17)

Refer to 408-3252 or 408-10066.

### A. Connection

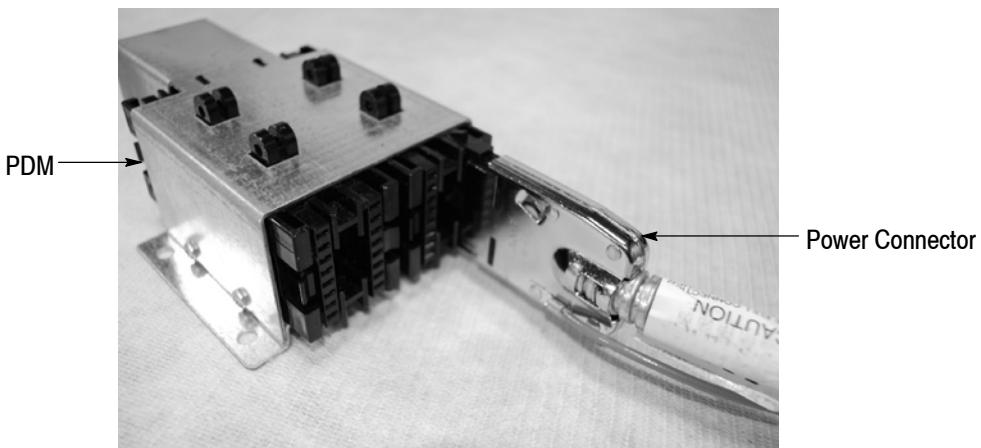
1. Ensure that the power to the system is OFF.
2. Locate the polarizing key and the "UP" arrow on the power connector. The arrow should be oriented toward the top (side adjacent to the word "AMP" or TE logo) of the PDM or power strip.
3. Plug the power connector into the PDM or power strip until the locking latch of the PDM or power strip engages. There will be an audible "click" as the latches engage. Ensure proper insertion by pulling back on the power connector.

### B. Disconnection

1. Ensure that the power to the system is OFF.

---

2. Lift the locking latch of the PDM or power strip, and gently but firmly pull the power connector away from the PDM or power strip.



---

Figure 17

#### 5.4. Duplex Receptacle to Power Junction Box or Power Strip (See Figure 18)

Refer to 408-3247 or 408-10066.

##### A. Connection

1. Ensure that the power to the system is OFF.
2. Locate the line identification mark and the polarization groove on the duplex receptacle.
3. Align the polarization groove with the key of the power junction box as shown. Gently but firmly push the duplex receptacle into the power junction box until the locking latches of the duplex receptacle engage. There will be an audible “click” as the latches engage. Ensure proper insertion by pulling back on the duplex receptacle.

##### B. Disconnection

1. Ensure that the power to the system is OFF.
2. Using two flat-blade screwdrivers, fit the blade of each screwdriver into the slot between the locking latch (located at opposite corners) of the duplex receptacle and the side of the power junction box or power strip. Position each screwdriver handle at approximately a 45° angle.
3. Rock each screwdriver handle simultaneously towards the face of the power junction box or power strip. This will force the locking latches to open, releasing the duplex receptacle and lifting it in an upward direction.
4. Pull the receptacle straight out of the power junction box or power strip by hand.

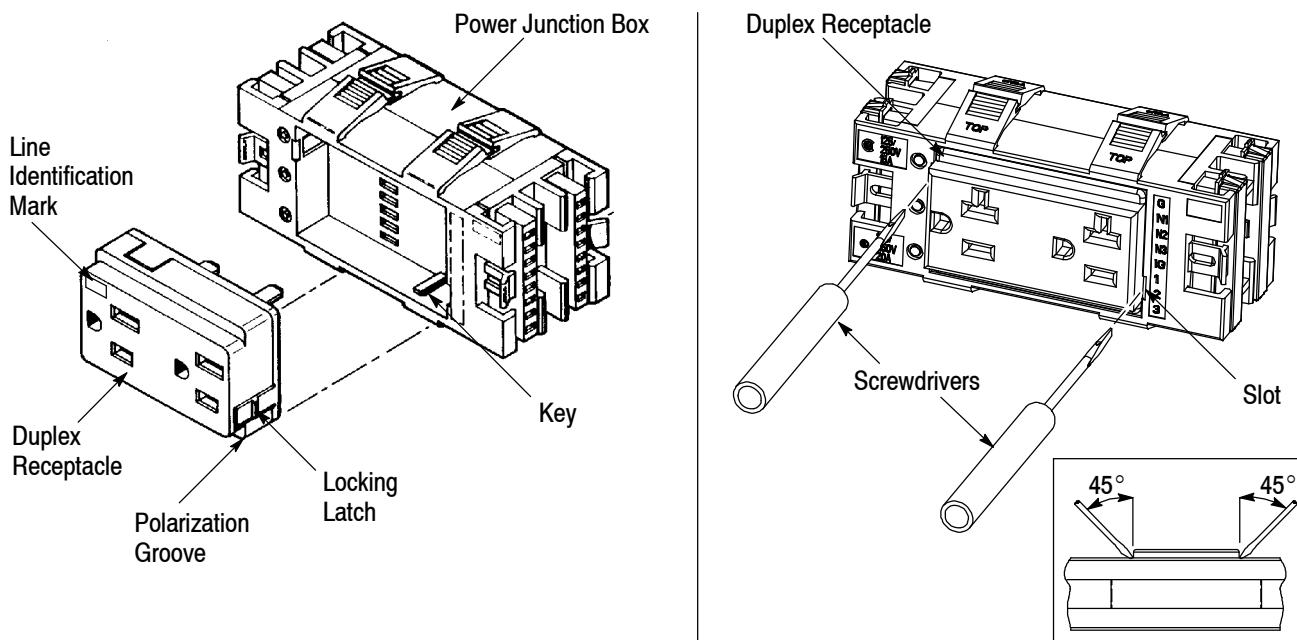


Figure 18

## 6. MATERIAL TAKE-OFF LIST

The Material Take-Off List will aid in calculating components needed for the AMPINNERY modular power distribution system.

**NOTE**

*Refer to Section 4 for description of components.*



## 7. REVISION SUMMARY

Revisions to this customer manual include:

- Removed jumper cable from power entry cable assembly
- Added zone power distribution kit to Figure 3
- Changed illustration, part numbers, and instruction sheet reference for zone power distribution kit
- Changed dash number and color of Duplex Receptacles 406252, 406253, 406254, and 406255
- Removed references to storm gray color
- Removed one-dot note from Material Take-Off List

## MATERIAL TAKE-OFF LIST

CATEGORY	DESCRIPTION	WIRE CONFIGURATION	COLOR	PART NUMBER	TOTAL QTY
Interface with Building Power	Zone Power Distribution Kit	5 or 8 (4-2-2)	■	1933419-8	
		8 (3-3-2)	■	1933419-3	
	Power Transition Unit (PTU)	5	□	556190-[ ]●	
		8 (4-2-2)	■	556191-[ ]●	
		8 (3-3-2)	■	1933399-[ ]●	
	Line Entry Cable Assembly	5	□	557652-[ ]●●	
		8 (4-2-2)	■	556148-[ ]●●	
		8 (3-3-2)	■	1933403-[ ]●●	
	Power Entry Cable Assembly	5	□	555858-[ ]●●	
		8 (4-2-2)	■	555856-[ ]●●	
		8 (3-3-2)	■	1933402-[ ]●●	
Jumper Cable Assemblies	Power-to-Power Cable Assembly	5	□	556212-[ ]●●	
		8 (4-2-2)	■	556127-[ ]●●	
		8 (3-3-2)	■	1933400-[ ]●●	
	Power-to-Line Cable Assembly	5	□	556730-[ ]●●	
		8 (4-2-2)	■	556731-[ ]●●	
		8 (3-3-2)	■	1933401-[ ]●●	
Power Distribution Modules (PDM)	4-Port Standard-Height	5	□	556173-2	
		8 (4-2-2)	■	556173-1	
		8 (3-3-2)	■	1933405-1	
Power Distribution Modules (PDM)	4-Port Low-Profile	5	□	406478-2	
		8 (4-2-2)	■	406478-1	
		8 (3-3-2)	■	1933406-1	
	4-Port Extra Low-Profile	5	□	1375052-2	
		8 (4-2-2)	■	1375052-1	
		8 (3-3-2)	■	1933407-1	
	6-Port Standard	5	□	556794-2	
		8 (4-2-2)	■	556794-1	
		8 (3-3-2)	■	1933472-1	
	6-Port Low-Profile	5	□	406221-2	
		8 (4-2-2)	■	406221-1	
		8 (3-3-2)	■	1933473-1	
	6-Port Extra Low-Profile	5	□	1375041-2	
		8 (4-2-2)	■	1375041-1	
		8 (3-3-2)	■	1933474-1	
Access Floor Workstation Module (AFWM)	2-Gang	—	●●●	558718-[ ]	
	3-Gang	—	●●●	558716-[ ]	
	4-Gang	—	●●●	406376-[ ]	
	5-Gang (Frame and Enclosure)	—	●●●	557601-[ ]	
		—	●●●	1479499-1	
Power Junction Box Mounting Brackets	Vertical Keyhole Snap-In, Single	—	Galvanized Steel	1933781-1	
	Vertical Keyhole Snap-In, Multiplex	—	Galvanized Steel	1933781-2	
	Horizontal Keyhole Snap-In, Single	—	Galvanized Steel	1479217-1	
	Horizontal Keyhole Snap-In, Multiplex	—	Galvanized Steel	1479219-1	
	Universal Raceway, Single	—	Galvanized Steel	556920-1	
	Universal Raceway, Multiplex	—	Galvanized Steel	556944-1	

Continues —

Continued —

## MATERIAL TAKE-OFF LIST

CATEGORY	DESCRIPTION	WIRE CONFIGURATION	COLOR	PART NUMBER	TOTAL QTY
Power Outlets	Power Junction Box, Single Bracket Mount	5	<input type="checkbox"/>	556887-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	556888-1	
		8 (3-3-2)	<input type="checkbox"/>	1933381-1	
Power Junction Box, Single Snap-In Mount	Power Junction Box, Single Snap-In Mount	5	<input type="checkbox"/>	556209-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	556124-1	
		8 (3-3-2)	<input type="checkbox"/>	1933382-1	
Power Junction Box, Single Lug Mount	Power Junction Box, Single Lug Mount	5	<input type="checkbox"/>	557634-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	556132-1	
		8 (3-3-2)	<input type="checkbox"/>	1933383-1	
Power Junction Box, Multiplex Bracket Mount	Power Junction Box, Multiplex Bracket Mount	5	<input type="checkbox"/>	556886-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	556946-1	
		8 (3-3-2)	<input type="checkbox"/>	1933384-1	
Power Junction Box, Multiplex Snap-In Mount	Power Junction Box, Multiplex Snap-In Mount	5	<input type="checkbox"/>	555844-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	555843-1	
		8 (3-3-2)	<input type="checkbox"/>	1933385-1	
Power Junction Box, Multiplex Lug Mount	Power Junction Box, Multiplex Lug Mount	5	<input type="checkbox"/>	555848-1	
		8 (4-2-2)	<input checked="" type="checkbox"/>	555847-1	
		8 (3-3-2)	<input type="checkbox"/>	1933386-1	
Duplex Receptacle, 15 A, Line 1	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	556100-1		
Duplex Receptacle, 15 A, Line 2	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	556101-1		
Duplex Receptacle, 15 A, Line 3	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	556102-1		
Duplex Receptacle, 15 A, Line 4	8 (4-2-2)	<input checked="" type="checkbox"/>	556103-1		
Duplex Receptacle, 15 A, Line 1G	8 (4-2-2)	<input checked="" type="checkbox"/>	556104-1		
Duplex Receptacle, 15 A, Line2G	8 (4-2-2)	<input checked="" type="checkbox"/>	556105-1		
Duplex Receptacle, 15 A, Line 3G	8 (4-2-2)	<input checked="" type="checkbox"/>	556106-1		
Duplex Receptacle, 15 A, Line 4G	8 (4-2-2)	<input checked="" type="checkbox"/>	556107-1		
Duplex Receptacle, 20 A, Line 1	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	406248-1		
Duplex Receptacle, 20 A, Line 2	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	406249-1		
Duplex Receptacle, 20 A, Line 3	5 or 8 (4-2-2)	<input checked="" type="checkbox"/>	406250-1		
Duplex Receptacle, 20 A, Line 4	8 (4-2-2)	<input checked="" type="checkbox"/>	406251-1		
Duplex Receptacle, 20 A, Line 1G	8 (4-2-2)	Orange	406252-2		
Duplex Receptacle, 20 A, Line 2G	8 (4-2-2)	Orange	406253-2		
Duplex Receptacle, 20 A, Line 3G	8 (4-2-2)	Orange	406254-2		
Duplex Receptacle, 20 A, Line 4G	8 (4-2-2)	Orange	406255-2		
Duplex Receptacle, 20 A, Line 1	8 (3-3-2)	<input checked="" type="checkbox"/>	1933393-1		
Duplex Receptacle, 20 A, Line 2	8 (3-3-2)	<input checked="" type="checkbox"/>	1933394-1		
Duplex Receptacle, 20 A, Line 3	8 (3-3-2)	<input checked="" type="checkbox"/>	1933395-1		
Duplex Receptacle, 20 A, Line 1G	8 (3-3-2)	Orange	1933396-2		
Duplex Receptacle, 20 A, Line 2G	8 (3-3-2)	Orange	1933397-2		
Duplex Receptacle, 20 A, Line 3G	8 (3-3-2)	Orange	1933398-2		
Duplex Receptacle, Blank	—	<input checked="" type="checkbox"/>	1933011-1		
Power Connector Power Strip	5 or 8 (4-2-2)	Brushed Aluminum	557958-[] #		

Color of Connector, Module, or Trim:  Black  White  NEMA Gray

# Dash Number Indicates Line Circuit Number

- Dash Number Indicates Number of Connectors: -1 is 1, -2 is 2
- Dash Number Indicates Cable Length: Refer to Catalog 1654963
- Dash Number Indicates Color: -1 is Almond, -3 is Black, -4 is NEMA Gray