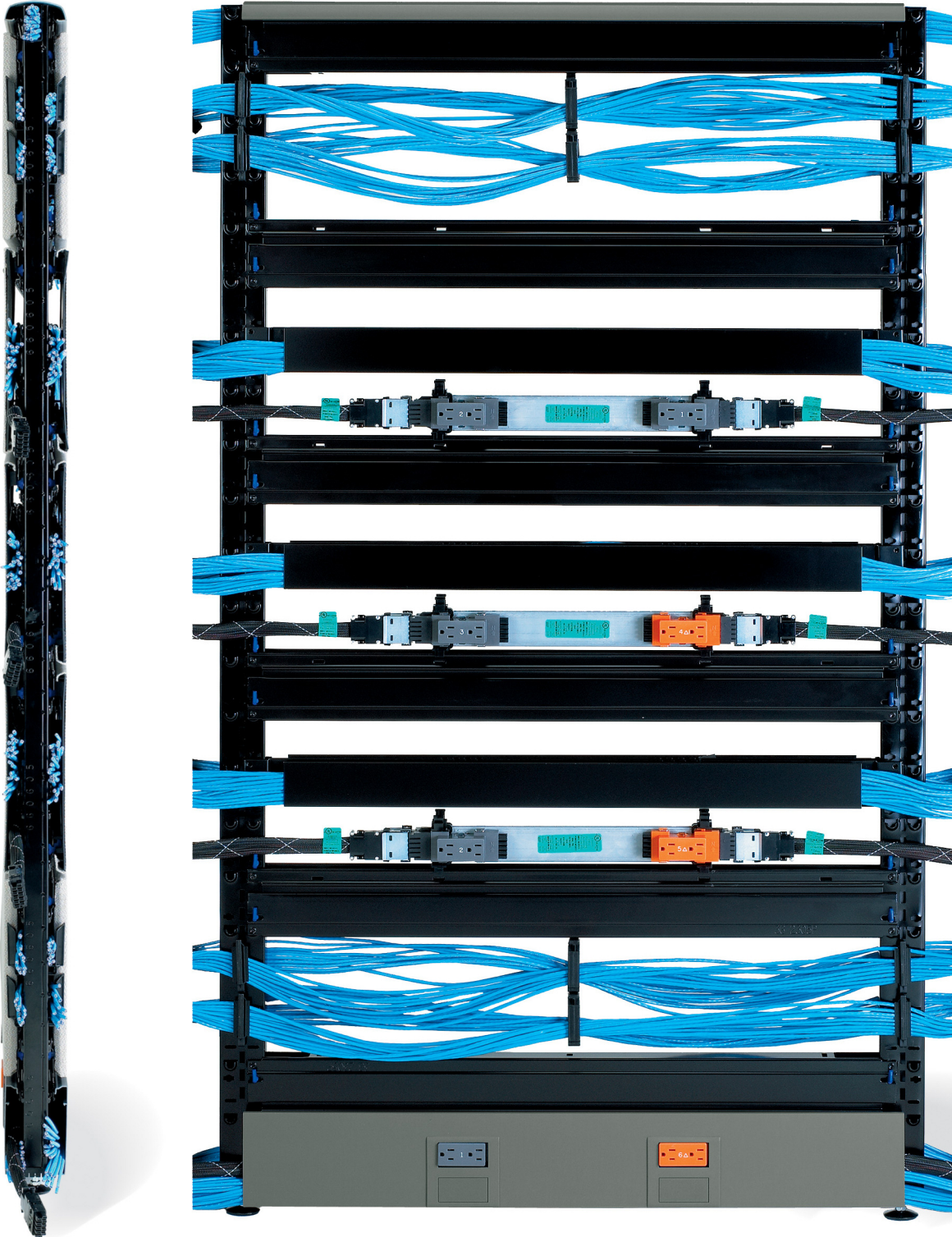


Electrical Technical Specifications

PowerWorks® Panel Systems



The field-installed US standard electrical system supplied for the modular office system is an 8/10 electrical system. This design consists of either 6 hot wires/2 neutral wires/2 ground wires (6-2-2), which provide 6 separate 20 amp circuits -or- 4 hot wires/4 neutral wires/2 ground wires (4-4-2), which provide 4 separate 20 amp circuits.

Power Options

Power is supplied through an 8/10 electrical system. For power at heights other than base height, the panel must be specified with a raceway tile at the appropriate height. Raceway tiles at least 30" in width shall allow for the mounting of up to two duplex receptacles per tile (24" width shall allow one per tile). Rigid wireway can be mounted to any horizontal rail and snaps in with injection-molded clips. Power is available at the following heights:

- a. Base-Height Power - found in the 6" base raceway of the panel. Accepts US Standard receptacles.
- b. ADA-Height Power - The fabric covered raceway tiles shall allow for installation of ADA Height receptacles. In accordance with ADA requirements, receptacles are located at 20" from the base of the panel.
- c. Worksurface-Height Power - The fabric covered raceway tiles shall allow for installation of worksurface height receptacles. Two duplex receptacles can be mounted in a tile. Receptacles are approximately 32" high.
- d. Stand-up-Height Power - The fabric covered raceway tiles shall allow for factory installation of stand-up height receptacles. Two duplex receptacles can be mounted in a tile. Receptacles are approximately 44" high.

Panel Rigid Wireway

A rigid one-piece wireway is attached to the horizontal rail by two injection-molded clips. The wireway design allows for the snap connection of receptacles, base infeeds, top infeeds and jumpers to adjacent wireways and power pass-throughs without the need for tools. All panels 24" and wider are ready to accept electrical components.

Base Infeeds

The electrical system permits power infeed along the base raceway of the panel. Base feed power feeds into the rigid wireway of the panel base raceway. The base feed is constructed of a 6' long 0.5" liquid-tight flexible metal conduit that contains ten wires with a receptacle-type design allowing for quick installation and removal. Base infeeds are specified as universal and may be assembled in left or right orientation in the field.

NOTE: Base infeed length may be trimmed by an electrician in the field during installation. Longer base infeeds may be available by special request for unique installation requirements.

Top Infeeds

The electrical system permits power infeed through the top of the panel. The top feed assembly consists of a 7' extruded aluminum power pole, top cap and ceiling trim and 12' flexible-conduit electrical harness containing ten wires with a snap fit connector for connection to the rigid wireway.

The interior of the power pole is divided with a continuous metal septum for power and communication management/separation.

NOTE: Longer top infeed electrical harnesses and power poles may be available by special request for unique installation requirements.

Data Top Feed

The data top feed consists of a 7' or 10' extruded aluminum pole, top cap, and ceiling trim pieces, but does not include a power infeed electrical harness.

Power Pass Through

The electrical system provides for a method of passing power from one powered panel through the raceway of a non-powered panel and connected to the rigid wireway of the next powered panel. This power pass through attaches to the rigid wireway of one panel to the next with a snap fit connection that requires no tools for assembly. Power pass throughs are standard for connecting power through 12" and 18" wide panels, and optional on 24"-60" wide panels.

Receptacles

The standard duplex receptacles for the modular electrical system are injection molded components which press fit into the rigid wireways of the panels without the need for tools. The rated capacity of the duplex receptacles shall be 15 amps.

NOTE: Special duplex receptacles rated at 20A may be available by special request. Caution must be exercised when designing receptacle layouts to balance electrical load. Client is responsible for suitability of building electrical system for handling all load requirements.

Electrical System Test Requirements

The panel system, including the modular US electrical components, are listed to applicable UL standards and requirements by Underwriters Laboratories, Inc.

PowerWorks® Panel Systems

- Electrical Technical Specifications

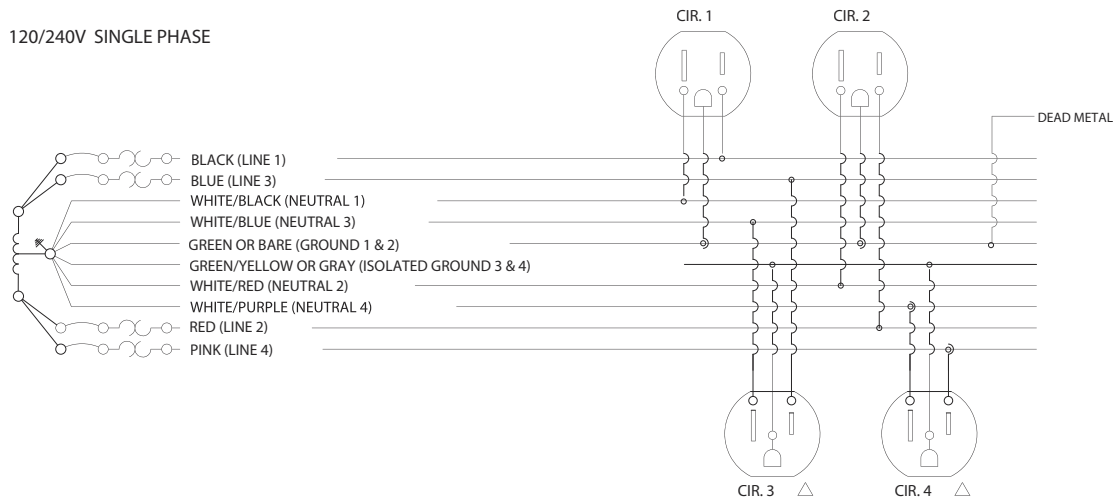
442

Receptacles available	Wires to be used	Gauge of wire
Circuit 1	Black White/Black Letters Green or Bare	12 12 12
Circuit 2	Red White/Black Letters Green or Bare	12 12 12
Circuit 3I	Blue White/Black Letters Green/Yellow Stripe or Gray	12 12 12
Circuit 4I	Pink White/Purple Letters Green/Yellow Stripe or Gray	12 12 12

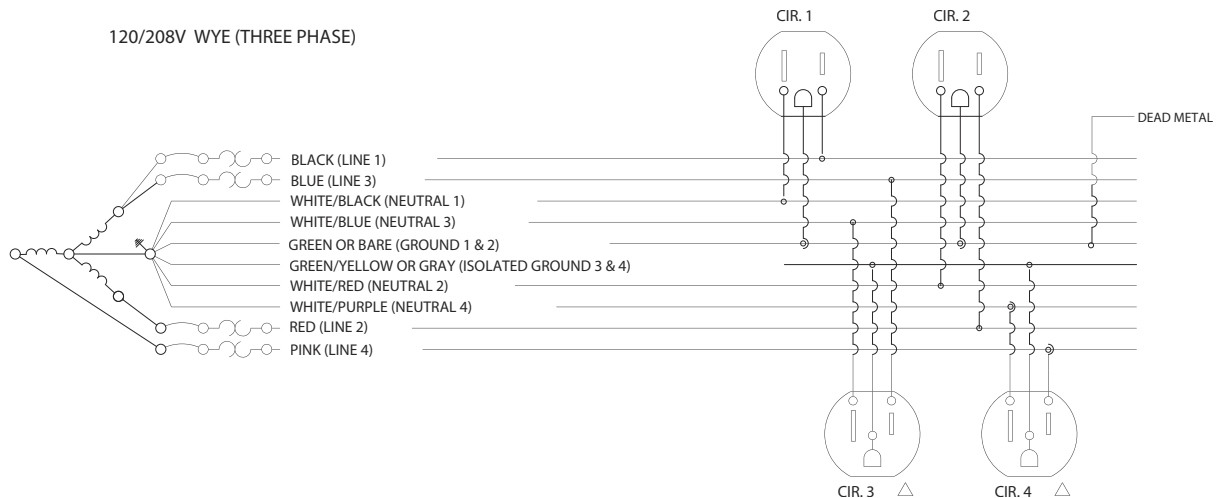
Blue UL Label

442 CONNECTION DIAGRAMS

120/240V SINGLE PHASE



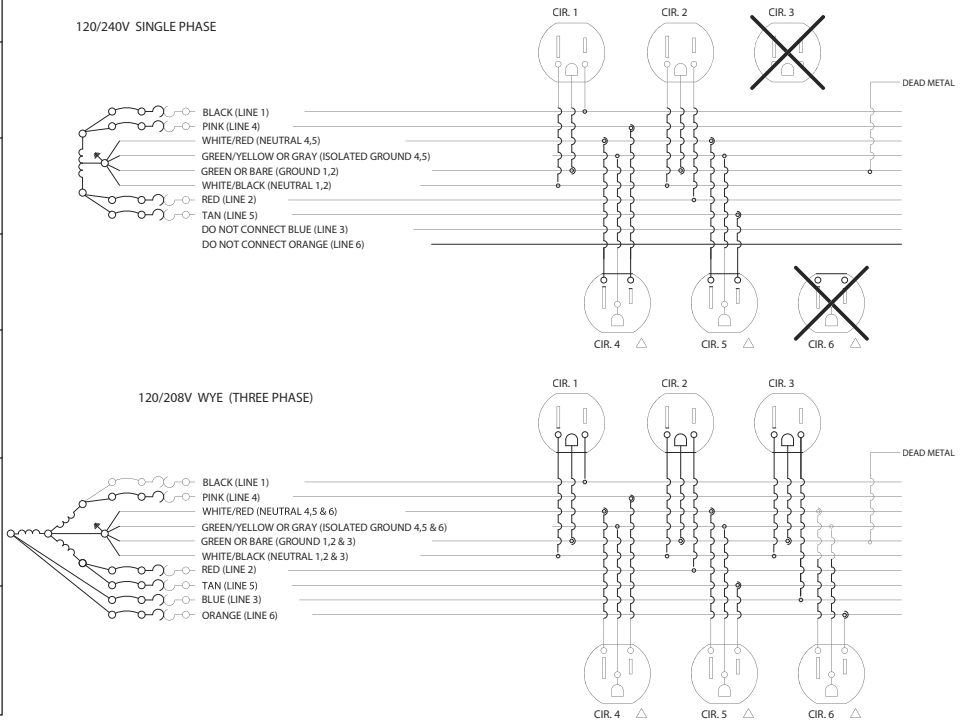
120/208V WYE (THREE PHASE)



622

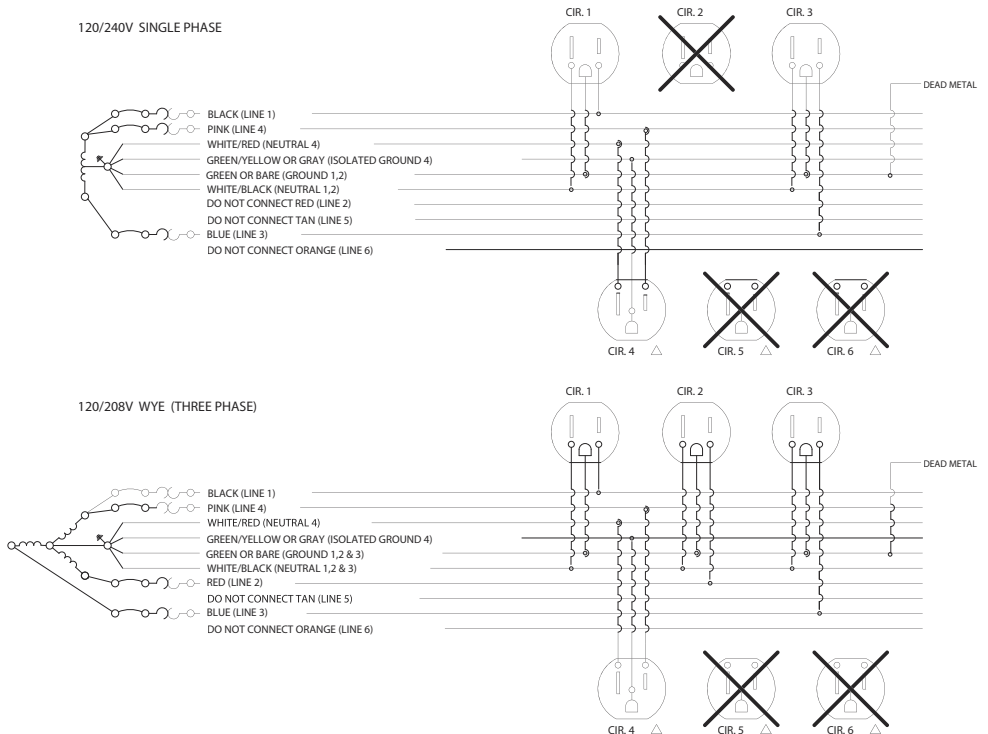
Receptacles available	Wires to be used	Gauge of wire
Circuit 1	Black White/Black Letters Green or Bare	12 10 12
Circuit 2	Red White/Black Letters Green or Bare	12 10 12
Circuit 3	Blue White/Black Letters Green or Bare	12 10 12
Circuit 4I	Pink White/Red Letters Green/Yellow Stripe or Gray	12 10 12
Circuit 5I	Tan White/Red Letters Green/Yellow Stripe or Gray	12 10 12
Circuit 6I	Orange White/Red Letters Green/Yellow Stripe or Gray	12 10 12

622 CONNECTION DIAGRAMS



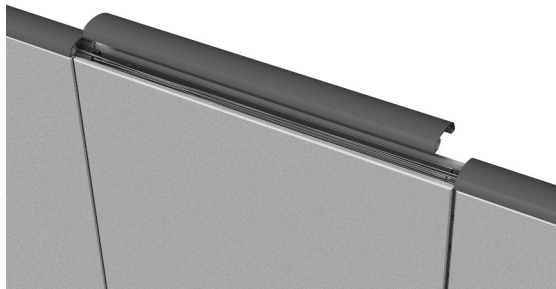
Green UL Label

622 CONNECTION DIAGRAMS TO AN 8-WIRE BUILDING



DATA CABLE MANAGEMENT

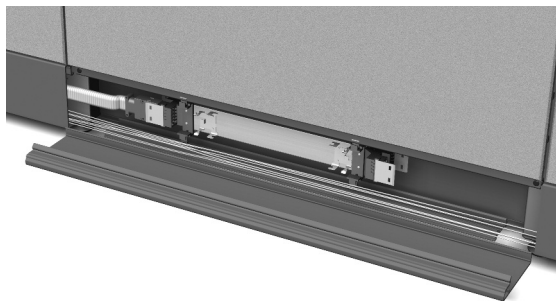
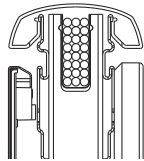
PowerWorks panels allow data cables to be "laid in" horizontally throughout the panel to ease installation and reconfiguration of data cables. A panel in the middle of a run can be completely disassembled leaving all of the cables undisturbed. Data cable routing is most easily accomplished after the frame of the panel has been set up but before the tiles and trim are installed. Data cables can be managed in several locations in the panel: under the top trim, in the base raceway, behind acoustic tiles, behind raceway tiles and vertically through the ends of horizontal rails. A 66" high panel with four levels of power can manage 300 to 400, 4 pair UTP cables.



Under the Top Trim

Data cables can be laid into the space under the top trim. Simply remove the top trim and lay the cables in place. Cable guides are available (purchased separately) to enforce a 1" minimum bend radius at 90° intersections (acoustical tile 90° cable guard). Cables are further protected in the top trough by the top trough cable guard, which is included as standard with every vertical post.

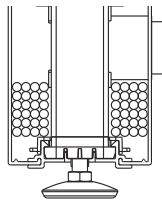
A total of 24, 0.20 dia, 4 pair UTP data cables can be run under the top trim.



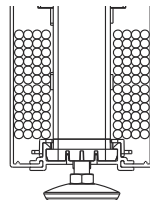
In the Base Raceway

Cables can be laid into both sides of the base raceway. To open the base raceway, push down on the top of the raceway and swing the door towards the floor. If power is present, the data cables should be run in the space underneath the rigid wireways. A steel power/data separation septum that mounts between the vertical posts to provide separation between power and data, can be purchased separately.

Lay the cables in the raceway as required. To close the base raceway, simply close the door and it will automatically snap into place. Only one hand is required to open and close the door.

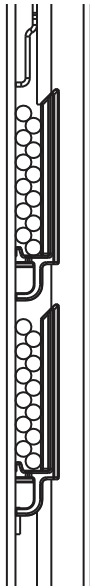
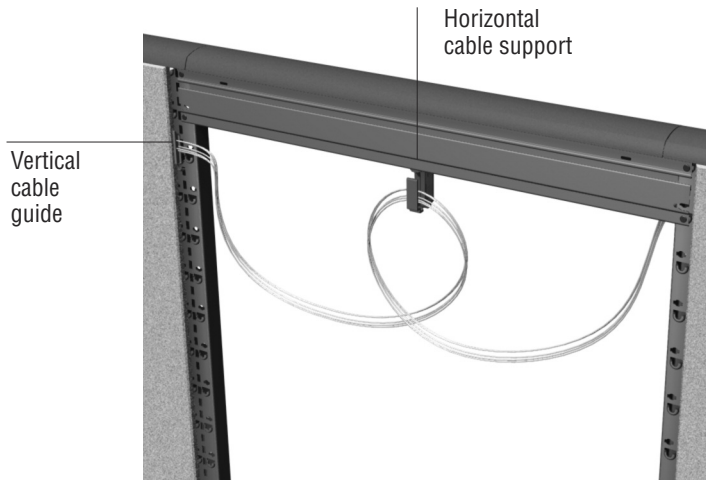


With rigid wireway



Without rigid wireway

The base raceway with rigid wireway can hold 24, 0.20 dia., 4 pair UTP data cables per side for a total of 48. A base raceway without rigid wireway can hold 48 on each side for a total of 96.



DATA CABLE MANAGEMENT

Behind Acoustical Tiles

Data cables are managed behind acoustic tiles by using vertical cable guides and horizontal cable n supports. Vertical cable guides hold and protect cables that run from panel to panel. Vertical cable guides also conceal the data cables as they are routed between tiles. A second type of cable guide insures that a one inch bend radius is maintained. Acoustical tile horizontal cable supports help support the cables in the center of a panel, as well as allow excess loops of cable to be hung from them.

Each vertical cable guide behind an acoustic tile can hold twelve, 0.20 dia. 4 pair, UTP data cables. Each side of the horizontal cable support can hold 12, 0.20 dia. 4 pair, UTP data cables, which is the equivalent of the capacity of one vertical cable guide. One of the "one inch radius" cable guards protects cables on the inside of a 90° corner while the other is used in all other conditions. The guards snap into the slots on the vertical post.

Before routing cables, snap the vertical cable guides into the vertical posts and twist the horizontal cable supports into the horizontal rail or gang them to each other, at the desired height. Plan carefully to be sure worksurfaces and overheads will not limit your future access to the cables. Once the guides and supports are in place, the cables can be laid in.

It is advisable to store excess loops of cable in every other panel to allow for expansion and reconfiguration.

DATA CABLE MANAGEMENT

Behind Raceway Tiles

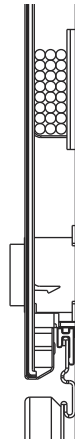
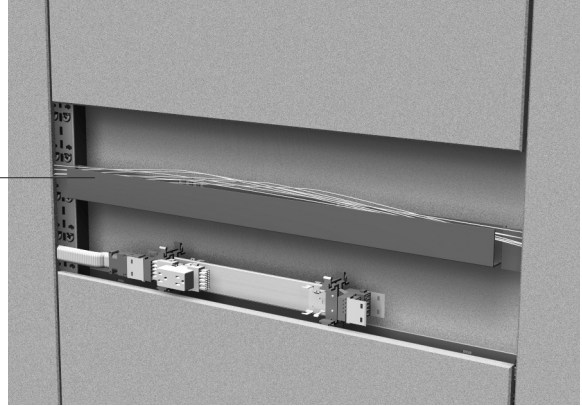
All raceway tiles include a steel cable trough, which hangs in the slots in the vertical posts. This cable trough is hung near the top of the raceway tile to allow enough room below it to mount a rigid wireway to the horizontal rail. Cables are simply laid into the trough. Convenient slots and holes are included in the trough to secure cables that are terminated at data connectors located in the same bezel as the power duplex receptacles.

The raceway tile is shipped completely upholstered and includes flexible end pieces which conceal all power and data cables as they are routed between tiles.

Each bezel includes one filler plate which can be snapped out, turned around, and snapped back into place to allow cables to exit the panel without the need for a data connector and face plate. The filler plate can also be removed and be replaced with a modular furniture data face plate.

A total of 24, 0.20 dia. 4 pair, UTP data cables can be routed in the cable trough behind a raceway tile. If a rigid power wireway is not used with a raceway tile, then two cable troughs can be utilized which allows for a total of 48, 0.20 dia. 4 pair UTP data cables behind a raceway tile.

Raceway tile cable trough

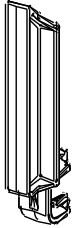


With rigid wireway



Without rigid wireway

DATA CABLE ACCESSORIES



Acoustical Tile Vertical Cable Guide

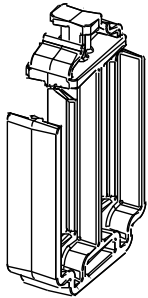
- Clips into slots in vertical post
- Allows cables to be laid in-between vertical posts and acoustic tile
- Cannot be used with raceway tile
- Maximum of two guides behind a 12" high acoustic tile

- Ordered in packs of 25

To order (Example): 46.0097.PCK
"Acoustical Tile Vertical Cable Guide"

Product

46.0097.PCK



Acoustical Tile Horizontal Cable Support

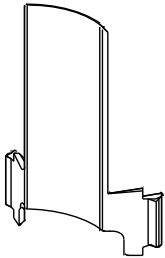
- Clips into bottom midpoint of horizontal rail
- Aligns with vertical cable guides to keep cables supported at midpoint of panel
- Cable supports gang vertically
- Can also support loops of cable

- Cannot be used with raceway tile
- Ordered in packs of 25

To order (Example): 46.0099.PCK
"Acoustical Tile Horizontal Cable Support"

Product

46.0099.PCK



Tile 90° Cable Guard

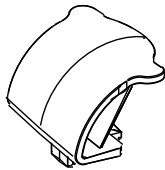
- Clips into slots in vertical post
- Allows cables to be laid in-between vertical posts and acoustic tile at the inside of a 90° corner
- Cannot be used with raceway tile

- Need two guides per 12" high tile
- Ordered in packs of 25

To order (Example): 46.0096.PCK
"Tile 90° Cable Guard"

Product

46.0096.PCK



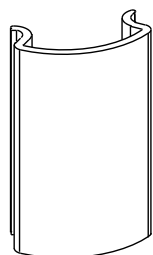
Horizontal Rail Cable Guard

- Clips into end notch of horizontal rail
- Protects and manages cables
- Ordered in packs of 25

To order (Example): 46.0098.PCK
"Horizontal Rail Cable Guard"

Product

46.0098.PCK



Top Cap 90° Cable Guard

- Manages cables between half posts and under top cap
- Protects and manages cables
- Ordered in packs of 25

To order (Example): 46.0200.PCK
"Top Cap 90° Cable Guard"

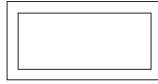
Product

46.0200.PCK

PowerWorks® Panel Systems
- Electrical Technical Specifications

DATA PORT OPTIONS

Furniture Opening Size: 2.700"w x 1.375"h



Manufacturer	Model Number	Ports	Style
AMP (Tyco)	1375288-x	4	Flush
	558106-x	2	Flush
	558107-x	3	Flush
Systimax (Commscope)	M13C-x	3	Flush
	M13CLS-x	3	Flush
Panduit	CFFP4x	4	Horizontal
	CFFPL4x	4	Horizontal
	CFFPA2x	2	Horizontal
	CFFPE3x	3	Horizontal
	CFFPLA4x	4	Vertical
	UICFFP4x	4	Vertical
Siemon	MX-MFP-x (not available in colors 02 or 80)	4	Horizontal
	CT-MFP-x (not available in colors 02 or 80)	2	Horizontal
Leviton	49910-Sx2	2	Angled
	49910-Sx4	4	Angled
	49910-Ex4	4	Angled
Hubbell	FMPS12B	2	Flush
	FMPS12BVD	2	Flush
	FMPS13B	3	Flush
	FM5E4A	4	Flush
	FM5E4I (Black)	4	Flush
	FMPS12G	2	Raised Modular
	FMPS12GVD	2	Raised Modular
	FMPS13G (Gray)	3	Angled
Ortronics	40700071-x	3	Trac Jack (Flush)
	42100009-x	3	Trac Jack (Flush)
	40700072-x	3	Trac Jack (0.625 Deep)
	42100009-x	3	Trac Jack (0.625 Deep)
	40700073-x	3	Trac Jack (1.0 Deep)
	42100009-x	3	Trac Jack (1.0 Deep)
	40300633-x	4	Trac Jack (1.5 Deep)
	40300167-x	2	Series II (Black)

x - denotes color option

Chart provides data port options only. The customer is responsible to confirm the data line compatibility/requirements with these proposed data ports for their specific project. These items need to be ordered separately and are not included in the systems furniture package.

We do not specifically recommend any brand/model number. All info is accurate as of the published date. Customers should always check current manufacturer's specs for compatibility.

NOTES:

