

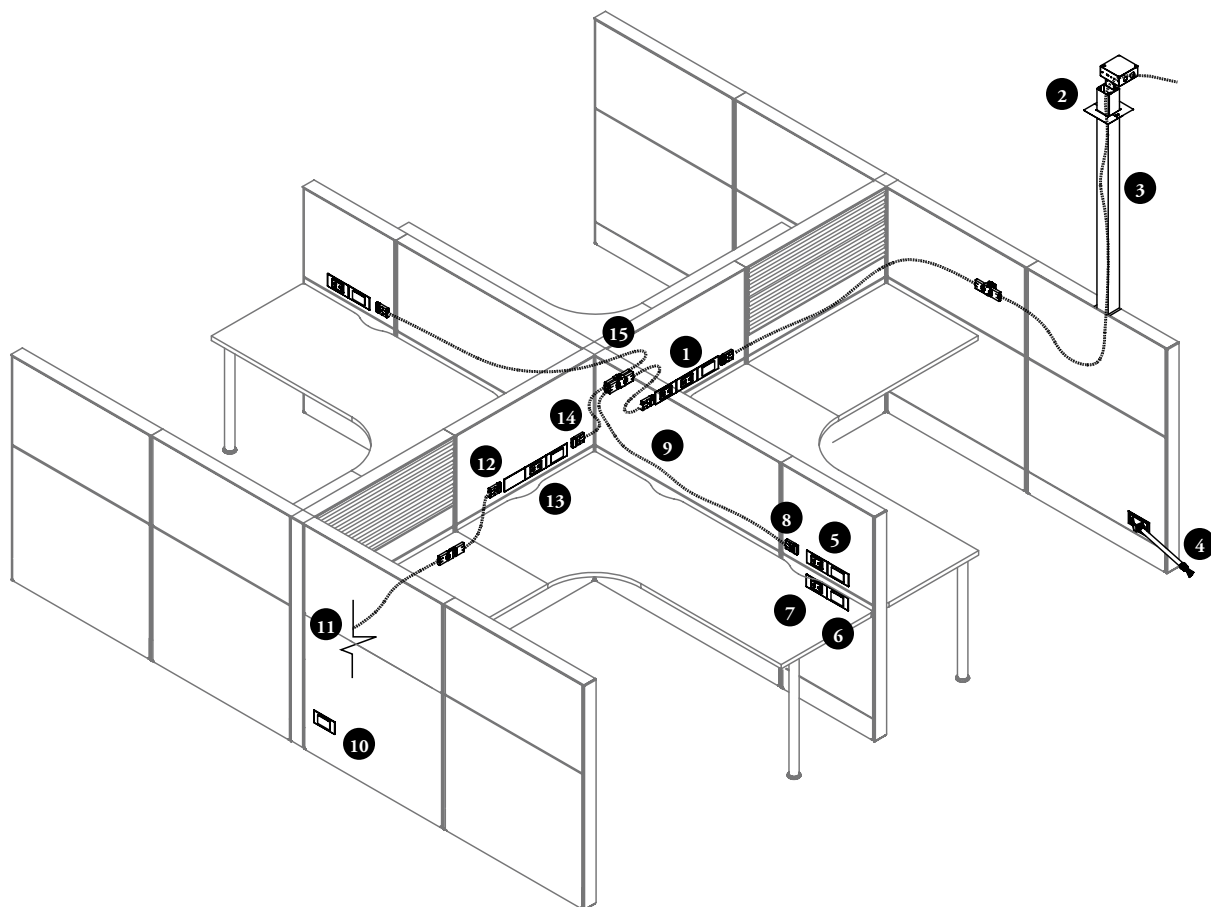
lighting, electrics & communications

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electrics & communications overview

Leverage offers a non-directional wiring system that allows for maximum flexibility and simple reconfiguration.

Power must be turned off during all installations and reconfigurations



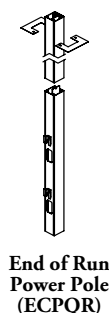
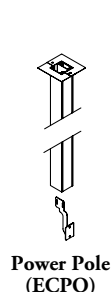
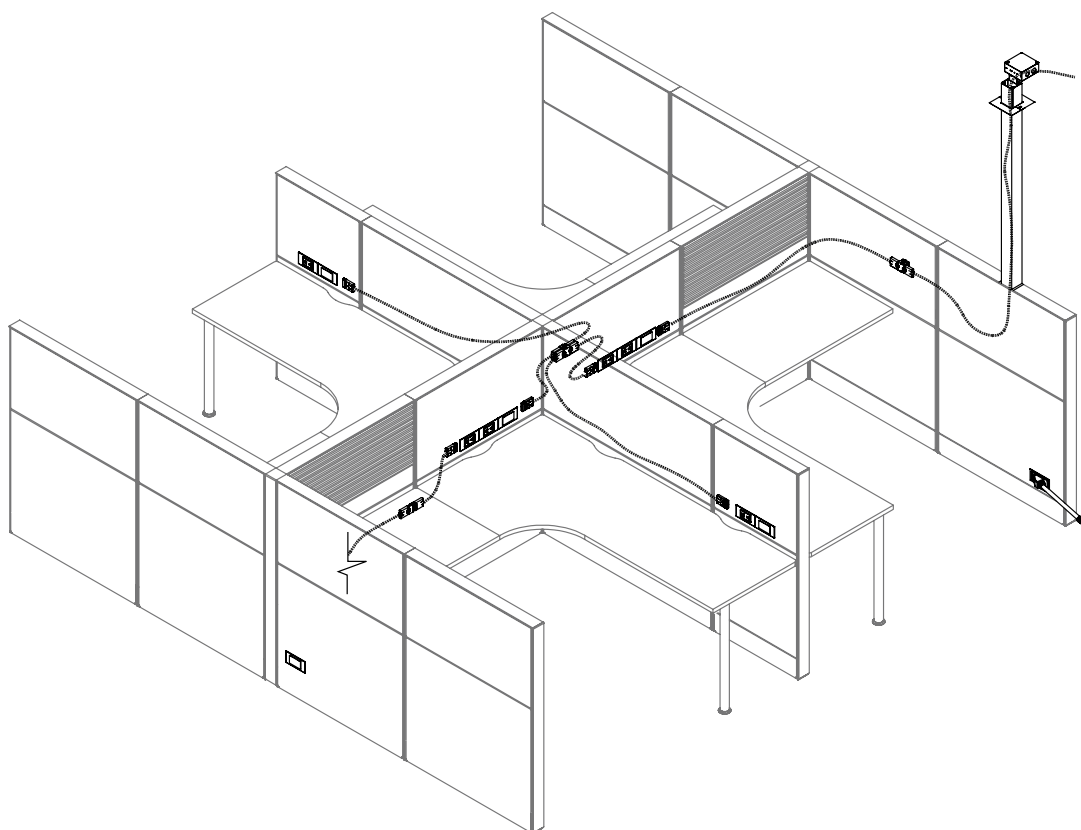
- 1 Power Box, Double Length (EKQPD) and Chicago Power Box Double Length, One-Sided (EKQPCHDA) or Double Length, Back-to-Back (EKQPCHDB)
- 2 Ceiling Feed (EKCF) and Chicago Ceiling Feed (EKCFCH)
- 3 Power Pole (ECPQ) and End of Run (ECPQR)
- 4 Base Feed (EKBF), Split Base Feed (EKBFS) and Chicago Base Feed (EKBFCH)
- 5 Power Box, Single Length (EKQPS)
- 6 Chicago Power Box, Single Length (EKQPCHSA) or Chicago Power Box, Single Length Back-to-Back (EKQPCHSB)

- 7 Data Extender Plate (EKDE)
- 8 Receptacle (EKRO) (Not required for Chicago Electrics)
- 9 Power Harness (EKBH)
- 10 Communications Base Feed (EBFQC)
- 11 Compatibility Power Harness (EKCMP)
- 12 Outlet Cover Cap (EDCC) (Not Showing)
- 13 Power Bezel (EKZP)
- 14 Communication Bezel (ERZC)
- 15 Distribution Block (EKDB)

power pole basics

Power and communications cables enter a workstation either through a base feed or a ceiling feed. The options are detailed below.

All connections to the building power source must be executed by a qualified electrician.



Power Pole (ECPQ) and End of Run Power Pole (ECPQR)

- Routes power and communication cables to the top of the panel
- Includes a built in divider to separate power and communications cables
- When planning with 120° panel connections, the off module or end of run mounting option must be specified
- Off-module power pole should be mounted above the location of one of two holes at the top of the panel frame to facilitate the vertical run down the panel for the ceiling feed
- Available in three heights and may be cut on site to accommodate various ceiling heights
- Power Pole **cannot** be used with Thick Top Trim (KTKT)
- In a corner application, the Power Pole **cannot** be mounted to a 9" high Panel Add-On



Chicago Ceiling Feed (EKCFCH)

- Same as Ceiling Feed (EKCF), except that there is no connector on the bottom end due to Chicago Electric's wiring restrictions
- Supplied with 3 wires for a single circuit only, additional wiring must be supplied by a licensed electrician



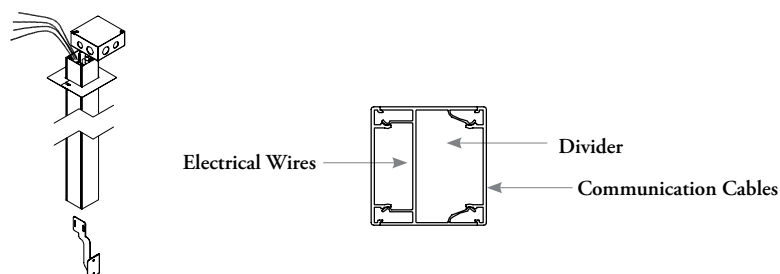
Ceiling Feed (EKCF)

- Routes power into the panel from the ceiling through the Power Pole (ECPQ)
- Includes a junction box to connect to the building power supply at the ceiling
- Connects to a power harness (EKBH)
- Length of the feed represents the length of the harness encased in flexible conduit. An additional 6" of wire outside of the flexible conduit is provided for connection to the ceiling junction box
- Available in 8T, 7T, 8K and 7K wiring options to allow for most common Teknion wiring configurations

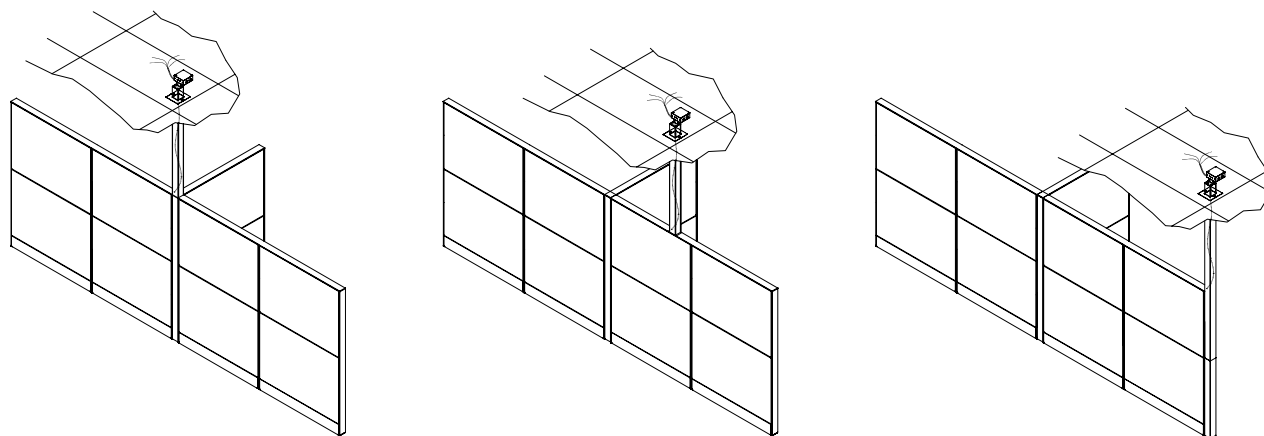
power entry from ceiling

For a workstation to provide electrical power, the building's power must be brought to the workstation cluster and then distributed. The following should be taken into consideration when planning power entry.

power pole



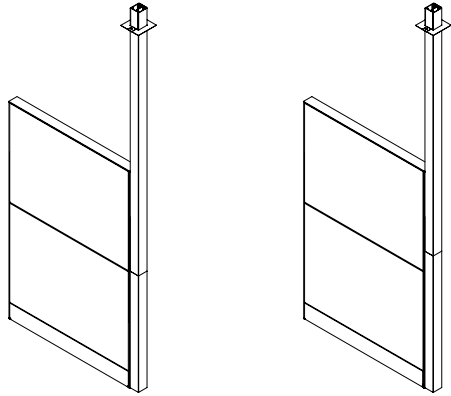
- The Power Pole is the channel through which building power is brought to a workstation cluster from the ceiling. The Power Pole can be field cut to specific heights. The Ceiling Feed (EKFQ) is the actual conduit that brings electrical power to the workstation, it is specified separately
- Both electrics and communications can be fed through the Power Pole as it provides a built-in divider for separation of electrical wires and communications cables



- The Power Pole can be attached on-module in a corner (will not work in change-of-height conditions), off-module at the location of one of the holes in the top of the panel frame, or in an end of run application

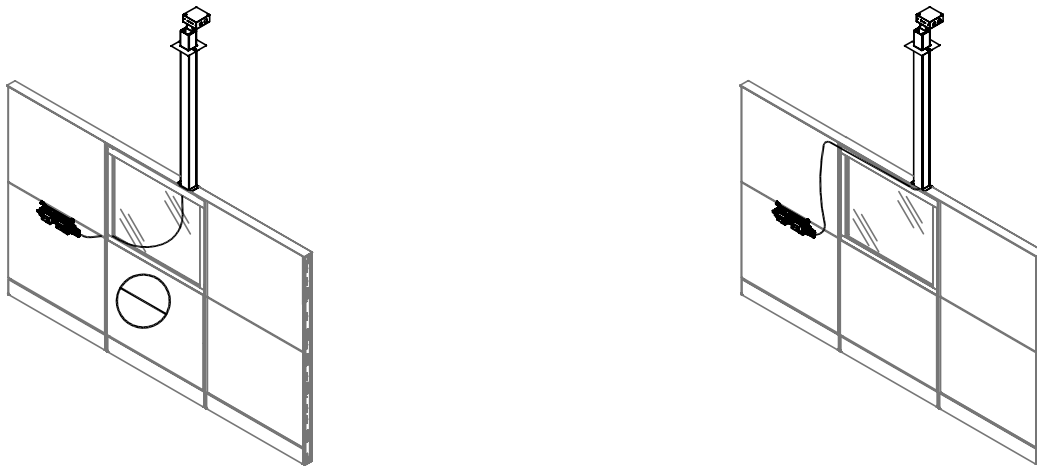
power entry from ceiling (continued)

end of run power pole



- Is typically used when no corner location is available for the Power Pole
- Available in two heights, 30" high for 30" high Panel Walls or where only below worksurface panel entry for Power Harness is required and 42" high for Panel Walls 42" or higher, entry for Power Harness can be either above or below the worksurface
- When specifying the End of Run Power Pole, the additional Power Pole height-to-ceiling must be specified

ceiling feed



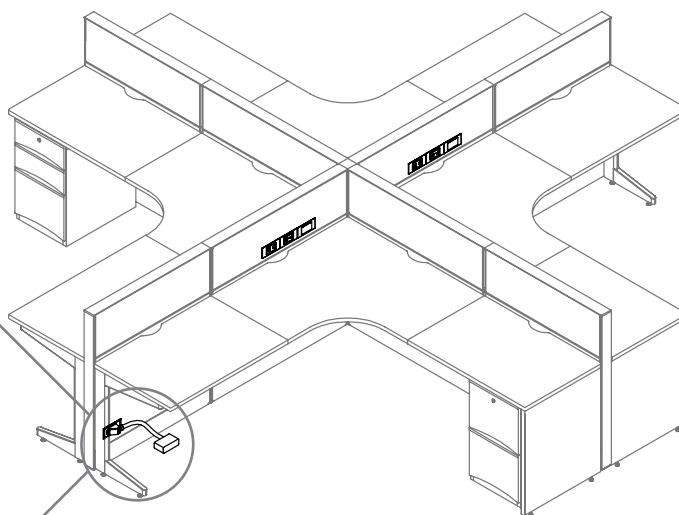
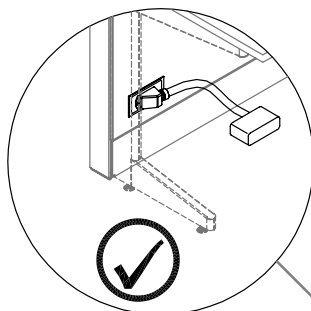
The Ceiling Feed **cannot** be routed vertically through a glazed element.

Must be routed from the ceiling feed and through the Leverage's lay-in trough, then down through the interior of the panel.

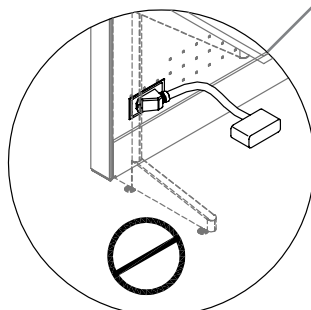
power entry from ceiling (continued)

base feed

Installation requires a hole to be cut on site at the base of the standard element and the mounting plate to be attached to the backside of the element. The base feed must be installed either left or right justified of the standard element. The base feed will be on a slight angle when mounted to elevated panels.



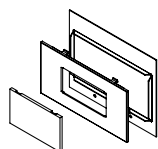
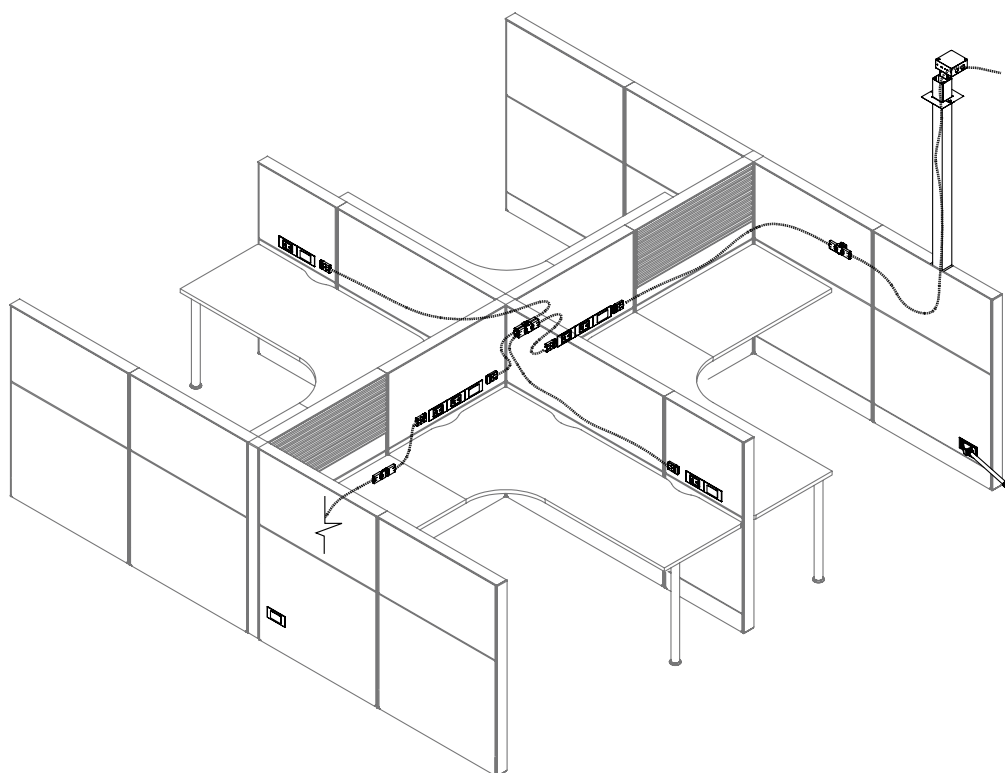
Cannot be utilized with an architectural element



base feed basics

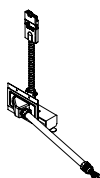
Power and communications cables enter a workstation either through a base feed or a ceiling feed. The options are detailed below.

All connections to the building power source must be executed by a qualified electrician.



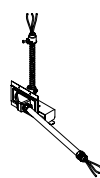
Communications Base feed (EBFQC)

- Offers a means to feed communication cables into the panels via the base
- Lowest panel element must be field cut to accept the communications base feed kit and can be mounted left or right justified
- In a 24", 30" or 36" wide panel with power/communications opening at the base level, the base feed can only be installed in one corner of the power/communication element furthest from the outlet because of space restriction



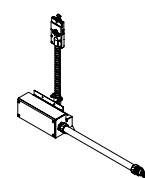
Base Feed (EKBF)

- A hard wired connection that supplies power into a panel from the building power source
- Both base feeds and harnesses can be used in the same panel
- Available in 8T, 7T, 8K and 7K wiring options to allow for most common Teknion wiring configurations



Chicago Base Feed (EKBFCH)

- Provides the conduit only for Chicago Electric's wiring restrictions that require all wiring and connections be supplied and connected by a licensed electrician
- Supplied with 3 wires for a single circuit only, additional wiring must be supplied by a licensed electrician



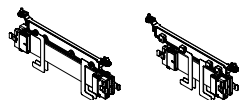
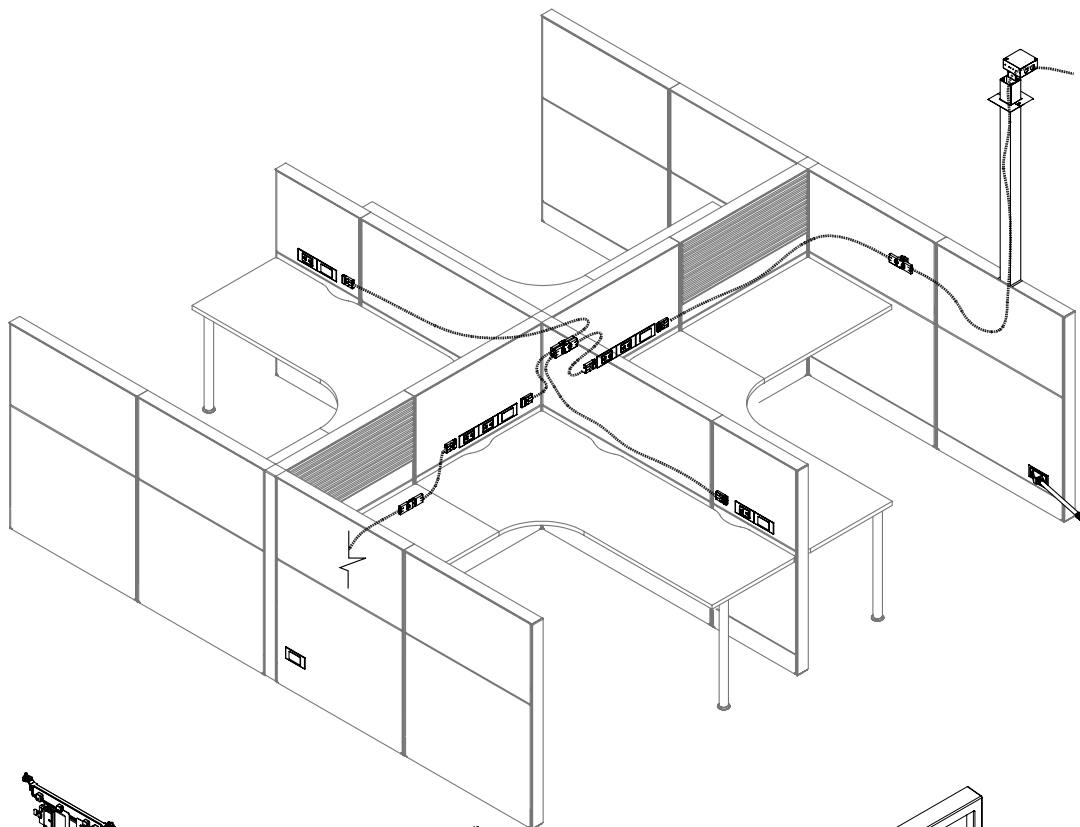
Split Base Feed (EKBFs)

- Same as Base Feed (EKBF) except that it is hard wired to the building power supply in two places
- Accommodates hard wiring within the floor monument and in the wiring junction box. It is designed to comply with specific safety requirements in certain jurisdictions

- Lowest panel element is field cut to accept the Base Feed in either corner of the element (Fabric Element KEF or Power Communications Fabric Element KEC only) however in a 24", 30" or 36" wide panel with a Power Communications opening at the base of the panel, the Base Feed can only be installed in the corner furthest from the outlet because of space restrictions
- Base Feed connects to a compatible Power Harness (EKBH) which in turn carries power to a Power Box (EKQP) or Distribution Block (EKDB)
- Base Feeds **cannot** be installed in architectural elements

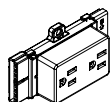
power & communications basics

Power can be accessed at various heights within a panel through the use of Power Boxes and Receptacles.

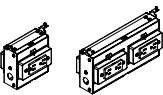


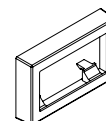
Power Box (EKQP)

- A module for mounting receptacles (specified separately)
- Clips below panel rails, or above the base rail
- Available in single (S) or double (D) lengths. For 24" and 30" wide panels, only the single length can be used. For panels 36" or wider, only a double length can be used
- Power boxes automatically come back-to-back as a standard. Receptacles must be specified separately depending on application
- A power box single length can accommodate one or two receptacles and power box double length can accommodate two or four receptacles depending on application
- When planning with a Segmented Panel_30" Rail (KP_L), and power is required above the worksurface, there are two mounting bracket options:
 - When the power box is mounted to the 36" high rail and the power and communication cut out is at the bottom of the element, specify the power box (EKQP) with the (36R) bracket
 - When the power box is mounted at any other height on the KP_L panel (or any other type of Leverage panel), specify the power box (EKQP) with the (00R) bracket
- Is complete with two connector locations on each side to attach to power harnesses
- Available in 8T or 8K wiring system, to accommodate most common Teknion wiring configuration



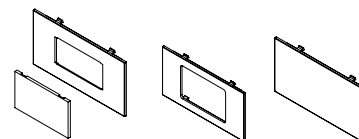
Receptacle (EKRO)

- A single duplex receptacle that slides onto the Power Box Module to provide power
 - Specified individually for maximum circuit flexibility
 - Styles include Standard 15 amp, T-Slot 20 amp, Controlled 15 and 20 amp
 - Receptacle style D and E include a marking indicating it is connected to a control system.
 - Outlet configurations consist of Circuit 1, Circuit 2, Circuit 3 (use 7T and 8T only), Circuit 5 (8T and 8K only), Circuit 6 (use 8K only), Circuit A (7T and 7K only) and Circuit B (7K only)
- 
- ### Chicago Power Box (EKQPCH)
- Same as the Power Box except for Chicago electrics applications
 - Includes outlets and faceplates
 - Must be specified single or double length, and one sided or two sided
 - Does not include any connectors which must be supplied by a qualified electrician
 - **Cannot** be mounted above desk to a segmented panel with 30" rail in the space between the 30" rail and the 36" rail



Data Extender Plate (EKDE)

The Data Extender Plate is placed over a communication opening to provide extended depth for data jacks which may be required in some applications. Consult your data cabling supplier for clearance requirements.



Communications Bezel (ERZC)

- Converts unused openings in the power/communications element to accommodate communication outlets
- Snaps into the standard cut out opening in a power communications element

Power Bezel (EKZP)

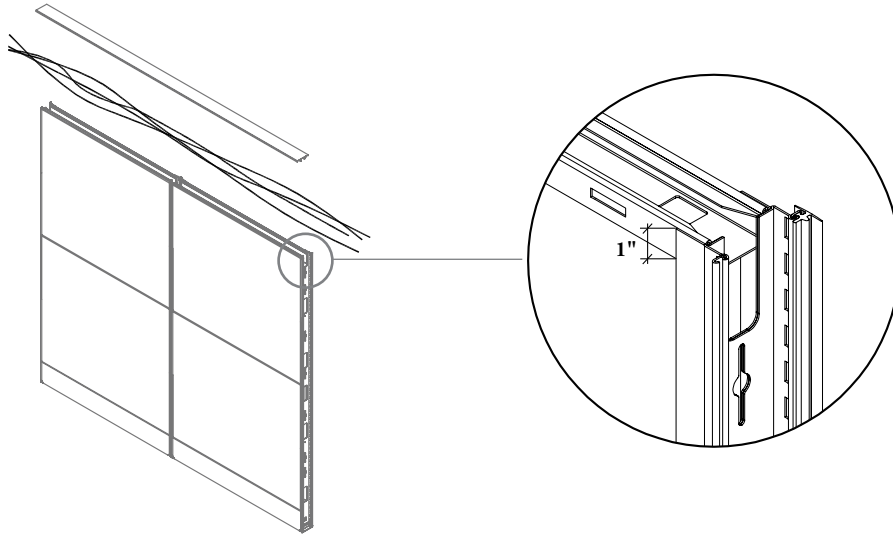
- Converts unused openings in the power communication element to accommodate power outlets
- Snaps into the standard cut out in the power communications element

Outlet Cover Cap (EDCC)

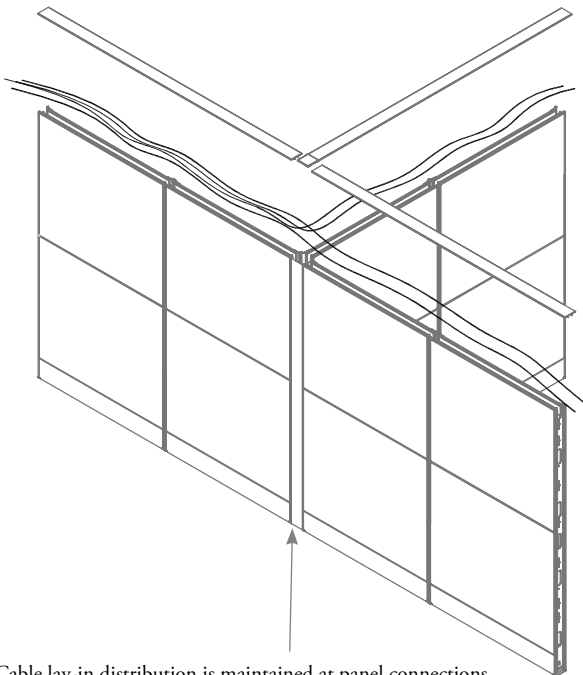
Covers any unused opening in the power communications element

planning with communications

Communication cables can be brought to a workstation cluster through the communication base feeds or a power pole.



- The Conventional panel frames are constructed with a 1" deep lay-in cable trough for distributing communication cables between panels. This lay-in trough can accommodate six cat. 5 communications cables at 60% full rate.

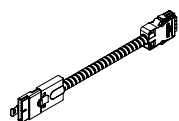
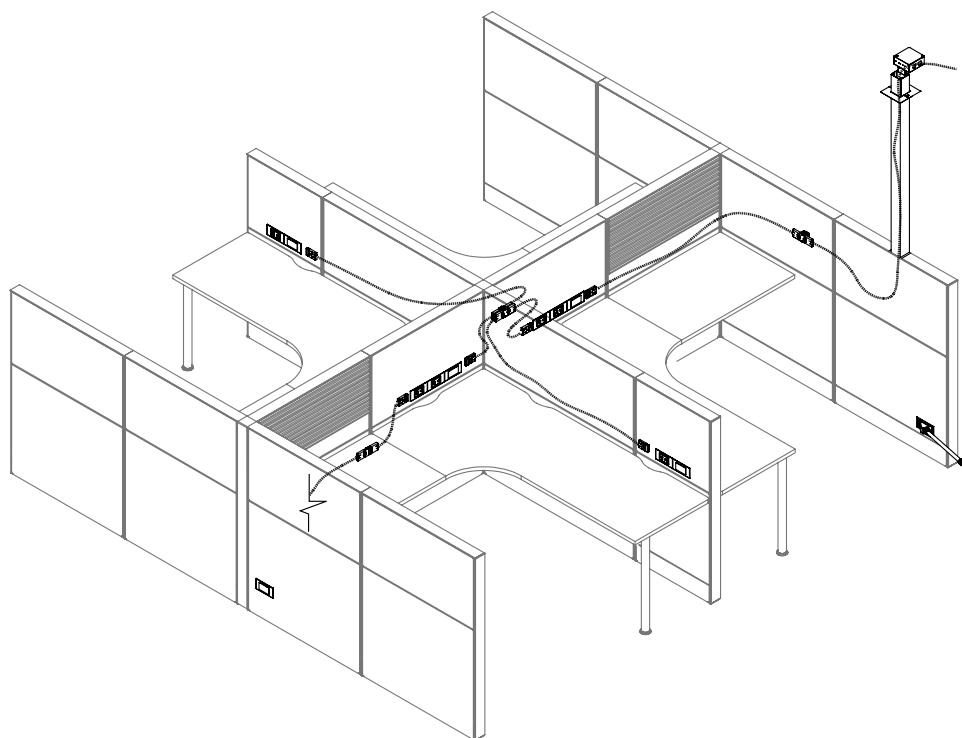


Cable lay-in distribution is maintained at panel connections

power distribution basics

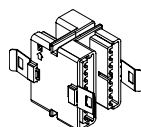
Power is routed through panels with harnesses and distribution blocks. The options are outlined below.

The connection to the building power supply must be executed by a qualified electrician.



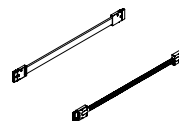
Compatibility Power Harness (EKCMP)

- Is used to connect harnesses from the old Leverage electrics to harnesses from the new Leverage electrics, allowing both systems to be used in the same configuration for 8T and 8K wiring only



Distribution Block (EKDB)

- Distributes power in 2 or 3 directions for distribution between 2 or 3 adjacent panels
- Is also used when a communications box obstructs access to one of the power box connectors







Power Harness (EKBH)

- Routes power from one power box to another and is non directional
- Also connects to Base Feeds and Distribution Boxes for routing power
- Is complete with a connector on each end
- Comes in various length options and can be used within any panel
- The 24" long harness is mesh construction, and all other sizes are metal conduit
- An 8T or 8K wiring system must be specified

wiring systems

Four wiring systems are available for Interpret 8-Wire Isolated (8T), 7-Wire Non Isolated (7T), 8-Wire Dual Isolated (8K) and 7-Wire Dual Non Isolated (7K). Most common Teknion wiring configurations are achieved with these wiring systems.

For sites where Isolated Ground is not available, Teknion offers Non-Isolated Ground options for furniture wiring. The site electrician or electrical contractor/consultant can identify sites where Isolated Ground is not available. For those sites, specify Teknion 7T or 7K wiring systems.

	No. Regular Circuits	No. Isolated Circuits
8-Wire Isolated (8T) (3+1)  Neutral (White) Circuit 1 (Black) Circuit 2 (Red) Circuit 3 (Blue) Ground (Green) Isolated Circuit 5 (Orange) Isolated Neutral (White/Orange) Isolated Ground (Green/Orange)	3	1
8-Wire Dual Isolated (8K) (2+2)  Neutral (White) Circuit 1 (Black) Circuit 2 (Red) Ground (Green) Isolated Circuit 5 (Orange) Isolated Circuit 6 (Blue) Isolated Neutral (White/Orange) Isolated Ground (Green/Orange)	2	2
7-Wire Non Isolated (7T) (3+1)  Neutral (White) Circuit 1 (Black) Circuit 2 (Red) Circuit 3 (Blue) Ground (Green) Isolated Circuit 5 (Orange) Isolated Neutral (White/Orange) Isolated Ground (Green/Orange)	4	0
7-Wire Dual Non Isolated (7K) (2+2)  Neutral (White) Circuit 1 (Black) Circuit 2 (Red) Ground (Green) Isolated Circuit 5 (Orange) Isolated Neutral (White/Orange) Isolated Ground (Green/Orange)	4	0

wiring system/receptacles

	Wiring System			
	8T	8K	7T	7K
Regular Ground Receptacles	1, 2, 3	1, 2	1, 2, 3, A	1, 2, A, B
Isolated Ground Receptacles	5	5, 6	n/a	n/a

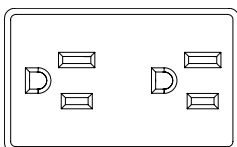
- All receptacles except Circuit 6, A, B can be used with the 8T wiring system (**cannot** accept a 2nd Isolated Circuit)
- All receptacles except Circuit 3 can be used with the 8K wiring system (**cannot** accept a 3rd Regular Circuit)
- Circuit A is compatible with 7T and 7K. Circuit B is compatible with 7K only

wiring system/related circuit

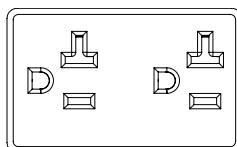
	Wiring System			
	8T	8K	7T	7K
Regular Circuit 1 Receptacle	✓	✓	✓	✓
Regular Circuit 2 Receptacle	✓	✓	✓	✓
Regular Circuit 3 Receptacle	✓		✓	
Isolated Circuit 5 IG Receptacle	✓	✓		
Isolated Circuit 6 IG Receptacle		✓		
Regular Circuit A Receptacle			✓	✓
Regular Circuit B Receptacle				✓

✓ Applicable

15 Amp



20 Amp

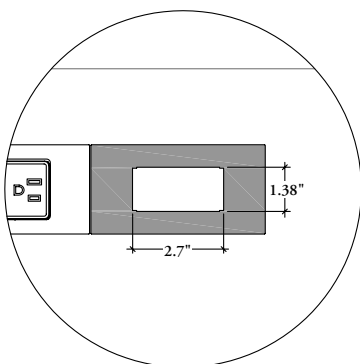


- Outlets are available in 15 and 20 amp
- The 20 Amp is only available in Black
- Outlets are available with marking indicating it is connected to a control system in both 15 and 20 amp options.

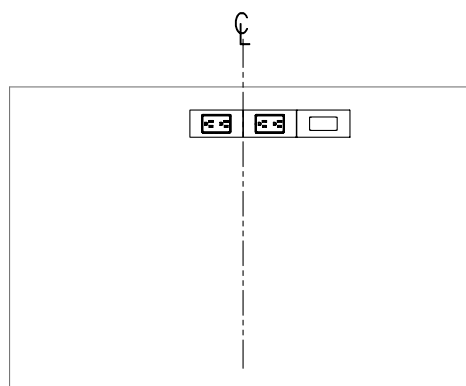
power distribution planning

The following should be taken into consideration when planning for power distribution.

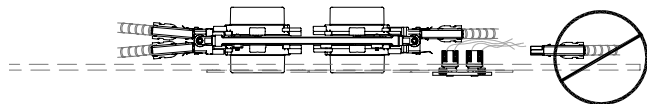
communication boxes



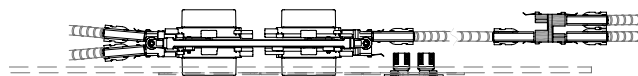
- The power communications element provides an option for a cut out that accommodates most standard communications boxes



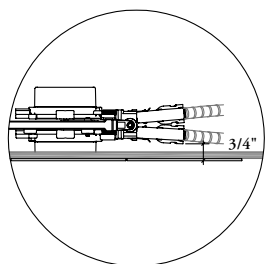
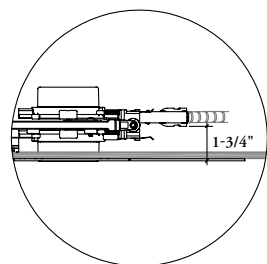
- Power cut outs are always centered on the power communications element, and the cut out for communications is always to the right of the power when the cut outs are at the top of the element
- When the element is reversed and the cut outs are at the bottom, the power will still be centered and the communication cut out will be on the left



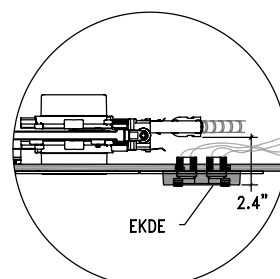
Careful attention must be paid to the depth of the communications box, as it can obstruct the ability for a harness to connect to a power box, therefore making one of the ports unusable



A distribution block can be used to reroute power when a power box port is obstructed by a communications box



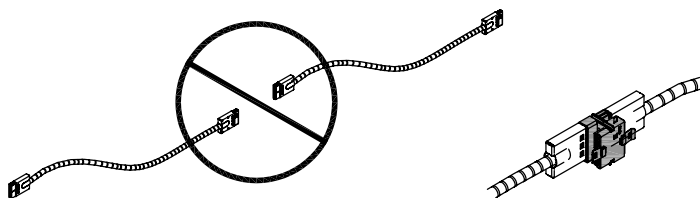
- When only one port on a power box is used, the distance remaining for mounting a communications box is 1-3/4"
- When both ports on a power box are used, the distance remaining for mounting the box is 3/4"



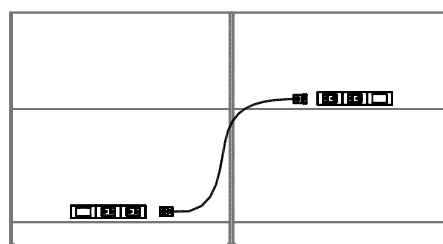
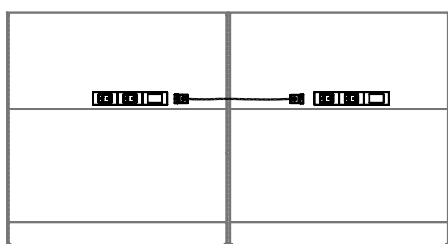
- The Data Extender Plate (EKDE) extends the available space from 1.75" to 2.4"

power distribution planning (continued)

harnesses



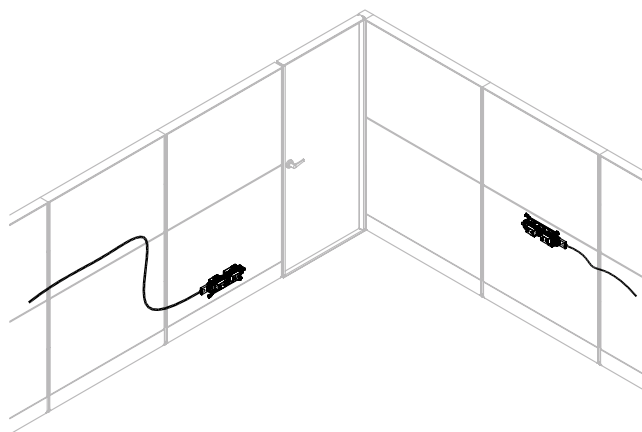
Power harnesses **cannot** be linked together, they must connect either to a distribution block or to a power box



Power harnesses can pass through more than one panel, they do not need to be specified the same width as the panel. To calculate the harness length, measure the distance between the center of the panel, and allow for extra length when routing from base power to above worksurface power.

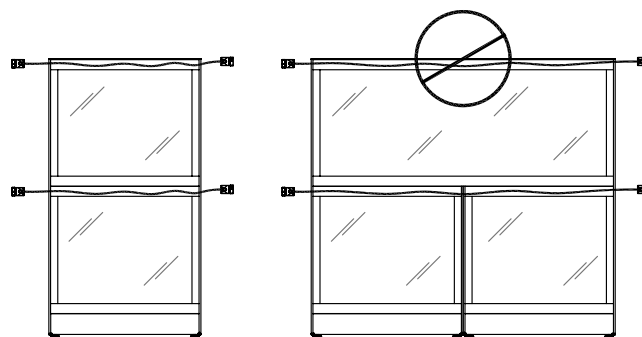
Example: If passing from a 48" wide electrified panel to another 48" wide electrified panel, a 72" wide harness is required, not two 48" wide harnesses. This length will accommodate a worksurface height to worksurface height connection, or a worksurface height to a base height connection.

planning with doors



- Door packages create an obstacle for modular electrics
- When a door is used in a workstation, the electrical run will have to be terminated and restarted after the door, or the power will have to be brought in from the opposite direction

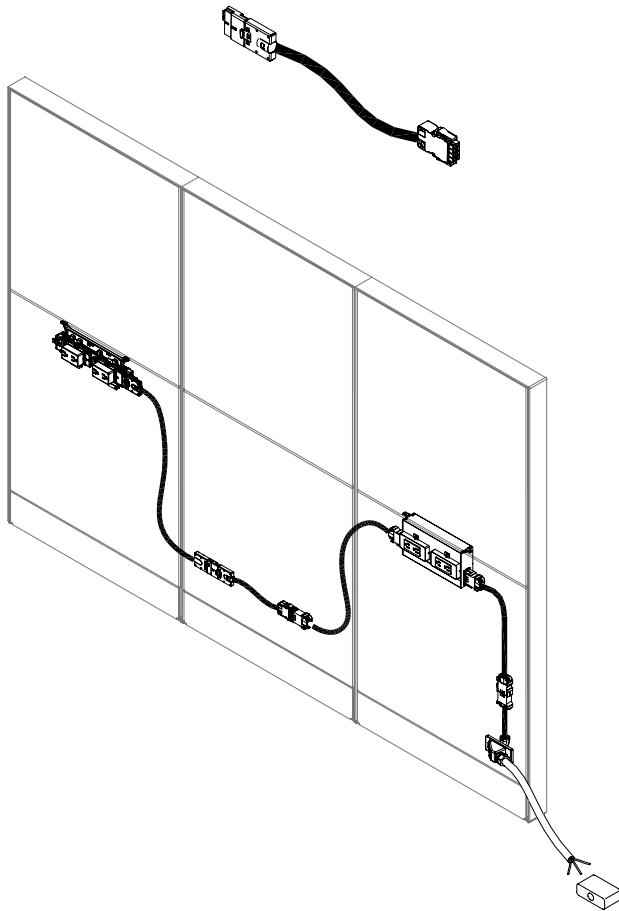
planning with glass panels



- Power harnesses and ceiling feeds **cannot** route vertically through a glass panel, they must route horizontally through either of the wire troughs
- Power **cannot** route through a Panel Add-On, Glass

power distribution planning (continued)

planning with the compatibility harness

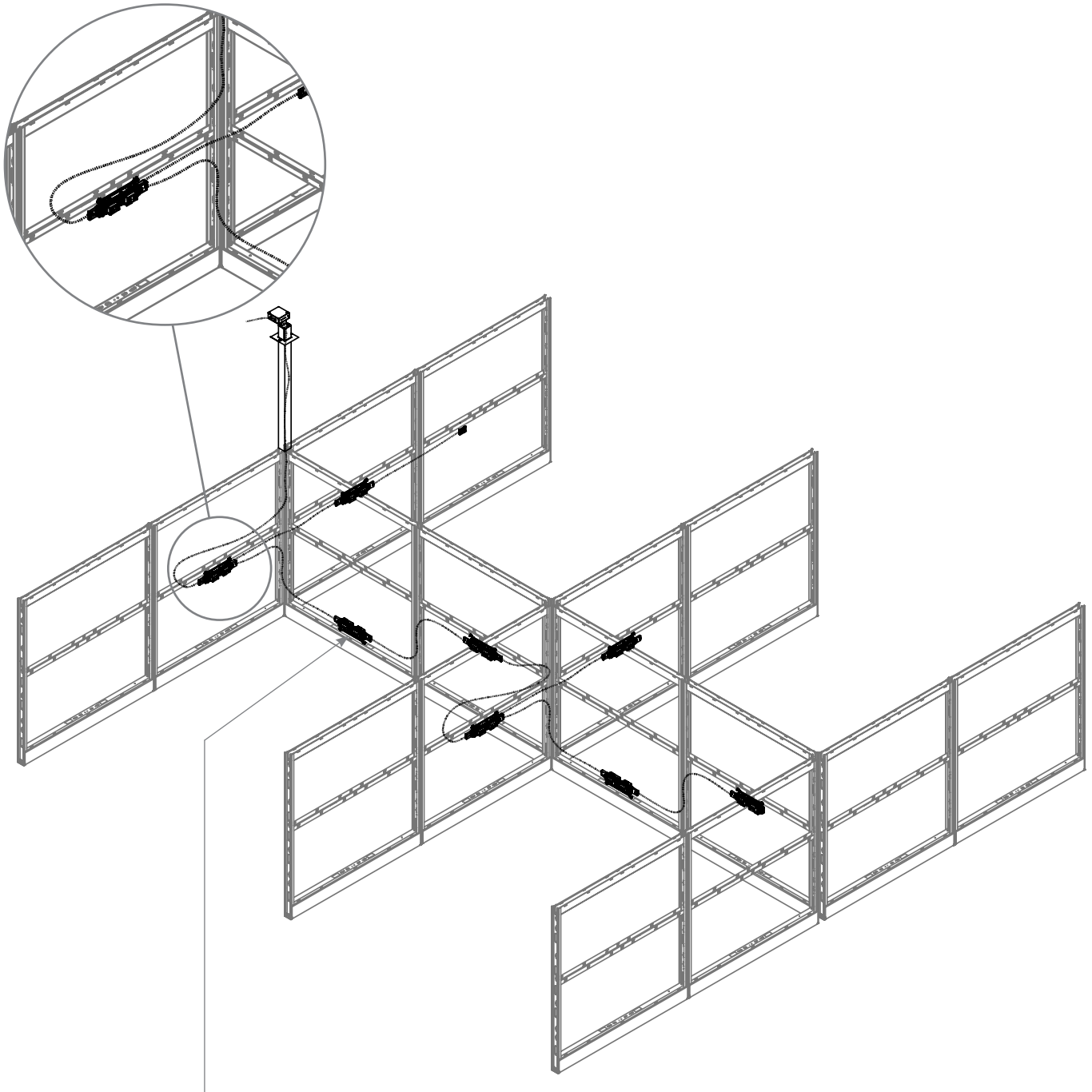


Panels with pre-May 2010 electrics are compatible with the new electrical system. The compatibility harness attaches to a regular power harnesses to connect the two electrical systems.

planning with harnesses and distribution blocks

The Leverage power system is non-directional and can be routed through panels either with Power Harnesses or Distribution Blocks. The following shows examples of different ways of routing the power.

power harnesses

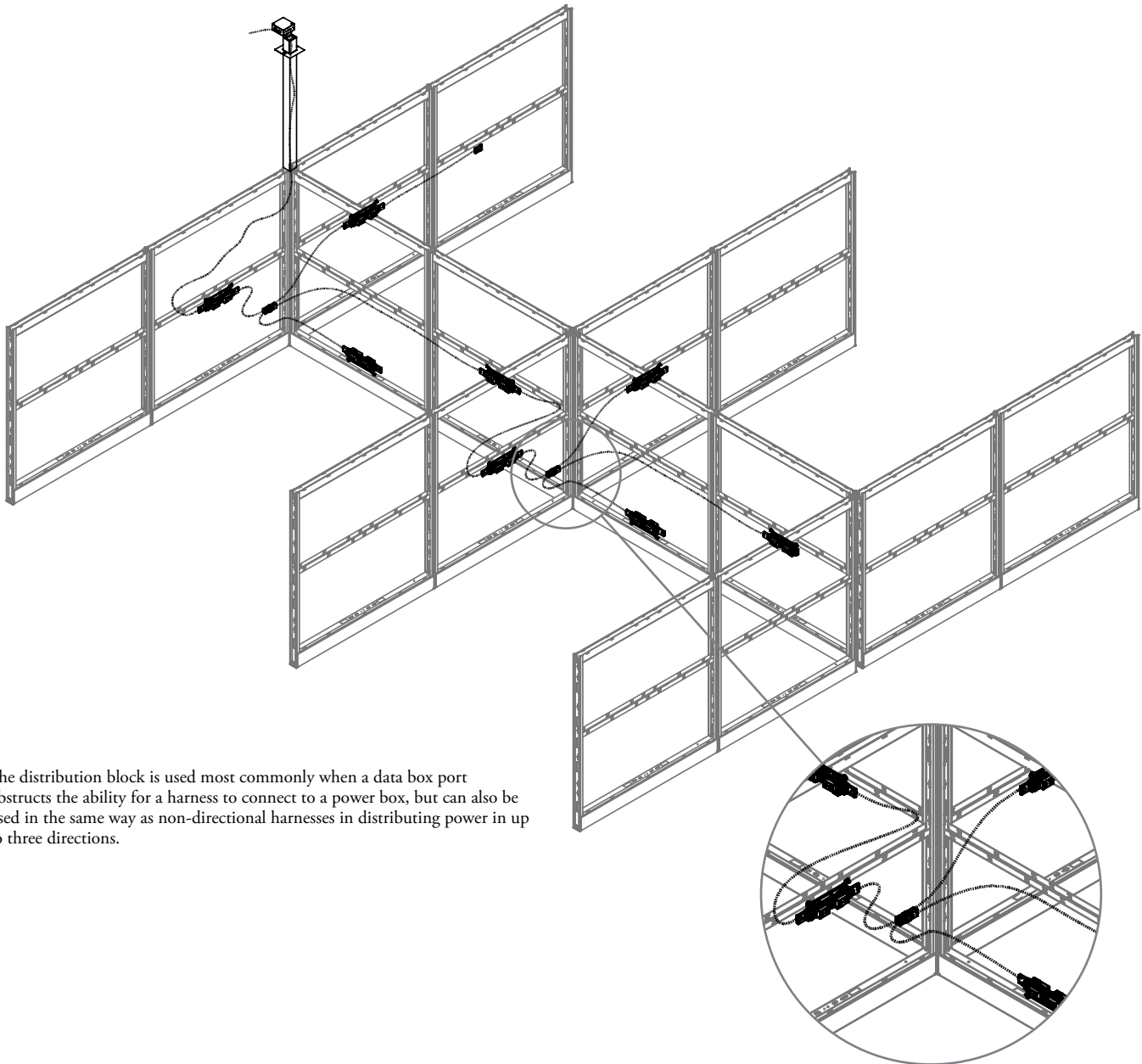


- Power boxes allow for non-directional routing, so when a data port obstructs the ability to connect a harness, the power can be routed in the opposite direction
- Up to 4 power harness can be used on a power box except when it is not obstructed by a data port

planning with harnesses and distribution blocks (continued)

The Leverage power system is non-directional and can be routed through panels either with Power Harnesses or Distribution Blocks. The following shows examples of different ways of routing the power.

distribution block

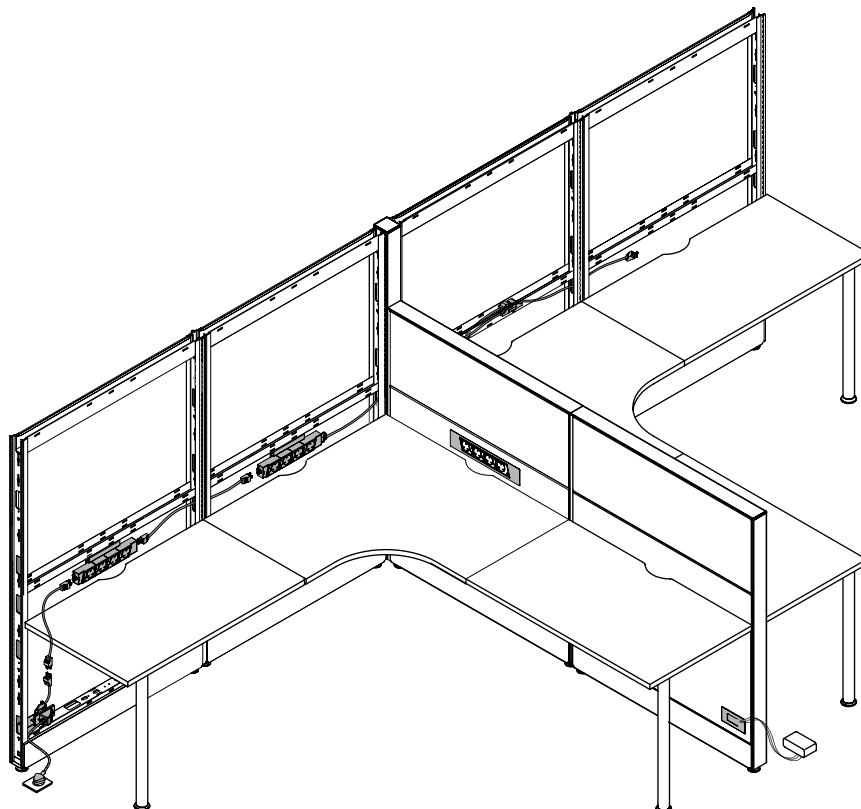


The distribution block is used most commonly when a data box port obstructs the ability for a harness to connect to a power box, but can also be used in the same way as non-directional harnesses in distributing power in up to three directions.

international electrics basics

Leverage offers specific electric for use in International applications.

All outlets are rated for a maximum of 16 amps (240 Volts). For alternative requirements, contact Customer Service for details and pricing. Local authority approval must be obtained prior to energizing outlet box.

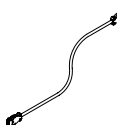


Leverage CALA Power Infeed (VBPL)
Routes power from the floor to a Power Module in a panel

Length:
1800 mm

Country of Installation

R Argentina
N Brazil
L Chile



Leverage Jumper Power Harness (VBPH)
Routes power between power modules

Length:
2000 mm



CALA Power Station (VBWB)
Mounts to a worksurface to provide power

Outlet Configurations:

Double duplex
Two Power and Two Data
Four Power
Three Power and One USB

Country of Installation:

R Argentina
N Brazil
L Chile

Cord Length:
1800 mm

Finishes

Receptacle Finish:
Ebony Coordinate
Very White Coordinate

Clamp Finish:
Clear Anodized Aluminum



CALA Power Module (VBCL)
Provides access to power in CALA applications

-Attached to installation bracket

Outlet Configurations:

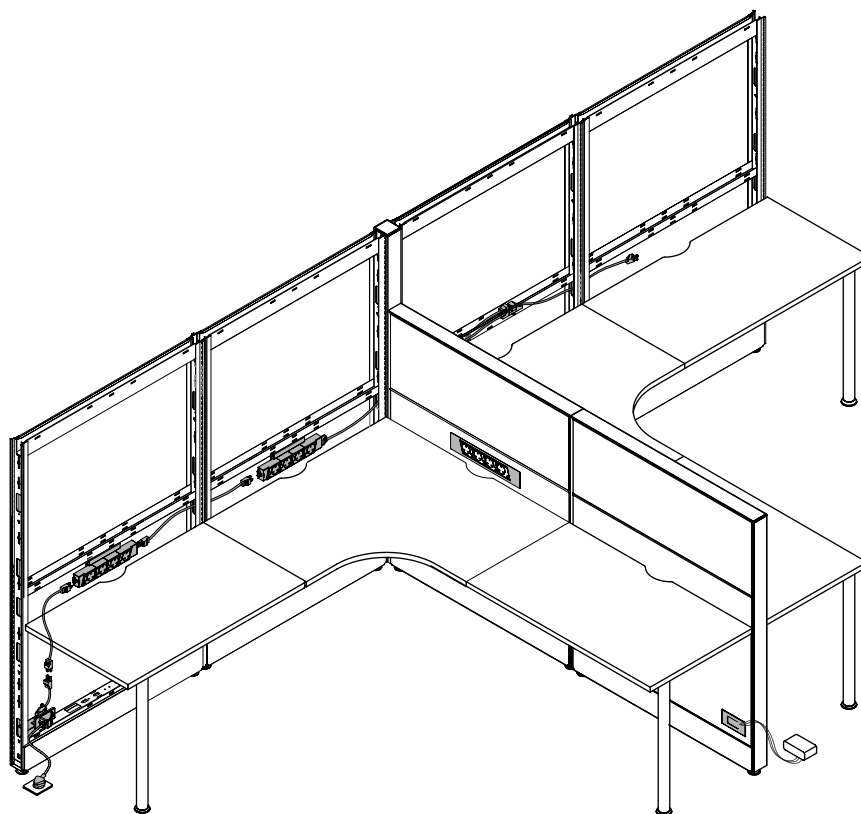
Single Duplex
Three Data
Two Power
One Power and One USB

Double Duplex
Two Power and Three Data
Four Power
Three Power and One USB

Country of Installation

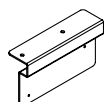
R Argentina
N Brazil
L Chile

international electrics basics (continued)

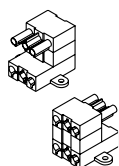


Finishes

International communications Mounting Kit (VERZC), Leverage Outlet Box Bezel (VMBB) and Panel Mount Bracket (VMBE) are available only in Black

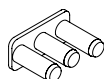


Leverage Outlet Box Panel Mount Brackets (VMBE)

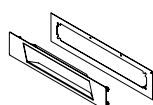


Distribution Block (VACEB)

- Redirects power distribution
- One male connector directs power in and three female connectors direct power out



Cover Cap (VACEC) is a safety cover for an unutilized female terminal on an Outlet Box (VED) or Distribution Block (VACEB)



Leverage Outlet Box Bezel (VMBB)

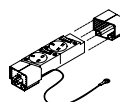
- Works with two or four outlet versions of the power logic oblique power boxes
- Mounts the Outlet Box to the panel and creates a finish bezel opening to an Acoustic Element (KES)
- Only needs to be specified when an opening is created on site to a Acoustic Element (KES) to accommodate the outlet box (VED)
- The four outlet options for the Outlet Box should not be used on elements less than 36" wide



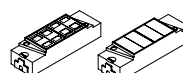
Outlet Box (VED)

- Provides plug-in access to power at worksurface or base height
- Connects to any compatible power cable and are available for a variety of countries
- All outlets have a socket angle of 15 degrees
- An earth lead is included with every outlet box. Some jurisdictions require the earth lead to be connected to a panel
- Are mounted to panel frame
- Some jurisdictions require fuse and switch options
- For application onto a Leverage Panel, mounting bracket 'E' (Panel-Mount for Leverage) must be selected

also available

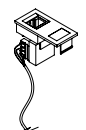


Desk-Mounting Clips For Outlet Box (VACB6)



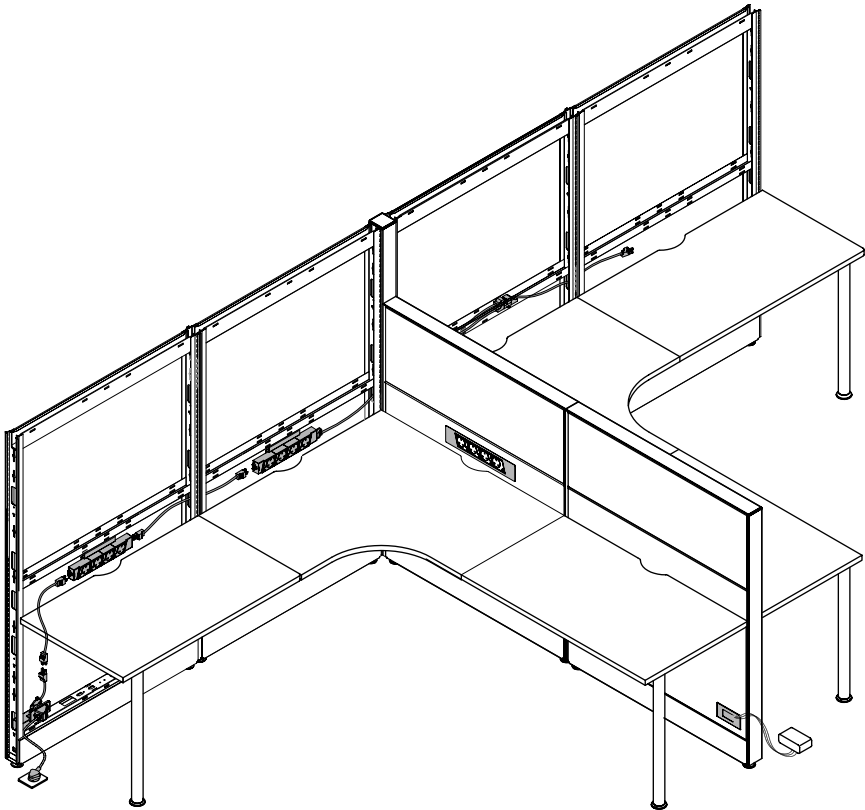
Voice and Data Box (VVD)

(requires a special element for facemount applications, contact your Teknion Customer Service Representative).

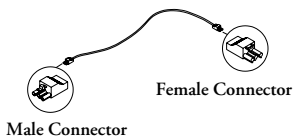


Voice and Data Outlet (VDO)

international electrics basics (continued)



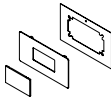
Finishes
International communications Mounting Kit (VERZC), Leverage Outlet Box Bezel (VMBB) and Panel Mount Bracket (VMBE) are available only in Black



- Interconnecting Power Cable (VCC)**
- Routes power between Outlet Boxes and also carries power through the adjacent panel
 - Can be connected to any compatible Outlet Box (VED) or Input Power Cable (VEP)
 - Accepts one circuit per cable

Outlet Type	Country of Installation
	Australia
	Germany
	U.K.

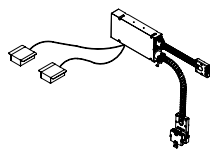
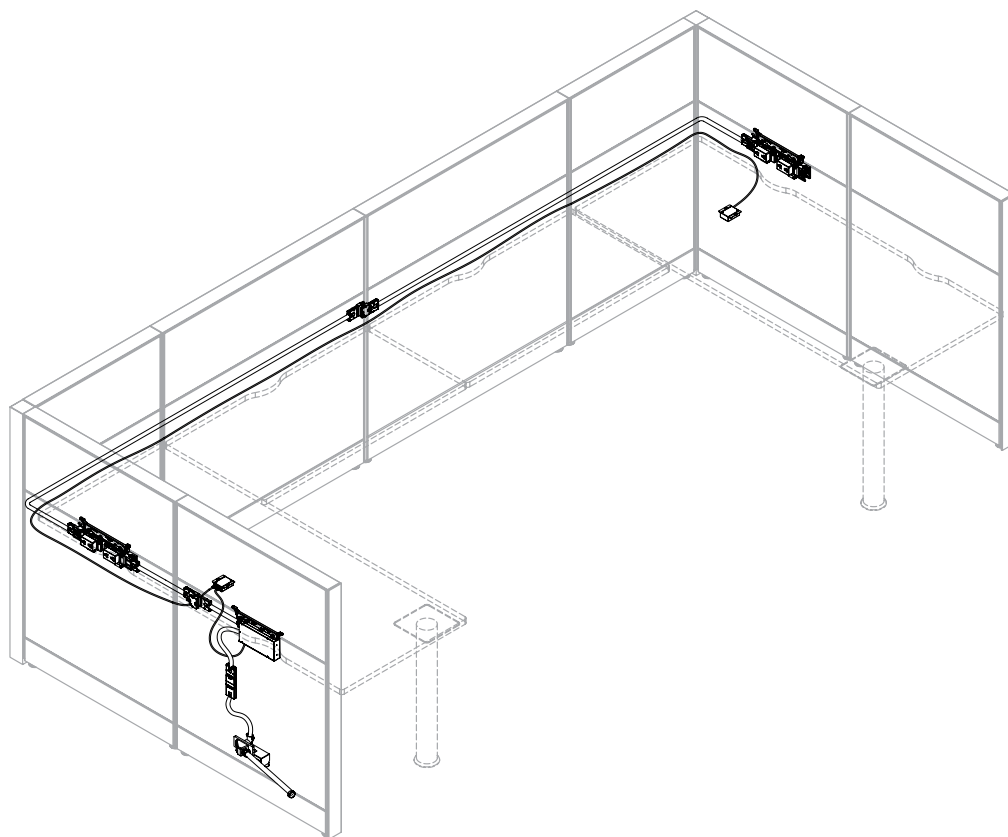
- Input Power Cable (VEP)**
- Brings power from the building to the panel and is installed in the base opening of the panel and feeds power to the worksurface or base level
 - Can be connected to any compatible Outlet Box (VED) or Interconnecting Power Cable (VCC)
 - Accepts one circuit per cable
 - Available in Plug or Hardwire end



- International Communications Mounting Kit (VERZC)**
- Permits mounting of communications outlets in a standard fabric element (Acoustic Element (KES)).

power conservation system basics

Furniture based solution for the controlling function that addresses the ASHRAE/Title 24 electrical requirements.



Power Conservation System (EKPC)

- Up to two circuits can be controlled by occupancy sensors (included)
- Maximum of 4 sensors can be connected to each individual controlled circuit
- When using the Power Conservation System, circuits 3, 5, 6, A and B will always stay powered on (uncontrolled)
- To get individually controlled stations, specify the Power Conservation System with 2 sensors
- Available with option of 2, 4 or 8 sensors (Maximum of 4 sensors per run)
- Sensors mount to the underside of the worksurface
- A hard wired connection supplies power into a panel from the building power source
- Do not specify receptacles for circuits 1 and 2 at the same workstation when using Power Conservation System.
Each occupancy sensor can only control one circuit.

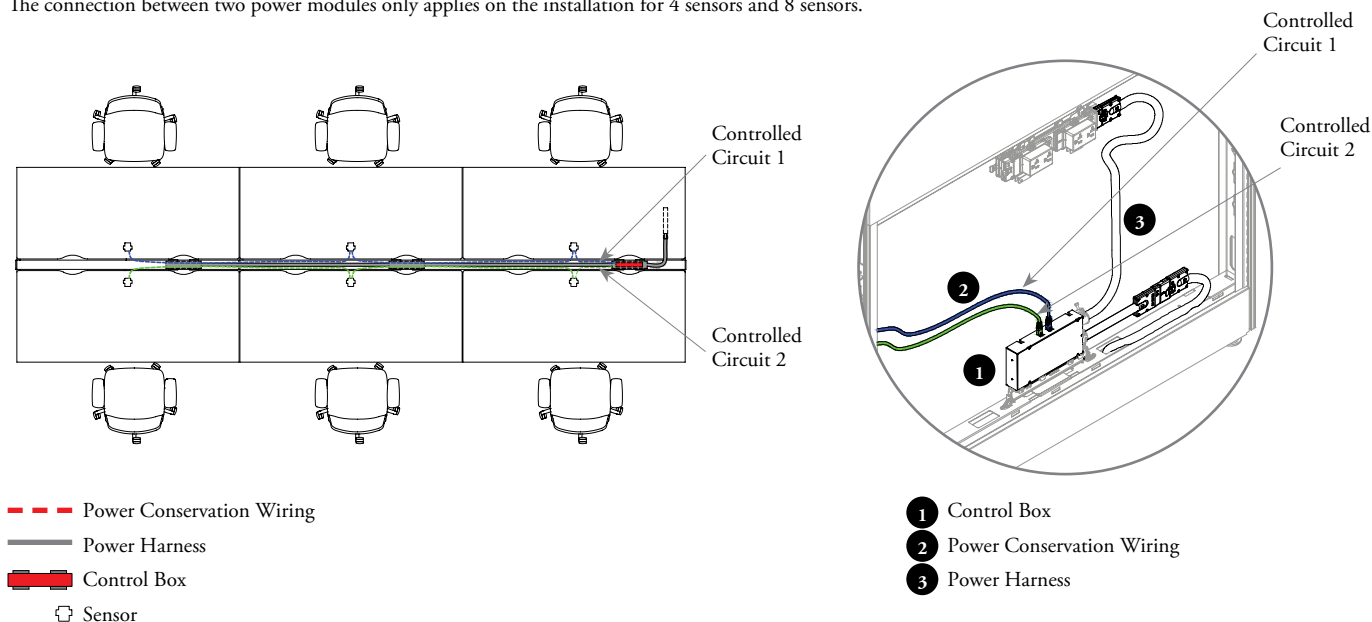
planning with power conservation system

The following should be considered when planning with the Power Conservation System.

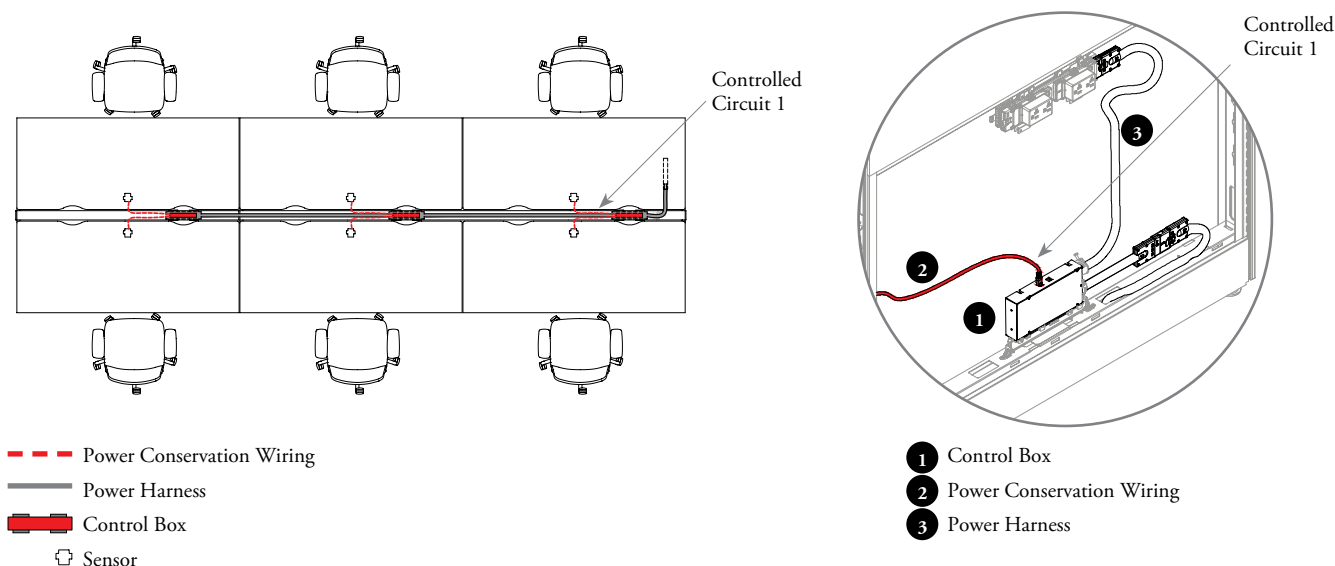
The following are two ways of planning with the Power Conservation System.

scenario A: multiple sensor planning

The connection between two power modules only applies on the installation for 4 sensors and 8 sensors.



scenario B: single sensor planning



- Always specify one sensor per workstation.
- Only one controlled circuit per workstation (do not specify two controlled circuits in one single workstation)
- Do not specify mix receptacles for both circuit 1 and 2 in a single workstation
- If the control box and power module are in the same panel, the output arm from the control box can directly connect to the power module, no extra jumper required