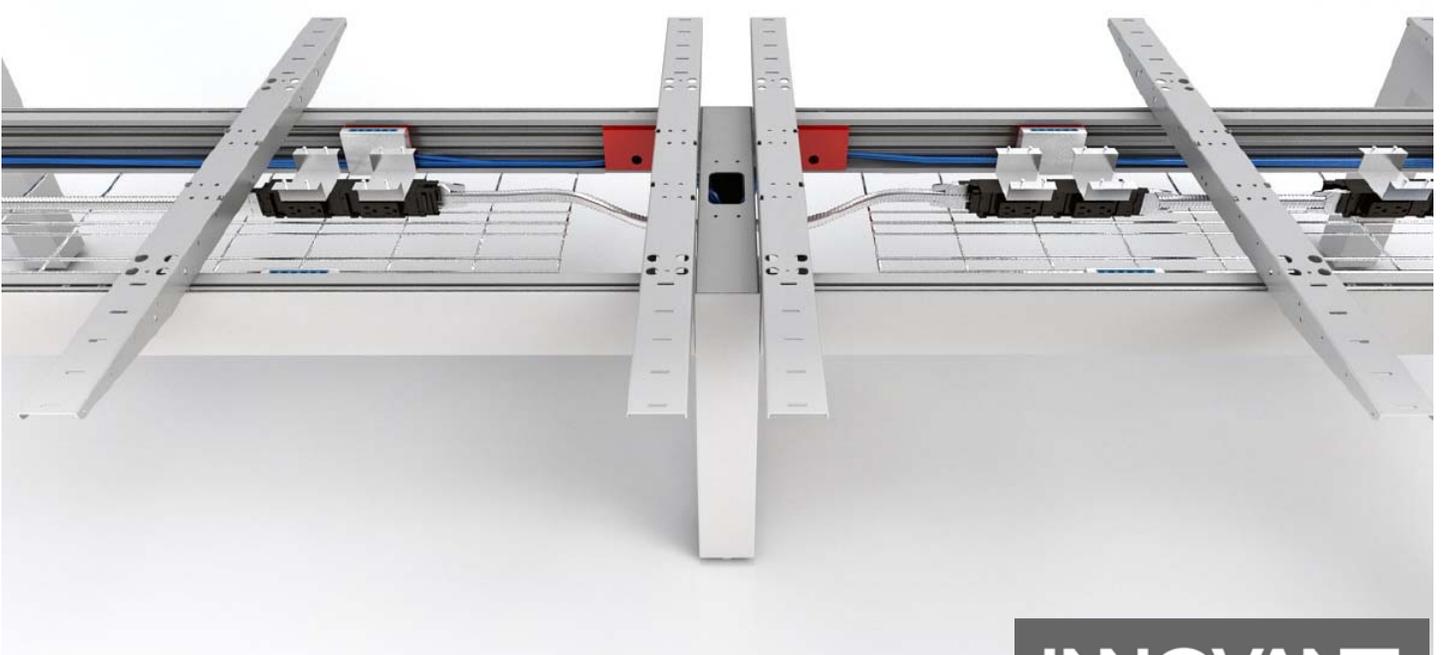


Innov-8™

Installation Guide



INNOVANT

September 24th, 2013

Introduction

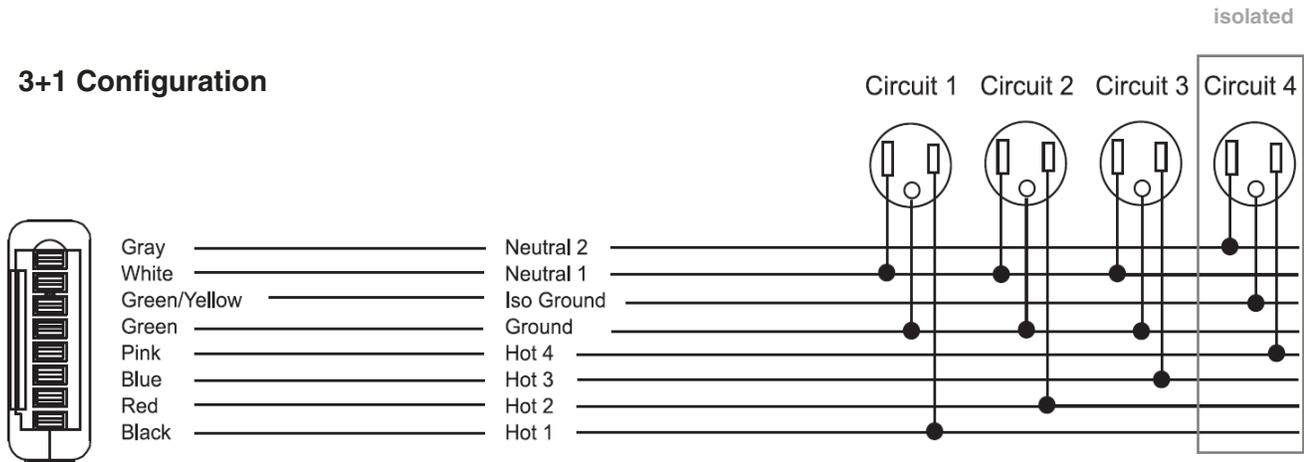
Innov-8™ is a flexible modular electrical system consisting of 8 wires that are channeled from the building through the system to deliver multiple branch circuits throughout the furniture for user and IT technician access to power. Typically specified in 4-circuit format with 3+1 (3 utility and 1 isolated branch) or 2+2 (2 utility and 2 isolated branch) configurations, Innov-8 is also available as an 8-wire, 3-circuit isolated neutral system (1 utility and 2 isolated ground branch) Please contact your Innovant sales representative to discuss the “3-3-2” isolated neutral system. The Innovant power system is UL listed as a manufactured wiring system (UL 183) and FORm_office has the UL 1286 listing that covers both the furniture and the electrical system pending.

Innov-8 provides (4) 20-amp circuits distributed over 4 line conductors, 2 neutrals and 2 grounds. Circuits 1 and 2 are always utility circuits and circuit 4 is always an isolated branch; In the 3+1 configuration circuit 3 is a utility branch and in the 2+2 configuration circuit 3 is an isolated branch. All other elements of the 3+1 and 2+2 systems are identical. Each circuit can carry a maximum of 13 duplex receptacles, with a system maximum of 52 receptacles per infeed. Innov-8 can be wired in single and three-phase building configurations, 240/120V, 208/120V respectively.

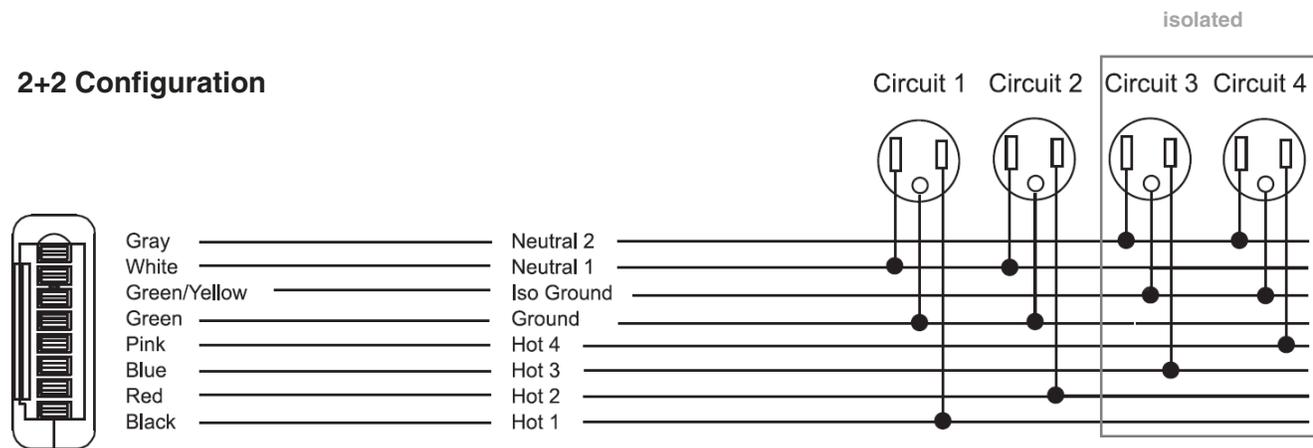
The Innov-8 system consists of four basic building blocks: Infeeds to connect the system to building power, Power blocks to provide access points to system power, Jumpers to carry power block-to-block and Duplex receptacles which users plug devices into the system. This installation guide has been provided to reference in the installation of all critical parts of the Innov-8 system. Any individual components not covered in this guide will be shipped with individual instruction sheets

Wiring Diagrams

3+1 Configuration



2+2 Configuration



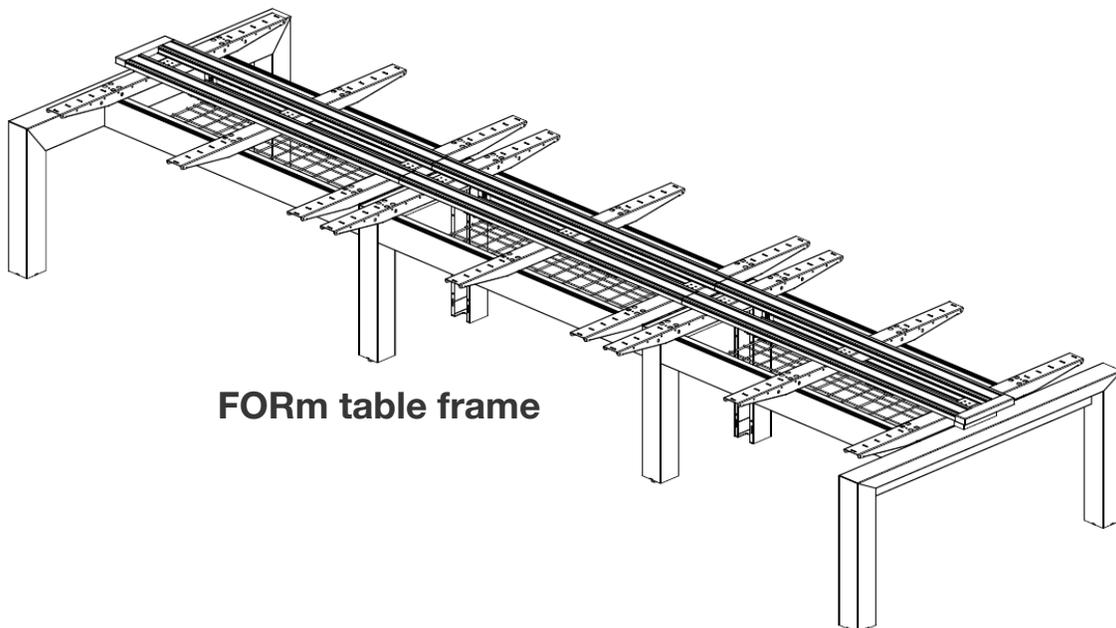
INNOV-8 ASSEMBLY INSTRUCTIONS

Pre-Installation Notes

- › The Innov-8 power system is intended for installation in Innovant table frames in a dry and accessible location in accordance with article 604 of the National Electric Code (NEC) ref: NFPA 70. The system provides branch circuit power for use in Innovant table frames only and should not be used in any other situation. If you have concerns about code compliance for any specific application, please consult the local authority having jurisdiction.
- › The Innov-8 system is rated for a maximum of 20 amps, 125/250V, 1-phase, 60Hz, or 120/208 V, 3-phase, 60Hz.
- › A licensed electrician must connect the power feeds to the building source in accordance with all national and local electric codes.
- › Refer to the electrical layout to determine what components are required and where they are to be used

Step one

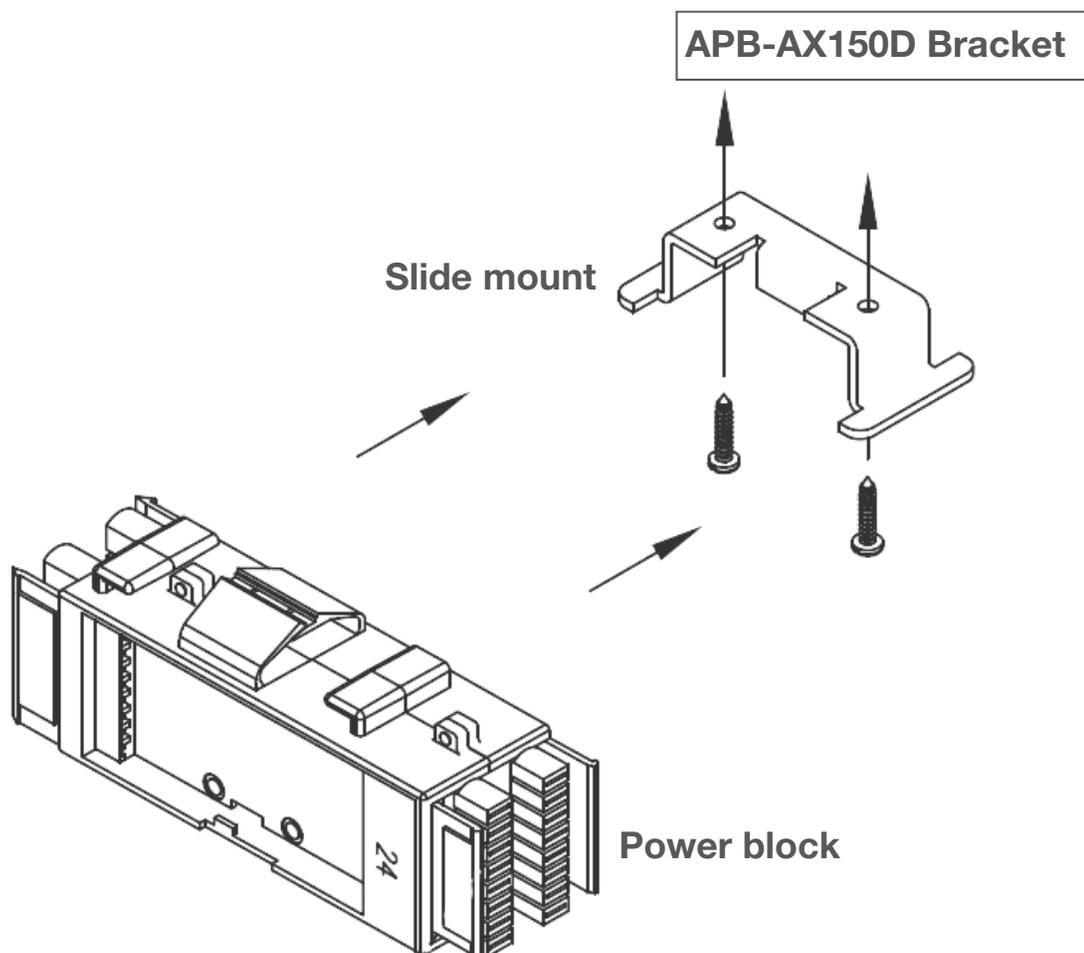
Assemble table frame per the appropriate FORm™ installation guide.



Step two

Assemble power block support brackets

- › Attach slide mount bracket to APB-AX150-D mount
- › Attach bracket assembly to the bottom of the table accessory beams (AX150)
- › Slide power block into slide mount bracket as shown. Make sure you hear and feel click signalling correct engagement

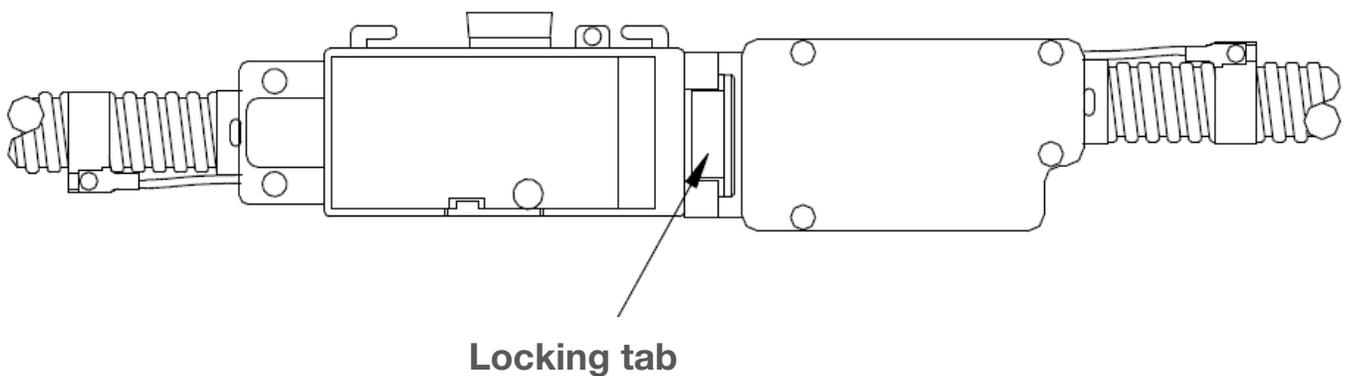
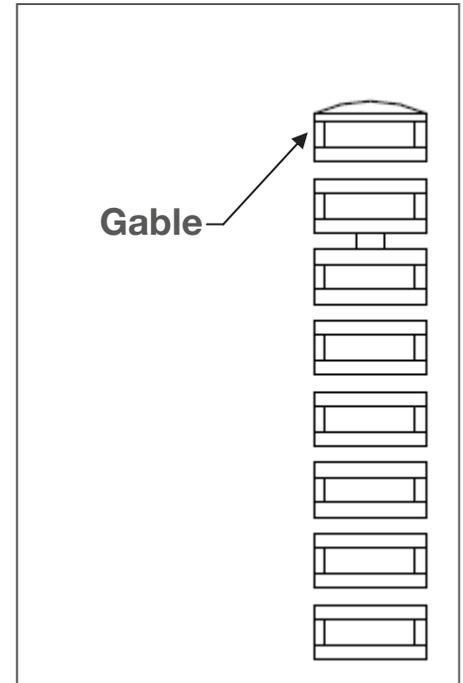


INNOV-8 ASSEMBLY INSTRUCTIONS

Step three

Install jumpers, connectors and pass-through jumpers

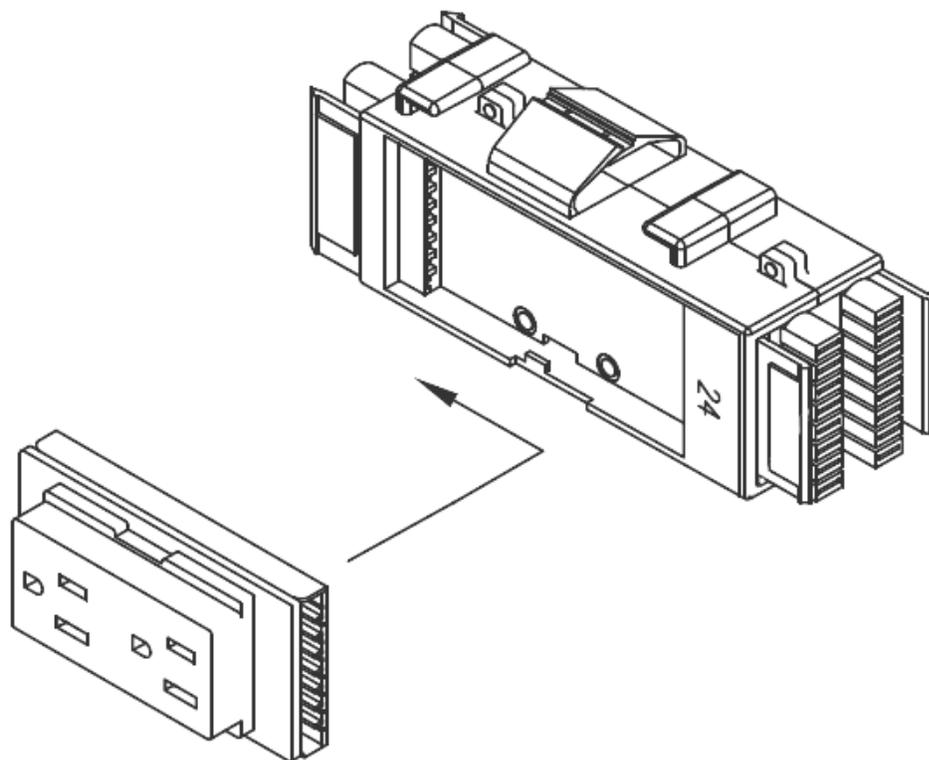
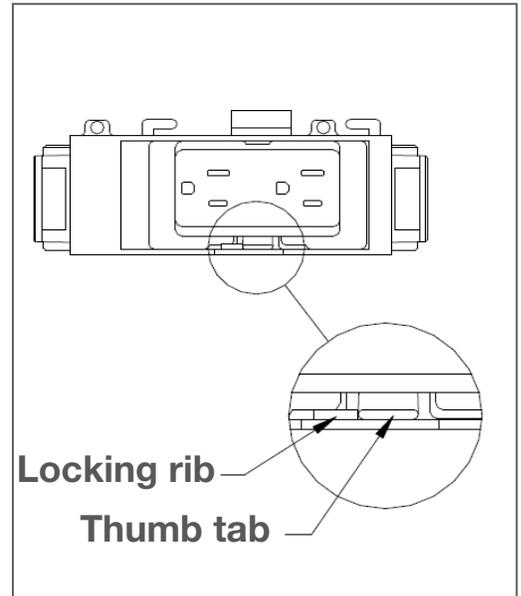
- › The Innov-8 system is designed with male and female connections which must be mated with the gable connection aligned
- › Engage male and female housings firmly together until they are fully seated and the locking tab snaps into place.
- › Ensure proper connection by pulling back on the flexible metal conduit or other connected pieces



Step four

Insert receptacles into power block

- › Insert the receptacle and push straight in until it hits the inner wall of the power block
- › Slide the receptacle sideways until the thumb tab snaps into the locking rib.
- › Note: Receptacles can be removed by pushing on the thumb tab until it clears the locking rib, then moving the receptacle sideways and lifting it out

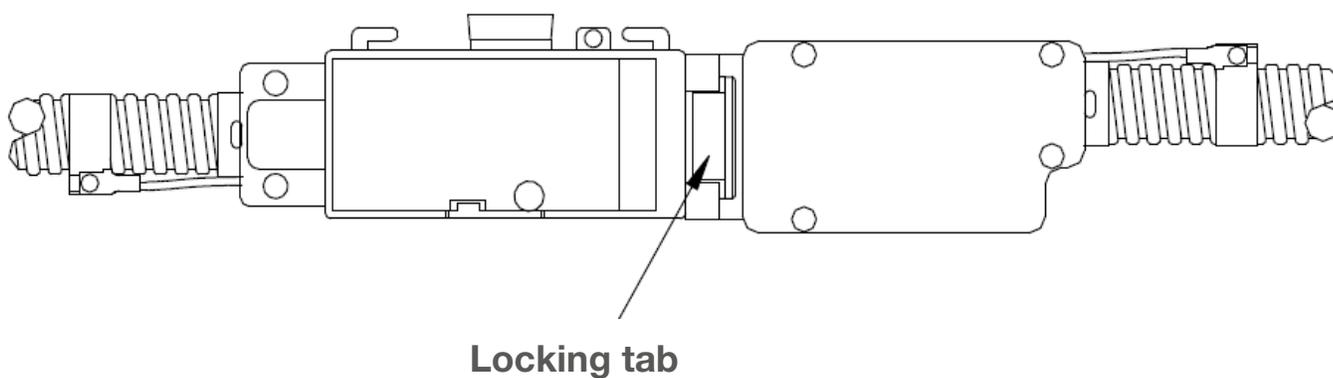


INNOV-8 ASSEMBLY INSTRUCTIONS

Step five

Install jumpers, connectors and pass-through jumpers

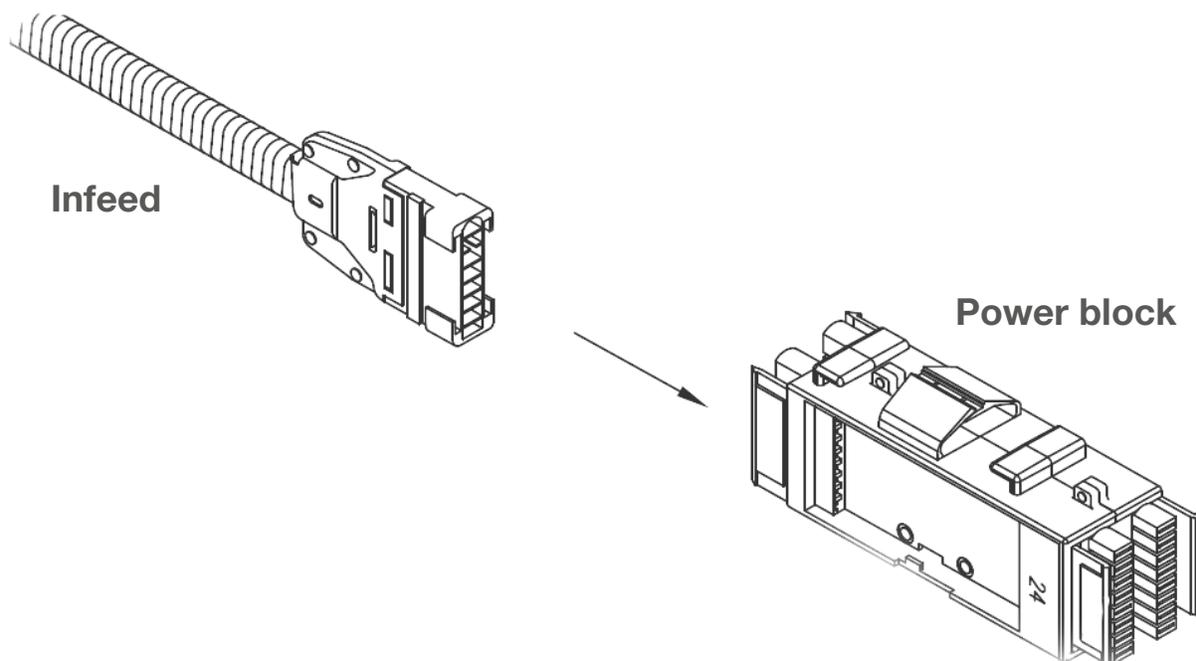
- › The Innov-8 system is designed with male and female connections which must be mated with the gable connection aligned
- › Engage male and female housings firmly together until they are fully seated and the locking tab snaps into place.
- › Ensure proper connection by pulling back on the flexible metal conduit.



Step six

Install power feed

- › Locate building power source and attach Innov-8 infeed. This system is rated for a maximum of 20 amps per branch circuit (16 amp per branch circuit planning threshold), 125/250 V, 1-phase, 60Hz, OR 120/208 V, 3-phase, 60Hz. A licensed electrician must connect the infeed(s) to the building power source in accordance with local electric codes.
- › Connect infeed to female end of M/F jumper (pass-through) or to power block in the same manner as jumpers in Step 5.



WARNING

Risk of fire or electrical shock. Do not electrically connect to more than one and only one source of supply by a licensed electrician. All sources must be disconnected prior to any servicing. Wiring diagram is attached to all power feeds

POWER MASTER ASSEMBLY KITS

APMA	TYPE	FRAME	POWER
Product Code	Type of Frame	Frame Width [trough size] # positions powered dbl/sgl	Power Type (see chart)
	D = Double Sided S = Single Sided	048 = 4' [48"] 2/1 054 = 4.5' [54"] 2/1 060 = 5' [60"] 2/1 066 = 5.5' [66"] 2/1 072 = 6' [72"] 2/1 078 = 6.5' [78"] 2/1 084 = 7' [84"] 2/1 090 = 7.5' [90"] 2/1 096 = 8' [96"] 4/2 108 = 9' [2 x 54"] 4/2 120 = 10' [2 x 60"] 4/2 132 = 11' [2 x 66"] 4/2 144 = 12' [2 x 72"] 4/2 144A = 12' [3 x 48"] 6/3 162 = 13.5' [3 x 54"] 6/3 168 = 14' [2 x 84"] 4/2 180 = 15' [2 x 90"] 4/2 180A = 15' [3 x 60"] 6/3 192 = 16' [4 x 48"] 8/4 198 = 16.5' [3 x 66"] 6/3 216 = 18' [3 x 72"] 6/3 216A = 18' [4 x 54"] 8/4 240 = 20' [4 x 60"] 8/4 252 = 21' [3 x 84"] 6/3 264 = 22' [4 x 66"] 8/4 270 = 22.5' [3 x 90"] 6/3 288 = 24' [4 x 72"] 8/4 300 = 25' [5 x 60"] 10/5 336 = 28' [4 x 84"] 8/4 360 = 30' [4 x 90"] 8/4 360A = 30' [6 x 60"] 12/6 360B = 30' [5 x 72"] 10/5 384 = 32' [8 x 48"] 16/8 396 = 33' [6 x 66"] 12/6 420 = 35' [4 x 84"] 8/4 420A = 35' [7 x 60"] 14/7 432 = 36' [6 x 72"] 12/6 504 = 42' [6 x 84"] 12/6	P1 = Power strip, hardwire connection P2 = Relocatable power tap (plug-in strip) P3 = Innov-8™ Multicircuit 2+2, 2 Duplex / Position P4 = Innov-8™ Multicircuit 2+2, 4 Duplex / Position P5 = Innov-8™ Multicircuit 3+1, 3 Duplex / Position P6 = Innov-8™ Multicircuit 3+1, 4 Duplex / Position

POWER TYPES PER POSITION		
POWER	PER POSITION PROVISION	DESCRIPTION
<p>P1</p> <p>HW POWER STRIP</p>		<p>(1) 8- 15 AMP OUTLET POWER STRIP (HARDWIRED, FLEXIBLE METAL CONDUIT)</p>
<p>P2</p> <p>RELOCATABLE TAP</p>		<p>(1) 8-OUTLET RELOCATABLE POWER TAP (RPT) (15-AMP PLUG AND OUTLETS)</p>
<p>P3</p> <p>2+2 INNOV-8 2 DUPLEX</p>	 <p>1 UTILITY DUPLEX (CIRCUIT 1 OR 2)</p>  <p>1 ISOLATED DUPLEX (CIRCUIT 3 OR 4)</p>	<ul style="list-style-type: none"> • 1 15A UTILITY BRANCH DUPLEX OUTLET • 1 15A ISOLATED BRANCH DUPLEX OUTLET
<p>P4</p> <p>2+2 INNOV-8 4 DUPLEX</p>	  <p>2 UTILITY DUPLEX (CIRCUIT 1 AND 2)</p>   <p>2 ISOLATED DUPLEX (CIRCUIT 3 AND 4)</p>	<ul style="list-style-type: none"> • 2 15A UTILITY BRANCH DUPLEX OUTLETS • 2 15A ISOLATED BRANCH DUPLEX OUTLETS
<p>P5</p> <p>3+1 INNOV-8 3 DUPLEX</p>	  <p>2 UTILITY DUPLEX (1 AND/OR 2 AND/OR 3)</p>  <p>1 ISOLATED DUPLEX (CIRCUIT 4)</p>	<ul style="list-style-type: none"> • 2 15A UTILITY BRANCH DUPLEX OUTLETS • 1 15A ISOLATED BRANCH DUPLEX OUTLETS
<p>P6</p> <p>3+1 INNOV-8 4 DUPLEX</p>	   <p>3 UTILITY DUPLEX (CIRCUIT 1, 2 AND 3)</p>  <p>1 ISOLATED DUPLEX (CIRCUIT 4)</p>	<ul style="list-style-type: none"> • 3 15A UTILITY BRANCH DUPLEX OUTLETS • 1 15A ISOLATED BRANCH DUPLEX OUTLETS

APPLICATION NOTES

- Power Master Assemblies (PMA) must be ordered in conjunction with the equal type Frame Master Assembly
- P1 & P2 use sgl-sided brackets which place outlets directly under the accessory beam. All others use dbl-sided brackets that center the power between the accessory beams, under the center well.
- P3, P4, P5 & P6 Multi-circuit systems may not be used in the city of Chicago
- Specify hardwire strips where required by local building and electric codes. P2 is the only suitable solutions for the city of Chicago.
- All PMAs are UL listed and bear the mark
- All PMAs have 15 Amp outlets; select individual components if you desire 20 Amp or other configurations outside of the PMA range
- P1 hardwire power strips come with a 120" metal-clad conduit, connection to building power by others
- P3, P4, P5 & P6 Innov-8™ Modular Power System has 8-wires, 4 circuits, 20 Amps each. Maximum (52) duplex receptacles per infeed. The Innov-8™ system is cradle-to-cradle certified. P1 & P2 are 2+2 systems (2 utility and 2 isolated circuits); P4 & P5 are 3+1 (3 utility and 1 isolated circuits)
- P3, P4, P5 & P6 Innov-8 Modular Power Systems include appropriate 120" metallic infeed(s), wired to building source by others. These infeeds serve as wall, floor or ceiling feeds. Substitute liquid-tight infeed for approved wall or floor use in San Francisco.
- All power is subject to proper load scheduling. All Innovant stand-alone power PMAs (P1, P2) are rated at 15 Amps; all modular system PMAs (P3, P4, P5 & P6) are rated at 20 Amps per circuit / per infeed. Best practices mandate continuous load downgrading to 80%, so maximum continuous load on 20-Amp PMAs should not exceed 16 Amps per circuit.
- P1 and P2 provide (8) 15 Amp outlets per position - enough for most office and light trading applications
- P3 provides (2) 15 Amp duplex receptacles (4 outlets total) per position for balanced light office applications
- P4 provides (4) 15 Amp duplex receptacles (8 outlets total) per position with 2 duplex on the utility branch and 2 isolated ground duplex receptacles for more technology intensive applications.
- P5 provides (3) 15 Amp duplex receptacles (6 outlets total) per position for traditional office applications
- P6 provides (4) 15 Amp duplex receptacles (8 outlets total) per position for more demanding equipment intensive office applications

INNOV-8™ SYSTEM POWER BLOCKS

AP8M

Product Code

TYPE

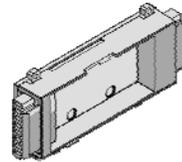
Type of component

BL = Power Block

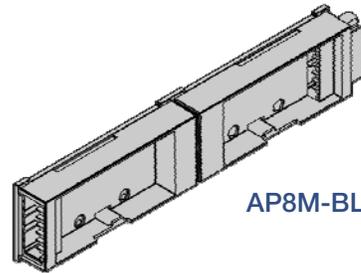
STYLE

Block Style

S = Single (Dbl-sided) Block
D = Double (Dbl-sided) Block
HS = Half (Sgl-sided) Block
HD = Double Half (Sgl-sided) Block



AP8M-BLHS



AP8M-BLHD

APPLICATION NOTES

- Power blocks are one of the 4 basic building blocks of the Innov-8 system (Infeed, power blocks, receptacles & jumpers)
- Half blocks accommodate (1) 15A or 20A duplex receptacle; Double half blocks accommodate (2) 15A or 20A duplex receptacles
- Maximum (52) duplex receptacles per infeed, with no more than 16A max draw per circuit
- Not for use in city of Chicago

INNOV-8™ SYSTEM POWER JUMPERS

AP8M

Product Code

TYPE

Type of component

JU = Power Jumper

STYLE

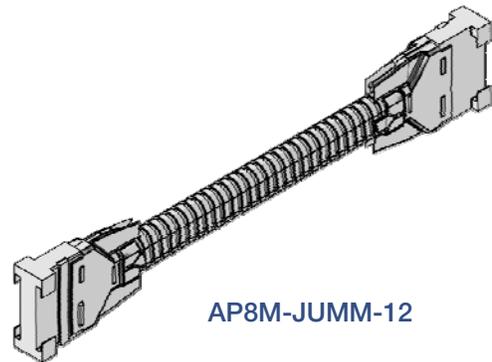
Types of Connections

MM= Male / Male (Block to Block)
FM= Female / Male (Block to Jumper)

LENGTH

Length of Jumper

12 = 12"W
18 = 18"W
24 = 24"W
30 = 30"W
36 = 36"W
42 = 42"W
48 = 48"W
54 = 54"W
60 = 60"W
66 = 66"W
72 = 72"W



AP8M-JUMM-12

APPLICATION NOTES

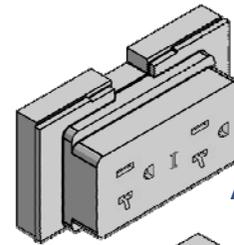
- Jumpers are one of the 4 basic building blocks of the Innov-8 system (Infeed, power blocks, receptacles & jumpers)
- M/M Jumpers carry power from power block to power block in standard lengths
- For situations that require longer spans or pass-throughs, specify an FM Jumper in addition to a M/M Jumper
- Not for use in city of Chicago

INNOV-8™ SYSTEM POWER RECEPTACLES

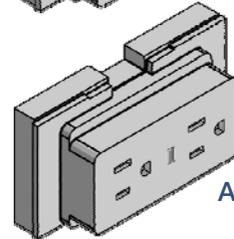
AP8M

Product Code

TYPE	AMPS	CIRCUIT
Type of Outlet	Outlet Amperage	Circuit Number
DR = Duplex Power Receptacle	15 = 15 Amp 20 = 20 Amp	1 = Circuit 1 2 = Circuit 2 3 = Circuit 3 3G = Circuit 3IG (Isolated Ground) 4G = Circuit 4IG (Isolated Ground)



AP8M-DR20-1



AP8M-DR15-1

APPLICATION NOTES

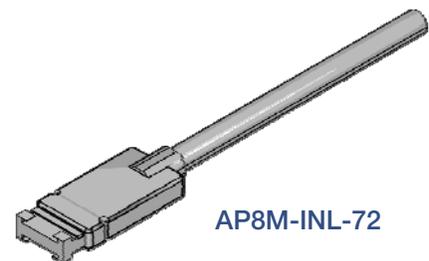
- Receptacles are one of the 4 basic building blocks of the Innov-8 system (Infeed, power blocks, receptacles & jumpers)
- Available in 4 interchangeable circuit designations; up to 2 circuits may be dedicated to an isolated (separate neutral & ground) branch
- Specify Circuit 3 for 3+1 distribution; Specify Circuit 3G for 2+2 distribution; Do not ever combine Circuit 3 and 3G in one configuration
- IG Receptacles are orange, all others are black
- Do not exceed a maximum of 16A peak/circuit on a given infeed
- Do not exceed 52 distributed duplex receptacles per 4-circuit infeed
- Never plug high amperage gear (photocopier, space heater etc) unless a branch circuit has been dedicated for exclusive use of this equipment.
- Not for use in city of Chicago

INNOV-8™ SYSTEM POWER INFEEDES

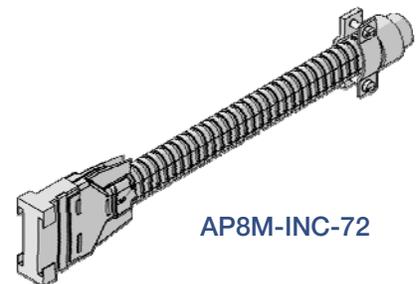
AP8M

Product Code

TYPE	STYLE	LENGTH
Type of component	Cable Style	Infeed cable length
IN = Power Infeed	C = Conduit N = NYC*** L = Liquid Tight**	72 = 72" 120 = 120"



AP8M-INL-72



AP8M-INC-72

***NYC (double junction box) infeed preferred by some clients in the city of New York

** Liquid tight infeed required for wall and exposed floor infeeds in city of San Francisco

APPLICATION NOTES

- Infeeds are one of the 4 basic building blocks of the Innov-8 system (Infeed, power blocks, receptacles & jumpers)
- Each infeed can carry up to (4) 20A circuits (best practices mandate downgrade to a maximum of 16A peak/circuit)
- Specify (1) infeed for each continuous run of power (up to 52 distributed receptacles).
- Only (1) infeed is allowed in a continuous run. For longer bench run requirements, multiple infeeds may be required with clear power breaks
- Not for use in city of Chicago

INNOV-8™ SYSTEM CONNECTORS

AP8M

Product Code

TYPE

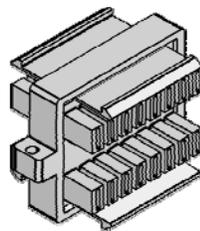
Type of component

CON = Power Connector

STYLE

Connection Style

F4 = 4-Way Female Connector
FF = F/F Inline Connector
MM = M/M Inline Connector



AP8M-CONF4

APPLICATION NOTES

- F4 Connectors are ideal for mid-span infeeds when specifying half-blocks
- MM Connectors are used to attach H connectors directly to the end of a half block
- MM Connectors may be used to join multiple half blocks together
- FF Connectors may be used to join M/M Jumpers together to achieve longer pass-through lengths
- F4, FF and MM connectors may be used to convert the gender of any connection in the Innov-8 system
- Not for use in city of Chicago

INNOV-8™ SYSTEM POP-UP INFILL

AP8M

Product Code

TYPE

Type of Component

PUM = Pop-Power Infill, Modular Circuit 3

LENGTH

Length of Infill

18 = 18"W

COLOR

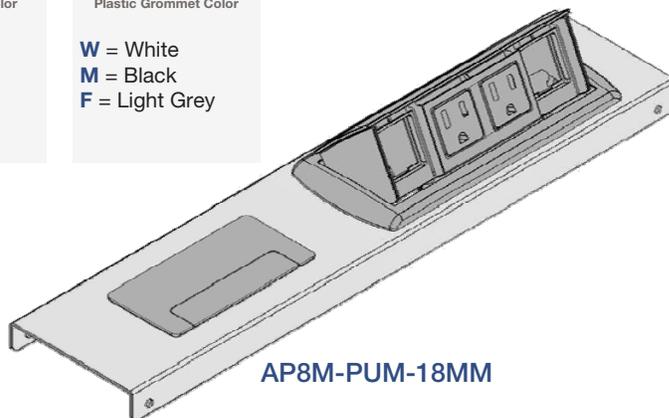
Power Module Color

M = Black
C = Clear

GROMMET

Plastic Grommet Color

W = White
M = Black
F = Light Grey



AP8M-PUM-18MM

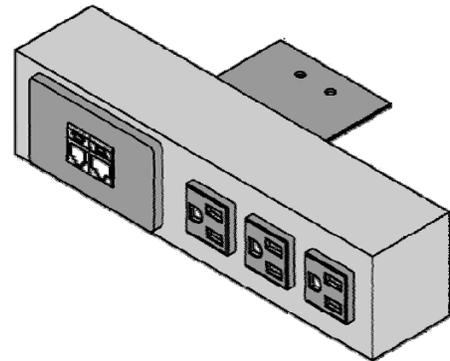
APPLICATION NOTES

- Innov-8 pop-up power infills tap directly into the Female 8-wire harness in the Innov-8 system at the end of a run or mid-span using "H" connector
- Folded steel infill with power and data pop-up module provides desktop access to services, one touch open and closes unit
- Includes (1) rectangular cable access grommet
- Includes (2) simplex receptacles and knock-outs for data, video and phone jacks (customer-supplied)
- Includes a Voice/Data Adapter Kit (BE01421) to accept couplers & jacks when required (see chart above)
- UL/CUL listed
- Not for use in city of Chicago

STAND-ALONE POWER/DATA MODULE

AP
Product
Code

TYPE	STYLE
Type of component SAP = Stand-Alone Power	Types of Connections CAT6 = (2) CAT 6 dataports (wired by others)



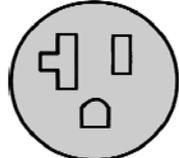
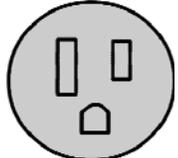
APPLICATION NOTES

- Stand-alone power module mounts to the bottom of the AX150
- UL listed and bears the mark
- Power data modules include (2) RJ45 CAT 6 data terminations, wired by others.

POWER DISTRIBUTION

AP - Product Code

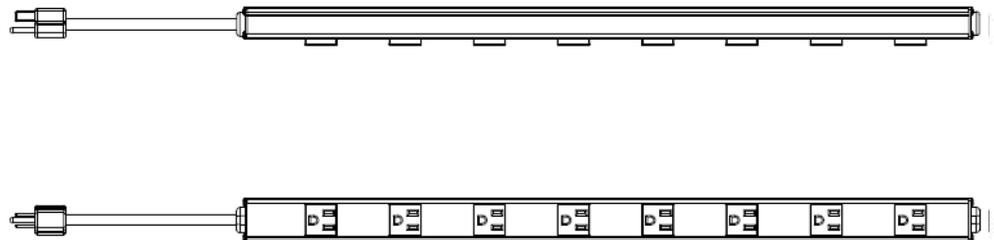
AMPS	WIDTH	OUTLETS	CABLE
Outlet Amperage / Feed	Overlay Width (Nominal)	Number of Outlets	Infeed cable length
15 = 15A / Plug-in (15A plugset) 20 = 20A / Plug-in (20A plugset) HWS = 20A / Hardwire (side exit)	24 = 24"W 36 = 36"W	04 = 4 outlets 06 = 6 outlets 08 = 8 outlets	06 = 6' 10 = 10'



RELOCATABLE POWER TAP (PLUG-IN)

Width	Outlets	Centers
24	4	6"
24	6	3.5"
24	8	2.5"
24	4	6"
24	6	3.5"
24	8	2.5"
36	4	10"
36	6	6"
36	8	4.25"
36	4	10"
36	6	6"
36	8	4.25"



AP24-815-6

APPLICATION NOTES

- Power strips mount to AX52 (trough sides), center raceway technology boards or mounting brackets beneath the AX150 accessory beam
- Specify hardwire strips where required by local building and electric codes
- Chicago code prohibits use of relocatable power taps (plug-in strips). Boston, New York and San Francisco projects may have RPT restrictions as well. Always consult local code authority for current restrictions
- 15 amp power strip has 15 amp plug (15P) and 15 amp outlets (15R).
- 20 amp power strip has 20 amp plug (20P) and 20 amp outlets (20R). Please verify availability of 20 amp building source (illustrated above)
- Verify whip length will reach from access location to building source
- Query client as to desired amperage and plug style, then verify availability of building source plugs on site

POWER MOUNTING BRACKETS

APB

Product Code

STYLE	TYPE
Mounting Bracket	Type of Equipment
AX150 = AX150 Mounting Bracket	S = Single-sided power blocks and power strips D = Double-sided Innov-8 power blocks

APPLICATION NOTES

- Power specified separately
- AX150S type brackets are intended for use in the raceway under a single AX150 accessory beam
- AX150S provides a mounting location for Innovant power strips as well as single-sided Innov-8 and BASIC power blocks
- One AX150S must be specified for Innov-8 single (single sided) and BASIC single power blocks
- Two AX150S brackets must be specified for Innov-8 single-sided double blocks
- AX150D type brackets are intended for use in the raceway bridging between two AX150 accessory beams
- AX150D brackets provide a mounting location for Innov-8 double-sided single and double power blocks
- One AX150D must be specified for each double-sided Innov-8 single power block
- Two AX150D must be specified for each double-sided Innov-8 double power block

TECHNOLOGY BOARDS

APTB

Product Code

TYPE	LENGTH
Application	Length of Board (Nominal)
TPMT = Trough Plate Mount, Center of Raceway	48 = 48"W 54 = 54"W 60 = 60"W 66 = 66"W 72 = 72"W 78 = 78"W 84 = 84"W 90 = 90"W 96 = 96"W
AX52 = AX52 Mount, Outer Raceway	

APPLICATION NOTES

- Technology boards facilitate 90-degree mounting of power in the raceway
- Must be ordered in the same length as the trough to which it is applied
- Power and/or data termination blocks are mounted to technology boards in the field; pre-mounting in the factory is not available
- Must be ordered in pairs for double-sided applications

INNOVANT



INNOVANT

OUR STORY

Innovant designs and manufactures intelligent office furniture for the modern workplace. A recognized leader in the industry, we focus on integrating seamlessly into the overall architecture of a space, optimizing real estate, promoting employee productivity, and ensuring long term value to the client business. Innovant's adaptable open plan workstations, conference solutions, private office designs and specialty furnishings are available to view in showrooms worldwide.

We know that our clients navigate complex decisions when choosing a furniture system. Innovant provides expert guidance along the way, collaborating with client teams to determine optimal product configurations. Where appropriate, we will recommend and engineer tailored solutions based on specific client requirements. Every Innovant product is designed for efficient installation and easy reconfiguration over time as new features are introduced.

SUSTAINABILITY

Environmental stewardship is a primary component of Innovant's core philosophy. We were founded with a mission to minimize our impact on the environment and to ensure our products are environmentally sustainable. All of our standard products already conform to a variety of eco-requirements and many items can be further configured to maximize LEED points.



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