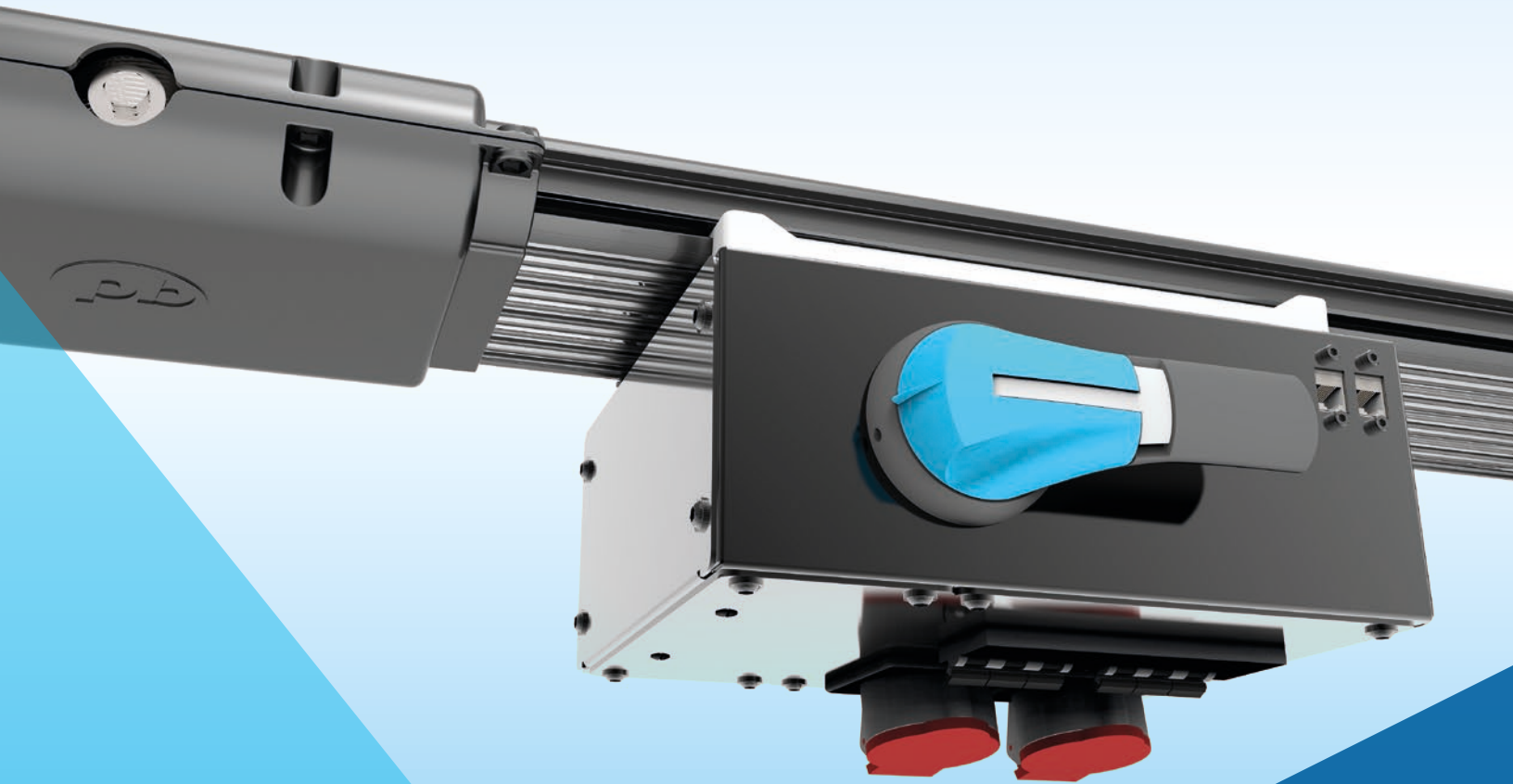




E+I ENGINEERING GROUP

# INTELLIGENT MEDIUM POWERBAR

## iMPB



**E+I Engineering's Intelligent Medium Powerbar (iMPB) is a 600 Volt encased track busduct. The range is available in two bar configurations from 160A to 800A. The bar is housed in an aluminum casing rated IP2X.**

**Key features:**

- Unique open channel system allows busplugs to be placed anywhere along the bar
- Solid joint pack construction
- Up to 12ft lengths
- Busplugs have mechanical/ electrical interlocks and secure to the bar with a 'ground first, break last' safety feature.

# TECHNICAL FEATURES

**iMPB is constructed from high density 99.99% conductivity copper. The conductors are insulated with a custom UL certified thermoplastic material with outstanding heat characteristics. The insulation has excellent dielectric strength and is impact resistant.**

iMPB is constructed with an aluminum housing providing a durable structure which also acts as a ground path.

The iMPB range can be engineered with an over-rated neutral option for busduct systems with non-linear loads. The additional neutral capacity prevents overloading caused by zero sequence harmonic currents.

E+I Engineering offer a 100% fully isolated ground for systems where ground isolation is required e.g. systems with heavy microprocessors, based loads or large computer based installations.

Busbar Rating (Amps)	Housing Size (inches)	
	4 Pole	5 Pole
160A	6.89 x 1.73	8.27 x 1.73
250A	6.89 x 1.73	8.27 x 1.73
400A	6.89 x 1.73	8.27 x 1.73
500A	7.09 x 2.05	8.46 x 2.05
600A	7.09 x 2.05	8.46 x 2.05

## Phase Configurations

Configuration	Phases	Neutral	Ground
TP/N	100%	100%	Case
TP/ON	100%	170%	Case
TP/NG	100%	100%	100%
TP/ONG	100%	170%	100%

**Note:** Case refers to the aluminum casing being used as a ground.

## LENGTHS AND JOINTS



Distribution Lengths

### Distribution lengths

Distribution lengths are designed as an open track system; busplugs can be plugged in anywhere along the bar. The opening is finger safe meeting a rating of IP2X.

Straight lengths can be supplied at any length from 2ft - 12ft.

The iMPB joint pack securely locks two feeder lengths together with a traditional busduct bolted joint. No special tooling is required and joints may be disassembled and reassembled easily.

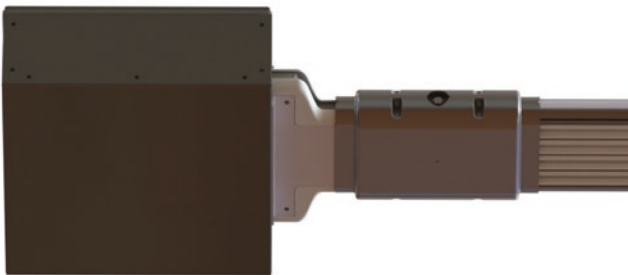
iMPB uses custom designed thermally and electrically secure joint packs. Temperature monitoring of joints is available as an option.



Busway Joints

### End Feeds

E-I Engineering provide standard cable end boxes with options for cable entry from various points. Center feeds and load bank feeds can also be supplied to meet specific project requirements.



Cable End Feed

# INSTALLATION

The modular design of iMPB allows it to be easily installed either horizontally or vertically depending on specific project requirements.

Hanger brackets are supplied per length. These can be easily attached to drop rods for a seamless installation process.

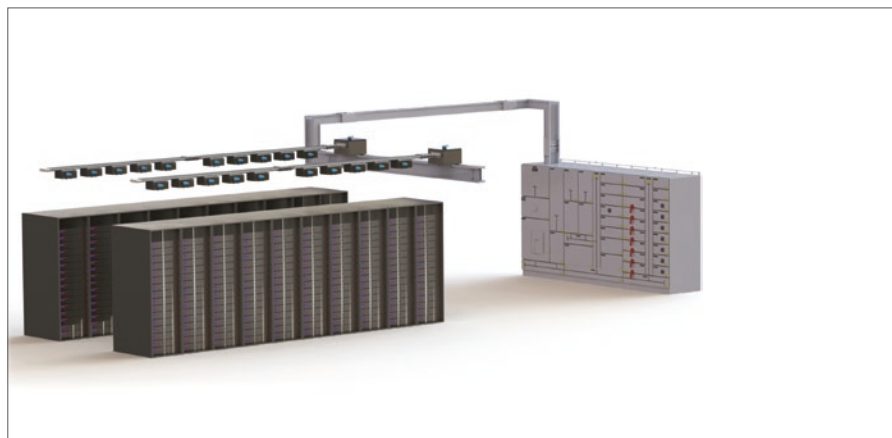
iMPB can be connected directly to E+I Engineering's High Powerbar (HPB) to provide a full power solution.



**Typical Underfloor Arrangement**



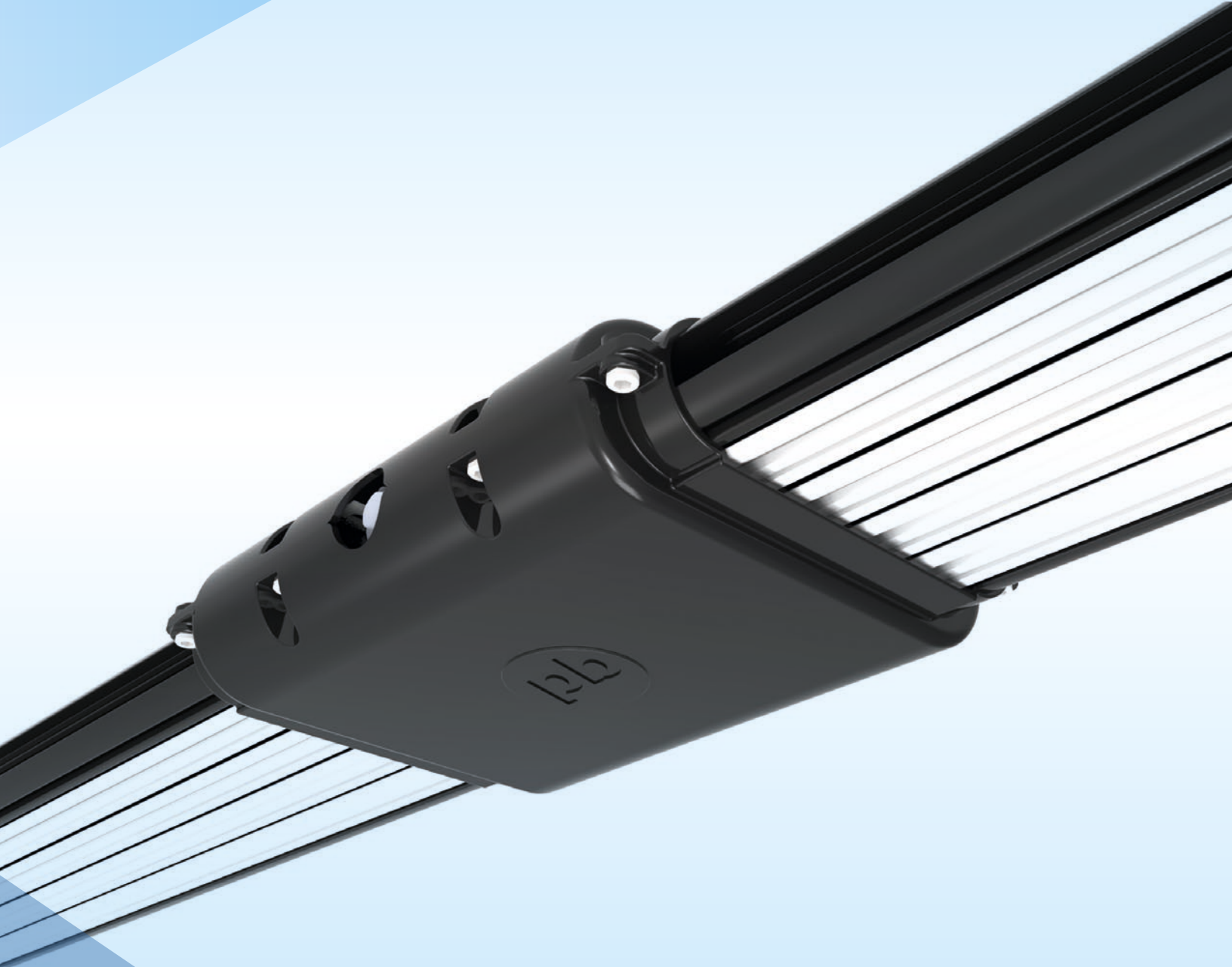
**'Hot Aisle Cold Aisle' Arrangement**



**HPB to iMPB Connection**

# INTELLIGENT MEDIUM POWERBAR

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# BUSPLUGS

## Busplugs

iMPB busplugs are engineered with the safety of the installer and user as the key criteria.

All busplugs have a 'ground first, break last' safety feature and can be safely installed using Powerbar's SafeWork Technology.

1. The units interlock onto the busduct with a ground strip. This ensures that the ground is the first point of contact with the busduct system during installation.
2. The mechanical interlock secures the unit to the bar using high tensile strength lockable hardware which cannot be fitted incorrectly.
3. Once fitted to the bar, the engager handle can be turned. This lifts the contacts into the busduct and has a positive lock once fully rotated.

### Key features:

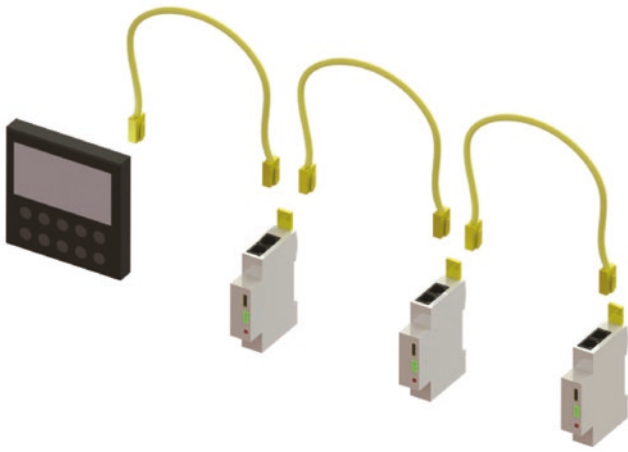
- SafeWork Technology
- Individual busplugs rated up to 125A
- Interlock feature ensures polarities do not mismatch
- Busplugs can be fitted with IEC 309 receptacles, NEMA receptacles or whip cords as required
- Circuit breakers or fused disconnects are fitted to the busplug according to the installation requirements



Tap off units

## METERING

iMPB offers advanced metering which allows the user to monitor, integrate and display data center power information via RJ45 Ethernet plug-in connections.



Daisy Chaining Meters

Final circuit monitoring is integrated into the busduct to measure the total load of the bar and busplugs. Power calculations of total input power for each busduct run can also be provided.

### Options:

- Voltage for all three phases
- Current - phase, ground and neutral
- kW, KVa, kVAR, power factor, kWh

### Advanced options:

- Voltage total harmonic distortion
- Overvoltage/ undervoltage alarm threshold
- Minimum and maximum current
- Demand and percentage load current
- Crest factor
- Warning and alarm threshold

It is also possible to monitor closed and trip status for each MCB. The status signals are fed back to the end feed using the integrated Ethernet cabling. The modules run in a daisy chain from meter to meter utilising the side channel in the housing for cabling.

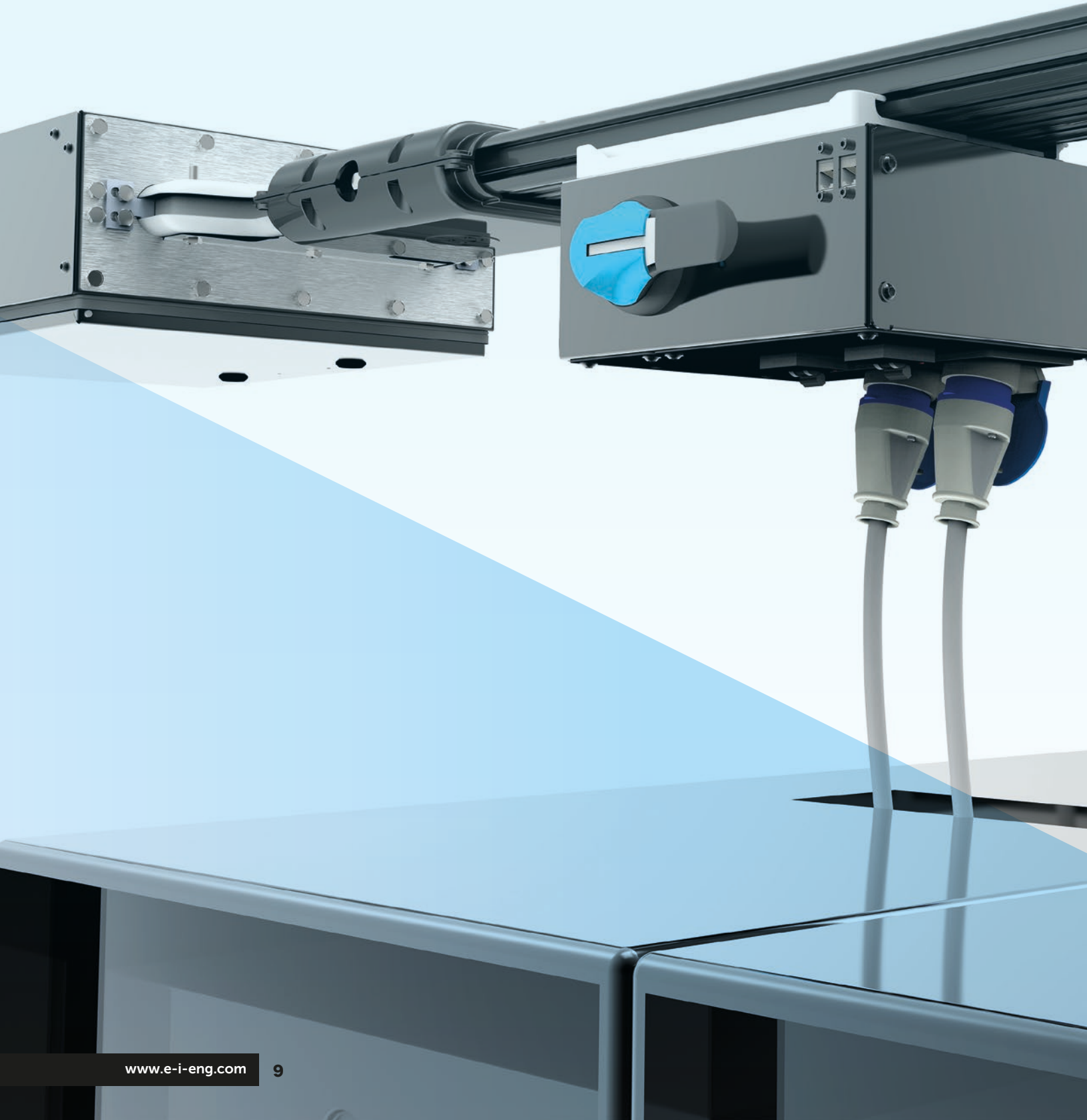


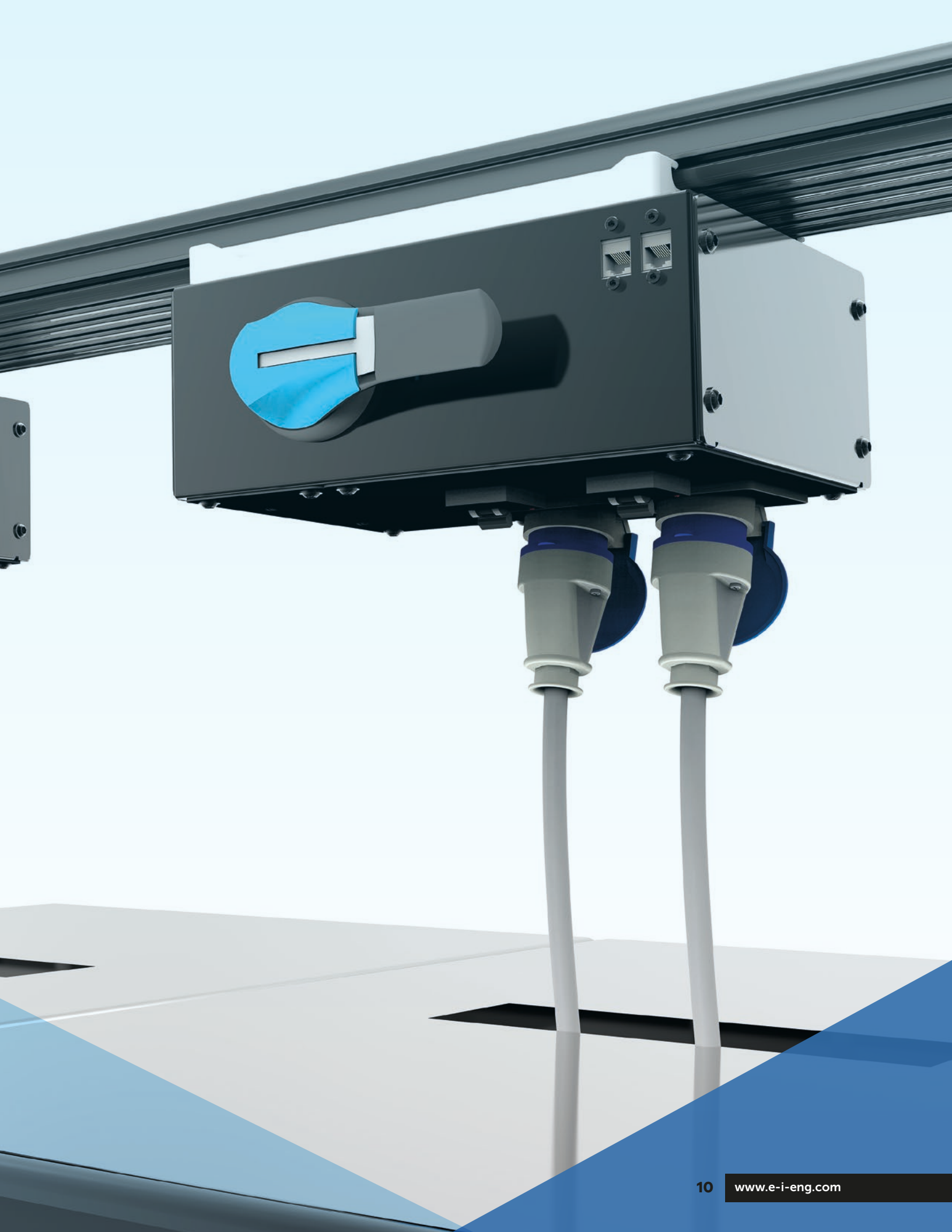
# TECHNICAL DATA

Technical Data					
Rated Current (A)	160	250	400	500	600
Rated Operational Voltage (V)	600	600	600	600	600
Rated Insulation Voltage (V)	1000	1000	1000	1000	1000
Short Circuit					
Short Circuit Rating (KAIC)	50	50	50	65	65
Phase Conductor					
Cross Sectional Area (inches <sup>2</sup> )	0.1891	0.1891	0.3255	0.3952	0.4960
Neutral Conductor					
Cross Sectional Area (inches <sup>2</sup> )	0.1891	0.1891	0.3255	0.3952	0.4960
Isolated Ground Conductor					
100% Ground Cross Sectional Area (inches <sup>2</sup> )	0.1891	0.1891	0.3255	0.3952	0.4960
Housing Ground Path					
Cross Sectional Area (inches <sup>2</sup> )	2.1886	2.1886	2.1886	3.1465	3.1465
Overall Dimensions					
Height x Width of 4 Pole System (inches)	6.89 x 1.73	6.89 x 1.73	6.89 x 1.73	7.09 x 2.05	7.09 x 2.05
Weight					
Weight of 4 Pole System (lbs/ft)	6.35	6.35	9.54	13.07	15.59

# INTELLIGENT MEDIUM POWERBAR

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