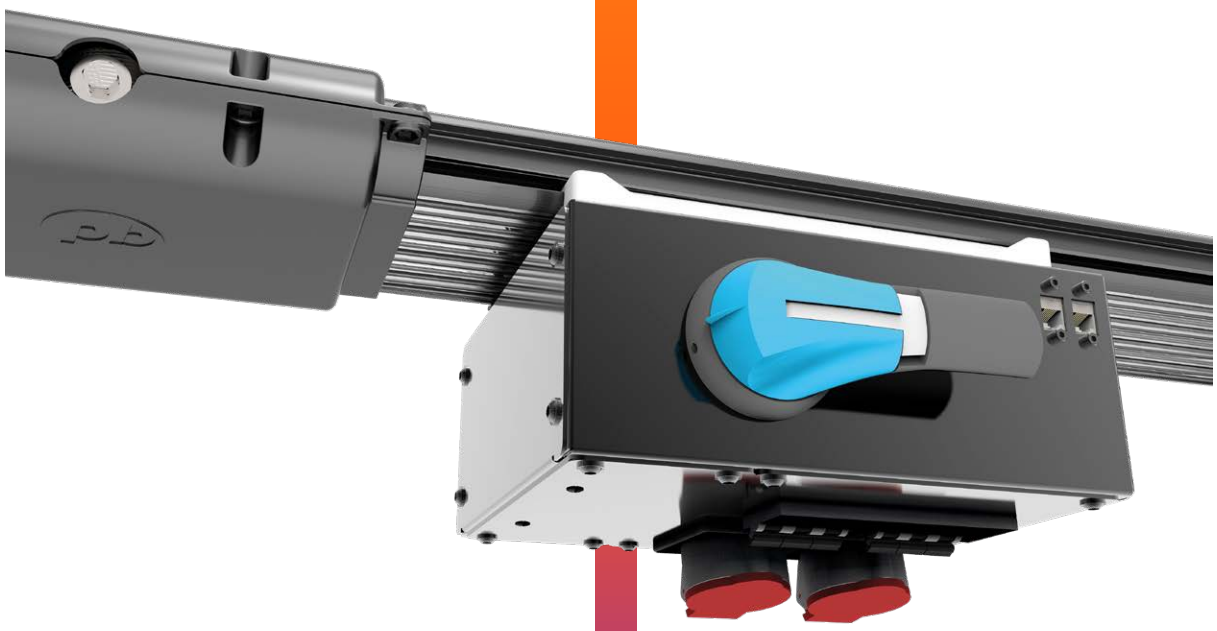
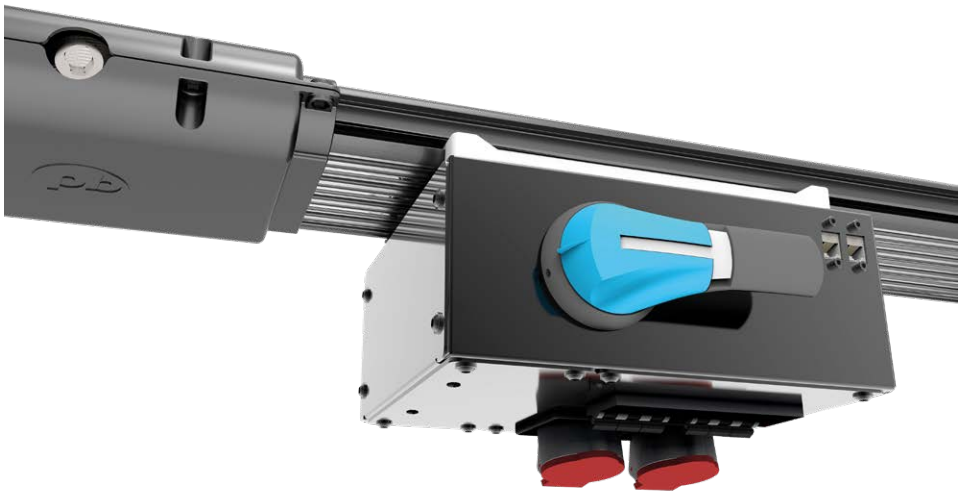
Vertiv™ PowerBar iMPB IEC



Vertiv™ PowerBar iMPB

Vertiv™ PowerBar iMPB is a 600 Volt encased track busway available with copper and aluminium conductors. The range is available in two bar configurations from 160A-1000A. The bar is housed in an aluminium casing rated IP2X.



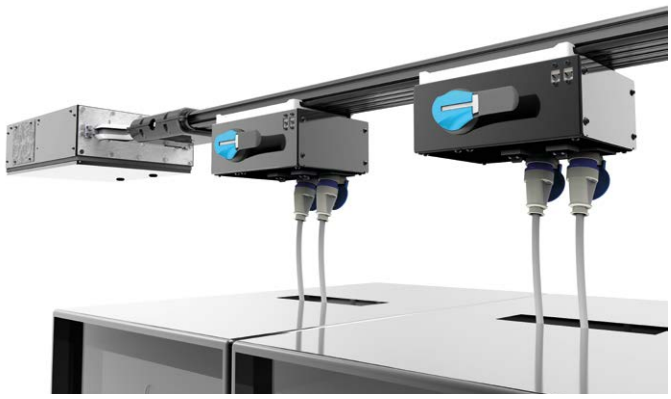
Overview

Key Features:

- Unique open channel system allows tap offs to be placed anywhere along the bar
- Solid joint pack construction
- Up to 4m lengths
- Tap offs have mechanical/ electrical interlocks and secure to the bar with an 'earth first, break last' safety feature

Technical Features

- Vertiv™ PowerBar iMPB is constructed from high density 99.99% conductivity copper or 55% conductivity aluminum. The conductors are insulated with a custom IEC certified thermoplastic material with outstanding heat characteristics. The insulation has excellent dielectric strength and is impact resistant.
- Vertiv PowerBar iMPB is constructed with an aluminium housing providing a durable structure which also acts as a ground path.
- The Vertiv PowerBar iMPB range can be engineered with an over-rated neutral option for busbar systems with non-linear loads. The additional neutral capacity prevents overloading caused by zero sequence harmonic currents.
- Vertiv offer a 100% fully isolated ground for systems where earth isolation is required e.g. systems with heavy microprocessors, based loads or large computer based installations.



Copper	Housing Size (inches)	
Busbar Rating (Amps)	**4 Pole**	**5 Pole**
160A	175 x 44mm	210 x 44mm
250A	175 x 44mm	210 x 44mm
400A	175 x 44mm	210 x 44mm
630A	180 x 52mm	215 x 52mm
800A	180 x 52mm	215 x 52mm

Aluminium	Housing Size (inches)	
Busbar Rating (Amps)	**4 Pole**	**5 Pole**
160A	175 x 44mm	210 x 44mm
250A	175 x 44mm	210 x 44mm
400A	175 x 44mm	210 x 44mm
630A	180 x 52mm	215 x 52mm
800A	202 x 74mm	235 x 74mm
1000A	202 x 74mm	235 x 74mm

Phase Configurations

Configuration	Phases	Neutral	Earth
TP	100%	100%	Case
TP/ON	100%	170%	Case
TP/NE	100%	100%	100%
TP/ONE	100%	170%	100%

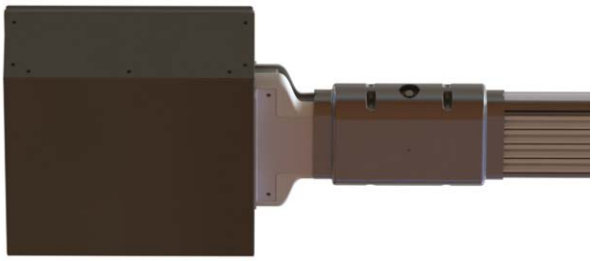
Lengths and Joints

Distribution lengths

- Distribution lengths are designed as an open track system; tap off units can be plugged in anywhere along the length of the busbar. The opening is finger safe meeting a rating of IP2X.
- Straight lengths can be supplied at any length from 600mm - 4000mm.
- The Vertiv PowerBar iMPB joint pack securely locks two feeder lengths together with a traditional busbar 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.

Distribution Lengths

Busway Joints



End Feeds

Vertiv can provide standard cable end boxes with options for cable entry from various points. Centre feeds and load bank feeds can also be supplied to meet specific project requirements.

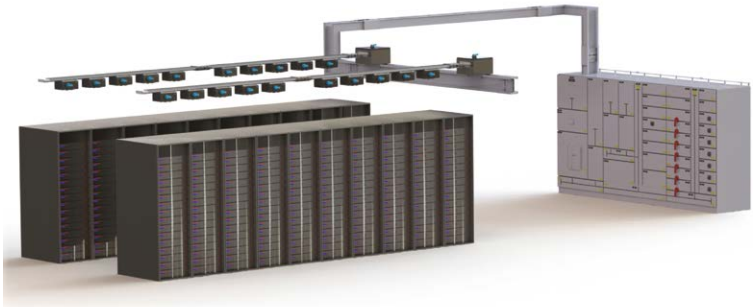
Installation

The modular design of Vertiv™ PowerBar iMPB allows it to be easily installed 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. Vertiv PowerBar iMPB can be connected directly to Vertiv's High Powerbar (HPB) to provide a full power solution.

Typical Underfloor Arrangement

'Hot Aisle Cold Aisle' Arrangement



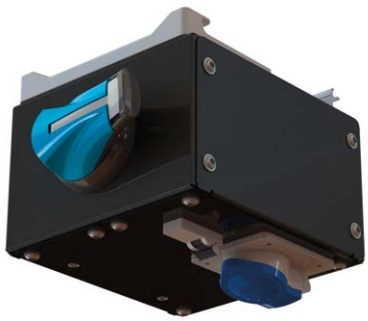
Vertiv™ HPB to Vertiv™ PowerBar iMPB Connection

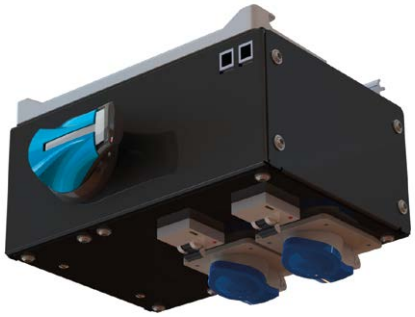
Tap Off Units

Vertiv™ PowerBar iMPB tap off units are engineered with the safety of the installer and user as the key criteria.

All tap off units have an 'earth first, break last' safety feature and can be safely installed using Powerbar's SafeWork Technology.

1. The units interlock onto the busway with a ground strip. This ensures that the ground is the first point of contact with thw busbar 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 busway and has a positive lock once fully rotated.





Key Features:

- SafeWork Technology
- Individual tap-off units rated up to 125A
- Interlock feature ensures polarities do not mismatch
- Tap-off units can be fitted with IEC 309 receptacles, NEMA receptacles or whip cords as required

Metering

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

Final circuit monitoring is integrated into the busway to measure the total load of the busbar and tap off units. Power calculations of total input power for each busway 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

Daisy Chaining Meters

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

Copper

Rated Current (A)	160	250	400	630	800
Rated Operational Voltage (V)	600	600	600	600	600
Rated Insulation Voltage (V)	1000	1000	1000	1000	1000
Short Circuit					
Short Circuit Current Rating (rms symmetrical 1 second) KA	25	25	36	36	35
Peak Value (kA)	52.5	52.5	77	77	77
Short Circuit Conditional Rating (KAIC)	100	100	100	100	100
Phase Conductor					
Cross Sectional Area (mm²)	122	122	210	255	320
Neutral Conductor					
Cross Sectional Area (mm²)	122	122	210	255	320
Isolated Ground Conductor					
100% Earth Cross Sectional Area (mm²)	122	122	210	255	320
Housing Ground Path					
Cross Sectional Area of 4 Bar System (mm²)	1761	1761	1761	2222	2222
Cross Sectional Area of 5 Bar System (mm²)	2025	2025	2025	2543	2543
Overall Dimensions					
Height x Width of 4 Bar System (mm)	44 x 175	44 x 175	44 x 175	52 x 180	52 x 180
Height x Width of 5 Bar System (mm)	44 x 210	44 x 210	44 x 210	52 x 215	52 x 215
Weight					
Weight of 4 Bar System (kg/m)	9.45	9.45	14.2	19.4	23.2
Weight of 5 Bar System (kg/m)	11.81	11.81	17.75	24.25	29
Resistance (R)					
Resistance (mΩ/m) at 20°C	0.161	0.167	0.096	0.89	0.065
Reactance (X)					
Reactance (mΩ/m) at 50Hz	0.131	0.114	0.088	0.094	0.089
Impedance (Z)					
Impedance (mΩ/m) at 20°C at 50Hz	0.208	0.202	0.130	0.129	0.110
Voltage Drop at Full Load 50Hz					
Power Factor = 0.7 (V/m)	0.061	0.094	0.103	0.168	0.177
Power Factor = 0.8 (V/m)	0.062	0.097	0.105	0.170	0.175
Power Factor = 0.9 (V/m)	0.062	0.097	0.103	0.167	0.168
Power Factor = 1.0 (V/m)	0.051	0.084	0.085	0.136	0.127

Aluminium

Rated Current (A)	160	250	400	630	800	1000
Rated Operational Voltage (V)	600	600	600	600	600	600
Rated Insulation Voltage (V)	1000	1000	1000	1000	1000	1000
Short Circuit						
Short Circuit Current Rating (rms symmetrical 1 second) KA	30	30	30	35	35	35
Peak Value (kA)	63.8	63.8	63.8	73.5	73.5	73.5
Short Circuit Conditional Rating (KAIC)	100	100	100	100	100	100
Phase Conductor						
Cross Sectional Area (mm²)	222	222	222	352	806	806
Neutral Conductor						
Cross Sectional Area (mm²)	222	222	222	352	806	806
Isolated Ground Conductor						
100% Earth Cross Sectional Area (mm²)	222	222	222	352	806	806
Housing Ground Path						
Cross Sectional Area of 4 Bar System (mm²)	1761	1761	1761	2222	2797	2797
Cross Sectional Area of 5 Bar System (mm²)	2025	2025	2025	2543	3158	3158
Overall Dimensions						
Height x Width of 4 Bar System (mm)	44 x 175	44 x 175	44 x 175	52 x 180	74 x 202	74 x 202
Height x Width of 5 Bar System (mm)	44 x 210	44 x 210	44 x 210	52 x 215	74 x 235	74 x 235
Weight						
Weight of 4 Bar System (kg/m)	6.9	6.9	6.9	8.2	17.7	17.7
Weight of 5 Bar System (kg/m)	9.2	9.2	9.2	10.4	22.1	22.1
Resistance (R)						
Resistance (mΩ/m) at 20°C	0.200	0.183	0.184	0.098	0.045	0.043
Reactance (X)						
Reactance (mΩ/m) at 50Hz	0.066	0.115	0.118	0.065	0.057	0.056
Impedance (Z)						
Impedance (mΩ/m) at 20°C at 50Hz	0.211	0.216	0.219	0.118	0.073	0.071
Voltage Drop at Full Load 50Hz						
Power Factor = 0.7 (V/m)	0.058	0.102	0.171	0.154	0.112	0.141
Power Factor = 0.8 (V/m)	0.062	0.106	0.178	0.161	0.111	0.139
Power Factor = 0.9 (V/m)	0.065	0.107	0.181	0.164	0.106	0.135
Power Factor = 1.0 (V/m)	0.064	0.095	0.161	0.148	0.081	0.102

Vertiv.com | **Vertiv Headquarters,** 505 N Cleveland Ave, Westerville, OH 43082, USA

© 2024 Vertiv Group Corp. All rights reserved. Vertiv™ and the Vertiv logo are trademarks or registered trademarks of Vertiv Group Corp. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness here, Vertiv Group Corp. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications, rebates and other promotional offers are subject to change at Vertiv's sole discretion upon notice.

SL-71226 (03/24)