

Vertiv™ PowerBar iMPB

Flexible Modular Busbar 160A - 800A, 3PH, 600VAC



Overview

The Vertiv™ PowerBar iMPB is a medium power encased track busway system offering a variety of capacity and connection configurations to match IT rack equipment requirements. With a range of 160-800A, this aluminum chassis IP2X-rated busway provides optimal flexibility.

Ideally Suited For:

- Data centers of any size
- Data centers with frequent or planned configuration changes
- Single or dual-bus configurations
- Raised and non-raised floors

Benefits

- Finger/touch safe IP2X certified
- Live plug and play system with configurable tap-off boxes
- Solid joint pack construction
- Open-channel track allows for tap-off boxes to be placed anywhere along the busway
- Tap-off boxes have mechanical and electrical interlocks utilizing a ground-first, break-last safety feature
- Industry's most reliable, and user friendly plug-in tap-off box design

Vertiv™ PowerBar iMPB



Data center space can be a dynamic environment. Growth plans and pressures, equipment changes, technology refreshes, and more, drive the need for scalable infrastructure. Building on fixed, inflexible support systems results in additional costs and a real potential for downtime.

As power requirements and IT equipment change, busway power distribution allows data center operators to respond quickly and cost effectively. User-friendly busway helps ensure uptime by maintaining power delivery during branch additions and by enhancing cooling airflow with reduced power cabling.

Standard Features

- Modular design
- 100% continuous rated busway track
- Copper busway up to 600A and aluminum busway up to 800A
- Up to 13' length as standard with longer lengths available
- Monitoring cable trough
- Up to 100KAIC Short Circuit Withstand
- UL857 listed

Optional Features

- Multiple output receptacles
- Over-sized neutral
- Revenue-grade monitoring
- Customized lengths available on request



Typical Data Center with Power Cables and Conduit



Data Center with Vertiv™ PowerBar iMPB

Flexible, Modular Design for Easy Installation and Growth

Vertiv™ PowerBar iMPB provides high density distribution while providing full flexibility to position individual rack power connections. The modular system ensures correct power configuration at set-up that can be easily reconfigured as data center needs change.

Busway Benefits

- **Scalable design** for quick change and future growth
- **Continuous power delivery** to active IT equipment loads
- **Minimized outside support** for branch adds and upgrades
- **Maximized cooling airflow** to IT equipment racks
- **Financial savings** in upfront cap-ex and site lifecycle costs



Busway Component Range

Vertiv™ PowerBar iMPB is available in a variety of straight lengths. Tap-off boxes come in multiple configurations of receptacle quantity and type to meet changing requirements.

Flexibility

- Available in 160, 250, 400, 600, and 800A ratings
- Increases space efficiency and improves airflow
- Easy to change tap-off boxes
- Integrates easily into new or existing data center layouts
- Available in single or dual busway configurations

Higher Availability

- Hot-swappable tap-off boxes keep systems up and running even during changes
- Fully rated design
- Certified to UL857 & CSA22.22

Lowest Total Cost of Ownership

- Requires fewer and less expensive power cables
- 15-30% less installation time and cost compared to cables and conduit
- Plug and play tap-off boxes connected to rack PDUs can be installed by anyone — no electrician needed

Superior Design and Materials

- Busway track is solid copper (99.99% conductivity) or aluminum (55% conductivity) and tin plated for superior electrical performance and corrosion resistance
- Requires no cutting or special tools
- Enclosed aluminum housing guards against incidental contact and contamination to live parts
- Enclosed chassis will not twist or distort during tap-off box installation

The Right Power Configuration, Right Where You Need It

With IT equipment demands constantly changing, data center providers need a power distribution system that can adapt at the same pace without interruption to existing critical loads and without the need for intrusive breaker and power cable changeouts.

Vertiv™ PowerBar iMPB gives data center managers flexibility, control, and peace of mind when changing and adapting to keep pace with hardware requirement demands.

Tap-off Box Benefits

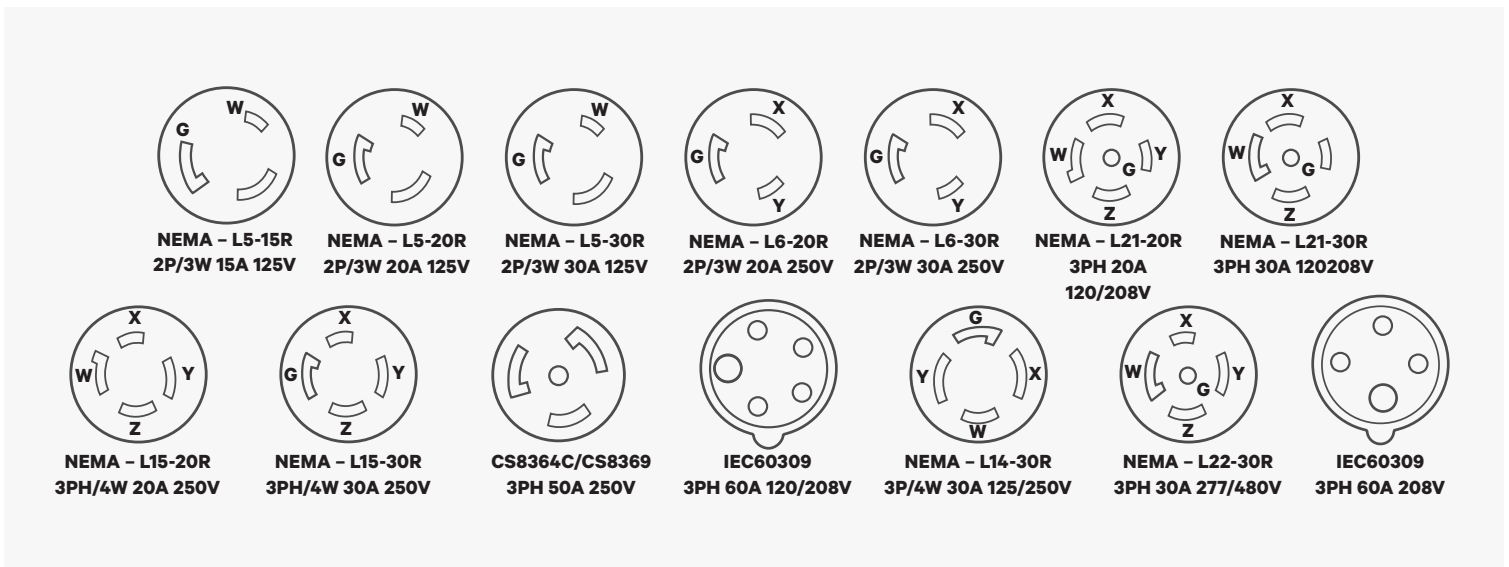
- Change power requirements quickly
- Plug and play to rack/rack PDU
- No interruption to existing critical loads
- No electrician required for installation
- Amps and receptacles sized to meet server needs
- Relocate and reuse tap-off box anywhere along the busway to maximize investment

Tap-off Box Features

- Up to 120A per tap off Box
- Up to 600VAC
- 10KAIC and 22KAIC breakers available - higher kA circuit breakers are available upon request
- Accommodates any UL listed receptacle
- Flush-Mounted receptacles or drop cords with connectors
- Fits anywhere along the busway
- Tap-off boxes are easily installed on energized busway and are fully interchangeable



Tap-off Box Receptacle Options



Technical Specifications

Rated Current (A)	Copper					Aluminium	
	160	250	400	500	600	400	800
Rated Operational Voltage (V)	600	600	600	600	600	600	600
Rated Insulation Voltage (V)	1000	1000	1000	1000	1000	1000	1000
Short Circuit							
Short Circuit Current Rating (rms symmetrical 1 second) kA	22	22	22	22	35	22	35
Peak Value (kA)	52.5	52.5	77	77	77	63.8	73.5
Short Circuit Conditional Rating (KAIC)	50 at 480V	50 at 480V	100	65 at 480V	65 at 480V	100	65
Environmental							
Operating Ambient Temperature	32o to 104oF	32o to 104oF	32o to 104oF	32o to 104oF	32o to 104oF	32o to 104oF	32o to 104oF
Protection Rating	IP2X, CE	IP2X, CE	IP2X, CE	IP2X, CE	IP2X, CE	IP2X, CE	IP2X, CE
Environmental Standards	RoHS, REACH	RoHS, REACH	RoHS, REACH	RoHS, REACH	RoHS, REACH	RoHS, REACH	RoHS, REACH
Phase Conductor							
Cross Sectional Area (in2)	0.189	0.189	0.326	0.395	0.496	0.344	1.249
Neutral Conductor							
Cross Sectional Area (in2)	0.189	0.189	0.326	0.395	0.496	0.344	1.249
Isolated Ground Conductor							
100% Earth Cross Sectional Area (in2)	0.189	0.189	0.326	0.395	0.496	0.344	1.249
Housing Ground Path							
Cross Sectional Area of 4 Bar System (in2)	2.730	2.730	2.730	3.444	3.444	2.730	4.335
Cross Sectional Area of 5 Bar System (in2)	3.139	3.139	3.139	3.942	3.942	3.139	4.895
Overall Dimensions							
Height x Width of 4 Bar System (in)	6.89 x 1.73	6.89 x 1.73	6.89 x 1.73	7.09 x 2.05	7.09 x 2.06	6.89 x 1.73	7.95 x 2.91
Height x Width of 5 Bar System (in)	8.27 x 1.73	8.27 x 1.73	8.27 x 1.73	8.46 x 2.05	8.46 x 2.06	8.27 x 1.73	9.25 x 2.91
Weight							
Weight of 4 Bar System (lb/f)	4.3	4.3	6.4	8.8	10.5	3.1	8.0
Weight of 5 Bar System (lb/f)	5.3	5.3	8.0	10.9	13.1	4.2	10.0
Resistance (R)							
Resistance (mΩ/ft) @20oC	0.0491	0.0509	0.0293	0.0290	0.0219	0.0561	0.0137
Reactance (X)							
Reactance (mΩ/ft) at 60Hz	0.0479	0.0418	0.0323	0.0347	0.0332	0.0433	0.0207
Impedance (Z)							
Impedance (mΩ/ft) @ 20°C at 60 Hz	0.0686	0.0655	0.0433	0.0451	0.0399	0.0707	0.0250
Voltage Drop at Full Load 60Hz							
Power Factor = 0.7 (V/ft)	0.0204	0.0308	0.0341	0.0439	0.0451	0.0558	0.0375
Power Factor = 0.8 (V/ft)	0.0204	0.0314	0.0341	0.0436	0.0442	0.0573	0.0369
Power Factor = 0.9 (V/ft)	0.0198	0.0311	0.0332	0.0421	0.0415	0.0573	0.0344
Power Factor = 1.0 (V/ft)	0.0155	0.0256	0.0259	0.0320	0.0293	0.0494	0.0244