VERTIV.

Brochure

Vertiv™ PowerBar Track

Offering seamless integration and scalable design for Data Centers.

Introduction

Vertiv™ PowerBar Track systems deliver a dynamic power distribution solution tailored for AI-driven and high-performance computing environments. As AI workloads become increasingly complex, data centers require power distribution systems that can adapt to shifting power demands. The Vertiv PowerBar Track systems offer exactly that — scalable, reliable power distribution in a flexible architecture that optimizes space and energy efficiency.

Applications: Data Centres- White Space (Colo and hyperscale)

Benefits

- Innovative high amp open track busbar
- High power capacity for demanding workloads
- Scalable and flexible power distribution for future growth
- Compact, space-saving design without compromising performance
- Energy efficiency that reduces operational costs
- Reliable performance that supports business continuity
- Modular design allows tap off units to be added anywhere along the busbar
- Can be integrated with Vertiv™ PowerBoard Switchgear and Switchboard and other Vertiv products
- A key component of scalable power distribution within the 360AI portfolio

Features and certifications

- UL857 listed
- High-density, high-conductivity copper and 55% conductivity aluminum conductors available
- Live plug-n-play with the add-on capability of IP2X certified tap-off boxes
- 250A to 1000A currently available with up to 2000A to be added
- Metering option using RJ45 Ethernet plug-in connections available
- Tap off options up to 125Amp
- Tap off boxes have mechanical and electrical interlocks utilizing an “earth-first, break-last” safety feature
- Pending Patents:
  - High Amperage Open track busway
  - Multi stack joint pack
  - Double joint block

High Amperage Open Track Busway (Busbar) -Patent Pending (coming soon)

	Copper			Aluminum		
Rated current (A)	250	400	600	400	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 sym. 3 cycle) @ 600Vac	22	22	22	22	35	50
Protected Short Circuit Current Rating (RMS sym. 3 cycle) @ 480Vac	50	100	65	100	65	--
Environmental						
Operating ambient temperature	32° to 104°F	32° to 104°F	32° to 104°F	32° to 104°F	32° to 104°F	32° to 104°F
Protection rating	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
Phase conductor						
Cross Sectional Area (in^2)	0.189	0.326	0.395	0.344	1.249	1.745
Neutral conductor						
Cross Sectional Area (in^2)	0.189	0.326	0.395	0.344	1.249	1.745
Isolated ground conductor						
100% Earth Cross Sectional Area (in^2)	0.189	0.326	0.395	0.344	1.249	1.745
Housing ground path						
Cross Sectional Area - 4Bar (in^2)	2.73	2.73	3.444	1.572	1.885	2.048
Cross Sectional Area - 5Bar (in^2)	3.139	3.139	3.942	1.785	2.097	2.262
Overall dimensions						
Height x Width of 4 Bar System (in)	6.89 x 1.73	6.89 x 1.73	7.09 x 2.05	6.81 x 1.97	7.874 x 3.189	7.874 x 4.094
Height x Width of 5 Bar System (in)	8.27 x 1.73	8.27 x 1.73	8.46 x 2.05	8.07 x 1.97	9.13 x 3.19	9.13 x 4.09
Weight						
Weight of 4 Bar System (lb/ft)	4.3	6.4	8.8	5.38	11.43	15.26
Weight of 5 Bar System (lb/ft)	5.3	8	10.9	6.72	14.11	18.62
Resistance						
Resistance (mΩ/ft) at 68°F (20°C)	0.0509	0.0293	0.029	0.0561	0.0137	0.0121
Reactance						
Reactance (mΩ/ft) at 60 Hz	0.0418	0.0323	0.0347	0.0433	0.0207	0.0186
Impedance						
Impedance (mΩ/ft) @ 68°F (20°C) at 60 Hz	0.0655	0.0433	0.0451	0.0707	0.025	0.0222
Voltage drop at full load 60Hz						
Power Factor = 0.7 (V/m)	0.0308	0.0341	0.0439	0.0558	0.0375	0.0408
Power Factor = 0.8 (V/m)	0.0314	0.0341	0.0436	0.0573	0.0369	0.0397
Power Factor = 0.9 (V/m)	0.0311	0.0332	0.0421	0.0573	0.0344	0.0369
Power Factor = 1.0 (V/m)	0.0256	0.0259	0.032	0.0494	0.0244	0.0253

*Additional information to be added for:
1000A and 1200A- Copper
1600A and 2000A- Aluminum

Tap off units

All tap off units have an 'earth-first, break-last' safety feature and can be safely installed anywhere along the length using PowerBar Tracks SafeWork Technology.

1. The units interlock onto the busway with a ground strip. This secures that the ground is the first point of contact with the 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.

Tap off benefits

- Change power requirements easily.
- 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 boxes anywhere along the busway to maximize investment.
- Straight lengths can be supplied at any length up to 13ft.

Lengths and joints

- The Vertiv™ PowerBar Track joint pack securely locks two distribution lengths together with a traditional busbar bolted joint. No special tooling is required and joints may be disassembled and reassembled easily.
- Vertiv™ PowerBar Track uses custom designed thermally and electrically secure joint packs. Temperature monitoring of joints is available as an option.
- Vertiv can provide standard cable end boxes with options for cable entry from various points.
- 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.

Service

As infrastructures scale and growth plans change, Vertiv™ Services has capacity to adjust and maintain pace to reduce costs and downtime. Vertiv comprehensive Services allow these critical infrastructure elements to be maintained according to industry standards and perform at their optimum level.

Vertiv's field service technicians are equipped with proprietary service documentation that provides access to the latest method of procedures. Backed by OEM technical support, engineering and product and firmware enhancements, Vertiv service can effectively manage risks, potential events can be avoided and rapid solutions can be deployed.

Vertiv™ PowerBar Track services are performed by factory trained and authorized technicians, following a step-by-step startup procedure to bring the busway system up to normal operation. Technician **Standby Support Services** allows for seamless commissioning and integrated system test (IST). A Vertiv startup or standby services validates the optional service warranty.

To provide the continued, optimum operation for the busway, Vertiv Services offers flexible **Preventive Maintenance** programs. **Warranty programs** and **Renewable Service Contracts** combine with continuous, proactive maintenance, to increase uptime confidence, minimize total cost of ownership, while increasing reliability.

Vertiv Service programs are as flexible as the Vertiv PowerBar Track Busway they support, from startup to decommission.

Vertiv Service- Vertiv PowerBar Track Busway Startup and Tests

Level	Service	Description
L1	Site Arrival Inspection	Equipment inspection and configuration verification
L2	Visual and Mechanical Inspection	Mechanical and electrical inspections and checks
L3	System Acceptance Test and Startup	System phasing, power, voltages, current tolerances and continuity
L4	Standby Commissioning Support	Commissioning service support availability
L5	Standby Integrated System Test	Integrated System Test service support availability
L6	System Training	Contractor/Customer installation training

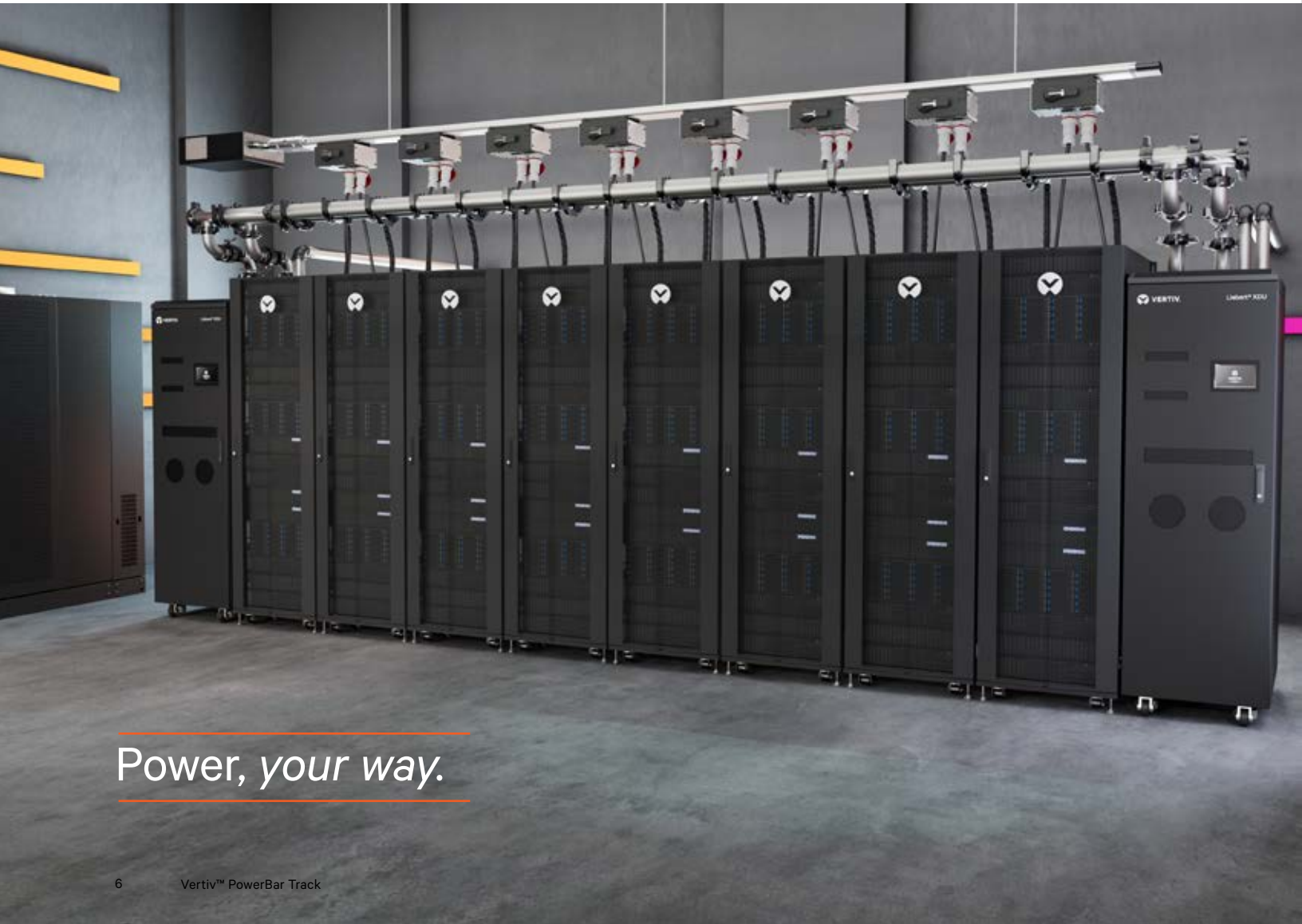
Vertiv Service optional warranties supplement and extend the factory warranties to provide complete coverage of the Vertiv PowerBar Track Busway system. After the warranty period, renewable contracts are available to increase the uptime of the Busway. Contact a Vertiv Service Sales representative for more information.

Metering

Vertiv™ PowerBar Track 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.

Our data centre customers benefit from unparalleled flexibility to adapt as their needs evolve, thanks to the innovative overhead power distribution system of the Vertiv™ PowerBar Track, offering seamless integration and scalable design. Supported by our robust global manufacturing network and efficient inter-regional product transfers, we effectively mitigate supply chain disruptions. This streamlined approach accelerates deployment, minimizing delays and facilitating smooth operations. With Vertiv's expertise, we simplify the design and integration of your entire power chain, delivering a tailored solution that sets us apart in offering unmatched, customized power solutions in the market.



Vertiv.com

SL-80298（R12/25）