



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 Vertiv™ Switchboard, and other Vertiv™ products
- A key component of scalable power distribution within the Vertiv™ 360AI portfolio

Features and certifications

- IEC 61439-6 compliant
- High density, high conductivity copper and 55% conductivity aluminium conductors available
- Live plug-n-play with the add- on capability of IP2X certified tap-off boxes
- 160A to 2500A
- Metering option using RJ45 Ethernet plug-in connections available
- High density tap off options up to 250Amp
- 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
- Patent Pending*



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 3 cycle) 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 (mm ²)	122	122	210	255	320
Neutral conductor					
Cross sectional area (mm ²)	122	122	210	255	320
Isolated ground conductor					
100% Earth cross sectional area (mm ²)	122	122	210	255	320
Housing ground path					
Cross sectional area of 4 bar system (mm ²)	1761	1761	1761	2222	2222
Cross sectional area of 5 bar system (mm ²)	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/ft) @ 20°C	0.161	0.167	0.096	0.89	0.065
Reactance (X)					
Reactance (mΩ/ft) at 50Hz	0.131	0.114	0.088	0.094	0.089
Impedance (Z)					
Impedance (mΩ/ft) @ 20°C at 50 Hz	0.208	0.202	0.13	0.129	0.11
Voltage drop at full load 60Hz					
Power factor = 0.7 (V/ft)	0.061	0.094	0.103	0.168	0.177
Power factor = 0.8 (V/ft)	0.062	0.097	0.105	0.17	0.175
Power factor = 0.9 (V/ft)	0.062	0.097	0.103	0.167	0.168
Power factor = 1.0 (V/ft)	0.051	0.084	0.085	0.136	0.127

*Additional information for 1000A and 1250A to be added

Aluminum

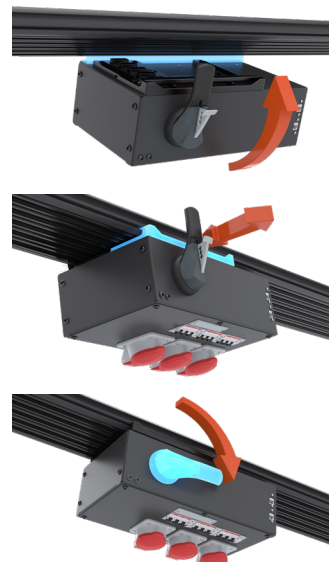
Rated current (A)	160	250	400	630	800	1000	1250
Rated operational voltage (V)	600	600	600	600	600	600	600
Rated insulation voltage (V)	1000	1000	1000	1000	1000	1000	1000
Short circuit							
1 Second (kA rms)	30	30	30	36	50	50	50
Peak value (kA)	63	63	63	75.6	105	105	105
Short circuit conditional Rating (KAIC)	100	100	100	100	100	100	
Phase conductor							
Cross sectional area (mm ²)	222	222	222	352	806	806	1125.6
Neutral conductor							
Cross sectional area (mm ²)	222	222	222	352	806	806	1125.6
Isolated ground conductor							
100% Earth cross sectional area (mm ²)	222	222	222	352	806	806	1125.6
Housing ground path							
Cross sectional area of 4 bar system (mm ²)	1014	1014	1014	1073	2939	2939	3493
Cross sectional area of 5 bar system (mm ²)	1151	1151	1151	1210	3341	3341	3971
Overall dimensions							
Height x width of 4 bar system (mm)	50x173	50x173	50x173	59x177	81x200	81x200	104x200
Height x width of 5 bar system (mm)	50x205	50x205	50x205	59x209	81x232	81x232	104x232
Weight							
Weight of 4 bar system (kg/m)	8	8	8	10	17	17	23
Weight of 5 bar system (kg/m)	10	10	10	13	21	21	28
Resistance (R)							
Resistance (mΩ/ft) @ 20°C	0.165	0.165	0.165	0.101	0.05	0.05	0.037
Reactance (X)							
Reactance (mΩ/ft) at 50Hz	0.087	0.098	0.105	0.081	0.062	0.063	0.049
Impedance (Z)							
Impedance (mΩ/ft) @ 20°C at 50 Hz	0.187	0.192	0.196	0.129	0.08	0.08	0.062
Voltage drop at full load 60Hz							
Power factor = 0.7 (V/ft)	0.052	0.087	0.152	0.166	0.122	0.156	0.148
Power factor = 0.8 (V/ft)	0.055	0.091	0.158	0.171	0.121	0.155	0.147
Power factor = 0.9 (V/ft)	0.056	0.092	0.16	0.171	0.116	0.148	0.14
Power factor = 1.0 (V/ft)	0.05	0.081	0.143	0.147	0.087	0.112	0.104

*Additional information for 1600A and 2500A to be added

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 Vertiv™ PowerBar Tracks SafeWork Technology.

1. The units interlock onto the busway with a ground strip. This maintains 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 from 600mm - 4000mm.

Lengths and joints

- The Vertiv™ PowerBar Track 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.
- 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. Centre feeds and load bank feeds can also be supplied to meet specific project requirements.
- 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.



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.



Power, your way.



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