



Brochure

# Vertiv™ PowerBar Track

A key component of scalable power distribution within the Vertiv™ 360AI portfolio.



## 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 busway
- 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 busway
- 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 up to 55% conductivity aluminium conductors available
- Live plug-n-play with the add- on capability of IP2X certified tap-off boxes
- Available from 160A to 2500A
- Metering option using RJ45 Ethernet plug-in connections available
- 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



*Vertiv™ PowerBar Track Double stack*



## Technical specifications

### Copper

<b>Rated current (A)</b>	160	250	400	630	800
Rated operational voltage (V)	600	600	600	600	600
Rated insulation voltage (V)	1000	1000	1000	1000	1000
<b>Short circuit</b>					
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
<b>Phase conductor</b>					
Cross sectional area (mm <sup>2</sup> )	122	122	210	255	320
<b>Neutral conductor</b>					
Cross sectional area (mm <sup>2</sup> )	122	122	210	255	320
<b>Isolated ground conductor</b>					
100% Earth cross sectional area (mm <sup>2</sup> )	122	122	210	255	320
<b>Housing ground path</b>					
Cross sectional area of 4 bar system (mm <sup>2</sup> )	1761	1761	1761	2222	2222
Cross sectional area of 5 bar system (mm <sup>2</sup> )	2025	2025	2025	2543	2543
<b>Overall dimensions</b>					
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
<b>Weight</b>					
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
<b>Resistance (R)</b>					
Resistance (mΩ/ft) @ 20°C	0.161	0.167	0.096	0.89	0.065
<b>Reactance (X)</b>					
Reactance (mΩ/ft) at 50Hz	0.131	0.114	0.088	0.094	0.089
<b>Impedance (Z)</b>					
Impedance (mΩ/ft) @ 20°C at 50 Hz	0.208	0.202	0.13	0.129	0.11
<b>Voltage drop at full load 60Hz</b>					
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

<b>Rated current (A)</b>	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
<b>Short circuit</b>							
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	
<b>Phase conductor</b>							
Cross sectional area (mm <sup>2</sup> )	222	222	222	352	806	806	1125.6
<b>Neutral conductor</b>							
Cross sectional area (mm <sup>2</sup> )	222	222	222	352	806	806	1125.6
<b>Isolated ground conductor</b>							
100% Earth cross sectional area (mm <sup>2</sup> )	222	222	222	352	806	806	1125.6
<b>Housing ground path</b>							
Cross sectional area of 4 bar system (mm <sup>2</sup> )	1014	1014	1014	1073	2939	2939	3493
Cross sectional area of 5 bar system (mm <sup>2</sup> )	1151	1151	1151	1210	3341	3341	3971
<b>Overall dimensions</b>							
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
<b>Weight</b>							
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
<b>Resistance (R)</b>							
Resistance (mΩ/ft) @ 20°C	0.165	0.165	0.165	0.101	0.05	0.05	0.037
<b>Reactance (X)</b>							
Reactance (mΩ/ft) at 50Hz	0.087	0.098	0.105	0.081	0.062	0.063	0.049
<b>Impedance (Z)</b>							
Impedance (mΩ/ft) @ 20°C at 50 Hz	0.187	0.192	0.196	0.129	0.08	0.08	0.062
<b>Voltage drop at full load 60Hz</b>							
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

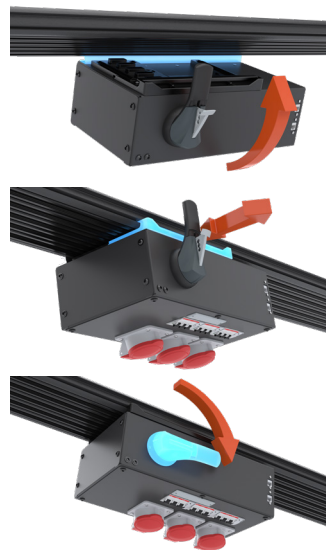
\*Additional information for 1600A and 2500A to be added



## Tap-off boxes

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 boxes interlock onto the busway with a ground strip. This maintains that the ground is the first point of contact with the busway system during installation.
2. The mechanical interlock secures the box 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.



Vertiv™ PowerBar Track tap-off boxes- single stack

### 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 busway 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.
- 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 busway. The opening is finger safe meeting a rating of IP2X.



Vertiv™ PowerBar Track tap-off boxes- double stack



Vertiv™ PowerBar Track joint pack- double stack

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## Scale smarter, power further

Vertiv™ PowerBar Track is a key component of scalable power distribution for high-density deployments. It integrates seamlessly with Vertiv™ racks, power, cooling, and control systems to deliver safe, efficient, and flexible power, enabling high-density AI workloads with reliability and adaptability.

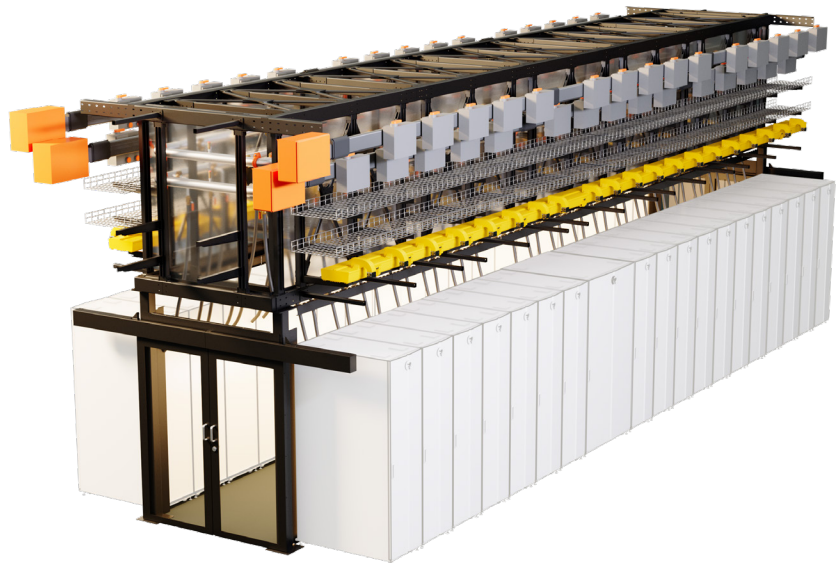
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### Unified intelligence

The [Vertiv™ Unify](#) software solution simplifies data center operations by consolidating power, thermal, and building management systems into a single unified interface, reducing complexity and risk while enhancing visibility and control across the entire critical infrastructure chain. It offers seamless integration with Vertiv™ PowerBar Track to provide advanced metering which lets the user monitor, integrate display and real-time power data within the data center and allows users to measure the total load of the busway and tap-off boxes.

### Modular prefabricated infrastructure system

[Vertiv™ SmartRun](#) is a prefabricated overhead IT infrastructure system designed for end-to-end speed and simplicity. It integrates high-density power distribution, liquid cooling, networking and containment infrastructure in an all-in-one deliverable platform.



Vertiv™ SmartRun

## Rack-level flexibility

### Vertiv™ Racks

Vertiv PowerBar Track delivers overhead modular power exactly where racks are deployed. Combined with [Vertiv™ Racks](#) optimized for airflow, density, and accessibility, this allows for fast reconfiguration, simplified expansion, and continued growth.



## High-density cooling synergy

### Vertiv™ CoolChip CDU

Vertiv™ PowerBar Track scales power as rack densities grow, while [Vertiv CoolChip CDU](#) enables higher compute performance for AI and HPC environments, delivering efficient and reliable cooling capacity for effective heat removal at the chip.

### Rear door heat exchangers

Pairing Vertiv PowerBar Track and rear door heat exchangers delivers reliable power and cooling, with the rear door enabling a room-neutral cooling solution that supports high density environments without requiring entire data hall redesigns.

## End-to-end power path

### Vertiv™ PowerBoard Switchgear

[Vertiv™ PowerBoard Switchgear](#) provides centralized protection, isolation, and control of incoming power. Vertiv™ PowerBar Track distributes power overhead with modular flexibility, creating a safe, scalable, and space-efficient architecture from source to rack.

### Vertiv™ Trinergy™ UPS

[Vertiv™ Trinergy™](#) provides high-efficiency, resilient power protection, while Vertiv PowerBar Track delivers that conditioned power dynamically across the data hall, enabling expansion without infrastructure rework. modular way that can adapt as IT loads change. Together, they support high availability, efficient energy use, and easy expansion without reworking the downstream power infrastructure.

## Unified power distribution for scalable AI infrastructure

Together, Vertiv's power, cooling, monitoring, and infrastructure solutions create a fully integrated ecosystem that supports:



Higher rack densities



Faster deployment



Improved energy efficiency



Seamless scalability

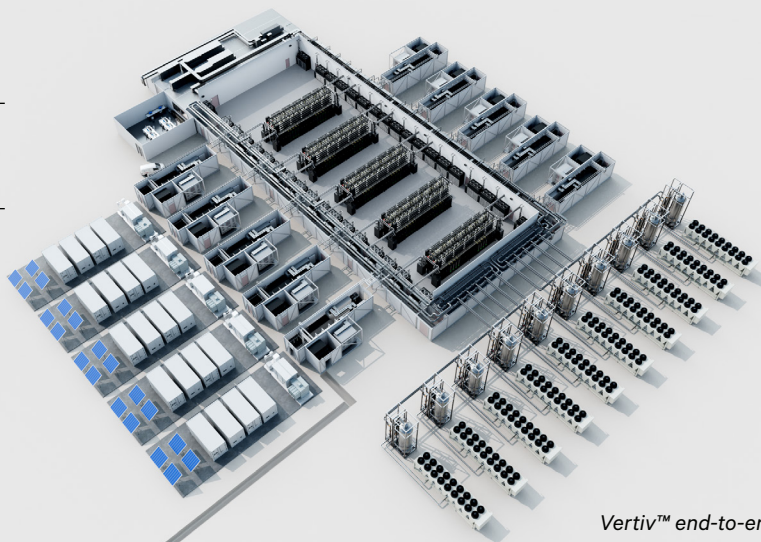


Mission-critical reliability

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Access complete power.

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