



PowerWave[®] 2 busway system

The next generation of flexible power distribution

The PowerWave[®] 2 Busway System provides a vastly flexible, simple-to-install, highly configurable intelligent overhead power busway distribution system with the safest features for the data center market. The PowerWave 2 Busway System gives customers an easy to use and highly reliable overhead power busway distribution system for mission-critical facilities.



Powering Business Worldwide

Flexibility

Configurability

Simplicity

Intelligence

Safety

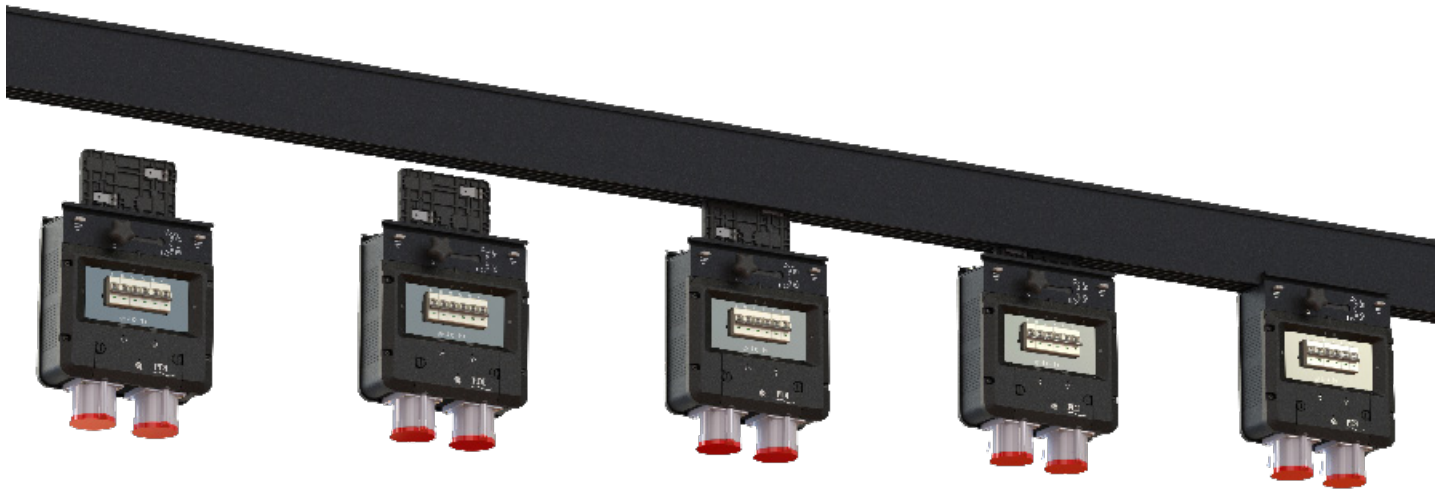
Busway

features and benefits

Flexibility

Continuous open channel design

The PowerWave 2 Busway System was designed as a continuous open channel power distribution busway that allows tap off box units to be placed anywhere along the bus rails.



Infinite layout options

The PowerWave 2 Busway System can be deployed using custom lengths for rails, 90° elbows, or 90° & 180° tees allowing you to fit PowerWave 2 into many different configurations of mission-critical facility layouts.

Various mounting styles

The PowerWave 2 Busway System can be oriented vertically or horizontally to fit over rack or underfloor power distribution space constraints.



Configurability

Multi-range ampacity busrails

The PowerWave 2 Busway System can be deployed in 250-, 400-, 600-, 800- and 1000 Amp systems to fit a wide range of your power loads. Multiple range ampacity busrails gives you the ability to provide power to mission-critical equipment without deploying expensive infrastructure that may never be used. Your ability to meet mission-critical power loads with proper-sized equipment reduces the total expense to the customer for their specific power distribution equipment.

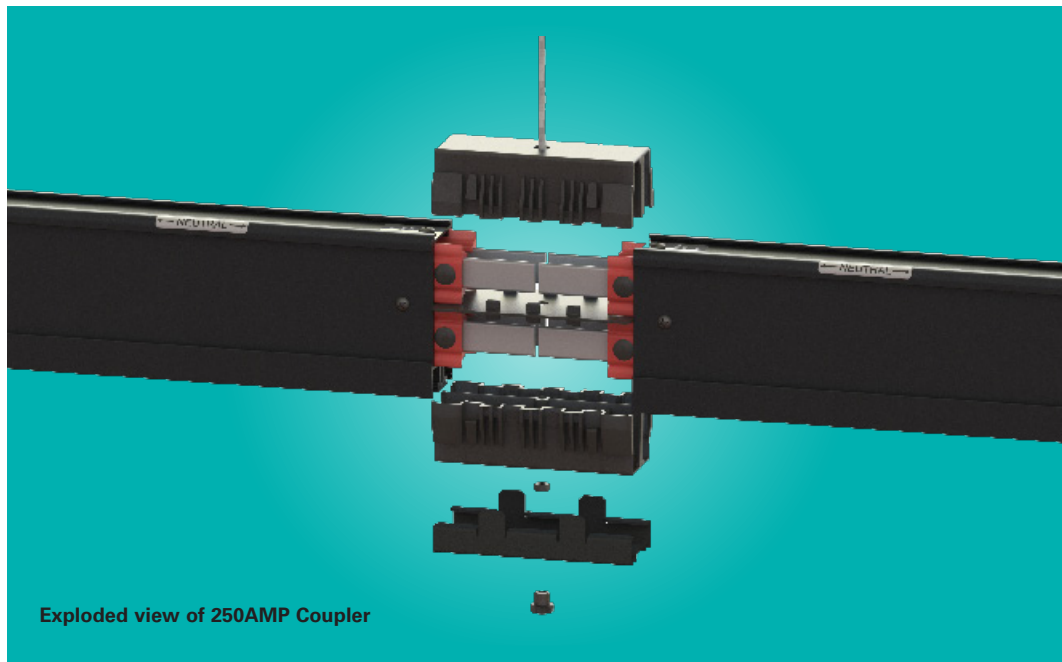
Simplicity

Easy to install coupler

The PowerWave 2 Coupler has been simplified to make deployment easy and fast for contractors using only standard installation tools. The Coupler is installed after the bus rails have been hung ensuring the minimum amount of lifting force required to install the PowerWave 2 Busway System. The Coupler installs in a short amount of time using only a Phillips head screwdriver and an allen wrench. These features reduce time and increase safety during installation of the PowerWave 2 Busway System.

Installation ease

System installations can be completed quickly and easily. The rugged, yet lightweight ToughRail Technology® system design allows for easy handling and installation with up to 60 percent savings in time and labor over competitive cable and conduit solutions. Visual indicators effectively support the secure installation of the busway system and the hangers are engineered to work with standard Unistrut® Channel Nuts.



Ampacity busrails

to meet your exact mission-critical power needs

250A

400A

600A

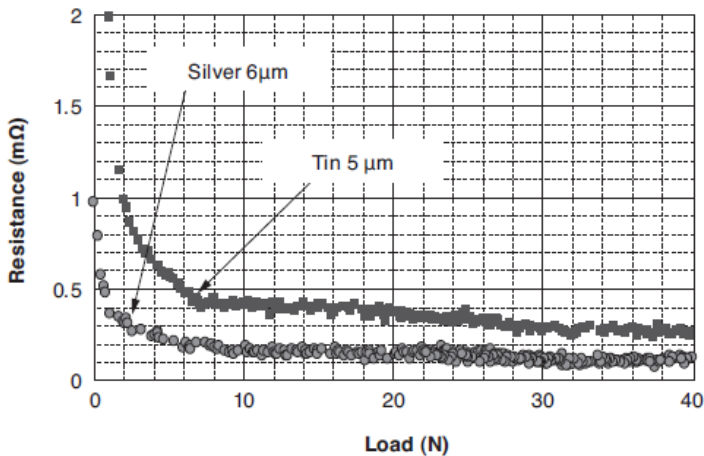
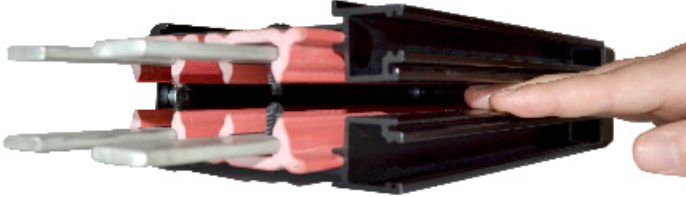
800A

1000A

Safety

Finger safe busrails

PowerWave 2 Busway features an IP2X, finger-safe rated continuous busway solution ensuring complete isolation from live busrail conductors. The aluminum housing prevents any form of contact with live conductors ensuring safety of installers during installation and removal of tap off box units from live busrails. PowerWave 2 Busway ensures safety for the installer as well as maintaining power to mission-critical loads.



Highest quality components

The PowerWave 2 Busway System has been designed with quality and reliability at the forefront. Every conductor and contact point throughout the PowerWave 2 Busway system are plated using a process originally developed for military application. The original Mil standard silver plating process has been adapted for civilian use as an ASME standard used by the PowerWave 2 Busway System. ASME standard silver plating achieves half of the contact resistance as industry standard tin plating. The reduction in contact resistance lowers heat build-up within the PowerWave 2 Busway system thus decreasing temperature variability at contact points and achieving the maximum reliability for mission-critical busway power distribution on the market.

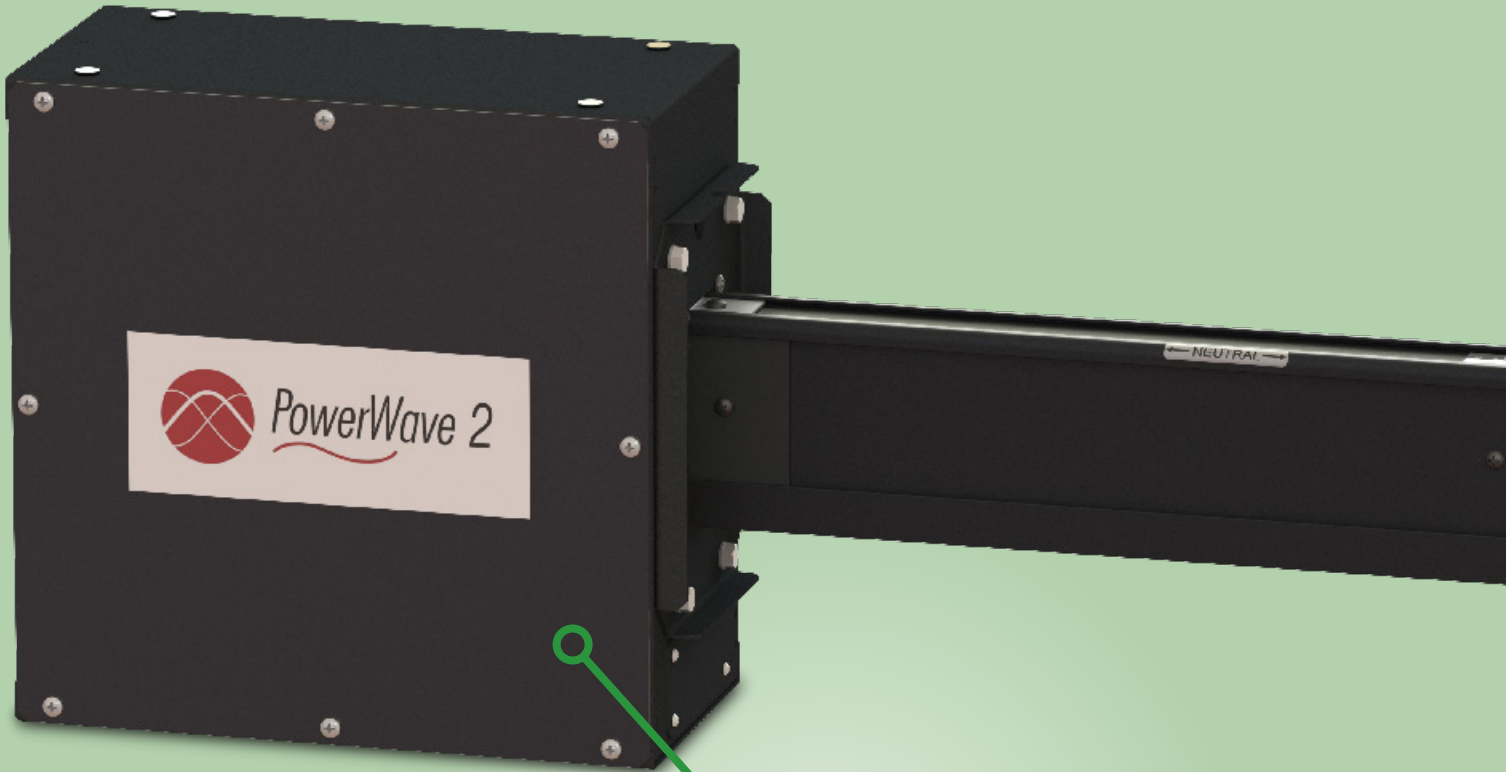
60°C

ETL tested
and qualified

Maximum ambient operating temperature

The PowerWave 2 Busway System has been designed to achieve the lowest operating temperature increase in the industry. UL requirements state that a power busway system must not increase temperature while operating above 55°C. The PowerWave 2 Busway System nearly cuts this in half by providing rated ampacity power at a maximum 35°C temperature rise. The lower operating temperature of the PowerWave 2 Busway System ensures maximum quality from lower fluctuation in temperature or the ability to operate in an ambient temperature of 60°C with ETL approval, the highest ambient operating temperature in the industry.

* 250 & 400A systems Monitoring qualified to 40°C circuit breakers require derating



Eaton busway end-feed



Intelligence

End-feed power monitoring

Eaton's busway end-feed monitoring allows for the proactive management of power usage and availability. Power data includes phase current, voltage L-L, voltage L-N, frequency, crest factor, total harmonic distortion, power (kW, kVA, kVAR), power factor, energy consumption (kWh), per end-feed. Also included is the ability to set threshold alarms for maximum or minimum values for each feature. Standard Protocols of modbus RTU, modbus TCP/IP, and SNMP protocols can be output to deliver power data to building management systems or DCIM software, capable of providing power monitoring data to remote locations.

Quick connect tap off box features

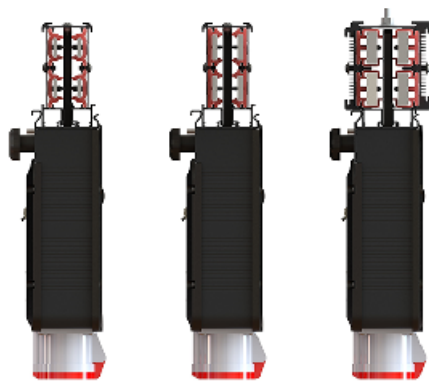
Flexibility

Quick connect tap off boxes

The PowerWave 2 Busway System Quick Connect tap off box units can fit any size busrail in the product line giving you unlimited use of where the Quick Connect tap off box units may be installed.

Smallest keep out area in industry

The PowerWave 2 Busway System introduces our patented CouplerTek Technology™ with the smallest coupler in the industry giving the maximum amount of real estate and the smallest keep out area to install the PowerWave 2 Quick Connect tap off box units into the busrails.



Configurability

Configurable Quick Connect tap off box units

PowerWave 2 Quick Connect tap off box units boast 128 amps maximum per phase, offering over 1,000 different configurations for customers' specific server rack power distribution needs.

Simplicity

Simple, tool less installation

The PowerWave 2 Quick Connect tap off box units have been designed to make installation simple, fast, and safe without the need of any tools.

Intelligence

Branch circuit monitoring system

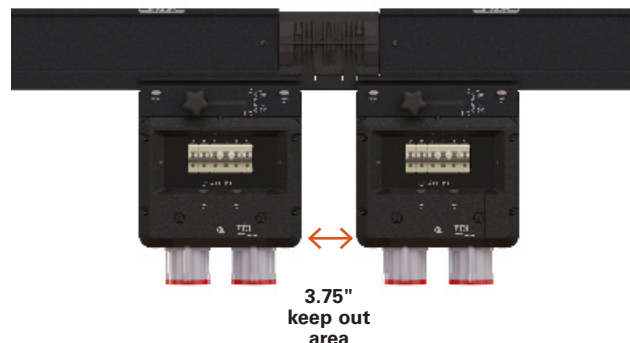
PowerWave 2 Quick Connect tap off box branch circuit monitoring allows for proactive power usage and availability management to ensure power needs do not surpass capacity of individual Quick Connect tap off boxes.

Revenue grade monitoring

PowerWave 2 Quick Connect tap off box branch circuit monitoring is capable of delivering accurate and precise monitoring data in accordance with revenue grade monitoring standards.

Monitor status indicating lights

The PowerWave 2 Quick Connect tap off box provides technicians with easy to view status indicating lights to provide breaker position and meter status indication.



Quick connect tap off box safety

Safety

ETL approved live Quick Connect TOB installation

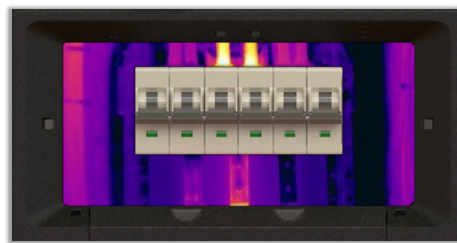
PowerWave 2 Quick Connect tap off box installation makes ground connection first ensuring no risk of electrical shock to a technician. The Quick Connect tap off box installation has been ETL listed for live installation and removal without powering down.

Low voltage monitoring compartment

PowerWave 2 Quick Connect tap off box branch circuit monitoring solution provides low voltage compartmentalization for safe maintenance access.

Infrared scanning window

The Quick Connect tap off box has an integrated IR scanning window built into the front of the unit for safe and easy temperature measurement of branch circuit breaker connections.



IR scanning window*



* Simulation rendering, results may vary.

Technical specifications:

Ratings

Input / output	3-phase, 4-wire plus ground. Optional isolated or dedicated ground
Ampacity	250A, 400A, 600A, 800A, 1000A
Voltage	600VAC maximum
Frequency	50 Hz / 60 Hz
Neutral rating:	100% or 150% neutral
Tap off box rating:	128 Amps maximum per phase
Protection	IP2X finger-safe
Short circuit ratings	<ul style="list-style-type: none">• 250A: 42 kA @ 120/208VAC, 35 kA @ 277/480VAC, 22 kA @ 347/600VAC• 400A: 42 kA @ 120/208VAC, 35 kA @ 277/480VAC, 22 kA @ 347/600VAC• 600A: 42 kA up to 600 VAC• 800A: 42 kA up to 600VAC• 1000A: 42 kA up to 600VAC
Voltage drop:	2V per 100 ft. [30.5 m]

Safety standards

ETL certified to UL 857, CSA C22.2 No. 27, and IEC 60439-2 standards

Mounting options

ETL certified to UL 857, CSA C22.2 No. 27, and IEC 60439-2 standards

Operating conditions

Storage temperature	-67° to +185°F (-55° to +85°C)
Operating temperature	+32° to 104°F (0° to 40°C)
Audible noise	≤ 45dBA
Relative humidity	0% to 95% non-condensing
Operating altitude	Up to 6,600 ft. (2,000m)

BCMS monitoring

Monitor	QTY 2 circuits with 3P+N
Communications	Serial RS-485 Modbus® RTU; Modbus® TCP/IP or SNMP communications
Indicator	Breaker status indicator lights
Display	BCMS Hub (10.4 in Touchscreen); 240 devices

Testing

PowerWave® 2 Busway System shall be factory tested before shipment. Testing shall include:	<ul style="list-style-type: none">• Hi-Pot test at 2X the unit's rated voltage plus 1000 volts per UL60950• Receptacle or connector and breaker configuration• Phase wiring/ connectivity test• Ground fault path test
--	---

System weight

250A busway	6.8 lb/ft.
400A busway	9.6 lb/ft.
600A busway	12.6 lb/ft.
800A busway	19.4 lb/ft.
1000A busway	24.2 lb/ft.

Service and support

After your equipment has been installed, call on the Eaton service team, at 1.800.225.4838, for 24/7 support. With four decades of mission-critical power experience and seasoned factory-trained service staff, Eaton can maximize the benefit of your equipment investment.

For more information, please visit:
Eaton.com/busway

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

© 2021 Eaton
All Rights Reserved
Printed in USA
Publication No. BR0155038EN / GG
April 2021

EATON
Powering Business Worldwide

Eaton is a registered trademark.
All other trademarks are property of their respective owners.

Follow us on social media to get the latest product and support information.

