

Critical Power from GE

Zenith™ Series DPB Distributed Power Busway

Key Solutions for
Datacenter Overhead
Power Distribution

Generation 2



GE Series DPB Gen 2 Bus System

Flexible. Robust. Efficient.

Specifically designed for the mission critical power market, the Series DPB Gen 2 Bus System is a rugged yet flexible, easy to install, highly efficient, modular busway for the safe and reliable distribution of power. The Series DPB Gen 2 Bus System incorporates several design features including integrated communications capability, new and improved Coupler and robust Busrails.

With many years serving data and processing centers as well as banking and industrial markets, GE has gained an unmatched level of expertise in developing reliable products for critical power facilities. From preliminary concept to final installation, GE critical application solutions simplify system installation, improve flexibility and increase operational efficiencies.

Flexibility

Server loads can be plugged in almost anywhere along the busway. Through Tap-Off Boxes, the exact circuit breaker capacity and cable or receptacle type can be specified at any location along the Busrail, simply by plugging the correct Tap-Off Box into the Busrail. Tap-Off Boxes are highly configurable to meet load demands and specific requirements including our Branch Circuit Monitoring System (BCMS). Series DPB Gen 2 Bus System leads the industry with a keep-out area ranging from zero to a maximum 3.75 inches (9.53cm) for 250A and 400A and 4 inches (10.16cm) to 9 inches (22.86cm) for 800A at each joint along the Busrail.

Configurability

The continuous rail design allows circuits to be added and changed as needed without extensive electrical work. The unique Coupler enables Busrails to be assembled and then dis-assembled to support easy reconfiguration options.

Traceability

Overhead power distribution effectively maximizes the use of space and increases traceability of circuits.

Disruption-Free Upgrades and Additions

The Series DPB Gen 2 Bus System allows for equipment upgrades and additions on live systems.

Energy Efficiency

The open channel bus design eliminates energy-wasting hot spots commonly found in electrical cable congestion points. It reduces resistance and minimizes voltage drops as well as power losses, which in turn decrease heat generation.

Electrical Robustness

In order to run and manage ultra efficient data centers you need busway engineered with mission critical facilities in mind. That's why the Series DPB Gen 2 Bus System is tested and qualified for 60 degree C ambient environments (250A & 400A).

Structural Robustness

Designed with GE's unique Coupler Technology as well as the robust Busrails, the Series DPB Gen 2 Bus System consistently passes load capacity tests of up to 200 percent of its maximum rating.

Environmental Friendliness

The Series DPB Gen 2 Bus System is made of 99 percent recyclable components.

Safety

The components of the Series DPB Gen 2 Bus System are flame-retardant and comply with all industry standards to eliminate toxicity in case of a fire.

Integrated Communications Capabilities

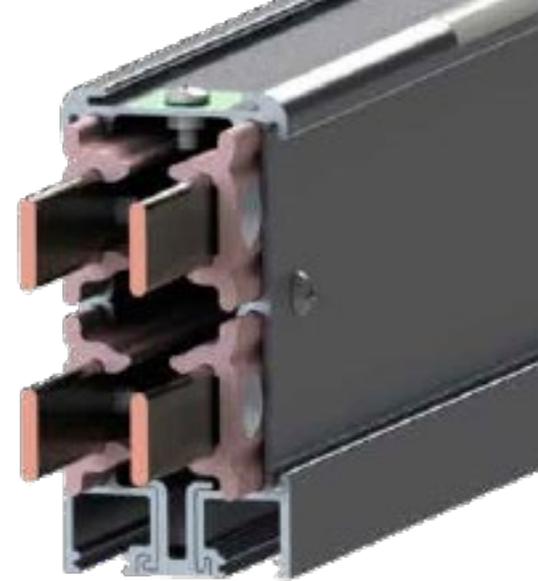
Optional Branch Circuit Monitoring System (BCMS) integration enables advanced power monitoring without additional footprint. Multiple local display options include BCMS Hub and 7-inch Local Display. BCMS can also integrate into Building Management Systems (BMS) or Data Center Infrastructure Management (DCIM) systems through MODBUS®.



GE Series DPB Gen 2 Rail Technology

Rail Technology and Construction

GE Series DPB Gen 2 Rail Technology has a unique, inherently safe, yet open and accessible design that meets the IP2X - fingersafe safety standards. Tap Off Boxes can be located anywhere on the run, reducing cabling and conduit runs, improving functionality and aesthetics of the system as well as maximizing the server installation area. Oversized bus bars provide superior voltage drop characteristics. The extruded aluminum housing comes as a solid, one-piece design without welds and bolts to reduce weight, improve the ground path and enhance stability and strength while minimizing electromagnetic interferences.



Installation Ease

System installations can be completed quickly and easily. The rugged, yet lightweight Rail 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.

Configuration Options

The continuous plug-in style rail is rated at 250–800 Amp with plated copper conductors and contacts. The Rail Technology system is available in the following configurations:

- Three-pole and four-pole.
- Optional 150% fully rated neutral.
- Optional 100% rated isolated ground.
- Black and silver anodized finish.
- Optional custom finish colors available.

Integrated Communications

GE Series DPB Gen 2 Bus System integrates power and communications in a single run simplifying installation. Optional Branch Circuit Monitoring System (BCMS) integration enables advanced power monitoring without additional footprint.

Thermal Performance

The insulation used in the busway system is rated to 150°C and certified to UL 94VO – flammability rating. The insulation wraps around each bus bar giving perfect separation from phase-to-phase and phase-to-ground while enhancing the short circuit rating. These high performance materials enable the Bus System to be tested and qualified for 60 degree C ambient environments (250A & 400A)*.

Plating

To improve system conductivity the Series DPB Gen 2 Bus System features highly-conductive, corrosion-resistant, nickel-plated copper bus bars. The resulting improvement in overall surface contact reduces resistance and decreases corrosion in high humidity environments.

Integral Ground Path

The GE Series DPB Gen 2 Rail Technology incorporates an integral ground system, a feature of its extruded, one-piece aluminum housing. By utilizing the housing design for the grounding system, we ensure a path to ground, improve the capacity, and encase the complete system.

Short Circuit Strength

The unique design for low voltage distribution from 250– 800 Amp of the Rail Technology system achieves an AIC rating for unprotected bus at up to 42,000 RMS symmetrical.

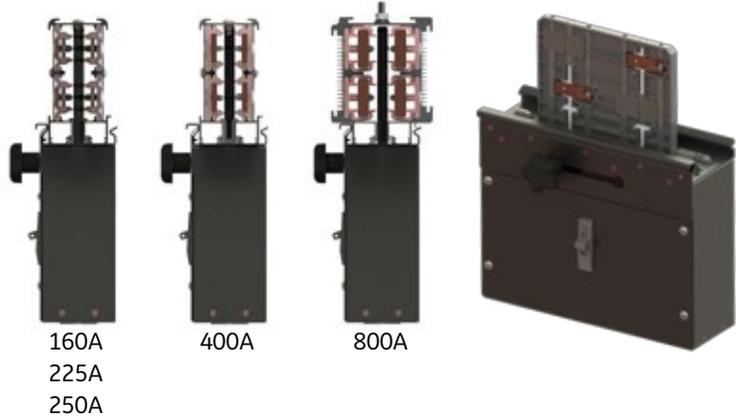
Voltage Drop

GE Series DPB Gen 2 Rail Technology features one of the lowest voltage drop ratings in the industry. Low resistance is a key design criterion for power quality equipment in critical power and data markets.

GE Series DPB Gen 2 Universal Tap Off Box

One Size Does Fit All

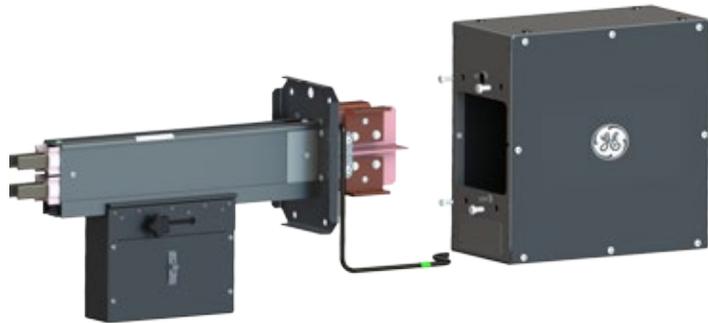
Flexibility is key to managing current and future mission critical facilities. You shouldn't have to buy different sized Tap -Off Boxes for different ampacity rated Busrails. GE's Bus System has standardized Tap-Off Boxes so that they fit all past and future sized systems.



GE Series DPB Gen 2 End Feeds

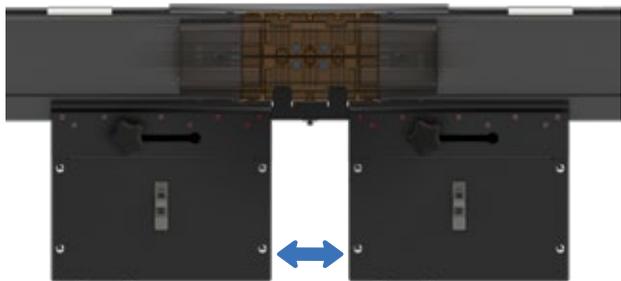
Flexibility in Design

End Feeds are available in Compact, Standard and Modular variations. All End Feed designs allows you to hang the Busrail with or without the inclusion of the End Feed. Once your run is positioned, simply slide the End Feed box on the rail, support with threaded rod and run power connections.



Improved Coupler Technology By the Numbers

↓ 50% reduction in width* **↑ 100%** increase in contact points**



Industry Leading
3.75" Keep Out Area

* When comparing 250A Splice to 250A Coupler.
** Keep-Out area ranges from zero to 3.75 inches for 250-400A and 4 to 9 inches for 800A.

Industry Leading
Tap Off Box Density



GE Series DPB Gen 2 Coupler

Coupler Technology and Construction

The improved modular connection has been reduced in size by 50% while doubling contact points when compared to our original splice design. This method assures a secure, thermally efficient maintenance-free connection that is tested and qualified for 60 degree C ambient environments (250A & 400A). This new Coupler also minimizes resistance and voltage drops across each connection.

Compact Design

The GE Series DPB Gen 2 Bus System can be mounted horizontally or vertically allowing for installation into very tight areas. The Coupler enables industry leading Tap-Off Box density by minimizing keep-out area at Busrail joints.

No Special Tools Required

The Coupler Technology simplifies installation. With the use of standard tools you are able to connect the two halves of the Coupler together, install the grounding bar, and secure the covers. The new installation procedure allows the installing contractor to reduce the installation time of the busway by up to 60%.

Efficient Configurability

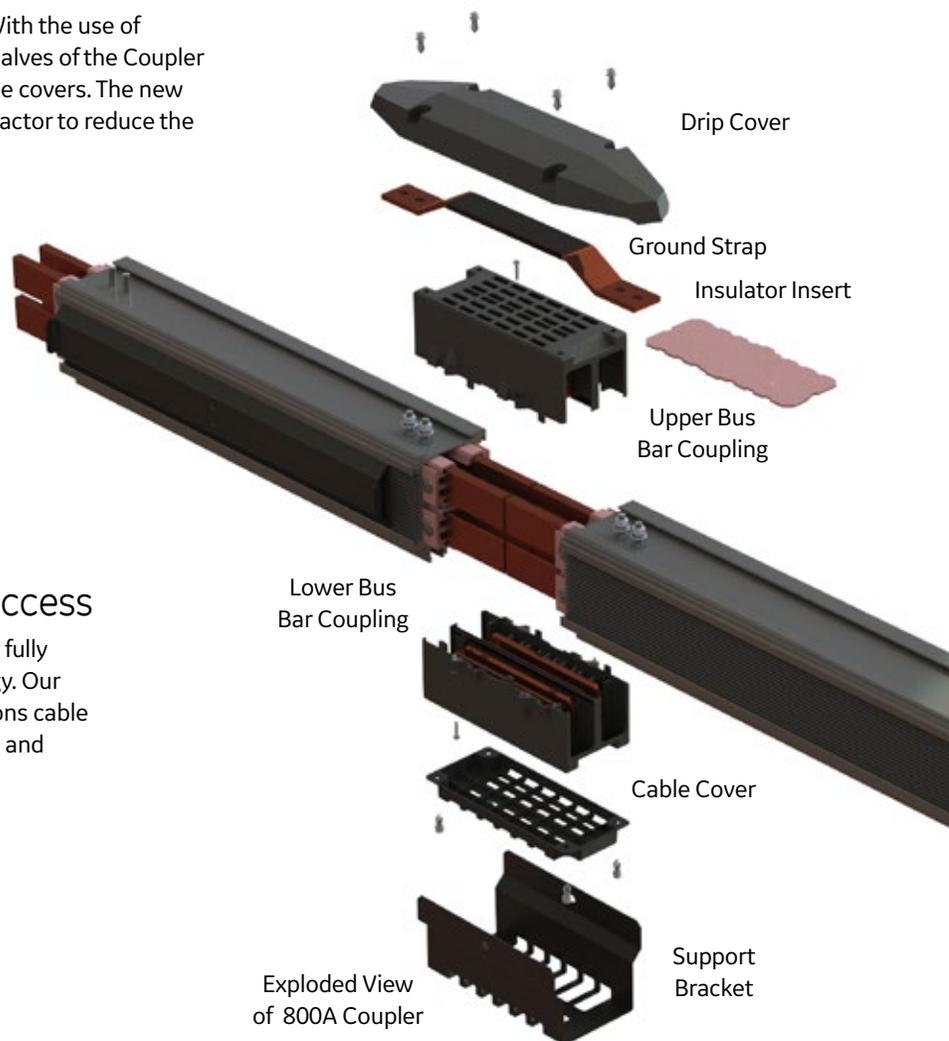
The Coupler Technology is engineered for Busrail to Busrail and Busrail to End Feed connections minimizing the number of components needed during installation. This simple and efficient design allows for flexibility and configuration in the field.

Integrated Communications Access

GE's Branch Circuit Monitoring System (BCMS) is fully integrated into our one-piece Bus Rail Technology. Our Coupler supports and secures the communications cable connection within a support plate providing safe and secure access for installation and maintenance.



Coupler Section View



Exploded View of 800A Coupler

GE Series DPB Gen 2 Branch Circuit Monitoring System

The GE Series DPB Gen 2 Bus System integrates power and communications in a single run simplifying installation. Optional Branch Circuit Monitoring System (BCMS) integration is available for both power monitoring at the End Feed connections and individual Tap-Off Boxes. This power monitoring data can be viewed through local displays or integrated into Building Management Systems (BMS) or Data Center Infrastructure Management (DCIM) systems through MODBUS® RTU, MODBUS® TCP/IP and SNMP communication protocols.

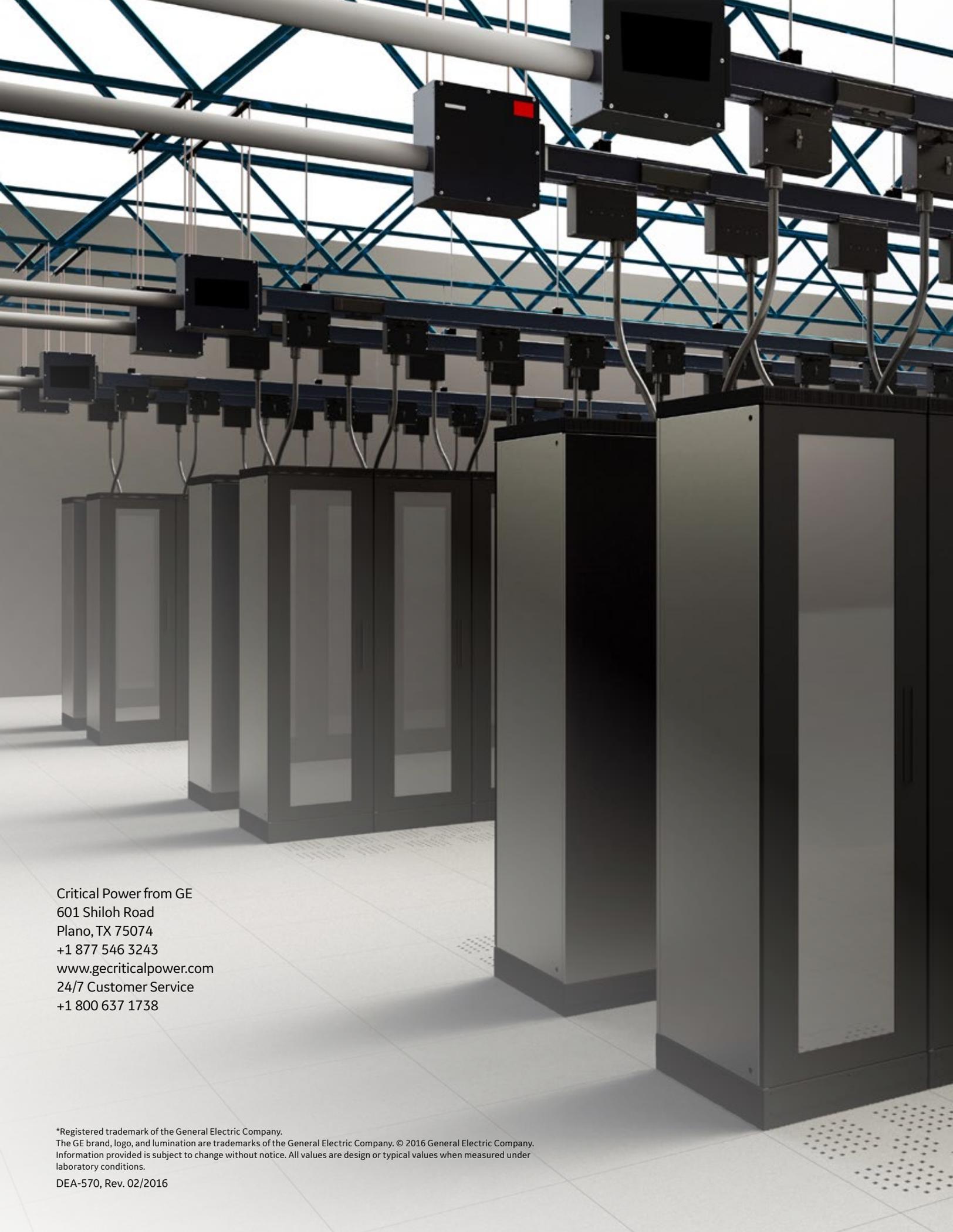


MONITORING	DPB BUS SYSTEM NOTATIONS	SYSTEM CAPABILITIES	
		7-INCH LOCAL DISPLAY	BCMS HUB
End Feeds	Number of End Feeds that can be addressed.	Up to 6	Variable
Tap-off Boxes	Number of Tap-Off Boxes that can be addressed.	Up to 15 per End Feed	Variable
Total Devices	Total number of addressable devices.	96	240
Display Size	Diagonal measurement of display.	7" Touchscreen	10.4" Touchscreen

GE Series DPB Gen2 Specifications

SPECIFICATIONS	DPB BUS SYSTEM ITEM DESCRIPTION	SYSTEM RATINGS		
Ampacity System	Three specific design options with the most common ampacity.	160, 225, 250	400	800
Protection	Finger-safe indoor rated systems.	IP2X		
Rated Voltage	Operating voltages.	120 - 600V		
Rated Short Circuit Withstand Capacity	Tested and rated up to 600V and 42 kAIC depending on amperage.	42 kAIC up to 208VAC 35 kAIC up to 480VAC 22 kAIC up to 600VAC	42 kAIC up to 208VAC 35 kAIC up to 480VAC 22 kAIC up to 600VAC	42kAIC up to 600VAC
Conductor Type	All conductors and contact points are plated copper.	CU		
Frequency Rating	International / North America	50/60 Hz		
Testing Criteria	ETL certified to UL rating for busway systems.	UL 857		
IEC Rated	ETL certified to IEC rating for busway systems.	60439.2		
CAN/CSA Rated	ETL certified to CAN/CSA rating for busway systems.	C22.2 No. 27		
Thermal Rating	Ambient ETL Certification.	60 degree C	60 degree C	40 degree C
Keep Out Area - Min/Max	Width of unusable busrail at Coupler joint.	0" / 3.75"	0" / 3.75"	4" / 9"
System Weight	Straight sections only.	6.8lbs/ft. 10.1kg/m	9.6lbs/ft. 14.3kg/m	19.4lbs/ft. 28.9kg/m

COMPONENT LIBRARY	DPB BUS SYSTEM ITEM DESCRIPTION	SYSTEM RATINGS		
		160, 225, 250	400	800
Straight Lengths	Overall length of rail section.	max. 12ft./ 3.66m		
Elbows	Elbows come standard with consistently aligned neutral phasing, cross neutral phasing is available on request.	Neutral Inside Neutral Outside Neutral Cross		Neutral Inside Neutral Outside
End Feed	End Feeds are used to bring power to the bus system and available in Compact, Modular, Standard.	Compact Standard Modular	Standard Modular	Modular
Hangers	Hangers are for universal mounting with various support hardware, including Unistrut® Channel Nuts.	Top Rail Mount Side Rail Mount		
Tap-Off Boxes	Tap-Off Boxes can be mounted at any position along the busrail. Tap-Off Boxes are configurable with many variations of breakers, receptacles, and corded connections available.	Up to 12 Poles 120Amp Six-Pole Monitoring Capability		
Monitoring Communications	A dedicated communication channel for BCMS within the busway enclosure enables monitoring for each Tap-Off Box.	Yes (optional) Maximum 30 Tap-Off Boxes per End Feed		



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DEA-570, Rev. 02/2016