DATASHEET

Edge Distributed Power Architecture

Your Bottom Line. Transformed

Description

The OmniOn Edge Distributed Power Architecture product family provides you ultimate in power conversion efficiency eliminating the need for excess equipment and single points of failure in your office. By delivering 480vac directly to the frame and battery storage local to your load equipment, the Edge is the most reliable DC data centre solution yet.

In a data center, power efficiency and density are crucial. Imagine the ability to achieve significantly increased processing capability from modern high-density servers for just a small increase in power consumption. The impact could be significant in terms of efficiency and operating power costs.

Overview

Our Edge distributed data center power architecture helps achieve just that. The power architecture is able to meet the demands of today's (and future) data centers by providing high power density in a modular solution that can grow with a data centers' computing needs.

Factor in the reduced number of power conversion steps this power architecture uses – and the associated improvements in power efficiency it provides – and you have a single solution capable of helping you reduce your data center power costs, improve white space utilization, and transform your bottom line.

Key Features

The highly-reliable Edge distributed data center power architecture provides a cost-effective solution to backup power needs in data centers by utilizing compact DC power supplies mounted inside – on the side (vertically) – of each frame outside of the equipment space. Each power train is fed from a three -phase, 480-volts AC source and converts the power to 48-volts DC inside the enclosure for maintaining battery reserve (which is also housed in the system). With the Edge power architecture, rectifiers and batteries are hot-swappable and self-configure.

Advantages

- Power Density Increase
- CapEx & OpEx Reduction
- Execution Speed
- Simplified Maintenance
- Increased Safety & Reliability
- Dual AC Inputs
- 380/400/415/480 V_{AC}
- Pulsar Edge controller with integrated management system
- Intelligent Rectifier and Battery Modules
- Hot pluggable & hot swappable modules
- Digital load sharing
- Configurable local distribution
- Fully RoHS 10 compliant
- UL and CE marked for world deployment

Technical Specifications

Specifications

The Edge Distributed Power Architecture offers a configurable power conversion solution at the load equipment to maximize power availability and density. The following specification are generic and not specific to a single solution. It should be noted that the overall capacities, distribution options, and plant configurations are changeable in the event they are needed.

	MIN	TYPICAL	MAX
Voltage Range			
• High-Line	320V_{AC}	480V_{AC}	530V_{AC}
• Low-Line	176V_{AC}	208V_{AC}	275V_{AC}
Frequency	47Hz	60Hz	66Hz
Power Factor	98%	99.5%	99.8%
Total Harmonic Distortion	5%Input		

Output	
Nominal Voltage	-48V_{dc}
Output Rating	1000A (48kWmax for Bay)
Vo Setpoint (Factory)	-54.5V_{dc}±1%
Vo Range	-42V_{dc} to -58V_{dc}
Regulation	±0.05%

Mechanical		
	7 FOOT BAY	**8 FOOT BAY**
Height (in./mm)	84 / 2134 with 44RU Equipment Space	97.8 / 2483 with 52RU Equipment Space
Width (in./mm)	29.8 / 756 Enclosure with standard 19 IN mounting rails	
Depth (in./mm) No Door	44 / 1118 without doors; 47.5 / 1207 with doors	
Depth (in./mm) No Door	47.5 / 1207; Door swing requires 30.2 / 767	
***Weight (Lb/Kg)**	742 / 337 Base Cabinet in 3x3 N+N configuration	825 / 374 Base Cabinet in 3x2 N+N configuration

* Weight is for base cabinet only. It does not include: rectifiers, batteries, distribution modules, doors or customer equipment

Environmental	
Operating Temperature	-40°C to +40°C (-40°F to 104°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.656°C /100M; 4000Mpeak temperature rating is 62°C
Safety And Standards Compliance	
NEBS	Evaluated by independent NRTL test lab to Telcordia GR63-CORE & GR1089-CORE Issue 6 [Level 3]
Safety	UL ANSI/UL* 62368-1 and CAN/CSA+ C22.2 No. 62368-1 Recognized, DIN VDE 0868-1/A11:2017 (EN62368-1:2014/A11:2017)
RoHS	Compliant to RoHS Directive 2011/65/EU and amended Directive (EU) 2015/863.
EMC	European Directive 2014/30/EU; EN55032, Class A; EN55035; FCC, Class A; GR1089-CORE Issue 6
Agency Certifications	
CSA / UL	UL ANSI/UL* 62368-1 and CAN/CSA+ C22.2 No. 62368-1 Recognized, DIN VDE 0868-1/A11:2017 (EN62368-1:2014/A11:2017)
EMI/EMC	European Directive 2014/30/EU; EN55032 (CISPR22) Class A; EN55035 (CISPR24)
NEBS Level 3	GR-1089-CORE, Issue 7, December 2017; GR-63-CORE, Issue 5, December 2017 (24kW/440A N+N; 48KW/880A N configuration with additional 1523Lbs of load equipment)

Change History (excludes grammar & clarifications)

Revision	Date	Description of the change
1.3	12-11-2021	Updated as per template
1.4	10-19-2023	Updated as per OmniOn template
1.5	01-04-2024	Update to change FS to DS

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