

Features

- Constant Power rectifiers
- Wide AC input operating range (90V to 300Vac)
- Full Power from 176Vac to 300Vac, disconnects above 300Vac, No damage guaranteed up to 500Vac (Line to Neutral) for battery floated application
- Linearly de-rated Power from 175Vac to 90Vac
- Operating temp. range (-10°C to +70°C), Full power up to +50°C, de-rated power up to +70°C
- Hot Swappable Rectifiers
- Feature rich Digital controller with Back lit LCD and keypad
- Provision for extension of 10 office alarms
- Energy management of rectifiers i.e. sleep mode to isolate rectifiers based on load conditions
- RS232 asynchronous port – T1.317 or EasyView
- Provision to terminate up to 2 battery strings



Options

- Enhanced Surge protection with Class C SPD (Nominal discharge current- 20kA, 8/20 μsec waveform, Protection level- 1.5kV)
- Integrated 10/100BaseT Ethernet interface – TCP/IP, FTP, Telnet, HTTP, SMTP support

Description

The EP48015 DC Power System is an extremely flexible power system designed for applications where space conservation is critical. These power systems provide power ranging from 3kW to 9kW in a single cabinet. These DC Power Systems were designed to provide continuous, highly regulated and reliable -48V DC with all the necessary components contained in a single cabinet. These Power Systems are equipped with Pulsar controller, an advanced controller designed to fit the needs of Telecom and Wireless power systems. For the specifications of the EP Rectifier and the controller please refer to following individual datasheets:

- EP3000AC48 PDS. PDF
- Pluto Plus Datasheet. PDF
- I-Combo controller.PDF

EP48 series DC power system (-48V, 3 kW to 9kW)

Models: EP48015-2R/ EP48015-3R

Electrical Specifications

AC Input

Parameter	
Input connectivity	1Ø, 2-wire (1 phase with Neutral)
Operating Input Voltage range (Phase to Neutral)	1. Full power for the input voltage window of 176-300VAC 2. Linearly de-rated power for the input voltage window of 175-90VAC. Refer "DC Output Power and current" tables below for further details. 3. The rectifier will shut down above 300Vac on the higher side and 80 to 90Vac on the lower side. 4. The guaranteed No damage continuous voltage range is 0-500Vac for battery floated application.
Input Frequency Range	45Hz - 65Hz
Enhanced surge protection (Optional item)	1Ø Class C SPD (Nominal discharge current- 20kA, 8/20 µsec waveform, Protection level- 1.5kV)

DC Output voltage

Parameter	
System Nominal Voltage	-48Vdc
Operating Voltage Range – Float	-42Vdc to -56.5Vdc (default setting at 54.0V)
Operating Voltage Range – Boost	-48Vdc to -58Vdc (default setting at 55.2V)

DC Output power and current

Model Nos.	Provision for maximum no. of rectifiers	Output power in kW ($V_{in} > 176V_{ac}$)	Maximum Output current in A @ 48V ($V_{in} > 176V_{ac}$)	Output power in kW (V_{in} at 130Vac)	Maximum Output current in A @ 48V (V_{in} at 130Vac)	Output power in kW (V_{in} at 90Vac)	Maximum Output current in A @ 48V (V_{in} at 90Vac)
EP48015-1R	1	3.0	63	2.1	44	1.3	28
EP48015-2R	2	6.0	125	4.2	88	2.6	55
EP48015-3R	3	9.0	188	6.3	131	4.0	83

Environmental Specifications

Parameter	
Operating ambient temperature range	-5°C to +50°C Full power +50°C to +70°C With 2.4% / °C power de-rating above 50°C. (for EP3000AC48 rectifier)
Operating Relative Humidity Range	5% to 95% non-condensing

Note: As a result of continuous product improvement, all specifications are subject to change without prior notice. All performance parameters are valid at Nominal input and output conditions unless otherwise specified.

EP48 series DC power system (-48V, 3 kW to 9kW)

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Cable Entry and Termination Specifications

Parameter	
Input cable entry	From rear
Input cable termination	Directly on screw type terminal block (Max. cable size – 16 Sq.mm)
Earthing cable termination	1 x M6 threaded inserts suitable for lugged cable termination on the body of the cabinet (Max. cable size – 16 Sq.mm)
Load cable entry	From rear
Load cable termination	screw type terminal block suitable for pin type lugged cable termination (Max. cable size – 16 Sq.mm)
Battery cable entry	From rear
Battery cable termination	Directly on screw type terminal block (Max. cable size – 16 Sq.mm)
Thermal compensation cable entry	From rear
Alarm cable entry	From rear
Alarm/Thermal cable termination	Screw type terminal block suitable for 0.5-1.5 Sq. mm cable size

Mechanical Specifications

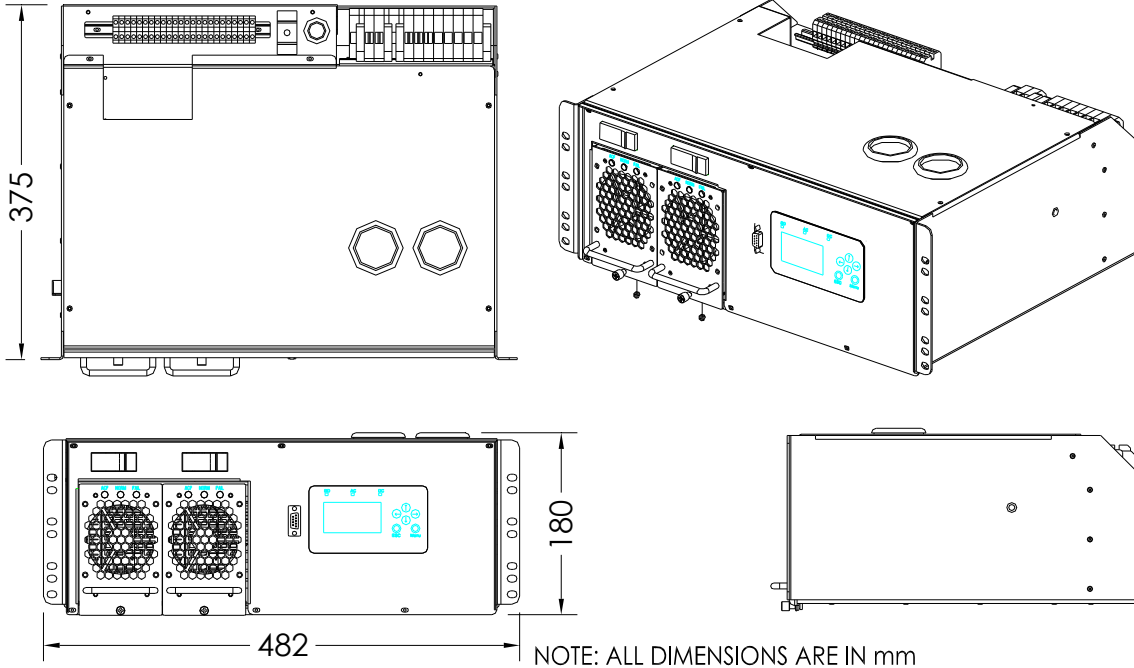
Parameter	
Height (H)	178 mm (4U)
Width (L)	483 mm (19")
Depth (D)	375 mm
Weight (without rectifiers)	15 kg Approx.
Weight (with 3 rectifiers)	25 kg Approx.
Mounting	19" rack mount

EP48 series DC power system (-48V, 3 kW to 9kW)

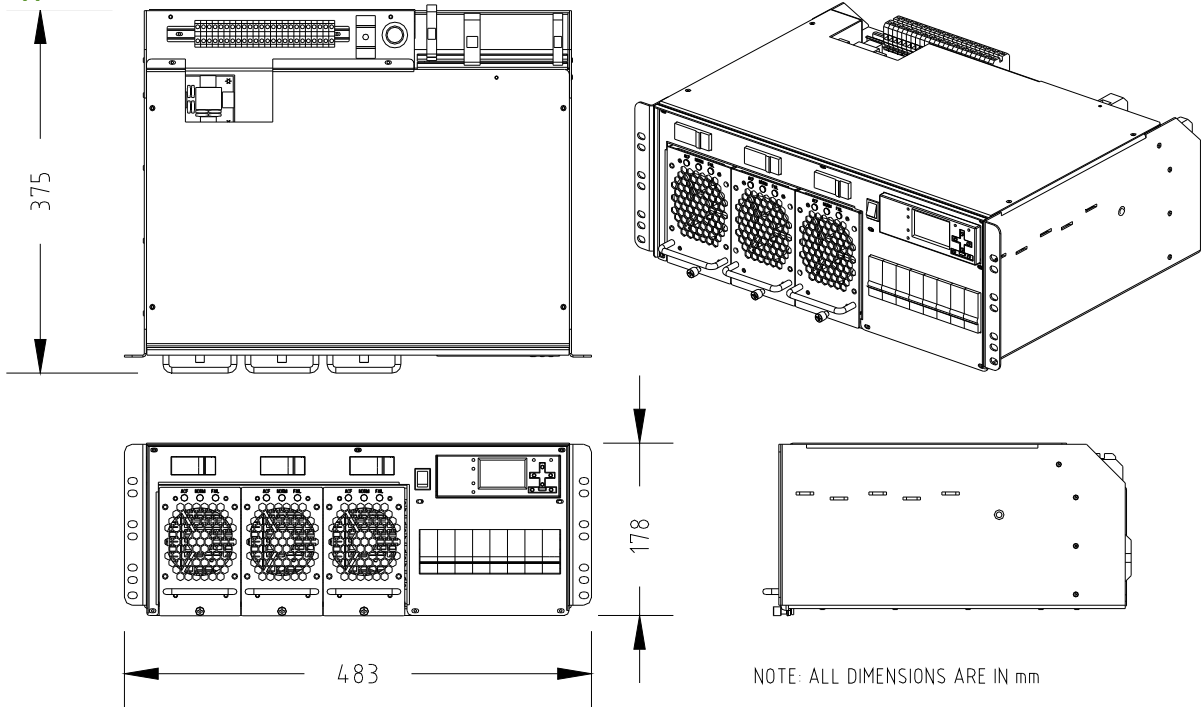
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Mechanical Outline

Type-1



Type-2



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Feature Description

Maximum Design Efficiency

The EP48015 series DC Power system has exceptional power density. Incremental, cost-effective system growth is made possible through convenient front-access design and lightweight modular components. In addition, using a single set of components over a wide range of applications reduces training, parts inventory, and management.

Simplified Engineering, Installation and Maintenance

The EP48015 series DC Power system eliminates the need for pre-system engineering and testing associated with piece-part assembly and minimizes need for costly power cables and connectors. These DC Power systems are designed to provide you with easy installation and minimal maintenance. Every building block within the Power system is designed to the highest quality and reliability standards. By adding remote monitoring and configuration management to your system, EP48015 series DC Power system will provide you with fault indication and general performance data; valuable input to assist in reducing service intervals and when planning for future expansion.

Automated System Setup

For automated installation and set up, the controller and rectifiers communicate via a digital interface. A newly added power module automatically identifies itself to the controller by transmitting its type and serial number, and the controller then sets the output voltage to the pre-established value. The digital interface automates the installation and setup process and eliminates the need to use potentiometers to separately set the output voltage or balance current sharing. Should communications with the controller be lost, each power module will continue to function at the latest programmed values.

The EP48015 series DC Power system is designed for continuous operation and in-service upgrades, allowing system components including rectifiers, load distribution MCBs/fuses to be added in the field without interrupting service.

Single Point Controller

The standard offering is the Pulsar Plus controller, which can be conveniently mounted on the door. The controller offers a plethora of features including digital interface and control to all power modules. Sophisticated battery monitoring, testing and recharge control are standard features with all Lineage digital controllers. All features are accessible via the local control / display panel and remotely through RS485/Ethernet port.

Controller Features

- Slope thermal compensation mode voltage control
- Battery recharge current limit
- Real time reserve time prediction
- Load / Battery disconnect contactor control
- 6 office alarm programmable relays
- 6 Auxiliary input alarms (options)
- Alarm test function
- Remote / Local Access
- Secure access – Multiple security levels
- Configurable alarm severity and relay assignments
- System Statistics Time/Date stamped
- System History Time/Date stamped
- Ethernet network interface - TCP/IP, FTP (Optional)
- TELNET, SMTP (optional)

Available System Configuration

Parameter		
Ultimate capacity of the system	6 kW , 125A @ 48V (with 2 x EP3000AC48 rectifiers) 9 kW , 187.5A @ 48V (with 3 x EP3000AC48 rectifiers)	
Rectifier	48V, 62.5A, 3000W Rectifier (Model- EP3000AC48)	
Controller	I-Combo controller , Pluto plus controller	
AC Distribution	Main Incomer	1Ø TBs
	Individual MCB for each rectifier	1 Pole MCB for each rectifier, No. of MCBs equipped as per Ultimate capacity of the System
	Surge Protection Device (SPD)	G111: Nil (Not required) G112: 1Ø Phase Class-C
Battery Distribution	Common Low Voltage Battery disconnect (LVBD) options for isolation of all battery strings	G200: Nil (Not required) G201: 1 x 100A G202: 1 x 125A
	Battery shunt options	G210: Nil (Not required) G211: Common shunt for two battery strings
	Battery fuse options	G210: Nil (Not required) G211: 2 x 6A~63A, 1pole MCB
Load distribution	Load MCBs combinations (Priority Loads only i.e. PL)	G310: 6 x 6A~63A, 1pole

Ordering Information -

Please contact your Lineage Powers' Sales Representative for pricing, lead-time/availability of the listed model nos. and incase of any customized requirement.



LINEAGE POWER®

India Headquarters (Bangalore)

Lineage Power Private Ltd.

#186/3, Khata No.-117, Hoody Village,
Mahadevapura Post, Whitefield Road,
Bangalore- 560 048

Tel: +91 80 28411633 – 640 Fax: +91 80 28411641

Email: sales@Lineagepowersystems.com

www.Lineagepowersystems.com

Customer support Help line (For Post-Sales support)

Toll free No.: 1800-102-1633

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