LINEAGE POWER®

DC power system (-48V, 3kW to 270kW)
Model: EP4848 series DC Power System

Features

- Flexible system options with wired capacity ranging from 3 to 90 rectifiers
- 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 +65°C), Full power up to +45°C, de-rated power up to +65°C
- Hot Swappable Rectifiers
- Feature rich Digital controller with Back lit LCD and keypad
- 6 Binary input alarm
- 10 alarm relays – 7 of which are user assignable
- Configurable alarm severity
- Emergency Power Off (EPO) feature for emergency battery disconnect
- DC Distribution monitoring (up to 24 breakers/fuses)
- Energy management of rectifiers i.e. sleep mode to isolate rectifiers based on load conditions
- Voltage Test Jacks (both voltages)
- RS232 asynchronous port – T1.317 or EasyView
- Advanced Battery monitoring and control functions
  - Slope thermal compensation mode voltage control
  - Recharge current limit control
  - Multiple contactor control
  - Mid string voltage monitoring
  - Thermal monitoring
  - Battery discharge testing and reserve time prediction
- Provision to terminate up to 3 battery strings
- Remote monitoring capability – via Ethernet LAN access
- Local monitoring capability – via Ethernet Craft Port
- Secure access – 3 access security levels
- Extensive Voltage, Current, Temperature, and Binary Input monitoring
- Alarm Test Feature
- System Statistics – Time / Date stamped
- SNMP support
- Digital communications to all system devices
- Web page server
- DHCP server option

Description

The EP4848 series 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 270kW 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 Pluto Plus controller, an advanced controller designed to fit the needs of Telecom and Wireless power systems. For the specifications of the EP Rectifier and Pluto Plus controller please refer to following individual datasheets:

- EP3000AC48TE PDS. PDF
- Pluto Plus Datasheet.PDF

Electrical Specifications

AC Input

Parameter	
Input connectivity	3-phase, 4-wire (3 phases with Neutral) + PE
Operating Input Voltage range (Phase to Neutral)	Full power for the input voltage window of 176-300VAC Linearly de-rated power for the input voltage window of 175-90VAC. Refer "DC Output Power and current" tables below for further details. 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)	3- phase 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} >176Vac)	Maximum Output current in A @ 48V (V_{in}>176Vac)	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)
EP4848-24R	24	72	1,500	50	1,052	31.7	660
EP4848-30R	30	90	1,875	63	1,314	39.6	825
EP4848-48R[1]	48	144	3,000	101	2,103	63.4	1320
EP4848-60R[1]	60	180	3,750	126	2,629	79.2	1650
EP4848-72R[2]	72	216	4,500	151	3,155	95.0	1980
EP4848-90R[2]	90	270	5,625	189	3,943	118.8	2475

[1] Twin Cabinet solutions

[2] Triple Cabinet solutions

Environmental Specifications

Parameter	
Operating ambient temperature range	-5°C to +45°C Full power +45°C to +65°C With 2.4% / °C power de-rating above 45°C.
Operating Relative Humidity Range	5% to 95% non-condensing

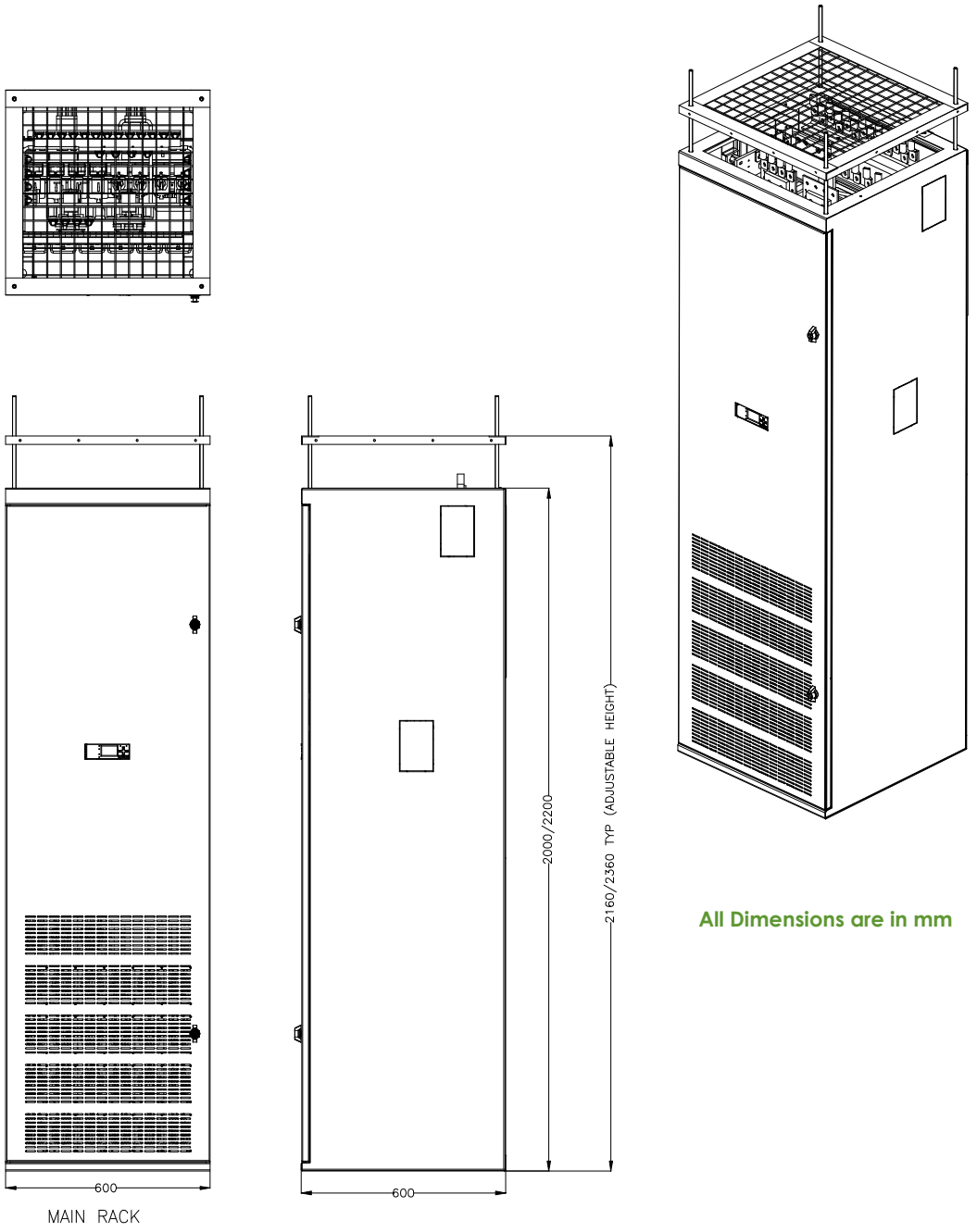
Cable Entry and Termination Specifications

Parameter	
Input cable entry	From top (optional Bottom Entry)
Input cable termination	Directly on Busbar with threaded inserts (Max. cable size – 95Sq.mm per phase per cabinet)
Earthing cable termination	1 x M10 treaded inserts suitable for lugged cable termination on the body of the cabinet (Max. cable size – 120 Sq.mm)
Load cable entry	From top (optional Bottom Entry)
Load cable termination	M10/12 studs/Threaded inserts suitable for lugged cable termination for +ve (Max. cable size – 240 Sq.mm) Directly on Fuse /Busbar with M10/12 studs/Threaded inserts for ring type lugged cable termination for -ve (Max. cable size – 240 Sq.mm)
Battery cable entry	From Top (optional Bottom Entry)
Battery cable termination	1 x M10/12 studs/bolts for each battery polarity, suitable for lugged cable termination (Max. cable size – 240 Sq.mm)
Thermal compensation cable entry	From side/top (optional Bottom Entry)
Alarm cable entry	From side/top (optional Bottom Entry)
Alarm/Thermal cable termination	Screw type terminal block suitable for 0.5-1.5 Sq. mm cable size

Mechanical Specifications

Parameter	
Height (H)	1800mm/2000mm/2200mm
Width (L/W)	600mm
Depth (D)	600 mm
Weight (without rectifiers) per cabinet	180 kg Approx.
Weight (with 24 rectifiers)	250 kg Approx.
Mounting	1) Self standing 2) Optional wire mesh for Top covering

Mechanical Outline



All Dimensions are in mm

Feature Description

Maximum Design Efficiency

The EP4848 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 EP4848 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, EP4848 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 EP4848 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 Pluto Plus controller, which can be conveniently mounted on the door. The Galaxy Pulsar 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 digital controllers. All features are accessible via the local control / display panel.

Controller Features

- Slope thermal compensation mode voltage control
- Battery recharge current limit
- Real time reserve time prediction
- Load / Battery disconnect contactor control
- 10 office alarm programmable relays
- 6 Auxiliary input alarms
- 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 SNMP support
- Digital communications to all system devices
- Web page server
- DHCP server option

Ordering Information -

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

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