

Infinity C™ DC to DC Power System

Models 663-664



- Negative (663) or Positive (664) Output
- Large plant features in a small plant package
- Battery management including discharge test
- Industry leading efficiency of 93%

Overview

The Lineage Power Infinity C introduces a new concept in flexibility, scalability, and functionality in small stand alone shelf power. The Infinity C DC to DC power system can be powered from any readily available DC battery plant and provides reliable, protected power to a variety of load devices. The system's configurable design enables users to tailor power capacity, input feed, and protection devices to fit numerous application spaces.

Input power feed may be 24VDC or 48VDC. Up to 4 slots are available for converters that feed a common output bus. Input power may be bulk fed to all power slots or individually feed to each slot. As many as 6 plug-in or bolt-in CB and 10 GMT positions can be equipped in a single shelf.

Shelf / System Options

A complete system requires only 2U (3.5") of space and mounts in a 19 inch frame or 23 inch frame with expansion brackets.

Each shelf is a complete system including a controller and distribution options.

Infinity Converters

The Infinity C offers DC to DC converters for both +24V to -48V and -48V to +24V applications. Converters are color coded to quickly identify the voltage (orange for +24V and blue for -48V).

Converter Options:

- NE075DC24 Converter, 75A/24V Output
- NE030DC48 Converter, 30A/48V Output

Pulsar Edge Controller

Infinity C features the Pulsar Edge controller delivering large system intelligence in a small system form factor. Ethernet connectivity with SNMP facilitates remote network management.

Benefits

Reliability

- Distributed fault tolerance
- Proven field performance
- Controller continuity

Intelligence

- Industry leading controller features
- Ethernet interface for remote access
- Centralized network management

Investment Protection

- Module Compatibility
- Power Shelf Growth
- Flexible Upgrade Options

On Time Delivery

- 4 – 6 week availability
- 24/7 emergency support
- Standard building blocks

Total Efficiency

The Lineage Power Total Efficiency™ (TE) architecture reduces energy loss and lowers cooling costs by 50-70%. TE products will prioritize sustainable energy sources like solar, wind, water and fuel cells over traditional utility grid or diesel generator sources – and they will intelligently respond to smart grid information to reduce consumption during peak demand periods. Active Rectifier Management (ARM) and Battery Charging Optimization (BCO) features increase efficiency on current and legacy power infrastructures. The Total Efficiency architecture addresses issues end-to-end based on our proven experience and expertise in batteries, power distribution, DC energy systems, AC-DC power supplies, and DC-DC board mounted power to deliver a solution that is more safe, reliable and energy efficient than alternatives from our competitors.

Infinity Converters



- **Compact** - 1RU form factor providing high power density (24 W/in³)
- **Dual Voltage compatibility** – the unique connector pin designation allows the rectifier to be used in a “universal” power shelf, alongside rectifiers or DC-DC converters with different output voltages.
- **Plug and Play** – installation of the rectifier in a shelf connected to a compatible system controller initializes all set up parameters automatically. No adjustments are needed.
- **Extended service life** – parallel operation with automatic load sharing ensures that parallel units are not unduly stressed even when a unit fails or is removed.
- **Monitoring / control** – the built in microprocessor controls and monitors all critical rectifier functions and communicates with the system controller using the built in Galaxy Protocol serial interface.
- **Fail safe performance** – hot insertion capabilities allow for rectifier replacement without system shutdown; soft start and inrush current protection prevent nuisance tripping of upstream breakers.

Applications

- Telecommunications networks
- Digital subscriber line (DSL)
- Indoor/outdoor wireless
- Routers/switches
- Fiber in the loop
- Transmission
- Data networks
- PBX

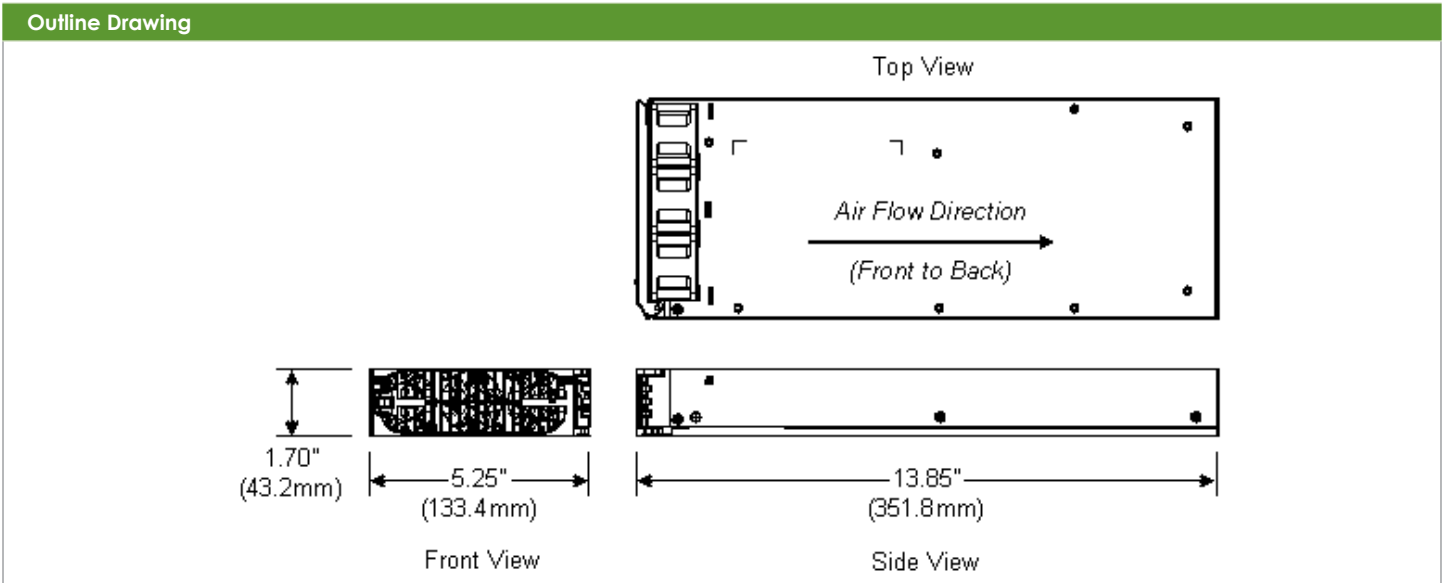
Key Features

- Extended temperature range
- Redundant fan cooling
- Front panel LED indicators
- 1U height, hi power density
- +24 or -48V input
- Digital load sharing
- Hot pluggable
- RoHS compliant

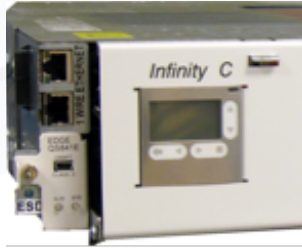
Specifications

Input	NE030DC48	NE075DC24
Voltage Range	21-30Vdc	42-60Vdc
Input Current	63A @27Vdc 81A @21Vdc	41A @54.5Vdc 54A @42Vdc
Efficiency	92%	93%
Output		
Voltage Adjust Range	46-57Vdc	23-28Vdc
Voltage Nominal	52.0V	27.2V
Regulation (with controller)	±0.5%	±0.5%
Ripple	100mVrms	100mVrms
Psophometric Noise	2 mV	2 mV
Output Current	30A @52.0V	75A @27.2V
Heat Dissipation @ max out	154W / 525 BTU/hr	202W / 689 BTU/hr

Environmental	
Operating Temperature	-40°C to +65°C (-40 to 149°F)
Storage Temperature	-40°C to +85°C (-40 to 185°F)
Humidity	< 95% non-condensing
Altitude	2000M max
Mechanical	
Length (inch/mm)	10.94 / 277.9
Width (inch/mm)	2.51 / 63.8
Height (inch/mm)	7.97 / 202.4
Weight (lb/Kg)	5.6 / 2.54
Safety and Standards Compliance	
NEBs	Evaluated by independent NRTL test lab to Telcordia GR63, Issue 3 & GR 1089, Issue 5
Safety	UL 60950-1, 2nd Ed. Recognized CSA C22.2 No. 60950-1-03 Certified
RoHS	Compliant to RoHS EU Directive 2002/95/EC; RoHS 5/6
EMC	European Directive 2004/108/EC; EN55022, Class A; EN55024; FCC, Class A; GR1089-CORE, Issue 5



Pulsar Edge Controller



The Pulsar Edge controller delivers large system intelligence in a small system form factor. This family of controllers functions as a network interface controller (NIC) and as a full-featured battery plant controller to the Infinity C platform. Its thin modular plug-in form factor minimizes shelf space consumption allowing

maximum power module and distribution capabilities yet provides nearly all the features found in controllers used in much larger power systems.

The Pulsar Edge controller is utilized in bulk power applications in data centers and enterprise applications. Ethernet connectivity with SNMP facilitates remote network management access through its front-accessible RS232 or USB port and is aided by the EasyView2 graphical user interface.

As a battery plant controller, it provides a complete set of features to monitor and control converters, batteries, and distribution. A flexible set of configurable inputs allow the Pulsar Edge to monitor

a wide variety of system equipment and incorporate appropriate state information enabling a centralized point of management.

The controller utilizes standard network management protocols allowing for advanced network supervision. Lineage Power Galaxy Manager™ software is the centralized visibility and control component of a comprehensive power management system designed to meet engineering, operations, and maintenance needs. The Galaxy Manager client-server architecture enables remote access to system controllers across the power network.

Applications

- Enterprise Networks - Voice, Data, PoE
- Telecommunications networks

- Transmission equipment
- Fiber in the loop

- Routers/switches
- Data networks

Key Features

Remote Access and Features

- Integrated 10/100Base-T Ethernet Network
 - TCP/IP
 - SNMP V2c for management
 - SMTP for email
 - Telnet for command line interface
 - DHCP for plug-n-play
 - FTP for rapid backup and upgrades
 - HTTP for standard web pages and browsers
 - Compatible with Galaxy Manager and other management packages
 - Shielded RJ-45 interface referenced to chassis ground
- Password protected security levels: User, Super-User, Administrator for all access
- Ground-referenced RS232 system port
- ANSI T1.317 command-line interface
- Modem access support
 - Remote via external modem
 - Callback security
- EasyView2, Windows-based GUI software for local terminal or Modem access

Standard System Features

- Monitor and control of more than 40 connected devices
 - Maximum of 32 rectifiers
 - Maximum of 6 distribution control cards
 - Robust RS485 system bus
- Standard and user defined alarms
 - Alarm test
 - Assignable alarm severity: Critical, Major, Minor, Warning, and record-only
- Rectifier management features
 - Automatic rectifier restart
 - Active Rectifier Management (energy efficiency)
 - Remote rectifier (on/off)
 - Reserve Operation
 - Automatic rectifier sequence control
 - N + X redundancy check
- Multiple Low Voltage Load and Low Voltage Battery Disconnect thresholds
- Configuration, statistics, and history
 - All stored in non-volatile memory
 - Remote/local backup and restore of configuration data
- Industry standard defaults
 - Customer specific configurations available
- Remote/ local software upgrade
- Basic, busy hour, and trend statistics
- Detailed event history
- User defined events and derived channels

Standard Battery Management Features

- Float/boost mode control
 - Manual boost
 - Manual timed boost locally, T1.317, and remotely initiated
 - Auto boost terminated by time or current
- Battery discharge testing
 - Manual (local/remote)
 - Periodic
 - Plant Battery Test (PBT) input driven
 - Configurable threshold or 20% algorithm
 - Graphical discharge data
 - Rectifiers on-line during test
- Slope thermal compensation
 - High temperature
 - Low temperature
 - Step temperature
 - STC Enable/Disable, low temperature Enable/Disable
 - Configurable mV/°C slopes
- State of charge indication
- High temperature disconnect setting
- Reserve-time prediction
- Recharge current limit
- Emergency Power-Off input

Specifications

General	
Operating Voltage	±24 Vdc, ±48 Vdc (Range: ±18 to ±60 Vdc)
Input Power	Less than 7W
Operating Temperature Range	-40°C to +70°C (-40 to 156°F)
Operating Relative Humidity	0 - 95% (non-condensing)
Storage Temperature Range	-40°C to +85°C (-40 to 185°F)
Physical Specifications	1.75" H x 0.75" W x 8.00" D; 0.5lb
Display	8-line by 40-character backlit LCD

Safety and Standards Compliance	
NEBs	Evaluated by independent NRTL test lab to Telcordia GR63 and GR1089-CORE, Issue 5
Safety	CSA C22.2 No. 60950-1-03 Certified for Canada and U.S.; UL60950-1 1st Ed.
RoHS	Compliant to RoHS EU Directive 2002/95/EC RoHS 5/6
EMC	European Directive 2004/108/EC; EN55022, Class A, EN55024; FCC, Class A; GR1089-CORE, Issue 5

Agency Certifications	
NEBs Level 3	GR1089-CORE, Issue 5
EMC	FCC and EN 55022, Class A
Safety	UL Unlisted Component as Part of CPL or SPS Power System

Management Visibility

Galaxy Manager™ software is the centralized visibility and control component of a comprehensive power management system designed to meet engineering, operations and maintenance needs. The Galaxy Manager client-server architecture enables remote access to system controllers across the power network.

- Dashboard display with one-click access to management information database
- Trend analysis
- Scheduled or on demand reports
- Fault, configuration, asset, and performance management

Service & Support

Lineage Power field service and support personnel are trusted advisors to our customers – always available to answer questions and help with any project, large or small. Our certified professional services team consists of experts in every aspect of power conversion with the resources and experience to handle large turnkey projects along with custom approaches to complex challenges. Proven systems engineering and installation best practices are designed to safely deliver results that exceed our customers' expectations.

Distributed By:



201 Frontage Rd N, Suite A
Pacific, WA 98047

Ph: 253-931-8222 ~ Fax: 253-939-7380

www.batterypowersystems.com

sales@batteypowersystems.com