GE
Critical Power

Line Power System

Remotely Power 48Vdc Network Equipment Over +/-190Vdc Copper Lines

Overview

The Line Power Systems is designed to remotely power -48Vdc network equipment reliably using +/- 190Vdc over existing copper lines deployed between central offices and remote outside plant (OSP) cabinets. New voice, video and data subscriber services can be delivered over fiber optic lines, while the legacy copper lines already deployed in the ground are used to leverage the central office battery backup and generator power sources in the event of an electrical utility grid outage. Applications include triple-play infrastructure, wireless network distributed antenna systems, and FTTN/FTTH fiber infrastructure.

The Line Power Systems modular architecture provides both upstream and downstream converters. Upstream converter shelves are available for both central office applications and OSP cabinets. Upstream power converters take -48Vdc input and convert to +/- 190Vdc output power for distribution over twisted pair copper lines with appropriate input current limits and hold-over. Downstream converter shelves are available for 650 Watt and 1300 Watt applications. Downstream power converters take +/- 190Vdc input over twisted pair copper and convert to -48Vdc to power remote network equipment. This provides power distribution with battery back-up maintained at a central location to avoid costs of deploying and maintaining remote battery strings at OSP cabinet or customer premise locations.

Shelf / Bay Options

Upstream shelves occupy two rack units (2RU) in a frame with a 23 inch wide shelf for 16 upstream converters, 19 inch wide shelf for 12 upstream converters, or a 6 inch shelf for 4 upstream converters. Downstream 1RU shelves are available in 10.75 inch width for 10 downstream converters or 6 inch width for 5 downstream converters. Fan tray options are available for each shelf configuration.

System Scale

The GE upstream converter system can be deployed with two converter shelves and a redundant fan shelf for OSP cabinets. Three converter shelves and a redundant fan shelf can be deployed in central office applications.

Upstream and Downstream Converters

The QS982A upstream converter module delivers two circuits of +/- 190Vdc power. Each circuit is 100VA limited. The QS882A downstream converter module receives two circuits of +/-190Vdc power and delivers up to 65 Watts of -48Vdc power.

Controller

The 23 inch upstream system utilizes the QS941A controller and the 19 inch upstream system utilizes the QS841E controller. The controllers include a display and local access port, and a LAN interface that can be local or network enabled. A single controller can manage up to 24 converter shelves.

Advantages

- Hardened for extreme environments
- Central Office and OSP cabinet deployment
- Upstream and downstream modular architecture
- High density power

Line Power System

Applications

- OSP Cabinets
- DSL Equipment
- Customer Premise
- DAS Powering
- Fiber to the node (FTTN)
- Fiber to the home (FTTH)

Key Features

- Extended temperature range
- Redundant fan cooling
- Front panel LED indicators
- 2U/1U height, minimized depth
- Hot pluggable
- RoHS compliant

Specifications

IEEE/IETF/NEBS STANDARDS AND PROTOCOLS

UL listed. UL60950-1, UL60950-21. Compliant to Telcordia GR-63 Zone 4, all floors. NEBS level 3 Certified. FCC-ClassA, GR-1089.

ENVIRONMENTAL

The Line Power System is temperature hardened for continuous operation from -40˚C to +75˚C (with appropriate airflow) and relative humidity of 0-95% non-condensing.

MECHANICAL

Upstream shelves are 2RU height with available 23 inch rack mount, 19 inch rack mount, and a 6 inch sub-rack option. Downstream shelves are 1RU height with available 10.75 inch and 6 inch sub-rack options for remote cabinet applications. Shelf depth is maintained at 12 inch or less for universal deployments including OSP cabinet applications.

Upstream Converter Shelves for Central Sites with Utility AC Power and Battery Backup

Rack-mount Converter Shelves and Redundant Fan Tray

The Line Power System upstream shelves are available in both Central Office (QS912A) and Outside Plant Cabinet (QS9010) configurations for 23 inch applications and QS912F for 19 inch applications. Each shelf supports up to sixteen (23") / twelve (19") QS982A -48Vdc to +/-190Vdc converters. This equates to thirty-two (23") / twenty-four (19") +/-190Vdc 100VA limited line power circuits which are interfaced through AMP/Champ RJ-21 connectors on the left side of the shelf. These units will operate from -40˚C to +65˚C with 175 linear feet per minute of airflow and up to +75˚C with redundant fan shelves and thermal confirmation testing. Airflow is provided by redundant fan trays which also house a system controller for alarms and status information. Up to 24 converter shelves can be managed by a single controller.

QS912C 4-slot Converter Shelf

The QS912C upstream converter shelf is designed to support up to four QS982A -48Vdc to +/-190Vdc converters. Each shelf can deliver 8 +/-190Vdc 100VA limited line power circuits onto an 8 twisted copper pairs. The outputs are interfaced through an AMP/Champ RJ-21 connector for easy access. These units are designed for outside plant cabinet deployment and will operate from -40˚C up to +65˚C with 150 linear feet per minute of airflow. Airflow can be provided by cabinet heat exchangers and or equipment fans / fan trays. An optional QS931C fan tray is available for more local control of airflow and operation at temperatures up to +75˚C.

Upstream Converter Shelves

ORDERING CODE	DESCRIPTION	HEIGHT	WIDTH	DEPTH	WEIGHT
CC109122082	QS912A Converter Shelf	3.5in (88mm)	21.4in (544mm)	12in (305mm)	30lb (13.6kg)
CC109122074	QS930A Redundant Fan Shelf with air filter	3.5in (88mm)	21.4in (544mm)	12in (305mm)	30lb (13.6kg)
CC109132271	QS930A Redundant Fan Shelf without air filter	3.5in (88mm)	21.4in (544mm)	12in (305mm)	30lb (13.6kg)
CC109147740	QS9010 Converter Shelf	3.5in (88mm)	21.4in (544mm)	12in (305mm)	30lb (13.6kg)
CC109146354	QS931A Fan Shelf	3.5in (88mm)	21.4in (544mm)	12in (305mm)	30lb (13.6kg)
150024377	QS912F Converter Shelf	3.5in (88mm)	17.2in (437mm)	12in (305mm)	20lb (9.1kg)
150024378	QS931F Primary Fan Shelf	1.75 (44mm)	17.2in (437mm)	12in (305mm)	5lb (2.27kg)
150024379	QS931F Supplemental Fan Shelf	1.75 (44mm)	17.2in (437mm)	12in (305mm)	5lb (2.27kg)
CC109134912	QS912C Converter Shelf	3.5in (88mm)	12in (305mm)	12in (305mm)	3lb (1.36 kg)
CC109159117	QS931C Fan Shelf	1.188in (31mm)	10.5in (267mm)	11.813in (301mm)	1.65 lb (.75 kg)

Environmental

Operating Temperature (QS982A)	-40˚C to +65˚C (with 175 lfm airflow)
Storage Temperature	-40˚C to +85˚C
Relative Humidity	0 to 95% non-condensing
Altitude	4000m max

Downstream Converter Shelves for Remote Sites without Utility AC Service

QS800A/800B 10-slot Converter Shelves and QS931D Fan Tray

The QS800A/800B downstream converter shelves are designed to support up to ten QS882A +/-190Vdc to -48Vdc converters. Each shelf can convert up to 20 +/-190Vdc line power circuits and deliver up to 1300 Watts of -48Vdc power. These units are designed for outside plant cabinet deployment and will operate up to +75˚C with 175 linear feet per minute of airflow. Airflow must be provided by cabinet heat exchangers and or equipment fans / fan trays. An optional QS931D fan tray is available if needed.

QS800C 5-slot Converter Shelf and QS931C Fan Tray

The QS800C downstream converter shelf is designed to support up to five QS882A +/-190Vdc to -48Vdc converters. Each shelf can convert up to 10 +/-190Vdc line power circuits and deliver up to 650 Watts of -48Vdc power. These units are designed for outside plant cabinet deployment and will operate up to +65˚C with 150 linear feet per minute of airflow and up to +75˚C with 200 linear feet per minute. Airflow can be provided by cabinet heat exchangers and or equipment fans / fan trays. An optional QS931C fan tray is available if needed.

Downstream Converter Shelves

ORDERING CODE	DESCRIPTION	HEIGHT	WIDTH	DEPTH	WEIGHT
108994926	QS800A Converter Shelf	1.75in (44mm)	10.75in (273mm)	12in (305mm)	4.5 lb (2 kg)
CC109139853	QS800B Converter Shelf	1.75in (44mm)	10.5in (267mm)	12in (305mm)	4.5 lb (2 kg)
CC109163275	QS831D Fan Tray	1.188in (31mm)	10.5in (267mm)	11.813in (301mm)	2.2 lb (1 kg)
CC109141702	QS800C Converter Shelf	1.75in (44mm)	6in (305mm)	12in (305mm)	3lb (1.37 kg)
CC109159117	QS831C Fan Tray	1.188in (31mm)	6in (267mm)	11.813in (301mm)	1.65 lb (.75 kg)

Environmental

Operating Temperature (QS982A)	-40˚C to +65˚C (with 150 lfm airflow) Up to +75˚C (with 200 lfm airflow)
Storage Temperature	-40˚C to +85˚C
Relative Humidity	0 to 95% non-condensing
Altitude	4000m max

Line Power System Converter Specifications

QS982A Upstream Converter

The QS982A / QS982ATEZ Upstream Converter modules take a -48Vdc input and delivers two +/-190Vdc 100VA limited outputs. The converters are compliant with RFT-V (Remote Feeding Telecommunications – Voltage Limited Circuit) specification called out in UL-60950-21 for Remote Power Feeding.

Upstream input units require -48Vdc nominal input (-40Vdc to -59Vdc). Each QS982A / QS982ATEZ upstream converter unit takes a maximum of 7A at -40Vdc. Upstream output units provide +/- 190Vdc (+/-188Vdc to +/-192Vdc) nominal output via RJ-21 connected twisted pair copper lines. Each QS982A upstream converter unit has an over-current limit at 0.251A. The QS982ATEZ Upstream Converter is our latest offering with greater than 93% peak efficiency.

QS882A Downstream Converter

The QS882A Downstream Converter module receives two +/- 190Vdc input circuits and delivers -48Vdc to a common output. The converters are specifically designed with input current limit to ensure they do not cause an over-current outage at the upstream converter circuit.

Downstream input units require +/- 190Vdc (+/-188Vdc to +/-192Vdc) nominal input via RJ-21 connected twisted pair copper lines. Each QS882A downstream converter has a maximum input current limit at 0.251A per channel. Downstream output units provide -54.5Vdc (-52Vdc to -54.5Vdc) output via a pluggable connection. Each QS882A downstream converter unit will deliver 65 Watts per channel.

Input

ORDERING CODE	DESCRIPTION	INPUT VOLTAGE	INPUT CURRENT	CURRENT LIMIT
150028565	QS982ATEZ Upstream Converter	-40Vdc to -59Vdc	5.5A	0.251A (output)
108996641	QS982A Upstream Converter	-40Vdc to -59Vdc	5.5A	0.251A (output)
108994918	QS882A Downstream Converter	+/- 190Vdc	0.226A	0.241A (input)

Output

ORDERING CODE	DESCRIPTION	OUTPUT VOLTAGE	OUTPUT POWER
150028565	QS982ATEZ Upstream Converter	+/-188.3Vdc to +/-192.1Vdc	95VA
108996641	QS982A Upstream Converter	+/-188.3Vdc to +/-192.1Vdc	95VA
108994918	QS882A Downstream Converter	-52Vdc to -54.5Vdc	65 Watts

Environmental

Operating Temperature (QS982A)	-40˚C to +65˚C (with 175 lfm airflow) Up to +75˚C (with 200 lfm airflow)
Operating Temperature (QS882A)	-40˚C to +65˚C (with 150 lfm airflow) Up to +75˚C (with 200 lfm airflow)
Storage Temperature	-40˚C to +85˚C
Relative Humidity	0 to 95% non-condensing
Altitude	4000m max

Line Power System Controllers

The Line Power System QS912A/QS9010 23 inch system is compatible with the QS941A and the QS912F 19 inch system is compatible with the QS841E Pulsar Edge controller. The controller resides in the upstream fan shelf and monitors and controls system components including redundant fan trays, converters, and converter shelf alarm cards via multi-drop RS485 digital communications bus. System status, parameters, settings, and alarm thresholds can be viewed and configured from the controller's front panel display or remote monitor ports. Assignment and configuration of alarm inputs and output relays can be performed from a laptop computer connected to a local or Ethernet port, or by remote access through a network connection to the World Wide Web (internet) or your enterprise network (intranet). An optional modem is also available.

The controllers utilize standard network management protocols allowing for advanced network supervision. GE 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-serve architecture enables remote access to system controllers across the power network.

General

Operating Voltage	-48Vdc
Input Power	-Less than 7W
Operating Temperature Range	-40°C to 75°C (-40 to 167°F)
Operating Relative Humidity	0 - 95% (non-condensing)
Storage Temperature Range	-40°C to 85°C (-40 to 185°F)
Physical Specifications	Sizes vary by packaging option
Display	8-line by 40-character with alarm context sensitive backlit LCD
EMC	FCC/EN55022 Class A, CISPR22 Level A

Agency Certifications

Electrostatic Discharge	EN 61000-4-2 level 4
Radiated Emissions	FCC Part 15, Class B EN55022 (CISPR22), Class A
Safety	Underwriters Laboratories (UL) Listed per Subject Letter 1801: Power Distribution Center for Communications Equipment, and cUL Certified (CSA 22.2 950): Safety of Information Technology Equipment, CE mark to Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/E
RoHS	Compliant to RoHS EU Directive 2002/95/EC

Controller Feature Comparison

FEATURE	PULSAR QS941	PULSAR EDGE
Slope Thermal Compensation	Yes	Yes
Office Alarms - Form C Relays	6	5
Binary Input Monitor Channels	2	6
Battery Test / Reserve time prediction	Yes	Yes
Battery Recharge Current Limit	Yes	Yes
Battery Monitoring - Temperature	Yes	Yes
Analog Temp Probes (Direct)	No	No
Battery Monitoring - Mid String Voltage	Yes	Yes
Battery Shunt Monitoring	Yes	Yes
Audible Alarm	No	No
ACO (Audible Alarm Cut Off)	N/A	N/A
Float and Boost Modes	Yes	Yes
Local RS232 Port (T1.317)	Yes	Yes
10/100 Base-T Ethernet Port for LAN	Yes	Yes
DHCP for Local Port Access	Yes	Yes
HTTP Web Server	Yes	Yes
SMTP Alarms by email / pager	Yes	Yes
SNMP v2C Remote Monitoring	Yes	Yes
Telnet / FTP (remote S/W upgrade)	Yes	Yes
Multiple Security level user access	Yes	Yes
RS485 Rectifier / Peripheral Bus	Yes	Yes
Active Rectifier Management (ARM)	Yes	Yes
Optional Modem	Yes	Yes
External Alarm Monitoring	Yes	Yes
LVBD / LVLD Contactor Control Support	Yes	Yes
Local Control Panel and Display	Yes	Yes
Emergency Power Off (EPO) feature	Yes	Yes
Control Panel LEDs	1	2
Non-Volatile memory for settings	Yes	Yes
Digital Rectifier communications	Yes	Yes
Rectifier Support	20	64
Converter Support	No	No
Derived Channels / User Defined Events	Yes	Yes
History / Statistics w/ real time clock	Yes	Yes
Remote Peripheral Monitor support (RPMs)	No	No
User Configurable Alarm Severity	Yes	Yes
Redundancy Loss Alarm	Yes	Yes

Step 1: Select Upstream Converter Solutions

Central Office Application – 23 inch Shelves

ORDERING CODE	MODEL	DESCRIPTION
CC109122082	QS912A Converter Shelf	Upstream converter shelf with alarm card, 4 pairs of dual-hole lug landing for four -48Vdc input feeds. 16 slots for converter modules supporting 32 +/- 190Vdc 100VA limited circuits. AMP/Champ RJ-21 connectors for twisted pair connectivity. Slot fillers not included.
CC109122074	QS930A Redundant Fan Shelf with air filter	Fan shelf with redundant fan trays. Equipped with air baffle and includes air filter. Pulls air down through converter shelves for Central Office applications. Can be used to support up to 3 converter shelves.
CC109132271	QS930A Redundant Fan Shelf without air filter	Fan shelf with redundant fan trays. Equipped with air baffle and no air filter or air filter brackets. Pulls air down through converter shelves for Central Office applications. Can be used to support up to 3 converter shelves.

OSP Cabinet Application – 23 inch Shelves

ORDERING CODE	MODEL	DESCRIPTION
CC109147740	QS9010 Converter Shelf	Upstream converter shelf with alarm card, 4 pairs of dual-hole lug landing for four -48Vdc input feeds with bus straps to allow 2 individual feeds. 16 slots for converter modules supporting 32 +/-190Vdc 100VA limited circuits. AMP/ Champ RJ-21 connectors for twisted pair connectivity. Includes 16 slot fillers.
CC109146354	QS931A Fan Shelf	Fan shelf with redundant fan trays. Provides airflow up through converter shelf for OSP cabinet applications. Can be used to support 2 converter shelves, and may allow 3 converter shelves with cabinet airflow assistance (requires an engineered solution from the cabinet integrator)

Upstream Controller - 23 inch Shelves

ORDERING CODE	MODEL	PHOTO
108996947	QS941A Controller for QS912A/QS9010 upstream converter shelf	

Upstream Alarm Cable Options - 23 inch Shelves

ORDERING CODE	DESCRIPTION	PHOTO
CC848773671	10ft alarm cable - for QS941 controllers	
848748558	25ft alarm cable - for QS941 controllers	
CC848764448	50ft alarm cable - for QS941 controllers	
848748566	150ft alarm cable - for QS941 controllers	

OSP Cabinet Application – 19 inch Shelves

ORDERING CODE	MODEL	DESCRIPTION
150024377	QS912F Converter Shelf	Upstream converter shelf with alarm card, screw terminal -48Vdc input feeds. 12 slots for converter modules supporting 24 +/-190Vdc 100VA limited circuits. AMP/ Champ RJ-21 connector for twisted pair connectivity.
150024378	QS931F Primary Fan Shelf	1RU primary fan shelf with controller support. Can be used to support up to 3 converter shelves.
150024379	QS931F Supplemental Fan Shelf	1RU supplemental fan shelf for redundance and non-controller applications. Can be used to support up to 3 converter shelves.

Upstream Controller - 19 inch Shelves

ORDERING CODE	DESCRIPTION	PHOTO
150038535	"QS841E_0I6R_USB_S Pulsar Edge Controller "	

Upstream Alarm Cable Options - 19 inch Shelves

ORDERING CODE	DESCRIPTION	PHOTO
CC848890178	15ft alarm cable for Pulsar Edge Controller	
CC848890186	50ft alarm cable for Pulsar Edge Controller	
CC848890194	150ft alarm cable for Pulsar Edge Controller	

OSP Cabinet Application – 6 inch Shelves

ORDERING CODE	MODEL	DESCRIPTION
CC109167160	QS912C Generic Kit	Upstream converter shelf for cabinet extension applications. This 6" wide shelf has 4 slots for converters and one slot for an alarm card. Kit includes mounting ears and alarm card, and fan tray.
CC109159117	QS931C Fan Shelf	Fan shelf for the QS912C and QS800C converter shelves

Upstream Converters

ORDERING CODE	MODEL	DESCRIPTION
150028565	QS982ATEZ Converter	-48Vdc to +/-190Vdc Total Efficiency converter module. Outputs 2 x 100 VA circuits. Greater than 93% peak efficiency.
108996641	QS982A Converter	-48Vdc to +/-190Vdc Total Efficiency converter module. Outputs 2 x 100 VA circuits.
CC109121992	Converter Slot Filler	Converter module blank. Required in all unused shelf slots to maintain appropriate airflow.

Upstream Accessories & Spares

ORDERING CODE	MODEL	DESCRIPTION
CC109121984	Air Filter	Replacement air filter for 23" CO fan shelf.
108997623	QS930B Fan Tray	Spare fan tray for 23" CO applications (downward air flow)
CC109146362	QS931B Fan Tray	Spare fan tray for 23" OSP Cabinet applications (upward air flow)
CC109102118	QS920A Alarm Module	Spare Alarm Module for converter shelves
850030434	Air Baffle	Air Baffle for the QS912F, 19" system
CC109164562	QS912C 19in Mounting	19" mounting bracket kit for QS912C shelf and optional QS931C fan tray

25 Pair Interface Cable Options

ORDERING CODE	MODEL	DESCRIPTION
CC848895227	25ft Upstream output power cable	25pair - RJ-21 connector to blunt for use with 23" shelves only
CC848911207	25 ft Upstream output power cable	25pair - terminated both ends with RJ-21
CC848911215	25 M Upstream output power cable	25pair - terminated both ends with RJ-21

Step 2: Select Downstream Converter Solutions

The Line Power System downstream converter solution provides several shelf options for QS882A +/-190Vdc to 48Vdc converters for remote cabinet deployments. The options include 10 slot converter shelves with different mounting patterns, and 5-slot converter shelves for low power requirements. Both shelf styles are based upon 1.75" (1U) high footprint with 10 inch and 6 inch widths respectively. Fan trays are available for both the 5-slot and 10-slot downstream converter shelf solutions as an option when the cabinet fans cannot supply the required airflow for proper operation of the QS882A converters.

The Line Power System downstream shelves are easy to setup and operate. All shelf options are equipped with 25 pair input cables terminated in an AMP/ Champ RJ-21 connector for easy connectivity. The -48Vdc output is through a Molex Minifit SR connector and an interface cable is included. When an optional fan tray is added, the power interface cable is also included.

Applications

- Fiber to the Node/Curb/Home (FTTN)
- Remote DSLAM
- Distributed Antenna System
- Powering broadband cabinet extensions

Key Features

- Compact – 20 +/-190Vdc 100VA limited input circuits in 1RU 10-slot shelf, and 10 +/- 190Vdc 100VA limited input circuits in 1RU 5-slot shelf.
- Reliable – Converter circuits operate independently and deliver power onto a common -48Vdc output for redundant performance
- Connectorized – Copper pairs interfaced through AMP/ Champ RJ-21 connectors and DC output is through a Molex Mini-fit SR plug.
- Agency Certifications – NEBS Level 3 and UL 1801 Listed
- Temperature Hardened – continuous operation from -40˚C to +65˚C with 150lfm airflow (extended temperature range with additional airflow)
- Convenient Access – full front access for power input and output as well as alarming and control interface.

Downstream Converter Shelves

ORDERING CODE	MODEL	DESCRIPTION
108994926	QS800A Converter Shelf	Downstream Converter Shelf. 12.9" mounting hole centers. Equipped with a 6ft 25 pair input cable terminated with an AMP/Champ RJ-21 connector. Molex Mini Fit SR connection for -48Vdc output. 10 slots for dual circuit converter modules. Maximum output power is 1300W at -48Vdc. 150 lfm airflow required for proper function.
CC109139853	QS800B Converter Shelf	Downstream Converter Shelf. 11.4" mounting hole centers. Equipped with a 6ft 25 pair input cable terminated with an AMP/Champ RJ-21 connector. Molex Mini Fit SR connection for -48Vdc output. 10 slots for dual circuit converter modules. Maximum output power is 1300W at -48Vdc. 150 lfm airflow required for proper function.
CC109141702	QS800C Converter Shelf	Downstream Converter Shelf. Equipped with a 6ft 25 pair input cable terminated with an AMP/Champ RJ-21 connector. Molex Mini Fit SR connection for -48Vdc output. 5 slots for dual circuit converter modules. Maximum output power is 650W at -48Vdc. 150lfm airflow required for proper function.
CC109159117	QS931C Fan Shelf	Fan tray for the QS912C and QS800C downstream converter shelves
CC109163275	QS931D Fan Shelf	Fan tray for QS800A and QS800B downstream converter shelves.

Downstream Converters, Accessories and Spares

ORDERING CODE	MODEL	DESCRIPTION
108994918	QS882A Downstream Converter	+/-190Vdc to -48Vdc Converter module. Two input circuits per module
CC848909218	19" adapter bracket	Adapter bracket to mount a QS800A or QS800B in a 19" rack
CC109172953	23" adapter bracket kit	Adapter bracket kit to mount a QS931D fan tray with a QS800A or QS800B in a 23" rack
CC848908888	19" adapter bracket	Adapter bracket to mount a QS800C and QS912C in a 19" rack
CC848911363	Downstream output extension cable	6ft power extension cable – terminated both ends with Molex Mini fit SR
CC848911371	Downstream Alarm output extension cable	6ft alarm extension cable
CC109140357	H5694772G100	X-Pair mounts in a weather proof enclosure. Sealed dual channel downstream converter. At -48Vdc provides 65W @ 55˚C with dual feed, 55W @ 65˚C with dual feed, and 35W @ 55˚C single feed.
CC109140365	H5694772G200	X-Pair provided in a vented polycarbonate enclosure with 2 input protection blocks. Sealed dual channel downstream converter. At -48Vdc provides 65W @ 55˚C with dual feed, 55W @ 65˚C with dual feed, and 35W @ 55˚C single feed.
CC109140340	H5694772G300	X-Pair provided in a 3-inch aerial strand mount enclosure with 4 input protection blocks. Sealed dual channel downstream converter. At -48Vdc provides 65W @ 55˚C with dual feed, 55W @ 65˚C with dual feed, and 35W @ 55˚C single feed.

Reliability

- Delivers decades of service
- High availability architecture
- NEBS level 3 certified

Intelligence

- Industry leading digital smart monitor
- Network interface for remote access
- Visual, audible and remote alarms

Investment Protection

- Backward compatibility
- Flexible upgrade options
- Seamless integration with GPS plants

On Time Delivery

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

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

Training

GE offers on-site and classroom training options based on certification curriculum. Technical training can be tailored to individual customer needs. Training enables customers and partners to more effectively manage and support the power infrastructure. We have built our training program on practical learning objectives that are relevant to specific technologies or infrastructure design objectives.

Service & Support

GE 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.

Warranty

GE is committed to providing quality products and solutions. We have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or replaced as soon as possible.

For full warranty terms and conditions please go to www.gecriticalpower.com.

GE
Critical Power
601 Shiloh Road
Plano, TX 75074
+1 877 546 3243
www.gecriticalpower.com

CPB-LINEPOWER, Rev. 06/15