Galaxy Pulsar Edge Controller for Compact Power Line Applications

The Compact Power Line Galaxy Pulsar Edge controller delivers large system intelligence in a small form factor. The Pulsar Edge is a family of controllers that function as a network interface controller (NIC) and as a full-featured power system controller for the J2007001 family of Compact Power Line (CPL) shelves. Its thin modular plug-in form factor minimizes shelf space consumption allowing maximum power module and distribution capabilities providing a feature set found in controllers used in larger power systems ranging up to 20k amps. The CP841A controller is specific member of the Galaxy Pulsar Edge family.

The Pulsar Edge CP841A 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 and is aided by the EasyView2 graphical user interface as well as a web interface.

As a battery plant controller, it provides a complete set of features over a half-duplex RS485 bus to monitor and control rectifiers, batteries, and distribution. A flexible set of configurable inputs allow the CP841A 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 from standard. GE Critical 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
- PBX

Key Features

Remote Access and Features

- Integrated 10/100Base-T Ethernet Network
    - TCP/IP
    - SNMP V3 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
- Supporting the following Protocols:
    - SNMP V3
    - SSL
    - SSH

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 system 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 (4)
- 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

Integrated Monitoring Inputs/Outputs

- System plant voltage (accuracy ±0.5%, resolution 0.01V)
- One system shunt (accuracy ±1% full scale, resolution 1A)
  - Battery or load
  - Mounted in the return side of DC bus
- Up to 15 binary inputs
  - Six inputs close/open to battery
  - 9 input close/open to return (number is dependent upon number of output alarms)
  - User assignable
- Up to 5 user assignable Form-C output alarms (50VDC @ .3A)
- 1-Wire™ bus devices
  - Up to 16 temperature probes (QS873)
 - Up to 6 mid-string monitors (ES771)

Galaxy Manager Compatible

- Centralized web server and database with multiple user access to live or managed data with drill down to problem details
- Monitor and control of more than 40 connected devices
- Management information from polling or alarms received from alarm traps from multiple sites are available on one screen via the inter/intranet
- Trend user selected data over time
- Automatic or manual report generation
- Standard engineering tools like reserve time calculators and cable voltage drop analyzer

General	
Operating Voltage	±24 Vdc, ±48 Vdc (Range: ±18 to ±60 Vdc)
Input Power	Less than 7W
Operating Temperature Range	-40°C to +75°C (-40°F to 167°F)
Storage Temperature Range	-40°C to +85°C (-40°F to 185°F)
Operating Relative Humidity	0 - 95% (non-condensing)
Physical Specifications	1.75 in. H, 0.75 in. W, 8.00 in. D; 0.5lb 45mm H, 20mm W, 204mm D; 227g
Display	8-line by 40-character backlit LCD

Agency Certifications	
Radiated Emissions	FCC, Class B; EN 55022, Class B
Safety	UL Listed Component as Part of CPL or SPS Power System
RoHS	Compliant to RoHS EU Directive 2002/95/EC
EMC	FCC/EN55022 Class B, CISPR22 Level B
ESD	EN 61000-4-2 level 4
C-Tick Australia/ New Zealand	As part of CPL or SPS Power System and shelf

Signal Interface In J2007001 CPL Shelves

- J1 provides alarm outputs and inputs based on the controller installed (see table below). Inputs are "Dry", no voltage, contact Closures or Opens to a common return on pin 6. Outputs are relay contacts. Both input and output alarms are customer defined on the controller's web pages.

- J2 provides alarm inputs (see table below). Alarm inputs are contact Closures or Opens to the non-grounded side of the dc bus [-48V]. Pins 6, 7, 8 provide -48V for these alarm inputs.

- J3 battery thermal probe (QS873A) or battery mid-string voltage monitor (ES771) with battery thermal probe.

- J4 shelf to shelf communication connection

- J5 LAN/Ethernet.

- J7 provides distribution control for shelves with external distribution. See table below.
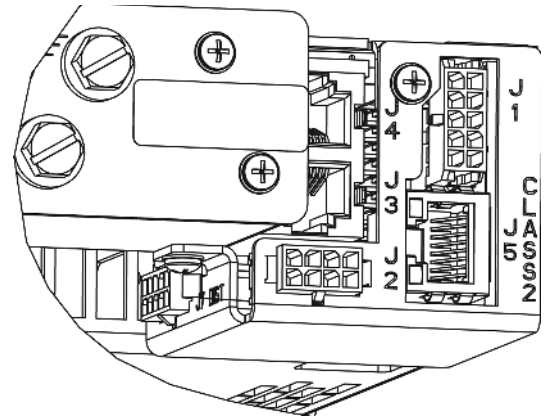
J1 CONNECTOR – Pin Out	
Pin	Signal
1	ALM1 Input
2	ALM2 Input
3	Alarm Relay 1 Rtn
4	Power Minor Rtn
5	Power Major Rtn
6	ALM1, 2, 6C RTNS
7	ALM6 Input
8	Alarm Relay 1
9	Power Minor
10	Power Major

J2 CONNECTOR	
Pin	Signal
1	ALM6 Input
2	-
3	ALM3 Input
4	ALM4 Input
5	ALM5 Input
6	-48V
7	-48V
8	-48V

J7 CONNECTOR	
Pin	Signal
1	FAJ
2	Coil Rtn
3	LVD_NC
4	LVD_NO
5	Shunt-
6	OS
7	Coil1
8	Coil2
9	LVD Status Rtn
10	Shunt+

Ordering Information

Ordering Code	Model	Description
CC109145331	CP841A_3C3R	Galaxy Pulsar Edge Controller
150032047	CP841A_3C3R_S	Galaxy Pulsar Edge Controller with Security Features Update

Contact Us

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