UNIPOWER
A GREEN CUBES BRAND

GCC
INTELLIGENT CONTROLLER MODULE

DESCRIPTION

GCC is a pluggable microprocessor based intelligent system controller module that provides monitoring and control for a broad range of UNIPOWER DC Power Systems. The GCC monitors all system parameters including: DC voltage, rectifier current, rectifier temperature, system capacity, battery parameters, and circuit breaker status.

Alarm and warning notifications are indicated by front panel LEDs, and through potential free alarm contacts that allow remote signaling. External monitoring of alarms and the system is accomplished through a USB or RS232 port using PC-based PowCom™ software. The GCC has an Ethernet port allowing control over a TCP/IP network and web based support. Alarms can be mapped via SNMP traps to customer OSS (Operation Support System) platforms.

To meet individual site requirements, the GCC contains a Programmable Logic Unit that can be used to monitor and control specified requirements. This allows individual alarm routing and logic operations to be set as actions, alarms to be triggered and outputs to be activated, based on internal or external signal monitoring, comparing and processing.

FEATURES

- Supports Li-Ion and VRLA batteries
- User-selectable alarm parameters
- USB or RS232* Interface
- Form "C" dry alarm contacts
- Programmable alarm routing, logic unit and analog inputs
- 100 Mbps Ethernet interface with IPv4 & v6 support + built in web server + SNMP v1, v2c, v3.
- 1000-event alarm log
- Audible Alarm
- Remote configuration upgrade
- Micro SD card data logging
- Thermal protection for batteries & rectifiers
- Hot-swappable
- International standards compliance

SAFETY CERTIFICATIONS

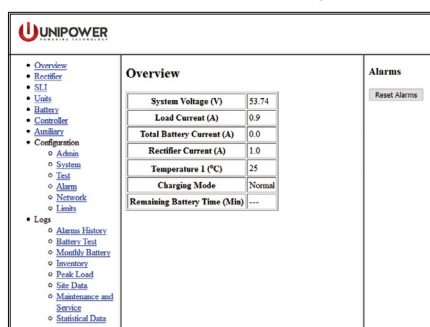CAN/CSA C22.2 No 62368-1:2014
UL 62368-1:2014
EN 62368-1:2014/A11:2017

INTELLIGENT SITE MANAGEMENT

- Automatic or manual battery tests and log
- Battery communication and monitoring
- Remaining battery capacity measurement
- Low Voltage Disconnect
- Temperature compensation with programmable compensation factor
- Monthly data logging
- Site log tools
- Energy Saving Mode (Rectifier Sleep)
- Communicates with Green Cubes Guardian Li-Ion batteries

ORDERING GUIDE

Model	Part Number	Application
GCC	961080	Aspiro & Guardian

WEB INTERFACE

Overview	
System Voltage (V)	53.74
Load Current (A)	0.9
Total Battery Current (A)	0.0
Rectifier Current (A)	1.0
Temperature 1 (°C)	25
Charging Mode	Normal
Remaining Battery Time (Min)	---

THREE YEAR WARRANTY

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Input

Voltage	18 - 60VDC
Current	< 350mA

Interface

Display	3 x 16 character LCD
Languages	English, German, Spanish, Russian, Chinese
Internal Communication	2 x RS485 Data Buses (1 x rectifiers, 64 modules max. & 1 x Guardian batteries),
External Communication	USB or RS232* interface for remote control via modem or directly from a PC with PowCom™ software. Ethernet port allowing monitoring and control over a TCP/IP network. Web browser support + SNMP v1, v2c, v3.
Data Logging	8Gb microSD card, expandable to 32GB
Indications	Green LED – Power ON Yellow LED – System warning Red LED – System alarm
Signal Input	Battery current reading (via shunt) Output voltage reading Analog inputs for battery symmetry reading or general use Battery temperature sensor Load fuse failure Battery fuse failure 2 x Digital inputs
Signal Outputs	LVD / PLD disconnect (max 4*) LVD / PLD reconnect 2 x Digital outputs
Software	Site upgradeable by Flash memory

Alarms

Alarm Contacts	4 dry contact relays, expandable to 10 relays with Alarm Relay Board
Alarms	Low/High Voltage Batteries on Discharge Overvoltage Shutdown High Load (Rectifier Capacity) Battery Test Failure Battery Symmetry Mains Failure Module Urgent Module Battery Fuse Failure Load Breaker Failure Battery/Load Disconnect High/Low Battery Temperature Temperature Probe Failure High/Low AC Voltage** 16 x Additional User Definable

Rectifier Management

Energy Saving Mode	Controller turns off the redundant rectifiers automatically depending on the load.

* Depending on system configuration

** Depending on rectifier used

Other Technical Data

Dimensions	3.4" (85mm) W x 1.6" (40mm) H x 8.9" (225mm) D	
Weight	0.44lb (0.2kg)	
Operating Temp.	-40 to +70°C	
Storage Temp.	-40 to +85°C	
Safety	CAN/CSA C22.2 No 62368-1:2014, UL 62368-1:2014, EN 62368-1:2014/A11:2017	
EMC	EN 61000-6-1, EN 61000-6-3, ETSI EN 300 386	
Environment	Storage: Transport: Operation:	ETS 300 019-2-1 ETS 300 019-2-2 ETS 300 019-2-3

Battery Management

Battery Tests	Automatic or manual testing of batteries up to six times per year, results saved to SD card. Variables include test duration and end voltage. Battery discontinuance test to ensure battery connection.
Site Logs	System tools developed to assist site management. Daily peak load and statistic logs available.
Load Shedding (PLD)	Optional feature that allows voltage or time controlled disconnection of non-essential loads.
Enhanced Battery Monitoring	Monthly logging of essential battery parameters including temperature, temperature hours, current, charging voltage and symmetry voltage, Data logged for 5 years.

VRLA specific controls

Battery Disconnection	Programmable voltage controlled disconnection of batteries.
Battery Charging	Manual time controlled or automatic boost charging with adjustable time and voltage levels.
Symmetry measurement	Optional tool that measures VRLA batteries for imbalance, health and early detection of thermal runaway.
Temperature Compensation	Continuous adjustment of output voltage according to battery temperature. Features include adjustable compensation factor and separate thresholds for high temperature alarms.

Lithium Guardian specific controls

Communication	RS485 communication to Battery Units. Collects BMS data including voltage, current, temperature, lifetime data, and more. All data available via PowCom software, or TCP/IP.
Battery Disconnection	Programmable State of Charge or voltage controlled disconnection of batteries.
Battery Charging	Manual, or Automatic voltage and current controlled charging of Batteries.
Energy Balance Technology	Compatible with EBT charging and balancing of batteries.
Load Shedding (PLD)	Optional feature that allows for State of Charge, voltage or time controlled disconnection of non-essential loads.

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