HLX

CYCLIC CONTROLLER MODULE

DESCRIPTION

The HLX is a pluggable microprocessor controller that provides monitoring and control for a broad range of UNIPOWER Hybrid Power Systems. The HLX provides optimum battery cycling and generator management. The HLX also monitors all system parameters including: DC voltage, rectifier current, rectifier temperature, system capacity, battery parameters and circuit breaker status with capacity to monitor additional external analog or digital inputs.

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 statistical data is accomplished through a USB connection using PC based PowCom™ Hybrid software. Remote management is provided through an Ethernet port allowing control over a TCP/IP network and includes web based support. Alarms can be mapped via SNMP traps to customer OSS platforms such as HP Openview™.

The HLX's straightforward LCD menu or local/remote software configuration tool allows for ease of commissioning to meet a wide range of applications. The HLX contains a Programmable Logic Unit that can be used to monitor and control additional site data such as fuel level/flow and environmental measurements. 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 and external signal monitoring, comparing, and processing.

FEATURES

- User-selectable battery types
- Intelligent Generator control
- Enhanced logging capabilities with on-board microSD memory card
- USB Interface and Form "C" dry alarm contacts
- 100 Mbps Ethernet interface + web server support
- Remote configuration upgrade

INTELLIGENT SITE MANAGEMENT

- Battery cycles, average depth of discharge
- Generator cycles and run-time
- Average & Total kW hours by source
- Generator fuel consumption/saving
- Battery end of life projection
- Battery voltage and symmetry monitoring
- Remaining battery capacity measurement
- Battery Low voltage disconnect
- Temperature compensated battery charging
- Monthly battery data logging

SAFETY CERTIFICATIONS

UL60950-1 2nd Edition
CSA22.2, No. 60950-1 2nd Edition
EN60950-1 2nd Edition

THREE YEAR WARRANTY

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Input

Voltage	18 - 60VDC
Current	< 200mA

Interface

Display	3 x 16 character LCD
Language Support	English, German, Spanish, Russian, Chinese
Internal Communication	RS485 Data Bus (64 modules max.) microSD card (up to 4GB)
External Communication	USB interface for control from a PC with PowComTM sotware. RS232 Interface. Ethernet interface allowing monitoring and control over a TCP/IP network. Web browser support + SNMPv2c.
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; AC utility mains failure; Battery temperature sensor; Load fuse failure; Battery fuse failure; 2 x Digital inputs
Signal Outputs	LVD / PLD disconnect / reconnect 1x Generator Control 2 x Digital outputs
Software	Site upgradeable by bootloaded

Alarms

Alarm Contacts	2 (optional 8*) potential free change-over alarm contacts
Alarms	Battery Symmetry; Generator/ Mains Failure Warning; Module Alarm; 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; Fuel Level Low; GenSet; GenSet Battery Failure; GenSet Battery Discharged; GenSet Connection Interrupted; Ground Fault; Distribution Surge Arrester Failure

Other Technical Data

Dimensions, In (mm)	3.4 W x 1.6 H x 8.9 D (85 W x 40 H x 225 D)	
Weight	0.44lb (0.2kg)	
Operating Temp.	-40 to +70°C	
Storage Temp.	-40 to +85°C	
Safety	IEC 60950-1, UL60950-1, & CSA-C22.2 No. 60950-1-03	
EMC	EN 61000-6-2, EN 61000-6-3, EN 300 386-2	
Environment	Storage: Transport: Operation:	ETS 300 019-2-1 ETS 300 019-2-2 ETS 300 019-2-3

Battery Management

Intelligent Recharge	Battery type specific algorithm controls recharge time, voltage and battery current limit.
Equalisation Charging	Intelligent boost charging calculated from discharge cycles maximizes battery life while minimizing generator runtime.
Battery Disconnection	Allows voltage controlled disconnection of batteries.
Enhanced Battery Monitoring	Statistical logging of essential battery parameters including number of cycles, DoD, discharge hours, temperature, temperature hours, current and symmetry voltage.
Site Logs	System tools developed to assist site management. Daily peak load and statistic logs available.
Symmetry Measurement	Optional tool that measures batteries for early detection of thermal runaway.
Temperature Compensation Charging	Allows continuous adjustment of output voltage according to battery temperature.
Load Shedding (PLD)	Optional feature that allows voltage controlled disconnection of non-essential load.

* Depending on system configuration

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