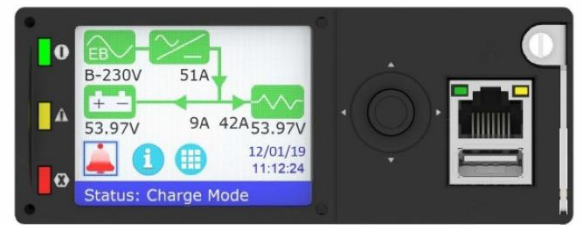# M2000 Controller

The most advanced controller platform for managing DC systems in all types of telecom environments

Key Features:

0   Powerful controller built on RTOS

0   2.2" high resolution color display and easy to use navigation via joystick

0   Site automation and renewable hybrid support

0   Li-ion battery support and advanced battery management features

0   Ethernet for local or remote monitoring via secure web browser and optional modem

0   User configurable analog and Boolean logic alarms

0   User configurable performance logging, event logging and energy data logging

0   USB interface for configuration file update and log download

0   Multi language support – English / Additional language support

0   Hot pluggable and global compliance

Applications:

0   Telecom: Base station sites, LTE / WiMax, hub sites, renewable hybrid sites, and central offices

0   Smart Cities: Smart poles, surveillance etc.

0   Power utilities: Control & protection and communication equipment

0   Railways: Signaling, communication equipment and control & protection

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M2000 Controller Technical Specifications

General		
	Operating Voltage	38 - 60Vdc
	Power Consumption	4W (max)
	Dimensions (h x w x d)	43mm x 111mm x 130mm
	Operating Environment	-20°C to 65°C; humidity: 95%RH, non-condensing
	Compliances	EN 60950-1, IEC 60950-1, EN 61000-6-1/-2/-3/-4, Class B, RoHS and REACH

System Functions		
	Battery	Float, boost and equalise charge modes, configurable battery temperature compensation, manual charge mode
		Low voltage disconnect and under voltage pre-warning
		Back up time and Soc monitoring
		Automatic battery health test, battery isolation for maintenance, symmetry supervision
		Li-ion battery support, settable charge profiles and communication with battery BMS
	System	AC voltage measurement, grid power /phase failure detect
		Integrated support for renewable (solar) hybrid system
		Site automation control, DG control and monitoring
		Alarm grouping, alarm output mapping and alarm naming
		User configurable analog alarm engine and boolean logic alarms
		User profile configuration & password protection
		Application and configuration update locally or remotely, offine configuration tool
		Support for up to 5 battery and 4 Load LVDs
	Rectifiers	Individual rectifier current, temperature and status monitoring
		Power limited walk in, configurable power control in case of controller communication loss
		Linear or cyclic rectifier sleep mode for system efficiency
		Active current sharing and system overload monitoring
		Support for up to 120 rectifiers

System IO Units		
	Number of IO's supported	4 x DCIO (Expansion IO cards)
	Voltage sensing	Bus Voltage + 5 channels, ±72V
	Current sensing	3 channels, ±50mV
	Temperature sensing	2 channels, -20°C to 1QQ°C
	LVD control	3, NO/NC, 10A@60VDC
	Digital inputs	8, optoisolated
	Relay outputs	8, NO/NC, 1 form C, 1A @48Vdc

Logs		
		Up to 10,000 event logs, performance logs on SD card or internal memory based on user configurable parameters, 1,000 change logs, and energy & run hour logs for grid, battery and DG

System Interfaces		
	System control bus	2 x CAN V2.0b for communication with rectifiers and system units
	Serial bus	2 x RS 485, modbus RTU master & device modes
	Modem interface	1x RS232, modem interface for remote monitoring over GPRS/GSM and SMS alarms

User Interface		
	Display	2.2", 320x240 resolution, 65k colour TFT, w/ intensity control and power save mode, Joystick, multi-language support
	Ethernet	10/100 BaseT (RJ45), MDI/ MDI-X, IP protocols: HTTP, HTTPS, SNMP V2c/V3, SNTP, FTP, IPV4, IPV6 (Static, Stateless & State full, DHCPv6)
	USB	USS 2.0, Type A, USB Flash Drive support

Remote Monitoring & Control		
	Web Interface	HTML5, Java script based secure web interface, encrypted w/TLS
	SNMP	SNMP V2c/V3, Get/ Get Bulk/ Set/ TRAPS, multiple user profiles
	Email	Severity & time based alarm reporting along with system parameters
	Modem	Alarm SMS for GSM and data monitoring over GPRS
	Hardware	Configurable alarm group mapping to PFC

Ordering Information		
	Part number	HE 513240
	Part description	EMA Controller M2000-2C2RMSB V34.10

Others		
	MTBF	350,952 hours

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Product Overview –System Controller

The Best In Class!

With combination of several feats and innovations, made for global requirements; Exicom Controller outperforms its peers in, functionality, flexibility, control and user interface

Innovative

Intelligent

Flexible

Key features -

- Energy management
- Rectifier management
- Renewable Integration
- DG Genset Control
- System customizations
- For small & large systems
- Battery Charge management
- Battery Dis-charge management
- Advanced battery tests

- Li-ion Battery Integration
- Eco Energy Mode
- Advanced communication options
- Encrypted and Secured
- Multi language support
- TFT Display
- Mobile App support
- System logs
- Remote management

- Over the air upgrades
- Alarm management
- Smart Alarms
- SMS/Email for Alarm Reporting
- Unstable grid protection
- Overvoltage protection
- Overload protection
- Temperature protection
- Communication failure protection

Product Overview – System Controller (Cont'd)

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Applications		Communications

Applications:
- Telecom: Small Cell Sites / Cellular base stations / LTE / Wi-Max; Hub Sites & Central Offices
- Renewable or Hybrid Sites
- Li-ion Battery Management
- Smart Cities: Smart Poles & Surveillance
- Power Utilities: Control & Protection equipment
- Railways: Signalling, communication equipment, control & protection

Salient Features:
- Backlit High resolution colour display and easy to use joystick navigation
- 10/100 Mbps Ethernet for local or remote monitoring via web browser and NMS. Remote firmware upload
- Ethernet interface supports webserver (http / https), IPv4 / IPv6, TCP/ UDP, DHCP client, SNMP agent (V2c & V3), SNTP and SMTP
- Supports email & SNMP alarm reporting
- Site infrastructure control and renewable hybrid system support
- Li-ion battery support and advanced battery management & testing methods
- User configurable performance logging, event logs and energy logs
- Configurable alarm grouping, PFC mapping and alarms names
- USB interface for configuration file update and log download.

Digital:
- 2 x Isolated CAN 2.0b for system communications. Supports up to 120 SMR.
- 2 x Isolated RS485 for peripheral devices / Modbus Interface
- RS232 for GSM/ GPRS Modem for remote monitoring
- 10/100 Mbps Ethernet MDI/MDX
- USB Host 2.0

Analog:
- Up to 20 Voltage Channels – system bus, battery and external voltage monitoring
- Up to 12 Current Channels – for battery, multiple load, external sources current monitoring
- Up to 40 PFC Inputs & 40 Outputs
- Basic Analog interface unit supports 6 voltage, 3 current (shunt), 3 LVD and 8 PFC I/O. Four such interface units can be used together