

## M2000 Controller

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



## Key Specification



Powerful controller  
built on RTOS



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



Site automation and  
renewable hybrid support.



Li-ion battery support and  
advanced battery  
management features



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



User configurable  
analog and Boolean  
logic alarms.



User configurable  
performance logging, event  
logging and energy data  
logging



USB Interface for  
configuration file update  
and log download



Multi language support



Global compliance

## Application

- Telecom : Base station sites, LTE/WiMax, hub sites, renewable hybrid sites, and central offices.
- Smart Cities : Smart poles, surveillance etc.
- Power utilities : Control & Protection and communication equipment.
- Railways : Signaling, communication equipment and control & protection.

# Technical Specifications

Voltage	36-60Vdc
Power Consumption	4W (Nominal)
Dimension (hxwxd)	43 x 111 x 130 (mm)
Operating Environment	-20°C to 60°C; humidity : 95% RH, non-condensing
Compliances	<ul style="list-style-type: none"> <li>• Safety Standards EN 60950-1, IEC 60950-1 and UL 60950-1</li> <li>• Environmental ETSI 300 019 -1, -2, -3</li> <li>• RoHS Compliant, REACH, EMC Certified Conducted Emission as per CISPR 32, Radiated Emission as per CISPR 32 (Class B), ESD,EFT, Radiated immunity, Continuous conducted RF and Surge. ULfile number E505627. M2000 is UL &amp; CE marked.</li> </ul>
<b>Battery</b>	<ul style="list-style-type: none"> <li>• Float, boost and equalise charge modes, configurable battery temperature compensation, manual charge mode.</li> <li>• Low voltage disconnect and under voltage pre-warning.</li> <li>• Back up time and SoC monitoring.</li> <li>• Automatic battery health test, battery isolation for maintenance, symmetry supervision.</li> <li>• Li-ion battery support, settable charge profiles and communication with battery BMS.</li> </ul>
<b>System</b>	<ul style="list-style-type: none"> <li>• AC Voltage measurement, grid power / phase failure detect</li> <li>• Integrated support for renewable (solar) hybrid system.</li> <li>• Site automation control, DG control and monitoring .</li> <li>• Alarm grouping, alarm output mapping and alarm naming.</li> <li>• User configurable analog alarm engine and boolean logic alarms.</li> <li>• User profile configuration &amp; password protection.</li> <li>• Application and configuration update locally or remotely, offline configuration tool.</li> <li>• Support for up to 5 battery and 4 load LVDs.</li> </ul>
<b>Rectifiers</b>	<ul style="list-style-type: none"> <li>• Individual rectifier current , temperature and status monitoring</li> <li>• Power limited walk in, configurable power control in case of controller communication loss</li> <li>• Linear or cyclic rectifier sleep mode automatically as well as manually configurable for system efficiency</li> <li>• Active current sharing and system overload monitoring</li> <li>• Support for up to 120 rectifiers.</li> </ul>

Number of IO's supported	4
Voltage sensing	Bus Voltage + 5 channels, $\pm 72V$
Current sensing	3 channels, $\pm 50mV$
Temperature sensing LVD	2 channels, $-20^{\circ}C$ to $100^{\circ}C$
Control	3, NO/NC, 10A@60VDC
Digital inputs	8, optoisolated
Relay outputs	8, NO / NC, 1 form C, 1A@48Vdc 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
<b>System control bus</b>	2x CAN V2.0b for communication with rectifiers and system units
<b>Serial bus</b>	2 x RS 485, modbus RTU master & device modes
<b>Modem interface</b>	1x RS 232, modem interface for remote monitoring over GPRS /GSM and SMS alarms.
<b>Display</b>	2.2", 320 x 240 resolution, 65k colour TFT, w / intensity control and power save mode , Joystick, multi-language support.
<b>Ethernet</b>	10/100 Base T, MDI / MDI-X, IP protocols, HTTP, HTTPS, SNMP V2c / V3, SNTP, FTP, IPV4, IPV6 ( Static, Stateless & State full, DHCPV6
<b>USB</b>	USB 2.0, Type A, USB Flash Drive support
<b>Web Interface</b>	HTML 5, Java script based secure web interface, encrypted w/TLS
<b>SNMP</b>	SNMP V2c / V3, Get / Get Bulk / Set / TRAPS, multiple user profile
<b>E-mail</b>	Severity & time based alarm reporting along with system parameters.
<b>Modem</b>	Alarm SMS for GSM and data monitoring over GPRS
<b>Hardware</b>	Configurable alarm group mapping to PFC
<b>Part Number</b>	HE 513240
<b>Part description</b>	EMA Controller M 2000-2C2 RMSB V 34.10

### Mobility Solutions



### DC Telecom Solutions



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