

# Power

## AlphaNet™ DSM3 Family

DOCSIS® Status Monitor



AlphaNet DSM3x

AlphaNet DSM3

AlphaNet DPM

- Embedded network management for Alpha broadband power supplies
- Battery and power supply advanced diagnostics reduces truck rolls and overall operating expense of maintaining a network
- Three models available:
  - DSM3 (standard), DSM3x (advanced) and DPM (XM2-300HP)

The AlphaNet DSM3 family of networking products now includes the next generation of DOCSIS® Status Monitors (DSM3x, DSM3, DPM) for power supplies. Network enable your power supply and access powerful diagnostic tools using the DSM3 embedded WEB interface and standard SNMP. Poll power supply, battery and generator data in real-time and receive alerts when power system alarms indicate noteworthy events. The transponders are completely configurable from the standard cable modem configuration file and can be provisioned using default cable modem settings. Customize your monitored information with configurable CM settings that are used to set alarm thresholds and power supply operating parameters.



## AlphaNet DSM3 Family

Specifications	
<b>Power Supply Models Supported:</b>	<b>DSM3x and DSM3:</b> XM2-HP, XM2-300HP, XM2, GMX, VMX <b>DPM:</b> XM2-300HP
<b>Battery Monitoring:</b>	<b>DSM3x:</b> Up to four strings of 36 or 48V batteries <b>DSM3:</b> Up to two strings of 36 or 48V batteries <b>DPM:</b> One 12V battery
<b>Power System Management (DSM3x Only):</b>	Up to five power supplies and an AlphaGen generator are managed from a single DSM3x including coordinated battery charging, system test and aggregated alarm
<b>Management Protocol:</b>	Standard ANSI/SCTE HMS MIBs support basic power supply monitoring. Advanced diagnostics with battery and power module analytics available via secure SNMP
Advanced Diagnostics <sup>1</sup>	
<b>Intelligent Power Supply Interface:</b>	Power supply user interface displays advanced diagnostics including: DOCSIS modem upstream and downstream RF levels, IP address assigned by network DHCP server, MAC address and firmware levels, individual battery voltages to verify correct wire harness installation
<b>Battery State of Health:</b>	Power supply internal analytic diagnostics report when batteries should be serviced. Reported Status: Batteries OK, Battery Thermal Warning – PM Visit Recommended, Battery Thermal Alarm – Service Required
<b>Power Inverter State of Health:</b>	Power supply internal diagnostics report if the power inverter requires service. Reported Values: Inverter OK, Replace Inverter.
Hardware	
<b>RF Cable Interface:</b>	F-connector, female, 75Ohm, connector angle accommodates coax bend radius when installed in some enclosures
<b>Local Interface:</b>	RJ-45, Ethernet, multi-mode operation
<b>LED Indicators:</b>	Ready/Alarm, Upstream registration, Downstream lock, AlphaBus, RF level, Link, CPE traffic, Battery harness correct
<b>I/O Control (DSM3x Only):</b>	G-pin Molex: Digital input, Digital output, 5V, Common
<b>AlphaBus:</b>	RJ-11 offset tab: Multi-power supply and AlphaGen communications
<b>Battery Monitoring:</b>	<b>DSM3x:</b> 8-pin Molex battery string A/B, and 8-pin Molex battery string C/D. <b>DSM3:</b> 8-pin Molex battery string A/B
<b>Tamper:</b>	NO or NC, software configurable, reads enclosure door magnetic switch
Environment	
<b>Operating Temperature:</b>	-40 to 65°C / -40 to 149°F
<b>Storage Temperature:</b>	-40 to 85°C / -40 to 185°F
<b>Humidity:</b>	10 to 90% non-condensing
<b>Regulatory Compliance:</b>	FCC Part 15 Class A EN 50083-2:2006 EMC requirements for CATV equipment EN 62040-2:2006 Uninterruptable power supply EMC requirements, Category C2 <b>Surge:</b> IEEE 587, Category B3 <b>RoHS:</b> Directive 2002/95/EC

<sup>1</sup> Advanced diagnostics are available through Alpha Certified network monitoring systems

Network Communications	
<b>DOCSIS (RF) Port Protocols:</b>	IP, UDP, TCP, DHCP, TFTP, SNMPv1, SNMPv2c, HTTP
<b>Ethernet Port:</b>	<b>Local Mode:</b> HTTP web interface for local craft diagnosis. CPE <b>Mode:</b> DOCSIS Cable modem Ethernet CPE functionality
<b>MIBs:</b>	Power supply (ANSI/SCTE 38-4) Other SCTE HMS MIBs as defines by the SCTE for power supply and generator status monitoring Alpha proprietary advanced UPS diagnostics
Power Supply Monitored Parameters	
<b>Major Alarm:</b>	Aggregate alarm consisting of: test fail, battery fail, line isolation alarm, output overload, inverter, over-temperature, N+1 active, fuse fail
<b>Minor Alarm:</b>	Aggregate alarm consisting of: temperature probe error, AC line loss, N+1 error
<b>Input Voltage:</b>	Reported from power supply V(in) measurement
<b>Output Voltage:</b>	Reported from power supply V(out) measurement
<b>Output Current:</b>	<b>DSM3x and DSM3:</b> 0 to 25A standard on port 1. Ports 2-4 require power supply option. <b>DPM:</b> Dual outputs do not exceed 300 Watts combined 3.5 Amps at 90 Vac output voltage, 5 Amps at 60 Vac output voltage
<b>Output Power:</b>	Calculated, reported in AC Watts
<b>UPS Status:</b>	AC Line, Standby, Test in process, Test alarm
<b>Enclosure Door:</b>	Open or Closed
<b>Battery Voltage:</b>	<b>DSM3x:</b> Individual battery voltage, up to four strings of 3 or 4 batteries (maximum 16 batteries), ±100mV per battery. <b>DSM3:</b> Individual battery voltage, up to two strings of 3 or 4 batteries (maximum 8 batteries), ±100mV per battery. <b>DPM:</b> Individual battery voltage
<b>Battery Temperature:</b>	Reported from power supply battery Remote Temperature Sensor (RTS)
<b>Remote Test Control:</b>	Start/Stop power supply test cycle
Generator Monitored Parameters (DSM3x Only)	
<b>Status:</b>	Generator Off, Running, Alarm
<b>Generator Alarm:</b>	Aggregate alarm consisting of: low oil pressure, engine over-temp, engine over-speed, crank limit, over voltage, low fuel, water intrusion, pad shear, gas hazard, test fail
<b>Gas Hazard:</b>	OK, Alarm
<b>Water Intrusion:</b>	OK, Alarm
<b>Pad Shear:</b>	OK, Alarm
<b>Enclosure Door:</b>	Open, Alarm
<b>Ignition Battery Voltage:</b>	±100mV
<b>Enclosure Temperature:</b>	±2°C
<b>Low Fuel:</b>	OK, Alarm
<b>Remote Test Control:</b>	Start / Stop generator test cycle
Cable Modem	
<b>Compliance:</b>	DOCSIS 1.1 and 2.0
<b>Transmit Frequency Range:</b>	5 to 42Mhz
<b>Receive Center Frequency Range:</b>	91 to 857Mhz
<b>Output Power Range:</b>	8 to 58 dBmV
<b>Input Signal Range:</b>	-15 to 15dBmV
<b>Channel Bandwidth:</b>	6Mhz
Additional Equipment	
<b>XP-BSC-3-6:</b>	Wire Kit, Battery Sense, 1x36V, 6'
<b>XP-BSC-6-6:</b>	Wire Kit, Battery Sense, 2x36V, 6'
<b>XP-BSC-4-6:</b>	Wire Kit, Battery Sense, 1x48V, 6'
<b>Surge Arrestor (Alpha p/n 162-028-10):</b>	Female/Female connector configuration, "F" type connector with integral ground block Required for all installations <sup>2</sup> .

For contact information visit [www.alpha.com](http://www.alpha.com)

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