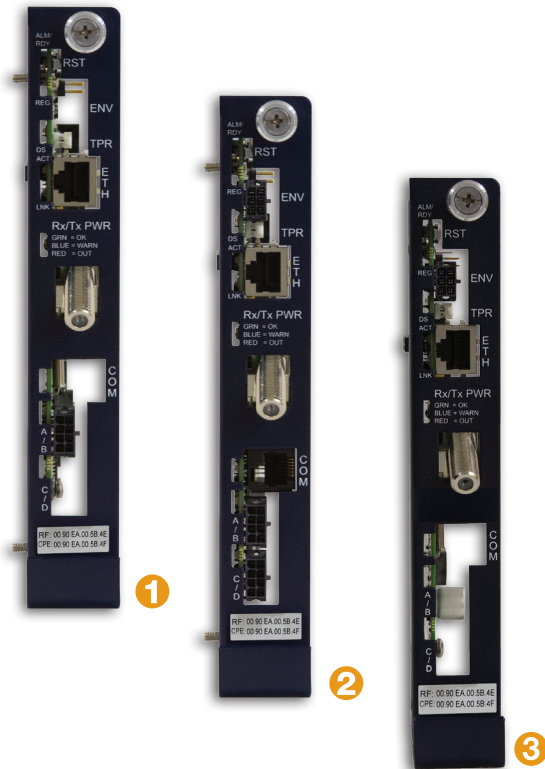


AlphaNet™ DSM3 Family

DOCSIS® Status Monitor for XM3-HP Series



- 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
- Supports both IPv4 and IPv6 Internet Protocols to operate in today's advanced broadband networks
- Three models available:
 1. DSM3 (standard)
 2. DSM3x (advanced)
 3. DPM (used with AlphaGuard option)

The AlphaNet DSM3 family of networking products now includes the next generation of DOCSIS® IPv6 Compatible Status Monitors (DSM3, DSM3x, DPM) for power supplies.

Network enable your XM3-HP 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 settings that are used to set alarm thresholds and power supply operating parameters.

AlphaNet DSM3 Family Specifications for XM3-HP Series

General Details	
Power Supply Models Supported:	DSM3, DSM3x & DPM : XM3-HP Series
Battery Monitoring:	DSM3: Up to two strings of 36V batteries DSM3x: Up to four strings of 36V batteries DPM: Up to four strings of 36V batteries with AlphaGuard Option
Power System Management (DSM3x Only):	Up to five power supplies and an AlphaGen generator are managed from a single DSM3x including coordinated battery charging, system test and aggregated alarm.
Management Protocol:	Standard ANSI/SCTE HMS MIBs support basic power supply monitoring. Advanced diagnostics with battery and power module analytics available via secure SNMP.

Advanced Diagnostics	
Intelligent Power Supply Interface	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.
Battery State of Health: (requires AlphaAPPs option)	Power supply internal analytic diagnostics report when batteries should be serviced. <ul style="list-style-type: none"> Battery String Runtime Remaining Battery Life Remaining
Utility Status & Events: (requires AlphaAPPs option)	AC Line Status: <ul style="list-style-type: none"> Utility Performance Status (outages, sags, surges, frequency) Utility Events (24-hour and lifetime number of events)
History Log Reports	<ul style="list-style-type: none"> Power Supply Event Log (events of daily power supply operation) Power Supply Configuration Log (events that occur infrequently) Battery Event Log (battery conductance measurements and battery manufactured dates)

Hardware	
RF Cable Interface:	F-connector, female, 75ohm, connector angle accommodates coax bend radius when installed in some enclosures
Local Interface:	RJ-45, Ethernet, multi-mode operation
LED Indicators:	Ready/Alarm, Upstream registration, Downstream lock, AlphaBus, RF level, Link, CPE traffic, Battery Harness Correct
I/O Control (DSM3x Only):	6-Pin Molex: Digital input, Digital output, 5V, Common
AlphaBus:	RJ-11 offset tab: Multi-power supply and AlphaGen communications
Battery Monitoring:	DSM3: 8-pin Molex battery string A/B DSM3x: 8-pin Molex battery string A/B and 8-pin Molex battery string C/D.
Tamper:	NO or NC, software configurable, reads enclosure door magnetic switch

Environment	
Operating Temperature:	-40 to 65°C / -40 to 149°F
Storage Temperature:	-40 to 85°C / -40 to 185°F
Humidity:	10 to 90% non-condensing
Regulatory Compliance:	FCC Part 15 Class A EN 50083-2:2006 EMP requirements for CATV equipment EN 62040-2:2006 Uninterruptable power supply EMC requirements, Category C2 Surge: IEEE 587, Category B3 RoHS: Directive 2002/95/EC

Network Communications	
DOCSIS (RF) Port Protocols:	IPv4, IPv6, UDP, TCP, DHCP, TFTP, SNMPv1, SNMPv2c, SNMPv3, HTTP
Ethernet Port:	HTTP web interface for local on-site diagnosis.
MIBs:	<ul style="list-style-type: none"> Power supply (ANSI/SCTE 38-4) Other SCTE HMS MIBs as defined by the SCTE for power supply and generator status monitoring Alpha proprietary advanced UPS diagnostics

Power Supply Monitored Parameters	
Major Alarm:	Aggregate alarm consisting of: test fail, line isolation, output failure, output overload, output tripped, charger failure, inverter temperature, configuration error, inverter failure, no batteries, battery failure
Minor Alarm:	Aggregate alarm consisting of: AC line loss, input over current/input current limit, surge MOV failure, charger enable, option board failure, battery temperature probe error
Input Voltage:	Reported from power supply V(in) measurement

Power Supply Monitored Parameters (Cont.)	
Output Voltage:	Reported from power supply V(out) measurement
Output Current:	0 to 25A standard on port 1, port 2 requires power supply DOC option
Output Power:	Reported in AC Watts
Input Current:	Reported in Amps
Input Power:	Reported in AC Watts
UPS Status:	AC Line, Standby, Test in process, Test alarm
Charger Current:	Reported in Amps
Battery Discharge Current:	Reported in Amps
Battery Voltage:	DSM3: Individual battery voltage, up to two strings of 3 (maximum 6 batteries), ±100mV per battery. DSM3x: Individual battery voltage, up to four strings of 3 (maximum 12 batteries), ±100mV per battery. DPM: Individual battery voltage, up to four strings of 3 (maximum 12 batteries), ±100mV per battery. Requires AlphaGuard option.
Battery Temperature:	Reported from power supply battery Remote Temperature Sensor (RTS)
Remote Test Control:	Start/Stop power supply test cycle
Enclosure Door:	Open or Closed

Generator Monitored Parameters (DSM3x Only)	
Status:	Generator Off, Running, Alarm
Generator Alarms:	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.
Gas Hazard:	OK, Alarm
Water Intrusion:	OK, Alarm
Pad Shear:	OK, Alarm
Enclosure Door:	OK, Alarm
Ignition Battery Voltage:	Reported in DC volts, ±100mV
Enclosure Temperature:	Reported in Celcius, ±2°C
Low Fuel:	OK, Alarm
Remote Test Control:	Start/Stop generator test cycle

Cable Modem		
Compliance:	DOCSIS 1.1 and 2.0	EuroDOCSIS 2.0
Transmit Frequency Range:	5 to 42Mhz	5 to 65 MHz
Receive Center Frequency Range:	91 to 857Mhz	112 to 858 MHz
Output Power Range:	TDMA: +8 to +54 dBmV (32QAM, 64QAM) +8 to +55 dBmV (8QAM, 16QAM) +8 to +58 dBmV (QPSK) S-CDMA: +8 to +53 dBmV (All modulations of S-CDMA)	TDMA: +68 to +114 dBuV (32QAM, 64QAM) +68 to +115 dBuV (8QAM, 16QAM) +68 to +118 dBuV (QPSK) S-CDMA: +68 to +113 dBuV (All modulations of S-CDMA)
Input Signal Range:	-15 to +15dBmV	64QAM: +43 to +73 dBuV 256QAM: +47 to +77 dBuV
Channel Bandwidth:	6Mhz	8MHz

Additional Equipment	
XP-BSC-3-6:	Wire Kit, Battery Sense, 1x36V, 6'
XP-BSC-6-6:	Wire Kit, Battery Sense, 2x36V, 6'
XP-BSC-4-6:	Wire Kit, Battery Sense, 1x48V, 6'
Surge Arrestor (Alpha p/n 162-028-10):	Female/Female connector configuration, "F" Type connector with integral ground block required for all installations.