

Technical Bulletin

DSM3 vs DSM1 PROVISIONING

The AlphaNet DSM3 Series Embedded DOCSIS Transponder (DSM3) allows monitoring of Alpha power supplies through existing cable network infrastructure. The DSM3 is similar to the DSM1 Embedded DOCSIS Transponder but there are a few provisioning and installation differences outlined below.

RF MAC REGISTRATION:

Network MAC filtering may have to be modified to allow the cable modem RF MAC registration of addresses starting with 00:90:EA.

Model	RF MAC Organizationally Unique Identifier (OUI)
DSM3 or DSM3x	00:90:EA
DSM1	00:03:08 or 00:05:CA

SNMP TRAPS:

To enable the SNMP traps on the DSM3, set the SNMP Trap Destination addresses via the DOCSIS Configuration File by including in it the following standard DOCSIS SNMP parameters:


MIB Parameter	Object ID	Description	Value
docsdevNmAccessIP	1.3.6.1.2.1.69.1.2.1.2	IP address of trap destination, e.g. NMS server	e.g. 10.20.30.40
docsdevNmAccessIpMask	1.3.6.1.2.1.69.1.2.1.3	Must be set to 255.255.255.255 per RFC 2669	255.255.255.255
docsDevNmAccessCommunity	1.3.6.1.2.1.69.1.2.1.4	Community string used by NMS to query transponder	alphanumeric string
docsDevNmAccessControl	1.3.6.1.2.1.69.1.2.1.5	Level of SNMP access to DSM3 from IP address specified in docsdevNmAccess- Ip-Mask	4= Read/Only plus Trap 5= Read/Write plus Trap 6= Trap only, no SNMP access
docsDevNmAccessInterfaces	1.3.6.1.2.1.69.1.2.1.6	Specifies the set of interfaces from which requests from this NMS will be accepted.	0x40 = Cable Interface

DSM1 firmware versions 2.01.0 and higher also implement the above standard DOCSIS method for setting SNMP Destination Trap Address(es) in addition to the atiMgmtSnmpTrapTable in the Alpha SNMP MIB.



DSM3 WEB PAGE:

Significant enhancements have been implemented on the DSM3 Web Page, allowing the operator to easily access transponder and power supply parameters. The Web page can be accessed locally or remotely using a standard Web browser. For remote access, connect the computer to the company IP network, then enter the actual IP address of DSM3 transponder in the Internet browser. For local access, connect the computer to the Ethernet port on the transponder using a standard Ethernet cable, launch an Internet browser (e.g. Internet Explorer) and use 192.168.100.1 in the browser's address bar.

AlphaNet™ DOCSIS Status Monitor
General Configuration



General HMS Alarms Advanced Settings Print

Communications	
Configuration	2IP US
SysUpTime	7 days 11h:13m:17s
Firmware Version	4.4.6.0_01.02_NA
	CM CPE Transponder
MAC Address	00:90:EA:00:30:84 00:90:EA:00:30:85
IP Address	192.168.1.124 192.168.1.120
CM Tx (dBmV)	45.0 
CM Rx (dBmV)	-0.2 
SMR (RxMER)	45.4
System Name	<input type="text" value="Alpha"/> <input type="button" value="SET"/>
System Location	<input type="text" value="Bellingham"/>
System Contact	<input type="text" value="John Doe"/>
Common Logical ID	<input type="text" value="DSM3"/>

Power Supplies																			
	Device 1																		
Model	Alpha XM2																		
Firmware																			
Major Alarm	<input checked="" type="checkbox"/> OK																		
Minor Alarm	<input checked="" type="checkbox"/> OK																		
Inverter Status	<input checked="" type="checkbox"/> OFF																		
Tamper	<input checked="" type="checkbox"/> Closed																		
Self Test	<input type="button" value="Start Test"/> <input type="button" value="Stop"/>																		
Time Since Last Standby																			
Last Standby Duration																			
Total String Voltage (V)	42.00																		
Temperature 1 (°C)	25																		
Input Voltage (V)	123.60																		
Output Voltage (V)	89.00																		
Output Current 1 (A)	10.20																		
	<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th>Status</th> <th>Actstate</th> <th>Mode</th> <th>Temperature</th> <th>Hysteresis</th> <th>Countdown</th> </tr> </thead> <tbody> <tr> <td>Environmental Controller</td> <td>Contact Open</td> <td>Closed</td> <td>Heater</td> <td>24</td> <td>2</td> </tr> <tr> <td>LAP</td> <td>Not Installed</td> <td>Not Installed</td> <td></td> <td></td> <td>0</td> </tr> </tbody> </table>	Status	Actstate	Mode	Temperature	Hysteresis	Countdown	Environmental Controller	Contact Open	Closed	Heater	24	2	LAP	Not Installed	Not Installed			0
Status	Actstate	Mode	Temperature	Hysteresis	Countdown														
Environmental Controller	Contact Open	Closed	Heater	24	2														
LAP	Not Installed	Not Installed			0														

Batteries			
	Battery 1 (V)	Battery 2 (V)	Battery 3 (V)
String 1	13.85	13.95	13.95
String 2	13.85	13.90	13.90

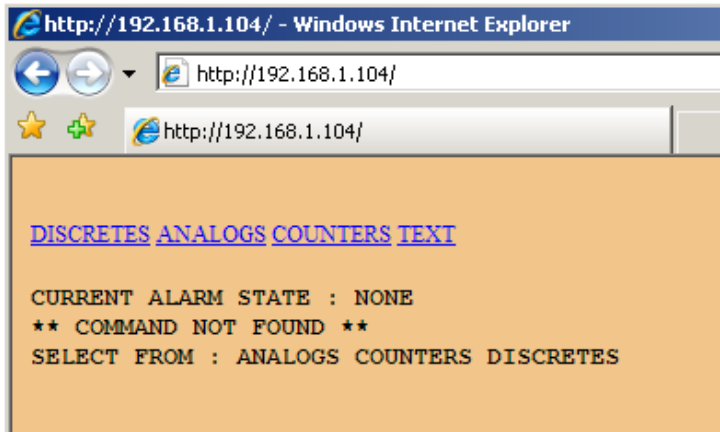
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The System Name, System Location, System Contact and Common Logical ID may be edited on this page; when prompted for a User Name and Password, use "Alpha" and "AlphaGet", respectively.

Power Supply Self Tests may also be started and stopped via the Web page interface. The Username and Password listed above will be required.

DSM1 WEB Page:

The DSM1's web page may be accessed remotely by entering its IP address into the Web browser's Address Bar. The default page will appear and show the following menu items:



Click on Discretets, Analogs, Counters, or Text to display power supply and transponder information.

FIRMWARE UPGRADES:

The firmware in the DSM3 modem is upgraded using standard DOCSIS methods defined in RFC 2669. There are two ways to upgrade the modem's firmware: by directly setting the appropriate MIB parameters in the docsDevSoftware branch, or by including the appropriate SNMP parameters and values in the modem's DOCSIS Configuration File stored on the TFTP server's root directory.

Refer to the DSM3 manual for further details regarding firmware upgrade procedures.

LOCAL PORT:

The DSM3 transponder's Ethernet port (comparable to the Local Port on the DSM1 model) may be used as a local connection point. Power Supply and transponder parameters can be monitored and set locally using a personal computer and standard Ethernet cable.



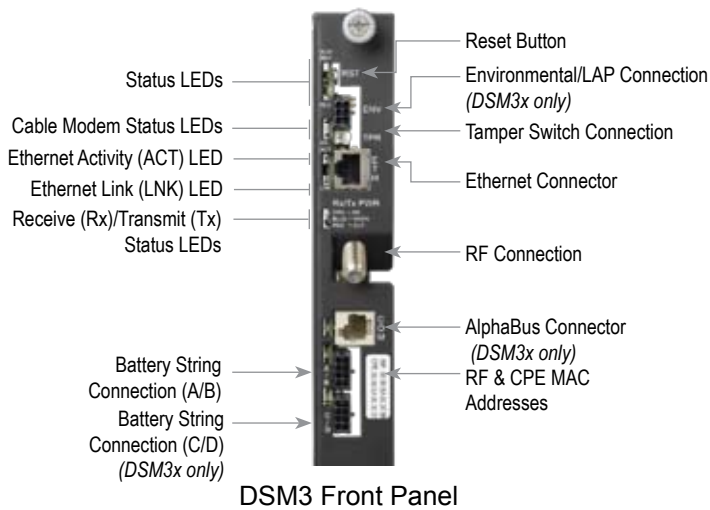
Transponder Model		
Items Required	DSM3, DSM3x, DPM	DSM1
Computer equipment	Laptop or computer with a Network Interface Card (NIC)	Laptop or computer with a RS-232 COM Port
Cables/Interface Hardware	Standard Ethernet Cable	Local Port Adapter Cable (Alpha P/N 745-826-21)
Software	Web Browser (e.g. Internet Explorer)	Terminal emulation software (e.g. HyperTerminal)

FRONT PANEL:

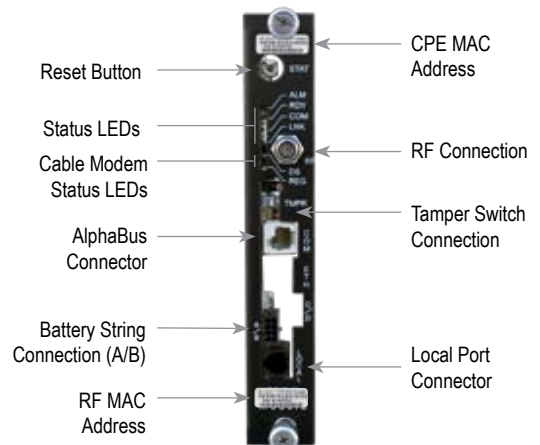
The DSM3 has nine LEDs that indicate system status versus the six LEDs on the DSM1. During system startup on the DSM3, the LEDs blink momentarily. The Status LEDs indicate alarms, status of the DSM3, and communications activity with the network.

Verify the DS and REG LEDs are on solid. This verifies that the DSM3 has registered an IP address on the network. Verify the Rx/Tx PWR LED is solid Green, indicating Upstream and Downstream RF Power is within the specified range.

The BAT A/B or BAT C/D LED indicators remain ON when the battery string wiring harness is correctly connected to the batteries and the BAT A/B or BAT C/D connector on the DSM3x.



DSM3 Front Panel



DSM1 Front Panel

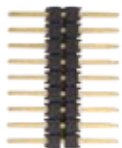
18-PIN JUMPER:

As shown below, the 18-pin jumper used to connect the transponder to the inverter module is different from previous versions of Alpha's DSM Series Transponders. For new transponder installations or replacing an existing DSM1 with a DSM3, use the new 18-pin jumper that is provided with the DSM3 transponder. Refer to the following pictures for identification details.



CAUTION!

Use of the incorrect jumper will cause damage to the Transponder. Verify the 18-pin jumper to be used is correct for the model of Transponder in the system (*see below*).



DSM3 18-Pin Jumper
(Alpha p/n 540-286-19)



DSM1 18-Pin Jumper
(Alpha p/n 540-492-19)



Mounting transponder to the XM2 Inverter Module

For more information visit www.alpha.com

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