



The Phoenix Broadband Technologies PBT-PA-EXM **PowerAgent** is an embedded status monitoring agent designed to monitor the **Alpha™ XM** standby power supplies. The **PowerAgent** is installed inside the XM inverter module, and it works in conjunction with any DOCSIS cable modem to provide TCP/IP interoperability with SNMP and HMS monitoring standards.

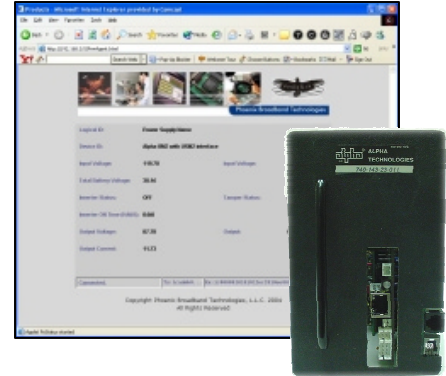
The **PowerAgent** is a board-level unit that plugs directly into the Alpha RPM card inside the XM supply, eliminating the need for additional complex and costly interface boards such as Alpha's USM, DSM, or EDSM. In addition, there are no switches, jumpers, or internal configuration settings required, making installation a true 'plug & play' process.

The **PowerAgent's** front panel has an Ethernet connector that can be interfaced with any DOCSIS cable modem. Uninterruptible power for the cable modem is supplied by the transponder. An auxiliary interface connector is provided for monitoring multiple individual batteries, cabinet tamper detection, controlling and monitoring battery heater mats, and other local monitoring requirements.

The **PowerAgent** has a built-in SNMP proxy, a built-in web server, and a built-in SMTP mail client. The SNMP proxy supports SNMP standard and HMS MIBs, making the **PowerAgent** compatible with virtually any network management software. HMS traps are generated based on alarm conditions defined using the HMS property MIB. The built-in web server allows the status of the monitored supply to be analyzed from anywhere in the network using a common web browser. This eliminates the need for expensive client application software licenses. Web-based monitoring is read-only as a security precaution. The built-in SMTP mail client can be set up to send alarm messages to email addresses or to a mobile phone when an alarm occurs.

The **PowerAgent** is completely downloadable over the network, facilitating firmware upgrades and feature enhancements as they become available. The unit also contains a special "Watchdog timer" that monitors the cable modem and automatically resets it in case of a modem "hang" situation.

PowerAgent's built-in web server requires no special software for basic monitoring.



Alpha XM inverter module with internal PBT-PA-EXM transponder

**Features:**

- Embedded, integrated monitoring for Alpha XM
- Fully DOCSIS modem compliant and DOCSIS 'future-proof'
- Provides power to cable modem, eliminating extra power module
- Automatically resets modem in the event of a 'hang' condition
- Eliminates need for expensive Alpha interface cards
- No switch, jumper, or other configuration settings required
- Built-in SNMP proxy agent implements SCTE/HMS monitoring standards
- Built-in web server allows convenient read-only monitoring from any computer on the network
- Built-in SMTP mail client sends alarm messages to email addresses or to a mobile phone.
- Fully downloadable operating firmware
- Lowest cost DOCSIS monitoring transponder



## Monitoring Interfaces:

- Single-board solution plugs directly into the XM supply's RPM interface card.

## Measurements::

### Analog Readings:

- Individual battery voltage (up to 8 batteries)
- AC output voltage
- AC output current
- Utility power AC input voltage

Note: User defined SNMP alarm thresholds can be set for each analog parameter

### Digital Status Indications/Control:

- Inverter standby status
- Cabinet tamper status
- Inverter general alarm status
- Inverter output fail status
- Forced standby control

Note: SNMP alarms can be programmed for each monitored parameter

### Cable Modem Requirements:

- Interoperable with any past or future version of DOCSIS modem.

### Power:

- Input Power 24-60V DC; from battery string  
7 watts nominal (with modem)
- Modem Power Output 12VDC nominal; 1.0 A max.

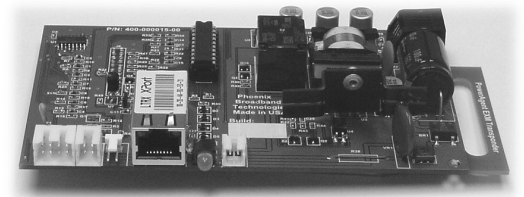
### Environmental:

- Temperature -40C to +85C
- Humidity 0 to 95%; non-condensing

### Mechanical:

- Size Fits in XM status monitoring slot
- Construction PCB assembly
- Weight 0.25 lb nominal

Revision 1.1  
Subject to change without notice



PowerAgent PBT-PA-EXM  
Embedded Transponder Board

### SNMP Information:

The following HMS and SNMP standard MIBs are implemented in the Proxy Agent:

ANSI/SCTE 36 2002 SCTE Root MIB  
ANSI/SCTE 37 2002 SCTE Tree MIB  
ANSI/SCTE 37 2002 HMS HFC  
Outside Plant MIB  
ANSI/SCTE 38-1 2002 HMS Property  
MIB  
ANSI/SCTE 38-2 2002 HMS Alarm  
MIB  
ANSI/SCTE 38-3 2002 HMS Common  
MIB  
ANSI/SCTE 38-4 2002 HMS Power  
Supply MIB  
ANSI/SCTE 38-7 2002 HMS TIB MIB.  
SNMP MIB2

