

EMS-SM-SC-545-AX

Enhanced Alarm & Monitoring Solutions for Telecom Environments



Overview

Today's telecommunication operations and data centers operate with a complex array of systems that are critical. Remotely monitoring and checking the status of these systems in both manned and unmanned facilities is crucial in managing their uptime.

Designed specifically for today's carriers and service providers, Tridium's EMS-SM-SC-545-AX Site Manager is a single-box, all in-one solution that provides all the necessary capabilities and functions for end-to-end delivery of remote monitoring, alarming, and control in real time. Integration of installed legacy systems from multiple manufacturers using multiple protocols provide a fully interoperable solution. This preserves and extends the useful life for previous investments while enabling more comprehensive surveillance technologies as needed for current and future infrastructure protection.

The Tridium EMS-SM-SC-545-AX EMS Site Manager communicates over V.11 Service Channels enabling alarm transport over Fiber Infrastructure Devices such as Siemens SURPASS hiT 7500, NEC Spectrawave 160, Lucent WaveStar 40G, and Lucent WaveStar 400G. Central to its design is an in-case integration of a Tridium® JACE®-545 device and a DPS Telecom 202 modem device. The single chassis reduces the need for extra connectors and rack space.

Built using the Niagara Framework® the EMS-SM-SC-545-AX Site Manager is an enhanced, Web-based management system that monitors temperature, humidity, power, fuel systems, digital contact panels and all HVAC systems. Users can seamlessly integrate equipment communicating via common telecom standards such as TL1, and TABS with devices supporting LonWorks®, BACnet®, Modbus®, SNMP and other standard protocols to provide a unified real-time controls network that can be controlled from the enterprise. The suite includes a browser-based graphical user interface allowing users to view and manipulate underlying systems without the need for dedicated workstations or client software.

The EMS-SM-SC-545-AX Site Manager provides the ability to create a customized user interface that combines intuitive navigation screens with dynamic, real-time displays. Third party graphic images, jpegs, and gif images can also be used in the creation of the user interface. Unique software technology eliminates the need for page refreshes or polling for data updates, thereby minimizing required bandwidth.

Whether local or geographically dispersed locations, the EMS-SM-SC-545-AX Site Manager is a hardware and software platform that is easily installed in most any environment. The EMS-SM-SC-545-AX Site Manager connects to system field buses and provides real-time control functions as constant streams of data from individual systems are instantaneously transformed to a common object model within the EMS-SM-SC-545-AX Site Manager. EMS-SM-SC-545-AX Site Managers provide a fully distributed system when multiple units are networked together, which provides unsurpassed scalability and reliability. In this configuration, the AX Supervisor® (or Enterprise Server) can be used to network EMS-SM-SC-545-AX Site Managers (and/or EMS-SM-SC-545-AX Site Managers) and manage enterprise level control functions. The appropriate EMS Site Manager model is determined by connectivity requirements.

Applications

Specifically designed for central offices, outside plants, Optical Amplifier Sites, transport sites, data center environments, mechanical rooms and harsh environments, the EMS-SM-SC-545-AX Site Manager is ideally suited for users who require a rugged and compact controller that can be wall or rack mounted.

The EMS-SM-SC-545-AX Site Manager controller can be used to support a network of proprietary serially connected devices, as well as Modbus®, BACnet and LonWorks devices that can be accessed directly over the Ethernet LAN or remotely over the Internet.

On larger buildings or multi-building complexes and large-scale control system integrations, the AX Supervisor® (Enterprise Server) in conjunction with one or more EMS Site Manager controllers manage global control functions, support data passing over multiple networks, and host multiple, simultaneous client workstations connected over the local network, the enterprise, over the Internet and/or dial-up modem access.

Features

- Embedded RISC Microprocessor platform
- Distributes real-time control functions across an Ethernet LAN
- Scalable and cost effective for any size installation
- Can run standalone or networked with additional EMS Site Managers in large-scale, enterprise systems
- Can be configured with Web User Interface services to support many simultaneous users over Intranet or Internet via standard web browser
- SQL Data Archiving with the use of AX Supervisor
- Supports a wide range of protocols for integrating multiple devices and/or systems. Examples are below.

| Telecom Standards | Open/Industry Standards | | | | Equipment Standards | | Select Building Automation Legacy Systems |
|-------------------|-------------------------|----------|------------|------------|---------------------|-----|-------------------------------------------|
| TL1 | BACnet | LonWorks | Modbus RTU | Modbus TCP | VEEDERROOT | | |
| TABS | TCP | SNMP | HTTP | XML | MCS | GCS | |

Specifications

Platform

- Motorola RISC Processor @ 250MHz
- 256 MB RAM, 128 MB Flash for database backup
- Real-time clock

202 Service Channel Modem interface

- One 4-pin barrier 202 port.
- One DB-9 RS-232 Craft port.
- LEDs on back of unit to monitor craft port, 202 carrier status/activity, and serial activity to main platform.

Communications

- One 10/100 MB Ethernet port - RJ 45 connection
- One RS-232 serial port (up to 115,200 baud)
- Four RS-485 half-duplex serial ports (up to 76,800 baud), optically isolated
- One LonWorks® FTT-10A 78Kbps port with 2-position connector

Operating System

- QNX® RTOS, IBM® J9 Java Virtual Machine
- JACE (Java Application Control Engine) Niagara^{AX} software

Power Supply

- 48 VDC (nominal) redundant (dual) input, 20W maximum, two 2-position connectors and earth grounding stud
- Standard 2A GMT fuse, externally accessible

Chassis

- Construction: Heavy-duty steel chassis
- Standard 1U rack height chassis for 19" or 23" equipment rack mounting using supplied brackets, optional ETSI or wall mounting brackets available
- Cooling by internal air convection
- Dimensions: 17" (431.8mm) wide x 12" (304.8mm) deep x 1.75" (44.5mm) high
- Weight: Net 5 lbs. (2.27 kg), Gross 6 lbs. (2.72 kg)

Environment

- Operating temperature range: 0° to 50°C (32°F to 122°F)
- Storage Temperature range: 0° to 70°C (32°F to 158°F)
- Relative humidity range: 5% to 95%, non-condensing

Agency Listings

- UL 61010-1
- CSA (Canadian Standards C22.2 no. 61010-1)
- CE
- FCC part 15 Class A
- RoHS
- WEEE (Waste of Electrical Electronics Equipment)
- C-Tick
- CLEI Code: SUMYAAUCRA

Ordering Information

| Part Number | Description |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMS-SM-SC-545-AX | Unit includes integrated V.11 Service Channel interface, one LonWorks Interface, one 10/100 MB Ethernet Network Interface, one RS-232 and four RS-485 (isolated) ports |