FMS

Facility Monitoring System

Monitor. Integrate. Alert. Peace of Mind.

Applications

The FMS provides a single pane of glass view of a facility's equipment, including:

- CRAC units
- PDUs
- UPSs
- Sensors - Temperature, motion, humidity, smoke, leak, etc.
- Branch circuit monitors
- Generators
- Fire panels
- Security systems

Key Features

- Monitors devices that provide the following output signals:
  - Dry Contact (NO or NC)
  - 4-20mA
  - 0-5VDC or 0-10VDC
  - Modbus
  - SNMP
- Provides Modbus, BACnet, and SNMP output
- Multiple notification paths via SNMP traps, email, SMS messaging
- Support for SNMP V1, V2, V3
- No recurring fees or setup fees



Designed For Maximum Versatility And Expandability

Feature-rich and budget friendly, the FMS is used to monitor equipment status and environmental sensors in data centers, telecommunications facilities, and critical sites worldwide.

What Sets The FMS Apart?

- **Hosts its own web pages** - access the FMS from any browser - no need to install software or buy servers.
- **Robust onboard features** include data trending and extended logging, interactive facility mapping, PUE/DCiE monitoring, and nesting, which allows one FMS to report conditions from a large collection of related FMS units. Plus, firmware and feature updates are always free!
- **Seamlessly Integrates Into BMS or NMS** - vendor neutral and third-party sensor friendly, the FMS aggregates information from a wide variety of sensors and allows this data to be pulled to other systems.
- **Unmatched Reliability** - Engineered without any internal moving parts – no hard drive, no fans. This means no downtime, no lost data, no scheduled maintenance.

FMS · Vendor neutral, third-party sensor friendly facility monitoring solution.

Product Codes	
FMS-x-n-24	Monitoring appliance; 1RU, 1 expansion card slot, includes PSWA-DC-24
FMS-x-Y-24	Monitoring appliance; 1RU, 1 expansion card slot, internal temp/humidity sensor, includes PSWA-DC-24
FMS-xxxx-n-24	Monitoring appliance; 2RU, 4 expansion card slots, includes PSDT-KIT
FMS-xxxx-Y-24	Monitoring appliance; 2RU, 4 expansion card slots, internal temp/humidity sensor, includes PSDT-KIT

Technical Specifications	
Power	**1U FMS**: 24VDC Model: Input 24VDC 1A, Output 24VDC 300mA, power supply included 48VDC Model: Input 36-72VDC 0.5A, Output 24VDC 300mA **2U FMS**: 24VDC Model: Input 24VDC 3A, Output 24VDC 300mA, power supply included 48VDC Model: Input 36-72VDC 1.5A, Output 24VDC 300mA
Inputs Analog/Digital Internal Temp/Humidity Keypad	 8 Configurable as 4-20mA (12-bit A/D conversion) or Dry Contact NO/NC (<25mA) ±0.5°F (@ 25°C), ±4°F (@ -40° to 185°F); ±3%RH (@ 20% to 80%RH); (Internal Temperature/Humidity optional) Standard 3x4; 3000VAC RMS optically isolated; 20 User Access Codes (also accessible via phone/DTMF through modem)
Outputs Relay Sensor/Accessory Power	 2 Dry Contact, Form C, 1A @ 24VDC, 0.5A resistive @ 120VAC (controllable via user programmable logic) 24VDC (±10%) @ 300mA max. (power for external sensors and/or devices)
Expansion Cards EXP-A-24 or EXP-A-48 EXP-C-24 or EXP-C-48	1U accommodates 1 expansion card; 2U accommodates up to 4 expansion cards 24V Falcon requires EXP-x-24 option cards; 48V Falcon requires EXP-x-48 option cards 12 analog (jumper selectable for 4-20mA, 0-5VDC or 0-10VDC) or digital normally open dry contact inputs (non-isolated, individual ground only); 8 Form C Relay Outputs, 1A @ 24VDC, 0.5A resistive @ 120VAC. 48V FMS accepts only 1 EXP-A card. 24 digital normally open or normally closed dry contact inputs, 3000VAC RMS optically isolated (common or individual ground)
Communication Ports Ethernet RS-232 EIA-485 (selectable as RS-232) Modem (RJ11 Telco; optional)	 10/100BaseT, RJ45 connector; 500VAC RMS isolation DB9 female connector; 9600 baud; 3000VAC RMS optically isolated; 15kV ESD protection Two-wire half duplex; terminal block (selecting RS-232 switches to DB9 male connector); 1200, 2400, or 9600 baud configurable; 3000VAC RMS optically isolated V.34bis/33.6 kbps; DTMF capable; PPP-enabled; FCC Part 68 approved; 1500VAC RMS isolation barrier; 2100V peak surge protection
Protocols TCP/IP; UDP/IP; ICMP/IP; FTP; NTP; HTTP/HTML; SNPP; Telnet SNMP SMTP (email) Modbus Modbus/IP BACnet/IP Terminal Emulation TAP (Pager)	 IPv4 1.1/4.0; up to 10 URL links to other IP addressable cameras/devices; webpages comply with Rehabilitation Act of 1973, secs. 504 & 508, US Dept. of Education (website accessibility for computer users with disabilities) V1: MIB-2 compliant; NMS Manageable with Get, Set, and Traps; V2c: Traps or Informs; V3 Supports Client Authentication (plain and login); compatible with ESMTP Servers RTU transmission protocol; function codes: Server - 03; Client - 01, 02, 03, 04 Modbus Server; TCP/IP transmission protocol; Reads up to 628 registers and converts to SNMP and BACnet Reads up to 106 instances and converts to SNMP and Modbus VT100 compatible Telocator Alphanumeric Protocol v1.8
Alarm Notification Pager (Modem) – Optional Email (Ethernet, Modem PPP) SNMP Traps (Ethernet) Escalation	 15 text, numeric, or alphanumeric pager numbers; each digital and analog alarm (HighLimit and LowLimit) can notify any 5 of the 15 pagers 8 email recipients; email sent on Alarm and Return To Normal; each alarm can notify any or all of the 8 email recipients V1 and V2c: 8 Community Strings; V3: 4 users, 4 Trap Destinations Additional notification to 1 of the 15 pager numbers when the initial page results in a Failure To Acknowledge status
Health Check/Self-Monitoring	Self resetting; captured in Event Log
Internal Hardware Real Time Clock Memory	 Battery backed; ±1.53 min/month accuracy 16MB RAM; 128K NVRAM; 16MB Flash
Logging Capabilities Alarm Log Event Log Web User Access Log Digital Status Log Trending of Analog Inputs Extended Trending (Analog Inputs)	 Last 256 Alarms Last 100 Events (e.g., Acknowledgement By Code, System Boot, Page Successful, etc.) Last 100 HTML Accesses (User, Date, and Time) Last 100 Digital Status entries 244 entries per time frame, per channel. High, low, and average values logged over specific minutes, hours, and days. 3,840 entries over 32 inputs, physical or over Modbus. Logging at defined, user-selectable intervals.
Login Security Web Browser Access (Ethernet, Modem PPP) Terminal Emulation Access (Modem)	 1 Administrator plus 7 users individually selectable for Read Only, Read/Write or Administrator 1 Administrator (password for Modem access)
Front Panel Interface	1 on/off power switch. Red and green LEDs indicate status, network link, network activity, and modem activity
Operating Environment	Operating temperature: 32° to 158°F (0° to 70°C). Humidity: 5% to 95% RH, non-condensing. Altitude: 15,000ft (4,572m) max.
Storage Environment	Storage temperature: -40° to 185°F (-40° to 85°C)
Dimensions and Weight	**1U FMS**: 16.8"W x 1.8"H x 7.9"D (427mmW x 46mmH x 201mmD); 6 lbs. (2.72kg) **2U FMS**: 16.8"W x 3.5"H x 7.9"D (427mmW x 89mmH x 201mmD); 10 lbs. (4.54kg)
Mounting	Rack mount; wall mount brackets available (not included)
Certifications	CE; ETL listed: conforms to UL 61010A-1, EN 61010; certified to CAN/CSA C22.2 NO. 1010.1; RoHS compliant