

Specifications

Power	1U FMS: 24VDC Model: 24VDC (±10%), 1A max., power supply included; 48VDC Model: 36-72VDC, 0.5A max. 2U FMS: 24VDC Model: 24VDC (±10%), 2.5A max., power supply included; 48VDC Model: 36-72VDC, 1.25A max.
Inputs Analog/Digital Internal Temperature/Humidity - Optional 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 / EXP-A-48 EXP-C-24 / 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 Inputs (jumper selectable for 4-20mA, 0-5VDC or 0-10VDC) and/or Digital Inputs (non-isolated, individual ground only); 8 Form C Relay Outputs, 1A @ 24VDC, 0.5A resistive @ 120VAC 24 Digital Inputs, 3000VAC RMS optically isolated (common ground or individual ground)
Communication Ports Ethernet RS-232 RS-485 (selectable as RS-232) Modem (RJ11 Telco)	10 BaseT, 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; 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, sections 504 and 508, US Dept of Education (website accessibility for computer users with disabilities) V1; MIB-2 compliant; NMS Manageable with Get, Set, and Traps Supports Client Authentication (plain and login); compatible with ESMTP Servers RTU transmission protocol; function codes: slave - 03; master - 01,02,03,04 Modbus Slave; TCP/IP transmission protocol Conformance Level 1 VT100 compatible Telocator Alphanumeric Protocol v1.8
Alarm Notification Pager (Modem) E-mail (Ethernet, Modem PPP) SNMP Traps (Ethernet) Escalation	15 Text, numeric and/or alphanumeric pager numbers; each Digital and Analog Alarm (HighLimit2 and LowLimit2) 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 8 Community Strings Additional notification to 1 of the 15 pager numbers when the initial page results in a Failure To Acknowledge status
Health Check/Self Monitoring Communications Check Watchdog	Daily page to 1 of the 15 pager numbers; configurable for Time Of Day (HH:MM) Self resetting; captured in Event Log
Internal Hardware Real Time Clock Memory	Battery backed; ±1.53 min/month accuracy 512K RAM; 128K NVRAM; 64K ROM; 2M Flash
Logging Capabilities Alarm Log Event Log Web User Access Log Digital Status Log Trending of Analog Inputs Minute Hour Day	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 Every minute, high/low/avg for the last 65 minutes Every hour, high/low/avg for the last 25 hours Every day, high/low/avg for the last 7 days
Login Security Web Browser Access (Ethernet, Modem PPP) Terminal Emulation Access (Modem, RS-232)	1 Administrator plus 7 Users individually selectable for Read Only, Read/Write or Administrator 1 Administrator (password for both Modem and RS-232) plus 1 Read Only (password for Modem only, not RS-232)
Front Panel Interface Switches LED Indicators	Power: 1 (on/off) Power: 1 green (on/off); Status: 1 red (flashing = boot-up, on = alarm, off = normal); Network Link: 1 bi-color (green = active, red = not active); Network Activity: 1 green; Modem: 3 green (transmit, receive, and off hook), 1 amber (carrier detect)
Operating Environment Temperature Humidity Altitude	32° to 158°F (0° to 70°C) 5% to 95% RH, non-condensing 15,000ft (4,572m) max.
Storage Environment	-40° to 185°F (-40° to 85°C)
Dimensions	1U FMS: 16.8"W x 1.8"H x 7.9"D (427mmW x 46mmH x 201mmD) 2U FMS: 16.8"W x 3.5"H x 7.9"D (427mmW x 89mmH x 201mmD)
Weight	1U FMS: 6 lbs. (2.72kg) 2U FMS: 10 lbs. (4.54kg)
Mounting	1U FMS: Rack mount, or wall mount (brackets required): WMB wall mount brackets (not included) 2U FMS: Rack mount, or wall mount (brackets required): WMB2U wall mount brackets (not included)
Certifications	CE; ETL listed: conforms to UL STD 61010A-1, EN STD 61010; certified to CAN/CSA C22.2 STD NO. 1010.1; RoHS compliant



FORT COLLINS CO
970 484-6650
970 484-6650 FAX
WWW.RLETECH.COM

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FALCON MONITORING SYSTEMS

Looking for maximum versatility & expandability?



The Falcon FMS delivers. The FMS is a comprehensive monitoring system with extreme versatility that allows it to monitor numerous types of signals and equipment. Among a variety of parameters, the FMS is commonly used to monitor equipment status and summary alarms, temperature, humidity, pressure, flow levels, security and fire sensors.

The FMS can be accessed, all points can be viewed, and relay outputs can be activated with a secure login from any web browser over the network or by dialing directly into the unit’s built-in modem.

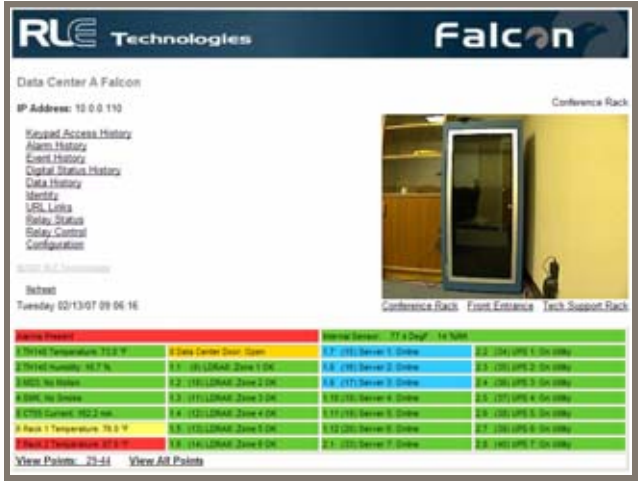
Due to its inherent scalability, the FMS is currently being used by organizations across many industries to protect critical infrastructure and equipment from environmental factors that pose risks to valuable uptime.

Key Features & Benefits

- Allows for convergence of IT and facilities with a single platform
- Easy to configure locally or remotely
- Standard communications : SNMP, BACnet, Modbus, SMS, and more
- Provides early warning alarm notification via diverse protocol
- Flexible access via Internet/Intranet, network, dial-up, or direct connection
- Web-based monitoring to view equipment status, alarms and logs, and more
- One integrated view of detailed data and images from up to ten IP cameras and/or other addressable equipment
- Direct keypad connection for access control
- Scalable configurations of up to 104 inputs



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Internet / Intranet Accessibility

Equipment status and sensor values can be viewed and configured from any standard web browser by logging into the unit’s built-in web server via Ethernet or remote telephone dial-in (PPP). The FMS web server also allows a user to access all configuration settings via LAN/Internet or modem. No host PC or special software is required. Three levels of password protection are provided to maintain login security. To ensure that your Falcon FMS has the latest firmware features, compatible firmware upgrades can be downloaded from the RLE website with no additional charges.

Inputs

The Falcon FMS accepts up to 104 inputs in a single enclosure. The base FMS accepts 8 universal inputs (digital dry contact or analog (4-20mA), and will also accommodate SNMP, BACnet/IP and Modbus protocols. Internal expansion cards offer additional dry contact, 4-20mA, 0-5VDC and/or 0-10VDC signal integration. This allows a wide variety of sensors, transducers, and dry contact signals from equipment and devices to be monitored. Two alarm levels for high and two alarm levels for low can be configured for all analog inputs.

No special wiring/connectors or tools are required to integrate sensors or equipment status signals. Connections are made with standard 18-22 AWG wire to the FMS’ pluggable, heavy-duty, screw-down terminal blocks, which are all located on the back to facilitate clean and quick wire routing.

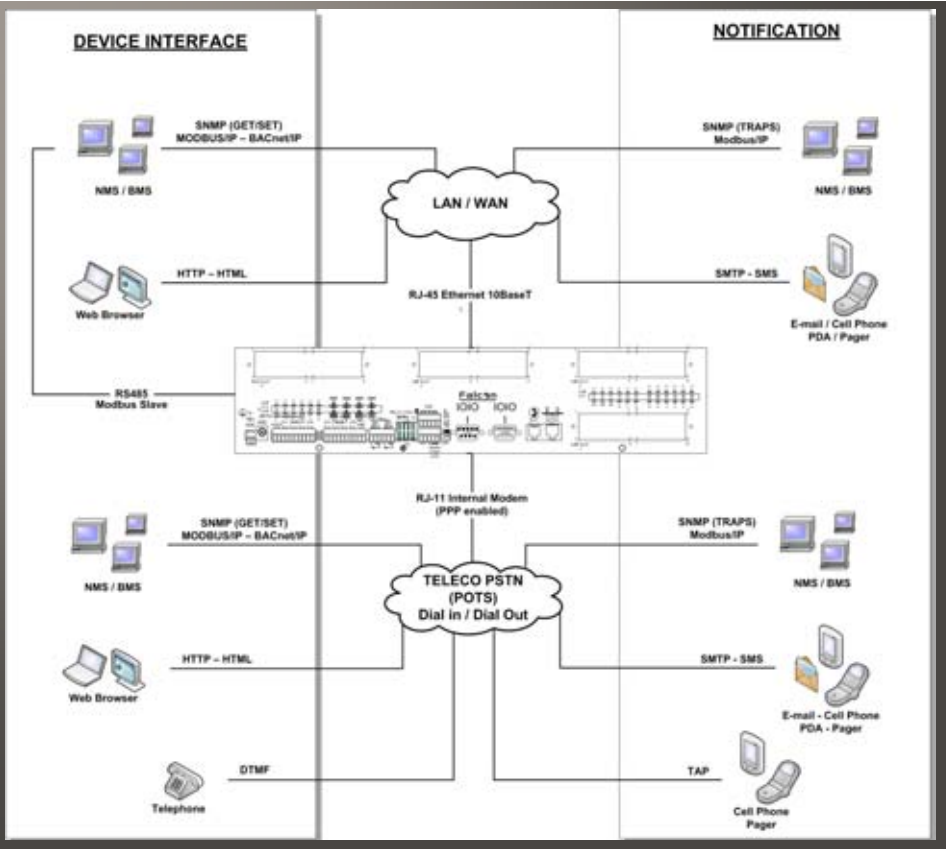
Outputs

Up to 34 relay outputs can control locks, devices, and equipment. Relays activate upon alarm, via the FMS webpage, or over the telephone (DTMF). Relay activation scheduling capabilities allow backup equipment to be cycled on a regular basis.

System Integration

If multiple sites need to be monitored, network operations center (NOC) can be configured as a central interface point for the system. Network Management System (NMS) software installed at the NOC, which communicates with the Falcon FMS via SNMP, allows all sites to be monitored from one terminal screen. All equipment status, control, and alarms from all sites can be managed from this one central location.

The FMS also offers BACnet/IP, which provides similar capabilities for integration with Building Management Systems (BMS). Both SNMP and BACnet/IP can be used simultaneously to ensure that those responsible for both NMS and BMS operations have the same information and are notified redundantly (or selectively based on the nature of the alarm) whenever a problem arises.



Communications Interface

Accepts digital dry contact, analog 4-20mA, 0-5VDC or 0-10VDC inputs and Modbus I/O. Expandable up to 104 digital inputs or 34 relay outputs!

PT600/CT55 Voltage/Current Transducers

RA1x2 Alarm Status and Replicator

Switchgear

Generator

ATS

Fire Alarm Panel

UPS

PDU

TVSS

PFM Power Fail Monitor

CRAC

TH140/TH140D Temperature Humidity Sensor

HD150 Hydrogen Detector

SURVEILLANCE & ACCESS CONTROL

IP Camera

Keypad/DTMF

MDS Magnetic Door Sensor

MD3 Motion Sensor

MODBUS INPUTS & OUTPUTS

LD5100 Distance Read Leak Detection

Branch Circuit Monitor (42 CTs)



Alarm Notification

The Falcon FMS also notifies various parties via multiple notification methods if any of the monitored parameters extend outside of user-defined thresholds. When any analog input exceeds the user-defined limits or when a digital input changes status, the FMS can be configured to send alarm notification via text, numeric or alphanumeric pagers, e-mail and/or SNMP Traps. Alarm notification is escalatory – if one person does not acknowledge a page within an acceptable timeframe, an additional pager will be notified.

