

TECHNICAL DATA

XM-442 VOTED EODS RELAY MODULE

The award winning, Allen-Bradley XM® series is the world's most comprehensive family of distributed machine condition monitoring and protection devices.

With the XM series discreet or networked monitoring solutions can be quickly and cost effectively deployed for steam, gas and hydro turbines, motors, compressors, pumps, fans, blowers and most other rotating machinery.

The XM-442 Voted EODS Relay Module serves as the relay management component of the XM systems Triple Redundant Overspeed Detection System.

The XM-442 Voted EODS Relay Module is designed to provide the utmost in reliability and performance: Its communications to the mated XM-220 Dual Speed Modules are independent of each other and the DeviceNet network that may, or may not, be connected. The module accepts power from independent primary and redundant sources; the module provides redundancy in its internal logic circuits; and the XM-442 provides three independent, redundant, shutdown relays.

The module has no user editable configuration parameters. Once wired, there is nothing to configure.

THE XM EODS KIT (1440-TMR-EODS-K)

includes everything necessary for a complete XM Electronic Overspeed Detection System, as pertaining to measurement and relay functions, and per the American Petroleum Institute (API) standard 670. See "How to Order" section.

TRIPLE REDUNDANT OVERSPEED PROTECTION



The XM-442 is a relay module, with a very specific purpose. The module provides four high power relays that serve as the alarm and shutdown relay component of an Electronic Overspeed Detection System. Three relays act as redundant shutdown relays and are actuated on two-out-of-three voting logic. The alarm relay is actuated on one-out-of-three logic.

The alarm relay also actuates if there is a failure of a logic device* in the XM-442 or a failure of a power supply. The shutdown relays however are not affected by a single power supply failure or a circuit fault within the XM-442 module.

**Redundant logic circuits allow the XM-442 to operate correctly even in the presence of a single internal circuit fault.*

SPECIFICATIONS

Communications

Side Connector:

A side connector allows interconnecting adjacent modules thereby simplifying the external wiring requirements. The Interconnect provides primary power and DeviceNet communications (not used by the XM-442).

Indicators

3 LEDs:

- Module Power - red/green
- Shutdown Relay - off/red
- Alarm Relay - off/red

Relays

Number: Four, two sets of contacts each - DPDT (2 Form C)

Relay Rating

- Max. Voltage = 150 Vdc, 250 Vac
- Max. Current = 3 A
- Min. Current = 100 mA @ 5 Vdc
- Max. Power = 240 W, 750 VA

Failsafe: Normally energized

Latching: The shutdown and alarm relays will latch when actuated and must be manually reset after the alarm or shutdown condition has cleared.

Voting Logic:

- Alarm Relay: one-out-of-three
- Shutdown Relay: two-out-of-three

Activation: Low logic level (<0.8V) on each overspeed/circuit fault input.

Reset:

- Local reset switch on top of module
- Remote reset switch wired to terminal base

Approvals

ODVA, CE, C-Tick,
CSA Class I Div 2 Groups A, B, C, D,
UL, EEX

HOW TO ORDER

The XM-442 Series Voted EODS Relay Module can be ordered by contacting your local authorized Allen-Bradley distributor or Rockwell Automation sales office.

Catalog Number	Description
1440-REX03-04RG	XM-442 Voted EODS Relay Module
1440-TB-G	Terminal Base G for XM-442

Note: the Electronic Overspeed Detection System may also require an enclosure and/or DIN rail, a display device, and other equipment as required by the specific application/installation.

XM EODS Kit (1440-TMR-EODS-K)

Qty	Cat. Number	Description
1	1440-REX03-04RG	XM-442 Voted EODS Relay Module
1	1440-TB-G	Terminal Base G for XM-442
3	1440-SPD02-01RB	XM-220 Dual Speed Module
3	1440-TB-B	Terminal Base B for XM-220
2	1606-XLP30E	Power Supply

www.rockwellautomation.com

Power, Control and Information Solutions

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation SA/NV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Power

Module: 21.6 - 26.4Vdc

Consumption: Max: 120mA

Heat Production:

- Max: 2.9 Watts (9.9 BTU/hr)
- Redundant Power: Each module includes redundant power inputs on terminal base.

Physical

Dimensions:

- Height: 3.8in (97mm)
- Width: 3.7in (94mm)
- Depth: 3.7in (94mm)

Weight:

- Module: 5.8 ounces (164 grams)
- Terminal Base: 8.2 ounces (232 grams)

Environmental

Temperature:

- Operating: -20 to +65°C (-4 to 149°F)
- Storage: -30 to +85°C (-22 to 185°F)

Relative Humidity: 95% non-condensing

Conformal Coating:

All printed circuit boards are conformal coated.

- Per material specifications:
MIL-I-46058C/IPC-CC-830
- In accordance with: IPC-A-610C