M500XJ

Fault Isolator Module

General

The Johnson Controls M500XJ Fault Isolator Module is used with the IFC Intelligent Fire Alarm Control Panels (FACP) to protect the system against wire-to-wire short circuits on the SLC loops.

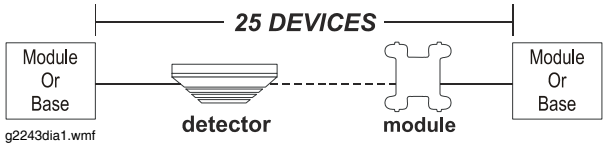
Features

- Powered by SLC loop directly, no external power required.
- Mount in standard 4.0" (10.16 cm) square (2.125" [5.398 cm] deep) junction boxes.
- Integral LED blinks to indicate normal condition. Illuminates steady when short circuit condition is detected.
- High noise (EMF/RFI) immunity.
- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

Applications

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The M500XJ supports a maximum of 25 devices in-between isolators, except when using relay bases.

NOTE: *ON LOADS PER RELAY BASE AND ISOLATORS/ISOLATOR BASES:* the maximum number of addressable devices between isolators (or B224BI isolator bases) is 25 devices.



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B224RB relay bases draw more current than all other intelligent devices. When calculating the 25-device maximum: B224RB represents 2.5 *devices* (see example on page 2)

NOTE: *ON MAXIMUM NUMBER OF DEVICES:* See the SLC Manual (p/n 51870) for information on loss of addresses due to current limitations. Each module or base added reduces the capacity of address positions in an SLC. Requirements differ as applied to relay bases (see note above).

M500XJ

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Construction

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

Operation

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the M500XJ is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The M500XJ Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

Installation

- Mount on a standard 4" (10.16 cm) mounting junction box which is at least 2.125" (5.398 cm) deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

Specifications

Operating voltage: 15 – 32 VDC (peak).

Current range: 5 mA for LED latched in alarm.

Standby current: 400 µA maximum, plus supervision current.

Pulsing current: 30 mA for 15 mS (CMX-1, CMX-2, FCM-1).

Temperature range: 32°F to 120°F (0°C to 49°C).

Relative humidity: 10% to 93%.

Weight: (5 oz.) 150 grams.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S1570
- **ULC:** CS669
- **FM Approved**
- **CSFM:** 7300-0554:152

Architectual/Engineering Specifications

Fault Isolator Modules shall be provided to automatically isolate wire-to-wire short circuits on an SLC loop. The Fault Isolator Module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC Loop. If a wire-to-wire short occurs, the Fault Isolator Module shall automatically open-circuit (disconnect) the SLC loop. When the short circuit condition is corrected, the Fault Isolator Module shall automatically reconnect the isolated section of the SLC loop. The Fault Isolator Module shall not require any address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset an Fault Isolator Module after its normal operation. The Fault Isolator Module shall mount in a standard 4.0" (10.16 cm) deep electrical box, in a surface-mounted backbox, or in the Fire Alarm Control Panel. It shall provide a single LED which shall flash to indicate that a short circuit condition has been detected and isolated.

Product Line Information

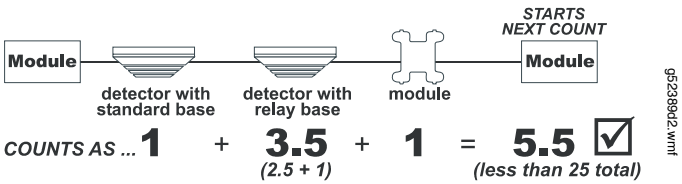
M500XJ: Isolator Module.

M500XJA: Isolator Module. Canadian (ULC) version.

SMB500: Surface Mount Backbox

Examples of Device Counts

(see notes under *Applications*)



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