



Notes

- For connection of HVR800s, refer to document HVR800 High Voltage Relay Module "Installation Instructions" 17A-03-HVR, Issue 3 or later.
- Relay wiring will be application dependant, refer to the system diagram.

CPR Information



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DoP-2015-4067

EN 54-18:2005

Input-output device for use in fire detection and alarm systems in buildings
MIO800

Essential Characteristics

EN54-18: 2005

Response delay (response time): Pass
Performance under fire conditions: Pass
Operational reliability: Pass
Durability of operational reliability; temperature resistance: Pass
Durability of operational reliability; vibration resistance: Pass
Durability of operational reliability; humidity resistance: Pass
Durability of operational reliability; corrosion resistance: Pass
Durability of operational reliability; electrical stability: Pass

Installation Instructions
120.415.846_17A-03-MIO
Service Instructions 17A-04-S

Ordering information

Name	Stock code number
MIO800 Small Addressable Multi-I/O Module:	555.800.065
Din Rail Mounting Kit	557.201.303
D800 Ancillary Housing:	557.201.401

Table 4: Ordering information

MIO800 Small Addressable Multi-input/output Module – Installation instructions

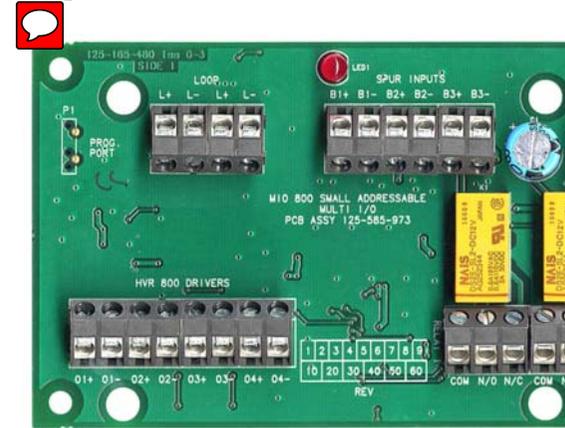


Fig. 1: MIO800 Small Adressable Multi-I/O Module

Technical specifications

Parameters	Value
Type Identification Value	194
System Compatibility	Use only with MX Fire Alarm Controllers
Dimensions (HWD)	72 x 110 x 18 mm
Mounting Requirements	D800 Ancillary Housing or Din Rail

Table 1: Technical Specifications

Environmental

Parameter	Value
Environment	Indoor Application only
Operating Temperature	-25 °C to +70 °C
Storage Temperature	-40 °C to +80 °C

Table 2: Environmental Specifications

Parameter	Value
Operating Humidity	Up to 95 % non-condensing

Table 2: Environmental Specifications

Electrical Characteristics

Parameter	Value
Battery Requirements From an addressable loop	<ul style="list-style-type: none"> ■ Standby current: 0.7 mA ■ Alarm current: 6.25 mA
Relay Contact Rating	DC - 2 A @ 24 V dc
Wire Size:	Min 1.5mm ² Max 2.5mm ²
Maximum Wiring Resistance Monitored Circuit	40ohms

Table 3: Electrical Characteristics

Parameter	Value
Addressable Device Conditions	■ Normal
	■ Active
	■ Short Circuit wiring fault
	■ Open Circuit wiring fault
	■ Device Type Invalid
	■ Device No Response
	■ Output Stuck

Table 3: Electrical Characteristics

NOTICE

The MIO800 must not be used to switch mains voltages.

Electromagnetic Compatibility

- The MIO800 complies with the following:
- Product family standard EN50130-4 in respect of Conducted Disturbances, Radiated Immunity, Electrostatic Discharge, Fast Transients and Slow High Energy
 - EN 61000-6-3 for emissions

Introduction

The MIO800 Multi-Input/Output Module has three class B inputs and two outputs from latching relays. The class B inputs can monitor fire contacts such as extinguishing system control, ventilation control, fire door control etc. The two relays outputs are dry form C that provide volt-free relay changeover contacts.

A maximum of two HVR800 High Voltage Relay Modules can be individually driven and controlled by an MIO800 if all HVR800s are powered by 24V dc or 24V ac. In this application, the HVR800s are controlled by the two latching relays on the MIO800.

A maximum of four HVR800 High Voltage Relay Modules can be individually driven and controlled by an MIO800 if all HVR800s are powered by 120V ac or 240V ac. In this application, the HVR800s are controlled by the four control outputs (O1+/O1- to O4+/O4-) on the MIO800.

CAUTION

Only HVR800s with a date code later than 40-03 or later may be used with the MIO800.

For connection and power supply requirements when using the MIO800 with HVR800s, refer to document "HVR800 High Voltage Relay Module Installation Instructions" 17A-03-HVR, Issue 3 or later.

Each of the three MIO800 class B SPUR inputs can be configured to either:

- STYLE B - Monitor multiple normally open contacts with a short on the zone giving an alarm.
- STYLE C - Monitor a single normally open or normally closed contact with a short or open on the zone, giving a fault.

Features

The MIO800 monitoring and control features include the following configurable items:

- Addressable functionality.
- Monitoring three Class B circuits either normally open or normally closed contacts.
- The status of the identified monitored contact signals to the Fire Controller.
- The status of the wiring to the relay contacts.
- The LED lights when any of the three monitored zones has switched to the active (off normal) state.
- The LED when normally off, will pulse when the MIO800 is polled by the controller.

NOTICE

- All spur inputs must be terminated with A 330 ohm EOL resistor.
- MX CONSYS Configuration selection – style B (normally open)
- * Multiple contacts may be used as needed.

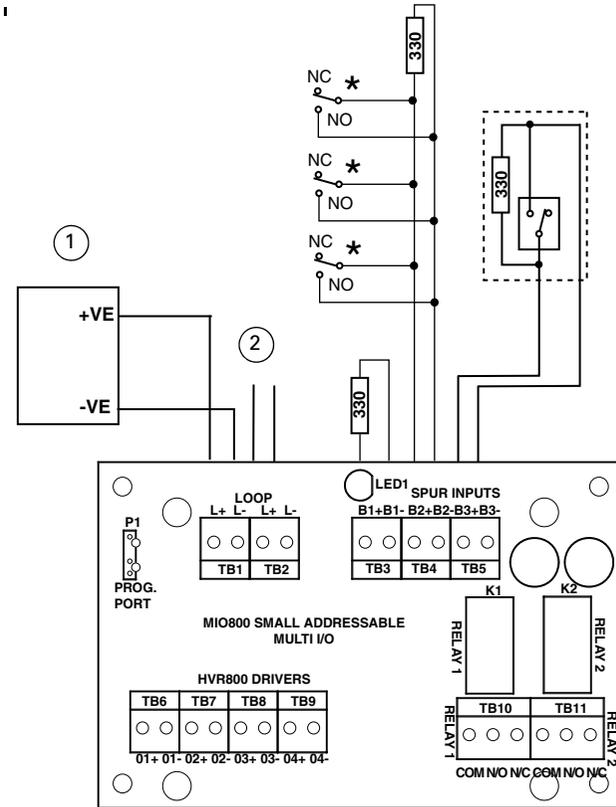


Fig. 7: Spur Circuit (Class B) Normally Open Contacts
Short Circuit = Alarm
1- MX Controller
2- To next device

NOTICE

- All spur inputs must be terminated with A 330 ohm EOL resistor.
- MX CONSYS Configuration selection – style C (normally closed)
- One contact for each spur circuit.

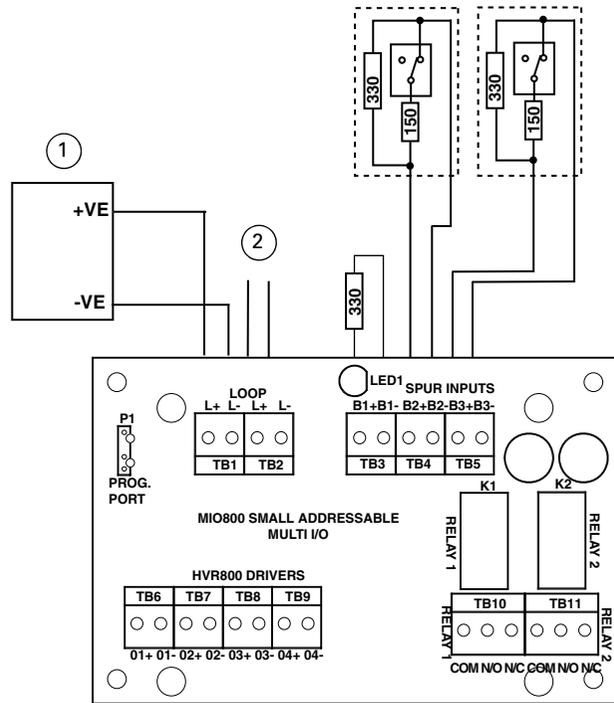


Fig. 6: Spur Circuits (Class B) Normally Open Contacts
 Short Circuit = Fault
 1– MX Controller
 2– To next device

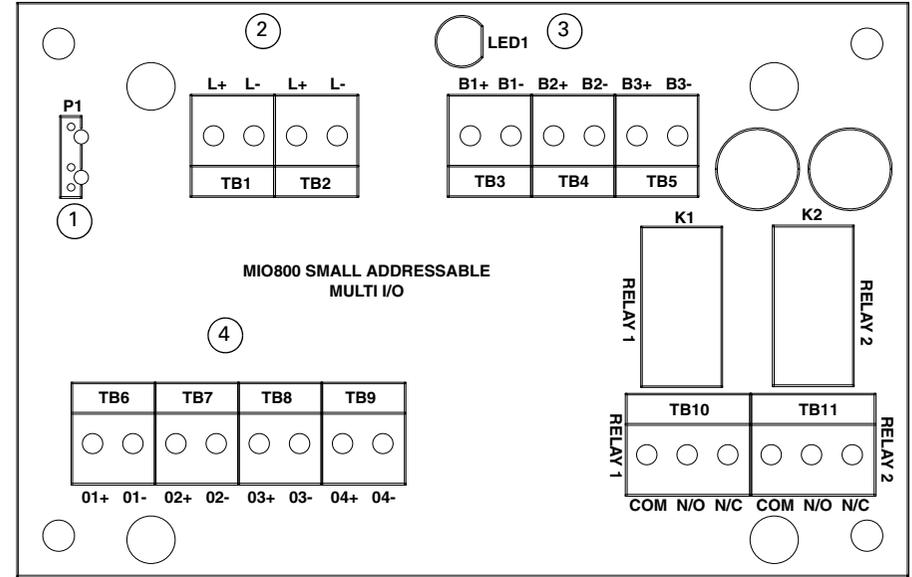


Fig. 2: MIO800 PCB Layout
 1– Programming port
 2– Loop
 3– Spur inputs
 4– HVR800 drivers

Wiring & Installation notes

WARNING

The MIO800 must not be used to switch mains voltages.

- There are no user-required settings (switches, headers) on the MIO800.
- All conductors to be free of earths.
- All wiring must conform to current edition of IEE Wiring Regulations and BS5839 Part 1.
- See Figs 5 to 7 for MIO800 simplified wiring diagrams.
- For 24V dc powered applications, only use a regulated supply suitable for fire protective signalling service, such as the PSM800.
- For powered circuit operation, route the positive conductor through the MIO800 to the external device, while connecting the common (neutral) conductor to the external circuit.
- For dry contact switching, connect the external circuit to the COM and N/O or N/C terminals for normally open or normally closed operation as required.
- Verify the correct polarity of wiring before connecting the MIO800 to the addressable loop circuit.
- For connection to HVR800s, refer to document "HVR800 High Voltage Relay Module - Installation Instructions" 17A-03-HVR, Issue 3 or later.

Mounting

Mounting to a D800 ancillary housing (Fig. 3)

How to mount the MIO800 to the D800 Ancillary Housing

- 1 Open the D800 housing and place the contents in the packaging.
- 2 Remove the required number of knockouts.
- 3 Mount the housing in the location shown on the system drawing.
- 4 Fit the four spacers to the larger holes on the MIO800 PCB (bottom side).
- 5 Fix the PCB to the backbox using the four self tapping screws supplied.



Fig. 3: MIO800 Mounted in D800 Housing

Installation of modules onto DIN Rail mounting hardware (Fig. 4)

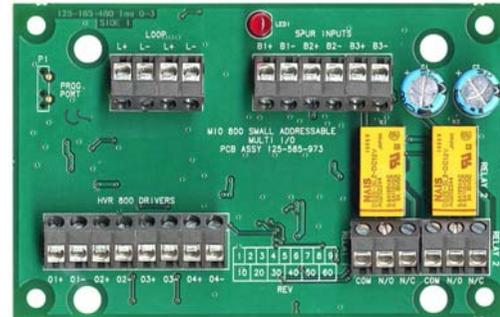


Fig. 4: MIO800 Mounted to DIN Rail

How to install modules onto DIN Rail mounting hardware

- 1 Use mounting hardware kit 557.201.303.
- 2 Slide the two Base elements onto the MIO800 PCB. Next slide two Foot elements onto slots on the bottom side of the Base elements. Finally slide two Side elements onto the ends of the Base elements.

Address settings

The MIO800 has a default factory set address of 255, this must be set to the loop address of the device using the 801AP MX Service Tool. The MIO800 may be programmed with the address prior to being installed by using the internal programming port (see Fig. 2) or via the 'Change Address' command on the MX fire controller. The MIO800 uses 7 consecutive addresses on the MX addressable loop, starting from the chosen programmed address number.



Note

Once the address has been programmed, take note of the device location and address number, to include on site drawings.

Cabling

Cables are to be selected in accordance with Publication 17A-02-D and the requirements of the current issue of BS5839. Two pairs of connection terminals (L+ and L-) are provided on the terminal block. These terminals are used for connecting the module onto the addressable circuit. A maximum of one 1.5mm² or one 2.5mm² cable may be connected at any one terminal.



NOTICE

- All spur inputs must be terminated with A 330 ohm EOL resistor.
- MX CONSYS Configuration selection – style C (normally open)
- One contact for each spur circuit.

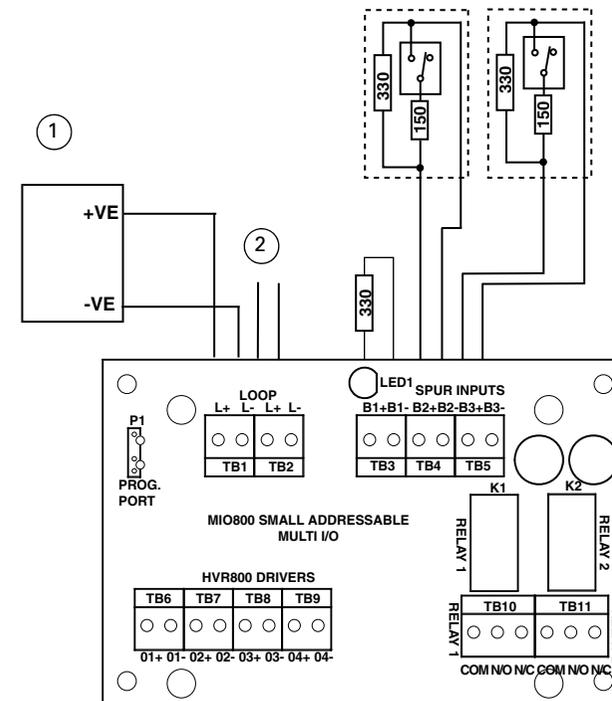


Fig. 5: Spur Circuits (Class B) Normally Open Contacts
Short Circuit = Fault
1 – MX Controller
2 – To next device