FCM-1-ISO & FRM-1-ISO Series

Control and Relay Modules

NOTIFIER® by Honeywell

Intelligent/ Addressable Devices

General

FCM-1-ISO Control Module: The FCM-1-ISO Addressable Control Module are intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.). Addressability allows the FCM-1-ISO to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

FRM-1-ISO Relay Module: The FRM-1-ISO Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1-ISO module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED "blinks" green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- The FCM-1-ISO may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).
- The FCM-1-ISO & FRM-1-ISO include an isolation circuit, when short circuit occurs, FCM-1-ISO & FRM-1-ISO will cut off the connection of the devices which are in the back-end. And when the short fault removes, these devices will be reconnected.

Applications

The FCM-1-ISO is used to switch 24 VDC audible/visual power, high-level audio (speakers). The FRM-1-ISO may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

FCM-1/FRM-1

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
- The FCM-1-ISO is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1-ISO provides two Form-C dry contacts that switch together.

Operation

FCM-1-ISO Control Modules is used to switch an external power supply, which can be a DC power supply or an audio amplifier (up to 70.7 VRMS), to notification appliances. It also supervises the wiring to the connected loads and reports their status to the panel as NORMAL, OPEN, or SHORT CIRCUIT. The FCM-1-ISO has two pairs of output termination points available for fault-tolerant wiring and a panel-controlled LED indicator. This module can be used to replace an FCM-1 module.

The FRM-1-ISO Relay Control Module allows a compatible control panel to switch discrete contacts by code command. The relay contains two isolated sets of Form-C contacts, which operate as a DPDT switch and are rated in accordance with the table in the manual. Circuit connections to the relay contacts are not supervised by the module. The module also has a panel controlled LED indicator. This module can be used to replace to an FRM-1 module.

Each FCM-1-ISO or FRM-1-ISO uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received.

On command, it activates its internal relay. The FCM-1-ISO supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1-ISO will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

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 listed**: UOXX.S3705

Contact Ratings for FRM-1-ISO

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VAC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded

NOTE: Maximum (Speakers): 70.7 V RMS, 50 W

Specifications for FCM-1-ISO

Dimensions:	4 1/2″ H × 4″ W × 11/4″ D (Mounts to a 4″ square by 21/8″ deep box.)
Weight:	97g
Operating Temperature Range:	32°F to 120°F (0°C to 49°C)
Operating Humidity Range:	10% to 93% relative humidity (non-condensing)
Accessories:	CB500 Barrier
SLC Electrical Ratings	
(Supplied by a limited energy power source)	
Rated Nominal Voltage:	24V
Maximum SLC Standby Current:	600µA (@24V)
Maximum Alarm Current:	15 mA (LED on)
Maximum NAC Line Loss:	4 VDC
External Supply Ratings	
Maximum Voltage (NAC):	Regulated 24 VDC
Maximum Voltage (Speakers):	70.7 V RMS, 50 W
Drain on External Supply:	1.7 mA Maximum using 24 VDC supply; 2.2 mA Maximum using 70.7 VRMS supply
Max NAC Current Ratings:	2A
Isolator Electrical Ratings	
Maximum Current Draw:	17mA device in isolation
Maximum Load Current:	1A
Maximum ON Resistance:	80mΩ @24VDC
Standard:	UL864
Wire range for the terminals:	14-24 AWG (Terminals are suitable for "Field Wiring" and "Multi-conductors".)
Software:	A
Accessories:	SMB500 Electrical Box; CB500 barrier

Specifications for FRM-1-ISO

Dimensions:	41/2″ H x 4″ W x 11/4″ D (Mounts to a 4″ square by 21/8″ deep box.)
Weight:	97.5g
Operating Temperature Range:	32°F to 120°F (0°C to 49°C)
Operating Humidity Range:	10% to 93% relative humidity (non-condensing)
Accessories:	CB500 Barrier
SLC Electrical Ratings	
(Supplied by a limited energy power source)	
Rated Nominal Voltage:	24V
Maximum SLC Standby Current:	500µA (@24V)
Maximum Alarm Current:	15 mA (LED on)
Isolator Electrical Ratings	
Maximum Current Draw:	17mA device in isolation
Maximum Load Current:	1A
Maximum ON Resistance:	80mΩ @24VDC
Relay Ratings	
Rated load (Resistive):	0.5 A at 125 VAC; 2 A at 30 VDC
Standard:	UL864
Wire range for the terminals:	14-24 AWG (Terminals are suitable for "Field Wiring" and "Multi-conductors".)
Software:	A
Accessories:	SMB500 Electrical Box; CB500 Barrier

Ordering Information

Model #	Product description
FCM-1-ISO	INTELLIGENT CONTROL MODULE WITH BUILT-IN ISOLATOR, FLASHSCAN
FRM-1-ISO	INTELLIGENT RELAY MODULE WITH BUILT-IN ISOLATOR, FLASHSCAN
CB500	Control Module Barrier.
SMB500	MODULE SURFACE MOUNT BOX

Note:
SMB500: Optional Surface-Mount Backbox.
CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1
NOTE: For installation instructions, see the following documents:
- FCM-1-ISO Installation document I56-1232-000
- FRM-1-ISO Installation document I56-1234-000