



INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR MODULE

ECO2000M ANALOGUE ADDRESSABLE INPUT MODULE

GENERAL DESCRIPTION

The ECO2000M stand alone input module provides a two-wire initiating circuit for normally open contact fire alarm and supervisory devices. The circuit is monitored for open-circuit and short-circuit wiring faults. The ECO2000M input module is designed to be used as a component of an ECO2000 fire alarm system and therefore must only be installed with an ECO2000 compatible fire alarm control panel.

Each Module features the possibility to connect a red LED which can be used as a visible indication. This can be used to indicate various modes depending on the control panel's design. The LED can be latched on by code command from the control panel for an alarm indication. It can also be unlatched to the normal condition by code command. In the normal condition the LED can be pulsed to indicate the presence of the module. There is also a special address flashing mode which allows the module's address to be read by observation.

The ECO2000M is small enough to fit inside a single gang junction box behind the device being monitored. Its size and light weight allows it to be installed without the need to be rigidly mounted (see figure 1), however it is recommended that the screw fixing positions be used if possible, particularly in larger enclosures or where the installation is expected to be subject to vibration or movement.

SPECIFICATIONS

Operating Voltage Range	15 to 30 VDC
Max. Standby Current	385µA @ 24 VDC (no communication)
Max. Alarm Current (LED on)	6.5 mA @ 24 VDC
Maximum Loop Current (continuous)	1A
Device Resistance (Non-isolating)	0.2 Ohms (negative line due to short circuit isolators)
Operating Humidity Range:	5% to 95% Relative Humidity, noncondensing
Operating Temperature Range:	-30°C to +70°C
Note: Do not install in locations where the normal ambient temperature range extends beyond -10°C to +50°C	
Height:	17mm
Length:	75mm
Width:	45mm
Weight:	40g

WIRING GUIDE

Refer to the wiring schematic in figure 2 for wiring details. The module is supplied with unterminated leads using the colours shown designated below, appropriate connectors should be used for joining the wires to the loop and any devices to be monitored.

Black:	-ve in
Red:	+ve in/out
Black:	-ve out
Violet:	+ve supervised input
Yellow:	-ve supervised input
Blue:	+ve remote LED
Black:	-ve remote LED

NOTE: All wiring must conform to applicable local and national codes and regulations.

NOTE: Before applying power to the system, verify that all devices are installed and that the polarity of the wiring is correct at each device.

WARNING

Disconnect loop power before installing devices.

MODULE INSTALLATION

1. Install the wiring to the module in accordance with the wiring guide above.
2. ECO2000 devices feature a proprietary method for auto-configuration and therefore there is no need to set any addresses on the devices. Their communication address is automatically set by the control panel according to the physical position of the device on the loop.
3. ECO2000 devices feature short circuit isolators in the negative side of the loop and therefore in the event of a single short circuit on the loop, all ECO2000 devices will continue to operate correctly. It is imperative on installation that all devices are present, since the auto-addressing is dependent on the position of the devices. If any devices are omitted, then the addressing for the other devices may be incorrect.
4. If the device is at a zone boundary set the switch on the front of the unit to '1' in accordance with the automatic zone configuration instructions of the control panel, else set to '0'. Not all control panels support this feature, therefore refer to the control panel's documentation for auto-configuring the system.
5. Place the module in its desired mounting position. Where space is restricted it is possible to remove the mounting lugs from the sides of the module and fit the product into the mounting box using some other method e.g. sticky pads.
6. Test the module for correct function under TESTING.

TESTING

ECO2000M modules must be tested after installation and following periodic maintenance. However, before testing, notify the proper authorities that the fire detection system is undergoing testing and that the system will be temporarily out of service, since any automatic connection to the fire brigade or manned remote station must be temporarily disconnected.

In addition, check to ensure that the LED blinks (this feature may be configurable under software command from the control panel). If it does not and the panel is set to blink the LED, power has been lost to the device. In this case first check the wiring or if the device is defective return it for repair.

Test the device as follows:

1. Activate any of the ancillary equipment attached to the product and ensure that the intended alarm condition occurs at the control panel.
2. The red alarm LED, if fitted, should latch on within 10 seconds indicating an alarm and activating the panel into a condition to indicate the device under test.
3. On commissioning, it is essential that the full function of the system is checked. Therefore the end of line resistor should be removed to ensure that the correct device fault is indicated at the control panel. It is also necessary to check that the wiring loop length is not excessive and that the wiring faults can be correctly interpreted. This can be done by shorting the end of line resistor and ensuring that the relevant fault is indicated at the control panel.

After completion of all tests notify the proper authorities that the system is operational.

NOTE: As with all addressable fire systems it is essential after commissioning or after any changes have been made to the system that each device responds at the address intended and that its indications and activations are according to the system design. Since auto-configuration may change the addressing of the devices this is even more important for the ECO2000 system.

If any tests are failed it is essential to verify that the wiring resistance to the device is not excessive. If this is not the case, then modules that fail these tests should be returned for replacement or repair.

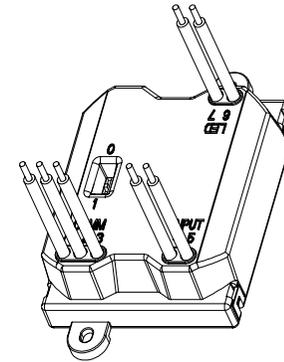


Figure 1. ECO2000M Stand Alone Input Module.

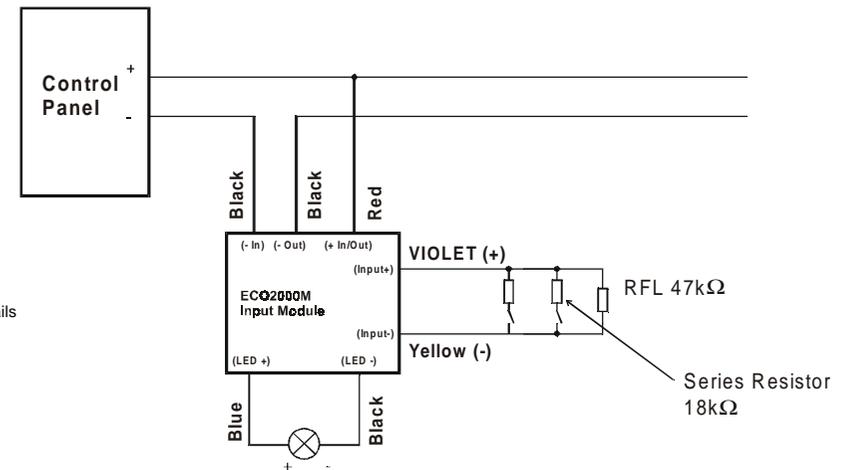


Figure 2. Wiring Details

Notes:

1. The detection circuit is current limited to 230µA maximum, 24VDC nominal.
2. The detection circuit may help to monitor the following services:
 - a. Fire: Automatic/manual waterflow alarm services with N.O. contact devices
 - b. Sprinkler supervision with N.O. contact devices.
 - c. Ancillary fire detection equipment, such as flame detectors, beam detectors etc.
3. Do not mix services.