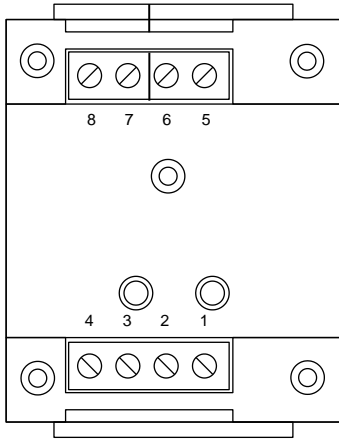


SIGA-IO Input/Output Module Installation Sheet



Description

The SIGA-IO Input/Output Module is an addressable device that provides a control relay output and an initiating device input in a single package. Depending on the module's personality code, the two circuits operate independently or together.

The module requires one address on the signaling line circuit (SLC). Addresses are assigned electronically. There are no address switches.

Diagnostic LEDs provide visible indication of the status of the module:

- Normal: Green LED flashes
- Alarm/active: Red LED flashes

Personality codes

The module requires the loop controller to download the personality code that determines how the module operates. Use the personality codes described below to configure the SIGA-IO. Refer to Table 1 for UL 864 programming requirements.

Table 1: UL 864 programming requirements

This product incorporates field-programmable software. In order for the product to comply with the requirements in the *Standard for Control Units and Accessories for Fire Alarm Systems*, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Program feature or option	Permitted in UL 864?	Possible settings	Settings permitted in UL 864?
Personality code 35	No	N/A	N/A
Personality code 36	No	N/A	N/A

Personality code 31: Monitor - NO input/output NO: Factory default. Configures the module as a normally open output relay contact that requires a maintained dry contact input activation. The activation must take place within a time period defined by the user (15 second default, 5 to 120 second selectable) after the output circuit activation. If the fire alarm control panel does not receive a monitor input within the specified time, it generates a trouble condition.

Personality code 32: Monitor - NO input/output NC: Personality code 32 operates the same as personality code 31, except that the output is configured as a normally closed, dry contact relay.

Personality code 33: Alarm - NO latching input/output NO: Configures the module as a normally open, dry contact relay and an alarm latching input for Class B contact initiating devices. When the input contact of the initiating device changes state, the module sends an alarm signal to the Signature loop controller and the alarm condition is latched at the module. The output must be programmed to be activated by the panel.

Personality code 34: Alarm - NO latching input/output NC: Personality code 34 operates the same as personality code 33, except that the output is configured as a normally closed, dry contact relay.

Personality code 35: Alarm - NO delayed latching input/output NO: Configures the module as a normally-open dry contact relay and a delayed latching alarm input circuit. The module generates an alarm event after a short is placed across the input circuit and maintained for at least 16 seconds. The output must be programmed to be activated by the panel.

Personality code 36: Alarm - NO delayed latching input/output NC: Personality code 36 operates the same as personality code 35, except that the output is configured as a normally closed, dry contact relay.

Personality code 37: Active - NO nonlatching input/output NO: Configures the module as a normally open, dry contact relay and an active latching input for Class B contact initiating devices. When the input contact of the initiating device changes state, the module sends an active signal to the Signature loop controller. The active signal does not latch, and restores when the input device returns to its normal state. The output must be programmed to be activated by the panel.

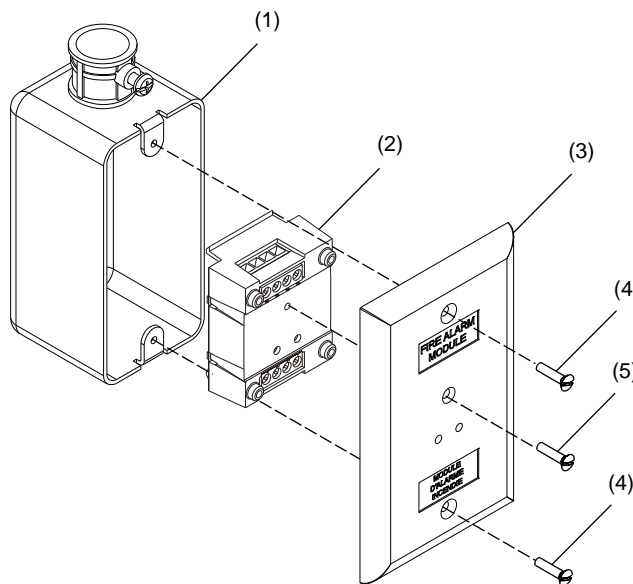
Personality code 38: Active - NO nonlatching input/output NC: Personality code 38 operates the same as personality code 37, except that the output is configured as a normally closed, dry contact relay.

Personality code 39: Active - NO latching input/output NO: Configures the module as a normally open, dry contact relay and an active latching input for Class B contact initiating devices. When the input contact of the initiating device changes state, the module sends an active signal to the Signature loop controller and the active condition is latched at the module. The output must be programmed to be activated by the panel.

Personality code 40: Active - NO latching input/output NC: Personality code 40 operates the same as personality code 39, except that the output is configured as a normally closed, dry contact relay.

- Using the screws provided, mount the wall plate (with the module attached) on one of the compatible electrical boxes listed in “Specifications” on page 4.

Figure 1: Mounting the IO module



- | | |
|-------------------------------------|---------------------------------|
| (1) Compatible electrical box | (4) #6-32 x 5/8 machine screw |
| (2) Module | (5) #4 x 1/2 self-tapping screw |
| (3) Wall plate, white (single-gang) | |

Installation

WARNING: Connecting a device that exceeds this module’s pilot duty contact ratings may cause activation failure. This module does not support capacitive loads. See “Specifications” on page 4 for contact ratings.

Notes

- The module is shipped from the factory as an assembled unit; it contains no user-serviceable parts and should not be disassembled.
- This module does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with the local fire protection specialist.
- The module does not support conventional smoke detectors.

Install in accordance with all applicable local codes and standards and the local authority having jurisdiction.

To install the module:

- Wire in accordance with “Wiring” below.
- Write the address assigned to the module on the label provided, and then apply the label to the module. Remove the serial number label from the detector, and then attach it to the project documentation.
- Using the screw provided, mount the wall plate on the module. See Figure 1 for mounting details.

Wiring

Wire in accordance with applicable requirements of the latest editions of the local codes and standards and the local authority having jurisdiction.

Note: When stripping wire ends, exposing more wire may cause a ground fault or circuit malfunction on unsupervised wiring; exposing less wire may result in a faulty connection.

Strip 1/4 in. (about 6 mm) from the ends of all wires that connect to the terminal block of the module.

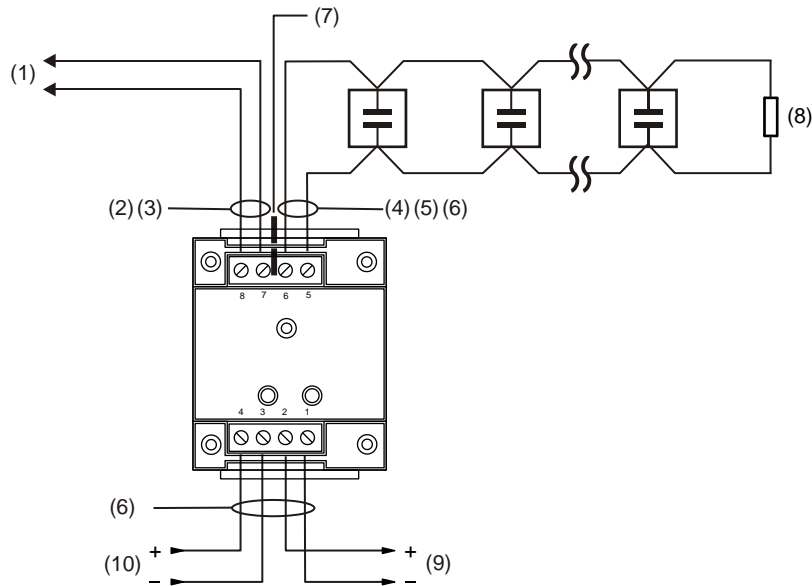
Notes

- Refer to the Signature loop controller installation sheet for SLC wiring specifications.
- Each terminal on the module is limited to a single conductor.

To wire the module:

- Verify that all field wiring is free of opens, shorts, and ground faults.
- Make all wiring connections as shown in Figure 2.

Figure 2: Wiring diagram



- | | |
|--|--|
| <p>(1) Normally open (NO) or normally closed (NC) relay contacts (user configurable) Class E</p> <p>(2) Not supervised. Power-limited unless connected to a nonpower-limited source. If the source is nonpower-limited, eliminate the power-limited mark and maintain a minimum of 0.25 in. (6.4 mm) space from power-limited wiring. For other mounting methods, see enclosure and bracket installation sheets to maintain separation of power-limited and nonpower-limited wiring. The wire size must be capable of handling fault current from nonpower-limited source.</p> | <p>(3) The relay function is programmable</p> <p>(4) 25 Ω max per wire</p> <p>(5) 10 VDC at 350 μA, max</p> <p>(6) Power-limited and supervised</p> <p>(7) The Nomex isolation barrier separates power-limited and nonpower-limited wiring.</p> <p>(8) 47 kΩ EOL resistor (PN EOL-47) used for Class B only</p> <p>(9) Signaling line circuit (SLC) to next device</p> <p>(10) Signaling line circuit (SLC) from previous device</p> |
|--|--|

— or —

Use type FPL, FPLR, FPLP, or permitted substitute cables, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.4 mm) space or by a nonconductive sleeve or nonconductive barrier from all other conductors. Refer to the NFPA 70 *National Electrical Code* for more details.

Specifications

Operating voltage	15.20 to 19.95 VDC
Current	
Standby	310 μ A
Activated	450 μ A
Ground fault impedance	10 k Ω
Initiating device circuit (IDC) Class B	
Circuit resistance	50 Ω max. per channel, (25 Ω per wire)
Circuit capacitance	0.1 μ F max. per channel
Circuit designation	
Signaling line circuits	Class A, Style 6 or Class B, Style 4
Contact ratings (pilot duty)	24 VDC at 2 A 120 VAC at 0.5 A
Relay type	Form A or B, programmable
Compatible electrical boxes	2-1/2 in. (64 mm) deep single-gang box; Standard 4 in. square, 1-1/2 in. (38 mm) deep box
Wire size	12 to 18 AWG (0.75 to 2.5 mm ²)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93%, noncondensing
Storage temperature range	-4 to 140°F (-20 to 60°C)

Regulatory information

North American standards	CAN/ULC-S527, UL 864
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Contact information

For contact information, see www.edwardsfiresafety.com.