

INPUT/OUTPUT-MODULES

Intellia Input/Output-modules for FX fire detection system

Fire protection systems can be engineered simply and effectively without the need for custom-designed equipment.

The Intellia Input/output-modules (I/O –modules) offer several features for a variety of monitoring and control functions in a FX fire detection system.

The Intellia series of products are all compatible with the FX-ALC loop controller.

Standard modules are fitted with bi-directional short-circuit isolators so that they are unaffected by a single short-circuit on either loop input or output.

Standard modules are designed to be surface or flush-mounted to walls and consist of three parts: a backbox with knockouts for cable entry, a PCB assembly and a protective front cover.

Output Module EMI-301 with isolator

The loop powered EMI-301 Module provides voltage-free, single pole, change-over relay output.

The EMI-301 module has one voltage free change-over relay output with double contacts.

The EMI-301 Output Module is loop powered and operates at 17-28 VDC.

One red LED and one yellow LED are visible through the front cover of the enclosure. The red LED is illuminated to indicate that the relay is set. The yellow LED is illuminated whenever the built in isolator has sensed a short-circuit loop fault.



EMI-301, EMI-311, EMI-311/240



EMI-333

Single Input - Output Module EMI-311 with isolator

The EMI-311 module has one monitored switch contact input and one voltage free change-over relay output with double contacts.

The EMI-311 module is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output.

The EMI-311 module is loop powered and operates at 17-28 VDC. The loop connections are polarity sensitive.

Four LEDs, two red and two yellow, are visible through the front cover of the enclosure. One red LED is illuminated to indicate that the relay is set. The second red LED is illuminated to indicate that the switch input is closed. One yellow LED is illuminated whenever a fault condition (open or short circuit) has been detected. The second yellow LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

Single Input - Single Mains Switching Module EMI-311/240

The EMI-311/240 module provides a monitored switch contact input and a voltage-free, single pole change-over relay output. This unit is designed to switch machinery operating at 230 V, thus obviating the need for an intermediate relay and a power supply.

The EMI-311/240 Mains Switching Input/Output Module is loop powered and operates at 17–28 VDC. The loop connections are polarity sensitive.

Three LEDs, two red and one yellow, are visible through the front cover of the enclosure. One red LED is illuminated to indicate that the relay is set. The second red LED is illuminated to indicate that the switch input is closed. The yellow LED is illuminated whenever a fault condition (open or short circuit) has been detected. All LED indicators can be disabled using segment 8 of the DIL switch.

Three Input (parallel)/three Output (parallel) Module EMI-333 with isolator

EMI-333 module has three monitored switch contact inputs, operated as parallel, and three change-over relay contacts, controlled as parallel.

The loop connections are polarity sensitive.

The three contact Input/Output Module is supplied in an IP66 grey polycarbonate box for surface mounting. The box is mounted at its corners with access to the fixing screws through the lid attachment holes.

Ten 16 mm / 21 mm and six 22 mm / 38 mm dual diameter cable entry knockouts are provided. To preserve the integrity of the box, suitable glands should be used when terminating cables.

Ten LEDs, six red and four yellow, are fitted to the PCB. All LEDs except the isolator LED can be disabled to conserve loop current. For each channel, one red LED is illuminated to indicate that the relay is set; a second red LED is illuminated to indicate that the switch input is closed and a yellow LED is illuminated to indicate an open or short-circuit fault. A separate yellow LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

Technical data

Note! All Intellia series I/O modules take 1 address from the loop, regardless how many inputs/outputs they have.

Module EMI-301	
Operating voltage (Loop voltage)	17–28 VDC
Max. Current consumption at 28 VDC	
- Quiescent current	500 µA
- LED off, switch input closed	1,6 mA
- LED on, switch input closed	4 mA
Relay output contact rating	1 A at 30 VDC
On resistance (isolator)	0,2 Ω
IP Rating	IP54
Operating temperature	-20 °C to +70 °C
Humidity (no condensation)	0–95 %
Dimensions	150 x 90 x 48 mm
Weight	240 g
Complies with EMC Directive 2004/108/EC	
Complies with EN54-17:2005 and EN54-18:2005	
Product code	0672 7301

Module EMI-311	
Operating voltage in normal conditions (Loop voltage)	17–28 VDC
Max. current consumption at 28 VDC	
- Quiescent, 20 kΩ EOL fitted	1 mA
- LED off, switch input closed	1,5mA
- LED on, switch input closed	2,5mA
- Any other condition (max 2 LEDs on)	3 mA
Switch input monitoring voltage (open-circuit condition)	9–11 VDC
Relay output contact rating at 30V AC or DC	1 A (inductive or resistive)
On resistance (isolator)	0,2 Ω
IP Rating	IP54
Operating temperature	-20 °C to +70 °C
Humidity (no condensation)	0–95 %
Dimensions	150 x 90 x 48 mm
Weight	240 g
Complies with EMC Directive 2004/108/EC	
Complies with EN54-17:2005 and EN54-18:2005	
Input end of the line resistor	20 kΩ
Alarm switch serial resistor	1 kΩ
Product code	0672 7311

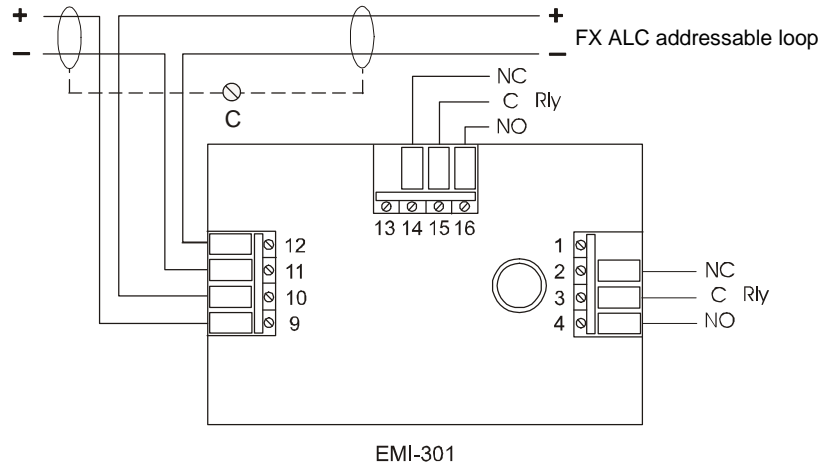
Module EMI-311/240	
Operating voltage (Loop voltage)	17–28 VDC
Max. current consumption at 28 VDC	
- Quiescent, 20 kΩ EOL fitted	1,5 mA
- LED on, switch input closed	5 mA
- Any other condition, (max 2 LEDs on)	5 mA
- LED off, switch input closed	2 mA
- Any other condition, LEDs off	2 mA
Rated load (resistive)	5 A at 250 VAC 2 A at 48 VDC
Max switching capacity	1,25 kVA
Switch input monitoring voltage (open-circuit condition)	9–11 VDC
IP rating	IP54
Operating temperature	-20 °C to +70 °C
Humidity (no condensation)	0–95 %
Dimensions	150 x 90 x 48 mm
Weight	240 g
Complies with EMC Directive 2004/108/EC	
Complies with EN54-18:2005	
Input end of the line resistor	20 kΩ
Alarm switch serial resistor	1 kΩ
Product code	0672 7361

Module EMI-333	
Operating voltage (Loop voltage)	17–28 VDC
Current consumption at 28 VDC	
- Quiescent, 20kΩ EOL fitted (LEDs off)	3 mA
- LED on switch inputs closed	6 mA
- LED off switch inputs closed	4 mA
- LED on relays operated	5,5 mA
- LED off relays operated	3,5 mA
- Worst case ie 3 switch inputs closed, 3 relays operated, 6 LEDs on	7,5 mA
Switch input monitoring voltage (open-circuit condition)	9–11 VDC
Relay output contact rating at 30V AC or DC	1 A (inductive or resistive)
On resistance (isolator)	0,2 Ω
IP Rating	IP54
Operating temperature	-20 °C to +70 °C
Humidity (no condensation)	0–95%
Dimensions	250 x 175 x 75 mm
Weight	621 g
Complies with EMC Directive 2004/108/EC	
Complies with EN54-17:2005 and EN54-18:2005	
Input end of the line resistor	20 kΩ
Alarm switch serial resistor	1 kΩ
Product code	0672 7333

Pelco reserves the right to modifications.

Schematic Diagram & Wiring Connections

EMI-301



- 1 = Not Used
- 2 = Relay NC
- 3 = Relay Common
- 4 = Relay NO
- 9 = L2 (+ve)
- 10 = L2 (+ve)
- 11 = L1 (-ve)
- 12 = L1 (-ve)
- 13 = Not Used
- 14 = Relay NC
- 15 = Relay Common
- 16 = Relay NO

C = Additional connector for shield

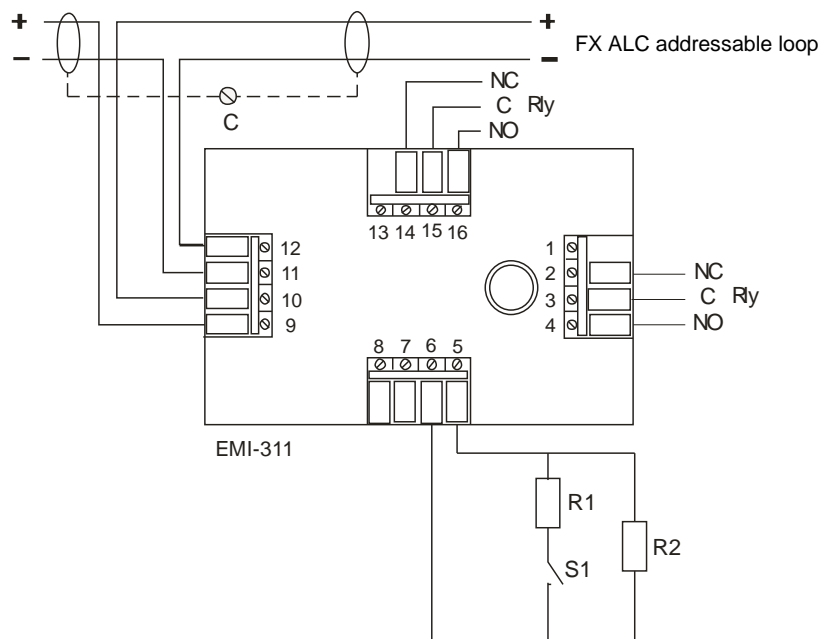
Note!

L1 and L2 are polarity sensitive

Note!

Relay contacts are connected in parallel.

EMI-311



S1 = Normally open monitoring circuit

R1 = 1 kΩ
R2 = 20 kΩ ±10 % 1/3 W

- 1 = Not Used
- 2 = Relay NC
- 3 = Relay Common
- 4 = Relay NO
- 5 = I/P-
- 6 = I/P+
- 7 = Not Used
- 8 = Not Used
- 9 = L2 (+ve)
- 10 = L2 (+ve)
- 11 = L1 (-ve)
- 12 = L1 (-ve)
- 13 = Not Used
- 14 = Relay NC
- 15 = Relay Common
- 16 = Relay NO

C = Additional connector for shield

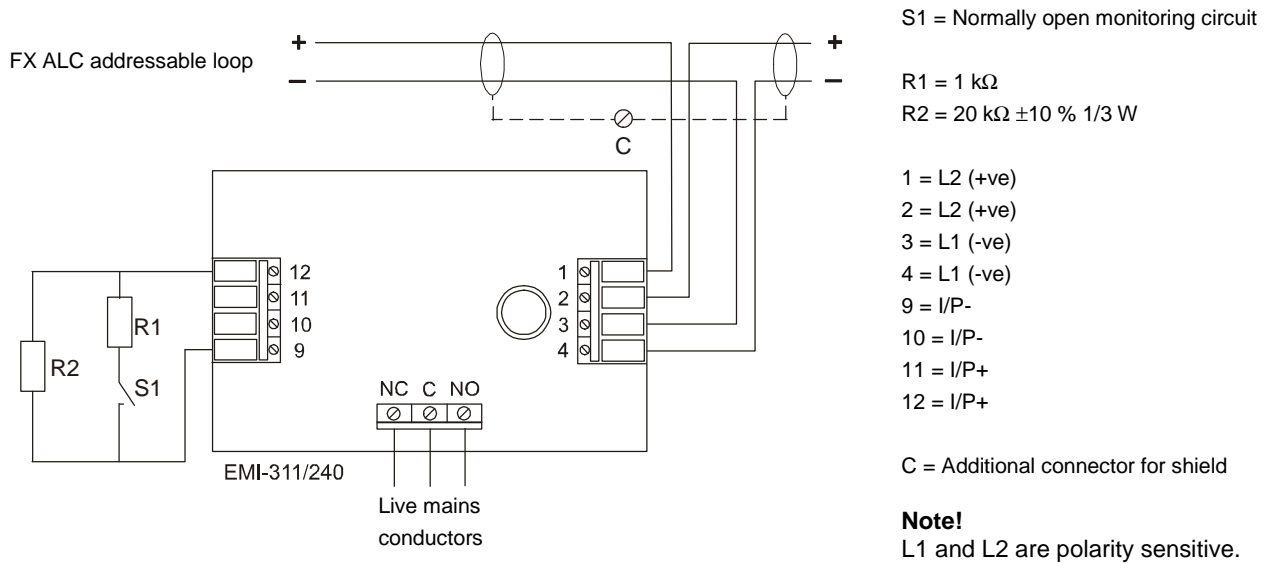
Note!

L1 and L2 are polarity sensitive.

Note!

Relay contacts are connected in parallel.

EMI-311/240

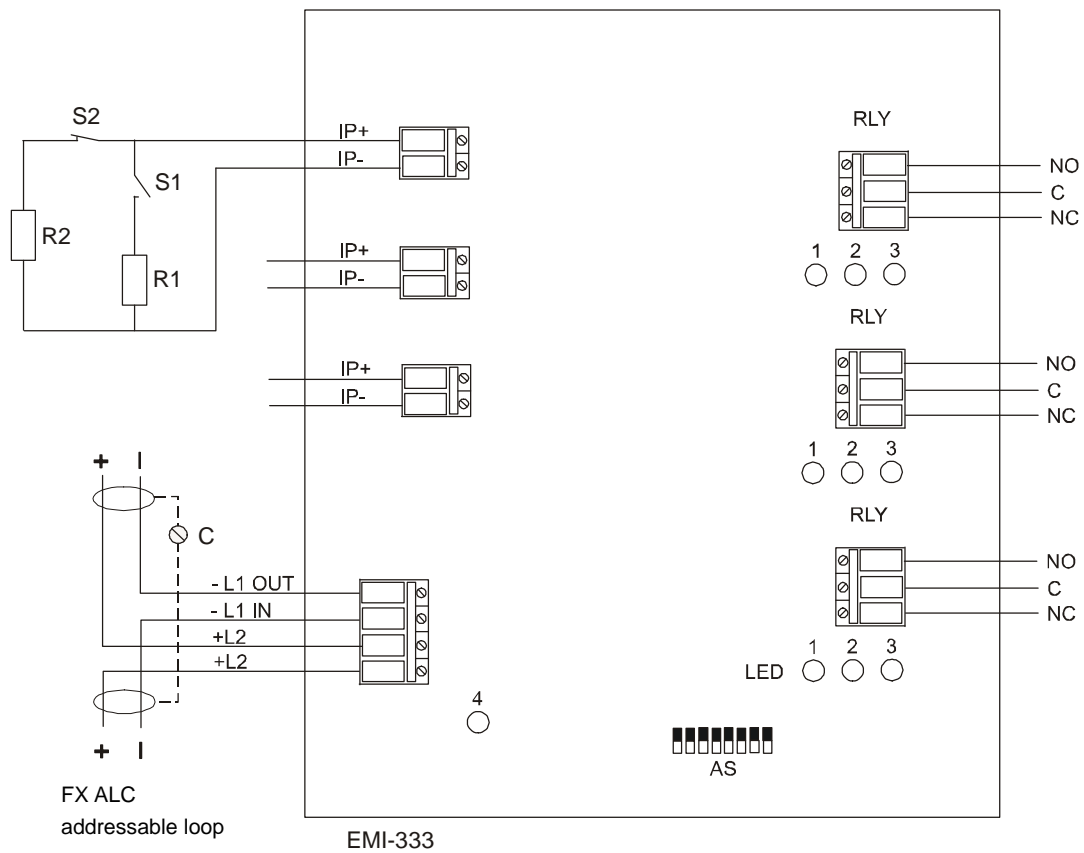


Important note! Ensure that segregation of the safety extra low voltage and mains voltage cables is maintained within the backbox with the leatheroid mains barrier supplied, following the instructions below:

	<p>Fold the leatheroid mains barrier in half lengthways along pre-formed crease to form an L-shape.</p>
	<p>Align the cut holes of the mains barrier with the screw knockouts in the backbox and slide into place either side of the backbox pillars.</p> <p>The mains barrier can only be fitted one way.</p> <p>Due to the need for cable segregation, cable entry from the rear of the backbox is not recommended.</p>

If the mains barrier is not used, the safety extra low voltage cable must not lie across the mains terminal block or the mains conductors.

EMI-333



S1 = Normally open monitoring circuit
 S2 = Normally closed fault contact

R1 = 1 kΩ
 R2 = 20 kΩ ±10 % 1/3 W

IP = Input
 RLY = Relay
 AS = Address switch

LEDs
 1. Switch closed
 2. Fault
 3. Relay on
 4. Isolator

C = Additional connector for shield

Note!
 L1 and L2 are polarity sensitive.

Note!
 Relay contacts are connected in parallel.