

XP95

Input/Output Unit with Isolator



Technical data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 23°C and 50% RH unless otherwise stated.

Minimum loop operating voltage in normal conditions	17 V dc
Maximum loop operating voltage	28 V dc
Digital communication	XP95 and Discovery compatible
Maximum current consumption at 28 V dc, no protocol	
Switch-on surge, max 150 ms	3.5 mA
Quiescent, 20 kΩ EOL fitted	1.25 mA
Switch input closed 'switch closed' LED on	2.5 mA
Switch input closed (LED disabled)	1.5 mA
Any other condition (max 2 LEDs on)	3.5 mA
Relay operated	2 mA
Switch input monitoring voltage	9 - 11 V dc (open-circuit condition)
Switch input conditions and status	See Table 2
Maximum cable resistance	50 Ω
Opto-coupled input	
Maximum voltage (polarity sensitive)	35 V dc
Impedance	10 kΩ
Relay output	
Contact rating (inductive or resistive)	1 A at 30 V ac or dc
Wetting current	10 µA at 10 mV dc
On resistance	0.2 Ω
Maximum continuous current	1 A
Maximum switching current	3 A
Maximum load	20 XP95/Discovery detectors
Operating temperature (ambient)	-20°C to 70°C
Humidity (no condensation or icing)	0 - 95% RH
Shock, vibration and impact	EN54-18
IP rating	designed to IP54
Standards and approvals	EN54-17, EN54-18 and IEC61508-1
Dimensions	150 mm x 90 mm x 48 mm
Weight	240g
Materials	Body - white polycarbonate

Product overview

Product	Input/Output Unit with Isolator
Part No.	55000-847SIL
Digital Communication	XP95 and Discovery compatible

Approvals



Note: SIL2 approval is only applicable if this device is used in a duplex configuration.

Product information

The Input/Output Unit with Isolator provides two voltage-free single pole, change-over relay outputs, a single monitored switch input and an unmonitored, polarised opto-coupled link.

The Input/Output Unit supervises one or more normally open switches connected to a single pair of cables.

The Input/Output Unit is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output.

Electrical description

The Input/Output Unit is loop-powered and operates at 17 - 28 V dc with protocol pulses of 5 - 9 V.

Protocol compatibility

The unit will only operate with control equipment using the Apollo XP95 or Discovery protocol.

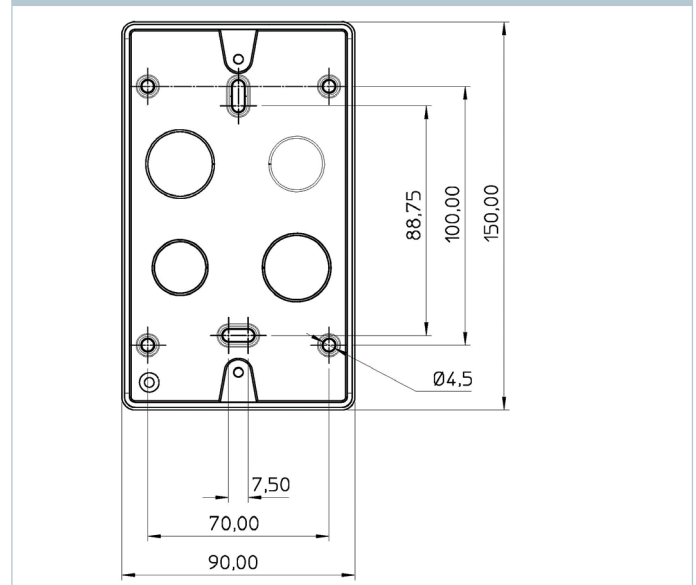
The Input/Output Unit is normally supplied with a back box for surface mounting. It is also available without the back box for flush mounting. Both versions are designed for indoor use only.

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 other LED is illuminated whenever the built-in isolator has sensed a short-circuit loop fault.

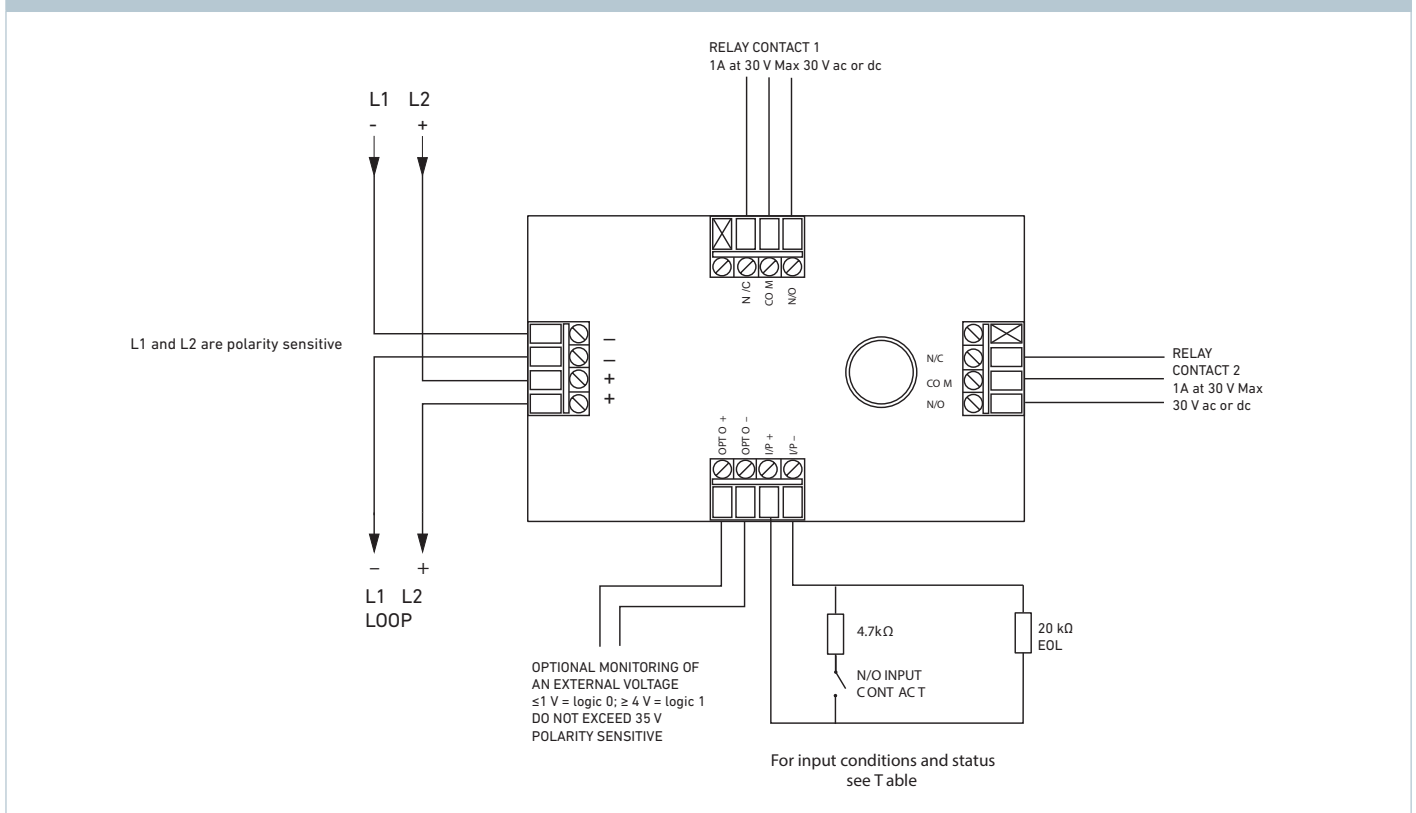
Input/Output Unit dimensional drawing



Input conditions and status

Resistance status across input	Status	Analogue value	2	1	0
< 100 Ω	Short-circuit fault	4	0	†	0
100 - 200 Ω	Indeterminate	4 or 16	0	†	0 or 1
200 - 11 KΩ 4.7 kΩ	Switch closed	16	0	†	1
11 - 15 kΩ	Indeterminate	16	0	†	0 or 1
15 - 25 kΩ 20 kΩ	Normal (switch open)	16	0	†	0
25 - 30 kΩ	Indeterminate	4 or 16	0	†	0

Input/Output Unit schematic diagram and wiring connections

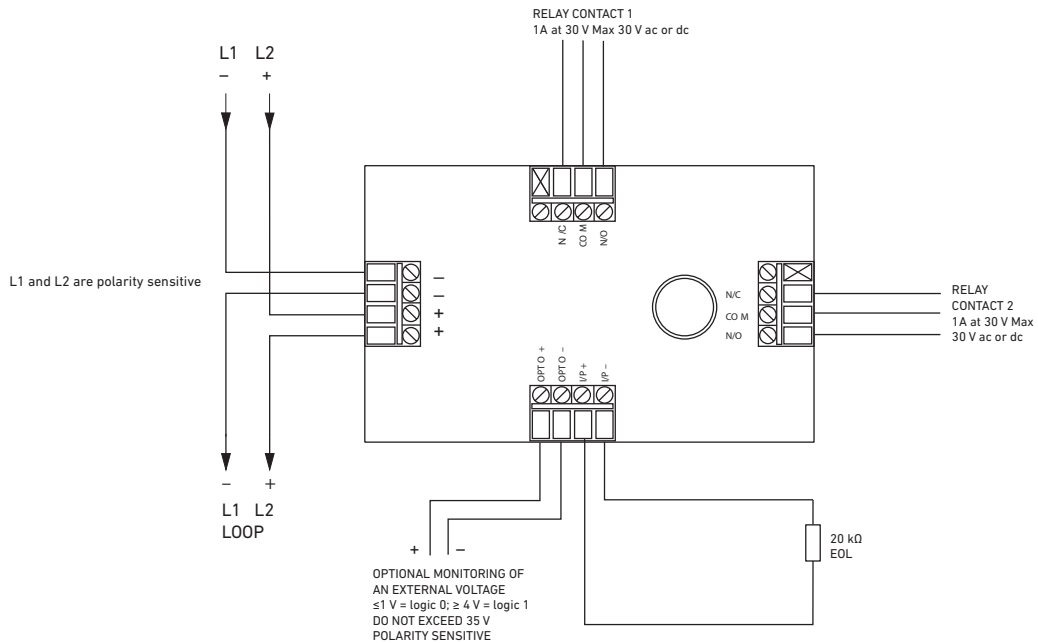


Use as an output only unit

The device can be used as an output only unit if configured as follows:

There **must be no connection** to the opto I/P terminals 7 and 8, and the 20 kΩ end-of-line supplies **must** be connected directly to the IP+/IP- terminals 5 and 6.

Schematic diagram and wiring connections for use as an output only device



EMC Directive 2014/30/EU

The Input/Output Unit with Isolator complies with the essential requirements of the EMC Directive 2014/30/EU, provided it is used as described in this data sheet and that it is not operated more than five times a minute or twice in any two seconds.

A copy of the Declaration of Conformity is available from the Apollo website: www.apollo-fire.co.uk

Conformity of the Input/Output Unit with Isolator with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Input/Output Unit with Isolator complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from the Apollo website: www.apollo-fire.co.uk

Low Voltage Directive 2014/35/EU

To comply with the Low Voltage Directive 2014/35/EU no electrical supply greater than 50 V ac RMS or 75 V dc should be connected to any terminal of this Input/Output Unit.

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