apollo
WORLD CLASS FIRE SOLUTIONS

Input/Output Unit With Isolator

FUNCTION
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 input.

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

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

PROTOCOL BIT USAGE
See Table 1 overleaf.

MECHANICAL CONSTRUCTION
The Input/Output Unit is normally supplied with a backbox for surface mounting. It is also available without the backbox 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.

Input/Ouput Unit with isolator Part no 55000-847
SIL Input/Output Unit with isolator Part no 55000-847SIL

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.

The enclosure is moulded from the same polycarbonate as Apollo detectors.

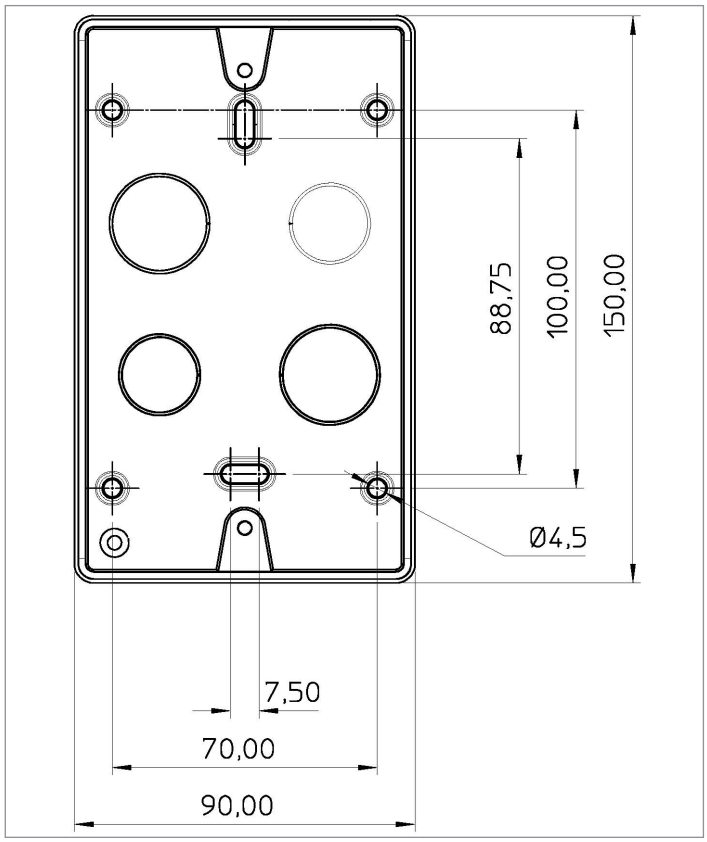
CE 0832

LPCB LOSS PREVENTION CERTIFICATION BOARD

DIMENSIONS AND WEIGHT

150 x 90 x 48mm 240g

DIMENSIONAL DRAWING



Protocol Bits	Function
Output Bit 2	Not used
Output Bit 1	Not used
Output Bit 0	1 = relay set
Analogue value Bits	4 = open or short-circuit fault 16 = normal operation
Input Bit 2	Not used
Input Bit 1	0 = opto input <1V 1 = opto input >4V (1–4V = indeterminate)
Input Bit 0	0 = switch open or fault 1 = switch closed
Interrupt	Not Used
XP Flag Set	Yes
Alarm Flag Set	No

Table 1 *Protocol Bit Usage*

TECHNICAL DATA

Minimum loop operating voltage in normal conditions	17V DC
Maximum loop operating voltage	28V DC
Maximum current consumption at 28V DC no protocol	
Switch-on surge, max 150ms	3.5mA
Quiescent, 20kΩ EOL fitted	1.25mA
Switch input closed 'switch closed' LED on	2.5mA
Switch input closed (LED disabled)	1.5mA
Any other condition (max 2 LEDs on)	3.5mA
Relay operated	2mA
Switch input monitoring voltage (open-circuit condition)	9–11V DC
Switch input conditions and status - see Table 2	
Maximum cable resistance	50Ω
Opto-coupled input	
maximum voltage (polarity sensitive)	35V DC
impedance	10kΩ
Relay output contact rating (inductive or resistive)	1A at 30V AC or DC
Relay output wetting current at 10mV DC	10µA
On resistance	0.2Ω
Maximum continuous current	1A
Maximum switching current	3A
Maximum load	20 XP95/Discovery detectors
Operating temperature	–20°C to +70°C
Humidity (no condensation)	0–95%
Shock, Vibration, Impact	to GEI 1-052
IP rating	54

LOW VOLTAGE DIRECTIVE 73/23/EEC

No electrical supply greater than 50V AC rms or 75V DC should be connected to any terminal of this Input/Output Unit.

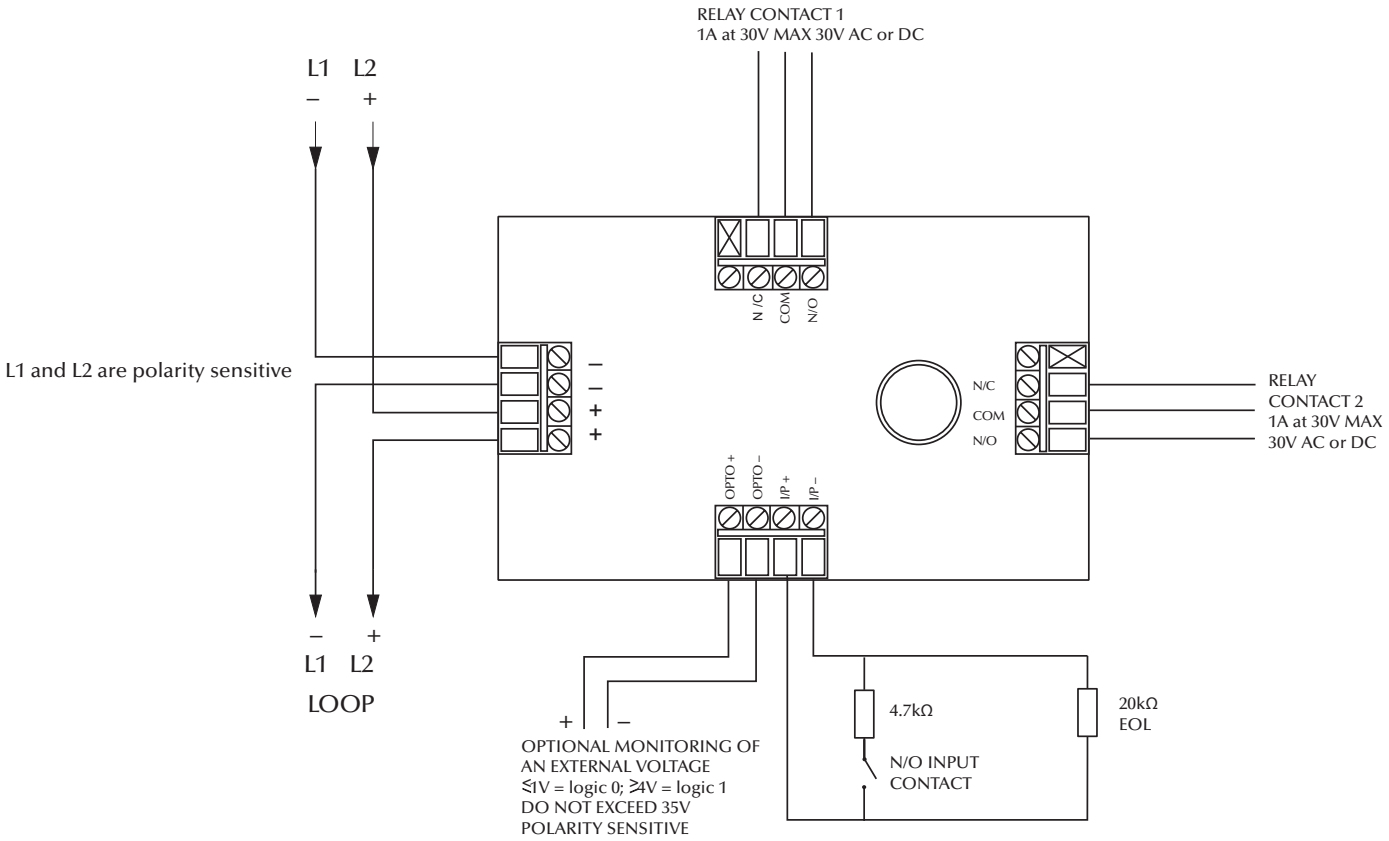
EMC DIRECTIVE 2004/108/EC

The Input/Output Unit complies with the essential requirements of the EMC Directive 2004/108/EC, provided that 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.

Resistance Status across input	Status	Analogue Value	2	1	0
<100Ω	Short-circuit fault	4	0	†	0
100–200Ω	Indeterminate	4 or 16	0	†	0 or 1
200–11kΩ *4.7kΩ*	Switch closed	16	0	†	1
11–15kΩ	Indeterminate	16	0	†	0 or 1
15–25kΩ *20kΩ*	Normal (switch open)	16	0	†	0
25–30kΩ	Indeterminate	4 or 16	0	†	0
The values in italics are recommended values. † See "input bit 1"					

Table 2 *Input conditions and status*

SCHEMATIC DIAGRAM AND WIRING CONNECTIONS



For input conditions and status see Table 2.

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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