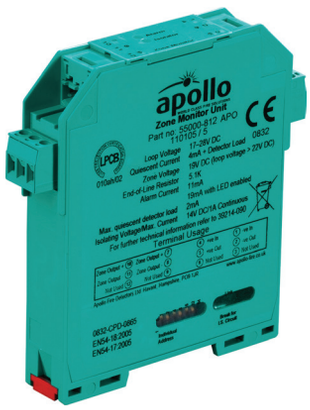
XP95

DIN-Rail Zone Monitor with Isolator



Product overview

Product	**DIN-Rail Zone Monitor with isolator**
Part No.	**55000-812**
Digital communication	**XP95**

Compliance

CE LPCB FG

Product information

The DIN-Rail Zone Monitor with isolator powers and controls the operation of a zone of up to 20 conventional detectors from a loop of XP95 or Discovery addressable detectors and ancillary devices.

The DIN-Rail Zone Monitor with isolator is designed to be mounted on a 35 mm width DIN-Rail inside an enclosure.

- Loop-powered
- Visible short-circuit and alarm LEDs
- Built-in isolator

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Supply voltage		*17 - 28 V dc*
Digital communication		*XP95, Discovery compatible*
Modulation voltage		*5–9 V peak to peak*
Zone voltage		
Loop voltage > 22 V		*19 V ± 1 V*
Loop voltage < 22 V		*loop voltage -1.5 V*
Maximum current consumption at 28 V		
Switch-on surge, max 250 ms		*2.8 mA*
Quiescent		*4 mA + detector load*
Alarm		*11 mA*
Short-circuit		*11 mA*
Maximum quiescent detector load		*2 mA*
Maximum current through isolator		*1 A continuous, 3 A peak*
Isolating voltage		*14 V*
End-of-line resistor value		*5.1 kΩ + 5% 1/3 W*
Stabilisation time on power-up		*4 seconds*
Maximum capacitor on zone terminals		*50 µF*
Operating temperature		*-20°C to +70°C*
Storage temperature		*-30°C to +80°C*
Humidity		*0% to 95% RH (no condensation or icing)*
IP Rating		*IP20*
Standards and approvals		*EN 54-17, EN 54-18, CPR, LPCB, FG*
Design environment		*Indoor use only*
Dimensions		*107 mm wide x 110 mm height x 20 mm depth*
Weight		*90 g*
Materials	*Housing*	*Green flame-retardant polycarbonate*

Note: *For further information on the isolator refer to PP2090 - Short-circuit isolation - available from www.apollo-fire.co.uk*

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Operation

The DIN-Rail Zone Monitor with isolator is factory pre-set to return an analogue value of 16 when all detectors on the zone are in the quiescent state and 64 when a detector changes to the alarm state.

A 5.1 kΩ end-of-line resistor is used to monitor cables for open and short-circuit faults. Alternatively, an active end-of-line monitor may be used in conjunction with the diode bases and a capacitor of up to 50 µF fitted at the unit wiring terminals.

In either case an analogue value of four is transmiited during open or short-circuit faults.

The DIN-Rail Zone Monitor with isolator is fitted with a bi-directional short-circuit isolator and will be unaffected by loop short-circuits on either loop input or output.

Two LEDs are visible through the top cover of the enclosure.

The red LED illuminates in the event of an alarm condition.

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

Protocol usage

Output bits	
2	Increase zone current for LED
1	Initiate self-test
0	Activate zone reset
Interrupt	No
Analogue value	
64	Alarm
16	Quiescent
4	Zone fault
Input bits	
2	Increased zone current confirmed
1	Self-test confirmed
0	Zone reset active
Flag setting	
XP95 flag	Yes
Alarm flag	Yes

Table of analogue values related to circuit status and zone load (input resistance)

Safe area circuit value	Status	Analogue value
< 150 Ω	Short-circuit fault	4
150 Ω to 200 Ω	Indeterminate	4 or 64
200 Ω to 2.6 kΩ	Alarm	64
2.6 kΩ to 3.5 kΩ	Indeterminate	64 or 16
3.5 kΩ to 6.8 kΩ	Normal	16
6.8 kΩ to 7.5 kΩ	Indeterminate	4 or 16
> 7.5 kΩ	Open-circuit fault	4

EMC Directive 2014/30/EU

The DIN-Rail Zone Monitor with isolator complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this datasheet.

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

Conformity of the DIN-Rail Dual Isolator 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 DIN-Rail Zone Monitor 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

Notes on use

1. *Zone voltage is regulated to 19 V ± 1 V for any loop voltage greater than 22 V. If the loop voltage falls below 22 V, the zone voltage is approximately 1.5 V below the loop voltage. It is important to make sure that under worse-case conditions, the zone voltage is above the minimum operating voltage for the conventional detectors.*
2. *Alarm conditions are latched internally by the zone monitor. It is therefore necessary to reset the alarm even if non-latching conventional detectors are used.*
3. *To comply with BS5839-1 response time requirements, manual call points can only be incorporated into zones connected by the zone monitor to systems if the control panel is programmed to recognise the alarm flag.*
4. *Manual call points can be located at any point in the zone wiring if active end-of-line monitoring with diode detector bases is used. If a 5.1 kΩ resistor is used for monitoring, manual call points must be connected between the zone monitor and the first detector (see wiring diagram below).*
5. *The zone monitor includes a bi-directional isolator, therefore a single short-circuit on the loop wiring adjacent to the zone monitor will not affect the operation of the conventional detector zone.*

Wiring diagram