

PERTRONIC INDUSTRIES LTD

DATASHEET

Multifunction Loop Responder

AALR-MF



Overview

The Pertronic Multi-Function Loop Responder connects to Pertronic analogue addressable fire alarm signalling loops. The loop responder interfaces with devices such as conventional zone detection circuits, sprinkler flow switches, aspirating detectors, or SCADA systems.

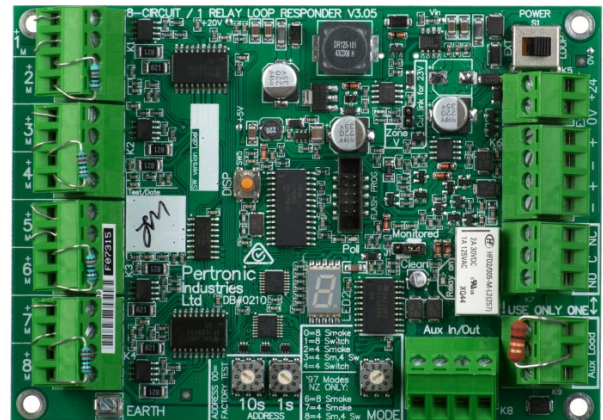
The loop responder has eight inputs and one output. The inputs may be configured as:

- » Smoke: To monitor NZS 4512:2010 or NZS 4512:1997 detection zones containing smoke and/or heat detectors and manual call-points, using one input per zone, or
- » Switch: To monitor any device with voltage-free switch contacts, such as sprinkler flow switches, beam detectors, aspirating detector systems, SCADA systems, or similar devices. Switch inputs are supervised for wiring faults.

The Multi-Function Loop Responder may be configured in several operating modes. The options include: eight detection zone inputs, eight switch inputs, a combination of four zones and four switch inputs, four zones only, or four switch inputs only. In a typical application, for example, two inputs connect to an aspirating smoke detector's Alarm and Fault output relays.

Features

- » Supports either NZS 4512:2010 or NZS 4512:1997 detection zones
- » Eight optional input modes, selected by rotary switch on the PCB (see table on page 2)
- » Seven-segment display identifies events: reporting a number denoting the circuit and a letter showing the status (available via display press button)
- » Rotary decade address switches
- » Switch selectable power source: AA loop or external power supply
- » Connects to the standard 2-wire analogue addressable loop wiring
- » Provides a configurable form C (change-over) relay output which may be configured as:
 - » One voltage-free change-over relay output, or
 - » Supervised speaker switch connection to a 100 Volt Line audio circuit
- » Integral short-circuit isolator
- » Cabinet available to house one or two Loop Responders
- » Backward compatible with AA Loop Responder F100LR-3



*Multi-Function Loop Responder
(AALR-MF)*

The relay output may be connected as either one clean form C (change-over) contact, or as a supervised speaker connection to a 100 V line, or as a 12 Vdc to 24 Vdc (nominal) bell circuit.

A limited number of loop responders may be powered from an analogue addressable loop. Alternatively, an isolated external 24 Vdc (nominal) power supply may be used.

Specification

PCB Dimensions	138 x 98 mm
Supply Voltage	15 Vdc to 30 Vdc
Standby Current @ 24 Vdc	28 mA (typical)
External Power	16 Vdc to 28 Vdc
Power Supply Current	24 Vdc, 30 mA (no detectors, 10 k Ω EOL resistor) Add 2 mA for each group of 20 detectors. Add 20 mA for activated detectors on each circuit.
Max. Loading (NZS 4512:2010 zone)	40 x System Sensor™ point detectors; A total of 50 Pertronic indicating MCPs and Pertronic indicating heat detectors
Max. Loading (NZS 4512: 1997 zone)	40 x System Sensor™ point detectors; Unlimited non-ind. MCPs or heat detectors
Circuit Voltage	20 Vdc nominal
Relay Output	One changeover contact (NC-C-NO, Form C) rated 2.0 A @ 30 Vdc or switch a 100 V line input rated at 0.5 A @ 125 Vac or a nominal 12 Vdc to 24 Vdc bell circuit
Circuits per Responder	4 or 8 smoke circuits and/or 4 or 8 switch inputs
Addressing	Each loop responder uses 5 to 9 module addresses Each loop can have a maximum of 99 modules (addresses 01 to 99) (The highest base address a loop responder can have is 95)
Operating Temperature Range	-10 °C to 50 °C
Humidity	≤ 95 % RH non-condensing
Loop Responder/Relay Case	
Dimensions	255 x 305 x 90 mm (H x W x D)
Weight	1.6 kg

Input Configuration Options

Switch Pos.	Inputs 1 - 4	Inputs 5 - 8	Relay I/P Address
0	Conventional Zones NZS 4512:2010	Conventional Zones NZS 4512:2010	BA + 8
1	Switch Inputs	Switch Inputs	BA + 8
2	Conventional Zones NZS 4512:2010	Inactive	BA + 4
3	Conventional Zones NZS 4512:2010	Switch Inputs	BA + 8
4	Switch Inputs	Inactive	BA + 4
5, 9	Do not use		
6	Conventional Zones NZS 4512:1997	Conventional Zones NZS 4512:1997	BA + 8
7	Conventional Zones NZS 4512:1997	Inactive	BA + 4
8	Conventional Zones NZS 4512:1997	Switch Inputs	BA + 8

BA = Base Address

Ordering Information

Product Code	Description
AALR-MF	AA Loop Responder, 8 I/P, Multifunction + Rly O/P
F100LRC	AA Loop Responder Case

The information in this document must not be treated as partial or complete instructions for the design, construction, installation, commissioning, or maintenance of fire detection, fire alarm, or building evacuation systems. Fire and evacuation systems must be designed and installed by properly qualified persons, in accordance with all regulatory requirements.

Unless explicitly stated otherwise, this document provides typical specifications and nominal dimensions. Actual product performance and dimensions may vary.

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