

PERTRONIC INDUSTRIES LTD

DATASHEET

Analogue Addressable Isolator Board – 8 Spur 8SAAIB



Provides eight isolated analogue addressable spurs

Allows existing cabling to be re-used when converting from conventional to analogue addressable detection system

Overview

The Pertronic Analogue Addressable Isolator Board – 8 Spur (8SAAIB) provides up to eight isolated analogue addressable spurs from an analogue addressable signalling line (loop) circuit.

This product allows conventional detector zones to be converted to analogue addressable (AA) systems by replacing the conventional detectors and bases with AA detectors and modules connected to the existing cabling.

The board has eight individual spur isolators. A short-circuit on any spur will not affect the operation of any other spur, or the loop to which they are connected.

In addition, this board has input and output isolators. These ensure that if the 8SAAIB is installed remote from the fire panel, a short-circuit on one side of the loop will not affect the operation of connected spurs or the other side of the loop circuit.



*Pertronic Analogue Addressable
Isolator Board – 8 Spur
(8SAAIB)*

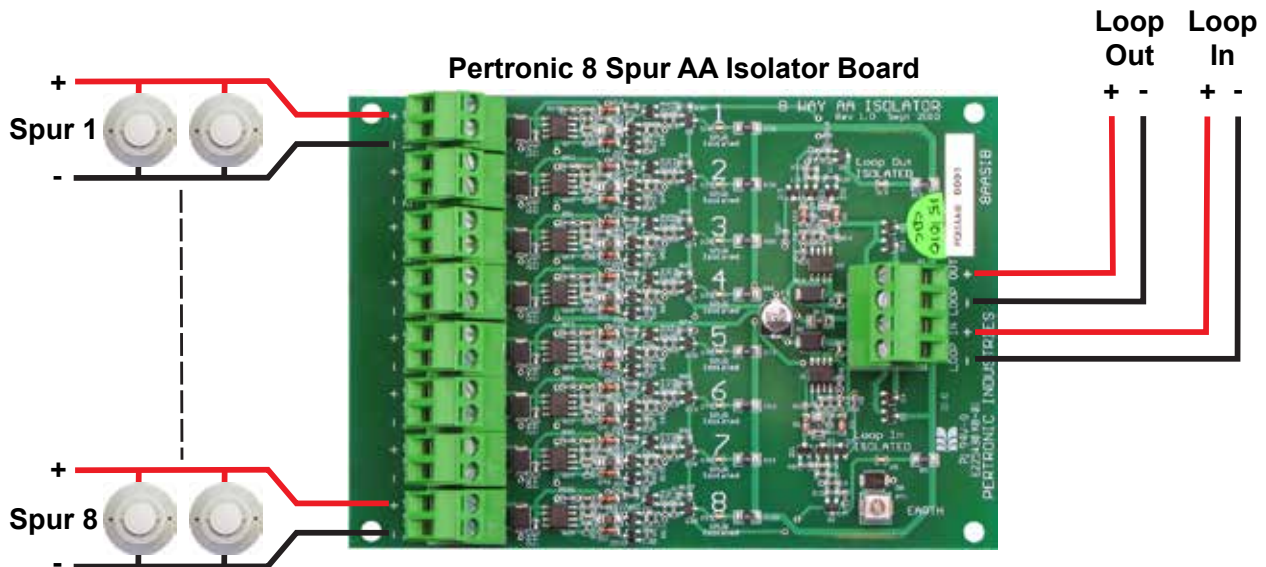
Features

- » Provides up to eight analogue addressable spurs from one analogue addressable loop circuit
- » A short-circuit on any spur will not affect normal operation on other spurs or the rest of the loop circuit
- » A short-circuit on either side of the 8SAAIB LOOP IN and LOOP OUT connections will not affect normal operation of the spurs or the other side of the loop circuit.
- » A short-circuit fault on any spur, or on either side of the 8SAAIB, is identified by a yellow LED
- » Spurs and unused spur connections do not need to be terminated
- » No signalling circuit (loop) addresses are used for the Analogue Addressable Isolator Board – 8 Spur
- » Compatible with the Pertronic Loop Responder Case, which has mountings for two 8SAAIB boards

Specification

Voltage Range	Analogue Addressable (Loop) Circuit Voltage	AA Devices	Up to 40 analogue addressable devices per spur
Quiescent Current	1.5 mA \pm 10 % @ 24 Vdc	LED Indications	10 x yellow. (One LED per spur, plus LOOP IN, LOOP OUT)
Isolation Threshold	Loop Voltage \leq 4.8 V	PCB Dimensions	137.5 L x 96.5 W x 27.5 H mm
Restoration Threshold	Loop Voltage \leq 7.5 V		
Maximum Humidity	95% RH, non-condensing	Mounting Holes	4 x 4 mm holes @ 127.5 x 89 mm
Operating Temperature	-10 °C to 50 °C		
Zones	Each spur may cover no more than one zone	Weight	100g
Spur Cable Resistance	Up to 40 Ω (See guidelines pg. 2)		

Connections



Maximum spur length from fire panel		
Conductor Size	Limit	Maximum Length
1.0 mm ²	40 Ω	approx. 1000 metres
1.5 mm ²	40 Ω	approx. 1500 metres

For larger cables, note that the spur length shall not be greater than 2500 metres.

Application Guidelines

- » For each individual spur, the cable resistance must not be more than 40 ohms (20 Ω per conductor) from the fire panel loop driver terminals to the last device on the spur.
- » If the spur branches from a loop, external to the fire panel, the maximum spur cable resistance is 40 ohms minus one-quarter of the loop cable resistance
- » The total current drawn by all devices on the AA circuit, including all spurs, must not exceed 350 mA.
- » The AA signalling loop and spur cabling must be large enough to ensure that the voltage at the far end of each spur is at least 15 Volts. Our websites provide loop length calculators for checking the voltage drop.
- » The number of detectors in each zone, and the number of zones covered by a single AA signalling circuit (loop), must meet all regulatory and project requirements.
- » The resistance between each conductor and the system earth (ground) should be > 50 kΩ.
- » The number of analogue addressable detectors, modules, and MCPs on one AA circuit, including the loop and all connected spurs, must not exceed the loop capacity of the F220, F100A, or F120A fire panel.

NOTE: Non-twisted cable should not be used in AA detection circuits if the detection cable will run alongside, and close to, other cables that may produce, or be susceptible to, interference. For superior noise immunity, used twisted-pair cable.

For more information, please refer to the Pertronic Industries white paper, [Using Non-Twisted Flat Cable in Analogue Addressable Retrofits](#), available from Pertronic web sites.

Ordering Information

Product Code (Outside of NZ & Fiji)	Product Code (NZ & Fiji)	Description
8SAAIB	8SAAIB	AA Isolator Board – 8 Spur
AALRESC	F100LRC	Case for AA Loop Responder & AA Loop Relay

This information 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, typical specifications and nominal dimensions are provided. Actual product performance and dimensions may vary. All information in this document is subject to change. Please consult Pertronic Industries or visit our web site for up to date information.

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