

# PERTRONIC INDUSTRIES LTD

## INSTALLATION DATASHEET

### RS-485 5-Way Repeater/Splitter

#### RS485REP

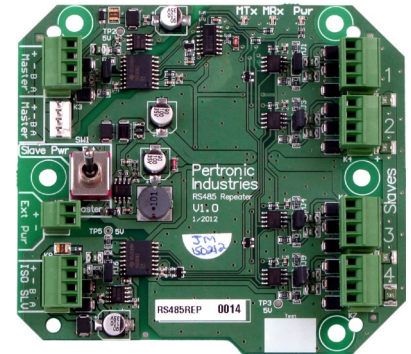


## Overview

The RS-485 Repeater/Splitter provides a means of creating electrically separate RS-485 bus segments. The unit provides bi-directional half-duplex communication between a Master RS-485 port and up to five Slave ports.

The unit has three power supply inputs: K2 & K3 (Master), K5 (Slaves 1-4), and K8 (ISO Slave). The slave ports (Slaves 1-4) may be electrically isolated from the Master power circuit. The ISO Slave port may be electrically isolated from Slaves 1-4 and the Master channel. Alternatively, Slaves 1-4 and/or ISO Slave may be driven from the same power supply as the master power circuit.

The RS-485 Repeater/Splitter may be installed inside a Pertronic fire alarm control panel, or it may be installed in a stand-alone enclosure.



**Pertronic RS-485 Repeater-Splitter**

## Features

- **Master Channel:** 1 x RS-485 port (IDC plus Phoenix style) connection to/from fire alarm control panel
- **Slaves 1-4 Channel:** 4 x non-isolated slave RS-485 ports
- **ISO Slave Channel:** 1 x isolated slave RS-485 port
- 1 x switch for Master/External power to **Slaves 1-4** RS-485 ports
- 1 x external dc input connection
- 6 x optional terminating resistors with jumper links (1 for each RS-485 port)
- 3 x LEDs: DC power; RS-485 RX; RS-485 TX

## Specification

<b>Operating Voltage</b>		15..30 V dc, 24 V nominal		
<b>Current Consumption @ 24 V</b>	<b>Master (K2 or K3)</b>	Idle (without data)	15 mA	Excluding current drawn from RS-485 circuit power outputs
		Maximum (with data transmission)	60 mA	
	<b>Slaves 1-4 (K2, K3, or K5)</b>	Idle	15 mA	
		Maximum	60 mA	
	<b>Iso Slave (K8)</b>	Idle	15 mA	
		Maximum	60 mA	
<b>Maximum Output Current, Slaves 1-4</b>		350 mA per RS-485 port		
<b>Maximum Data Rate</b>		115.2 kbit/s		
<b>Dimensions</b>		112 mm x 102 mm x 30 mm		
<b>Operating Temperature</b>		-10 °C to 50 °C		
<b>Humidity</b>		95 % RH non-condensing		

## RS-485 Terminations and Wiring

When operating at 9.6 kbit/s in Pertronic systems, local bus segments inside equipment cabinets may not need terminating resistors. For higher data rates and external cable runs, terminating resistors should be installed at both ends of each RS-485 bus segment. A 100 ohm resistor is suitable for terminating typical fire-rated twisted pair cables.

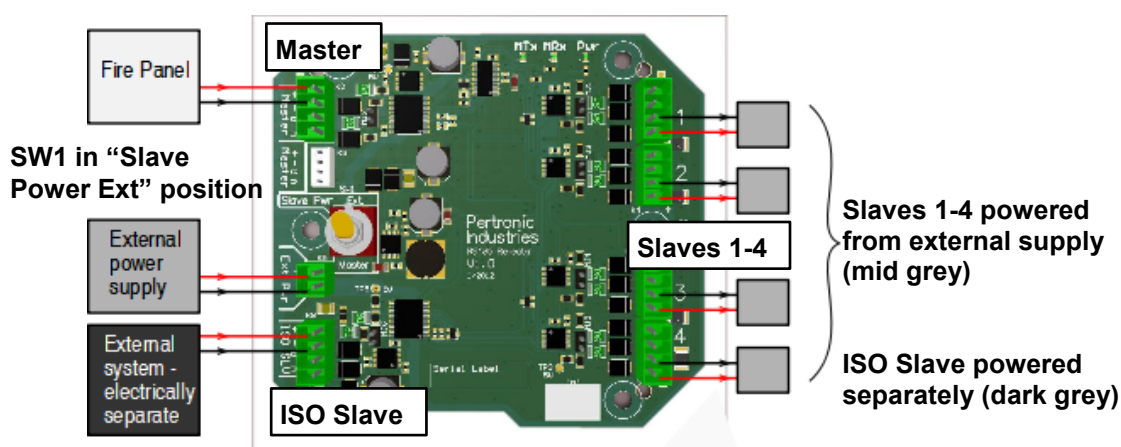
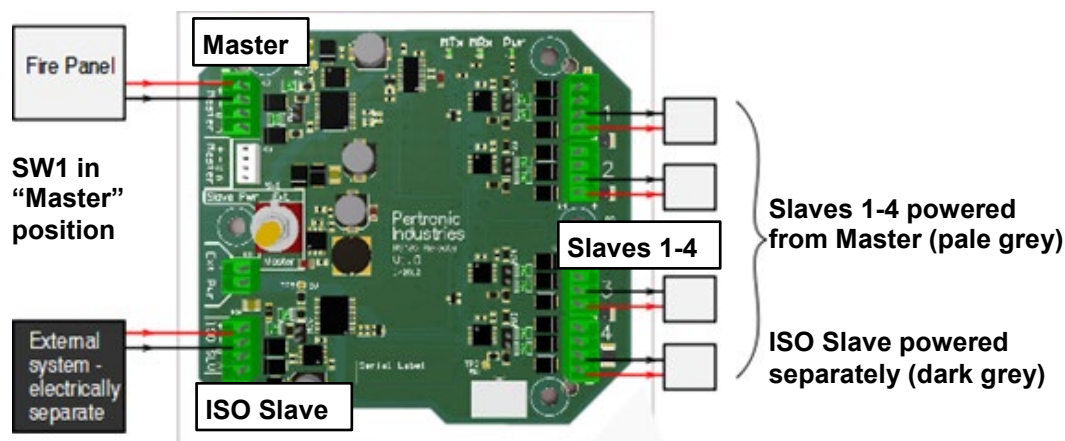
RS-485 data circuits (data A & data B) must be wired with twisted-pair cable. For installations subject to significant electrical noise, fibre-optic cable is recommended

All remote RS-485 devices should use 4-wire connections or floating (non-earthed) dc power supplies.

## Power Supply Connection

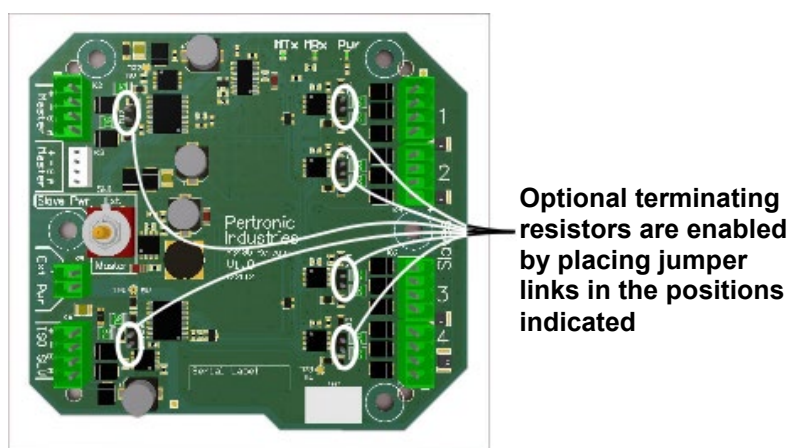
These examples illustrate alternative power supply configurations, with separate power for the isolated slave output.

Power supply connections are identified by grey shades



Note: The ISO Slave channel (K8) must be provided with a power supply. If electrical isolation from other channels is not required, the ISO Slave supply may be looped from the Master (K2/K3) or Slaves 1-4 (K5) connectors.

## Terminating Resistors



## Ordering Information

Product Code	Description
RS485REP	RS-485 5-Way Repeater/Splitter

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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