

PERTRONIC INDUSTRIES LTD

DATASHEET

Modbus Interface

SPIB-MODBUS HLI



Connects F220 fire alarm control panel with Modbus devices
Supports Modbus ASCII, RTU, or TCP
PC configurable via USB cable

Overview

The Pertronic SPIB Modbus Interface (SPIB-MODBUS HLI) allows bi-directional communication between a Pertronic F220 fire alarm control panel and one or more Modbus master devices such as a Building Management System (BMS).

The interface monitors the fire alarm control panel's RS-485 bus and stores a copy of the panel's current event queue data in a Modbus-compatible format. This includes all major events that would be shown on the fire alarm control panel's LCD display.

External devices are able to communicate with the fire alarm system via the Modbus interface using the F220's loop emulation capability. The interface translates data from external Modbus registers into detector or module status data readable by the fire alarm control panel. The interface can emulate up to four analogue addressable loops. The Modbus Interface can also transfer isolate & de-isolate requests to the control panel.

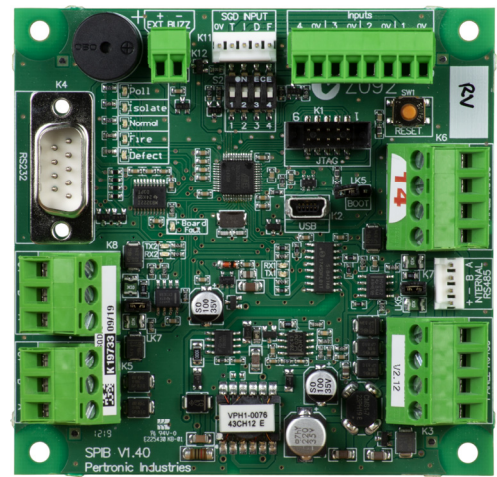
The Modbus Interface supports ASCII and RTU Modbus modes over either RS-232 or RS-485. When fitted with a Modbus Serial to Modbus TCP Gateway such as the MOXA MB3180, it also supports Modbus TCP.

When used with a suitable Modbus master device, the Modbus interface can optimise communication speed by packing data from up to four devices into a single Modbus register.

Pertronic also manufactures a Modbus interface for connecting F220/Net2 Network Systems directly to building management systems. Please refer to the Net2 Network System Datasheet for more information.

Features

- Compatible with Pertronic F220 fire alarm control panels
- Functions as Modbus slave (server) device
- Modbus connection configurable RS-232 or RS-485, 300 bit/s to 230.400 bit/s
- Supports Modbus TCP when connected to Modbus Serial to Modbus TCP Gateway
- Optional fault monitoring between Modbus Interface and fire alarm control panel
- Emulates up to four analogue addressable loops, each with up to 159 detectors and 99 modules (Note: The total number of actual and emulated loops cannot exceed the panel's maximum loop capacity)
- Configurable with a PC running a terminal emulation program via USB mini-B cable
- Electrically isolated from the fire alarm control panel's RS-485 bus
- On-board LEDs provide diagnostic information
- Also compatible with F120A fire panels with v5.0 or later firmware
- May be used as a "read-only" Modbus interface for a Pertronic F100A fire panel

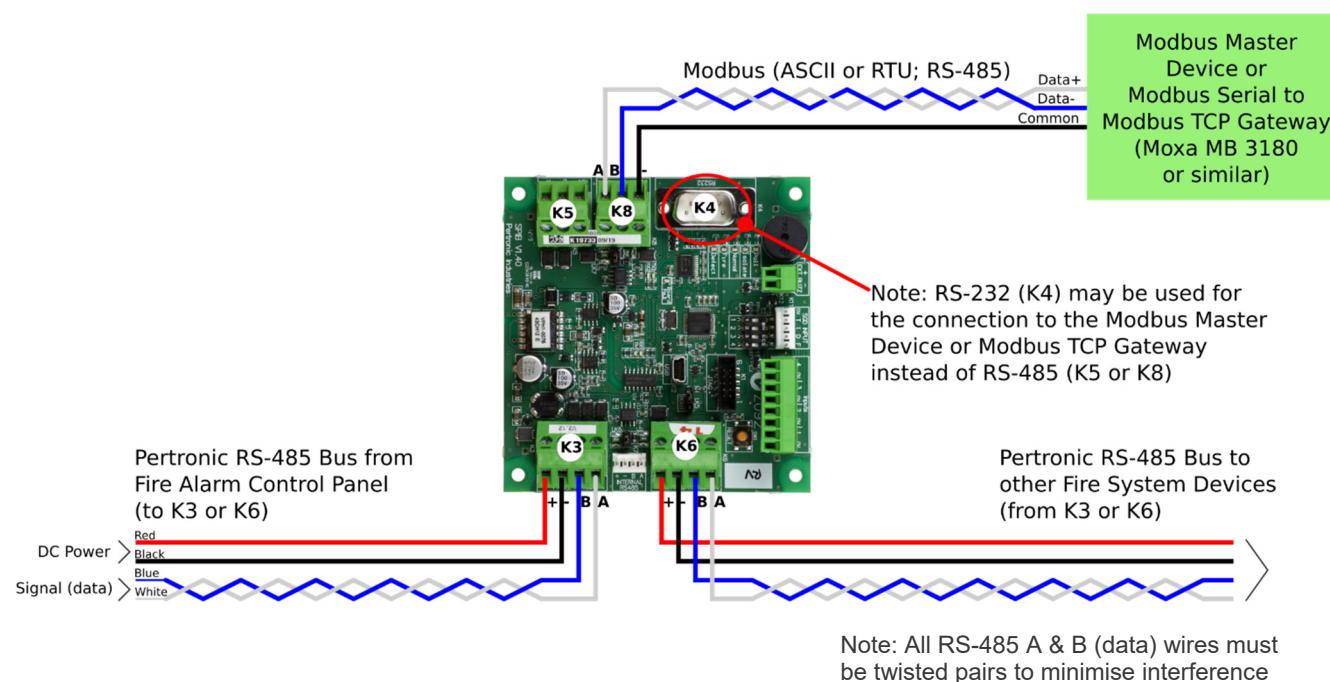


Pertronic Modbus Interface
SPIB-MODBUS HLI

Specification

Compatible Panel		F220 (all) F120A (v5.0 or later) F100A (read-only)	Base Hardware	Pertronic SPIB board
Supply Voltage		11 Vdc to 30 Vdc	Current	21 mA @ 24 Vdc (typical)
Cable	to Panel	2-Core (twisted pair) Data + 2-Core Power	Panel RS-485 Bus Connection	9600 bit/s, isolated
	To Modbus Devices	2-Core (twisted pair) Data + Common	Modbus Mode	ASCII, RTU, or TCP (with gateway)
Cable Termination		0.5 mm ² to 2.5 mm ² stranded cable	Modbus Reply Delay	Configurable
Modbus Connection		Configurable RS-485 or RS-232, 300 bit/s to 230,400 bit/s	Modbus Timeout Checking	Configurable
PCB Dimensions		94H x 96.5W x 30D mm	Weight	86 g
Operating Temperature		-10 °C to +50 °C	Humidity	10 to 95% RH non-condensing

Typical Connections



Ordering Information

Product Code	Description
SPIB-MODBUS HLI	Modbus Interface
MOXA-MB3180	MOXA 1-Port RS-232/422/485 Modbus Serial to Modbus TCP Gateway

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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