PROTECTOWIRE®
FireSystems

PIM-530 Series Protectowire Linear Heat Detector Interface Module

Features

- Provides a single zone interface for Protectowire Digital Linear Heat Detectors

- Capable of Class A (Style D) or Class B (Style B) monitoring of up to 6560 Feet (2000 Meters) of Protectowire Linear Heat Detector

- Integrated Protectowire Alarm Point Location Meter with "on-screen" field calibration

- 64 Event History Log (FIFO)

- 4x20 LED backlit LCD display

- Individual Power, Alarm and Fault indicators

- Modbus over RS-485 communications

- 4-20mA outputs for Status and Alarm Point Location

- Optional intrinsically safe detection circuit available for use in hazardous locations

General

The PIM-530 is a detection control module that acts as an interface between a main fire alarm control panel detection circuit or addressable node and Protectowire Digital Linear Heat Detector. The module provides one (1) supervised detection circuit that may be field wired for either Class A (Style D) or Class B (Style B) service. The alarm initiating circuit is capable of operating up to 6560 feet (2000 meters) of Standard PHSC or PLR Digital Type Protectowire Linear Heat Detectors. The PIM-530 initiating circuit is also compatible with other types of non-resistive normally open contact alarm initiating devices.

Description

The PIM-530 operates using conventional initiating device circuit technology and contains an integrated on-board Protectowire Alarm Point Location Meter. The module also includes a time and date clock, 64 event history log, Form C contacts for host panel interface and dual 4-20mA status outputs.

The module is designed for easy installation and can be optionally provided in a NEMA-4X* rated enclosure for mounting outside of the host fire alarm control panel or remotely near the hazard to be protected.

In order to ensure proper operation, each PIM-530 module requires regulated resettable 24 VDC external power which is normally provided by the host fire alarm panel. Each module contains a green "Power-On" LED indicator, one (1) red "Alarm" LED indicator, and one (1) yellow "Trouble" LED indicator. One (1) set of Form C alarm contacts and one (1) set of Form C trouble contacts to connect the unit to the host fire alarm panel. The module also provides Modbus over RS-485 communications and two 4-20mA outputs one which allows monitoring of the module status and the other for monitoring alarm point location information.

The standard PIM-530 module contains a built in Protectowire Alarm Point Location Meter. This meter will automatically display the distance from the beginning of the detector run to the heat actuated (shorted) portion of the detector. The Alarm Point Location Meter can be programmed to display distance in either standard units (Feet) or metric units (Meters). The meter display provides a simple "on screen" calibration procedure allowing the measurement to be field calibrated to the installed detector length and ambient temperature for optimal accuracy.

Specifications

Electrical
- Power input - Regulated 12 to 24 VDC (+10% / -15%) @ 1.6 Watt
- Power Limited, onboard surge and EMI protection devices

Inputs
- One initiating device circuit capable of monitoring up to 6,560 feet (2,000 m) of PHSC or PLR Digital Type Protectowire Linear Heat Detector.

Option I
- Intrinsically Safe Initiating device circuit, up to 6,560 feet (2,000 m) or less as permitted by the hazardous location calculation and application.

Environmental
- Ambient temperature range:
  Standard version (With integrated LCD display) -20° to 120°F (-29° to 49°C)
  LT version (Without integrated LCD display) -40° to 120°F (-40° to 49°C)
  Standard & LT Versions FM tested to 140°F (60°C) max
- Humidity: Max. 95% non-condensing

Indicators
- 4x20 Character LED backlit LCD display
- One green "Power" indicator
- One red "Alarm" indicator
- One yellow "Fault" indicator

Relay Outputs (Rated 1 amp @ 24VDC Resistive)
- One (1) set of Form C (SPDT) Fault Contacts
- One (1) set of Form C (SPDT) Alarm Contacts

Note: All specifications subject to change without notice.

4-20mA Outputs
- One(1) 4-20mA Output for module status
- One (1) 4-20mA Output for Alarm Point Location Readings

Optional Enclosure Specifications
- 10.5" H x 8.5" W x 4.5" D (27cm x 21.5cm x 11.4cm)
- Add 1.6" (4cm) to overall height for external mounting feet
- Clear full view door
- NEMA 4X Rated (Rating UL listed only)*
  (Closest IEC equivalent - IP66)
  Option I increases enclosure size. Consult Factory.

Option I - Intrinsically Safe Detection Circuit
- Option I provides an intrinsically safe Class B detection circuit for use in those areas classified as hazardous. This feature utilizes one shunt diode barrier per zone and is FM Approved for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Class I, Zone 0, AEx ia IIC T6 Ga -29°C ≤ Ta ≤+49°C.

4-20mA Output Information

Description - The PIM-530 provides two 4-20mA outputs that allow for monitoring of the module status and active alarm point location reading. These outputs are intended for annunciation purposes only. Module monitoring is intended to be accomplished using the on-board dry contacts connected to a listed or approved fire detection control panel initiating device circuit. Consult Manual for detailed output levels for each status loop.

Modbus over RS-485 Description

The PIM-530 interface module provides integrated Modbus over RS-485 communications. Each module can be configured as a Modbus slave device on an RS-485 network. Once configured to communicate on a network, each module can be polled by a master device for a variety of module specific data. A master device, such as a PLC (Programmable Logic Controller) can monitor the status of one or more modules and take actions based on their status. Modbus over RS-485 communication is a convenient method for utilizing detector status information to implement equipment shutdown or other automation events.

Ordering Information

Model No.	Description
PIM-530	Interface Module for Protectowire Types PHSC/PLR with LCD display and navigation buttons.
PIM-530E	Interface Module for Protectowire Types PHSC/PLR with LCD display and navigation buttons mounted in a NEMA-4X (IP66) Enclosure.
PIM-530E-I	Interface Module with ISB for Protectowire Types PHSC/PLR with LCD display and navigation buttons mounted in a NEMA-4X (IP66) Enclosure.
PIM-530LT	Interface Module for Protectowire Types PHSC/PLR without LCD display and navigation buttons for use in low temperature environments. This model requires the use of a separately ordered hand-held programmer. Consult Factory for details.
PIM-530LTE	Interface Module for Protectowire Types PHSC/PLR without LCD display and navigation buttons, mounted in a NEMA-4X (IP66) Enclosure. For use in low temperature environments. This model requires the use of a separately ordered hand-held programmer. Consult Factory for details.
PIM-530LTE-I	Interface Module with ISB for Protectowire Types PHSC/PLR without LCD display and navigation buttons, mounted in a NEMA- 4X (IP66) Enclosure. For use in low temperature environments. This model requires the use of a separately ordered hand-held programmer. Consult Factory for details.
CTMP-1	Hand-held programmer for PIM-530LT Models. Required for commissioning system, setting alarm temperature and accessing history log.