CTM-230 Interface Module

Protectowire Confirmed Temperature Initiation (CTI™) Interface Module

Features

- Provides a single zone interface for Protectowire Type CTI™ Linear Heat Detectors
- Patented technology can distinguish between mechanical shorts and thermal alarm conditions (Short Circuit Discrimination)
- Integrated IDC loop ground fault detection
- Six alarm temperature ratings
- Modbus over RS-485 communications
- Simple field setup via DIP switch selection
- Compact size for easy integration

General

The CTM-230 is a detection module that acts as an interface between a main fire alarm control panel detection circuit or addressable node and Protectowire Type CTI 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 initiating device circuit is capable of monitoring a maximum of 4000 feet (1220 meters) combined total of Protectowire Type CTI Linear Heat Detector and Type T thermocouple extension grade cable. Protectowire offers thermocouple extension grade cable in 200 and 500 ft coils (part # PWTX-200 and PWTX-500 respectively). The CTM-230 initiating circuit is designed to monitor Protectowire Type CTI Linear Heat Detectors only and does not support other types of normally open contact alarm initiating devices.

Description

The CTM-230 operates using Protectowire's patented CTI Confirmed Temperature Initiation technology. When paired with Protectowire Type CTI Linear Heat Detectors, the module can distinguish between a mechanical short in the linear heat detector and a thermal alarm activation thereby greatly reducing the risk of false alarms. This multi-criteria detection method provides for short circuit discrimination, a feature previously unavailable for digital type linear heat detectors.

The CTM-230 is designed for easy installation and is optionally available in a NEMA-4X* (IP66) 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 CTM-230 module requires regulated resettable external power which is normally provided by the host fire alarm panel.

Each module contains one (1) green "Power" LED indicator, one (1) red "Alarm" LED indicator, one (1) yellow "Short" LED indicator and one (1) yellow "Fault" LED indicator. One (1) set of Form C (SPDT) Alarm contacts, one (1) set of Form C (SPDT) Short contacts and one (1) set of Form C (SPDT) Fault contacts are also provided to connect the unit to the host fire alarm panel. The module also provides Modbus over RS-485 communications which allows monitoring of the module status.

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Specifications

Electrical
- Power input - Regulated 12 - 24 VDC @ 1.1 Watt Standby, 1.4 Watt Alarm
- Power Limited, on board surge and EMI protection devices
- End of line resistor, 10K 1/2Watt

Inputs
- One initiating device circuit capable of monitoring up to 4000 Feet (1220 Meters) of Protectowire Type CTI Linear Heat Detectors.

Environmental
- Ambient temperature range: UL Listed: -40° to 120°F (-29° to 49°C)
- FM Approved: -40° to 140°F (-29° to 60°C)
- Humidity Maximum 95% non-condensing

Indicators
- One (1) green “Power” LED indicator
- One (1) red “Alarm” LED indicator
- One (1) yellow “Short” LED indicator
- One (1) yellow “Fault” LED indicator

Note: All measurements are approximate.

Relay outputs (Rated 1 amp @ 24VDC Resistive)
- One (1) set of Form C (SPDT) Alarm contacts
- One (1) set of Form C (SPDT) Short contacts
- One (1) set of Form C (SPDT) Fault contacts

Module dimensions
- 2.75”W x 3.75”H x 1.25”D (70mm x 95mm x 32mm) - Depth accounts for included mounting track

Optional Enclosure Specifications
- 4.72”W x 4.72”H x 2.38”D (120mm x 120mm x 61mm)
- Clear full view cover
- NEMA 4X Rated (UL Listed Only) (Closest IEC equivalent - IP66)

** Additional enclosures and sizes available. Consult Factory*

Modbus over RS-485 Description

The CTM-230 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 poled 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
CTM-230	Interface Module for Protectowire Type CTI Linear Heat Detector
CTM-230E	Interface Module for Protectowire Type CTI Linear Heat Detector in a NEMA-4X (IP66) Enclosure.

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