Protectowire
Linear Heat Detector

SYSTEM SENSOR®

Models Available

PHSC-155-EPR (-M)
155°F (68°C) Alarm Temperature

PHSC-190-EPR (-M)
190°F (88°C) Alarm Temperature

PHSC-280-EPR (-M)
280°F (138°C) Alarm Temperature

PHSC-356-EPR (-M)
356°F (180°C) Alarm Temperature

-M denotes messenger wire version

NOTE: Available in 500 ft. lengths only.

Protectowire

Accessories

Product Overview

Fixed temperature digital sensor

Line coverage with point sensitivity

Wide range of industrial applications

Good abrasion resistance

Exceptional high temperature performance

Protectowire Linear Heat Detector is a proprietary cable that detects heat conditions anywhere along its length. The sensor cable is comprised of two steel conductors individually insulated with a heat sensitive polymer. The insulated conductors are twisted together to impose a spring pressure between them, then wrapped with a protective tape and finished with an outer jacket suitable for the environment in which the detector will be installed.

Protectowire is a fixed temperature digital sensor and is therefore capable of initiating an alarm once its rated activation temperature is reached. At the rated temperature, the heat-sensitive polymer insulation yields to the pressure between conductors, permitting them to move into contact with each other, thereby initiating an alarm signal. It is not required that a specific length be heated in order to initiate an alarm, nor is system calibration necessary to compensate for changes in the installed ambient temperature. Protectowire Linear Heat Detector provides the advantages of line coverage with point sensitivity.

Protectowire is a normally open contact device and as such can be interfaced to intelligent fire alarm panels via System Sensor monitor modules: M500MB, M500DM, M501M, and IM-10.

Type EPR
The EPR series contains an extruded flame retardant jacket of polypropylene elastomer with a special UV stabilizer added to enhance weathering performance. It is intended for a wide range of industrial applications and is characterized by high resiliency, good abrasion resistance, excellent weathering properties and exceptional high temperature performance.

Messenger wire is also available for any model detector. It consists of high tensile strength stainless steel wire, which is wound around the detector. It is a support wire, which is designed to simplify the installation of the detector in areas where mounting is difficult due to the lack of appropriate support structures or mounting surfaces.

Protectowire Accessories
System Sensor offers an assortment of approved Protectowire fasteners and splicing devices to facilitate installation for both standard and special applications. Protectowire approved fasteners are generally designed to lightly clamp the detector which enables a tension to be applied progressively. This method is better than arrangements which apply a high tensile load at the end of each run or clamp and compress the sensor cable so tightly that the inner insulation becomes damaged. To ensure a trouble-free installation, only Protectowire approved fasteners should be used. The use of non-approved fasteners may physically damage the detector thereby causing "false alarms" and in some cases void the detector's warranty.

Commercial Type Zone/End-of-Line Junction Box

Model	Description
ZB-4-QC-MP	Non-metallic Moisture proof Box with Compression terminals.
SR-502	Strain Relief Connector
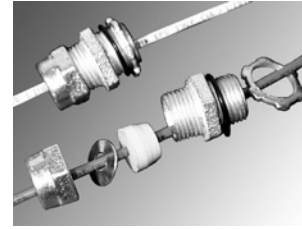
SR-502

Heavy Duty Type Zone/End-of-Line Junction Box

Model	Description
ZB-HD-4-QC	Fiberglass enclosure with compression terminals (NEMA 4x).

Splicing Connectors and Termination Assemblies

Flexible Leads

Model	Description
PFL	Used when terminating 2 conductor Protectowire Linear Heat Detector in constrained spaces such as pull station or smoke detector back boxes

Splicing Tape

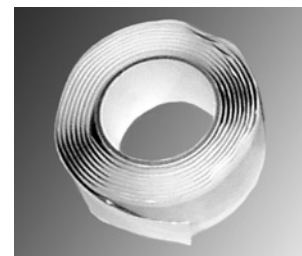| Model	Description
#35-White	Used to protect all splices of Protectowire Linear Heat Detector after sealing against moisture using SFTS-1-8-F Sealant Tape.
33+	Used to protect all splices of Protectowire Linear Heat Detector after sealing against moisture using SFTS-1-8-F Sealant Tape in cold environments as low as 0°F (−18°C).

Splicing Connector

Model	Description
PWSC	Used when splicing standard 2 conductor Protectowire Linear Heat Detector.

Sealant Tape

Model	Description
SFTS-1-8-F	Used to seal all splices of Protectowire Linear Heat Detector against moisture.

PWSC

SFTS-1-8-F Tape

General Purpose Fasteners

Clips

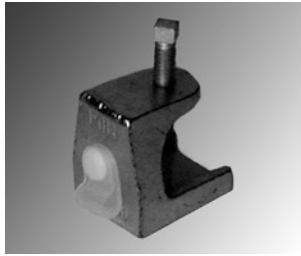| Model	Description
WAW-P	WAW Clips may be used for ceiling or wall mount applications, as well as at corners. Available in a polypropylene material.
OHS-1	Line Clip is used mainly as an intermediate fastener between corner mounted WAW clips which provide the main support.
OHS-SS	Stainless steel line clip with ¼ inch hole. Used mainly as an intermediate fastener between corner mounted WAW clips which provide the main support.

Insulated Standoff

Model	Description
TR-5G	The Insulated Standoff can be used to install Protectowire on or above conveyors or from other applicable mechanical structures.

Cable Ties for Cable Mount

Model	Description
PLT1S-CO	Used with EMS Cable Mounts, constructed of weather resistant nylon suitable for outdoor use.

Beam Clamp Assemblies

Model	Description
BC-2	The BC-2 Series Beam Clamp Assembly, consists of a beam clamp, WAW clip and snap button. BC-2 utilizes a plated steel clamp and is recommended for general indoor use. This fastener may be used for mounting Protectowire on cable trays, conveyors, angle irons, I-beams, bar joists.
BC-3P	The BC-3P consists of a beam clamp, a Polypropylene WAW clip (type P) and snap button. These fasteners are suitable for outdoor use. This fastener may be used for mounting Protectowire on cable trays, conveyors, angle irons, I-beams, bar joists.

BC-3P

Cable Tray Application Fasteners

Cable Tray Clip

Model	Description
CC-2N	Will clamp to material from .06 to .16 of an inch thick and is designed to attach to the cable tray side rails and secure the Protectowire in the recommended sine wave pattern.
CC-2W	Will clamp to material ranging from .16 to .25 of an inch thick and is designed to attach to the cable tray side rails and secure the Protectowire in the recommended sine wave pattern.
CC-10N-S	The CC-10 Series Clips, are particularly useful in applications where excessive vibration may be encountered. CC-10N-S will clamp to material from .06 to .16 of an inch thick.
CC-10W-S	Are particularly useful in applications where excessive vibration may be encountered. CC-10W-S clamps to material ranging from .16 to .25 of an inch thick.

Spring Clip

Model	Description
HPC-2	The HPC-2 contains gripping teeth that will accommodate mounting surfaces such as cable trays, storage racks, and ceiling joists.

HPC-2

Adhesive Cable Mount

Model	Description
EMS-A-CO	Adhesive mounting system consists of EMS cable mounts, PLT cable ties and approved industrial adhesive. Constructed of black weather resistant nylon and suitable for outdoor use when used with approved adhesive.

L-Bracket

Model	Description
RMC-2	Plated steel brackets used for mounting Protectowire to the rim seals on floating roof tanks.
RMC-3	Stainless steel brackets used for mounting Protectowire to the rim seals on floating roof tanks.

RMC-2

Pipe Mounting Application Fasteners

Pipe Straps

| Model	Description
PM-3A	These double loop straps suitable for $3/4''$ to 2" pipe are made of black weather resistant nylon and may be used in temperatures ranging from –40°F (-40°C) to 185°F (85°C).
PM-3B	These double loop straps suitable for 2.5" to 3.5" pipe are made of black weather resistant nylon and may be used in temperatures ranging from –40°F (–40°C) to 185°F (85°C).
PM-3C	These 2 single loop straps suitable for 4" to 6" are made of black weather resistant nylon and may be used in temperatures ranging from –40°F (–40°C) to 185°F (85°C).
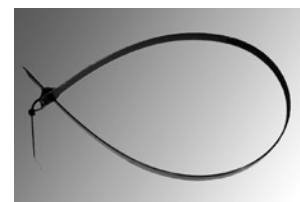
PM-3C

Messenger Wire Applications

Eyebolt

Model	Description
TR-4A	Used to attach one end of messenger wire to supporting structure. TR-4A is steel construction.
TR-4A-S	Stainless steel construction used to attach and tension one end of messenger wire to supporting structure.

Turnbuckle

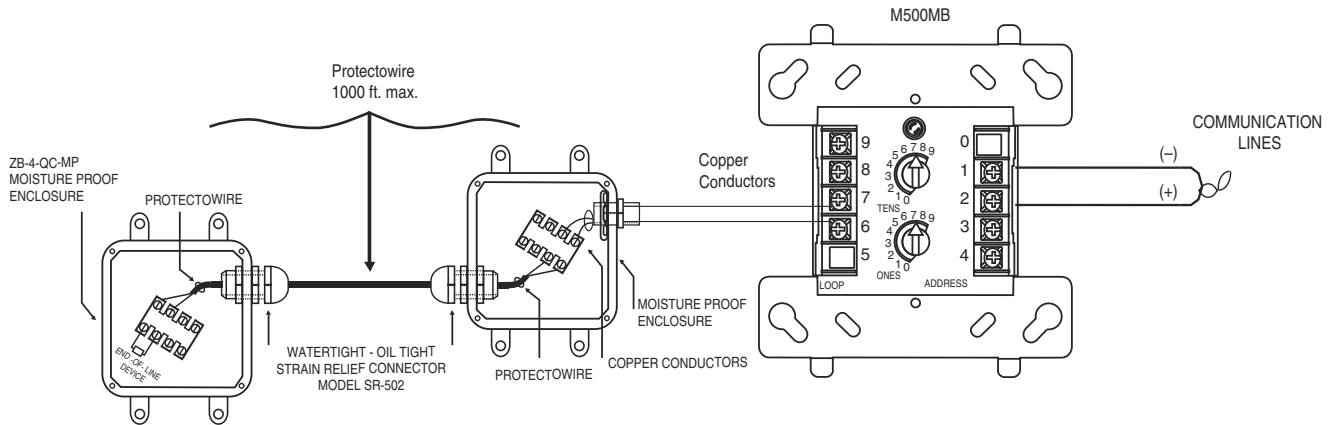| Model	Description
TR-24	Used to attach and tension one end of messenger wire supporting structure.
TR-24-S	Stainless steel construction used to attach and tension one end of messenger wire to supporting structure.
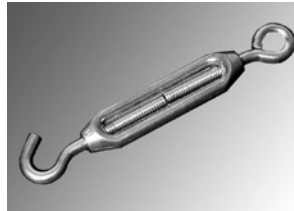
TR-24

Typical Class B Protectowire installation using M500MB Monitor Module:

ANY NUMBER OF UL LISTED CONTACT CLOSURE DEVICES MAY BE USED. DO NOT MIX FIRE ALARM INITIATING, SUPERVISORY, OR SECURITY DEVICES ON THE SAME MODULE.

Protectowire 1000 ft. max.

ZB-4-QC-MP MOISTURE PROOF ENCLOSURE

PROTECTOWIRE

END OF LINE DEVICE

WATERTIGHT - OIL TIGHT STRAIN RELIEF CONNECTOR MODEL SR-502

PROTECTOWIRE

MOISTURE PROOF ENCLOSURE

COPPER CONDUCTORS

Copper Conductors

M500MB

TENS

ONES

LOOP

ADDRESS

COMMUNICATION LINES

(–)

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IDC INSTALLATION WIRING SHALL NOT EXCEED 40 OHMS.

INSTALL CONTACT CLOSURE DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

ALL WIRING SHOWN IS SUPERVISED AND POWER LIMITED

C0173-00

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