LINEAR HEAT DETECTION
PROTECTOWIRE

THE GLOBAL LEADER
IN LINEAR HEAT DETECTION

PROTECTOWIRE ADVANTAGES

- Line coverage… continuous sensitivity
- Withstands severe environmental conditions
- Six alarm temperature ratings
- Approved for hazardous locations
- Easy to install, test, and splice
- Compatible with other initiation devices on same circuit
- UL & FM approved

PROTECTOWIRE® FireSystems

TECHNOSWITCH
FIRE DETECTION & SUPPRESSION

THE WORLD'S LEADING LHD BRAND

Protectowire Linear Heat Detector is a proprietary cable that detects heat 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 upon it, permitting the inner conductors to move into contact with each other thereby initiating an alarm signal. This action takes place at the first heated point anywhere along the Detector's length. It does not require 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.

APPLICATIONS & INDUSTRIES

Ideally suited to industrial high risk hazards as well as various types of commercial applications, Protectowire Linear Heat Detector has unique advantages over other types of detectors, especially when difficult installation factors or severe environmental conditions are present:

- Cable Trays
- Conveyors
- Warehouses / Rack Storage
- Bridges, Piers, Marine Vessels
- Refrigerated Storage
- Aircraft Hangars
- Cooling Towers
- Power Distribution Apparatus – Switchgear, Transformers, Motor Control Centres
- Dust Collectors / Baghouses
- Mines
- Pipelines
- Tank Farms

FEATURES & BENEFITS

- Can be connected to a standard Technoswitch Fire Control Panel using a specific Technoswitch Interface for simple fire and fault operation per zone. When used with a PW-PIM-530 Control Panel, the Detector will activate a display, showing the location in metres of an overheat or fire condition anywhere along its length and may be connected to any Fire Control Panel.
- Sensitivity is not affected by changes in ambient temperature, or length of cable used on the detection circuit. Compensating adjustments are not required.
- Simple to install and splice with common tools. Junctions can be made without affecting the integrity of the system.
- Compatible with other types of alarm initiating devices on the same circuit, eg. manual call points, heat detectors and smoke detectors.
- Can be installed in hazardous areas when used with suitably approved control panels.
- Full range of temperatures and models available to accommodate the most demanding applications.
- Different temperature detectors may be utilised in the same initiating circuit.
- Available on stainless steel Messenger Wire for installations where mounting is difficult, eg. large open areas.
- Ideally suited for activation of extinguishant equipment, such as deluge or pre-action sprinkler systems.

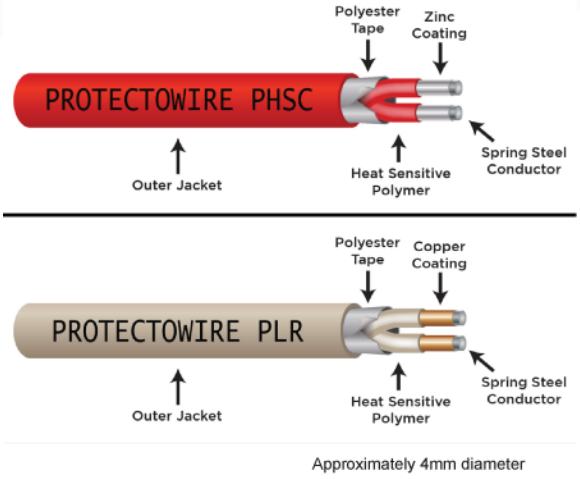
CABLE TYPES

The detector product range consists of two distinct types of cable. Standard PHSC models and low resistance "Universal" versions designated with the prefix PLR. Each model number designation also identifies a specific outer jacket material carefully selected to accommodate the widest range of installation environments. All specifications are subject to change without notice.

PHSC-EPC – consists of a durable flame retardant vinyl outer jacket and is designed for interior commercial and industrial applications. Features of this jacket include low moisture absorption, resistance to many common chemicals, and excellent flexibility at low temperatures.

PHSC-XCR – consists of a high-performance fluoropolymer jacket and is designed for exterior environments as well as harsh interior applications. Features of this low smoke jacket include excellent chemical resistance, abrasion resistance, weather resistance, and high-temperature performance. XCR is the only detector that is FM-approved for corrosive environments.

PHSC-XLT – consists of an outer jacket that is specifically selected for cold storage and freezers. Features of this jacket include low moisture absorption and excellent performance in extremely low temperatures. This detector has been UL and FM tested to –51°C.



PLR-XCR – is constructed with low resistance inner conductors, allowing for longer detector zone lengths on most types of fire alarm panels including addressable panels. Utilizing a high performance fluoropolymer outer jacket, this detector is specifically designed for use in applications where extreme environment and product criteria must be met. The flame retardant, low smoke jacket provides excellent abrasion resistance and mechanical properties over a broad range of applications. It provides excellent chemical and permeation resistance to a wide range of acids, bases and organic solvents, as well as simple gases. In addition, the jacket exhibits very little change in tensile properties upon outdoor exposure to sunlight and weather.

LINEAR HEAT DETECTION
PROTECTOWIRE

TEMPERATURE RATINGS – USE LINEAR DETECTOR OF PROPER TEMPERATURE RATING

Product Type	Product Code*	Alarm Temperature	Max. Recommended Ambient Temperature	Approvals / Max UL / cUL	Listed FM
PHSC-EPC					
Multi-Purpose Commercial & Industrial Applications	PW-155-EPC	68 °C	46 °C	15.2 m	9.1 m
	PW-190-EPC	88 °C	66 °C	15.2 m	9.1 m
	PW-220-EPC	105 °C	79 °C	15.2 m	7.6 m
	PW-280-EPC	138 °C	93 °C	15.2 m	7.6 m
	PW-356-EPC	180 °C	105 °C	15.2 m	See *Note 1*
PHSC-XCR					
High Performance: Industrial Applications Excellent Abrasion & Chemical Resistance	PW-155-XCR	68 °C	46 °C	15.2 m	9.1 m
	PW-190-XCR	88 °C	66 °C	15.2 m	9.1 m
	PW-220-XCR	105 °C	79 °C	15.2 m	7.6 m
	PW-280-XCR	138 °C	93 °C	15.2 m	7.6 m
	PW-356-XCR	180 °C	121 °C	15.2 m	See *Note 1*
PHSC-XLT					
Multi-Purpose Excellent Low Temperature Properties	PW-135-XLT	57 °C	38 °C	15.2 m	9.1 m
PLR-XCR					
High Performance/ Industrial Applications Excellent Abrasion & Chemical Resistance	PW-500-PLR-XCR	260 °C	200 °C	15.2 m	See *Note 1*

**When ordering Messenger Wire configurations, add suffix "-M" to the model number.*
Note 1: Approved for special application use only.
All specifications are subject to change without notice.

SPECIFICATIONS

Maximum Voltage Rating	30 V AC, 42 V DC
Resistance	0.607 ohms/m
Minimum Bend Radius	6.4 cm
Diameter	Nominal 4 mm
Weight	Nominal 3.6 kg / 152 m

INSTALLATION ACCESSORIES

A comprehensive range of mounting and installation accessories are available for the installation of Protectowire Linear Heat Detector. These include several types of clips, straps, drive rings, beam clamps, cable standoffs and connectors. Their proper use assures a neat and reliable installation.

Messenger Wire* is available on special order for any model Detector.

It consists of high tensile strength stainless steel wire which is wound around the Detector at the rate of approximately three turns per metre. It is a carrier—or support wire—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.

Stainless Steel Support Wire

When using Messenger Wire to support the Detector, turnbuckles and eyebolts must be employed at each end of a run to place tension on the support wire. The maximum Detector run length between turnbuckles should not exceed 76 m and the wire must also be supported with approved intermediate fasteners at intervals ranging from 4.5 m to 15 m, depending on the application.

Outdoor Messenger Wire installations present additional challenges due to environmental factors such as wind. Increased detector support must be provided by using additional intermediate fasteners with closer spacing in all outdoor installations.

All models of Protectowire Linear Heat Detector have the same size conductors and are readily spliced together with common tools.

PROTECTOWIRE® FireSystems

HEAD OFFICE — JOHANNESBURG
Cussonia Park, 3 Ridge Road, Laser Park, Johannesburg
JOHANNESBURG T +27 (0)11 794 9144 E info@technoswitch.co.za
CAPE TOWN T +27 (0)21 948 4575 ■ **DURBAN** T +27 (0)31 266 8843
www.technoswitch.co.za

Document: BR Protectowire 220718 E & OE