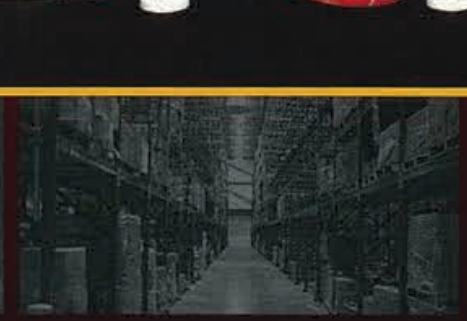
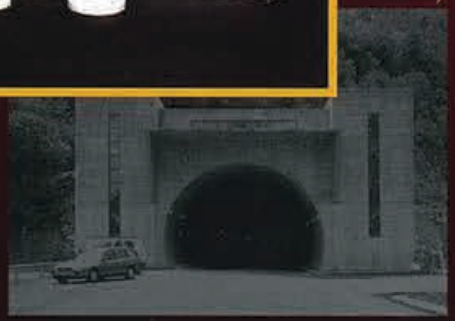
Fire Detection Systems for Special Hazard Applications

fire protection TECHNOLOGIES

PROTECTOWIRE® FireSystems

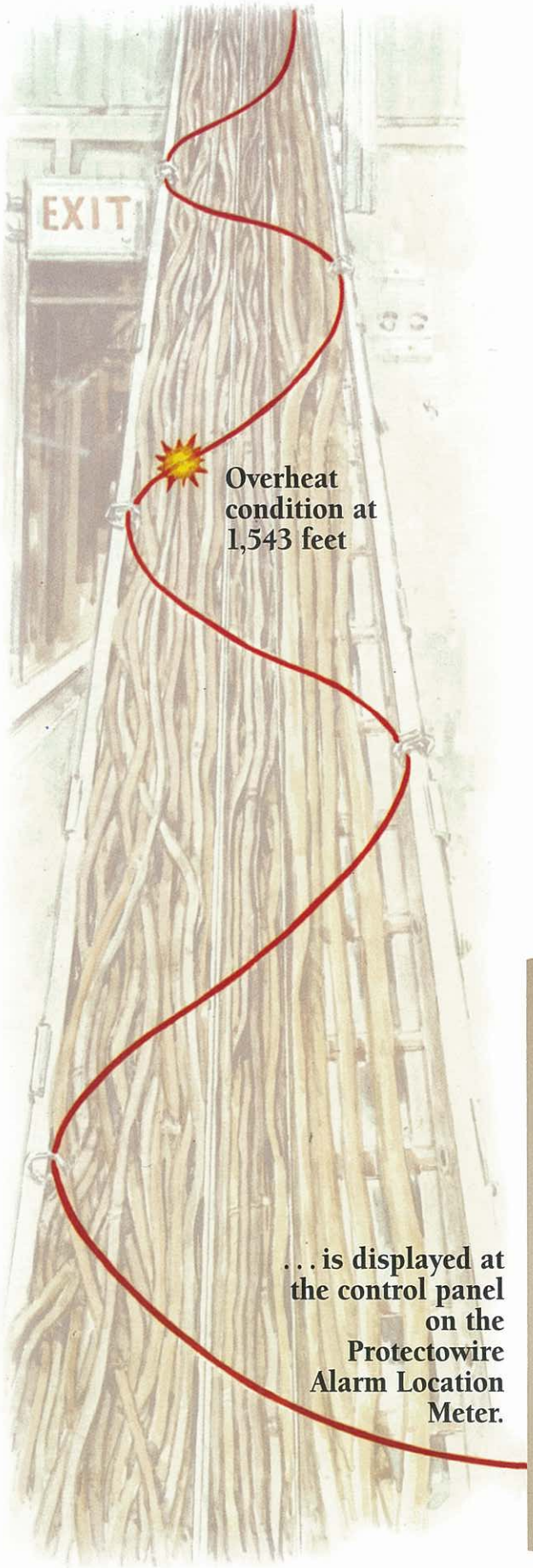




The Protectowire System

In today's complex industrial environments, the potential for downtime and financial losses caused by overheat and fire can be disastrous if not detected and located quickly. That is why Protectowire Linear Heat and Fire Detection Systems are the first choice of many design professionals.

With thousands of systems installed worldwide, The Protectowire Company is a leader in linear heat detection technology. Protectowire Linear Heat Detector will sense an overheat or fire condition at any point along its length and display its location at the control panel.



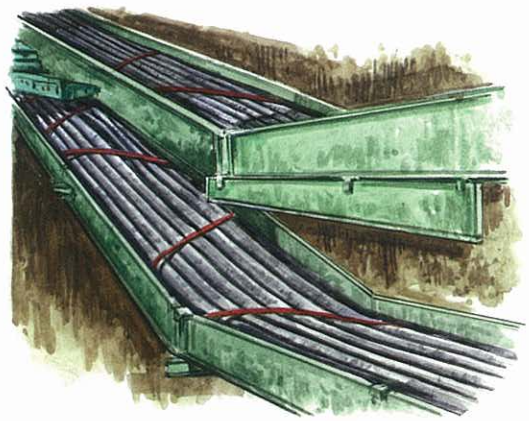
Protectowire Linear Heat Detector

- Detects at any point along its length . . . provides uniform sensitivity.
- Available in a wide range of operating temperatures.
- Easily spliced using common tools.
- Easy troubleshooting because of simple design.
- Outer jackets resist corrosion, chemicals, dust, dirt, moisture, and temperature extremes.

Protectowire Control Panels

- Commercial, light industrial and custom-engineered heavy-duty versions.
- Complete system supervision.

- Class A or B circuitry.
- Digital meter option pinpoints distance to overheat condition.
- Automatic zone alarm scanning option for digital meter.
- Intrinsically safe detection circuits available.
- Monitors up to 5,000 feet (1,524m) of Protectowire per zone depending on control panel used.
- Multifunction capabilities include extinguishing system release and supervision, water flow, smoke detection, and supervisory monitoring.



Protection for Cable Trays

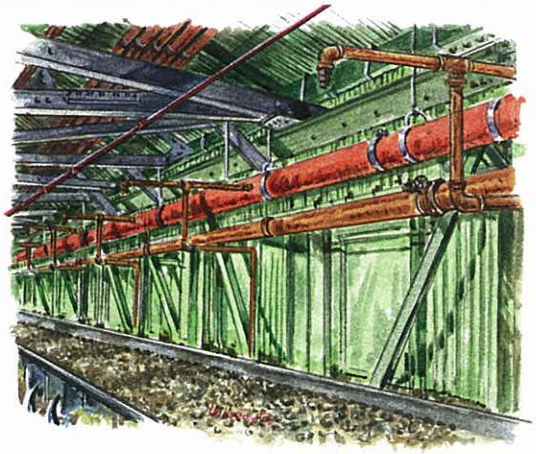
Protectowire Linear Heat Detector can pinpoint the location of an overheat or fire condition anywhere in a cable tray.

Protectowire may be economically applied to monitor each tier of cables and is adaptable to all cable tray types such as ladder, trough, solid-bottom, channel, cable bus duct, and tubing raceway. In most cases, the detector follows the vertical and horizontal runs and may be placed in direct contact with the cables.

Protectowire may be easily removed from one tray rail or both and reinstalled by the use of Protectowire factory-supplied mounting clips.

Representative Users:

American Electric Power
Bao An Power Plant - China
Bethlehem Steel Corp.
Georgia Power
LTV Steel Co.
Ohio Edison
Pohang Iron & Steel Co. - Korea
Shou Yang Shan Power Station - China
U.S. Steel

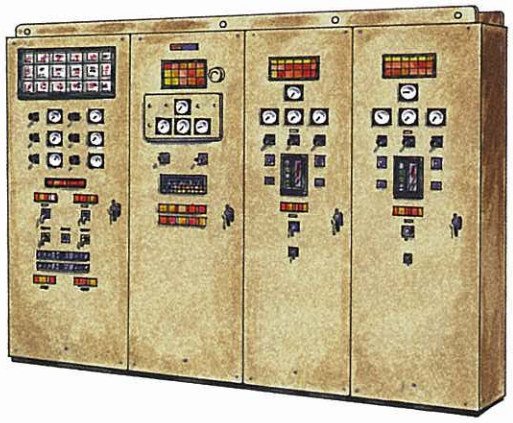


Protection for Conveyors

The major risks of fire in conveyor installations are in the materials being conveyed, or in the case of belt conveyors, the belt itself. Once fire is ignited, it can spread quickly along the length of the conveyor and be extremely difficult to extinguish. Protectowire Linear Heat Detector is typically installed directly over the conveyor or on either side of the belt. Protectowire systems can be designed to protect all types of conveyors.

Representative Users:

AmerenUE
Baltimore Gas and Electric
Bethlehem Steel Corp.
Detroit Edison Co.
Kansas Power Co.
Northern States Power Co.
Ohio Power Co.
Ontario Hydro
Taiwan Power Co.
Tennessee Valley Authority



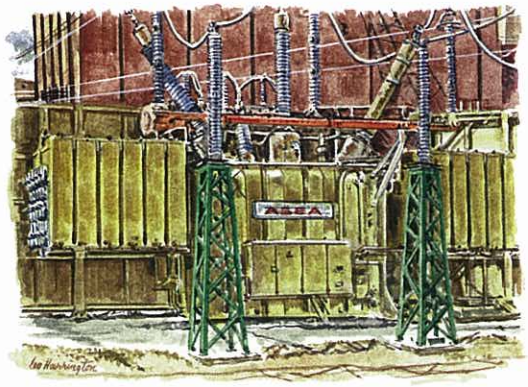
Protection for Electrical Equipment

Protectowire Linear Heat Detector may be easily installed inside equipment to follow cable raceways and harnesses or in direct contact with any components or areas which are subject to overheat and fire.

The detector may be used anywhere ambient temperatures do not exceed its installed temperature rating. Nonmetallic cable straps are used to fasten the wire during installation. Installation time and expense are greatly reduced when compared to spot-type heat detectors.

Representative Users:

Appalachian Power Co.
Bethlehem Steel Corp.
Cincinnati Gas & Electric Co.
Hydro - Quebec
South Carolina Electric & Gas
U.S. Steel



Protection for Power Transformers

Transformer fires often occur because of arcing due to the deterioration of insulation. Fires are also caused by lightning or dirty insulators on the tank.

Protectowire Linear Heat Detector provides a simple and reliable solution. The detector can be easily installed adjacent to or directly on all types of transformers to provide detection of any overheat condition.

Representative Users:

Boston Edison Co.
Bruce Nuclear - Canada
Cincinnati Gas & Electric Co.
Cleveland Electric Illuminating Co.
Detroit Edison Co.
Duke Energy
Entergy Pilgrim Station
Haikou Transformer Station - China

Protection for Racks and Freezers

Protectowire Linear Heat Detector may be used to provide detection at all levels of high-density storage racks. It can be run through racks in a single length or divided into zones as required.

When used in freezers protected by double interlock preaction sprinkler systems, Protectowire is typically installed at the ceiling and can protect in temperatures to -40°F (-40°C).

Protectowire is a linear sensor that can be easily installed in rack channels, where it is protected against damage from forklifts and pallets thereby preventing unwanted alarms.

Representative Users:

Albertson Distributors
Coca-Cola Foods
Coors Brewing Co.
Food Lion
Kraft Foods
Kroger
Publix Supermarkets
Safeway Foods
Shaw's Supermarkets
Tropicana
Wal-Mart
Winn-Dixie

Protection for Aircraft Hangars

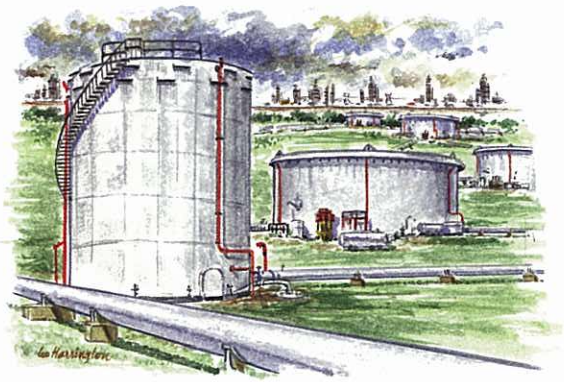
The highest risk of fire in hangars is from aircraft maintenance or from fuel storage and handling.

Protectowire Control Panels are capable of operating fast response flame detectors as part of a supplementary protection system designed to cover specified floor areas beneath the aircraft. Protectowire controls eliminate the need for multiple control panels and ensure complete system integration and reliability.

Protectowire at roof level greatly reduces installation costs, compared to spot-type heat detectors. Also, Protectowire's actuation temperature remains constant and is not adversely effected by temperature fluctuations.

Representative Users:

Aerotest, Inc. - Mojave
Bombardier - Canada
Continental Airlines
Delta Airlines
Dynair
Georgia Air National Guard
Mesaba Aviation
Midwest Express
New York State Police - Albany
Northwest Airlines
US Airways



Protection for Petrochemical Storage

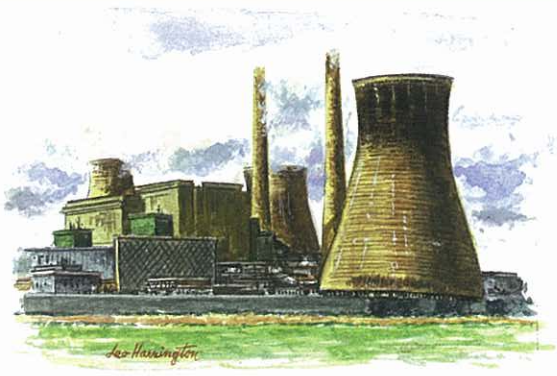
Protectowire Linear Heat Detector is a simple, cost-effective form of fire detection that is easily adapted to both fixed and floating roof tanks.

This system easily adapts to retrofit or new installations, and is available with intrinsically safe circuits. On fixed tanks, Protectowire can be installed to monitor gauge points, vent areas, or manholes.

In floating roof tanks, Protectowire is installed around the perimeter of the rim seal area in order to provide continuous monitoring for overheat and fire along its entire length.

Representative Users:

Abu Dhabi National Oil Corp.
Amoco Oil Co.
Bonaire Petroleum Corp.
Chevron Petroleum - UK
Fina Oil & Chemical Co.
Hill Petroleum Co.
Maxxus-Ecuador
Phillips Petroleum Co.
Star Enterprises (Texaco)



Protection for Cooling Towers

In cooling towers, wooden framework, decking, and plastic impregnated fiberglass supports and dividers are combustible hazards. Protectowire Linear Heat Detectors provide a reliable system for activating deluge sprinklers. The detector is installed around the fan motor on the fan deck, and circles the perimeter of the fan cylinder base, just beneath the deck.

Protectowire Type EPN, with its nylon-over PVC-jacket, provides the chemical resistance and low water absorption characteristics necessary for survival in hostile environments.

Representative Users:

Baltimore Gas & Electric
Bendix
Cincinnati Gas & Electric Co.
Ohio Power
Pacific Gas & Electric
Pennsylvania Power & Light
Texaco

Protection for Tunnels

Protectowire Linear Heat Detector is used in tunnels of all types.

In vehicular tunnels, Protectowire Linear Heat Detector is installed on the ceiling directly over the roadway. When used with a Protectowire Control Panel, the system may be configured to activate extinguishing systems, sound audible and visual warning signals, control air handling and ventilation equipment, and identify the exact location of the alarm.

Representative Users:

Atlanta Financial Center
AT&T Parking Garage - Basking Ridge, NJ
Bay Area Rapid Transit
Catalonia Tunnel - Spain
Denver International Airport
JFK Airport - NY
McCarron Airport
MGM Grand Hotel
Valencia Tunnel - Spain

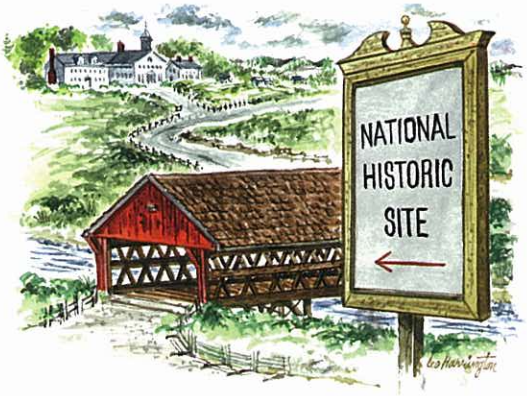
Protection for Transportation Facilities

Protectowire Linear Heat Detector offers protection from fire hazards found in airports, subways, and vehicles. Linear heat detection is effective in the following applications:

- Escalators. Protectowire wrapped around or in contact with the escalator bearings warns of overheating before a fire can start.
- Subways. Protectowire's unique design is ideal for protecting subways where important cable and piping networks are installed.
- Vehicles. Protectowire can be easily installed in industrial vehicles such as bulldozers, waste haulers, buses, front loaders, and subway cars.

Representative Users:

Amtrak
Bay Area Rapid Transit
Bermuda Airport
Denver International Airport
McCarron Airport
Newark Airport
Seoul Subway - Korea
Shanghai Metro - China
Vermont Central Railroad



Protection for Historic Landmarks

Because of the many different installation techniques available for Protectowire Linear Heat Detector, it is ideally suited for use in applications where aesthetics and historical accuracy are important. Unlike conventional spot-type heat detectors, which are easily visible, Protectowire can be installed so that it is virtually unseen.

Representative Users:

Fenway Park
MGM Grand Park
Mormon Tabernacle
Plimoth Plantation
Saco River Covered Bridge
Swift River Covered Bridge
The Holocaust Museum
The Spruce Goose
USS Cairo - Civil War Ironclad

Protection for All High-Risk Hazards

Protectowire Linear Heat Detector's inherent flexibility lends itself to virtually any critical fire defense application. The key to its protection is its ability to be installed in direct contact with potential sources of overheating and fire. It may be installed over, around, and through each critical system and component, where it can detect problems earlier than spot-type heat detectors installed remotely on the ceiling.

Typical Uses:

Pipelines and Pumps
Fuel Distribution Terminals
Boilers and Furnaces
Dust Collectors and Baghouses
Mines
Computer Rooms

Protectowire Total System Capability

Now it is easier than ever to specify a complete Protectowire System with all of its unique features and reputation for reliability. The Protectowire Company offers an extensive line of fire and heat detection sensors and related products, including:

- Optical Flame Detectors
- Manual Pull Stations
- Ionization and Photoelectric Smoke Detectors
- Heavy-Duty Alarm Bells
- Horns
- Visual Signals/Strobes

All Protectowire products have been specifically designed and tested for compatibility and reliable operation with Protectowire Control Panels.

Contact your local authorized Protectowire distributor for help in planning the system best suited to your needs.

Linear Heat and Fire Detector

Protectowire Linear Heat and Fire Detector consists of two actuators individually encased in heat-sensitive material. The actuators are twisted together to impose a spring pressure between them, then spirally wrapped with a protective tape and finished with an outer covering to suit the environment.

When connected to an approved fire alarm control panel, a monitoring current passes continuously through the detector and supervisory circuit. When the preset temperature is reached, the heat-sensitive material yields, permitting the actuators to contact with one another and initiate an alarm signal.

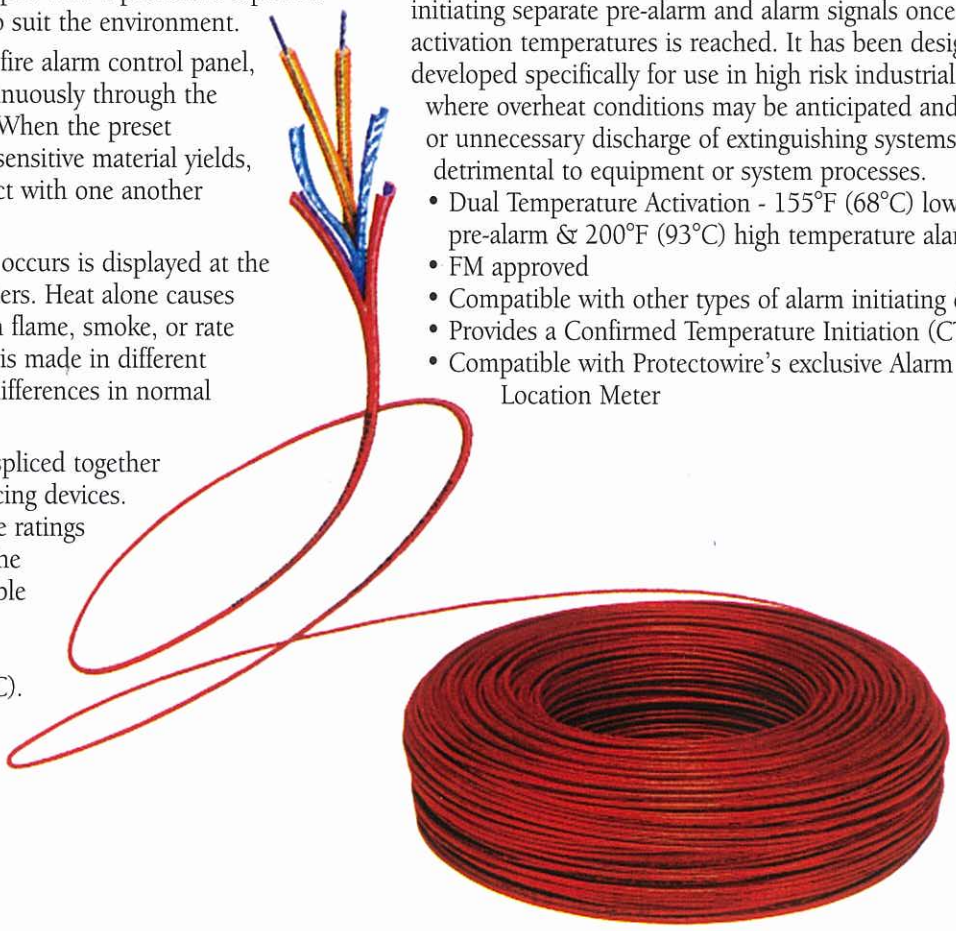
The location at which this action occurs is displayed at the central panel in either feet or meters. Heat alone causes the alarm without dependence on flame, smoke, or rate of temperature rise. The detector is made in different temperature ratings to allow for differences in normal ambient temperature.

Protectowire detectors are easily spliced together in series with PWS or PWSC splicing devices. Models with different temperature ratings may also be spliced together on the same circuit. Temperatures available are: 135°F (57°C), 155°F (68°C), 190°F (88°C), 220°F (105°C), 280°F (138°C), and 356°F (180°C).

TRI-Wire

TRI-Wire™ is the world's first digital type, FM approved, Dual Temperature Linear Heat Detector. The Detector is capable of initiating separate pre-alarm and alarm signals once each of it's activation temperatures is reached. It has been designed and developed specifically for use in high risk industrial applications where overheat conditions may be anticipated and the premature or unnecessary discharge of extinguishing systems could be detrimental to equipment or system processes.

- Dual Temperature Activation - 155°F (68°C) low temperature pre-alarm & 200°F (93°C) high temperature alarm
- FM approved
- Compatible with other types of alarm initiating devices
- Provides a Confirmed Temperature Initiation (CTI)™ Output
- Compatible with Protectowire's exclusive Alarm Point Location Meter

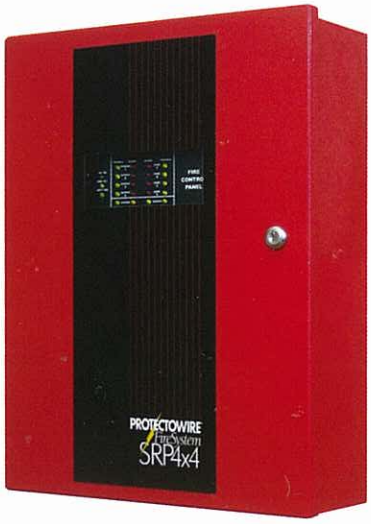


Control Panels

SRP4x4

The SRP-4x4 is a multi-purpose fire alarm system designed for commercial and light industrial detection and extinguishing applications. The control panel provides four Class A or B (Style D or B) Initiating Circuits, one dedicated Class B (Style B) Supervisory Circuit, and four Class B (Style Y) Output Circuits. An optional Class A (Style Z) Output Module is available.

- Standard battery charger, lamp test and ground fault detection included
- Programmable input and output circuits
- Field selectable Class A or Class B Alarm Initiating Circuits
- Output circuits may be configured for Alarm Indicating, Trouble Indicating, Supervisory, or Releasing functions
- Monitors up to 3,500 feet (1,067m) of Protectowire per zone
- Optional Protectowire Alarm Point Location Meter available
- Built-in SPDT common alarm, common trouble, and supervisory relays



FS2000

The FS2000 is a commercial and light industrial grade fire alarm control panel featuring individual control modules designed to meet specialized system requirements.

It is constructed for use in commercial, institutional, and light industrial environments.

- Fully supervised
- Basic 2-zone system
- Field expandable to 46 zones
- Monitors up to 3,500 feet (1,067m) of Protectowire per zone
- Class A or Class B circuits
- Up to 30 smoke detectors per zone
- Zones can be tested, silenced, and reset independently
- Complete extinguishing system control
- Ground fault detector, lamp test
- NEMA-1 enclosure
- Optional LTi Series NEMA-4/12 enclosures

2600HD

The 2600HD is custom configured to each customer's application requirements and is specifically designed for industrial hazards which demand high reliability and customized system features. Special capabilities, such as custom system operating logic, outdoor or hazardous installation environments, special input voltages, high power demand applications, or multiple extinguishing release circuit activation can all be provided to meet the most demanding operational requirements.

- Industrial NEMA 4 rated enclosures
- Includes standard Protectowire Alarm Point Location Meter
- Monitors up to 5,000 feet (1,524m) of Protectowire per zone
- Up to 25 smoke detectors per zone
- Lamp and initiating device circuit alarm tests
- Ground fault detection
- Trouble silence resound timer
- PCLC touch screen operator interface display panel (2600HD3)

Global Leadership in Linear Heat Detection Technology

In the special hazard fire protection industry, the focus is on the protection of people's lives and property. The Protectowire Company has achieved its leadership position within the industry by continually developing and improving products designed to meet the challenges of a broad range of applications.

Our specialized engineering and design talents are focused on providing a total system approach which offers unique capabilities such as intrinsically safe circuits, extinguishing system release, auxiliary equipment shutdown or remote function annunciation. Whatever the application, we can design a system to fit your needs.

The Protectowire Company and its employees are dedicated to bringing you products designed, engineered, and manufactured with the highest degree of quality and reliability. This is demonstrated by 70 years of excellence within the fire protection community. We are an ISO 9001 Registered Company and hold other specific approvals around the world.

fire protection TECHNOLOGIES

Fire Protection Technologies
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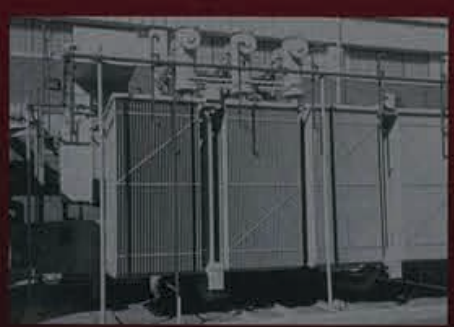
w: www.fire-protection.com.au - e: enquiries@fire-protection.com.au - p: 1300742 296






SIGNALING c UL us FM APPROVED AN ISO 9001 REGISTERED COMPANY FM Approvals

 DS 9084E-0408 (2M)