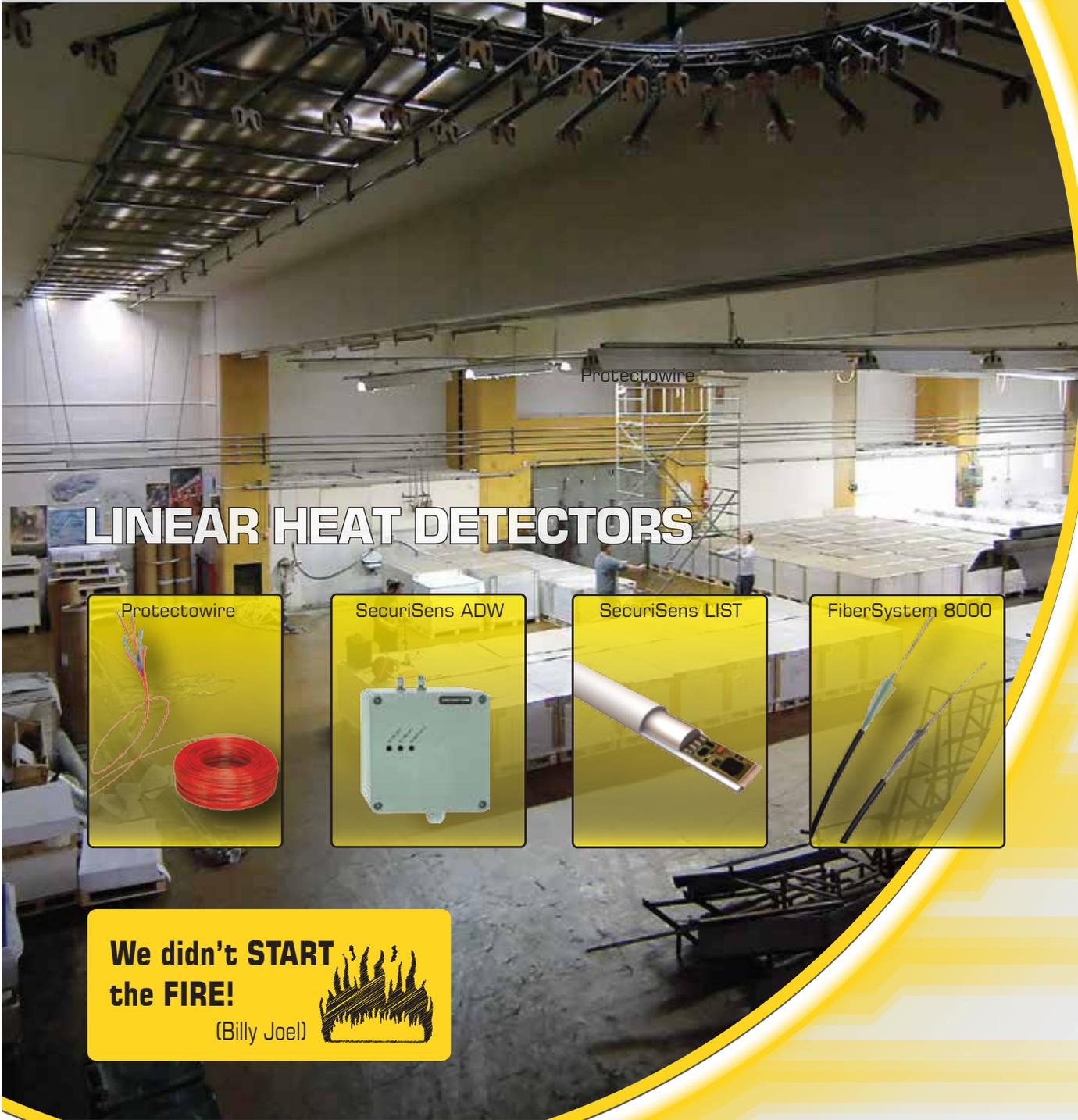


Safely into a new day



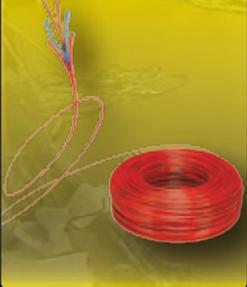
# FIRE PROTECTION



Protectowire

## LINEAR HEAT DETECTORS

Protectowire



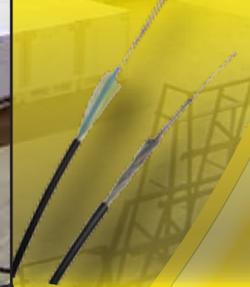
SecuriSens ADW



SecuriSens LIST



FiberSystem 8000



**We didn't START  
the FIRE!**

(Billy Joel)



## PROTECTOWIRE® linear heat detector



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.

### Applications

In all places with severe environmental conditions such as:

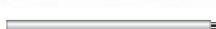
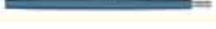
- cable trays
- conveyors
- power distribution apparatus
- switchgear
- warehouse/rack storage
- street and railway tunnels
- pipelines
- tank farms
- flammable liquids storage

### Cable types

The Detector's product range consists of four distinct types of cable. Each designation identifies a specific outer jacket material which has unique characteristics that have been selected to accommodate the widest range of installation environments.

- **EPC** consists of a durable flame retardant vinyl outer jacket. This series is best described as multi-purpose and is well suited to a wide range of both commercial and industrial applications. The outer jacket provides good all-around performance for most installations. It features low moisture absorption, resistance to many common chemicals, and excellent flexibility at low temperatures.
- **XCR Fluoropolymer Jacket** utilizes a high performance fluoropolymer jacket. This detector is specifically designed for use in applications where extreme environmental and product performance criteria must be met
- **XLT Vinyl Polymer Jacket** is a unique detector that has been designed for use in cold storage facilities and other applications that require a low alarm activation temperature. This detector has been UL and FM tested to -51°C.
- **TRI-WIRE Dual Temperature Vinyl Jacket** is a unique dual temperature detector which is capable of initiating separate pre-alarm and alarm signals once each of its rated activation temperatures is reached.

## Temperature ratings and model numbers

Alarm temperature	Max. Recommended Ambient Temperature	Maximal listed spacing	Model number
57°C	38°C	UL 15,2 m, FM 9,1 m	PHSC-135-XLT 
68°C	46°C	UL 15,2 m, FM 9,1 m	PHSC-155-EPC 
68°C	46°C	UL 15,2 m, FM 9,1 m	PHSC-155-XCR 
68°C/93°C	38°C	FM 4,6 m	PHSC-6893-TRI 
88°C	66°C	UL 15,2 m, FM 9,1 m	PHSC-190-EPC 
88°C	66°C	UL 15,2 m, FM 9,1 m	PHSC-190-XCR 
105°C	79°C	FM 7,6 m	PHSC-220-EPC 
105°C	79°C	FM 7,6 m	PHSC-220-XCR 
138°C	93°C	UL15,2 m, FM 7,6 m	PHSC-280-EPC 
138°C	93°C	UL15,2 m, FM 7,6 m	PHSC-280-XCR 
180°C	105°C	UL15,2 m	PHSC-356-EPC 
180°C	105°C	UL15,2 m	PHSC-356-XCR 

## SecuriSens® ADW 511 A

Fires and explosions cause sharp increases in ambient temperatures: the warmed air expands. Securiton used this simple physical principle in this development of the SecuriSens ADW heat detector. The device quickly and reliably detects even the slightest increase in temperature, and is indispensable in harsh environments – those involving corrosive gases, extreme humidity, high temperatures or contaminated air. Installing SecuriSens ADW can protect lives, prevent damage and reduce insurance liabilities. Thousands of customers around the world benefit daily from the high degree of safety provided by this fast fire detection system. Such effective fire protection is easy to achieve, made possible by the use of user-friendly programming and evaluation routines, combined with a maintenance-free and failsafe operation.

The SecuriSens ADW 511A is a linear rate-of-rise and maximum temperature detector and works on the principle of the change in volume of gases when there is a change in temperature. It consists of a copper sensor tube of up to 130m in length (stainless steel or Teflon tubes are available for use in particularly difficult environmental conditions, available upon request) and a detector case. Pressure is artificially created in the sensor tube, with a fully electronic pressure sensor constantly measuring the absolute pressure in the tube, with a microprocessor carrying out the evaluation. The sensitivity of the ADW 511A can be set via a PC using software, with disturbance factors such as weather-related variations in temperature being filtered out. Damage to the sensor tube is also recognized, by means of a precisely defined surplus pressure being created in the sensor tube by means of a test motor and a pressure pump. The ADW 511A's very robust construction makes it particularly suitable for use in hazardous areas (tunnels, hazardous areas, industrial applications ...). Product versions ADW 511 A Ex I and Ex II are ready for hazardous EX areas.

### The benefits of SecuriSens ADW

- 100% monitoring coverage - even over great distances.
- Resistant to harsh environmental conditions.
- Low maintenance, thanks to fully automated monitoring.
- Exhibits optimal response behaviour with heat differential and maximum temperature evaluation whatever the application.
- Programmable preliminary alarm.
- Response behaviour compliant to EN 54-5 A1.
- VdS- and UL-certified.
- Version available with ATEX approval.

### Specifications

- Supply voltage: 10 to 30 VDC
- Ambient temperature detection unit: -20°C to +50°C
- Ambient temperature sensor tube: -40°C to +160°C
- Dimensions (HxWxD): 160 x 160 x 90 mm
- Protection category of case: IP 65
- Case colour: light grey RAL 7035
- Weight: 1.7 kg
- VdS-number: G 204122



## PROTECTOWIRE® FiberSystem 8000

Has been designed for use as a linear heat detection system using state-of-the-art fiber optic sensing technology. The system consists of type PFS Fiber Optic Sensor Cable and the PTS Controllers with related software. The PTS Series Controllers can be configured for various alarm criteria and can be connected to an approved fire alarm control panel using relay inputs and outputs. The local position of an alarm temperature is determined by measuring the arrival time of the returning light pulse similar to a radar echo showing the distance of a car or plane. This enables the FiberSystem PTS Controller to provide an exact location of a fire or hot spot anywhere along the sensor's length. Temperatures are recorded as a continuous profile. The system is also capable of providing graphical representation of the fire size and direction of fire spread based upon the length of sensor in alarm.

### Features

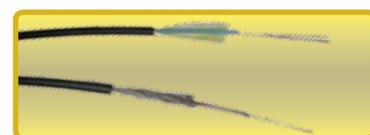
- Unique zoning capabilities. A single length of sensor can contain up to 256 zones.
- Multiple alarm initiating criteria by zone.
- Programmable custom operating logic.
- Capable of continuous temperature monitoring.
- Graphic display of temperature profile, fire size, and spread using computer interface.
- LAN Interface (TCP/IP) enables remote access from multiple locations.

### Fiber Optic Sensor Cable

The sensor cable consists of non-metallic or stainless steel tube with outside diameter of 1.2 - 1.8 mm. In the tube are two independent color-coded quartz fibres. depending upon the model selected, the tube is clad with a layer of stainless steel wire or Aramid yarns. The sensor's core is then sheathed in flame retardant jacketing material to a diameter of 4 mm.

### Applications

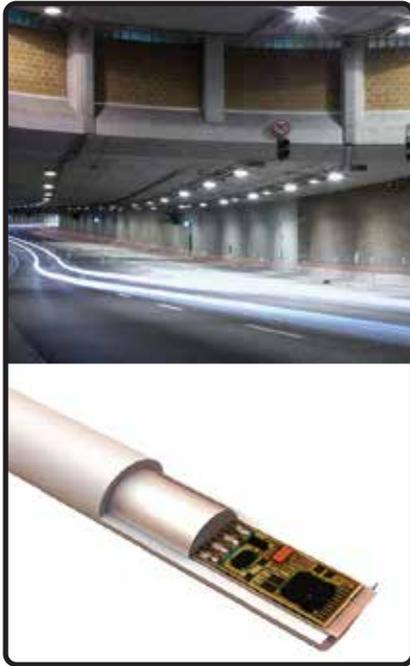
The system is specifically designed for high risk commercial and industrial hazards that demand high reliability and customized system features.



### Specifications

- Supply voltage: 10 to 30 VDC
- Power consumption: typical 15W (20°C), maximal less than 40W (all operating conditions)
- Operating temperature range:
  - 10°C to 60°C
  - two channels models: -5°C to 60°C
- Storage temperature range:
  - 40°C to +80°C
- Operating humidity range:
  - 0% to 95%, non-condensing
  - 2 channels models 15% to 85%, non-condensing
- Housing:
  - PTS controller is inside NEMA 1 red type housing with texture
  - 51 cm x 76 cm x 18 cm (WxHxD)
- Interfaces:
  - optical connector E2000, eight degrees angled
  - number of channels: 1 or 2, depending on model
  - computer interface: USB, LAN
  - relay board: 4 inputs/20 outputs

## SecuriSens® LIST line-type heat detector



### Fire detection with SecuriSens LIST heat detectors

Fire detection with SecuriSens LIST heat detectors begins where all other detectors reach their limits. Dust, heat, smoke, exhaust fumes and other interference factors have a significant impact on detecting fires when using conventional fire detectors. However, it is exactly under such difficult conditions that the fire risk is so great and it is vital to ensure quick and reliable detection – such as in tunnels, industrial facilities, power plants and car parks. With the SecuriSens LIST line-type heat detectors, we provide systems that can enable the rapid localisation of a fire – even when used in harsh, aggressive environments. SecuriSens LIST detects incipient fires in record time. The sensor cable contains highly sensitive addressed sensors whose response behaviour can be programmed individually. The sensor spacing in the cable can also be selected individually, meaning you can then set up a monitoring system that is tailored exactly to the specific risk profile of your object and the local installation regulations. You can then profit from extremely precise, rapid and reliable fire detection.

### Two systems, one principle for maximum safety

The SecuriSens LIST system with SEC 20 sensor cable ensures maximum safety in tunnels and when monitoring large areas. The SecuriSens d-LIST system with SEC 15 sensor cable is primarily used in industrial facilities and when monitoring smaller areas. Both systems are the result of a wealth of specialist expertise. Evaluation of the sensor data is made according to the maximum temperature behaviour and differential behaviour. In doing so, proven evaluation algorithms minimise the risk of false alarms. Configuration is tailored exactly according to your requirements. You can specify the detection areas easily with independent alarm thresholds as well as individual pre-signal thresholds. Every second counts when reacting to an emergency, which is why the systems have transparent communication without any friction losses. They offer interfaces to superordinate systems and open data protocols, such as Modbus or IEC. The temperature values and events are visualised on the cable terminal processor or the PC. The SecuriSens LIST systems also open up interesting options in terms of dimensioning several cable terminal processors can be networked with one central master.



### The sensor cable – intelligence from start to finish

Robust, clever and precise – the SEC 15 and SEC 20 electronic sensor cables impress thanks to their alertness, reliability and practically unlimited possibilities. Their measuring points record the temperature at a resolution of 0.1 °C. The functionality of all sensors is permanently checked by the cable terminal processor so that uninterrupted monitoring of your object is ensured. With their sophisticated design, the sensor cables offer the best possible conditions for extremely long-term use. The closed aluminium shielding protects against damaging EMC influences. The halogen-free outer sheathing is flame retardant according to DIN EN 60332 and extremely durable. The sensors still work reliably, even when the temperature reaches a maximum of 120 or 200 °C for short periods. Cable strain relief is provided on the fill material surrounding the two-wire or four-wire ribbon cables. Another positive aspect is that these clever cables are maintenance-free and can be repaired quickly and easily in the event of damage.





## Line-type heat detection provides optimal safety in ...



Multi-storey and underground car parks



Cable and transport ducts



Gas and district-heating circuits



Manufacturing facilities and warehouses



Storage tank installations and chemical production plants



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