Model 5710

High Temperature Transit Flame Sensor

PATOL
FIRE DETECTION SOLUTIONS

IECEx and ATEX Approved

The 5710 High Temperature Transit Flame Sensor monitors high temperature materials (up to 240° on highest sensitivity), being transported on conveyor systems at speeds of between 0.5 and 6m/s, and triggers as the material reaches the ember or flame condition.

The sensor employs enhanced infra-red monitoring technology that analysis the levels of IR emission in the narrow band of 4.2-4.7µm. As the sensor is tuned to this band it is "solar blind" meaning the "background" and "transient" IR spectra are discriminated. This provides enhanced false alarm immunity.

The 5710 is specifically designed for hazardous areas and is IECEx / ATEX approved for Zones 1, 2 & 21, 22.

Air purging from a compressed air feed is used to maintain a lens cleaning system that ensures the prevention of dust settling on the sensor window.

The 5710 incorporates within the unit a user programmable SIL switch. Option selection includes detector sensitivity settings, auto/manual reset sequence selection and single/ coincidence voting from the two individual internal detectors for the alarm trip shutdown outputs.

The sensor air pressure and signal cable connections are fault monitored and fail safe. The controller incorporates an auxiliary fault input and common fault output contact.

Features

- Detection of ember and flame of high Temperature product.
- Air purged system for dusty environments with air pressure monitoring.
- Isolated Detectors for Maximum reliability.
- Single / Coincidence voting output
- Timed auto reset / coincidence analyser circuit
- Tuned response — solar blind
- Voting Logic & Latching options
- Alarm & Trip Functions
- Fault Monitored, with Test & Reset push Buttons
- Field Programmable
- Volt free relay contact output operation selectable as standard
- Two wire operation - Can be powered by direct connection to standard fire trigger circuits or

Applications

- Food Processing
- Tobacco Processing
- Conveyors
- Waste Recycling Conveyors
- Baggage Handling
- Radio Frequency Drying Systems
- Microwave Drying Systems
- Waste Drying Systems
- Drying Conveyors

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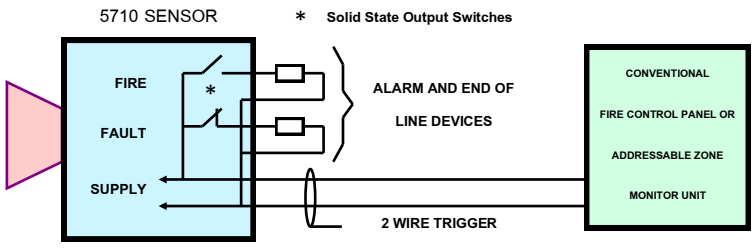
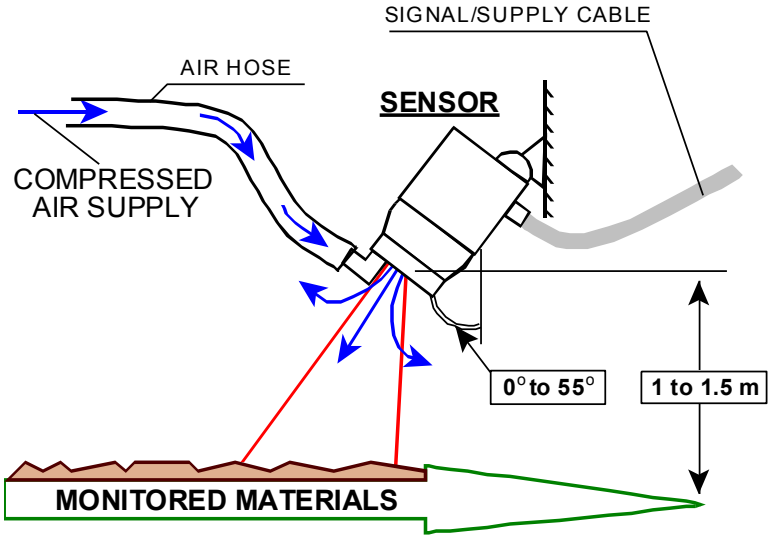
Standard / Low Power Mode

The unit can be used in two principle operating modes. Either relay mode, with its own 24 Vdc power supply or in low power mode (as shown below), see datasheet for further details



The sensor is located above or beside the materials transit path (conveyor, roadway, etc.) by means of the adjustable mounting bracket and aligned such that the monitored hazard passes through the sensor's field of view. The distance and angle of the sensor determine the width of the monitored path.



The table below shows the width of the monitored product at the Lowest and Highest sensitivity settings. This is based on the sensor being installed at a 45° angle.

Exact response is dependant on the emissivity factor of the monitored material, sensor orientation and target speed.

Sensor mounted 1m above Conveyor at 45° angle	
Sensitivity Level	Monitoring Width
Lowest	0.6m
Highest	1.6m

Specification

Detectors:	2 off Isolated Sensors.
Spectral Filter:	4.2 - 4.7 µm (narrow band)
Sensitivity:	4 Levels
Transit Speed:	0.5 to 6 m/s
Sensor Head:	3kg
Material:	Aluminium or Stainless Steel
IP Rating:	IP66
Supply Voltage:	20-30 Vdc
Supply Current:	
Relay Mode:	11mA Quiescent
	26mA Max/Full Alarm
Low Power	1.8 mA Normal Mode
Mode:	<350µA Fault
	5mA Fire + Alarm Load
Temperature:	-20°C to +60°C
Outputs:	
Alarm/Trip Contact	2 Pole C/O
Fault Contact	1 Pole C/O
Rating:	30 Vdc - 500 mA
Auxiliary Input:	PSU / Charger etc.
Purge Air:	

Input Fitting: 10mm Compressed Air Hose Adapter
Pressure: 2.5 psi to 10 psi
Minimum Delivery: 30 litres/min

Ordering Information

Description	Part Number
5710: ATEX IECEx Sensor	722-110