

### VOLUMETRIC DETECTION OF HOTSPOTS IN MOTION – (FVD-P).



#### INFRARED HEAT SENSOR WITH ATEX APPROVAL

##### FUNCTION:

The 5000 series is an early warning infrared heat sensor, which can activate at temperatures as low as 100 °C and detect materials located on conveyor belts before reaching the ember or flame condition. This unique special dual detector model improves infrared tracking for black heat detection. Blackbody emissions occur in all materials, the detector is designed to detect a change in these emissions, even at relatively low temperatures, when the material moves through its field of view. The 5610 is specifically designed for hazardous areas and is ATEX certified for zones 1, 2 and 21, 22. Cleaning using a compressed air system helps prevent dust build-up on the sensor windows. This Model 5610 incorporates a user-programmable SIL switch. Different options include detector sensitivity settings, manual / auto reset, and alarm activation by individual signal or by coincidence of the two detectors.

##### FEATURES:

Detection of hazard / risks at temperatures below the flame point that include both embers and buried hot spots (not visible). ATEX approval for zones 1, 2, 21 and 22. Twin detection (sensing) circuits for maximum reliability. It can be powered by direct connection to standard fire trigger circuits or addressable loop interface. Activation individually or by coincidence. Automatic or manual reset of the circuit. Auto-reset Timer. Lens darkening analyzer. Voltage free output relays. Monitor fault, with test and pressing reset button. Field programmable.

##### Applications:

Conveyor Belts, Biomass, Linear Dryers, Waste Conveyors or Recycling Lines, Food Industry, Production Lines.

##### Standard Mode and Low Power Mode

The unit can be used mainly in two operating modes, with its own 24 Vdc power supply or in low power mode. See data sheet for more details.

##### System configuration

The sensor is located above or next to the transit of the materials (conveyor belts, road lanes, etc.) by means of the adjustable mounting bracket, the distance and viewing angle of the detector is adjusted, so that the hazard to be monitored passes through the sensor's field of view.

For typical belt widths from 1.6 to 4.2 m can be monitored with a sensor mounted at 1.0 or 1.5 m above the conveyor belt at an angle of 0° to 55° (see data sheet). For the particular case of a sensor mounted 1m above the tape with an angle of 45 degrees, the width of the monitored tape is 2 m.

#### Technical Specifications

- **Detectors:** 2 Reflective cone optical focusing systems.
- **Spectral filter:** 5 - 14 um (bandwidth)
- **Sensitivity:** 0 - 40 uW
- **Transit speed:** 0.5 to 6 m/s
- **Sensor Device Weight – IP:** 3kg (IP66)
- **Power Supply:**  
Relay Mode 20 - 30 Vdc  
Low Power Mode 13 - 30 Vdc
- **Current Supply:**  
Relay mode in standby 11 mA.  
Relay Mode in Alarm 26 mA / Max.
- **Low Energy Mode:**  
Normal mode 1.8 mA.  
Fault Mode < 350 uA

- **Operating temperature:** -20°C to +60°C
- **Outputs:**  
2 x Alarm Contact - NC /NO Terminals  
1 x Fault Contact - NC /NO Terminal Supports - 30 Vdc - 500 mA
- **Indications:**  
1 red LED for each channel (2 LEDs)
- **Cleaning by pressure air purge:**  
**Inlet fitting:** 10mm adapter for compressed air systems  
**Pressure:** 2.5 psi to 10 psi  
**Minimum supply:** 30 liters/min
- **Order Information:**

| Reference | Description             |
|-----------|-------------------------|
| 722-010   | 5610: Exd Detector Unit |