

DETERMINATOR

Fixed Point InfraRed Combustible Hydrocarbon Detector Head

Reference:

Quotation No:

Date:

Specifications

Dimensions: Conduit box with sensor:
13" length x 6½" width x 4½" depth

Vibration & shock: Tests show no sensitivity to normal shock and vibration

MTBF at 70° F: 8 years

Accuracy: 5% LEL (up to 120% LEL).
20% of reading (from 120%LEL to 999%LEL).

Repeatability +/- 3% up to 120% LEL

Response Time: < 40 seconds to 90% of gas concentration without splash guard

Recovery Time: < 40 seconds to 10% of gas concentration without splash guard

Measurement Range: 5-999% LEL

Humidity: Not affected by 0-99% relative humidity, non-condensing in a temperature range of 0-70C.

Flooding: Not flooded by high concentrations of gas. It will read up to 999% LEL on the LED display and will transmit up to 120% LEL on the 4-20 mA output.

Operating Temperature: -30C to +70C (-22F to +158F)

Input voltage: 24 VDC nominal (20 to 32 VDC)

Power: < 4 watts Input is voltage polarity protected.
Input lines have surge suppressors and are fused to prevent damage from electrical transients.

Output Signal: Jumper selectable to transmit either 4-20 mA or 1-5 mA (used by Delphian's analog Micro 550 Controllers). The detector provides RS422/485 output.

Limited Warranty 2 years

Cable Length: 3-wires, unshielded (+, -, signal)
Controller to Interface Module & Transmitter - 5,000 feet max

Hazard Classification: USA:Class 1, Division 1, Groups A,B,C,D
Canada:Class 1, Division 1, Groups B,C,D

RFI Immunity: Less than 1% LEL change with transceiver keyed within three feet of the detector head.

Poisoning Gases: None

Blocking Gases: Acetylene

Pressure: Normal variations in atmospheric pressure will not affect the detector.

Sensor Health Monitoring: light emitted by filament, detector integrity, excessive optical path attenuation (dirty optics), optical path obstruction, microprocessor functionality, electrical supply voltage

Part Numbers including infrared sensor, conduit box, interface module and processor module
Aluminum sensor housing: 364-850-01
Stainless steel sensor housing: 364-850-02
Aluminum sensor housing with SLAM and 4" domed window cover: 364-850-03

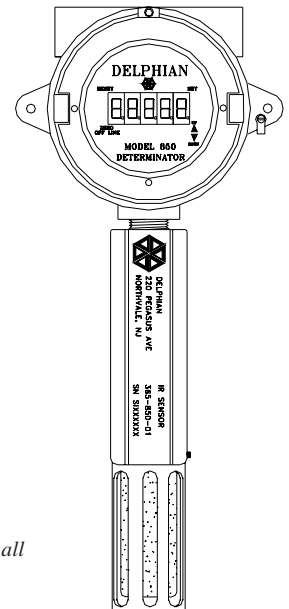
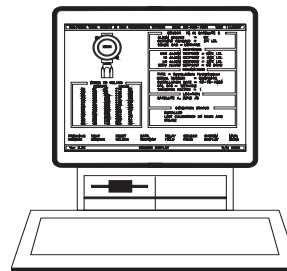
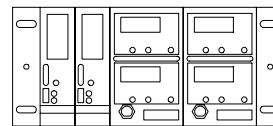
Approvals: Factory Mutual and CSA

Assembly Design

- Sensor recognizes and identifies multiple hydrocarbon gases. Will not be affected by hydrogen and most non-hydrocarbon gases
- C.A.T. (Computer Aided Testing) quality controlled.
- Modular component design concept.
- Local display and serial digital output signal both give detected warnings and failures. Four informational and six possible critical malfunctions are transmitted on the 4-20mA line.
- The sensor is connected to an epoxy encapsulated electronic transmitter with its constant temperature circuit.
- Built-in selftest continuously monitors hardware and software.
- Encapsulation guarantees reliability without concern for moisture and dirt.
- Zero calibration required infrequently. Span calibration not required.
- RFI and surge protection circuits are built in.
- Options include splash/dust guard, lightning arrestor, local alarm relay module, reclamation adaptor.

Construction

- Stand-alone. Modular construction. All components designed to plug into interface module which makes wiring easy as well as permitting rapid replacement of components.
- Sensor and conduit box are explosion proof which are FM and CSA rated.
- The conduit box is epoxy coated to prevent corrosion. The internal sensor components and all connectors exposed to the atmosphere are gold plated.
- All connectors are unique and are keyed to prevent incorrect connections.
- All working electronics are encapsulated to prevent deterioration from dust and humidity
- No moving parts



Delphian's DETERMINATOR connects with all Delphian controllers, Flexiracks, SAGE systems and PLC/DCS systems