

SENSALERT®

INFRARED GAS TRANSMITTER

HYDROCARBON LEL OR CARBON DIOXIDE

- **Oxygen Not Required**
- **Cannot Be Poisoned**
- **Broadband, Intelligent Sensor**
- **User-Friendly Display & Menu**
- **4-20 mA and SPDT Relay Outputs**
- **Highest Level of Confidence (Fail-Safe)**
- **Linear K-Factor Calibration Using Propane**

ATEX Approved



LATEST GENERATION TECHNOLOGY SENSOR

Using advanced Broadband Infrared Sensor technology, Sensidyne produced a flexible Hydrocarbon (LEL) transmitter that can be user calibrated for many different compounds. The firmware utilizes Beers-Lambert Law to provide a linear relationship between different species of Hydrocarbons, permitting user re-calibration, and eliminating gas-specific linearization tables.

Sensidyne's Broadband IR sensor detects more Hydrocarbons such as Acetone, Butadiene, Styrene, and others, without extreme variations in response (K-factor) and linearity. The advanced, intelligent sensor stores complete

application data and current calibration values and is actively temperature compensated. Calibration is recommended every 6 months, modified by the application conditions and user experience. Sensor life is expected to be 5 years nominal, and the cost of ownership is much less than with catalytic sensors.

Use and maintenance is simplified with a non-intrusive, menu-driven, user interface for set-up and functional checks. An LCD display gives step by step instructions for calibration and alarm relay setting, as well as concentration, gas name and engineering units.



HOW THE INFRARED SENSOR WORKS

Infrared sensors have reference and measurement detectors (akin to photocells) for Infrared light. They are equipped with optical filters to see IR wavelengths of interest and reference. A modulated emitter completes the sensor. Since there is no Oxidation in the Infrared detector, its life and stability are greatly extended.

When Hydrocarbons are not present, the detectors are balanced at maximum signal. If gases or vapors diffuse into the sensor and absorb IR light, the measurement

detector reduces output in proportion to the concentration. The detectors' output differential is linearized via Beers-Lambert Law and becomes the transmitter output signal.

Since both detectors are exposed to the same "atmosphere," the common effects that would otherwise affect the measurement are eliminated. Continuous diagnostics maintain a high level of integrity and the Infrared sensor is fail-safe.

PRODUCT SPECIFICATIONS

GENERAL

Description 3-wire Input, automatic sensor recognition and configuration, microprocessor based with nonvolatile memory, LCD Display, magnetic non-intrusive user interface, analog output, and integral alarm relay. Conformal Coated Electronics.

Sensor Types Plug-in intelligent Infrared sensors, temperature compensated with nonvolatile memory. See listing.

Service Indoor or Outdoor Locations
Sample Draw
Duct Mount

ENCLOSURE

Explosion-Proof . Cast Aluminum (Copper-free)
6.1 (W) by 9.0 (H) by 4.9 (D) Inches
15.5 (W) by 25.6 (H) by 12.4 (D) cm
4.9 lbs. (2.2 Kg)

Type Wall mount with tabs & threaded inserts.

Overall Size 6.1 (W) by 9.0 (H) by 4.9 (D) Inches,
15.5 (W) by 25.6 (H) by 12.4 (D) cm.

Weight 4.9 lbs. (2.2 Kg)

ENVIRONMENTAL

Temperature -30° to 130°F (-35° to 55°C)
Display: -13° to 131°F (-25° to 55°C)

Humidity 5-95 %RH, non-condensing.

ELECTRICAL

Power 18-30 VDC, 150 mA (worst case)

EMI/RFI Certified to EN 50082-1
Certified to IEC 801-2, 801-3, & 801-4

OUTPUTS

All Models 3-wire 4-20 mA (600Ω)

Relay SPDT, 5 amp, 230 VAC or 24 VDC, Resistive

USER INTERFACE

Display 2-line alphanumeric LCD display for Gas Type, Gas Value, & Measuring Units

Controls ZERO and SPAN magnetic switches for menu driven automated calibration, and alarm setting

APPROVALS

All Models CE Mark

Explosion-Proof ... UL, Class I, Division 1, Groups B, C, & D;
Class II, Groups E, F, & G

WARRANTY

One year from start-up date or 18 months from date of shipment, whichever comes first

SAMPLE A & E SPECIFICATION

UL approved Infrared LEL (Optional: CO2) gas detection equipment, shall be provided. The Infrared sensor will be a broadband dual wavelength type with nonvolatile memory for operating parameters and have active temperature compensation. It shall be user serviceable and provide linear K-Factor calibrations with Propane for all Hydrocarbons in this specification.

Transmitters will be microprocessor based to automatically recognize the Infrared gas sensors and must have a display for gas type, measuring units, and value. A 4-20 mA output capable of driving 600 ohms at 24 VDC supply voltage will be provided. The transmitters shall have an integral 5 Amp, SPDT alarm relay. The transmitter will be explosion-proof (IP 66, NEMA 4X, NEMA 7) and be UL approved for Class I, Division 1, Groups B, C, & D.

A non-intrusive, menu driven, user interface for calibration and alarm setting shall be supplied per ISA gas detector standards.

Vendor shall furnish a complete calibration kit for commissioning, equipment start-up and training of owner's personnel, plus a priced listing of spare parts for two years operation.

The Infrared LEL gas detection equipment shall be SensAlert, as manufactured by Sensidyne, or approved equal.

ORDERING INFORMATION

Description	Part Number
Infrared (IR) Gas Transmitter	7013313-1

SensAlert Infrared Sensors

Acetylene (0-100 %LEL)	491255-D-1
Carbon Dioxide (0-2 %v)	052055-D-1
Combustible [Methane] (0-100 %LEL)	111255-D-1
Combustible Hydrocarbons (0-100 %LEL)	111255-D-2

Sensor Accessories

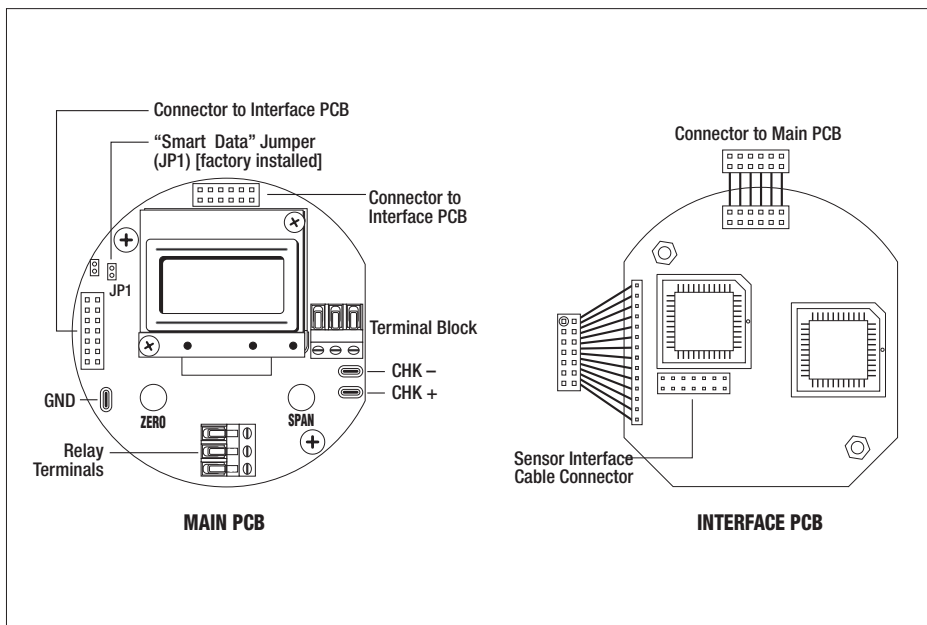
Wiring, conduit, and piping requirements are by others. Accessories are constructed of PVC or Delrin®

Remote Sensor Extension Kit (3 feet)	7013313-1R3
Remote Sensor Extension Kit (5 feet)	7013313-1R5
Remote Calibration Adapter	7013442
Aspirator Assembly	7013154-2
Flow Block	7011736-1
Duct Mount Kit	7013424

(Requires Extension Kit)

Calibration Accessories

Calibration Cup	7011668-1
Zero Gas (20.9% Oxygen) [103L Bottle]	009824-25
Propane Gas (30% LEL) [103L Bottle]	009824-1
Propane Gas (50% LEL) [103L Bottle]	009824-61
Methane Gas (30% LEL) [103L Bottle]	009824-2
Methane Gas (50% LEL) [103L Bottle]	009824-2
Carbon Dioxide (1.75%v LEL) [103L Bottle]	009824-62



SENSIDYNE®

Protecting People, Plants, and Products. . . Everyday

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Sensidyne products are third party approved to many different international codes and standards. Please consult individual product bulletins for approval listing.

