

# GDS-IR Infrared Gas Detector

## Combustible / CO<sub>2</sub> for Harsh Environments

- ◆ No routine calibration required
- ◆ Incorporates reliable dual wavelength infrared technology
- ◆ Extensive list of calibration curves available
- ◆ Fault indication for failure conditions
- ◆ Failsafe operation of vital functions in dirty conditions
- ◆ Three-wire interface offers easy retrofit into existing catalytic bead installations
- ◆ No regular scheduled maintenance
- ◆ Oxygen not required to detect combustible vapors
- ◆ Optional GASMAX II provides display, alarms, relays, MODBUS® output

The GDS-IR Infrared Point Gas Detector uses infrared light to detect hydrocarbon content in ambient air. The dual wavelength detector compares a reference wavelength to an analytical wavelength; target gases absorb the analytical energy but do not affect the reference. The resulting imbalance is proportional to the target gas concentration.

Typical GDS-IR installations require only one auto-zero calibration after start-up. This “*no routine calibrations needed*” feature, along with ease of installation, greatly reduces the GDS-IR cost of ownership when evaluated over periods as short as one year. Competing catalytic bead sensors require frequent calibration and must be replaced every two to three years at costs as high as several hundred dollars each.

Recognizing the need for high reliability, the GDS-IR output is programmed to respond to multiple failure modes. Dirty optics are indicated by transmitting 1mA continuously, and sensor failure by transmitting 0.0mA. Calibration-in-progress generates an output of 2.2mA and calibration failures an output 1.6mA.

The rugged explosion-proof stainless steel housing makes it suitable for applications in the harshest of environments. These include offshore platforms, petrochemical plants, refineries, waste disposal facilities, parking garages and many others.

When combined with the GDS Corp. model GASMAX II Gas Monitor, local LCD readout, alarm relays, Modbus® RS-485 or isolated 4-20mA output are available. A toxic or oxygen gas channel may also be combined with the GDS-IR when the GASMAX/II is added.



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# GDS CORP

Operating Voltage	18-32VDC at 210mA average 400mA peak; 5 watts (max)
Detector	Dual wavelength non-dispersive infrared (NDIR) technology
Detection Range	0-100% LEL or 0-5% volume Methane Optional - 0-100% by volume Methane Optional - Propane, butane and others upon request
Outputs	Standard dual 3-wire 4-20mA current source. Max loop R is 1000 ohms with nominal 24VDC power supply.  Output error / function indication: Calibration-in-progress - 2.2mA Calibration failure - 1.6mA Dirty optics - 1.0mA System fault - 0.0mA
Accuracy	Better than $\pm 3\%$ full scale between 0-50% Better than $\pm 5\%$ full scale between 50-100%
Response	$T_{50} < 5$ seconds $T_{90} < 10$ seconds
Long Term Stability	Better than $\pm 5\%$ of full scale
Temp Range	-40°C to +65°C operating
Humidity	0-99% non-condensing
T° Drift	Less than 0.1% per degree C over ambient temperature plus drift of sensor module installed
Housing	316 Stainless steel with 3/4" NPT mounting bushing and flying leads.
Approvals	CSA Certified C22.2 No. 152 for Class 1, Div 1 (Groups B, C, D)
Warranty	2 years from date of purchase



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## GDS-IR Order Guide

GDS-IR:

GDS-IR 0-100% LEL (Methane)

GDS-IR 0-5% Volume (Methane)

GDS-IR 0-100% LEL (Propane)

Other gases available; please contact factory.

# 10-0270 Duct Mount Kit:

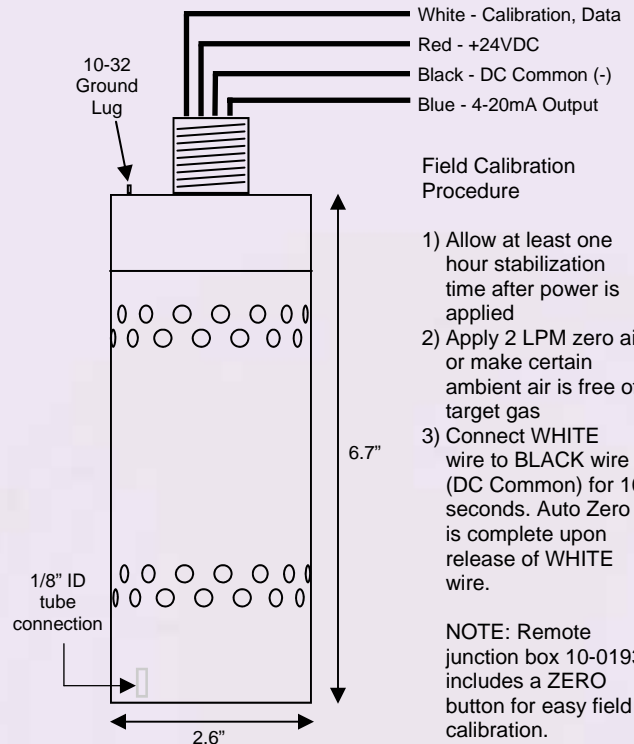
Allows installation of GDS-IR into air duct or plenum

# 10-0271 Process Flow Cell: Surrounds GDS-IR and provides five 1/8" NPT fittings

GASMAX II with GDS-IR:

Provides local readout, calibration, alarms, 30 minute trend; isolated 4-20mA and MODBUS® output capability. See GASMAX II data sheet for more details.

All Measurements in Inches



Represented by: