GDS-50 Remote Sensor Transmitter

Remote Gas Sensor for Combustible and Carbon Dioxide Applications with Replaceable Sensor & 4-20mA Output

- Designed for Class I Division 1 Hazardous Locations

- Interchangeable infrared sensors for CO_2 and hydrocarbons

- Industry standard 4-20mA analog output with fault indication

- No voltage or balance adjustments during setup or operation

- Field-replaceable sensor module for easy maintenance

- SmartIR sensor fully temperature compensated from -20°C to +50°C

- Extended termperature version for Methane and Propane available for -40°C to +65°C

- Stainless steel sensor enclosure for high noise immunity

- Carbon dioxide from 0 - 500 ppm to 100% by volume

- Manufactured in USA

Standard ranges for:
Methane % LEL
Propane % LEL
Methane % volume
Carbon Dioxide*

Easily calibrated for:
Pentane
Butane
Ethylene
Hexane
Jet-A and many others

* From 0 - 500 ppm to 0 - 100% volume

The GDS-50 is a three-wire remote sensor transmitter designed specifically to detect combustible hydrocarbons or carbon dioxide gas. The GDS-50 sensor transmitter 4-20mA output is compatible with the C1 *Protector*, C2 *Protector*, C2 *Quad Protector or C64 Protector* Controllers, the GASMAX II or GASMAX CX gas monitors or any other device with a 4-20mA input and built-in calibration capability.

SmartIR Sensors
The GDS-50 can be configured to support the full range of SmartIR infrared sensors. These self-contained sensors include all the necessary optics, electronics and firmware to produce a linearized, temperature compensated output signal that is converted into an industry standard 4-20mA current loop (source) output. SmartIR sensors monitor their internal operation and generate a FAULT signal in

the event of optics failure, microprocessor errors or excessive temperature. Sensors calibrated for specific gases include built-in temperature compensation over the full operating temperature range.

Rugged Construction
The GDS-50 enclosure is epoxy-coated aluminum with a stainless steel sensor head with integrated flame arrestor. The enclosure and sensor head are suitable for use in all Class I, Division 1 and 2 hazardous environments.

Low Cost, Easy to Use
The GDS-50 is designed specifically to operate as a 'blind sensor' with any GDS Corp controller or gas detector with a 4-20mA input. Unlike the GDS-48 Remote Bridge Sensor, the GDS-50 needs no voltage or balance adjustments, and does not require the controller to be configured with "bridge-style" inputs.

Easy Installation
The GDS-50 interface board provides wiring terminals (up to #12 stranded wire) for easy installation and maintenance. An optional splash guard is recommended for locations where water or liquid may be present.
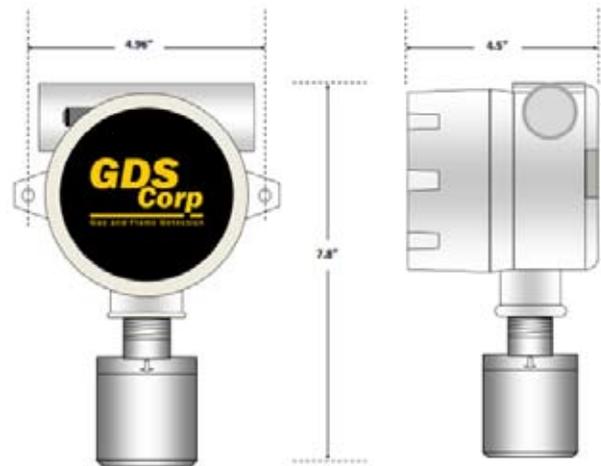
Toxic & Combustible Gas Detection • Controllers • Process Monitors • Calibration Supplies

GDS-50 SPECIFICATIONS

Power Input	SmartIR Combustible Hydrocarbons, < 2.0 W at 24VDC SmartIR Carbon Dioxide, < 2.0 W at 24VDC
Display	None
Calibration	Output is factory adjusted; final calibration must be performed by remote receiver device
Warm Up	Two minutes to final zero, ± 2% full scale at ambeint (20°C) GDS Corp recommends 1 hour warm-up prior to final calibration.
Accuracy	± 3% for 0-50% of scale and ± 5% 51% to 100% of scale ± 10% at -40°C for extended temperature sensors
Response Time	T_{90} less than 30 seconds at ambient (20°C) T_{50} less than 10 seconds at ambient (20°C)
Long Term Drift	± 1% per month at ambient (20°C) ± 3% per year maximum at ambient (20°C)
Standard Output	Standard dual 3-wire 4-20mA current source. Max loop R is 750 ohms with nominal 24VDC power supply
Operating Temp	-20°C to +50°C for full temperature compensation of measured gas
Housing	Epoxy-coated aluminum housing with 316 stainless steel sensor head
Dimensions	Width 5.5" x Height 9.6" x Depth 4.5" with splash guard Shipping weight 6.5 pounds (3 kg)
Approvals	Enclosure CSA Certified for Div. 1 & 2 Groups B, C, D.
Warranty	Two years on electronics and one year on sensors from date of purchase

GDS-50 Order Guide

GDS-50 A - B - C [SS] [TAG]

"A"	SENSOR HEAD 1 = Local sensor head 2 = Local sensor head + splash guard
"B"	SENSOR TYPE See GDS Corp Product Configurator for allowable sensor types
"C"	DETECTION RANGE [1] 1 = 0 - 1 5 = 0 - 50 2 = 0 - 5 6 = 0 - 100 3 = 0 - 10 7 = 0 - 500 4 = 0 - 25 8 = 0 - 1000 Custom RXXXX (0-9999)
	[SS] = Stainless steel enclosure [TAG] = Stainless steel tag

SENSOR TYPES

50	Methane 0-100% LEL	**52**	Methane, 0-100% by volume
51	Propane 0-100% LEL	**53**	Carbon Dioxide (specify range)

GDS-50 Infrared Sensor Transmitter

NOTES

Note 1: Standard ranges shown; contact factory for additional ranges