

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 CO₂ 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 temperature 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



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

Methane % LEL
Propane % LEL
Methane % volume
Carbon Dioxide*
Hydrocarbons
Butane %LEL
Pentane % LEL
Ethylene Oxide % LEL
Ethane % LEL
Propene % LEL
Ethylene % LEL
Ethanol % LEL
Methane % LEL (extended temperature)
Propane % LEL (extended temperature)

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

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.

GDS
Corp

Gas and Flame Detection

2513 Hwy 646

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GDS-50 SPECIFICATIONS	
Power Input	SmartIR Combustible Hydrocarbons, < 0.5W at 24VDC SmartIR Carbon Dioxide, < 0.5W 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 ambient (20°C)
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 standard sensors -40°C to +65°C for extended temperature sensors (xT)
Housing	Epoxy-coated aluminum housing with 316 stainless steel sensor head
Dimensions	Width 5.3" x Height 9.3" x Depth 2.75" with splash guard Shipping weight 6.5 pounds (3 kg)
Approvals	Enclosure and sensor head CSA Certified for Div. 1 & 2 Groups B, C, D. Suitable for Explosion Proof installations.
Warranty	Two years on electronics and two years on sensors from date of purchase

GDS-50 Order Guide	
GDS-50 A - B - C [SM]	
"A"	SENSOR HEAD 1 = Stainless Steel Sensor Head for XP Installations 2 = Stainless Steel Sensor Head for XP w/ Splash Guard
"B"	SENSOR TYPE 50 - 0-100% LEL Methane 51 - 0-100% LEL Propane 52 - 0-100% v/v Methane 53 - 0-100% Carbon Monoxide* 54 - 0-100% LEL Hydrocarbons 55 - 0-100% LEL Butane 56 - 0-100% LEL Pentane 57 - 0-100% LEL ETO 58 - 0-100% LEL Ethane 59 - 0-100% LEL Hexane 5A - 0-100% LEL Propene 5B - 0-100% LEL Ethylene 5C - 0-100% LEL Ethanol 5V - 0-100% LEL Methane (xT) 5W - 0-100% LEL Propane (xT) 5X Other (Specify)
"C"	DETECTION RANGE ¹ 1 = 0 - 1 2 = 0 - 5 3 = 0 - 10 4 = 0 - 25 5 = 0 - 50 6 = 0 - 100 7 = 0 - 500 8 = 0 - 1000 Custom RXXXX (0-9999)
[SM]	Includes quick-connect fitting for SiteMAX Rapid Deployment System



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