



Model FP-524D

Combustible Gas Sensor



Description

Model FP-524D is a “Smart” gas detection sensor designed to detect and monitor combustible gas in air over the range of 0-100% LEL (lower explosive limit) using matched-pair catalytic bead technology.

Model FP-524D features Detcon’s MicroSafe™ intelligent electronics, non-intrusive operator interface and comprehensive fault diagnostics. The sensor transmitter features an advanced universal design that fits all existing Detcon matched-pair catalytic bead sensors dating back more than 20 years. The sensor assembly includes the detector in stainless steel housing, a base connector board, an explosion proof enclosure (available in aluminum or stainless steel), a plug-in control transmitter circuit, and a splashguard with integral cal port. The packaging is Explosion Proof (Class I, Division 1, Groups C and D).

Model FP-524D is equipped with a standard analog 4-20 mA current signal equivalent to the sensor range of detection, one-man remote calibration, self-adjusting zero and span, and LED indicators for fault and calibration status. A HART communications option is also available. Detcon’s combustible gas sensor has an infinite shelf life and is supported by a 2-year warranty.

Features

- Certified to ISA performance standards
- cSAUs approved for for Class I, Division 1, Groups C & D
- Transmitter design fits all existing Detcon Catalytic Bead Sensors dating back 20 years
- Simple menu driven calibration - less than 3 minutes
- LED display and LED indicators for FAULT and CAL status
- Plug-in field-replaceable transmitter
- Long sensor life: average +5 years in harsh offshore drilling/production environments
- High resistance to poisons such as sulfides, chlorides, silicon-based contaminants etc.
- Low power consumption (less than 3.5 watts versus 8+ watts on competitive brands)
- Extensive Fault diagnostics

Applications

- Oil and Gas Drilling Rigs
- Oil and Gas Production Sites
- Offshore Production Platforms
- FPSOs
- LNG/CNG Plants
- Refining and Petrochemical
- Pulp and Paper Mills
- Waste Water Treatment Plants



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System Specifications

Sensor Type

Matched-pair catalytic bead

Sensor Life

3 to 5 years typical

Measurement Range

0-100% LEL (lower explosive limit)

Accuracy/Repeatability

±3% 0-50% LEL
±5% 50-100% LEL

Response/Clearing Time

T50 <10 seconds; T90 <30 seconds

Zero Drift

<5% per year

Outputs

Linear 4-20 mA DC
HART (optional)

Electrical Classification

Explosion proof
CSAus
Class I, Division 1, Groups C, D (Tamb = -25°C to +40°C)
Class I, Zone 1, Group IIB
cCSA
Class I, Division 1, Groups C, D (Tamb = -40°C to +40°C)
Class I, Zone 1, Group IIB

Performance Approvals

CSA C22.2 #152-M1984, ISA 12.13.01-2003

Safety Approvals

cCSAus

Ingress Protection

NEMA 4X, IP66

Warranty

Sensor: 2 year warranty
Transmitter: 2 year warranty

Environmental Specifications

Operating Temperature Range

-40°C to +40°C; -40°F to 104°F (CANADA)
-25°C to +40°C; -13°F to 104°F (USA)

Storage Temperature Range

-40°C to +75°C; -40°F to +167°F

Operating Humidity Range

5-100% RH non-condensing

Operating Pressure Range

Atmospheric ±10%

Mechanical Specifications

Dimensions

10"H (including splashguard) x 6.1"W x 4.3"D
254mmH x 155mmW x 109mmD
Mounting holes (J-box) 5.5"; 140mm center to center

Weight

6 lbs; 2.72kg (w/aluminum j-box)
9 lbs; 4.08kg (w/stainless steel j-box)

Electrical Specifications

Power Input

12-28 VDC

Power Consumption

Normal operation = 68mA (<1.7 watt)
Maximum = 87mA (2 watts)

RFI/EMI Protection

Complies with ISO 92.0.01

Analog Output

Linear 4-20mA DC (1,000 ohms max loop load @ 24VDC)
0mA All Fault Diagnostics
2mA In-Calibration
4-20mA 0-100% full-scale
22mA Over-range condition

Status Indicators

4-digital LED display with gas concentration
Full-script menu prompts for AutoSpan,
Set-up Options, and Fault Reporting
4 LEDs for Alarm 1, Alarm 2, Fault, and Calibration

Faults Monitored

Loop, Input Voltage, Zero
Sensor, Processor, Memory, Calibration

Cable Requirements

Power/Analog
3-wire shielded cable
Maximum distance is 13,300 feet with 14 AWG

I/O Protection

Over-voltage, Miswiring, EMI/RFI Immunity

Specifications subject to change without notice

Order Guide

PN 965-525420-100 Model FP-524D in Aluminum Junction Box
PN 965-52542B-100 Model FP-524D-316SS in Stainless Steel Junction Box
PN 9H5-525420-100 Model FP-524D with HART in Aluminum Junction Box
PN 9H5-52542B-100 Model FP-524D-316SS with HART in Stainless Steel Junction Box

Teledyne Detcon quality assurance programmes demand the continuous assessment and improvement of all Teledyne Detcon products. Information in this leaflet could thus change without notification and does not constitute a product specification. Please contact us or our representative if you require more details.



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