



Description

Detcon 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, Div. 1 Groups B, C, 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.



(shown as PN 965-525420-100 in Aluminum j-box)

Features

- ▶ Certified to both CSA and ISA performance standards
- ▶ CSA-US approved for Class I, Division 1, Groups B, 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 expectancy:
 - ▶ averaging longer than five 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

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
CSA and US (NRTL)
Class I, Division 1, Groups B, C, D (Tamb = -40°C to +75°C)
Class I, Zone 1, Group IIB+H2

Performance Approvals

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

Safety Approvals

CSA/NRTL (US OSHA Certified)

Ingress Protection

NEMA 4X, IP66

Warranty

Sensor: 2 year warranty
Transmitter: 2 year warranty

Environmental Specifications

Operating Temperature Range

-40°F to +167°F; -40°C to +75°C

Storage Temperature Range

-40°F to +167°F; -40°C to +75°C

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

 Specify junction box options (below)

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

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