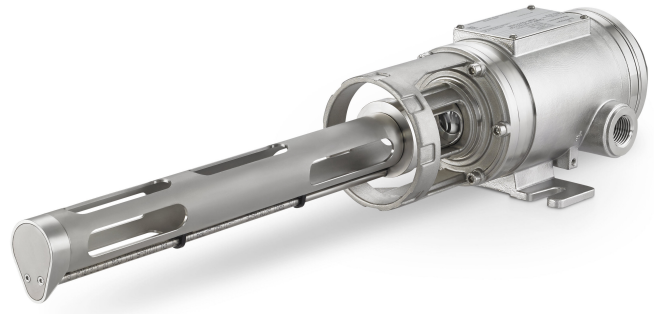
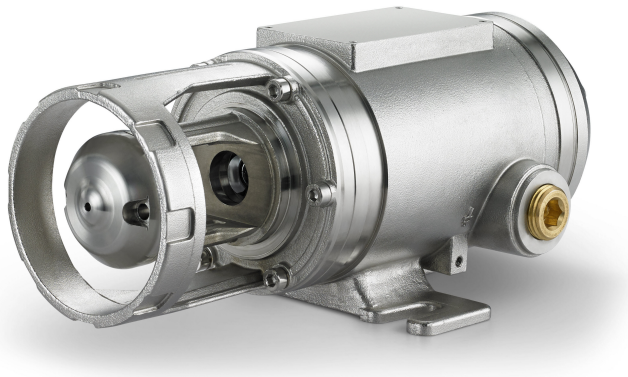


# Rosemount™ 625IR Fixed Gas Detector

## Integrated Gas Detection



The Rosemount 625IR is an optical infrared (IR) gas detector suitable for arduous industrial applications. The detector offers industry-leading features and performance specifications for a wide variety of gas detection needs.

- A range of accessories for routine function testing
- Heated optics for dispersing any moisture on the optical surfaces
- Approved to the latest hazardous area and performance standards for worldwide use
- Certified to Safety Integrity Level (SIL2) functional safety standards
- Long probe duct-mounted versions are available in two lengths

## Features

### High performance detection

- The Rosemount 625IR offers best-in-class performance specifications for detecting combustible gases.
- This includes accuracy, response time, operating temperature range, and zero drift specifications.
- The factory calibration is maintained for life - no field calibration needed.
- 5-year proof test interval
- Gas free function testing

## Applications

- Oil and gas
  - Offshore and onshore process facilities and pipelines
  - Platforms and vessels such as FPSO and FLNG
- Chemical plants
- Petrochemical plants
- Power generation facilities
- Tank storage and offloading
- Refining
- Gas filling and distribution terminals
- Gas transport and pipelines
- Any other hazardous applications where hydrocarbon gas may be present

## Ordering information

### Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery. The non-starred offerings are subject to additional delivery lead time.

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## Online product configurator

Many products are configurable online using our product configurator.

See [Emerson.com](https://www.emerson.com) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

## Specifications and options

See [Specifications](#) for more details on each configuration.

The purchaser of the equipment must specify and select materials, options, or components.

## Model codes

Model codes contain the details related to each product.

Exact model codes will vary; an example of a typical model code is shown in [Figure 1](#).

### Figure 1: Model Code Example

625IRF02S1E1Q4QT

## Required model components

### Model

Code	Description	
625	Gas detection sensor	★

### Sensor technology

Code	Description	
IR	Standalone optical infrared sensor	★

### Gas type, measurement range, and measurement units

Code	Description	
F02	Hydrocarbon gases 0-100% lower explosive limit (LEL) - optical infrared	★
F03	Hydrocarbon gases, 0-100% LEL - optical infrared - duct mount 5.9-inch (15 cm) extension	
F04	Hydrocarbon gases 0-100% LEL - optical infrared - duct mount 13.8-inch (35 cm) extension	

### Housing material

Code	Description	
S1	Stainless steel, ¾-inch NPT male thread connection	★

## Product certifications

Code	Description	
E1	ATEX Flameproof	★
E2	Brazil Flameproof INMETRO	★
E7	IECEX Flameproof	★
E5	US Explosion-proof	★
E6	Canada Explosion-proof	★

## Infrared combustible gas used for factory calibration

Code	Description <sup>(1)</sup>	
G02	Propane	

(1) Methane is the default option.

## Gas nozzle

Code	Description <sup>(1)</sup>	
GN0	Gas nozzle accessory not required	

(1) The gas nozzle is included as default.

## Analog output configuration

Code	Description <sup>(1)</sup>	
SK	Option for sink mA output configuration	

(1) Source mA output is the default option.

## Calibration gas standard

Code	Description <sup>(1)</sup>	
IEC	Use IEC/International Organization for Standardization (ISO) gas calibration lower explosive limit (LEL) standards	

(1) National Fire Protection Association (NFPA) (2017) is the default gas classification.

## Calibration certificate

Code	Description <sup>(1)</sup>	
Q4	Calibration certificate	★

(1) Calibration certificate is not supplied as default.

## Safety certification

Code	Description <sup>(1)</sup>	
QT	Safety certification for IEC 61508 (Safety Integrity Level [SIL]2 certificate)	★

(1) Safety certificate is not supplied as default.

## Accessories

Part number	Description
00625-9200-0001	Gas free tester, methane, 50% lower explosive limit (LEL)
00625-9200-0102	2-inch pole mounting kit
00625-9200-0003	Mounting plate kit, contains all parts for 3-inch and 4-inch pole mounting
00625-9200-0005	Sunshade
00625-9200-0006	Mosquito net
00625-9200-0008	Maintenance blocking kit
00625-9200-0010	Aspiration kit (sample housing)
00625-9200-0011	Remote bump test kit
00625-9200-0012	Bump test housing (handheld)
00625-9200-0016	Steel back cover
00625-9200-0021	Environment shield
00625-9200-0022	Bump test housing (short)
00625-9200-0023	Bump test housing (medium)
00625-9200-0024	Duct flange kit, DIN 150 PN6 AISI 316
00625-9200-0025	Duct flange kit, DIN 200 PN6 AISI 316
00625-9200-0026	Duct flange kit, JIS 150 5K AISI 316
00625-9200-0027	Duct flange kit, JIS 200 5K AISI 316
00625-9200-0028	Duct flange kit, clamping version stainless steel (SST) 316
00625-9200-0029	Gas nozzle
00625-9200-0030	Duct flange kit, JIS 105, 10K compatible, AISI 316
00625-9200-0031	Gas test kit, duct flange
00625-9200-0034	Environment Cap

# Specifications

## Detection technology

Gas detection by dual band optical absorption in target gases.

Solid-state infrared temperature compensated optical gas detection for rugged applications.

## Gases and maximum measuring range

Emerson configures the detector at the factory for one of the following gases with 100 percent lower explosive limit (LEL) as maximum range.

- Methane
- Propane

## Ambient conditions

**Temperature** Storage: -40 to +167 °F (-40 to +75 °C)  
Operating: -40 to +167 °F (-40 to +75 °C)

**Humidity** 0 to 99 percent relative humidity

## Vibration effect

Device will operate  $\pm 5$  percent measuring range or  $\pm 10$  percent of indication and no loss of function, no fault signal, no damage resulting in a hazard, and no false alarms when tested per IEC 60079-29.

**Table 1: IEC - One Hour Sweeps**

Frequency	Acceleration
10 - 31.5 Hz	0.5 mm peak displacement
31.5 - 150 Hz	2G
5 - 100 Hz	4G

## Electrical

**Cable entry**  $\frac{3}{4}$  NPT

**Maximum conductor size** 2.5 mm<sup>2</sup> (stranded), 4 mm<sup>2</sup> (solid)

**Supply voltage** 18-32 Vdc

**Power consumption** < 3 W average (standard configuration)  
< 5 W average (Arctic configuration)

**Start-up current** In-rush current is limited to 1A

## Key performance characteristics

**Accuracy**  $\pm 2\%$  full scale (FS)<sup>(1)</sup>

**Repeatability**  $\pm 1\%$  FS<sup>(1)</sup>

**Response time** T90 = 2 seconds (with environment shield)  
T90 < 1 second (without environment shield)

(1) The accuracy is specified for room temperature, +77 °F (+25 °C) and is limited to the accuracy of the calibration gas.

**Drift** No zero or span drift. Rosemount 625IR continually internally cross checks various aspects of the infrared (IR) sources and receivers and makes adjustments if necessary. This maintains factory calibration within a tight tolerance and means no field calibration is ever needed.

### Start-up time

Ambient above -4 °F (-20 °C): < 2 minutes

Ambient below -4 °F (-20 °C): < 20 minutes

### Calibration

Calibrated at the factory; cannot be calibrated in the field.

### Signal outputs

**Analog output** Current source or sink 4-20 mA  
HART® digital communication

**RS-485 serial port** Modbus® Remote Terminal Unit (RTU) for condition monitoring

**Status indicator light** Multi-colored LED indicator light on the front of detector

### Miswiring protection

Emerson has designed the electronics to withstand powering up the detector with terminal wires accidentally being swapped.

### Self-test

Continuous self-verification of all important functions.

### Housing

**Housing material** Stainless steel 316

**Weight** F02 standalone: 8.27 lb. (3.75 kg)  
F03 5.9-inch (15 cm) duct: 8.82 lb. (4 kg)  
F04 13.8 in. (35 cm) duct: 9.37 lb. (4.25 kg)

**Ingress protection** IP66 and IP67, NEMA® 4X

### Warranty

- 5 (five)-year limited warranty
- IR source warranty: 15 (fifteen) years

## Product certifications

For product certifications, see the [Rosemount 625IR Quick Start Guide](#).

For more information: [Emerson.com/global](https://emerson.com/global)

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