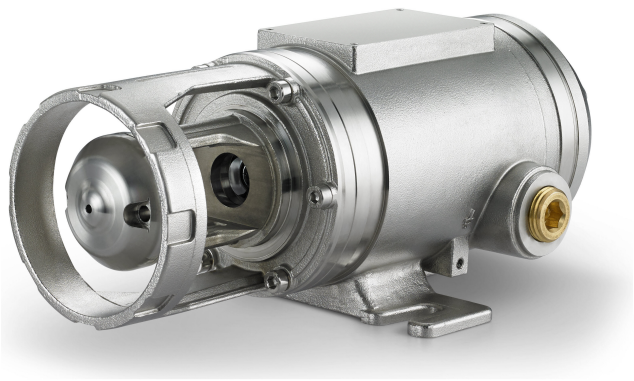
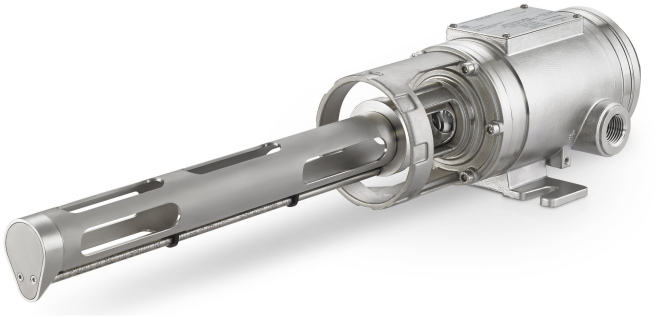
**Product Data Sheet**
MS-00813-0100-3625, Rev AG
December 2025

# 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.

### Contents

# Online product configurator

Many products are configurable online using our product configurator.

See 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 | ★ |
| KS | USA, Canada, ATEX, and IECEx Explosion-proof | ★ |

## Infrared combustible gas used for factory calibration

| Code | Description(1) | |
|---|---|---|
| G02 | Propane | |

(1) *Methane is the default option.*

## Gas nozzle

| Code | Description(1) | |
|---|---|---|
| GN0 | Gas nozzle accessory not required | |

(1) *The gas nozzle is included as default.*

## Analog output configuration

| Code | Description(1) | |
|---|---|---|
| SK | Option for sink mA output configuration | |

(1) *Source mA output is the default option.*

## Calibration gas standard

| Code | Description(1) | |
|---|---|---|
| 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(1) | |
|---|---|---|
| Q4 | Calibration certificate | ★ |

(1) *Calibration certificate is not supplied as default.*

## Safety certification

| Code | Description(1) | |
|---|---|---|
| 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)<br>Operating: -40 to +167 °F (-40 to +75 °C) |
| **Humidity** | 0 to 99 percent relative humidity |

### Vibration effect

Device will operate ±5 percent measuring range or ±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** | ¾ NPT |
| **Maximum conductor size** | 2.5 $mm^2$ (stranded), 4 $mm^2$ (solid) |
| **Supply voltage** | 18-32 Vdc |
| **Power consumption** | < 3 W average (standard configuration)<br>< 5 W average (Arctic configuration) |
| **Start-up current** | In-rush current is limited to 1A |

### Key performance characteristics

| | |
|---|---|
| **Accuracy** | ±2% full scale (FS)(1) |
| **Repeatability** | ±1% FS(1) |
| **Response time** | T90 = 2 seconds (with environment shield)<br>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<br>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)<br>F03 5.9-inch (15 cm) duct: 8.82 lb. (4 kg)<br>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.

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For more information: **Emerson.com/global**



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