

Rosemount™ 925FGD Fixed Gas Detector

Rosemount 925FGD



The Rosemount 925FGD is the first ground-up development for fixed combustible gas detection available from Emerson. The detector offers industry-leading features and performance specifications for a wide variety of gas detection needs.

- Advanced Local Operator Interface (LOI) that displays real time primary variable information. The LOI also allows you to perform all calibration and maintenance activities without the need for additional tools or communicators.
- Uses Rosemount 625 gas sensor modules.
- Approved to the latest hazardous area and performance standards for worldwide use.
- Certified to SIL2 functional safety standards.

Features

Universal transmitter

The transmitter can be fitted with combustible gas sensors. Sensors are pre-calibrated and easily connected to the transmitter. The transmitter will recognize a newly fitted sensor and automatically upload the sensor's specific configuration profile.

The Rosemount 925 Transmitter has a three-year limited warranty.

Digital communications

Sensor and transmitter continuously communicate digitally, giving you the confidence of stable, accurate notification with fast response times even over long separation distances.

High performance detection

The Rosemount 925FGD offers best-in-class performance specifications for combustible gases.

This includes accuracy, response time, operating temperature ranges, and zero drift specifications.

Smart sensor modules

The Rosemount 925FGD uses smart gas sensor modules. As such, the sensors retain their own configuration settings and calibration information.

In addition to field calibration, customers can also calibrate sensors off-site and install them at a later date.

The Rosemount 625ND Sensor has a three-year limited warranty.

Built for harsh environments

The Rosemount 925FGD Gas Detector is designed to operate in ambient temperatures ranging from -40 to +158 °F (-40 to +70 °C).

Ingress protection levels of IP66 are achieved with the Rosemount Universal Gas Sensor.

Contents

Features.....	2
Specifications.....	3
Rosemount 925FGD ordering information.....	5
Rosemount 925 ordering information.....	9
Rosemount 625 ordering information.....	11
Rosemount 905 ordering information.....	14
Dimensional drawings.....	17

Specifications

Functional specifications

Measurement type

Gas concentration levels

- Hydrocarbon gases: 0-100% Lower Explosive Limit (LEL)

Sensor type

Rosemount 625 Non-Dispersive Infrared Sensor

Outputs

4-20 mA with HART® 7 protocol, relays

Local operator interface (LOI)

The integral LOI display can display alert state and diagnostic information.

Humidity limits

0-95 percent relative humidity, non-condensing

NOTICE

Take care to avoid condensation within the sensor. When the sensor is in humid environments exceeding 95 percent relative humidity, during temperature changes, condensation could form within the sensor and cause errors. If this occurs, the sensor may require a conditioning period before use to allow the condensation to dissipate.

Input power requirements

- Power supply range: 18 to 30 Vdc
- Maximum power consumption: 2.4 W with heater off

Physical specifications

Materials of construction

Enclosure

Housing	Low-copper aluminum or stainless steel
Paint	Polyurethane
Cover O-ring	Buna-N

Environmental

Operating temperature (standard)	-40 to +158 °F (-40 to +70 °C)
Operating temperature (for transmitter only with heater on)	-67 to +167 °F (-55 to +75 °C)
Storage temperature	-40 to 167 °F (-40 to +75 °C)

Weight

Table 1: Rosemount 925FGD weights

Assembly component	Weight	
	lb	kg
925 aluminum transmitter	6.3	2.9
925 stainless steel (SST) transmitter	11.1	5.1
625ND aluminum sensor	1.3	0.6
625ND stainless steel (SST) sensor	2.7	1.2
625ND sensor replacement module	0.5	0.2
905 aluminum junction box	2.7	1.2
905 stainless steel (SST) junction box	5.9	2.7

The Rosemount 925FGD consists of both the Rosemount 925 Gas Detection Transmitter with a Rosemount 625 Gas Detection Sensor. A Rosemount 905 Junction Box is used if the transmitter is remote mounted from the sensor.

Enclosure rating

NEMA® 4X and IP66

Performance specifications

Electromagnetic compatibility (EMC)

The device meets EN 50270:2015 and NE21 requirements

Response time

For methane, propane, ethylene, n-butane, and ethane:

T50 < 7 sec

T90 < 10 sec

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 and IACS E10.

Table 2: IEC – one hour sweeps

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

Table 3: IACS – dwell at resonance

Frequency	Acceleration
2-25 Hz	0.8 mm peak displacement
25-100 Hz	4G

Accuracy

Gas accuracy: ± 3 percent lower explosive limit (LEL) < 50 percent LEL and ± 5 percent LEL > 50 percent LEL

4-20 mA accuracy: 0.1 percent of span

Repeatability

Rosemount 625ND Sensor

±0.75 percent from 0-50 percent LEL

±1.25 percent from 50-100 percent LEL

Note

The 925FGD is a safety device. If using the 925FGD as an environmental monitor and converting units from percent LEL to parts per million (ppm), then all readings below 5,000 ppm should be ignored.

Rosemount 925FGD ordering information



The Rosemount 925FGD is designed to be ordered as a fully assembled gas detector ready for installation upon delivery. When fully configured, the model information below accounts for both transmitter and sensor options.

For ordering information for the transmitter or sensor alone, refer to the corresponding product ordering information tables in this document.

Online product configurator

Many products are configurable online using our Product Configurator. See [Emerson.com/Global](https://emerson.com/global) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

[CONFIGURE >](#)

[VIEW PRODUCT >](#)

Specifications and options

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

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment.

Optimizing lead time

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

Required model 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

925FGD1NAF14A1K6 G02BR5IECBPC1QT
 1 2

1. Required model components (choices available on most)
2. Additional options (variety of features and functions that may be added to products)

Model

Code	Description	
925FGD	Fixed gas detector system	★

Detector configuration

Code	Description	
1	Analog, HART®, relays	★

Sensor technology

Code	Description	
NS	Non-dispersive infrared for hydrocarbon gases - stainless steel	★
NA	Non-dispersive infrared for hydrocarbon gases - aluminum	★

Gas type, measurement range, and measurement unit

Code	Description	
F14	Hydrocarbon gases 0-100% Lower Explosive Limit (LEL) Non-dispersive infrared Default methane	★

Housing and mounting configuration

Code	Description	
A1	Direct mount aluminum housing with ¾-in. NPT conduit entries	★
S1	Direct stainless steel housing with ¾-in. NPT conduit entries	★

Code	Description	
A2	Direct mount aluminum housing with M25 conduit entries	★
S2	Direct stainless steel housing with M25 conduit entries	★
A3	Remote mount aluminum housing with 3/4-in. NPT conduit entries	★
S3	Remote mount stainless steel housing with 3/4-in NPT conduit entries	★
A4	Remote mount aluminum housing with M25 conduit entries	★
S4	Remote mount stainless steel housing with M25 conduit entries	★

Product certifications

Code	Description	
E1	ATEX/UKEX flameproof	★
ND	ATEX/UKEX dust	★
K1	ATEX/UKEX flameproof and dust	★
E7	IECEX flameproof and dust	★
E5	US explosion-proof and dust ignition-proof	★
E6	Canada explosion-proof and dust ignition-proof	★

Optional configuration

Infrared combustible gas used for factory calibration

Code	Description	
G01	Ethane	★
G02	Propane	★
G03	Butane	★
G04	Ethylene	★

Calibration gas standards

Code	Description	
IEC	Calibrate according to IEC gas LEL standards ⁽¹⁾	★

(1) Default is National Fire Protection Association (NFPA).

Mounting brackets

Code	Description	
BP	2-in. pole mount kit for Rosemount 925FGD Transmitter	★
BB	Pole mount kit for 905 junction box	★

Special configuration

Code	Description	
C1	Custom software configuration for transmitter	★

Calibration certificate

Code	Description	
Q4	Calibration certificate	★

Safety certification

Code	Description	
QT	Safety certification for IEC 61508 (SIL2 certificate)	★

Rosemount 925 ordering information



The Rosemount 925 model structure can be ordered independently.

Online product configurator

Many products are configurable online using our Product Configurator. See [Emerson.com/Global](https://emerson.com/global) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

[CONFIGURE >](#) [VIEW PRODUCT >](#)

Specifications and options

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

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment.

Optimizing lead time

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

Required model components

Model codes

Model codes contain the details related to each product. Exact model codes will vary.

Model

Code	Description	
925	Fixed gas detection transmitter	★

Transmitter output

Code	Description	
1	Analog, HART®, relays	★

Channel configuration

Code	Description	
1	Single sensor input	★

Housing style

Code	Description	
A1	Aluminum housing with ¾-in. NPT conduit entries	★
S1	Stainless steel housing with ¾-in. NPT conduit entries	★
A2	Aluminum housing with M25 conduit entries	★
S2	Stainless steel housing with M25 conduit entries	★
E4 ⁽¹⁾	No housing, replacement transmitter electronics only	★

(1) Requires product certification option code TE.

Product certification

Code	Description	
E1	ATEX/UKEX flameproof	★
ND	ATEX/UKEX dust	★
K1	ATEX/UKEX flameproof and dust	★
E7	IECEX flameproof and dust	★
E5	US explosion-proof and dust ignition-proof	★
E6	Canada explosion-proof and dust ignition-proof	★
TE ⁽¹⁾	No approvals, replacement transmitter electronics only	★

(1) Requires housing style option code E4.

Optional configuration

Mounting brackets

Code	Description	
BP	2-in. pole mount kit for Rosemount 925 transmitter	★

Special configuration

Code	Description	
C1	Custom software configuration for transmitter	★

Rosemount 625 ordering information



The Rosemount 625 can be ordered as a standalone sensor.

Online product configurator

Many products are configurable online using our Product Configurator. See Emerson.com/Global 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.

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment.

Optimizing lead time

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

Required model components

Model

Code	Description	
625	Gas detection sensor	★

Sensor technology

Code	Description	
ND	Non-dispersive infrared	★

Gas type, measurement range, and measurement unit

Code	Description	
F14	Hydrocarbon gases 0-100% LEL - Non-dispersive infrared - Default Methane	★

Housing material

Code	Description	
A1	Aluminum ¾-in. NPT male thread connection (625ND)	★
S1	Stainless steel ¾-in. NPT male thread connection (625ND)	★
M1	Aluminum NDIR sensor module only	★

Product certifications

Code	Description	
E1	ATEX/UKEX flameproof	★
ND	ATEX/UKEX dust	★
K1	ATEX/UKEX flameproof and dust	★
E7	IECEx flameproof and dust	★
E5	US explosion-proof and dust ignition-proof	★
E6	Canada explosion-proof and dust ignition-proof	★
RS	NDIR sensor module only	★

Specifications

Infrared combustible gas used for factory calibration

Code	Description	
G01	Ethane	★
G02	Propane	★
G03	Butane	★
G04	Ethylene	★

Calibration gas standard

Code	Description	
IEC	Calibrate according to IEC standards	★

Special configuration

Code	Description	
C1	Custom software configuration for transmitter	★

Calibration certificate

Code	Description	
Q4	Calibration certificate	★

Rosemount 905 ordering information

The Rosemount 905 can be ordered as a standalone junction box housing.



Online product configurator

Many products are configurable online using our product configurator. 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. Specification and selection of product materials, options, or components must be made by the purchaser of the equipment.

Optimizing lead time

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

Required model components

Model Codes

Model codes contain the details related to each product. Exact model codes will vary.

Rosemount model

Code	Description	
905	Gas sensor junction box	★

Housing material

Code	Description	
A3	Aluminum with 3/4-in. NPT conduit entries	★
S3	Stainless steel with 3/4-in. NPT conduit entries	★
A4	Aluminum with M25 conduit entries	★
S4	Stainless steel with M25 conduit entries	★

Product certifications

Code	Description	
E1	ATEX/UKEX flameproof	★
ND	ATEX/UKEX dust	★
K1	ATEX/UKEX flameproof and dust	★
E7	IECEX flameproof and dust	★
E5	US explosion-proof and dust ignition-proof	★
E6	Canada explosion-proof and dust ignition-proof	★

Optional Configuration

Mounting brackets

Code	Description	
BB	Pipe mount kit for 905 junction box	★

Dimensional drawings

Note

Dimensions are in inches (mm).

Figure 2: Aluminum housing

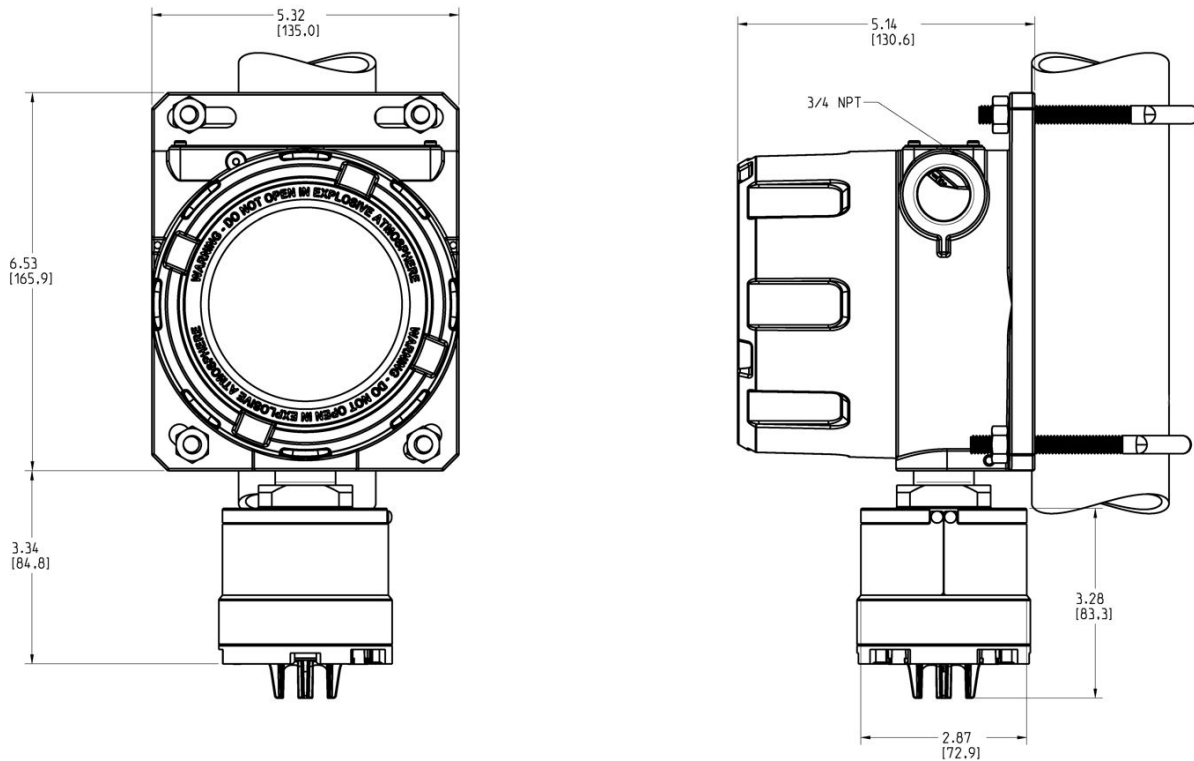


Figure 3: Stainless steel (SST) housing

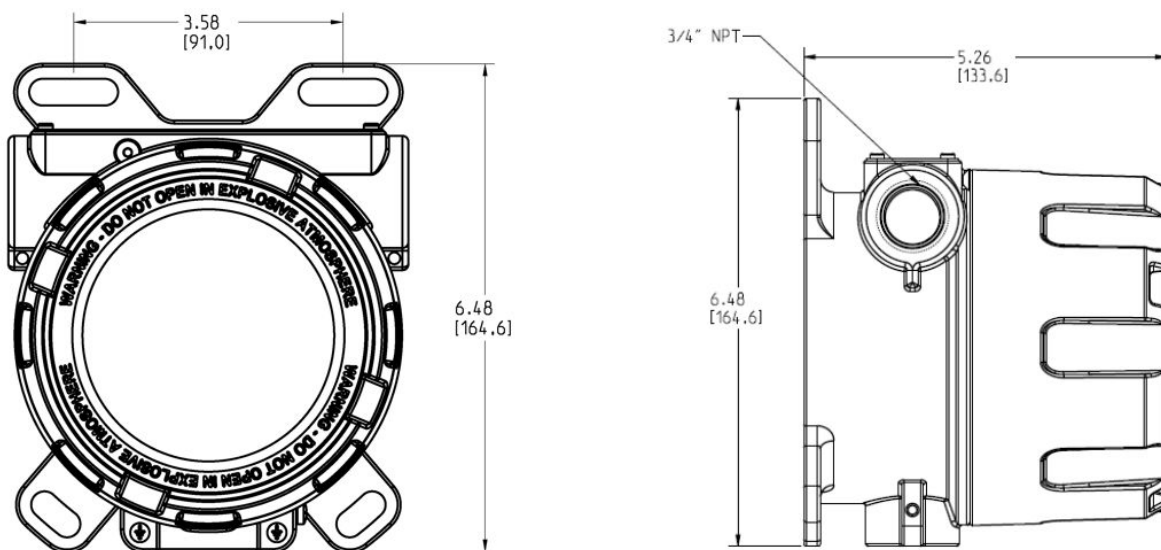
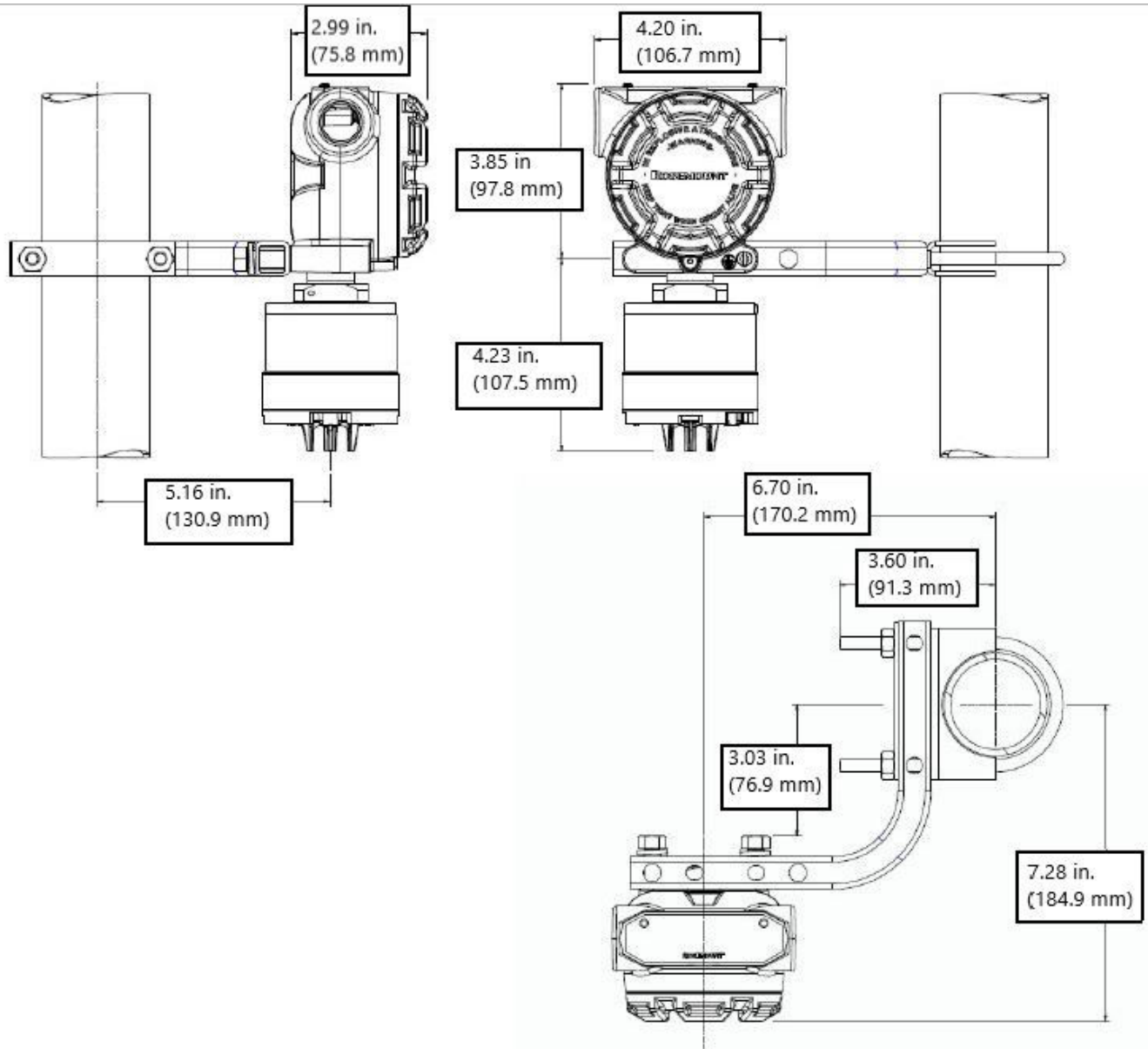


Figure 4: Rosemount Model 905 Junction Box with 625ND Sensor and optional Pole Mount Kit



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

©2024 Emerson. All rights reserved.

Emerson Terms and Conditions of Sale are available upon request. The Emerson logo is a trademark and service mark of Emerson Electric Co. Rosemount is a mark of one of the Emerson family of companies. All other marks are the property of their respective owners.

ROSEMOUNT™

