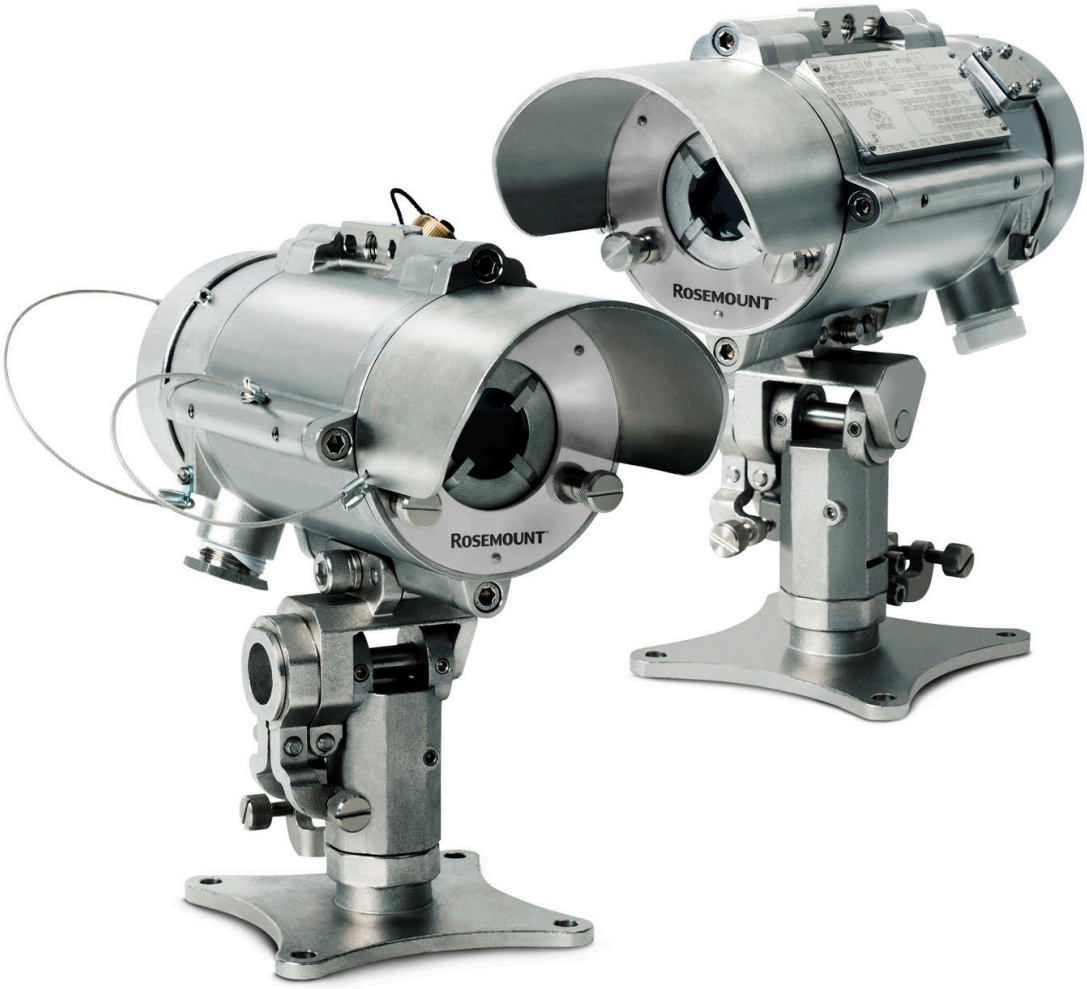
Product Data Sheet
00813-0100-4035, Rev AE
June 2025

Rosemount™ 935

Open Path Combustible Gas Detectors



The Rosemount 935 is an advanced open-path gas detector designed to quickly and reliably detect combustible hydrocarbon gases at up to 660 ft. (200 m)

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Features and benefits

- One person installation and low maintenance
- Factory-calibrated
- Built-in self-test continuously monitoring device health
- Accurate and reliable high-speed response in under 2 seconds
- RTC event recorder; record of the last 375 events
- Automatic gain control ensures accurate detection in challenging conditions with up to 95 percent signal obscuration
- Three-year warranty
- High false alarm immunity
- Heated optics for operation in challenging conditions
- Easy to use, field configurable via HART® or RS-485 Modbus®
- High reliability — Mean Time Between Failures (MTBF) — above 100,000 hours

VIEW PRODUCT >

Applications

- Petrochemical, pharmaceutical, and other chemical storage and production areas
- Flammable chemical storage sites and hazardous waste disposal areas
- Refineries, oil platforms, pipelines, refueling stations, and fuel storage facilities
- Hazardous loading docks, transportation depots, and shipping warehouses
- Engine rooms
- Compressor and pumping stations
- Test cells
- LNG-LPG Systems
- Offshore Floating Production Storage and Offloading (FPSO), and fixed oil rigs

Contents

Ordering information

- Accurate and reliable high-speed response in under three seconds
- High immunity to false alarms
- Easy installation and maintenance

CONFIGURE > VIEW PRODUCT >

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.

Model codes

Model codes contain the details related to each product.

Exact model codes will vary; examples of typical model codes are shown in Source (Transmitter) and Detector (Receiver).

Source (Transmitter)

935T1F002SA1

Detector (Receiver)

935R1F012SA1

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.

Source (Transmitter)

Model

Code	Description
935	Rosemount 935 Combustible Open Path Gas Detector Source (Transmitter)

Approvals

Code	Description
A1	ATEX and IECEx

Code	Description
A2	FM/FMC
E2	INMETRO
EM	TR CU (EAC)

Transmitter range

Code	Description
T1	23 to 66 ft. (7 to 20 m)
T2	50 to 132 ft. (15 to 40 m)
T3	115 to 330 ft. (35 to 100 m)
T4	265 to 660 ft. (80 to 200 m)

Gas calibration

Code	Description
F00	Transmitter

Housing style/conduit

Code	Material	Measurement
2S	Stainless steel	¾-in. NPT
4S	Stainless steel	M25

Detector (Receiver)

Model

Code	Description
935	Combustible Open Path Gas Detector (Receiver)

Approvals

Code	Description
A1	ATEX and IECEx
A2	FM/FMC
E2	INMETRO
EM	TR CU (EAC)

Receiver selection

Code	Description
R1	Receiver

Gas calibration

Code	Description
F01	Receiver for combustible gases Methane full scale 5 LEL.m (default)

Housing style/conduit

Code	Material	Measurement
2S	Stainless steel	¾-in. NPT
4S	Stainless steel	M25

Accessories

Model	Description
888270	Tilt Mount
799255	Wall Mount
799225	Pole Mount (U-Bolt 4 to 5 in.)
888140	Pole Mount (U-Bolt 2 to 3 in.)
888355-1	Duct Mount
888931	Air Shield
888263	Protective Cover
888820	Auxilary Harness IS/RS 485 and HART®
888810	HART Handheld Diagnostic Kit
794079	USB/RS-485 Harness Converter Kit
888635-1(1)	Range Adapter 3.3 to 8.2 ft. (1 to 2.5 m)
888635-2	Range Adapter 7.5 to 16.4 ft. (2.3 to 5 m)
888635-3	Range Adapter 14.7 to 23 ft. (4.5 to 7 m)

(1) *This option is suitable for ducted installations only*

Check filter part number	Gas concentration
888260-1	110 to 270% LEL.m Propane
888260-2	270 to 490% LEL.m Propane
888260-3	140 to 250% LEL.m Methane
888260-4	270 to 480% LEL.m Methane
888260-5	180 to 370% LEL.m Ethylene
888260-3 or 888260-6	490 to 760% LEL.m Ethylene

Specifications

General specifications

Table 1: Model Numbers and Installation Distances

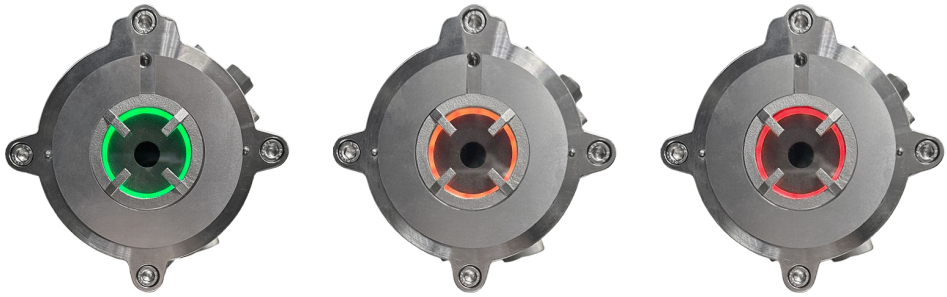
Model number	Detector	Source	Minimum installation distance	Maximum installation distance
935	R1F01XXXX	T1F00XXXX	23 ft. (7 m)	66 ft. (20 m)
935	R1F01XXXX	T2F00XXXX	50 ft. (15 m)	132 ft. (40 m)
935	R1F01XXXX	T3F00XXXX	115 ft. (35 m)	330 ft. (100 m)
935	R1F01XXXX	T4F00XXXX	265 ft. (80 m)	660 ft. (200 m)

Detected gas	C1-C8 selective gases
Response time	< 2 seconds
Immunity to false alarm	Not influenced by solar radiation, hydrocarbon flames, and other external infrared radiation sources
Sensitivity range	■ 0 to 5 LEL.m Methane and Propane ■ 0 to 8 LEL.m Ethylene
Displacement/misalignment tolerance	±0.5 degrees
Accuracy	±7.5 percent of the reading or ±4 percent of the full scale (whichever is greater)
Minimum detectable level	0.15 LEL.m
Temperature range	–67 to +149 °F (–55 to +65 °C)
Humidity	Up to 95 percent non-condensing (withstands up to 100 percent relative humidity for short periods)
Heated optics	To eliminate condensation and icing on the window
Warranty	Three years for detector and source

Electrical specifications

Power supply	24 Vdc nominal (18 to 32 Vdc)
Typical power consumption	■ Detector: 220 mA ■ Source: 240 mA
Warm-up time	30 seconds for transmitter and receiver
Electrical connection (specify)	Two ¾-in.—14 national pipe thread (NPT) conduits or 2 x M25 x 1.5 mm ISO
Electrical input protection	Per EN50270
Electromagnetic compatibility	Electromagnetic interference/radio frequency interference (EMI/RFI) protected per EN50270

Electrical outputs

0–20 mA current output	■ Sink (source option) configuration: maximum load of 500 ohm at 18 to 32 Vdc ■ Gas reading: 4–20 mA ■ Normal, zero reading: 4 mA ■ Maintenance call: 3 mA ■ Obscuration/beam block: 2 mA ■ Zero calibration mode: 1 mA ■ Fault: 0 mA
RS-485 interface-Modbus® compatible	The RS-485 input/output provides complete data information to a personal computer (PC) and receives control commands from the PC or handheld unit
HART® protocol	HART communication on 0–20 mA analog (FSK)—used for maintenance and asset management
Visual status indicator	■ Front and back visual status indicator(1) ■ Three color light-emitting diodes (LED) **Green: Power ON** **Amber: Fault** **Red: Alarm** 

(1) *Receiver unit only*

Mechanical specifications

Enclosure	The source and detector housings are stainless steel 316L with electro polish finish. The circuit boards are conformal coated and protected from mechanical vibrations. The tilt mount is also stainless steel 316L.
Dimensions	■ Detector/source: 10.5 x 5.1 x 5.1 in. (267 x 130 x 130 mm) ■ Tilt mount: 4.7 x 4.7 x 5.5 in. (120 x 120 x 158 mm)
Weight	■ Detector/source: 11 lb. (5 kg) ■ Tilt mount: 4.2 lb. (1.9 kg)
Water and dust tight	■ IP66 and IP68 ■ NEMA® 250 6P
Environmental	Per DNVGL-CG-0339
Reliability	SIL2 per IEC61508 (TÜV)

Approvals

ATEX, IECEx

The Rosemount 935 is ATEX approved per SIRA 16ATEX1224X and IECEx per IECEx SIR 16.0075X per:

Ex II 2(2)G D

Ex db eb ib [ib Gb] IIB+H_2 T4 Gb

Ex tb [ib Db] IIIC T135 °C Db

$T_{Ambient}$ –55 °C to +65 °C

This product is suitable for use in hazardous zones 1 and 2 with IIB+H_2 group vapors present, and zones 21 and 22 with IIIC combustible dust types.

FM/FMC

The Rosemount 935 is approved to FM/FMC per:

Class I, Div. 1 Group B, C, and D

Class II/III Div. 1, Group E, F, and G

IP66 and IP68, NEMA® 250 Type 6P

IP68 is rated for 2-meter depth for 45 minutes.

TR CU (EAC)

1Ex db eb ib [ib Gb] IIB + H_2 T4 Gb X

Ex tb IIIC T135 °C Db X

INMETRO (UL)

The Rosemount 935 product complies with INMETRO approval per UL-BR 19.0276X (Rosemount) and UL-BR 22.4059X (Spectronix):

Ex db eb ib [ib Gb] IIB+H_2 T4 Gb

Ex tb [ib Db] IIIC T135 °C Db

(–55 °C ≤ T_a ≤ +65 °C)

SIL-2

The Rosemount 935 is TUV approved for SIL-2 requirements per IEC61508.

For more details and guidelines on configuring, installing, operating, and servicing, see SIL-2 Features Section in Rosemount ™ 935 Manual, and TUV report no. 968/FSP 1276.XX/XX.

Performance approvals

Functional performance certified per FM 6325, EN60079-29-4 and DNV.

The Rosemount 935 was functionally tested by FM per EN60079-29-4 and ANSI/FM 60079-29-4.

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

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