

Ribble Enviro
...everything gas detection

Data Sheet

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SMART 3G-D2

SIL2 Gas Detector with Display

Features standard 4-20mA and 3 relay outputs, optional RS485 for Modbus communication, stainless steel and remote sensor options, and non-intrusive one-man calibration.



The SMART3G-D2 is a robust solution for monitoring toxic, flammable, and refrigerant gases in harsh environments and classified areas. With its 4-digit back-lit display, 5-mode status LED, and high-visibility multi-colour LED light ring, it ensures clear and reliable gas readings. Non-intrusive calibration via Hall-effect switches allows for easy adjustments without declassifying the area, making it ideal for industrial applications. The SMART3G-D2 supports monitoring of flammable compounds, toxic gases, oxygen, and CO₂, offering a versatile and dependable gas detection system.

REFRIGERANTS

REFRIGERANT	SENSOR TYPE
R152A	Infrared
R454B	Infrared
R32	Infrared
R134A	Infrared
SF6	Infrared
R125	Infrared
R1234YF	Infrared
R1234ZE	Infrared
R404A	Infrared
R407A	Infrared
R407F	Infrared
R449A	Infrared
R507A	Infrared
R410A	Infrared
R417A	Infrared
R448	Infrared

GASES

GAS	SENSOR TYPE
Acetic Acid (CH ₃ COOH)	Catalytic
Acetone (C ₃ H ₆ O)	Catalytic / Infrared
Acetylene (C ₂ H ₂)	Catalytic
Ammonia (NH ₃)	Catalytic / Electrochemical
Benzene (C ₆ H ₆)	Catalytic
Butadiene (C ₄ H ₆)	Infrared
Butane (C ₄ H ₁₀)	Catalytic / Infrared
Carbon Monoxide (CO)	Electrochemical
Cyclohexane (C ₆ H ₁₂)	Catalytic / Infrared
Cyclopentane (C ₅ H ₁₀)	Catalytic
Dimethyl ether (CH ₃ OCH ₃)	Infrared
Ethane (C ₂ H ₆)	Catalytic / Infrared
Ethanol (C ₂ H ₆ O)	Catalytic / Infrared
Ethyl Acetate (C ₄ H ₈ O ₂)	Catalytic / Infrared
Ethyl Ether ((C ₂ H ₅) ₂ O)	Catalytic
Ethylene (C ₂ H ₄)	Catalytic
Ethylene Oxide (C ₂ H ₄ O)	Catalytic
Heptane (C ₇ H ₁₆)	Catalytic / Infrared
Hydrogen (H ₂)	Catalytic / Electrochemical
Hydrogen Sulphide (H ₂ S)	Catalytic
ISO Butane (C ₄ H ₁₀)	Catalytic / Infrared

GASES CONTINUED

GAS	SENSOR TYPE	GAS	SENSOR TYPE
ISO Butyl Alcohol ((CH ₃) ₂ CHCH ₂ OH)	Catalytic	Oxygen (O ₂)	Electrochemical
ISO Pentane (C ₅ H ₁₂)	Catalytic	Pentane (C ₅ H ₁₂)	Catalytic / Infrared
ISO Propyl Alcohol (C ₃ H ₈ O)	Catalytic / Infrared	Petrol Vapours	Catalytic / Infrared
Isobutylene (C ₄ H ₈)	Infrared	Propane (C ₃ H ₈)	Catalytic / Infrared
JP ₈	Catalytic	Propyl alcohol (C ₃ H ₈ O)	Catalytic
LPG	Catalytic / Infrared	Propylene (C ₃ H ₆)	Catalytic / Infrared
Methane (CH ₄)	Catalytic / Infrared	Styrene (C ₈ H ₈)	Catalytic
Methanol (CH ₃ OH)	Catalytic	Toluene (C ₇ H ₈)	Catalytic
Methyl Ethyl Ketone (MEK)	Catalytic	Tri-Methylbenzene (C ₉ H ₁₂)	Catalytic
Nitric Oxide (NO)	Electrochemical	Vinyl Acetate (C ₄ H ₆ O ₂)	Catalytic
Nonane (C ₉ H ₂₀)	Catalytic	Xylene (C ₈ H ₁₀)	Catalytic

SPECIFICATIONS

	CATALYTIC SENSOR	ELECTROCHEMICAL SENSOR	INFRARED SENSOR	INTRINSICALLY SAFE DETECTOR
SIZE	H145 x W187 x D108 mm (5.7 x 7.4 x 4.25ins)			H138 x W200 x D119 mm (5.4 x 7.9 x 4.7ins)
WEIGHT	1.9kg			2.7kg
ENCLOSURE MATERIAL	Aluminium pressure die-casting with epoxy paint chromating and chemically resistant			
INGRESS PROTECTION	IP65			
CONNECTION	3 x 3/4" NPT			
POWER	12-24 Vdc			
DISPLAY	7-segment display, 5 status LED and 4 intelligent LED			
ELECTRICAL OUTPUT	Analogue 4-20 mA output; 3 relay board; serial RS485 output (optional)			Analogue 4-20 mA output; 1 or 3 relay board (optional); serial RS485 output (optional)
OPERATING TEMPERATURE	-40 / +60°C	-30 / +55°C	-40 / +60°C	-20 / +50°C
HUMIDITY	20 / 90% RH @40°C	15 / 90% RH non condensing	20 / 90% RH @40°C	15 / 90% RH non condensing
RESPONSE TIME	t90 < 60 s ; t50 < 20 s			
FUNCTIONAL SAFETY	SIL2 hardware and SIL3 software			
APPROVALS	EMC, ATEX, IECEx			

Disclaimer

Due to ongoing research and product improvement, specifications are subject to change without notice. While every effort has been made to ensure accuracy in this document, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This document is not intended to form the basis of a contract.

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