

SMART 3-R

Refrigerant Gas Detector

Versatile gas detector for safe areas detecting flammable, toxic, and refrigerant gases with visual/audible alerts and multiple output options.



The SMART 3-R is designed for non-classified and safe areas, providing reliable detection of flammable, toxic, and refrigerant gases. It features built-in visual and audible alerts, analog 4-20 mA, digital RS485, and relay outputs, along with a multi-color LED status indicator and an internal buzzer for enhanced monitoring and safety. A handheld communicator allows for easy testing and calibration, and remote sensor capabilities add flexibility to its operation.

FEATURES

Ideal for machine rooms & light industry

- Detects explosive, toxic and refrigerant gases in safe (unclassified) areas
- RS485 communication and a 3-relay board
- Multicolour LED ring and internal buzzer provide clear alarms, so you can act quickly to secure your site
- Controlled and calibrated via a keypad with STS/CKD+ display
- Simple sensor replacement
- Continuous self-diagnostics

Customisable

- Wide range of sensors and gas detection options to suit your needs
- Version with optional remote head
- Data logger exportable with STS/CKD-OLED or STS/CSW+
- On request 90-240 Vac but without 4-20 mA output
- Can be supplied in a version with an additional remote head and a 5m 6-pole cable included

Fully compliant

- SMART 3-R is fully compliant with the following standards and regulations:
- EN 378-3
- EN 14624
- EN 50676
- IEC 60335-2-40
- Annex II
- ISO 5149-3
- F-Gas Regulation

MPST™ (Molecular Property Spectrometer) sensor technology

- TrueLEL™ multi-gas accuracy
- Free from risk of sensor poisoning
- No calibration or scheduled maintenance is needed
- Hydrogen ready



APPLICATIONS

- Machine Rooms
- Laboratories
- Food & Beverage Refrigeration Systems
- Pharmaceutical Storage Systems
- Battery Energy Storage Systems (BESS)
- Lithium Battery Storage and Warehouses
- Electric Vehicle Parking and Charging

GASES & RANGES

GASES & RANGES		
GAS	SENSOR	RANGE
Flammable Gases	MPS	0-100% LEL
Hydrogen (H ₂)	MPS	0-100% LEL
Methane (CH ₄)	Catalytic, Infrared, MPS	0-100% LEL
LPG	Catalytic	0-100% LEL
Propane (C ₃ H ₈)	Catalytic, Infrared	0-100% LEL
Butane (C ₄ H ₁₀)	Catalytic, Infrared	0-100% LEL
Petrol Vapour	Catalytic	0-100% LEL
Oxygen (O ₂)	Electrochemical	0-25% Vol.
Carbon monoxide (CO)	Electrochemical	0-500 ppm
Ammonia (NH ₃)	Electrochemical	0-100 ppm, 0-200 ppm, 0-1000 ppm
Chlorine (Cl ₂)	Electrochemical	0-20 ppm
Hydrogen sulphide (H ₂ S)	Electrochemical	0-50 ppm
Sulphur Dioxide (SO ₂)	Electrochemical	0-20 ppm
Nitrogen dioxide (NO ₂)	Electrochemical	0-20 ppm
Carbon dioxide (CO ₂)	Electrochemical	0-2% Vol., 0-5% Vol., 0-30% Vol., 0-5000ppm
Sulphur Hexafluoride (SF ₆)	Infrared	0-2000ppm
R152a	Infrared	0-100% LEL
R454b	Infrared	0-100% LEL
R32	Infrared	0-100% LEL, 0-5000ppm, 0-2000ppm
R1234yf	Infrared	0-100% LEL, 0-5000ppm, 0-2000ppm
R1234ze	Infrared	0-100% LEL, 0-5000ppm, 0-2000ppm
R134a	Infrared	0-5000ppm, 0-2000ppm
R404a	Infrared	0-5000ppm, 0-2000ppm
R407c	Infrared	0-5000ppm
R410a	Infrared	0-5000ppm, 0-2000ppm
R1233Zd	Infrared	0-5000ppm
R125	Infrared	0-2000ppm
R407a	Infrared	0-2000ppm
R407f	Infrared	0-2000ppm
R449a	Infrared	0-2000ppm
R507a	Infrared	0-2000ppm
R417a	Infrared	0-2000ppm
R448	Infrared	0-2000ppm

SPECIFICATIONS

DEVICE SPECIFICATIONS				
	CATALYTIC SENSOR	INFRARED SENSOR	ELECTROCHEMICAL SENSOR	MPS
SIZE	130 x 130 x 52 mm			
WEIGHT	450g			
ENCLOSURE MATERIAL	Polycarbonate			
INGRESS PROTECTION	IP42			
CABLE GLAND ENTRIES	2 x M20 Optional 6x M16			
OPERATING VOLTAGE	12-24 Vdc or 90-240Vac			
POWER	73 mA at 24V DC	110 mA at 24V DC	60 mA at 24V DC	80 mA at 24V DC
OUTPUT	3 relays RS-485 Modbus 4-20 mA Analog (DC version)			
INDICATORS	Sounder: 63dB at 1 meter Light: 4 Smart LED			
OPERATING TEMPERATURE	-40°C to +60°C (DC version) -40°C to +50°C (AC version)	-40°C to +60°C (DC version) -10°C to +50°C (DC ppm refrigerant version) -40°C to +50°C (AC version) -10°C to +50°C (AC ppm refrigerant version)	-30°C / +50°C	-40°C to +70°C (DC version) -40°C to +50°C (AC version)
HUMIDITY	0 / 95% RH non condensing		15 / 90% RH non condensing	0 / 95% RH non condensing
EMC COMPLIANCE	EN 61000-6-3:2007 + A1:201 EN 50270:2015			
ELECTRICAL SAFETY	EN 61010-1: 2010 / A1: 2019 (AC version)			
REFRIGERATION STANDARDS COMPLIANCE	EN 378-3 EN 14624 EN 50676 IEC 60335-2-40 Annex LL ISO 5149-3 F-Gas Regulation			
WARRANTY	2 years on electronics 1 year on sensor			

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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