



RAEGuard 3

Technical Specifications

RAEGuard 3 Gas Detector	
Use	Universal transmitter with standard configuration of 3-wire, 4-20mA and RS485 MODBUS output for use with a wide range of applications for the detection of flammable, toxic and Oxygen gas hazards.
Electrical Parameters	
Input Voltage Range	16-32VDC (24VDC nominal)
Max Power Consumption	Electrochemical Cells: 5.5 watts; CAT or NDIR: 7.5 watts
Current Output	Completely configurable 4~20mA (source type) with optional HART® 7.2 protocol as following as default configurations of current output. 1mA Fault 2mA Inhibit (during configuration or setup) 3mA Warning 4mA~20mA Normal 22mA Overrange Note: When the current output is less than 3mA, HART communication will not work properly.
Terminals	5 terminals (14 terminals for use with relay output), wire diameter 0.5mm ² (20AWG) to 2.5mm ² (13AWG)
Relays	3 x 2A@30VDC. Selectable normally open or normally closed and energised/de-energised(programmable) and latch/non-latch Alarm relays default energised/non-latch. Fault relay default energised/non-latch
Communication	RS485, Modbus RTU *Optional Bluetooth (pending)
Construction	
Transmitter Housing Material	Aluminum Alloy or 316 Stainless Steel
Sensor Housing Material	316 Stainless Steel
Weight(Approx)	Aluminum Alloy: 3.0kg; Stainless Steel: 5.0kg
Mounting	Integral mounting plate with 4 x mounting holes suitable for M8 to fit onto Wall or Pipe
Entries	2 x 3/4" NPT cable/conduit entries and 1 x M25 sensor entry. 1 x plug supplied for use for only 1 entry used. Seal to maintain IP rating
Performance****	
Repeatability	<2%
Response Time(T90)	Depending on the gas being detected
Certification	
European	ATEX: LEL/NDIR: CE2460 Ex II 2G Ex db IIC T6 Gb Ta = -40°C to +65°C Toxic and Oxgen: CE2460 Ex II 2G Ex db ia IIC T6 Gb Ta = -20°C to +55°C
International	IECEX: LEL/NDIR: Ex db IIC T6 Gb Ta = -40°C to +65°C

	Toxic and Oxygen: Ex db ia IIC T6 Gb Ta=-20°C to +55°C
China	LEL/NDIR: Ex d IIC T6 Gb Ex tD A21 IP66 T85°C Toxic and Oxygen: Ex d ia IIC T6 Gb Ex tD A21 IP66 T85°C
EMC	EN50270:2015, IEC61000-4-5
Performance**	IEC60079-29-1 IEC61508(SIL Assessment, SIL2)
Surge Immunity	Optional Surge Protection Device, Compliance with GB/T17626.5-2008/IEC61000-4-5:2005, Meets "Installation Class 4"
Environmental	
IP Rating	Toxic and Oxygen: IP66/67 LEL/NDIR: IP66
Operating Temperature***	-40°C~+70°C
Operating Humidity	LEL/NDIR: 0~95%RH (Non-condensing) Toxic and Oxygen: 15%~95%RH (Non-condensing)
Operating Pressure	90~110kPa
Storage Conditions	-20°C~+50°C, 45-75%RH(Non-condensing), in clean air

Gas	Default Range	Selectable Full Scale Range	Resolution	Lower Detectable Limit	Default Cal Point	Selectable Cal Gas Range	Response Time (T90/T10)	Accuracy	Default Alarm 2	Default Alarm 1	STEL	TWA
O ₂	30.0%vol	25.0~30.0%vol	0.1%vol	-	20.9%vol	20.9%vol(Fixed)	<20s	<30s	<±0.7%vol	23.5%vol ▲	19.5%vol ▼	n/a
H ₂ S	100ppm	20.0~200.0ppm	0.1ppm	0.5ppm	50ppm		<25s	<25s	<±5ppm	20ppm ▲	10ppm ▲	5ppm
CO	500ppm	50~1000ppm	1ppm	3ppm	250ppm	30%~70% of Full Scale Range	<25s	<25s	<±5ppm	50ppm ▲	25ppm ▲	27ppm
LEL	100%LEL	100%LEL	1%LEL	-	50%LEL		<25s	<30s	<±5%LEL	50%LEL ▲	25%LEL ▲	n/a
*CH ₄ -IR	100%LEL	100%LEL	1%LEL	-	50%LEL		<30s	<35s	<±5%LEL	50%LEL ▲	25%LEL ▲	n/a
NH ₃ -L	100ppm	20.0~100.0ppm	0.1ppm	2ppm	50ppm		<60s	<35s	<±5ppm	70ppm ▲	35ppm ▲	35ppm
Cl ₂	10ppm	5.0~50.0ppm	0.05ppm	0.1ppm	5ppm		<40s	<50s	<±1ppm	6ppm ▲	3ppm ▲	1ppm
SO ₂	20ppm	10.0~50.0ppm	0.1ppm	0.2ppm	10ppm	20%~80% of Full Scale Range	<25s	<40s	<±0.5ppm	10ppm ▲	5ppm ▲	3.8ppm
C ₂ H ₂ Cl	100ppm	10.0~100.0ppm	0.1ppm	0.3ppm	50ppm		<90s	<180s	<±10%	10ppm ▲	5ppm ▲	7.6ppm
H ₂	1000ppm	1000ppm	1ppm	2ppm	200ppm		<90s	<90s	<±10% or ±5%FS	400ppm ▲	200ppm ▲	n/a

Remarks:

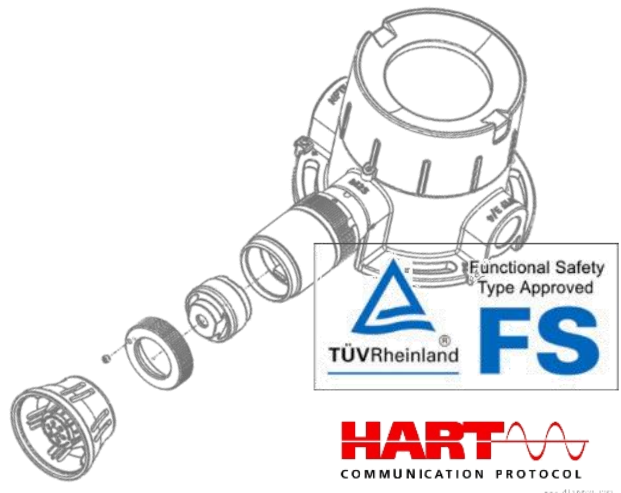
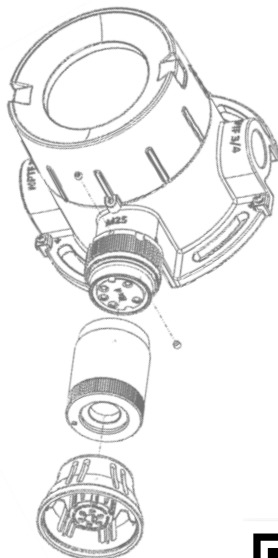
* RAEGuard 3 will provide users more communication interfaces and gas types in the future, such as Bluetooth and wireless. For availability, please contact Honeywell Analytics.

** Availability for SIL2 certificate, please contact Honeywell Analytics.

*** Catalytic and NDIR-CH₄ sensor can work continuously at -40°C ~ +70°C; toxic and oxygen sensor can work continuously at -20°C ~ +55°C, intermittently at -40°C ~ +70°C (The accuracy and response time of sensors operating in this temperature range will be affected, and long-term operation may lead to sensor sensitivity decline or even damage.)

**** The performance characteristics of the products mentioned above are typical results tested in an environment with a temperature 20°C and a humidity of 50% RH. When calibrating, use the calibration cap and recommended flow for detection. If the sunshade/deluge cover is used instead or the detection is carried out at low temperature, the response time will be slowed down.

FGM-6a00b, "a" indicates sensor type, includes 1(LEL), 2(NDIR), 3(EC). "b" indicates material of main housing, includes S(stainless steel) and blank(aluminum alloy).



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