OGGIONI
ARSAFE Part of DEF Network

RAS - Datasheet
RAS series Gas Detectors
with eNose®4.0 Technology

Description
RAS/AD and RAS/DY series transmitters are used for the detection of a wide range of explosive, toxic and oxygen gases.

Main Characteristics
- Managed by 32bit ARM microprocessor.
- Different possible technologies: Catalytic / Pellistor, electrochemical cell, Infrared and PID for VOC.
- Propostional 4-20mA output
- Three output relays (Pre-alarm, Alarm, Fault) or RS-485 serial interface with MODBUS RTU protocol for installation in addressable systems and for remote calibration procedures and maintenance management.
- Instant identification of gas type via front panel with 3 different colours.
- Graphic OLED display (DY version).
- Small size and low power consumption
- Smart technology: automatic recognition of connected sensor and auto-calibration
- Possibility to connect remote display (version with RS485).
- Single operator calibration without opening the instrument and without programming tools.
- Protection rate : IP65
- Compliant with standards: EN 60079-0:2018, EN 60079-29-1:2016, EN-50270:2015, EN 50271:2018, IEC/EN 61508:2010.
- Type of ATEX protection: **II 2G Ex d IIC T6 Gb -20°C ≤ Ta ≤ +40°C**
  II 2G Ex d IIC T4 Gb -20°C ≤ Ta ≤ +90°C
- **SIL2-Certificate** TUV NORD n° 20 20558 02
- Certified XEFRACERT XEF 19 ATEX 0016 X

Ex ATEX SIL2 IEC 61508

RAS Series gas detectors meet the requirements of the ATEX Directive 2014/34/EU Annex III, including functional performance, and are SIL2-certified, making them suitable for use as part of safety systems.
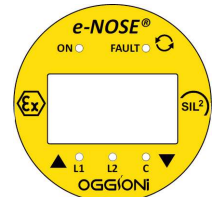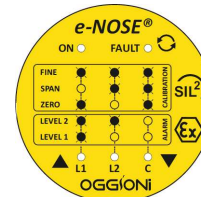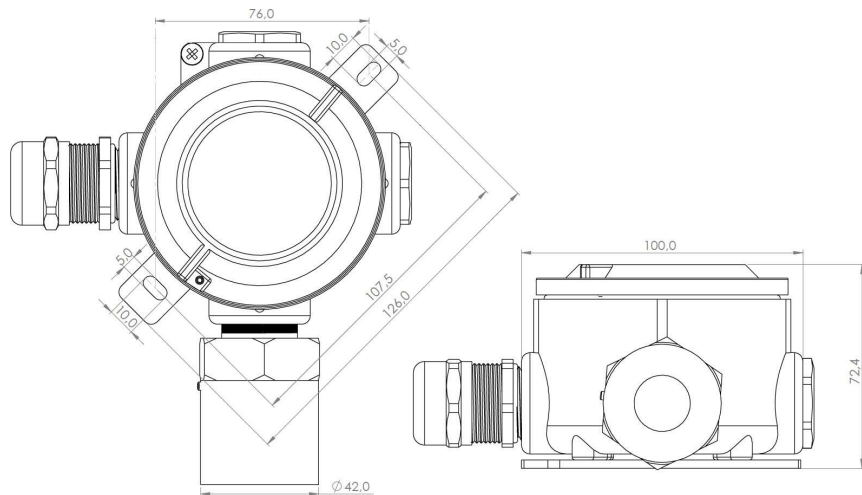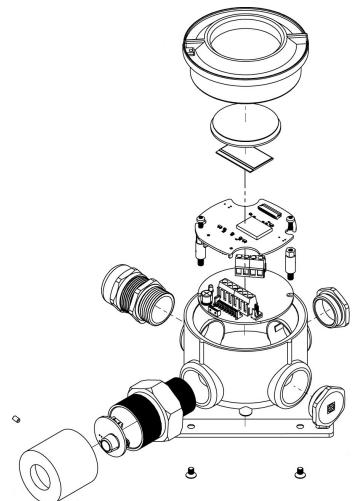
RAS-AD
Explosion-proof housing in aluminium or stainless steel. Ideal for detecting combustible and toxic gases, oxygen and solvents. Strong resistance to poisoning substances.

RAS-DY
Explosion-proof aluminium or stainless steel housing with display. Particularly robust construction. Possibility of installing the display unit in remote location and stand-alone configuration. Magnetic keypad for setting all instrument parameters.

RAS/AD **RAS/DY**

Explosive Gases

Toxic Gases

Oxygen

Main Specifications

Sensors	Catalityc / Pellistor, electrochemical cell, NDIR or PID
Protection Code	II 2G Ex-d IIC T6 Gb II 2G Ex-d IIC T4 Gb
Suitable for	Classified areas (zone 1)
Protection Rate	IP65 or IP66 with PTFE filter Optional
Short-term Repeatability	±2% F.S. 60 min.
Long-term Repeatability	±5% F.S. 3month
Accuracy (linearity)	±5% F.S.

Mechanical Specifications

Dimensions	170x100x70 mm
Material	Aluminium alloy with Chrome plated brass or Stainless Steel
Weight	0.8 Kg
Mounting	Holes 2 x 6 mm
Cable entries	3/4" NPT

Environmental Specifications

EMC	According to EN 50270
Stocking Temp.	Transmitter: -40°C to 80°C CAT: -40°C to +80°C ECC: see operating manual
Working Temp.	Transmitter: -30°C to +70°C
Relative Humidity	90% R.H. n.c.

Electrical Specifications

Power Supply	24 Vdc (nominal) – Min. 11,7V Max. 31V
Absorption	< 2,5 Watt
Supply fuse	500mA
Signal fuse	63mA
Analogue output	4-20mA
Load	0-300Ohm at 24Vdc
Cable type	4-20mA: 3 conductors shielded cable Relays: 2 conductors cable
Relays rate	60V 1,5A

Products Coding

eNose®4.0 gas detectors consist of two parts: transmitter and sensor.

Transmitters codes:

Model		Gas Type	Output	Housing
RAS	**AD** = without display **DY =** with display	**EX** = explosive gases **TX** = toxic gases **O2** = oxygen	**1** = 4-20mA + RELAY **2** = 4-20mA + 2 RS485	**AL** = Aluminium **SS** = SS316 (Stainless Steel)

Sensors codes:

Sensor code	Technology	Gas code
SE	**1** = Catalityc / Pellistor **2** = IR **3** = Electrochemical cell	**##** = Gas type

If several Full Scale values are available for the same gas, they are identified with a dash and a sequential number, e.g:

Sensor code	Gas	F.S. in ppm
SE320	Carbon Monoxide (TOX)	300
SE320-1	Carbon Monoxide (TOX)	500
SE320-2	Carbon Monoxide (TOX)	1000

See document 'Available Sensors List Table' for other available gases, contact manufacturer for gases not indicated.

Accessories codes:

Code	Description
GDA – M/B – KF6	Mounting bracket
GDA – CH34 – NA	Cable gland Atex, 3/4" NPT, nickel-plated brass, for non-armoured cables
GDA – CH34	Cable gland Atex, 3/4" NPT, nickel-plated brass, for armoured cables
GDA – SD – 2	Splash deflector
GDA – CO – 2	Collector cone for gases lighter than air
GDA – CO – 2 – T	Collector cone for gases lighter than air for remote calibration
GDA – FA – 2	Calibration adaptor for GM2 heads
GDA – MAG – 4	Calibration magnet
GDA – MAG – 3	Tool with magnetic head for eNose®4.0
GDA – TK	Calibration Kit toolbag
Enoblu2	Software for eNose®4.0 gas detectors configuration and maintenance