

# TOXIC AND EXPLOSIVE GAS TRANSMITTERS

## RAS series with enose<sup>®</sup> Technology



### RAS-AD

#### Aluminium or Stainless Steel Explosion Proof housing

- Ideal to detect combustible or toxic gases and solvents
- Sensors with strong poison resistant properties

#### DESCRIPTION

RAS/AD and RAS/DY are rugged, intelligent gas detectors for a wide variety of Explosive and Toxic gases.

#### Main Characteristic

- Microprocessor based
- 4-20 mA output and/or
- Three Voltage free relay contacts output
- RS-485 MODBUS RTU serial interface or Bluetooth
- LCD Display 8x2 characters
- Non Intrusive "One Person" calibration procedure
- Fully programmable
- Small size and Low Power consumption
- Certificate ATEX II 2G Ex d IIC T6

Gas Detectors RAS Series are built in conformity to 94/9/CE ATEX Directive, included functional performances, moreover they are in conformity to SIL 2, being suitable to be part of safety systems.



Thanks to introduction of Modbus or Bluetooth protocols it is possible to establish a direct communication between the sensor and your PC, PDA or Mobile Phone.

This features allow you a complete control of all sensor's functional parameters such as Zero, Span, Sensitivity, Alarm Thresholds TWA, STEL and Download maintenance operations reports or events Log.



ATEX

### RAS-DY

#### Aluminium or Stainless Steel Explosion Proof housing with display

- Robust construction
- Built-in or remote sensor transmitter
- Built-in relays enable full stand-alone capability
- Magnetic Keypad to change settings



#### MAIN SUBSTANCES LIST (IR Infrared Technology)

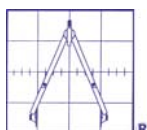
SUBSTANCES	DESCRIPTION	PRODUCT CODE
Methane (CH4)	Infrared sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	RAS/AD/201/...
Propane (C3H8)	Infrared sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/204/...
Carbon Dioxide (CO2)	Infrared sensor for fixed detecting systems of toxic substances up to 0-100%Vol.	RAS/AD/279/...

#### MAIN SUBSTANCES LIST (Catalytic Technology)

Methane (CH4)	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	RAS/AD/101/...
L.P.G. (Mix)	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	RAS/AD/102/...
Propane (C3H8)	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/104/...
Hydrogen (H2)	General purpose catalytic sensor for the detection of H2 0-100% L.E.L.	RAS/AD/127/...
Ammonia (NH3)	General purpose catalytic sensor NH3 0-100% L.E.L.	RAS/AD/140/...
Ammonia (NH3)	High Quality catalytic sensor NH3 0-2% v/v (0-20.000ppm)	RAS/AD/141S/...

Many other substances available, please contact us or visit our web site [www.oggonisas.com](http://www.oggonisas.com)

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## MAIN SUBSTANCES LIST (Electrochemical Cells Technology)

SUBSTANCES	DESCRIPTION	PRODUCT CODE
Ammonia (NH <sub>3</sub> )	Electrochemical Cell for NH <sub>3</sub> 0-100 / 0-500 / 0-1.000 / 0-5.000 PPM	RAS/AD/340/...
Carbon monoxide (CO)	Electrochemical Cell for CO 0-300 / 0-500 PPM	RAS/AD/320/...
Hydrogen sulphide (H <sub>2</sub> S)	Electrochemical Cell for H <sub>2</sub> S 0-20 / 0-100 PPM	RAS/AD/369/...
Oxygen (O <sub>2</sub> )	Electrochemical Cell for O <sub>2</sub> 0-25% Vol.	RAS/AD/361/...
Sulphur dioxide (SO <sub>2</sub> )	Electrochemical Cell for SO <sub>2</sub> 0-20 PPM	RAS/AD/370/...

## MAIN SUBSTANCES LIST (Chemical absorption Technology)

Ammonia (NH <sub>3</sub> )	Chemical absorption sensor optimised for NH <sub>3</sub> 0-1.000 PPM	RAS/AD/440/...
Carbon monoxide (CO)	Chemical absorption sensor optimised for CO 0-100 / 0-300 PPM	RAS/AD/420/...
Hydrogen sulphide (H <sub>2</sub> S)	Chemical absorption sensor optimised for H <sub>2</sub> S 0-20 PPM	RAS/AD/469/...
VOCs	Chemical absorption sensor optimised for VOCs 0-5.000 PPM	RAS/AD/471/...
Carbon Dioxide (CO <sub>2</sub> )	Chemical absorption sensor optimised for CO <sub>2</sub> 0-10.000 PPM	RAS/AD/479/...

## OUTPUTS CONFIGURATIONS

Outputs	Description	Code
4-20 mA + RS485	Analog current loop + Serial RS485 Modbus Protocol	<b>AAS</b> (RAS/AD & DY)
3 Relays + RS485	Voltage free contacts 1A 100 Vdc max. + Serial RS485 Modbus Protocol	<b>CCS</b> (RAS/AD only)
3 Relays + 4-20mA + RS485	Voltage free contacts 1A 100 Vdc max. + Analog current loop + Serial RS485 Modbus Protocol	<b>CAS</b> (RAS/DY only)

## GENERAL SPECIFICATIONS

Sensors	Catalytic pellistor or electrochemical cells or Infrared or chemical absorption cell
Code of protection	ATEX II 2G Ex d IIC T6
Location	Hazardous area
Degree of protection	IP65
Short-term repeatability	±2% FSD 60 min.
Long-term repeatability	±5% FSD 3 months.
Accuracy(linearity)	±5% FSD

## ENVIRONMENTAL SPECIFICATIONS

EMC	According to EN61000-4
Storage temperature	-40 to 85 °C
Operating temperature	-20 to 70 °C
Humidity range	90% R.H. n.c.

## MECHANICAL SPECIFICATIONS

Overall dimensions	170x100x70 mm
Material	Aluminium alloy with chrome plated brass or Stainless Steel
Weight	0.8 Kg.
Mounting	2x6 mm holes
Junction box attachment	3/4" Conical thread UNI 6125

## ELECTRICAL SPECIFICATIONS

Supply Voltage	12-30 Vdc
Power consumption	1 watt (AAS Version)
Supply fuse	500 mA
Signal fuse	63 mA
Analog output	4-20 mA
Load	0-300 ohms at 24Vdc
Cable Type	3 conductors cable (AAS Version)
Relay Contact Rating	Max. 1A - 100Vdc - 150 mΩ

## PART NUMBER DESCRIPTION

Body	Description	Technology	Substance Code	Output Configuration Code
RAS/AD	II 2G Ex d IIC T6	1 (Catalytic sensor)	01 (methane)	AAS Analog 4-20mA + RS485
RAS/DY	II 2G Ex d IIC T6	2 (Infrared sensor)	02 (L.P.G.)	CCS Relay Contacts + RS485 (only RAS/AD body)
	II 2G Ex d IIC T6	3 (Electrochemical cell)	27 (Hydrogen)	CAS Relay Contacts + 4-20mA + RS485 (only RAS/DY body)
	II 2G Ex d IIC T6	4 (Chem. Absorption sensor)	40 (Ammonia)	



Example: Part Number composition of gas detector in EEx-d execution with catalytic sensor for methane with analogue output 4-20 mA: Cod. **RAS/AD/101/AAS**

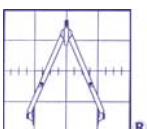


Example: Part Number composition of gas detector in EEx-d execution with electrochemical cell for ammonia with display and relay contacts output: Cod. **RAS/DY/340/CAS**

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