


# TOXIC AND EXPLOSIVE GAS TRANSMITTERS

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

### 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<sup>®</sup>
- 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



### RAS-AD

#### Aluminium or Stainless Steel Explosion Proof housing

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

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)

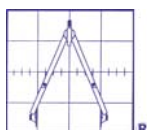
SUBSTANCES	DESCRIPTION	PRODUCT CODE
Methane (CH <sub>4</sub> )	Infrared sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	RAS/AD/201/...
Propane (C <sub>3</sub> H <sub>8</sub> )	Infrared sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/204/...
Carbon Dioxide (CO <sub>2</sub> )	Infrared sensor for fixed detecting systems of CO <sub>2</sub> range 0-20000ppm (0-2%v/v) up to 0-100%v/v	RAS/AD/279/...

### MAIN SUBSTANCES LIST (Catalytic Technology)

Methane (CH <sub>4</sub> )	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 (C <sub>3</sub> H <sub>8</sub> )	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/104/...
Hydrogen (H <sub>2</sub> )	General purpose catalytic sensor for the detection of H <sub>2</sub> 0-100% L.E.L.	RAS/AD/127/...
Ammonia (NH <sub>3</sub> )	General purpose catalytic sensor NH <sub>3</sub> 0-100% L.E.L.	RAS/AD/140/...
Ammonia (NH <sub>3</sub> )	High Quality catalytic sensor NH <sub>3</sub> 0-2% v/v (0-20000ppm)	RAS/AD/141S/...

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

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**OGGIONI S.a.s. Via Lavoratori Autobianchi, 1 - P.T.B. Edif.13/O - 20832 Desio (MB) Italy**  
**Tel.+39 0362 629135 Fax. +39 0362 622531 e-mail: [info@oggonis.com](mailto:info@oggonis.com) - [www.oggonis.com](http://www.oggonis.com)**

## MAIN SUBSTANCES LIST (Electrochemical Cells Technology)

SUBSTANCES	DESCRIPTION	PRODUCT CODE
Ammonia (NH3)	Electrochemical Cell for NH3 0-100 / 0-500 / 0-1000 / 0-5000 PPM	RAS/AD/340/...
Carbon monoxide (CO)	Electrochemical Cell for CO 0-300 / 0-500 PPM	RAS/AD/320/...
Hydrogen sulphide (H2S)	Electrochemical Cell for H2S 0-20 / 0-100 PPM	RAS/AD/369/...
Oxygen (O2)	Electrochemical Cell for O2 0-25%v/v	RAS/AD/361/...
Sulphur dioxide (SO2)	Electrochemical Cell for SO2 0-20 PPM	RAS/AD/370/...

## MAIN SUBSTANCES LIST (PID Photo Ionization technology)

VOCs	Photo Ionization sensor optimised for VOCs 0-400 PPM (Other ranges available)	RAS/AD/571/...
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## 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 classified areas Zone 1
Degree of protection	IP65 or IP66 when fitted with optional PTFE filter
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" NPT

### 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 (4-20mA 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)	61 (Oxygen)	



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

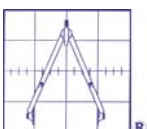


Example: Part Number composition of gas detector in Ex d execution with electrochemical cell for ammonia with display and relay contacts output: Cod. **RAS/DY/340/CAS**

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**OGGIONI s.a.s. Via Lavoratori Autobianchi, 1 - P.T.B. Edif.13/O - 20832 Desio (MB) Italy**  
**Tel.+39 0362 629135- Fax. +39 0362 622531 - e-mail: info@oggionisas.com - www.oggionisas.com**