

TOXIC AND EXPLOSIVE GAS TRANSMITTERS

RAS series with enose[®] 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[®]
- LCD Display 8x2 characters
- Non Intrusive "One Person" calibration procedure
- Fully programmable
- Small size
- Low Power consumption
- Certificate **ATEX II 2G EEx-d IIC T6**

RAS-AD

Explosion Proof and Stainless Steel housing

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

Thanks to introduction of modbus or  Bluetooth[®] protocols it is possible to establish a 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.



RAS-DY

Explosion Proof and Stainless Steel 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 ₄)	Infrared sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/201/...
Propane (C ₃ H ₈)	Infrared sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/204/...
Carbon Dioxide (CO ₂)	Infrared sensor for fixed detecting systems of toxic substances up to 0-100% Vol.	RAS/AD/279/...

MAIN SUBSTANCES LIST (Catalytic Technology)

Methane (CH ₄)	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 ₃ H ₈)	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100% L.E.L.	RAS/AD/104/...
Hydrogen (H ₂)	General purpose catalytic sensor for the detection of H ₂ 0-100% L.E.L.	RAS/AD/127/...
Ammonia (NH ₃)	General purpose catalytic sensor NH ₃ 0-100% L.E.L.	RAS/AD/140/...
Ammonia (NH ₃)	High Quality catalytic sensor NH ₃ 0-2% v/v (0-20.000ppm)	RAS/AD/141S/...

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MAIN SUBSTANCES LIST (Electrochemical Cells Technology)

SUBSTANCES	DESCRIPTION	PRODUCT CODE
Ammonia (NH ₃)	Electrochemical Cell for NH ₃ 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 ₂ S)	Electrochemical Cell for H ₂ S 0-20 / 0-100 PPM	RAS/AD/369/...
Oxygen (O ₂)	Electrochemical Cell for O ₂ 0-25% Vol.	RAS/AD/361/...
Sulphur dioxide (SO ₂)	Electrochemical Cell for SO ₂ 0-20 PPM	RAS/AD/370/...

MAIN SUBSTANCES LIST (Chemical absorption Technology)

Ammonia (NH ₃)	Chemical absorption sensor optimised for NH ₃ 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 ₂ S)	Chemical absorption sensor optimised for H ₂ S 0-20 PPM	RAS/AD/469/...
VOCs	Chemical absorption sensor optimised for VOCs 0-5.000 PPM	RAS/AD/471/...
Carbon Dioxide (CO ₂)	Chemical absorption sensor optimised for CO ₂ 0-10.000 PPM	RAS/AD/479/...

OUTPUTS CONFIGURATIONS

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

GENERAL SPECIFICATIONS

Sensors	Catalytic pellistor or electrochemical cells or Infrared or chemical absorption cell
Code of protection	ATEX II 2G EEx-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 EEx-d IIC T6	1 (Catalytic sensor)	01 (methane)	AAS Analog 4-20mA + RS485
RAS/DY	II 2G EEx-d IIC T6	2 (Infrared sensor)	02 (L.P.G.)	CCS Relay Contacts + RS485 (only RAS/AD body)
	II 2G EEx-d IIC T6	3 (Electrochemical cell)	27 (Hydrogen)	CAS Relay Contacts + 4-20mA + RS485 (only RAS/DY body)
	II 2G EEx-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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