

# TOXIC AND EXPLOSIVE GAS TRANSMITTERS


## DUST series with enose® Technology



### DESCRIPTION

Gas detectors DUST/AD and DUST/DY are rugged and intelligent gas transmitter for a variety of Explosive and Toxic gases.


### Main Characteristic

- Microprocessor based
- 4-20 mA output
- Three Voltage free relay contacts output
- RS-485 MODBUS RTU serial interface or  **Bluetooth** protocol for remote control and maintenance operations.
- LCD Display 8x2 characters
- Non Intrusive "One Person" calibration procedure
- Fully programmable
- Small size
- Low Power consumption

## DUST-AD

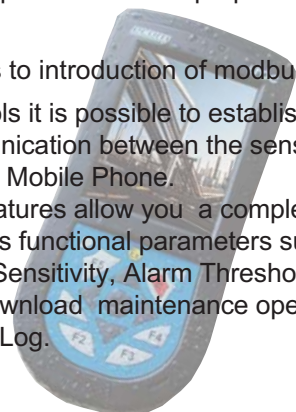
### IP65 Aluminium and Stainless Steel body

Ideal for detection of combustible gases and solvents  
Strong poison resistant properties

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.



## DUST-DY

### IP65 Aluminium and Stainless Steel body with display

Sturdy construction  
Built-in or remote sensor transmitter  
Built-in relays enable full stand-alone capability



Comply with: **EN-60079-0, EN 60079-29-1, EN-50270.**

Type of protection: **II 3G Ex nA II T6 IP65**

### MAIN SUBSTANCES LIST (IR Infrared Technology)

SUBSTANCES	DESCRIPTION	Prod.cod.
Methane (CH <sub>4</sub> )	Infrared sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	DUST/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.	DUST/AD/204/...
Carbon Dioxide (CO <sub>2</sub> )	Infrared sensor for fixed detecting systems of toxic substances up to 0-100%Vol.	DUST/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.	DUST/AD/101/...
L.P.G. (Mix)	General purpose catalytic sensor for fixed detecting systems of explosive substances 0-100%L.E.L.	DUST/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.	DUST/AD/104/...
Hydrogen (H <sub>2</sub> )	General purpose catalytic sensor for the detection of H <sub>2</sub> 0-100% L.E.L.	DUST/AD/127/...
Ammonia (NH <sub>3</sub> )	General purpose catalytic sensor NH <sub>3</sub> 0-100% L.E.L.	DUST/AD/140/...
Ammonia (NH <sub>3</sub> )	High Quality catalytic sensor NH <sub>3</sub> 0-2% v/v (0-20.000ppm)	DUST/AD/141S/...

## MAIN SUBSTANCES LIST (Electrochemical Cells Technology)

SUBSTANCES	DESCRIPTION	Prod.cod.
Ammonia (NH <sub>3</sub> )	Electrochemical Cell for NH <sub>3</sub> 0-100 / 0-500 / 0-1000 / 0-5.000 PPM	DUST/AD/340/...
Carbon monoxide (CO)	Electrochemical Cell for CO 0-300 / 0-1.500 PPM	DUST/AD/320/...
Hydrogen sulphide (H <sub>2</sub> S)	Electrochemical Cell for H <sub>2</sub> S 0-20 / 0-100 PPM	DUST/AD/369/...
Oxygen (O <sub>2</sub> )	Electrochemical Cell for O <sub>2</sub> 0-30% Vol.	DUST/AD/361/...
Sulphur dioxide (SO <sub>2</sub> )	Electrochemical Cell for SO <sub>2</sub> 0-20 PPM	DUST/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	DUST/AD/440/...
Carbon monoxide (CO)	Chemical absorption sensor optimised for CO 0-100 / 0-300 PPM	DUST/AD/420/...
Hydrogen sulphide (H <sub>2</sub> S)	Chemical absorption sensor optimised for H <sub>2</sub> S 0-20 PPM	DUST/AD/469/...
VOCs	Chemical absorption sensor optimised for VOCs 0-5.000 PPM	DUST/AD/471/...
Carbon Dioxide (CO <sub>2</sub> )	Chemical absorption sensor optimised for CO <sub>2</sub> 0-10.000 PPM	DUST/AD/479/...

## Outputs Configurations

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

## GENERAL SPECIFICATIONS

Sensors	Catalytic pellistor or electrochemical cells or Infrared or chemical absorption cell
Location	Workplaces and Industrial sites
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	150x80x70 mm
Materials	Aluminium or Stainless Steel
Weight	0.5 Kg.
Mounting	4 x 6 mm holes
Termination	PG-16 Terminal block

## 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 - 150mΩ

## PART NUMBER DESCRIPTION

Body	Description	Technology	Substance Code	Output Configuration Code
DUST/AD	Aluminium IP65	1 (Catalytic sensor)	01 (methane)	AAS Analog 4-20mA + RS485
DUST/DY	Aluminium IP65	2 (Infrared sensor)	02 (L.P.G.)	CCS Relay Contacts + RS485 (DUST/AD only)
	Aluminium IP65	3 (Electrochemical cell)	27 (Hydrogen)	CAS Relay Contacts + 4-20mA + RS485 (DUST/DY only)
	Aluminium IP65	4 (Chem. Absorption sensor)	40 (Ammonia)	



Example: Part Number of gas detector with catalytic sensor for methane with analogue output 4-20 mA in aluminium housing: Cod. **DUST/AD/101/AAS**



Example: Part Number of gas detector with electrochemical cell for ammonia with relay contacts output in a Stainless Steel housing: Cod. **DUST/DY/340I/CAS**