

μ-gard® Analog CO Transmitter (2-In-1)

For Carbon Monoxide with enhanced CO radical detection capability for very early smouldering fire and smoke detection

(product of gas radicals generated due to products of combustion fire)

DESCRIPTION

Analog transmitter for monitoring of carbon monoxide gases and vapors in the ambient air. The product model is equipped with enhanced capability of monitoring carbon monoxide radicals for generating earliest signs for smoke and fire. It is ideal for installation for parking area, garages, chiller rooms and heating, as well as dusty & humid area like pharmaceuticals, coal mine, conveyor belt, cement plant, thermal power plants, flour mills, powder industries. The μ-Gard analog transmitter series MA is a reliable gas detector.

APPLICATION

For the detection of gases within a wide range of commercial applications. Due to the 4 – 20 mA or 2 - 10 V analog signals the transmitter is compatible to the μ-Gard gas controller series ADC of MSR-E.

FEATURES

- Continuous monitoring
- Low zero point drift
- Poisoning stable
- Long life sensor
- Easy maintenance / calibration
- Reverse polarity protected
- Overload protected
- 4 – 20 mA analog signal output
- 2-10V analog signal output
- IP 44 protected enclosure (standard)

CONNECTING DIAGRAM

Transmitter	
1	24 VDC
2	Analog Output
3	0 VDC / GND

F Housing IP44



D Housing IP54



A Housing IP65



GAS ALARM SYSTEMS

SPECIFICATIONS

Sensor Model	MA-0-1110	
Measuring Gas	Carbon Monoxide	
Enhanced CO ⁺ Detection	Yes	
Sensor element	Electrochemical, diffusion	
Measuring Range	0-300 ppm (Standard) Other options as given in ordering information	
Electrolyte type	Gel based	
Response time t ₉₀ (s)	≤ 50 s	
Warm-up time (First Time)	≤ 3 mins	
Stability & resolution	± 3 ppm	
Repeatability (% of reading)	± 3 % of reading	
Long term zero point drift of reading/ year	< 5%	
Sensor life expectancy (normal operating environment) in years	≥ 5 years	
Max. storage time	6 months	
Sensor Coverage	700 m ² to 750 m ² , ideal condition assumed	
Mounting height	1.5 to 1.8 m above floor	
Reverse polarity protection	Yes	
Short circuit protection	Yes	
Anti-poisoning protection	Yes	
Over Flooding protection	Yes	
Plug-in sensor cell	Yes, easy push replaceable sensor cell	
Auto recovery to Zero point	Yes	
Input Voltage Effect	None	
Operating Environment		
Humidity non-condensing	15 – 90 % RH	
Temperature		
Working temperature	-10°C to + 50°C	
Storage temperature	5 °C to 40 °C	
Pressure range	Atmospheric ±10%	
Electrical		
Power supply	18 - 28 VDC (reverse polarity protected)	
Power consumption	Electrochemical sensor: 22mA, max. 0.6VA	
Cross sensitivity*		
	Concentration (ppm)	Reaction (ppm)
Acetone	1000	0
Ammonia	100	0
Carbon Dioxide	5000	0
Iso propanol	200	0
Nitrogen Dioxide NO ₂	50	0
Sulphur Dioxide SO ₂	50	0
Physical Characteristics		
Enclosure type F	GW Plast 75 GWT	
Flammability	UL 94: VO	
Enclosure color	RAL 7032 (light grey)	
Dimensions	(d X H) 87 x 45.5 mm	
Weight	Approx. 0.2 kg	
Protection class	IP 44 (standard) — Housing type F IP54 --- Housing type D	

GAS ALARM SYSTEMS

Installation	IP65 --- Housing type A Wall mounting (standard) Duct mounting (optional) (flow through sample tube for duct mounted models)
Cable entry	Standard 3 pieces
Wire connection	Screw type terminal, min. 0.25 mm ² (24 AWG) max. 2.5 mm ² (14 AWG)
Wire distance	Max. loop resist. 500 Ω (= wire resistor + controller input resistor)
Output signal	
Analog output signal	
Standard: 4-20 mA	Proportional, 4 – 20 mA, load ≤ 500 Ω overload and short-circuit proofed
Selectable: 2-10 V	Proportional, 2 – 10 V, load ≤ 50 kΩ overload and short-circuit proofed
Output Characteristics	Linear, proportional
Calibration	Potentiometer based
Guidelines	EMC- Directive 2004/ 108/ EEC, CE
Warranty	12 months on material (without sensor)

* The table doesn't claim to be complete. Other gases, too, can have an influence on the sensitivity. The mentioned cross sensitivity data are only reference values valid for new sensors.

SCOPE OF SUPPLY:

(Housed & fitted in enclosure box)

- Sensor Cell
- Transmitter board
- Wire connector
- Housing enclosure

ORDERING INFORMATION

MA-0-1110-X-X

Version

- 6 Factory calibration 0 – 50 ppm
- 7 Factory calibration 0 – 100 ppm
- 8 Factory calibration 0 – 150 ppm
- 9 Factory calibration 0 – 200 ppm
- A Factory calibration 0 – 250 ppm
- B Factory calibration 0 – 300 ppm
- C Factory calibration 0 – 400 ppm
- D Factory calibration 0 – 500 ppm
- E Factory calibration 0 – 1000 ppm

Enclosure

- F Plastic enclosure (87*45,5mm), IP44
- A Plastic enclosure (130*94*57mm), IP65
- D Plastic enclosure (94*65*57mm), IP54

Example: Carbon monoxide Transmitter, plastic enclosure, Factory calibration 0 – 2000 ppm
Order number: MA-0-1110-F-F