



## Data Sheet

### FGDS-MT500 EC

### Toxic Gas Detector

#### Introduction

The Gas Detectors series SMART MT500 have been designed based on over 45 years' experience of detection and represent the "State of the Art" in Hydrocarbons, Flammable and Toxic Gas Detection.

SMART MT500 is made of 3 parts:

- Universal Transmitter with 4 digits or graphic display, with inbuilt procedure for easy maintenance. All operations and Communications are controlled by a powerful RISC Microprocessor which provides self-diagnostics, calibration, and maintenance guidelines. Any type of connected transducer is automatically recognized and configured. Available with copper free marine grade light alloy housing for high salty and corrosive environments, or SS316 as option (both ATEX certified)
- Multi Technology Sensor with incorporated microprocessor signal transducer, housed in SS316 ATEX certified housing.
- All Sensing Element are hot field replaceable without disconnecting power and sensor wires, within 5 minutes including auto zero calibration

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#### Fire & Gas Detection Solutions

Two Important unique enhancements have been introduced to the MT500 Gas Detector.

One common ATEX certified S.S.316 housing for all type of Sensors Technology with Hot Field Replaceable Sensing Elements and filter with only 5-minute MTTR.

Dual channel Smart Transmitter is ideal for Off-Shore applications where Hydrocarbon and H<sub>2</sub>S is required. HC Sensor can be integrated with the Transmitter and H<sub>2</sub>S Sensor installed at lower level remotely up to 300m.

After replacing the any parts including sensing element, SMART MT500 will automatically make self-diagnostic and zero calibration.

The last but not the least, all Gas Sensors incorporate a signal transducer with specific address allowing to install any Sensor up to 500 meters from Transmitter.

### **Innovative SMART MT 500 EC Gas Sensor**

More than 35 years of research and development in Gas Detection it has been made possible to introduce in the market a compact, reliable and easy-maintenance Gas Detection Technology, which covers all application from Catalytic to Infrared, Electrochemical and Nano MOS. Each Sensor can be connected to a single or dual channel Universal Transmitter, even for remote installation up to 300 m

Smart MT500 ECHEM represents the "State of the Art" in Toxic gas detection employing the latest Electrochemical Sensor with single opening protected by a sintered SS AISI 316 mesh filter which requires no maintenance.

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## Technical Data

### Specifications SES ASA MT500EC Oxygen & Toxic Gas Detectors:

<b>Principle:</b>	Electrochemical
<b>Housing:</b>	Stainless Steel or Copper-free Aluminium Alloy, Epoxy + Polyurethane coating
<b>Sensor Body:</b>	Stainless Steel 316
<b>Display:</b>	Graphic Display + Status LEDs
<b>Analogue Output:</b>	4-20mA (3 wires)
<b>Relays:</b>	2 alarm plus 1 fault relay
<b>Area Classification:</b>	ATEX II 2G Ex db IIC T6, II 2D Ex tb IIIC T85°C/T100°C
<b>Ingress Protection:</b>	IP-65/66
<b>IEC 61508:</b>	SIL 2
<b>Operating Temp:</b>	-50°C to +80°C
<b>Humidity:</b>	0 – 95 % non-condensing
<b>Power Supply:</b>	15-30 VDC, (1,5 Watt max at 24 VDC)
<b>Cables Connection:</b>	3x1,5mm <sup>2</sup> + shield
<b>Cables Entry:</b>	2 x 3/4" NPT or M20 (with adapter)
<b>Mounting Accessories:</b>	S.S. bracket for wall of frame mounting
<b>Weight:</b>	1,9 kg
<b>Options:</b>	HART Protocol, Splash Guard, S.S. "U bolt" bracket for 2" pole mounting
<b>Response time:</b>	T50 <8 Sec
<b>Accuracy:</b>	+/-2%

## Gases and Ranges

<b>Ammonia (NH<sub>3</sub>) ECC</b>	0-100/1000 p.p.m.
<b>Bromine (Br<sub>2</sub>) ECC</b>	0-10/50/200 p.p.m.
<b>Carbon Monoxide (CO) ECC</b>	0-20/100/200/1000 p.p.m.
<b>Chlorine (Cl<sub>2</sub>) ECC</b>	0-20/50/200/5000 p.p.m.
<b>Ethene (Ethylene C<sub>2</sub>H<sub>4</sub>) ECC</b>	0-10/200/1500 p.p.m.
<b>Ethylene Oxide (C<sub>2</sub>H<sub>4</sub>O) ECC</b>	0-20 p.p.m.
<b>Formaldehyde (CH<sub>2</sub>O) ECC</b>	0-10 p.p.m.
<b>Hydrogen (H<sub>2</sub>) ECC</b>	0-1000 p.p.m.
<b>Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) ECC</b>	0-100/500 p.p.m.
<b>Hydrogen Bromide (HBr) ECC</b>	0-10/100/500 p.p.m.
<b>Hydrogen Chloride (HCl) ECC</b>	0-20/200/1000
<b>Hydrogen Cyanide (HCN) ECC</b>	0-100 p.p.m.
<b>Hydrogen Sulphide (H<sub>2</sub>S) ECC</b>	0-50/100/200 p.p.m.
<b>Nitric Oxide (NO) ECC</b>	0-25/100 p.p.m.
<b>Nitrous Oxide (NO<sub>2</sub>) ECC</b>	0-20 p.p.m.
<b>Phosphine (PH<sub>3</sub>) ECC</b>	0-5/500/1000 p.p.m.
<b>Silane (SiH<sub>4</sub>) ECC</b>	0-20/50 p.p.m.
<b>Sulphur Dioxide (SO<sub>2</sub>) ECC</b>	0-20/100 p.p.m.

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## Fire & Gas Detection Solutions