



Sensor without display



Sensors with LCD display



Red = alarm for fault

Green = in operation

### Features

- ATEX and IEC Ex certificates for electrical Ex protection
- ATEX metrical test & SIL2 safety functions 4 – 20 mA, RS485 and relay
- Type “Ex d” with flame-proof enclosure
- Continuous monitoring
- Self-monitoring system
- Easy calibration
- Calibration service by exchanging the sensor head
- Reverse polarity protection
- Overload protection
- LCD display with status LEDs (optional)
- Alarm and fault signal relay (optional)
- Can be opened during operation (sealed)

### Technical Data

<b>Power supply</b>	16 – 28Vdc, 20 – 29Vac
<b>Power consumption (at 24Vdc)</b>	90 mA, max. 130 mA
<b>Control unit</b>	Microprocessor with 12 bit converter resolution
<b>Digital filter</b>	Averaging in order to increase the EMC immunity
<b>Visual indications</b>	2 LEDs for operation, alarm and communication
<b>Analog output signal (active)</b>	Proportional, overload and short-circuit proof, load ≤ 500 Ω 4 – 20 mA = measuring range 3,2 < 4 mA = underrange > 20 – 21.6 mA = overrange 2.5 mA = service mode 2 mA = fault Low > 21.8 mA = fault High
<b>Serial interface</b>	Serial data bus
<b>Fault relay (optional)</b>	Max. 30Vac/dc, 1 A
<b>Alarm relay (optional)</b>	Max. 30Vac/dc, 1 A
<b>LCD (optional)</b>	2 x 16 characters, 3 status LEDs, 4 menu operating elements
<b>Sensor data</b>	
<b>Gas type</b>	Combustible gases
<b>Sensor element</b>	<b>Pellistor</b> <b>Infrared</b>
<b>Measuring range</b>	0 – 100 % LEL                      0 – 100 % LEL
<b>Response time</b>	t <sub>90</sub> ≤ depending on gas type                      t <sub>90</sub> ≤ 30 sec
<b>Accuracy</b>	± 1 % of measuring range (CH <sub>4</sub> )                      ± 1 % below 25% of measuring range
<b>Repeatability</b>	± 2 % of measuring range                      ± 2 % of measuring range

### Design Features

Microprocessor based gas detector with 4 – 20 mA / RS485 Modbus output signal, alarm and fault relays (all SIL2 certified) for monitoring the ambient air to detect combustible gases and vapors within the lower explosive limit (LEL) by means of a catalytic sensor element (pellistor) or an infrared sensor element.

The calibration of detectors without LCD display is carried out via the calibration device Cal ATEX or the PC software PC-ATEX.

Detectors with LCD display have an integrated calibration routine that is started from the outside by a permanent magnet without opening the housing.

In case of an **alarm or failure** the backlight of detectors with LCD display changes from **green to red**.

The gas detector is sealed and thus the housing in zone 1 can be opened during operation at any time (Ex demb[ib]).

### Application

The detector is used in industrial areas like oil/gas industry, biogas plants, petrochemical industry, power plants etc. in Ex-Zone 1.

The detector is also suitable for commercial areas like gas transfer stations etc.

With the 4 – 20 mA / RS485-ModBus output signal the detector is suitable for connection to the AP gas leak alarm units, as well as to any other controllers or automation devices.

Optionally, the detector is also available with LCD display and relay output.

### Ordering Codes (see p. 2)

<b>Stabilization time</b>	300 sec.	900 sec.
<b>Warm-up time</b>	Measuring mode after 120 sec.	Measuring mode after 60 sec.
<b>Humidity</b>	20 to 90% r.H (non-condensing)	
<b>Operating temperature</b>	-25 °C to 55 °C (measuring operation up to +65 °C)	
<b>Storage temperature</b>	-5 °C to +30 °C	
<b>Pressure range</b>	800 to 1200 mbar (80 to 120 kPa)	
<b>Air velocity</b>	< 6 m/sec.	
<b>Case / colour</b>	Die-cast aluminium / light grey RAL 7032	
<b>Dimensions (D x H)</b>	95 x 82 mm	
<b>Weight</b>	Ca. 1.3 kg	
<b>Protection class</b>	IP 54	
<b>Mounting</b>	Wall mounting (sensor head downwards)	
<b>Cable entry</b>	1 x ¾ in. plastic, ATEX certified	
<b>Wire connection</b>	Spring-type terminal, 0.08 to 2.5 mm <sup>2</sup> AWG 28 - 12	
<b>Wire length</b>	Max. load 500 Ω (= wire resistance + controller input resistance)	
<b>ATEX/ IEC Ex approval</b>	CE 0158, Ex II2G Ex demb [ib] IIC T4 (pending)	
<b>EC-type examination certificate</b>	Electrical Ex protection: Ex demb[ib] EN60079-0, -1, -11, -18 (zone 1) Metrological approval (pending) EN 60079-29-1 for Ex gases Functional safety (SIL2) EN 50402 EN 61508-1, -2, -3 EN 50271	
<b>WARRANTY</b>	1 year on material and workmanship (without the sensor)	

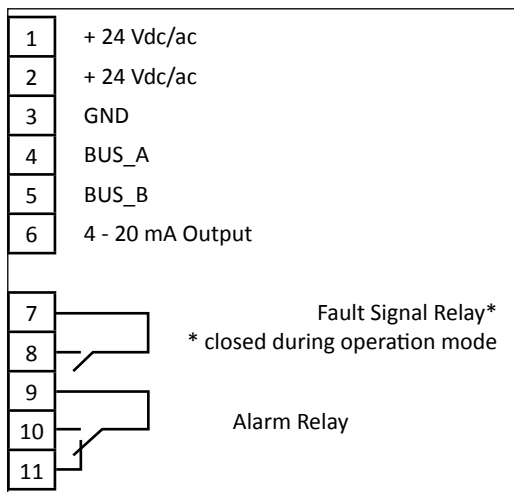
## Ordering Codes

	Gas Type		Sensor Type	Measuring range
<b>ATEX1 MTN</b>	Methane	CH <sub>4</sub>	Pellistor	0-100 % LEL
<b>ATEX1 LPG</b>	LPG Liquefied Petroleum Gas		Pellistor	0-100 % LEL
<b>ATEX1 ACT</b>	Acetylene	C <sub>2</sub> H <sub>2</sub>	Pellistor	0-100 % LEL
<b>ATEX1 AMM</b>	Ammonia	NH <sub>3</sub>	Pellistor	0-100 % LEL
<b>ATEX1 ETH</b>	Ethylene	C <sub>2</sub> H <sub>4</sub>	Pellistor	0-100 % LEL
<b>ATEX1 ALC</b>	Ethyl Alcohol	C <sub>2</sub> H <sub>5</sub> OH	Pellistor	0-100 % LEL
<b>ATEX1 ECT</b>	Ethyl Acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Pellistor	0-100 % LEL
<b>ATEX1 HEX</b>	Hexane	C <sub>6</sub> H <sub>14</sub>	Pellistor	0-100 % LEL
<b>ATEX1 H2</b>	Hydrogen	H <sub>2</sub>	Pellistor	0-100 % LEL
<b>ATEX1 MTL</b>	Methanol	CH <sub>3</sub> OH	Pellistor	0-100 % LEL
<b>ATEX1 MEK</b>	Methyl Ethyl Ketone	C <sub>4</sub> H <sub>8</sub> O	Pellistor	0-100 % LEL
<b>ATEX1 BUT</b>	Butane	C <sub>4</sub> H <sub>10</sub>	Pellistor	0-100 % LEL
<b>ATEX1 CPE</b>	Cyclopentane	C <sub>5</sub> H <sub>10</sub>	Pellistor	0-100 % LEL
<b>ATEX1 PEN</b>	Pentane	C <sub>5</sub> H <sub>12</sub>	Pellistor	0-100 % LEL
<b>ATEX1 IPE</b>	Isopentane	C <sub>5</sub> H <sub>12</sub>	Pellistor	0-100 % LEL
<b>ATEX1 PRO</b>	Propane	C <sub>3</sub> H <sub>8</sub>	Pellistor	0-100 % LEL
<b>ATEX1 IPA</b>	Isopropyl Alcohol	C <sub>3</sub> H <sub>8</sub> O	Pellistor	0-100 % LEL
<b>ATEX1 PAL</b>	Propyl Alcohol	C <sub>3</sub> H <sub>8</sub> O	Pellistor	0-100 % LEL
<b>ATEX1 ACE</b>	Acetone	C <sub>3</sub> H <sub>6</sub> O	Pellistor	0-100 % LEL
<b>ATEX1 TOL</b>	Toluene	C <sub>7</sub> H <sub>8</sub>	Pellistor	0-100 % LEL
<b>ATEX1 HEP</b>	n-Heptane	C <sub>7</sub> H <sub>16</sub>	Pellistor	0-100 % LEL
<b>ATEX1 PET</b>	Petrol Vapours		Pellistor	0-100 % LEL
<b>ATEX1 JP8</b>	JP8		Pellistor	0-100 % LEL
<b>ATEX1 MTN</b>	Methane	CH <sub>4</sub>	Infrared	0-100 % LEL
<b>ATEX1 PRO</b>	Propane	C <sub>3</sub> H <sub>8</sub>	Infrared	0-100 % LEL
<b>ATEX1 XXXX</b>	Sensor head for exchange			
<b>ATEX2 XXXX</b>	Sensor head for exchange			

### Options:

<b>Relay-set</b>	2 Relay outputs
<b>LCD Display</b>	Display with menu status
<b>Relay-set + LCD Display</b>	Display and Relay Pack

## Electrical connection



We cannot be held responsible for errors in the manual/datasheet and reserve the right to correct any errors and to make product improvements, which may affect the accuracy of the manual/datasheet, without prior notice.