SICK.COM




DATA SHEET

# FTMG-ESD08AXX

FTMg
Flow sensors

SICK Sensor Intelligence




Illustration may differ

## FLOW SENSORS

# FTMG-ESD08AXX

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| FTMG-ESD08AXX | 1143755 |

Further device versions and accessories at www.sick.com/FTMg

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Measurement principle | Calorimetric (flow, temperature), piezoresistive (pressure) |
| Medium | Compressed air (air quality ISO 8573-1:2010 [3:4:4]), Argon, nitrogen, carbon dioxide |
| Measured values | Mass, volume, Mass flow rate, Volumetric flow rate, Energy, Flow velocity, pressure, Temperature |
| Nominal width measuring tube | DN 08 |
| Measuring range | |
| Standard | 1.5 l/min ... 301.6 l/min [1]<br>0.5 m/s ... 100 m/s [1] |
| Enhanced | 301.6 l/min ... 452.4 l/min [1]<br>100 m/s ... 150 m/s [1] |
| Process temperature | –20 °C ... +60 °C |
| Process pressure | 0 bar ... 16 bar [2] |
| Communication interface | MQTT |
| Temperature measurement | ✓ |
| Pressure measurement | ✓ |
| Display | ✓<br>128 x 128 pixels, adjustable rotary OLED display (90° steps) and 4 pushbuttons |

[1] Reference conditions according to DIN 1343 (atmospheric pressure 1,013 mbar, compressed air temperature 0 °C).

[2] Evaluation according to DIN EN 61298-2 best fit straight line.

## PERFORMANCE

| | |
|---|---|
| Maximum flow | ≤ 452 l/min |
| Measurement accuracy | |
| Standard | ± 3 % of the measured value + 0.3% of the measuring range limit value (extended measuring range) [1] |
| Enhanced | ± 8 % of the measured value + 1% of the measuring range limit value (extended measuring range) [1] |
| Repeatability | ± 1.5 % From measured value [1] |
| Response time | < 0.3 s |
| Temperature measurement | |
| Measurement accuracy (temperature) | ± 2 °C [2] |
| Repeatability (temperature) | ± 0.5 °C [2] |
| Pressure measurement | |
| Measurement accuracy (pressure) | ± 1.5 % of measuring range end value |
| Non-linearity (pressure) | ± 0.5 % from measuring range |
| Repeatability (pressure) | ± 0.2 % from measuring range |

[1] Reference conditions during measurement: media conditions: air according to ISO 8573-1:2010 [3:4:4] or better; static pressure = 7 ± 0.2 bar (abs.); medium temperature 22 ± 3 °C; straight inlet zone > 250xDN; average filter can be parameterized by customer: 10 seconds / ambient conditions: ambient temperature 15 °C ... 25 °C; ambient pressure: 1013 mbar / measured value via digital interface.

[2] When flow rate ≥ 10% of the measuring range limit value (standard measuring range).

## ELECTRONICS

| | |
|---|---|
| Power consumption | < 5 W |
| Switch-on time | ≤ 10 s |
| Protection class | ✓ |
| Connection type | 1 x M12 round connector, 8-pin, X-coded |
| Output signal | OPC UA, MQTT, integrated web server, REST API |
| Enclosure rating | IP65 (IEC 60529) [1]<br>IP67 (IEC 60529) [1] |
| MTTF | > 100 years |
| Standard communication | IEEE802.3 Clause 25 (100BaseTx); 100 Mbit/sec |
| Standard supply | Power over Ethernet according to IEEE802.3af |
| Performance class | Class 0; acc. IEEE802.3af Powered Device < 13 W |
| Power supply mode | Mode A and Mode B |

[1] Not UL-tested.

## MECHANICS

| | |
|---|---|
| Process connection | G ¼ (according to DIN ISO 228-1) |
| Wetted parts | Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: aluminum |
| Housing material | PC+ABS, PA66+PA6I GF50, PC, TPE, stainless steel 1.4301 |
| Weight | Approx. 750 g |

## AMBIENT DATA

| | |
|---|---|
| Ambient operating temperature | –20 °C ... +60 °C [1] |
| Ambient temperature, storage | –40 °C ... +80 °C |

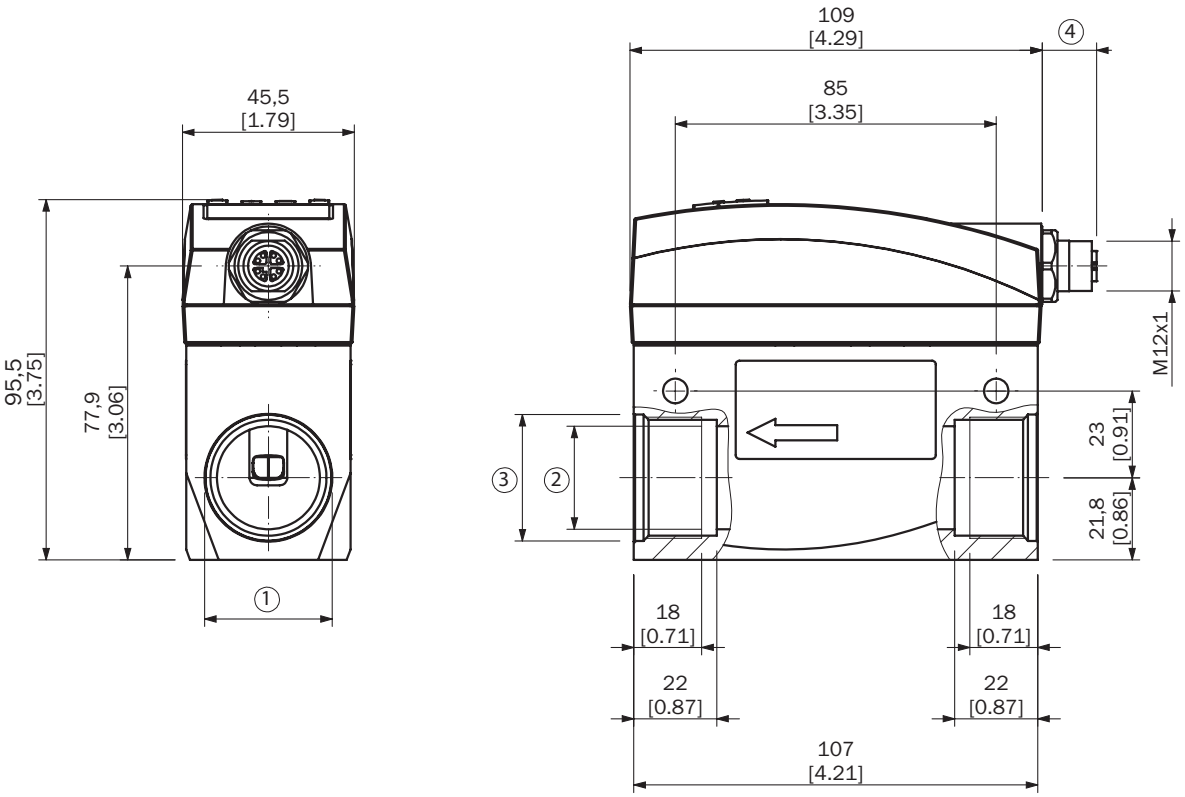
[1] According to the UL approval: degree of contamination 3 (UL61010-1: 2012-05); air humidity: 80% at temperatures up to 31 °C; installation altitude: max. 3,000 m above sea level.

## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |

| | |
|---|---|
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

**DN08, DN15, DN20, DN25; UNIT: MM (INCH), DECIMAL SEPARATOR: PERIOD**




Dimensions in mm (inch)

| Type | DN | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| FT-MG-ISD08AXX | 08 | G 1/4 | Ø 8.8 (Ø 0.35) | Ø 13.5 (Ø 0.53) | 18.5 (0.73) | 17.5 (0.69) | 20.3 (0.80) | 70.9 (2.79) | 88.5 (3.17) |
| FT-MG-ESD08AXX | 08 | G 1/4 | Ø 8.8 (Ø 0.35) | Ø 13.5 (Ø 0.53) | 13.4 (0.53) | 17.5 (0.69) | 20.3 (0.80) | 70.9 (2.79) | 88.5 (3.17) |
| FT-MG-ISD08AXC | 08 | G 1/4 | Ø 8.8 (Ø 0.35) | Ø 13.5 (Ø 0.53) | 18.5 (0.73) | 17.5 (0.69) | 20.3 (0.80) | 70.9 (2.79) | 88.5 (3.17) |
| FT-MG-ESD08AXC | 08 | G 1/4 | Ø 8.8 (Ø 0.35) | Ø 13.5 (Ø 0.53) | 13.4 (0.53) | 17.5 (0.69) | 20.3 (0.80) | 70.9 (2.79) | 88.5 (3.17) |
| FT-MG-ISD15AXX | 15 | G 1/2 | Ø 16.1 (Ø 0.63) | Ø 20.0 (Ø 0.79) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD15AXX | 15 | G 1/2 | Ø 16.1 (Ø 0.63) | Ø 20.0 (Ø 0.79) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ISD15AXC | 15 | G 1/2 | Ø 16.1 (Ø 0.63) | Ø 20.0 (Ø 0.79) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD15AXC | 15 | G 1/2 | Ø 16.1 (Ø 0.63) | Ø 20.0 (Ø 0.79) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ISD20AXX | 20 | G 3/4 | Ø 21.7 (Ø 0.85) | Ø 27.5 (Ø 1.08) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD20AXX | 20 | G 3/4 | Ø 21.7 (Ø 0.85) | Ø 27.5 (Ø 1.08) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |

| Type | DN | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| FT-MG-ISD20AXC | 20 | G 3/4 | Ø 21.7 (Ø 0.85) | Ø 27.5 (Ø 1.08) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD20AXC | 20 | G 3/4 | Ø 21.7 (Ø 0.85) | Ø 27.5 (Ø 1.08) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ISD25AXX | 25 | G 1 | Ø 27.3 (Ø 1.07) | Ø 33.5 (Ø 1.32) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD25AXX | 25 | G 1 | Ø 27.3 (Ø 1.07) | Ø 33.5 (Ø 1.32) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ISD25AXC | 25 | G 1 | Ø 27.3 (Ø 1.07) | Ø 33.5 (Ø 1.32) | 18.5 (0.73) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |
| FT-MG-ESD25AXC | 25 | G 1 | Ø 27.3 (Ø 1.07) | Ø 33.5 (Ø 1.32) | 13.4 (0.53) | 21.8 (0.86) | 23.0 (0.91) | 77.9 (3.06) | 95.5 (3.75) |

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1143755

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# SICK AT A GLANCE

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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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