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Product data sheet



FTMG-ESR40SXX

FTMg

THERMAL FLOW SWITCH

SICK
Sensor Intelligence.

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FTMG-ESR40SXX | FTMg

THERMAL FLOW SWITCH



Illustration may differ

Ordering information

Type	Part no.
FTMG-ESR40SXX	1120114

Other models and accessories → 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, Mass flow rate, volume, Volumetric flow rate, Energy, Flow velocity, pressure, temperature
Nominal width measuring tube	DN 40
Measuring range	
Standard	37.7 l/min ... 7,539.8 l/min [1] 0.5 m/s ... 100 m/s [1]
Enhanced	7,539.8 l/min ... 11,309.7 l/min [1] 100 m/s ... 150 m/s [1]
Process temperature	–20 °C ... +60 °C
Process pressure	0 bar ... 16 bar
Communication interface	MQTT OPC UA
Temperature measurement	✓
Pressure measurement	✓
Indication	✓ 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).

Performance

Measurement accuracy	
Standard	± 6 % of the measured value + 0.6% of the measuring range limit value (extended measuring range) [1]

[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).

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

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Enhanced	± 8 % of the measured value + 0.8% 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 [3]
Non-linearity (pressure)	± 0.5 % from measuring range [3]
Repeatability (pressure)	± 0.2 % from measuring range [3]

[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).

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Electronics

Power consumption	< 5 W
Initialization time	≤ 10 s
Protection class	III
Connection type	1 x M12 round connector, 8-pin, X-coded
Output signal	OPC UA, MQTT, integrated web server
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

Mechanics

Process connection	R 1 ½ male thread
Wetted parts	Probe: stainless steel 1.4305, PA6; seal: FKM (Viton®); measurement channel: stainless steel 1.4301
Housing material	PC+ABS, PA66+PA6I GF50, PC, TPE, stainless steel 1.4301
Enclosure rating	IP65/IP67 (according to IEC 60529) [1]
Weight	Approx. 2.3 kg

[1] Not UL-tested.

Ambient data

Ambient operating temperature	–20 °C ... +60 °C [1]
Ambient temperature, storage	–40 °C ... +85 °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.

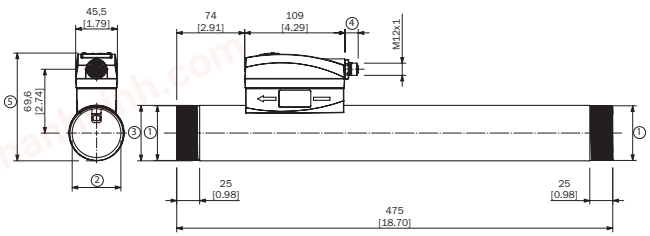
Classifications

ECLASS 5.0	27200403

ECLASS 5.1.4	27200403
ECLASS 6.0	27200403
ECLASS 6.2	27200403
ECLASS 7.0	27200403
ECLASS 8.0	27200403
ECLASS 8.1	27200403
ECLASS 9.0	27200403
ECLASS 10.0	27200403
ECLASS 11.0	27200403
ECLASS 12.0	27200403
ETIM 5.0	EC002580
ETIM 6.0	EC002580
ETIM 7.0	EC002580
ETIM 8.0	EC002580
UNSPSC 16.0901	41112501

Dimensional drawing (Dimensions in mm (inch))

DN40, DN50, unit: mm (inch), decimal separator: period



Type	DN	1	2	3	4	5
FTMG-ISR40SXX	40	R 1 1/2	Ø 41.1	Ø 48.3	18.5	105.1
FTMG-ESR40SXX	40	R 1 1/2	Ø 41.1	Ø 48.3	13.4	105.1
FTMG-ISN40SXX	40	1 1/2" NPT	Ø 41.1	Ø 48.3	18.5	105.1
FTMG-ESN40SXX	40	1 1/2" NPT	Ø 41.1	Ø 48.3	13.4	105.1
FTMG-ISR50SXX	50	R 2	Ø 54.1	Ø 60.3	18.5	117.1
FTMG-ESR50SXX	50	R 2	Ø 54.1	Ø 60.3	13.5	117.1
FTMG-ISN50SXX	50	2" NPT	Ø 54.1	Ø 60.3	18.5	117.1
FTMG-ESN50SXX	50	2" NPT	Ø 54.1	Ø 60.3	13.5	117.1

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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