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DATA SHEET

FTS-I100F14A

T-Easic FTS
Flow sensors

SICK Sensor Intelligence



Illustration may differ

FLOW SENSORS

FTS-I100F14A

ORDERING INFORMATION

Type	part no.
FTS-I100F14A	1091144

Further device versions and accessories at www.sick.com/T-Easic_FTS

DETAILED TECHNICAL DATA

FEATURES

Measurement principle	Calorimetric measurement process
Medium	Water and oil-based liquids
Pipe diameters	≥ 25 mm [1]
Measuring range	3 cm/s ... 300 cm/s, Water 3 cm/s ... 300 cm/s, Oil A / Oil B 3 cm/s ... 600 cm/s, Taught-in media [2]
Process temperature	–40 °C ... +150 °C [3]
Process pressure	–1 bar ... 100 bar, 40 bar (with SICK T-connector DN15, DN25), 25 bar (with SICK T-connector DN40), 20 bar (with SICK T-connector DN50) [4]
Communication interface	IO-Link, IO-Link V1.1, COM3 (230.4 kbit/s)
Temperature measurement	✓
Display	✓ OLED + 3 status LEDs

[1] Place probe tip in the center of the pipe to ensure the highest measurement accuracy.

[2] The measuring range limit value depends on the medium used.

[3] At medium temperatures above 100 °C, the distance between the bottom of the housing and the top of the process connection adapter must be at least 25 mm. If a SICK process connection adapter is used, the 60 mm probe cannot be used at process temperatures above 100 °C because the distances cannot be maintained.

[4] According to the Pressure Equipment Directive 2014/68 / EU: Good engineering practice, according to Article 13 for media of media group 2 (other substances).

PERFORMANCE

Inlet zone	5 x DN
Output zone	3 x DN
Measurement accuracy	± 7 % From measured value + 2% of measuring range end value [1]
Repeatability	< 1 cm/s [1]
Resolution	0.01 m/s Speed; 0.1 L/min volume; 0.1% relative (via IO-Link)
Temperature drift	< 0.5 cm / (s*K) [1]
Response time	< 2.5 s [2]
Temperature measurement	
Measurement accuracy (temperature)	± 1 °C
Resolution (Temperature)	< 0.1 °C
Response time (temperature)	< 5 s [3]
Operating mode	Relative speed (%), Volume flow and total volume, Relative teach (%)

[1] Under reference conditions with water, diameter of inner pipe 25 mm, vertical installation in pipe, probe tip in tube center, fully-filled pipe without air bubbles, speed from 10 cm/s to 100 cm/s, inlet zone > 30 cm, outlet zone > 30 cm, 26 °C ± 1 °C, 2 bar ± 1 bar.

[2] Filter off.

[3] Under reference conditions with water, pipe diameter 25 mm, vertical installation in pipe, tip in pipe center, fully-filled pipe without air bubbles, speed = 100 cm/s, inlet zone > 30 cm, outlet zone < 30 cm, 26 °C ± 1 °C, 2 bar ± 1 bar.

ELECTRONICS

Supply voltage	9 V DC ... 30 V DC [1]
Power consumption	< 2 W at 24 V DC (without load on the outputs) < 8 W At maximum load
Initialization time	≤ 5 s ≤ 10 s (IO-Link)
Protection class	III
Connection type	M12 round connector x 1, 4-pin
Output signal	2 push-pull digital outputs (Q2 configurable for IO-Link; Q2 configurable as pulse output / digital input) for flow and temperature
Output current	< 100 mA [2]
Inductive load	1 H
Capacitive load	100 nF (2.5 nF, IO-Link mode)
EMC	EN 61326-1, EN 61326-2-3
Digital input limit	HIGH voltage dependent on Uv LOW voltage < 4.0 V
MTTF	> 200 years

[1] All connections are reverse polarity and overload protected. Q1 and Q2 are short-circuit protected. Use an energy-limited circuit for the voltage supply as per UL61010-1 3. Outp.

[2] Per output.

MECHANICS

Process connection	Without process connection (adapter needed for installation)
Wetted parts	Stainless steel 1.4404 (Ra ≤ 0,8 µm)
Housing material	VISTAL® (PA66+PA6I GF50)
Enclosure rating	IP67 [1]
Weight	77 g
Probe diameter	8 mm
Probe length	100 mm
Minimum immersion length	12 mm

[1] Only with M12 male connector attached / not UL-tested.

Distance to pipe wall	10 mm

[1] Only with M12 male connector attached / not UL-tested.

AMBIENT DATA

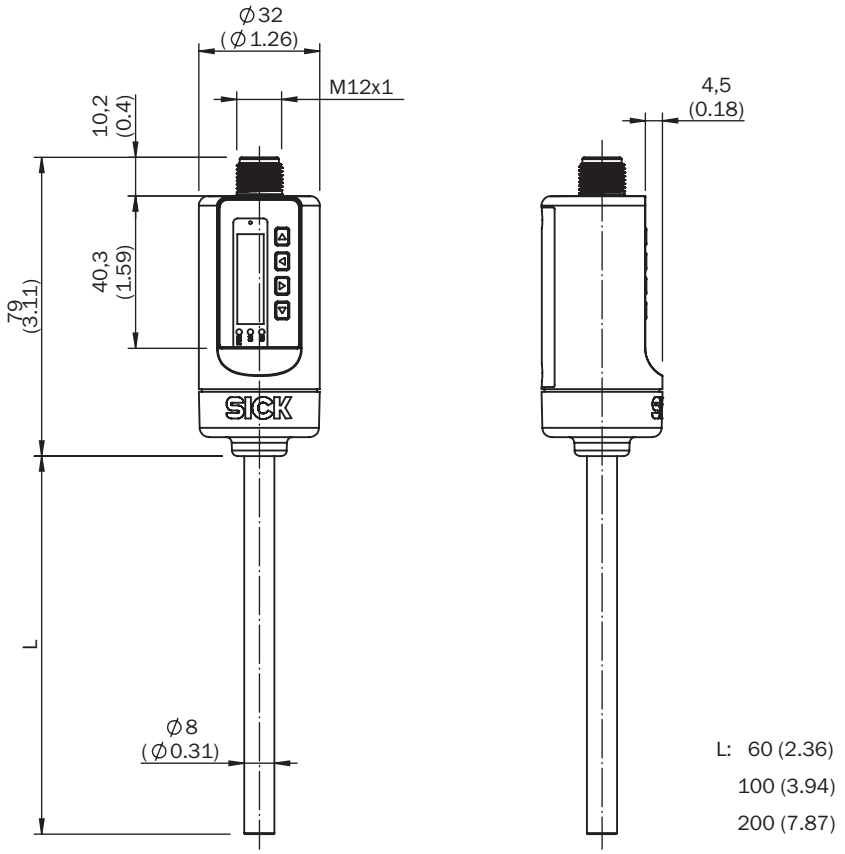
Ambient operating temperature	–40 °C ... +70 °C [1]
Ambient temperature, storage	–40 °C ... +80 °C

[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	✓
cULus certificate	✓
IO-Link certificate	✓
Food contact material manufacturer declaration	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING FTS INDUSTRIAL



Dimensions in mm (inch)

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/1091144

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

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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