



FUM-H015F1CB80000

DOSIC

ULTRASONIC FLOWMETER

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
FUM-H015F1CB80000	1082023

Other models and accessories → www.sick.com/DOSIC

Illustration may differ



Detailed technical data

Features

Measurement principle	Ultrasonic sensor
Measurement	Ultrasonic
Medium	Conductive and non-conductive liquids
Nominal width measuring tube	DN 15
Process temperature	-20 °C ... +95 °C, up to 143 °C for 60 minutes for SIP process (temperature measurement only) ¹⁾
Process pressure	-0.5 bar ... 16 bar
Communication interface	IO-Link, IO-Link V1.1
EHEDG approval	✓
cULus certificate	✓
RoHS certificate	✓
FDA	✓
Temperature measurement	✓

¹⁾ 0 °C ... +95 °C with flow and temperature measurement; up to 143 °C only with temperature measurement.

Performance

Minimum flow	≥ 0.5 l/min
Maximum flow	≥ 80 l/min
Inlet zone	5 x DN (7.5 cm)
Output zone	3 x DN (4.5 cm)
Conductivity	No limitation
Measurement accuracy	

¹⁾ Under the following reference conditions: water 26 °C ± 2 K, 2.5 bar ± 0.5 bar, standard settings, DN15: 8 l/min ... 80 l/min, DN25: 25 l/min ... 250 l/min.

	± 1 % From measured value ¹⁾
Repeatability	0.5 %
Resolution	10 ml/min
Response time	12 ms

¹⁾ Under the following reference conditions: water 26 °C ± 2 K, 2.5 bar ± 0.5 bar, standard settings, DN15: 8 l/min ... 80 l/min, DN25: 25 l/min ... 250 l/min.

Electronics

Supply voltage	12 V DC ... 30 V DC ¹⁾
Power consumption	< 3 W without output load
Initialization time	≤ 5 s
Protection class	III
Connection type	M12 round connector x 1, 8-pin
Output signal	2 x analog output: 4 mA ... 20 mA, 2 x digital input or output (configurable) ^{2) 3)}
Output load	4 mA ... 20 mA, 500 ohms when U _v > 15 V, 350 ohms when U _v > 12 V
Lower signal level	3.5 mA ... 3.8 mA
Upper signal level	21.5 mA ... 20.5 mA
Digital output	≤ 100 mA
Impulse output signal	50 μs ... 2 s
Impuls/frequency output	0 kHz ... 10 kHz
Inductive load	< 1 H
Capacitive load	< 100 nF < 2.5 nF (IO-Link)
EMC	EN 61326-1, EN 61326-2-3
Limit digital inputs	HIGH state voltage > 16.0 V, LOW state voltage < 4.0 V
MTTF	> 63 years

¹⁾ All connections are reverse polarity protected. Q_A and Q_B are short-circuit protected. Q₁ and Q₂ are short-circuit protected.

²⁾ Digital output configuration: PNP/NPN/push-pull/open collector.

³⁾ Selectable analog output: flow/temperature.

Mechanics

Process connection	Clamp (DIN 32676) DN 15
Wetted parts	Stainless steel 1.4404 (Ra ≤ 0,8 μm)
Housing material	Stainless steel 1,4305
Housing design	With viewing window made from PMMA (acrylic glass)
Enclosure rating	IP67/IP69 (DIN EN 60529)
Weight	2 kg

Ambient data

Ambient operating temperature	0 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +80 °C

Classifications

ECLASS 5.0	27200412
ECLASS 5.1.4	27200412
ECLASS 6.0	27200412

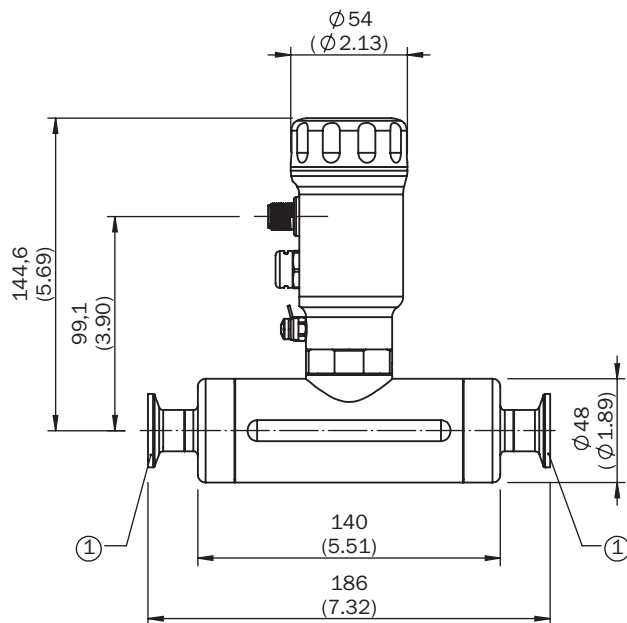
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ULTRASONIC FLOWMETER

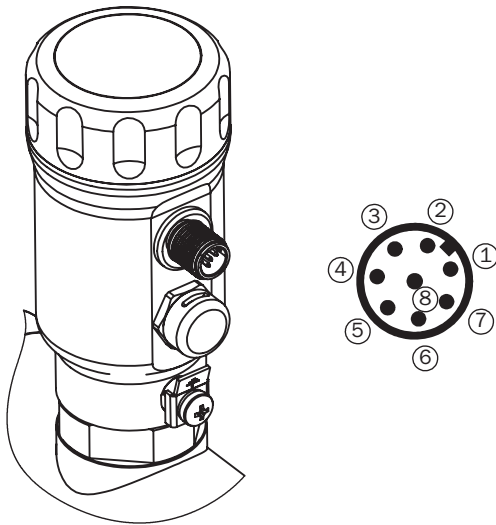
ECLASS 6.2	27200412
ECLASS 7.0	27200412
ECLASS 8.0	27200412
ECLASS 8.1	27200412
ECLASS 9.0	27200412
ECLASS 10.0	27200412
ECLASS 11.0	27200412
ECLASS 12.0	27200412
ETIM 5.0	EC002580
ETIM 6.0	EC002580
ETIM 7.0	EC002580
ETIM 8.0	EC002580
UNSPSC 16.0901	41112501

Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing process connection






Connection type








- ① L⁺: Supply voltage
- ② Q2: Switching output/input 2, PNP/NPN/push-pull/open collector/frequency/pulse output
- ③ M: Ground, reference potential for current output
- ④ C/Q1: Switching output/input 1, PNP/NPN/push-pull/open collector/IO-Link communication
- ⑤ No function
- ⑥ No function
- ⑦ Q_A: analog current output 4 mA ... 20 mA
- ⑧ Q_B: analog current output 4 mA ... 20 mA

Recommended accessories

Other models and accessories → www.sick.com/DOSIC

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
Spare parts			
	Cover closed, material 1.4305	Cover closed	2067269
Plug connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A18-020UA5XLEAX	2095652
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A18-050UA5XLEAX	2095653

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A18-100UA5XLEAX	2095654
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 8-wire, PVC • Description: Sensor/actuator cable, shielded • Application: Zones with chemicals 	YF2A28-020VA6XLEAX	2096243
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 8-wire, PVC • Description: Sensor/actuator cable, shielded • Application: Zones with chemicals 	YF2A28-050VA6XLEAX	2096244
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 8-wire, PVC • Description: Sensor/actuator cable, shielded • Application: Zones with chemicals 	YF2A28-100VA6XLEAX	2096245
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A18-020UA5XLEAX	2095779
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A18-050UA5XLEAX	2095780
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 8-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A18-100UA5XLEAX	2095781
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 8-wire, PVC • Description: Sensor/actuator cable, shielded • Application: Zones with chemicals 	YG2A28-020VA6XLEAX	2096218
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 8-wire, PVC • Description: Sensor/actuator cable, shielded • Application: Zones with chemicals 	YG2A28-050VA6XLEAX	2096219

Recommended services

Additional services → www.sick.com/DOSIC

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"> • Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found <a _blank"="" href="https://fbf.cloud.sick.com target=">here. • Note: You can configure your function block at <a _blank"="" href="https://fbf.cloud.sick.com target=">Function Block Factory. As a login please use your SICK ID. 	Function Block Factory	On request

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

WORLDWIDE PRESENCE:

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