



FUM-H025F1CD50000

DOSIC®

FLOW SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
FUM-H025F1CD50000	1082027

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

Detailed technical data

Features

Measurement principle	Ultrasonic sensor
Measurement	Ultrasonic
Medium	Conductive and non-conductive liquids
Nominal width measuring tube	DN 25
Process temperature	0 °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 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	≥ 1.5 l/min
Maximum flow	0 l/min ... 250 l/min
Inlet zone	5 x DN (12.5 cm)
Output zone	3 x DN (7.5 cm)

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.

²⁾ Nominal volume between 100 mL and 2000 mL; DN15; 26 °C ± 2 K; settings (differ from default settings): Q2Func Pulse; Meas Mode Dynamic; Filter Off; Set (Cut-Off) 0.15 mL/min; Reset (CutOff) 0,05 L/min; PlsVal 100 µL).

Conductivity	No limitation
Accuracy of sensor element	$\pm 1 \%$ From measured value ¹⁾
Standard deviation	$\sigma_V \leq 0.7 \%$ of measured volume ²⁾
Reproducibility	0.5 %
Resolution	10 ml/min
Response time	12 ms

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

²⁾ Nominal volume between 100 mL and 2000 mL; DN15; 26 °C \pm 2 K; settings (differ from default settings): Q2Func Pulse; Meas Mode Dynamc; Filter Off; Set (CutOff) 0.15 mL/min; Reset (CutOff) 0,05 L/min; PlsVal 100 µL).

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	Round connector M12 x 1, 5-pin
Output signal	1 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
Signal voltage HIGH	> ($U_v - 4$ V)
Signal voltage LOW	< 3 V
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 is 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 25
Wetted parts	Stainless steel 1.4404 ($R_a \leq 0,8 \mu\text{m}$)
Housing material	Stainless steel 1,4305
Housing design	With viewing window made from PMMA (acrylic glass)
Enclosure rating	IP67/IP69 (DIN EN 60529)
Weight	Approx. 3 kg

Ambient data

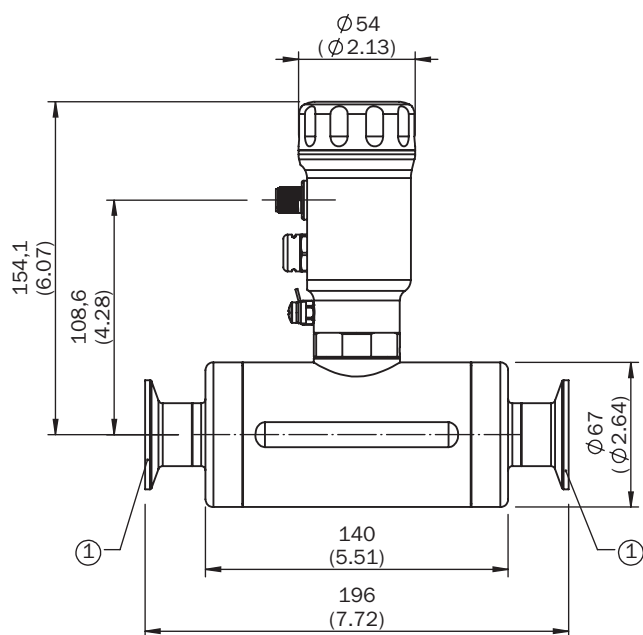
Ambient operating temperature	0 °C ... +60 °C
Ambient storage temperature	-40 °C ... +80 °C

Classifications

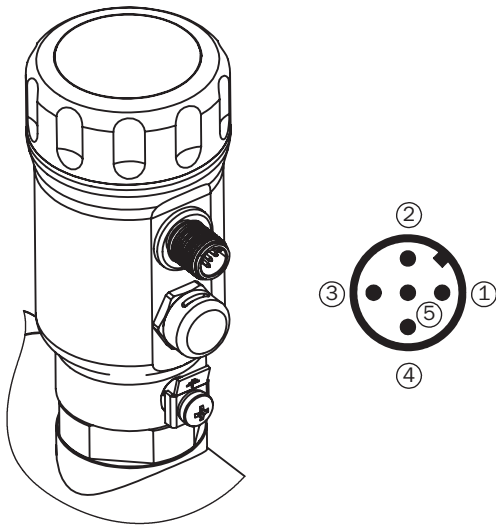
ECl@ss 5.0	27371815
ECl@ss 5.1.4	27371815
ECl@ss 6.0	27371815
ECl@ss 6.2	27371815
ECl@ss 7.0	27371815
ECl@ss 8.0	27371815
ECl@ss 8.1	27371815
ECl@ss 9.0	27371815
ETIM 5.0	EC002580
ETIM 6.0	EC002580
UNSPSC 16.0901	41112501

Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing process connection





Connection type



- ① L⁺: Supply voltage
- ② Q_A: analog current output 4 mA ... 20 mA
- 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 Q2: Switching output/input 2, PNP/NPN/push-pull/open collector/frequency/pulse output

Recommended accessories

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

	Brief description	Type	Part no.
Modules and gateways			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: PVC, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-1205-G02MNI	6052625
	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: PVC, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-1205-G05MNI	6052626
	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: PVC, unshielded, 10 m This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-1205-G10MNI	6052627

	Brief description	Type	Part no.
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YF2A15-020UB5XLEAX	2095617
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A15-020VB5XLEAX	2096239
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YF2A15-050UB5XLEAX	2095618
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A15-050VB5XLEAX	2096240
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YF2A15-100UB5XLEAX	2095619
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YF2A15-100VB5XLEAX	2096241
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m	YG2A15-020UB5XLEAX	2095772
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A15-020VB5XLEAX	2096215
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m	YG2A15-050UB5XLEAX	2095773
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG2A15-050VB5XLEAX	2096216
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 10 m	YG2A15-100UB5XLEAX	2095774
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YG2A15-100VB5XLEAX	2096217
Spare parts			
	Cover closed, material 1.4305	Cover closed	2067269

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:

Contacts and other locations –www.sick.com