



FUM-H015F1GC80000

DOSIC

FLOW SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
FUM-H015F1GC80000	1082024

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

Detailed technical data

Features

Measurement principle	Ultrasonic sensor
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
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
Inlet zone	5 x DN (7.5 cm)
Output zone	3 x DN (4.5 cm)
Conductivity	No limitation
Measurement accuracy	± 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

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.

Switch-on time	≤ 5 s
Protection class	✓
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	20.5 mA ... 21.5 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)
Enclosure rating	IP67 (according to DIN EN 60529) IP69 (according to DIN EN 60529)
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. Q_1 and Q_2 are short-circuit protected.

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

³⁾ Selectable analog output: flow/temperature.

Mechanics

Process connection	G 3/4
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)
Weight	Approx. 2 kg

Ambient data

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

Classifications

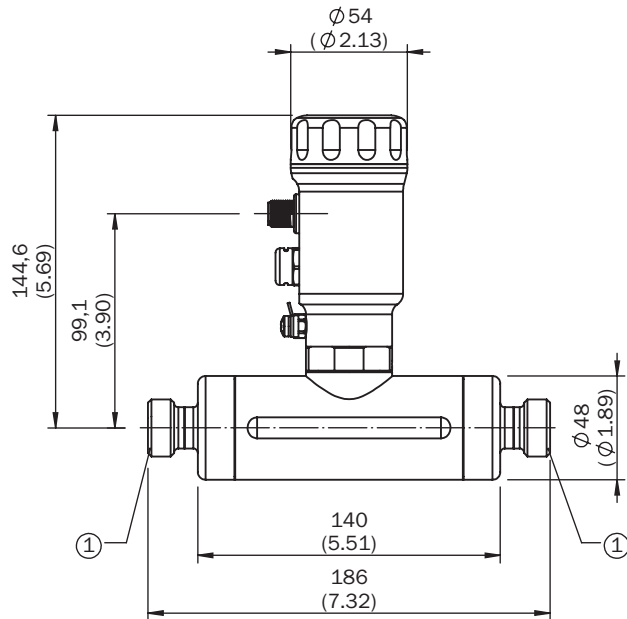
ECLASS 5.0	27200412
ECLASS 5.1.4	27200412
ECLASS 6.0	27200412
ECLASS 6.2	27200412
ECLASS 7.0	27200412
ECLASS 8.0	27200412
ECLASS 8.1	27200412
ECLASS 9.0	27200412
ECLASS 10.0	27200412
ECLASS 11.0	27200412

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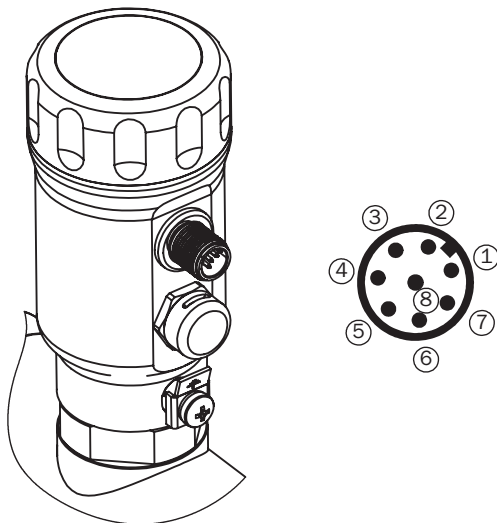
ECLASS 12.0	27200412
ETIM 5.0	EC002580
ETIM 6.0	EC002580
ETIM 7.0	EC002580
ETIM 8.0	EC002580
UNSPSC 16.0901	41112501

Dimensional drawing process connection



Dimensions in mm (inch)



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.
device protection and care			
	<ul style="list-style-type: none"> • Description: Cover closed, material 1.4305 	Cover closed	2067269
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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 Application: Untaminated zones, Zones with chemicals 	YF2A28-020VA6XLEAX	2096243
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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 Application: Untaminated zones, Zones with chemicals 	YF2A28-050VA6XLEAX	2096244
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A18-020UA5XLEAX	2095652
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A18-050UA5XLEAX	2095653
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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 Application: Untaminated zones, Zones with chemicals 	YF2A28-100VA6XLEAX	2096245
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A18-100UA5XLEAX	2095654
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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 Application: Untaminated zones, Zones with chemicals 	YG2A28-020VA6XLEAX	2096218
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-020UA5XLEAX	2095779
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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 Application: Untaminated zones, Zones with chemicals 	YG2A28-050VA6XLEAX	2096219
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-050UA5XLEAX	2095780
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 	YG2A18-100UA5XLEAX	2095781

	Brief description	Type	part no.
	<ul style="list-style-type: none"> Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.5 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YG2A28-C50VA6XLEAX	2145694
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YF2A28-030VA6XLEAX	2145695
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 8-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-C60UA5XLEAX	2145381
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 8-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-010UA5XLEAX	2145382
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 8-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-030UA5XLEAX	2145383
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YG2A28-C60VA6XLEAX	2145388
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YG2A28-010VA6XLEAX	2145389
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded 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, PVC Application: Uncontaminated zones, Zones with chemicals 	YG2A28-100VA6XLEAX	2145391
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YG2A28-030VA6XLEAX	2145390
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 8-wire, PVC Application: Uncontaminated zones, Zones with chemicals 	YF2A28-C60VA6XLEAX	2145385
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, shielded Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 8-wire, PVC 	YF2A28-010VA6XLEAX	2145386

	Brief description	Type	part no.
	<ul style="list-style-type: none"> • Application: Uncontaminated zones, Zones with chemicals • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M12, 8-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 15 m, 8-wire, PUR, halogen-free • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A18-150UA5XLEAX	2149335

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.”

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