



# FUM-H015F1CB80000

DOSIC

FLOW SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
FUM-H015F1CB80000	1082023

Other models and accessories → [www.sick.com/DOSIC](http://www.sick.com/DOSIC)

Illustration may differ



### Detailed technical data

#### Features

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

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

#### Performance

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

<sup>1)</sup> 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 <sup>1)</sup>
<b>Repeatability</b>	0.5 %
<b>Resolution</b>	10 ml/min
<b>Response time</b>	12 ms

<sup>1)</sup> 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

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

<sup>1)</sup> All connections are reverse polarity protected. Q<sub>A</sub> and Q<sub>B</sub> are short-circuit protected. Q<sub>1</sub> and Q<sub>2</sub> are short-circuit protected.

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

<sup>3)</sup> Selectable analog output: flow/temperature.

## Mechanics

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

## Ambient data

<b>Ambient operating temperature</b>	0 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +80 °C

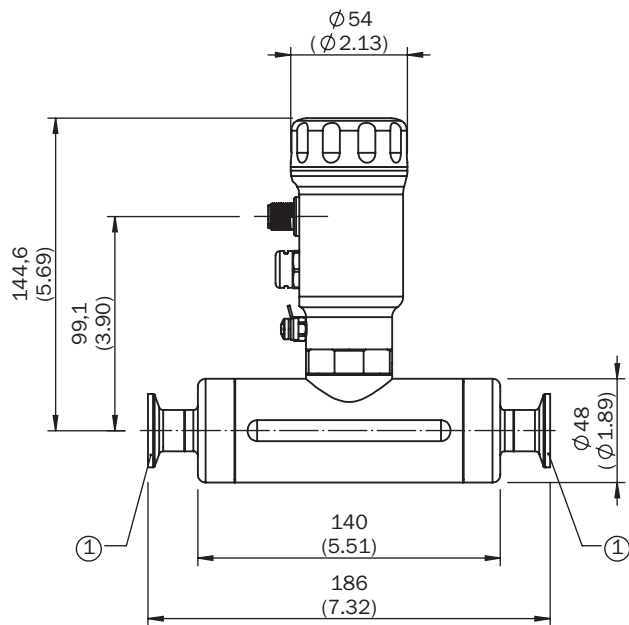
## Classifications

<b>ECLASS 5.0</b>	27200412
<b>ECLASS 5.1.4</b>	27200412
<b>ECLASS 6.0</b>	27200412

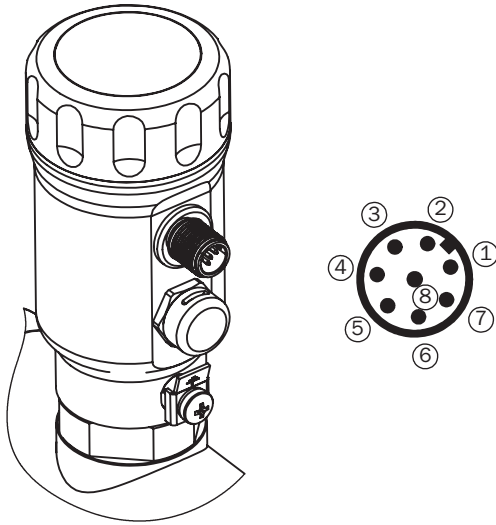
<b>ECLASS 6.2</b>	27200412
<b>ECLASS 7.0</b>	27200412
<b>ECLASS 8.0</b>	27200412
<b>ECLASS 8.1</b>	27200412
<b>ECLASS 9.0</b>	27200412
<b>ECLASS 10.0</b>	27200412
<b>ECLASS 11.0</b>	27200412
<b>ECLASS 12.0</b>	27200412
<b>ETIM 5.0</b>	EC002580
<b>ETIM 6.0</b>	EC002580
<b>ETIM 7.0</b>	EC002580
<b>ETIM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

### Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing process connection







Connection type












- ① L<sup>+</sup>: 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<sub>A</sub>: analog current output 4 mA ... 20 mA
- ⑧ Q<sub>B</sub>: analog current output 4 mA ... 20 mA

Recommended accessories

Other models and accessories → [www.sick.com/DOSIC](http://www.sick.com/DOSIC)

	Brief description	Type	Part no.
<b>Connection modules</b>			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
<b>Spare parts</b>			
	Cover closed, material 1.4305	Cover closed	2067269
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A28-020VA6XLEAX	2096243
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A28-050VA6XLEAX	2096244

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A18-020UA5XLEAX	2095652
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A18-050UA5XLEAX	2095653
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A28-100VA6XLEAX	2096245
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YF2A18-100UA5XLEAX	2095654
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YG2A28-020VA6XLEAX	2096218
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 2 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YG2A18-020UA5XLEAX	2095779
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 8-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, shielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YG2A28-050VA6XLEAX	2096219
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YG2A18-050UA5XLEAX	2095780
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 8-pin, angled, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 10 m, 8-wire, PUR, halogen-free</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with oils and lubricants, Drag chain operation, Robot</li> </ul>	YG2A18-100UA5XLEAX	2095781

### Recommended services

Additional services → [www.sick.com/DOSIC](http://www.sick.com/DOSIC)

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

Contacts and other locations –[www.sick.com](http://www.sick.com)