



Flow sensors  
Ultrasonic flowmeter

FFUC20-1G1SR



**Model Name** > **FFUC20-1G1SR**  
**Part No.** > **6052238**



*Illustration may differ*

**At a glance**

- Flow sensor for conductive and non-conductive liquids
- Compact design with no moving parts
- Process temperature up to 80 °C, process pressure up to 16 bar
- High chemical resistance due to seal-free sensor design
- Large display with membrane keyboard
- Integrated teaching tube detection

**Your benefits**

- Reduced maintenance costs
- Adjustable measuring ranges reduces the number of variants
- Ability to be used with conductive and non-conductive liquids reduces variants and lowers storage costs
- Straight measuring tube reduces pressure loss, thus reducing energy costs
- Sensor without seals increases process reliability and availability
- Flexible measurement system for all industries



**Features**

Medium:	Fluids
Nominal width measuring tube:	NW 20
Process temperature:	0 °C ... +80 °C
Process pressure:	Max. 10 bar

**Performance**

Minimum flow:	3.5 l/min
Maximum flow:	60 l/min
Inlet zone:	50 cm
Outlet zone:	10 cm
Conductivity:	No limitation
Accuracy of sensor element:	1 % (of reading +/- 3 mm/s (with calibration report)) <sup>1)</sup>
Repeatability:	≤ 0.5 %
Resolution:	0.012 l/min

<sup>1)</sup> Reference condition: water, gas-free, fully-filled measuring tube, no cavitation, Medium temperature 20 °C, ambient temperature 20 °C ... 25 °C, compliance with the inlet zone and outlet zone, warm-up time electronic: 30 min

## Mechanical data

---

Process connection:	G 1
Wetted parts:	PSU
Housing material:	PSU
Weight:	420 g
Enclosure rating:	IP 67

## Electrical data

---

Supply voltage:	18 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	$\leq 5$ Vpp <sup>2)</sup>
Power consumption:	$\leq 180$ mA <sup>3)</sup>
Initialization time:	$\leq 5$ s
Protection class:	III
Electrical connection:	Round connector M12 x 1, 8-pin
Output signal:	Analog output: 4 mA ... 20 mA, 0 mA ... 20 mA current flow and temperature 2 pulse/status output: transistor output for flow rate meter, empty pipe detection, flow monitoring 1 switching input for dosing and counter reset <sup>4)</sup>
Impuls/frequency output:	0 kHz ... 10 kHz
Puls width:	$\leq 1$ s
Signal voltage HIGH:	Vs - 2 V
Signal voltage LOW:	$\leq 2$ V
Output current:	$< 100$ mA <sup>5)</sup>
Inductive load:	1 H
Capacitive load:	100 nF
Response time:	Filter off 100 ms, filter low 300 ms, filter medium 1 s, filter strong 4.2 s <sup>6)</sup>
Output load:	$< 500$ Ohm
Lower signal level:	3.8 mA ... 4 mA
Upper signal level:	20 mA ... 20.5 mA

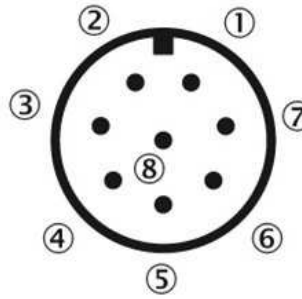
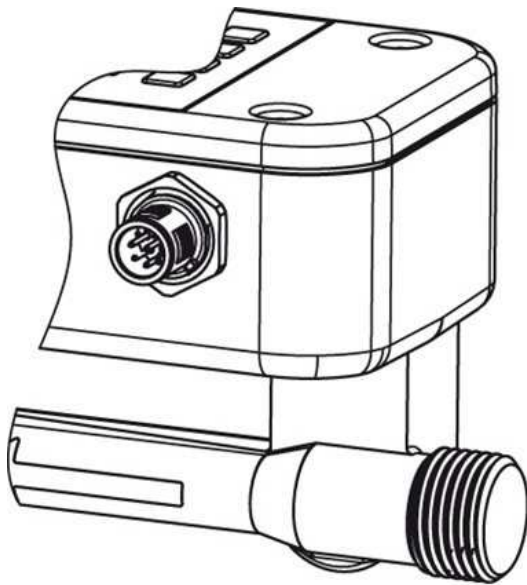
<sup>1) 4)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected. <sup>2)</sup> May not exceed or fall below  $U_V$  tolerances <sup>3)</sup> Without load <sup>5)</sup> There are 100 mA for each output pnp and npn available. <sup>6)</sup> Analog output and display

## Ambient data

---

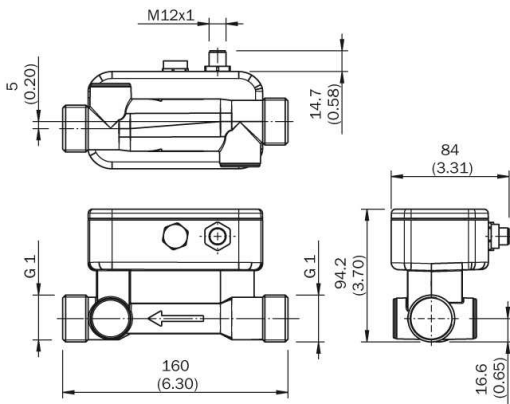
Ambient temperature operation:	0 °C ... +60 °C
Ambient storage temperature:	-20 °C ... +70 °C

## Connection type



- |1| L+: Supply voltage
- |2| Q1: Digital output PNP/NPN
- |3| M: Ground
- |4| Q2: Digital output PNP/NPN
- |5| QA: Analog current output
- |6| C/Q1: With IO-Link: Communication/ switching output 1
- |7| IN1: Digital input
- |8| No function

## Dimensional drawing



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)