

Flow sensors

**SU8000**

SUR11HGBFRKG/W/US  
 Ultrasonic volumetric flow sensor  
 Connector  
 Process connection: G1 flat seal

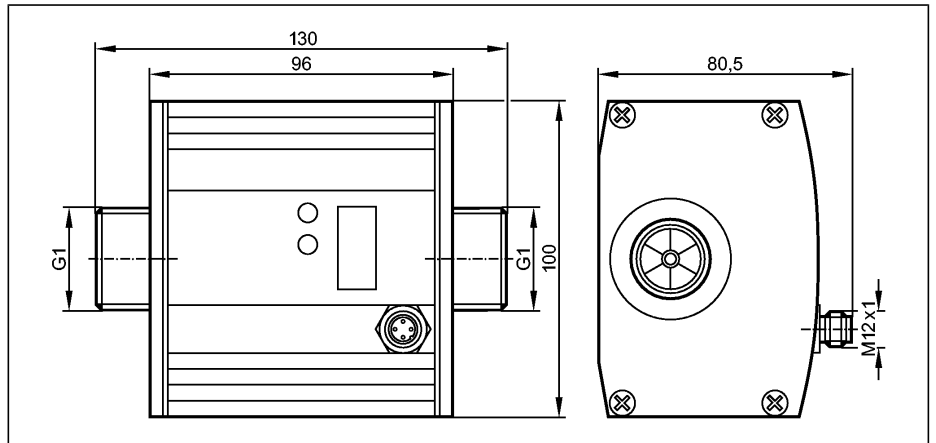
Function programmable  
 Totalizer function  
 2 outputs

OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)

OUT2 = flow monitoring or temperature monitoring (analogue or binary)

Input for counter reset  
 Measuring range  
 0...100 l/min  
 -10...80 °C

Maximum permissible flow rate  
 110 l/min (6.6 m³/h)  
 connection to pipe by means of an adapter



Made in Germany

<b>Application</b>
<b>Electrical design</b>
<b>Output</b>

<b>liquids: water, glycol solutions, oils (viscosity: ≤ 68 mm²/s at 40°C)</b>
<b>DC PNP/NPN</b>
<b>OUT1: normally open / closed programmable or pulse</b>
<b>OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scaleable)</b>

Operating voltage [V]	
Current rating [mA]	
Short-circuit protection	
Reverse polarity protection	
Overload protection	
Voltage drop [V]	
Current consumption [mA]	
Power-on delay time [s]	
Analogue output	
Pulse output	
Pulse value	
Pulse length [s]	

19...30 DC 1)
2 x 250
pulsed
yes
yes
< 2
100
10
4...20 mA (max. 500 Ω) / 0...10 V (min. 2000 Ω)
flow rate meter
0.1 l...1 000 000 m³
min. 0.025 / max. 2

<b>Flow monitoring</b>	
Display range	
Measuring range	
Resolution	

0.0...120.0 l/min	0.000...7.200 m³/h
0.0...100.0 l/min	0.000...6.000 m³/h
0.1 l/min	0.005 m³/h

<b>Setting range</b>	
Set point, SP	
Reset point, rP	
Analogue start point, ASP	
Analogue end point, AEP	
in steps of	

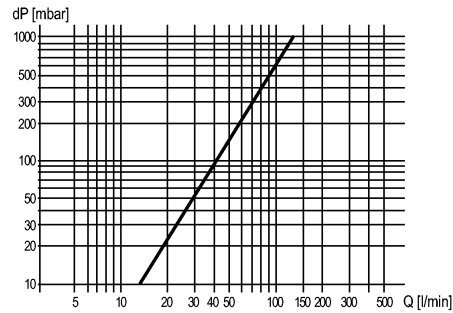
0.2...100.0 l/min	0.010...6.000 m³/h
0.0...99.8 l/min	0.000...5.990 m³/h
0.0...80.0 l/min	0.000...4.800 m³/h
20.0...100.0 l/min	1.200...6.000 m³/h
0.1 l/min	0.005 m³/h

Damping, dAP [s]	
Response time [s]	
Start-up delay [s]	
Accuracy	
Repeatability	

0.0...1.0
< 0.250 (dAP = 0)
0...50
< ± (3% MW + 0.2% MEW) *) / < ± (5% MW + 0.5% MEW) **)
0.2 l/min; 12 l/h; 0.012 m³ /h

**SU8000**

Pressure loss (dP) / flow rate (Q)



**Temperature monitoring**

Measuring range	[°C]	-10...80.0
Resolution	[°C]	0.2
<b>Setting range</b>		
Set point, SP	[°C]	-9.8...80.0
Reset point, rP	[°C]	-10.0...79.8
Analogue start point, ASP	[°C]	-10.0...62.0
Analogue end point, AEP	[°C]	8.0...80.0
in steps of	[°C]	0.2
Response time	[s]	T09 = 70 (Q > 5 l/min) *)
Accuracy	[°C]	± 3 (Q > 1 l/min)
Ambient temperature	[°C]	-10...60
Medium temperature	[°C]	-10...80
Storage temperature	[°C]	-25...80
Protection		IP 67, III
Insulation resistance	[MΩ]	> 100 (500 V DC)
Pressure rating	[bar]	16
Shock resistance		DIN IEC 68-2-27: 20 g (11 ms)
Vibration resistance		DIN IEC 68-2-6: 5 g (10...2000 Hz)
EMC		EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 0.5 kV EN 61000-4-6 HF conducted: 10 V
MTTF	[Years]	185
Housing materials		housing: AlMgSi0.5 anodised; sealing: Viton; connector housing: brass Optalloy-plated; PA 6.6; cover film: polyamide
Materials (wetted parts)		stainless steel 316L / 1.4404; Viton; PES; Centellen 200
Display		Display unit 6 x LED green (l/min, m³/h, l, m³, 10³, °C) Switching status 2 x LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display
Connection		M12 connector; gold-plated contacts
Weight	[kg]	1.331
Remarks		1) to EN50178, SELV, PELV *) for water **) for glycol solutions (35%) and oils (viscosity: 68 mm²/s at 40°C) MW = measured value MEW = final value of the measuring range sealing: only with supplied Centellen seals

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Accessories (included)	2 x packing washer (Centellen)
Accessories (optional)	adapter order no. E40179 (for R½ pipe, high-grade stainless steel) order no. E40180 (for R¾ pipe, high-grade stainless steel) order no. E40152 (for R½ pipe, brass) order no. E40153 (for R¾ pipe, brass)

**Wiring**

- OUT1: 3 selection options
- switching output volumetric flow monitoring
  - pulse output volumetric flow
  - switching output preset counter
- OUT2/InD: 5 selection options
- switching output volumetric flow monitoring
  - switching output temperature monitoring
  - analogue output volumetric flow
  - analogue output temperature
  - input for an external reset signal

