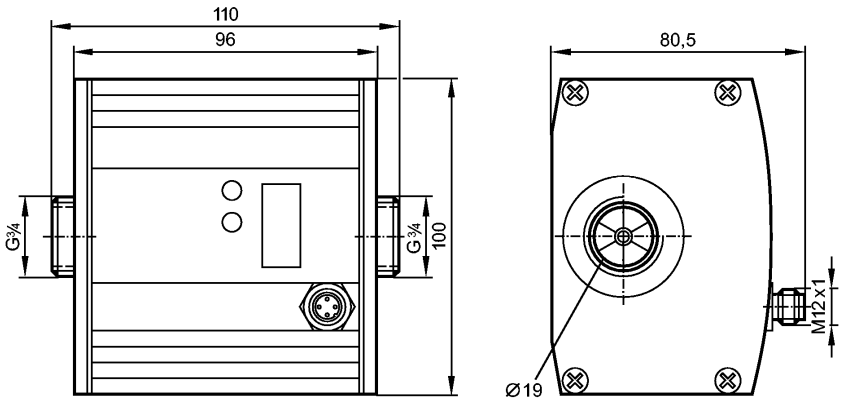
efector300

SU7000

SUR34HGBFRKG/W/US-100-IPF

Flow sensors



Product characteristics

Ultrasonic flow meter

Quick disconnect

Process connection: G¾ 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 (analog or binary)

Input for counter reset

Measuring range
0...50 l/min

-10...80 °C

Maximum permissible flow rate

60 l/min (3.6 m³/h)

connection to pipe by means of an adapter

Application

Application		Liquids of the fluid group 2 according to the Pressure Equipment Directive (PED): water, glycol solutions, oils (low-viscosity oils with viscosity 7...40 mm²/s at 40°C; high-viscosity oils with viscosity 30...68 mm²/s at 40°C)
Pressure rating	[bar]	16
Medium temperature	[°C]	-10...80

Electrical data

Electrical design		DC PNP/NPN
Operating voltage	[V]	19...30 DC [1])
Current consumption	[mA]	100
Insulation resistance	[MΩ]	> 100 (500 V DC)
Protection class		III
Reverse polarity protection		yes

Outputs

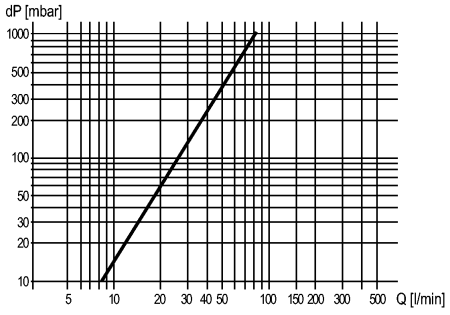
Output function		OUT1: normally open / closed programmable or pulse OUT2: normally open / closed programmable or analog (4...20 mA / 0...10 V, scaleable)
Current rating	[mA]	2 x 250

Voltage drop [V]	< 2	
Short-circuit protection	yes (non-latching)	
Overload protection	yes	
Analog output	4...20 mA; 0...10 V	
Max. load [Ω]	500	
Min. load [Ω]	2000	
Pulse output	flow rate meter	

Measuring / setting range

Flow monitoring		
Measuring range	0.0...50.0 l/min	0.000...3.000 m³/h
Display range	0.0...60.0 l/min	0.000...3.600 m³/h
Resolution	0.1 l/min	0.005 m³/h
Set point, SP	0.1...50.0 l/min	0.005...3.000 m³/h
Reset point, rP	0.0...49.9 l/min	0.000...2.995 m³/h
Analog start point, ASP	0.0...40.0 l/min	0.000...2.400 m³/h
Analog end point, AEP	10.0...50.0 l/min	0.600...3.000 m³/h
in steps of	0.1 l/min	0.005 m³/h
Volumetric flow quantity monitoring		
Pulse value	0.1 l...1 000 000 m³	
Pulse length [s]	0.05...2	
Temperature monitoring		
Measuring range [°C]	-10...80.0	
Resolution [°C]	0.2	
Set point, SP [°C]	-9.8...80.0	
Reset point, rP [°C]	-10.0...79.8	
Analog start point, ASP [°C]	-10.0...62.0	
Analog end point, AEP [°C]	8.0...80.0	
in steps of [°C]	0.2	

Accuracy / deviations

Flow monitoring	
Accuracy	< ± (3% MW + 0.2% MEW) *) / < ± (5% MW + 0.5% MEW) **)
Repeatability	0.1 l/min; 6 l/h; 0.006 m³/h
Pressure loss (dP) / flow rate (Q)	
Temperature monitoring	
Accuracy [K]	± 3 (Q > 1 l/min)

Reaction times

Power-on delay time [s]	10
Flow monitoring	

SU7000

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Start-up delay	[s]	0...50
Response time	[s]	< 0.250 (dAP = 0)
Damping, dAP	[s]	0.0...1.0
Temperature monitoring		
Response time	[s]	T09 = 70 (Q > 5 l/min) *)

Environment

Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
Protection		IP 67

Tests / approvals

Pressure equipment directive		article 3, section 3 - sound engineering practice
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
Shock resistance		DIN IEC 68-2-27: 20 g (11 ms)
Vibration resistance		DIN IEC 68-2-6: 5 g (10...2000 Hz)
MTTF	[Years]	175

Mechanical data

Process connection		G¾ flat seal
Materials (wetted parts)		stainless steel 316L / 1.4404; Viton; PES; Centellen 200
Housing materials		housing: AlMgSi0.5 anodized; sealing: Viton; connector housing: brass Optalloy-plated; PA 6.6; cover film: polyamide
Weight	[kg]	1.555

Displays / operating elements

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

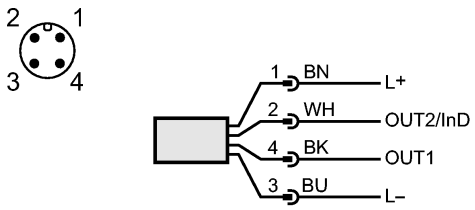
Electrical connection

Connection		M12 connector; gold-plated contacts

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
- analog output volumetric flow
- analog output temperature
- input for an external reset signal



Accessories

Accessories (included)		2 x packing washer (Centellen)
Accessories (optional)		adapter; order no. E40178 (for R½ pipe, high-grade stainless steel); order no. E40151 (for R½ pipe, brass)

Remarks

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
Pack quantity [piece]	1