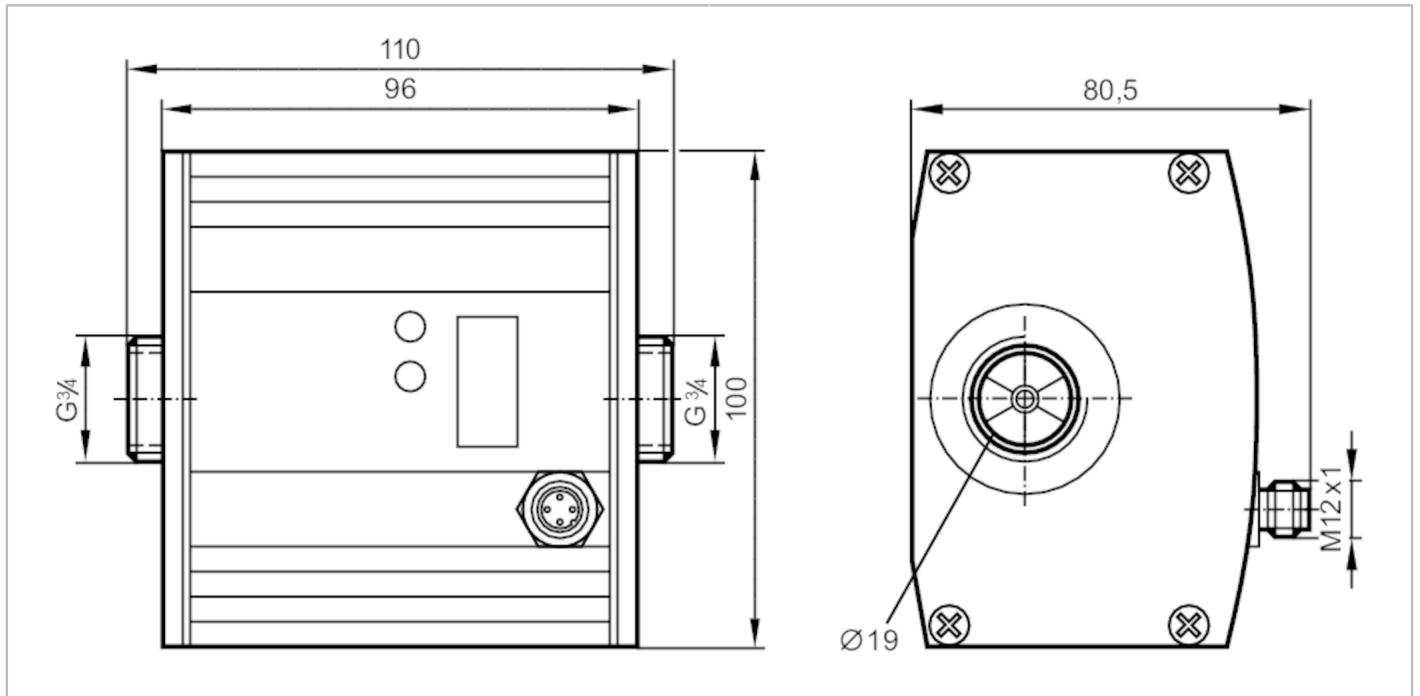


SU7000



Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	0...50 l/min	0...3 m ³ /h
Process connection	threaded connection G 3/4 flat seal	

Application

System	gold-plated contacts	
Application	Totalizer function; for industrial applications	
Installation	connection to pipe by means of an adapter	
Media	water; glycol solutions; Coolants; oils	
Note on media	low-viscosity oils with viscosity: 7...40 mm ² /s (40 °C) high-viscosity oils with viscosity: 30...68 mm ² /s (40 °C)	
Medium temperature [°C]	-10...80	
Pressure rating	16 bar	1.6 MPa

Electrical data

Operating voltage [V]	19...30 DC; (to SELV/PELV)	
Current consumption [mA]	100	
Min. insulation resistance [MΩ]	100; (500 V DC)	
Protection class	III	
Reverse polarity protection	yes	
Power-on delay time [s]	10	

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
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Inputs

Inputs	counter reset	
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Outputs		
Total number of outputs		2
Output signal		switching signal; analog signal; pulse signal; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	250; (per output)
Number of analog outputs		1
Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Analog voltage output	[V]	0...10; (scalable)
Min. load resistance	[Ω]	2000
Pulse output		flow rate meter
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Measuring/setting range		
Measuring range	0...50 l/min	0...3 m ³ /h
Display range	0...60 l/min	0...3.6 m ³ /h
Resolution	0.1 l/min	0.005 m ³ /h
Set point SP	0.1...50 l/min	0.005...3 m ³ /h
Reset point rP	0...49.9 l/min	0...2.995 m ³ /h
Analog start point ASP	0...40 l/min	0...2.4 m ³ /h
Analog end point AEP	10...50 l/min	0.6...3 m ³ /h
Max. flow rate	60 l/min	3.6 m ³ /h
In steps of	0.1 l/min	0.005 m ³ /h
Volumetric flow quantity monitoring		
Pulse value		0.1 l...1 000 000 m ³
Pulse length	[s]	0,05...2
Temperature monitoring		
Measuring range	[°C]	-10...80
Resolution	[°C]	0.2
Set point SP	[°C]	-9.8...80
Reset point rP	[°C]	-10...79.8
Analog start point	[°C]	-10...62
Analog end point	[°C]	8...80
In steps of	[°C]	0.2
Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)		water: < ± (3 % MW + 0,2 % MEW); glycol (35 %), oil (viscosity 68 mm ² /s at 40 °C): < ± (5 % MW + 0,5 % MEW)

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Repeatability		0,1 l/min; 6 l/h; 0,006 m ³ /h
Temperature monitoring		
Accuracy	[K]	± 3 (Q > 1 l/min)
Reaction times		
Flow monitoring		
Response time	[s]	0.25; (dAP = 0)
Delay time programmable dS, dr	[s]	0...50
Damping process value dAP	[s]	0...1
Temperature monitoring		
Dynamic response T05 / T09	[s]	T09 = 70 (Q > 5 l/min); (water)
Software / programming		
Parameter setting options		Flow monitoring; quantity meter; Preset counter; Temperature monitoring
Operating conditions		
Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
Protection		IP 67
Tests / approvals		
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
	CPA approval	model number
accuracy class		3
maximum allowable error		-
Q (min)		0,5 m ³ /h
Q (t)		-
Q (max)		3 m ³ /h
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
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request
Mechanical data		
Weight	[g]	1551.5
Material		housing: AlMgSi0.5 anodized; sealing: FKM; PA 6.6; cover film: PA
Materials (wetted parts)		stainless steel (1.4404 / 316L); FKM; PES; Centellen 200
Process connection		threaded connection G 3/4 flat seal
Displays / operating elements		
Display	Display unit	6 x LED, green (l/min, m ³ /h, l, m ³ , 10 ³ , °C)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, 4-digit
	Programming	alphanumeric display, 4-digit
Accessories		
Items supplied		sealings: 2, Centellen

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Accessories (optional)	adapter for pipe: 1 x R1/2, stainless steel, E40178 adapter for pipe: 1 x R1/2, brass, E40151
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Remarks

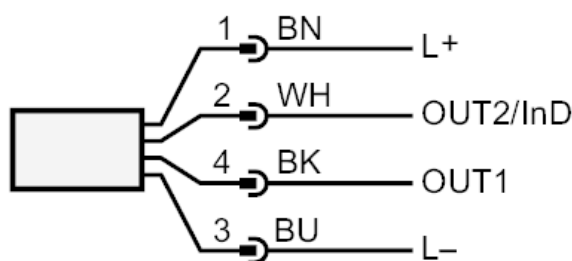
Remarks	MW = Measured value MEW = Final value of the measuring range sealing: only with supplied Centellen seals
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Moulded body: brass, Optalloy-plated; Contacts: gold-plated



Connection



- OUT1: Switching output Volumetric flow quantity monitoring
Pulse output quantity meter
signal output Preset counter
- OUT2/InD: Switching output Volumetric flow quantity monitoring / Temperature monitoring
analog output Volumetric flow quantity monitoring / Temperature monitoring
Input counter reset

SU7000

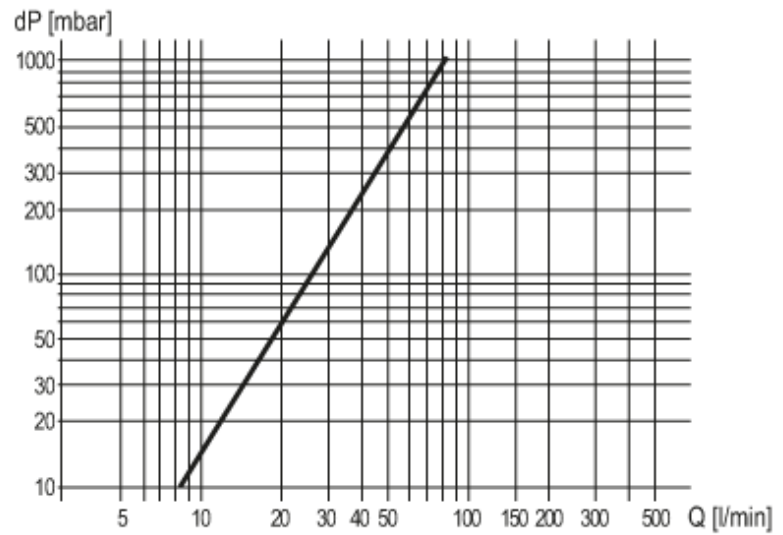


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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity