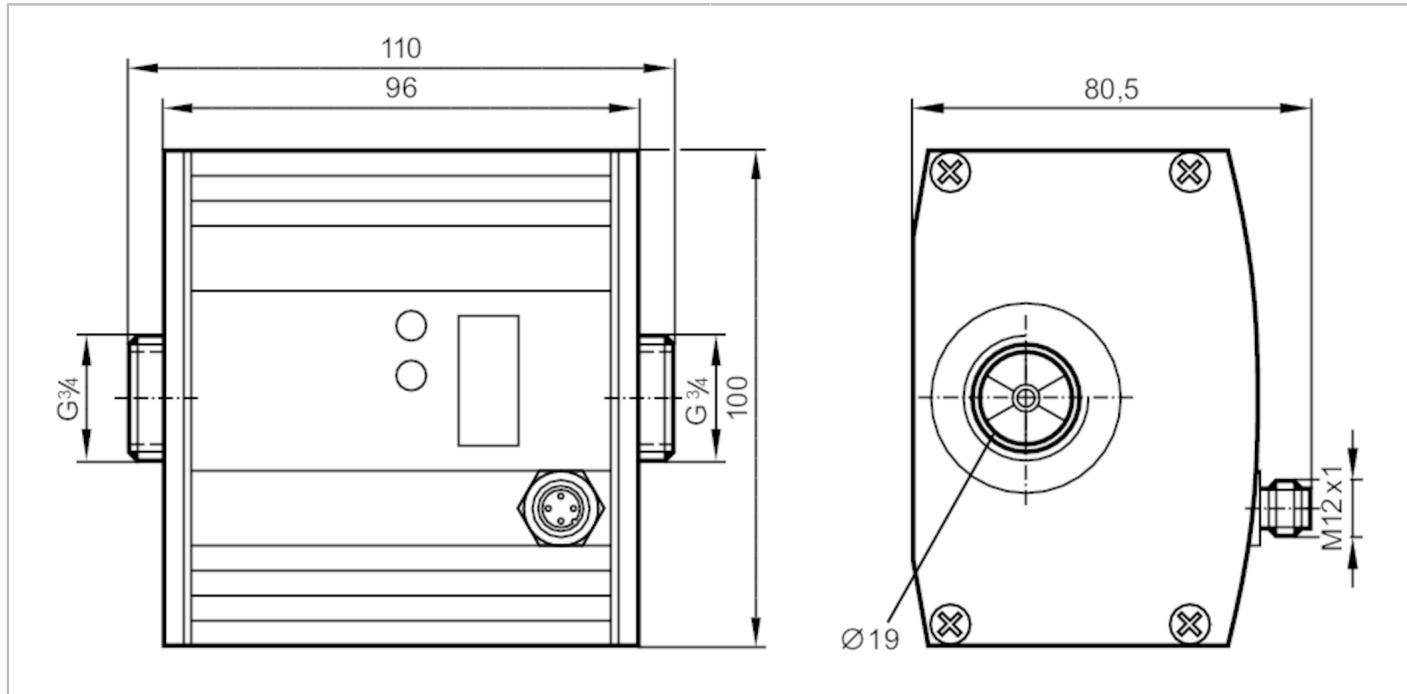


SU7000

Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	0...50 l/min	0...3 m³/h
Process connection	threaded connection G 3/4 flat seal	
Application		
Special feature	Gold-plated contacts	
Application	totaliser 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 mm²/s (40 °C) high-viscosity oils with viscosity: 30...68 mm²/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 analogue outputs: 1	
Inputs		
Inputs	counter reset	

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Outputs

Total number of outputs		2
Output signal		switching signal; analogue signal; pulse signal; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	250; (per output)
Number of analogue outputs		1
Analogue current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Analogue 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		pulsed
Overload protection		yes

Measuring/setting range

Measuring range	0...50 l/min	0...3 m³/h
Display range	0...60 l/min	0...3.6 m³/h
Resolution	0.1 l/min	0.005 m³/h
Set point SP	0.1...50 l/min	0.005...3 m³/h
Reset point rP	0...49.9 l/min	0...2.995 m³/h
Analogue start point ASP	0...40 l/min	0...2.4 m³/h
Analogue end point AEP	10...50 l/min	0.6...3 m³/h
Max. flow rate	60 l/min	3.6 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
Resolution	[°C]	0.2
Set point SP	[°C]	-9.8...80
Reset point rP	[°C]	-10...79.8
Analogue start point	[°C]	-10...62
Analogue 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 mm²/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)	
Response times		
Flow monitoring		
Response time [s]	0.25; (dAP = 0)	
Delay time programmable dS, dr	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 EN 61000-4-3 HF radiated EN 61000-4-4 Burst EN 61000-4-5 Surge EN 61000-4-6 HF conducted	
	4 kV CD / 8 kV AD 10 V/m 2 kV 0,5 kV 10 V	
CPA approval	model number accuracy class maximum allowable error Q (min) Q (t) Q (max)	
	001US 3 - 0,5 m ³ /h -	
Shock resistance	DIN IEC 68-2-27	
Vibration resistance	DIN IEC 68-2-6	
MTTF [years]	20 g (11 ms) 5 g (10...2000 Hz)	
Pressure Equipment Directive	175 Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	1551.5	
Materials	housing: AlMgSi0,5 anodised; Sealing: FKM; PA 6.6; cover film: PA	
Materials (wetted parts)	stainless steel (316L/1.4404); FKM; PES; Centellen 200	
Process connection	threaded connection G 3/4 flat seal	
Displays / operating elements		
Display	Display unit switching status measured values programming	
	6 x LED, green (l/min, m ³ /h, l, m ³ , 10 ³ , °C) 2 x LED, yellow alphanumeric display, 4-digit 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

Remarks

Remarks

MW = measured value

MEW = Final value of the measuring range

sealing: only with supplied Centellen seals

Pack quantity

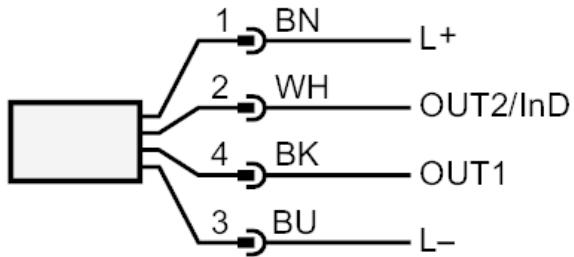
1 pcs.

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
analogue output volumetric flow quantity monitoring / Temperature monitoring
input counter reset

SU7000

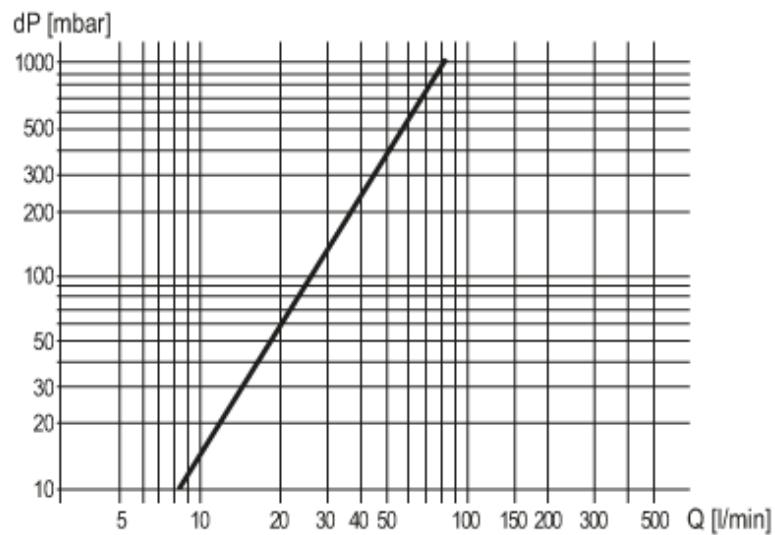


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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity