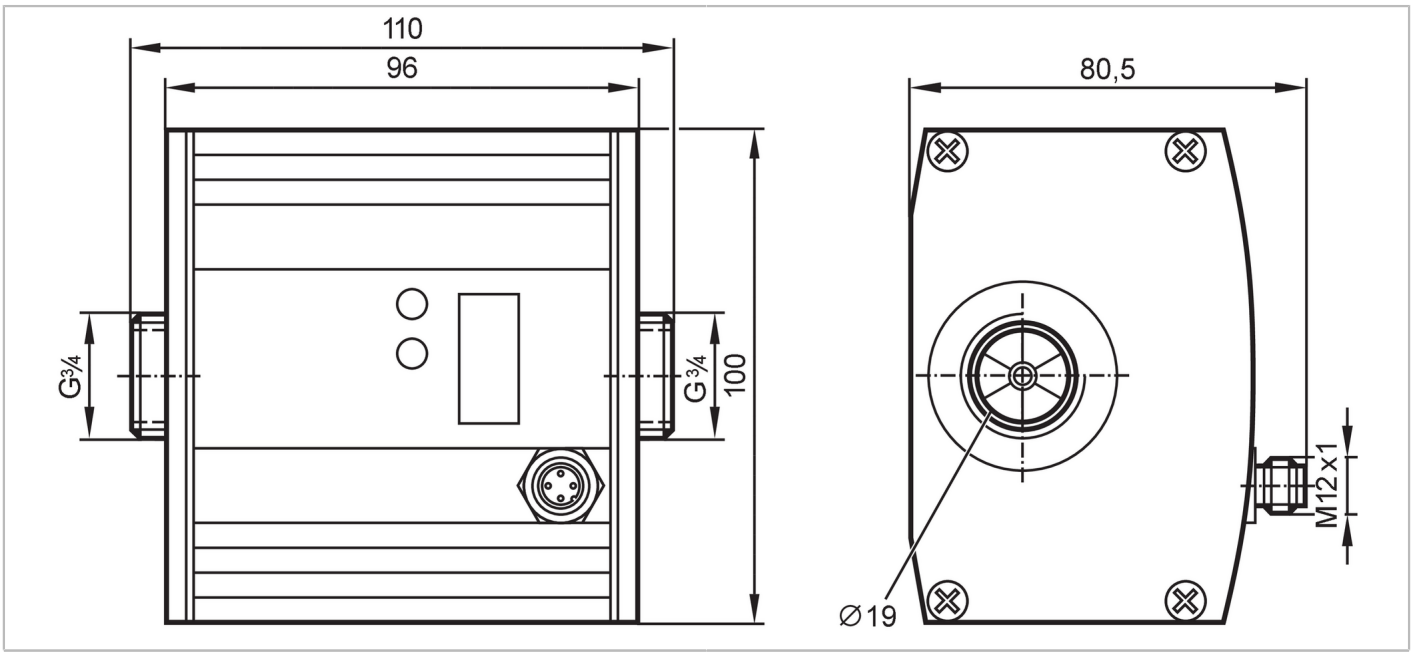
SU7001

Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF

phase-out article
Discontinuation date: 12/31/2025

Alternative articles: SU7031 or SU7631
When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	0...792.5 gph	0...13.21 gpm	
Process connection	threaded connection G 3/4 external thread 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 [°F]	14...176		
Pressure rating	16 bar	232 psi	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		
Measuring principle	ultrasonic		

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Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1	
Inputs			
Inputs		counter reset	
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...792.5 gph	0...13.21 gpm
Display range		0...951 gph	0...15.86 gpm
Resolution		1 gph	0.02 gpm
Set point SP		1...793 gph	0.02...13.22 gpm
Reset point rP		0...791 gph	0...13.2 gpm
Analogue start point ASP		0...637 gph	0...10.62 gpm
Analogue end point AEP		156...793 gph	2.6...13.22 gpm
Max. flow rate		951 gph	15.86 gpm
In steps of		1 gph	0.02 gpm
Volumetric flow quantity monitoring			
Pulse value		0.02...9000 * 10^3 gal	
In steps of		0.02 gal	
Pulse length	[s]	0,6...2	
Temperature monitoring			
Measuring range	[°F]	14...176	
Resolution	[°F]	0.5	
Set point SP	[°F]	14...176	
Reset point rP	[°F]	14...176	
Analogue start point	[°F]	14...144	
Analogue end point	[°F]	46...176	

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In steps of	[°F]	0.5
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)
Repeatability		0,025 gpm; 1,5 gph
Temperature monitoring		
Accuracy	[K]	± 5,4 (Q > 0,26 gpm)
Response 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 > 1 gpm); (water)
Software / programming		
Parameter setting options		Flow monitoring; quantity meter; Preset counter; Temperature monitoring
Operating conditions		
Ambient temperature	[°F]	14...140
Storage temperature	[°F]	-13...176
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
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]	185	
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	1505.5	
Housing		rectangular	
Dimensions	[mm]	110 x 100 x 80.5	
Materials		housing: aluminium alloy anodised AlMgSi0,5; Sealing: FKM; PA 6.6; cover film: PA	
Materials (wetted parts)		Pipe section: stainless steel (316L/1.4404); Process connection sealing: NBR reinforced fibre Flat seal; FKM; PES	
Process connection		threaded connection G 3/4 external thread flat seal	
Displays / operating elements			
Display		Display unit	5 x LED, green (gpm, gph, gal, °F, 10^3)
		switching status	2 x LED, yellow
		measured values	alphanumeric display, 4-digit
		programming	alphanumeric display, 4-digit

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Accessories	
Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2" NPT, stainless steel, E40191
	adapter for pipe: 1 x 1/2" NPT, brass, E40154

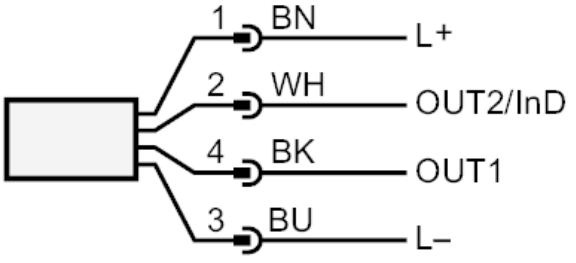
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	sealing: only with supplied Centellen seals
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated; Moulded body: brass, Optalloy-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

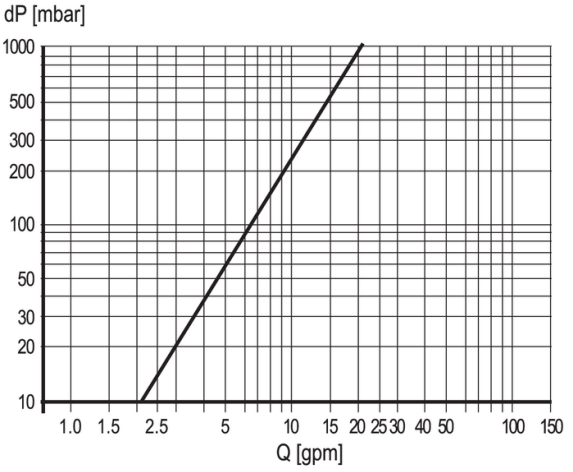
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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity