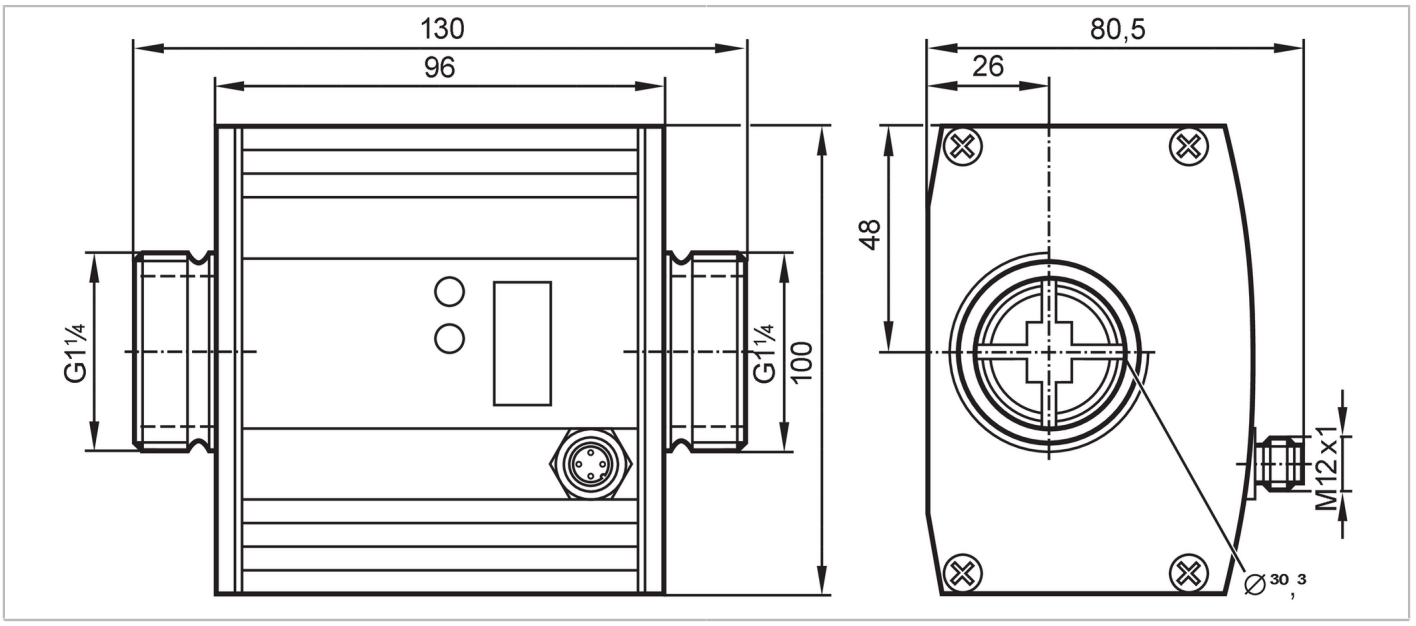
SU9001

Ultrasonic flow meter

SUR54HGBFRKG/W/US-100-IPF

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

Alternative articles: SU9030
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...3170 gph	0...52.84 gpm	
Process connection		threaded connection G 1 1/4 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...3170 gph	0...52.84 gpm
Display range		0...3804 gph	0...63.4 gpm
Resolution		1 gph	0.02 gpm
Set point SP		7...3170 gph	0.12...52.84 gpm
Reset point rP		0...3163 gph	0...52.72 gpm
Analogue start point ASP		0...2547 gph	0...42.46 gpm
Analogue end point AEP		621...3170 gph	10.36...52.84 gpm
Max. flow rate		3804 gph	63.4 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]	0,095...2	
Temperature monitoring			
Measuring range	[°F]	14...176	
Resolution	[°F]	0.5	
Set point SP	[°F]	14.5...176	
Reset point rP	[°F]	14...175.5	
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): < ± (8 % MW + 0,5 % MEW)
Repeatability		0,05 gpm; 3 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 = 30 (Q > 5 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]	1859	
Housing		rectangular	
Dimensions	[mm]	130 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; PPS	
Process connection		threaded connection G 1 1/4 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" NPT, stainless steel, E40206

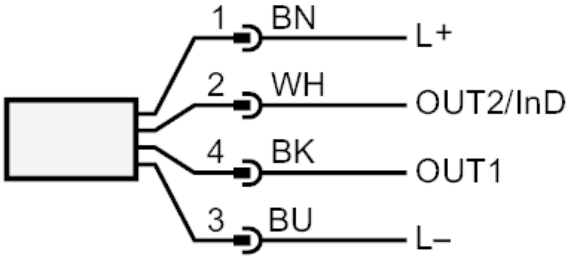
Remarks	
Remarks	sealing: only with supplied Centellen seals
	MW = measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

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

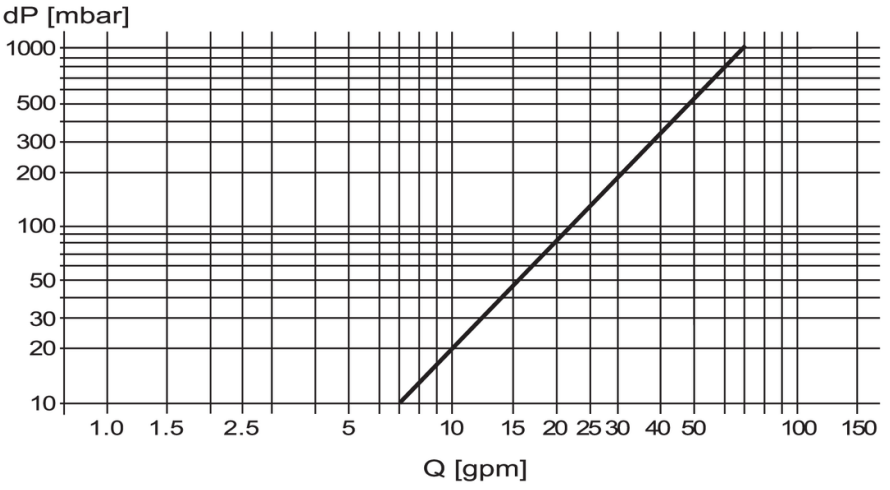
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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity