SU9001

Ultrasonic flow meter

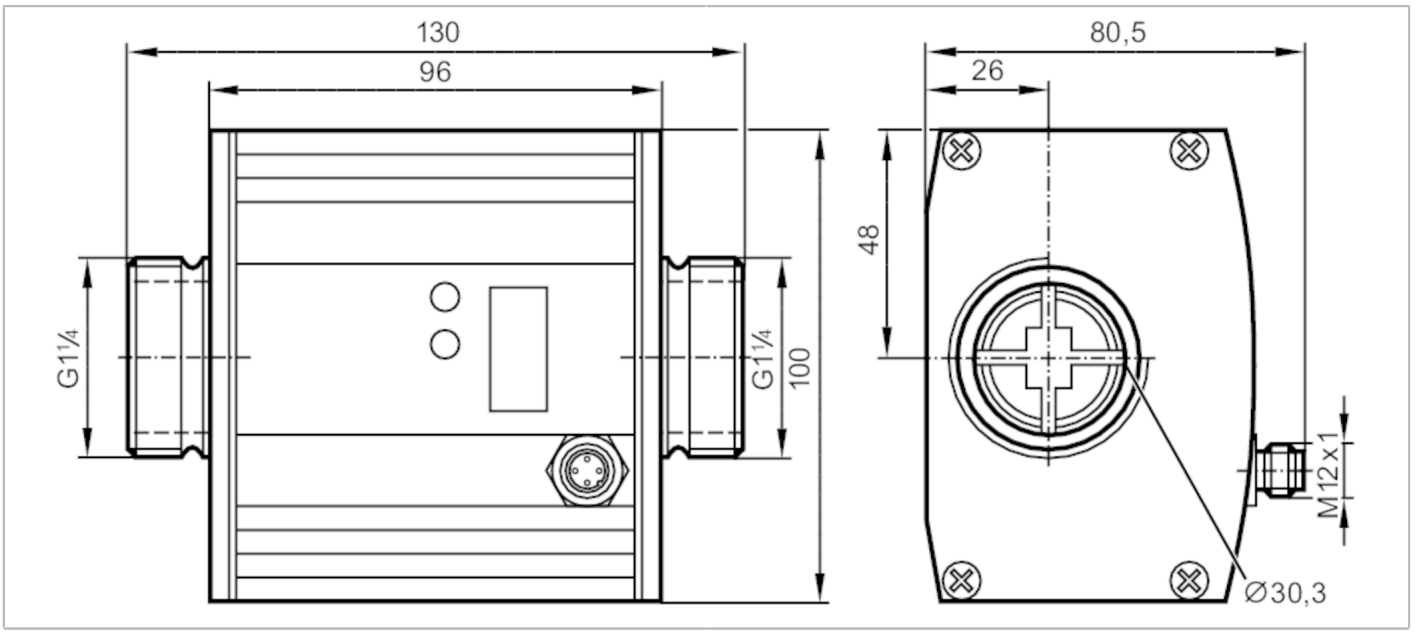
SUR54HGBFRKG/W/US-100-IPF

Article to be discontinued

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 analog outputs: 1		
Measuring range		0...3170 gph	0...52.84 gpm	
Process connection		threaded connection G 1 1/4 external thread 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 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 analog outputs: 1	
Inputs			
Inputs		counter reset	
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...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
Analog start point ASP		0...2547 gph	0...42.46 gpm
Analog 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	
Analog start point	[°F]	14...144	
Analog 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)
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 = 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
Material		housing: AlMgSi0.5 anodized; sealing: FKM; PA 6.6; cover film: PA
Materials (wetted parts)		Pipe section: stainless steel (1.4404 / 316L); Process connection sealing: NBR fiber-reinforced Gasket; 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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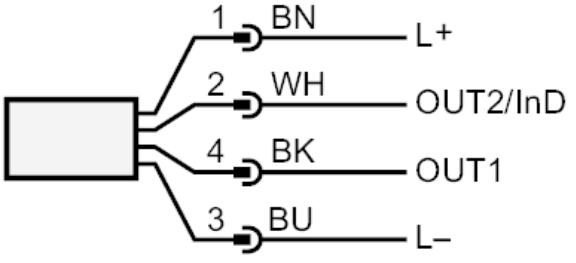
Accessories	
Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1" NPT, stainless steel, E40206

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; 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

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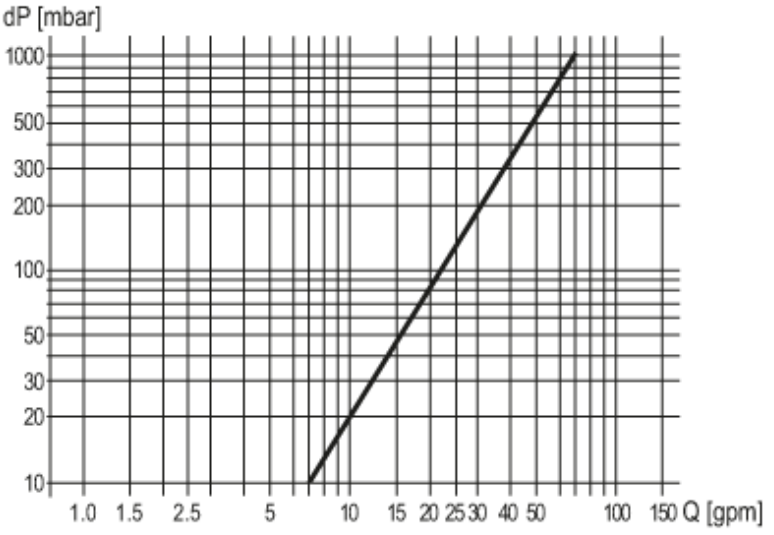
Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity