SU8001

Ultrasonic flow meter

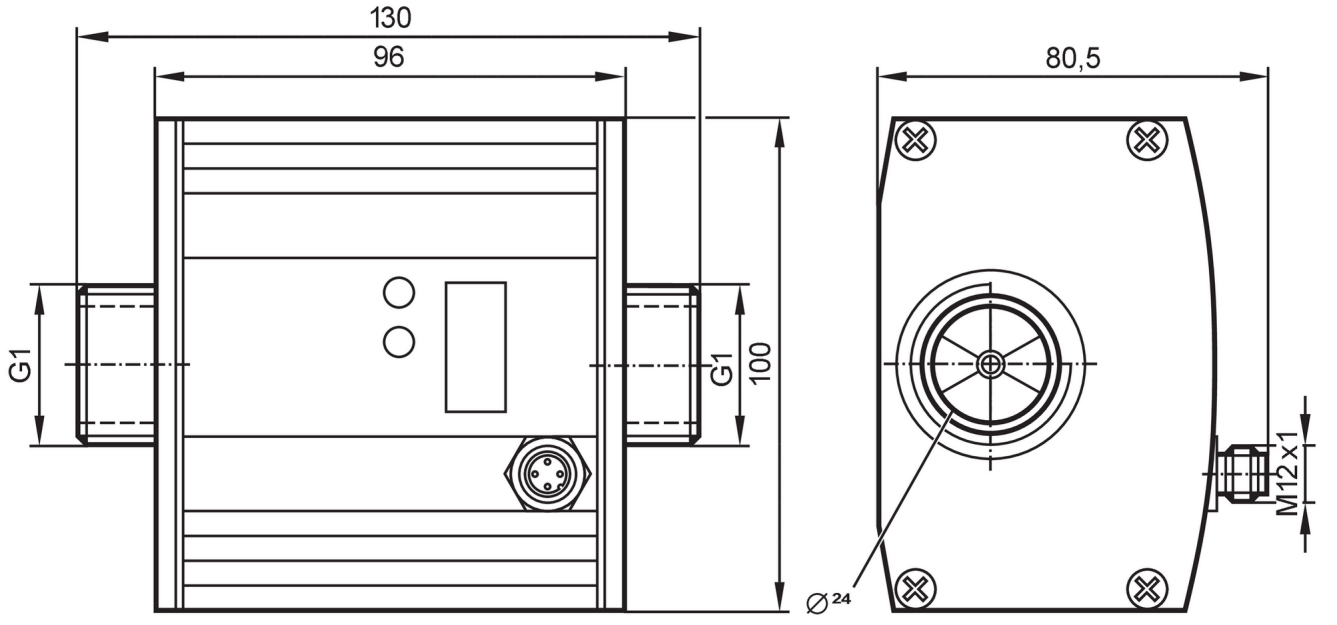
SUR11HGBFRKG/W/US-100-IPF

phase-out article

Discontinuation date: 12/31/2025

Alternative articles: SU8031 or SU8631

When selecting an alternative article and accessories please note that technical data may differ!



installation length with pipe adapter E40152 / E40155: 205 mm
installation length with pipe adapter E40153 / E40156: 215 mm

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	0...1585 gph	0...26.44 gpm	
Process connection	threaded connection G 1 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		

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Measuring principle		ultrasonic
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...1585 gph / 0...26.44 gpm
Display range		0...1902 gph / 0...31.72 gpm
Resolution		1 gph / 0.02 gpm
Set point SP		4...1585 gph / 0.06...26.44 gpm
Reset point rP		0...1581 gph / 0...26.38 gpm
Analogue start point ASP		0...1285 gph / 0...21.44 gpm
Analogue end point AEP		300...1585 gph / 5...26.44 gpm
Max. flow rate		1902 gph / 31.7 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]	0,3...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...145.5

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Analogue end point	[°F]	44.5...176
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		0,05 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 = 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]	1666.5
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; PES
Process connection		threaded connection G 1 external thread flat seal

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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

Accessories	
Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2" NPT, stainless steel, E40192
	adapter for pipe: 1 x 3/4" NPT, stainless steel, E40193
	adapter for pipe: 1 x 1/2" NPT, brass, E40155
	adapter for pipe: 1 x 3/4" NPT, brass, E40156

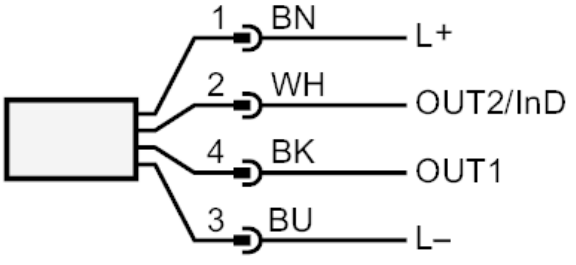
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	sealing: only with supplied Centellen seals
Pack quantity	1 pcs.

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

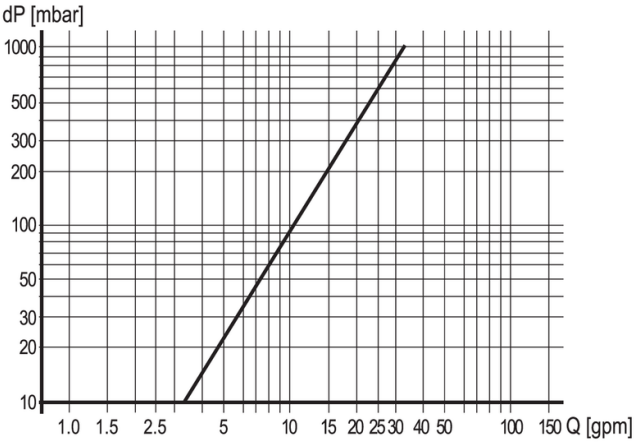
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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity