SU8001

Ultrasonic flow meter

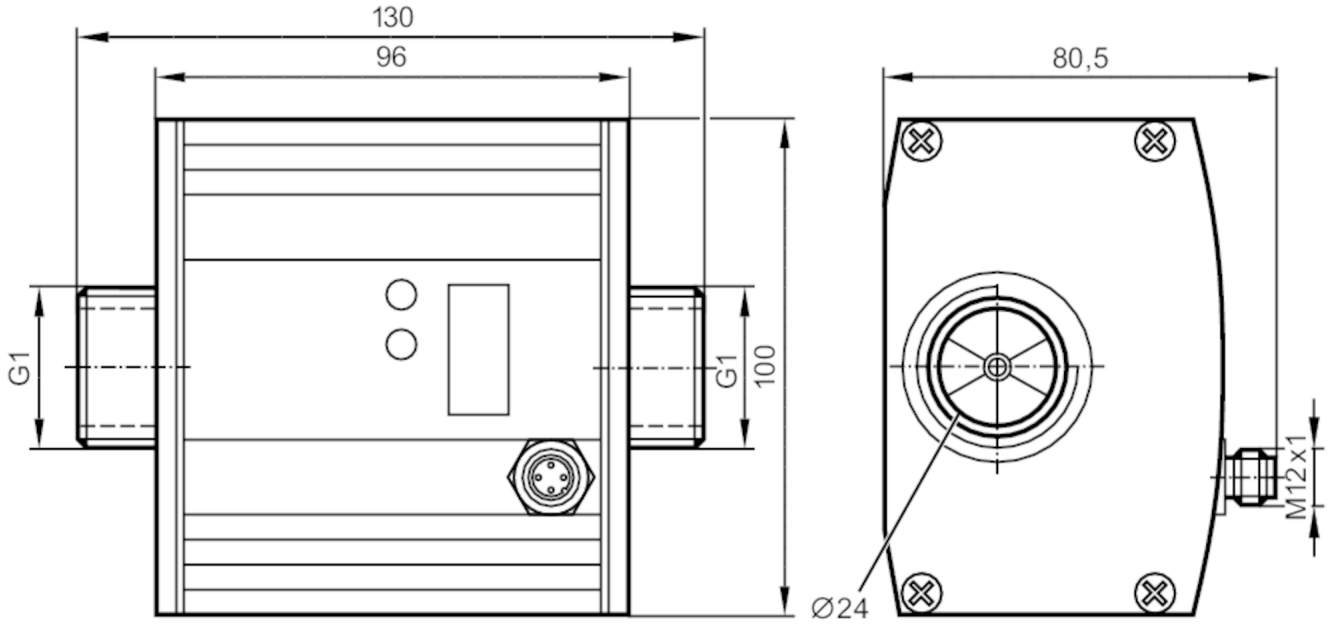
SUR11HGBFRKG/W/US-100-IPF

Article to be discontinued

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 analog outputs: 1		
Measuring range		0...1585 gph	0...26.44 gpm	
Process connection		threaded connection G 1 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		

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Power-on delay time	[s]	10
Measuring principle		ultrasonic
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...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
Analog start point ASP		0...1285 gph	0...21.44 gpm
Analog 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	

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Analog start point	[°F]	14...145.5	
Analog 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)	
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 = 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	
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; 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

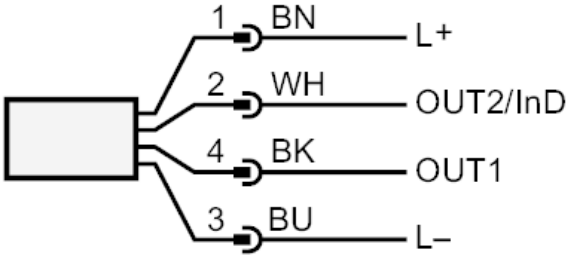
Accessories	
Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2" NPT, stainless steel, E40192
	adapter for pipe: 1 x 3/4" NPT, stainless steel, E40193
	adapter for pipe: 1 x 1/2" NPT, brass, E40155
	adapter for pipe: 1 x 3/4" NPT, brass, E40156

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; 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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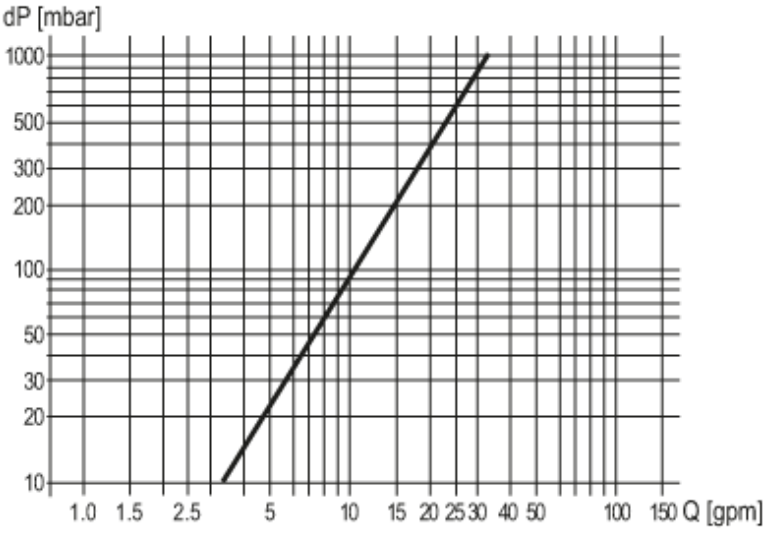
Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity