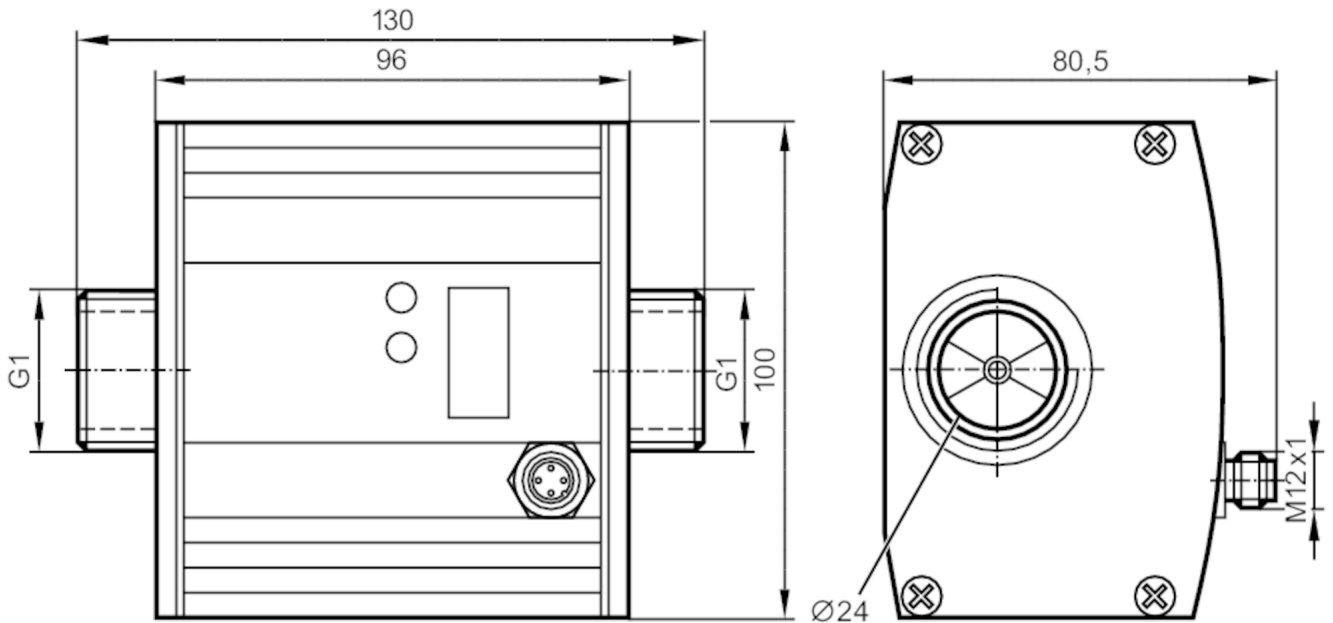


SU8001



Ultrasonic flow meter

SUR11HGBFRKG/W/US-100-IPF



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 mm ² /s (40 °C) high-viscosity oils with viscosity: 30...68 mm ² /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	

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1
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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	
Analog start point [°F]	14...145.5	
Analog end point [°F]	44.5...176	
In steps of [°F]	0.5	

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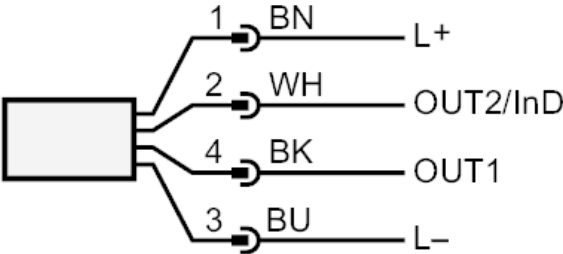
Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)	water: < ± (3 % MW + 0,2 % MEW); glycol (35 %), oil (viscosity 68 mm²/s at 40 °C): < ± (5 % MW + 0,5 % MEW)	
Repeatability	0,05 gpm; 3 gph	
Temperature monitoring		
Accuracy	[K]	± 5,4 (Q > 0,26 gpm)
Reaction times		
Flow monitoring		
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)	stainless steel (1.4404 / 316L); FKM; PES; Centellen 200	
Process connection	threaded connection G 1 external thread flat seal	
Displays / operating elements		
Display	Display unit	5 x LED, green (gpm, gph, gal, °F, 10³)
	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, 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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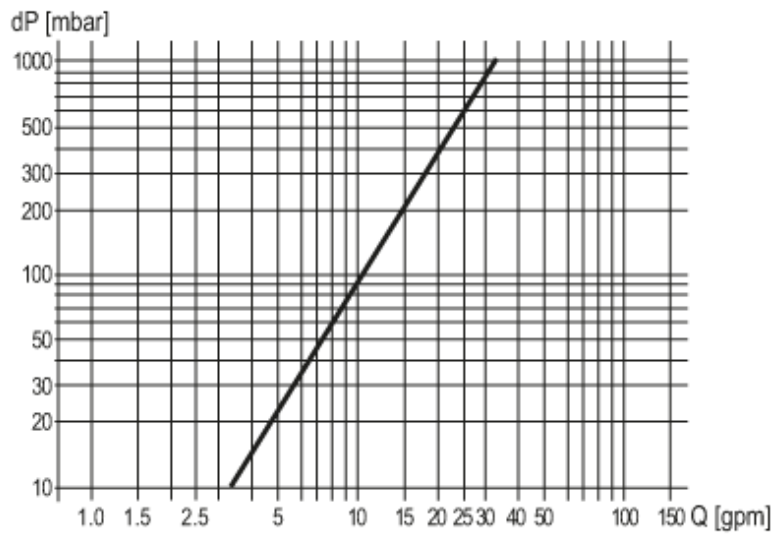


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Diagrams and graphs

Pressure loss



dP Pressure loss
Q volumetric flow quantity