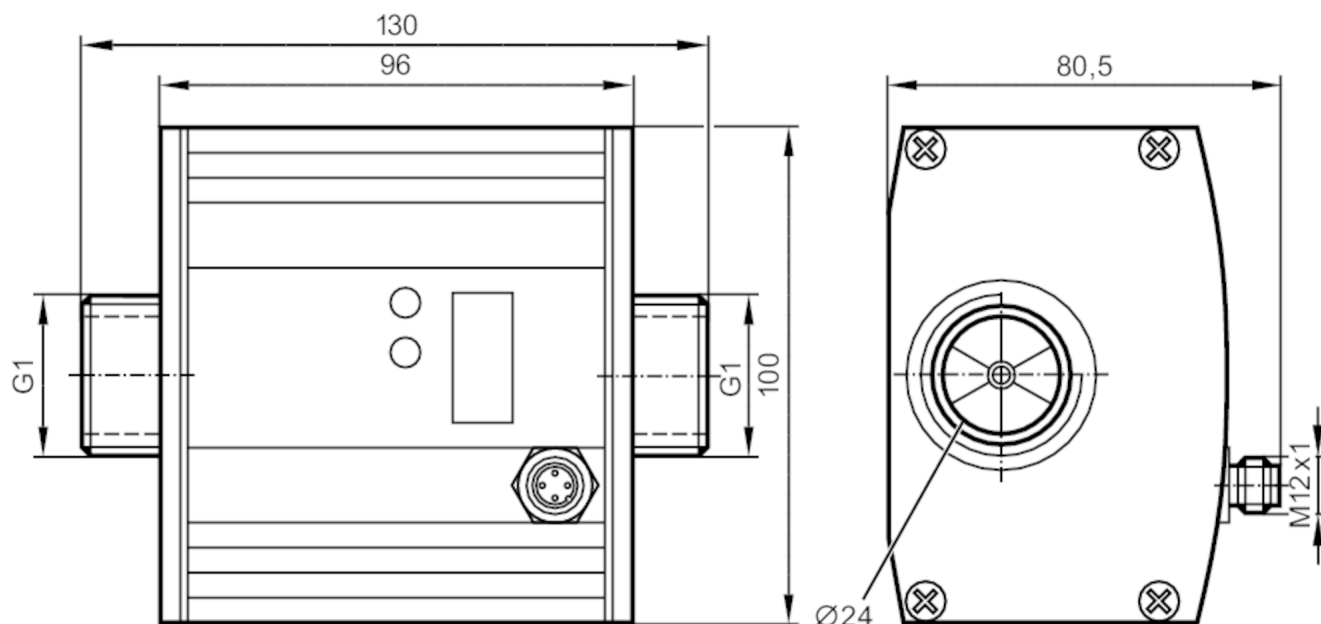


SU8001



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



Application

Application	totaliser function; for industrial applications	
Installation	connection to pipe by means of an adapter	
Media	water; glycol solutions; coolants; oil	
Medien	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	[bar]	16
Pressure rating	[psi]	232

Electrical data

Operating voltage	[V]	19...30 DC; (according to EN 50178 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

Inputs

Inputs	counter reset
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Ultrasonic flow meter

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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...26.44 gpm	0...1585 gph
Display range	0...31.72 gpm	0...1902 gph
Resolution	0.02 gpm	1 gph
Set point SP	0.06...26.44 gpm	4...1585 gph
Reset point rP	0...26.38 gpm	0...1581 gph
Analogue start point ASP	0...21.44 gpm	0...1285 gph
Analogue end point AEP	5...26.44 gpm	300...1585 gph
Max. flow rate	31.7 gpm	1902 gph
In steps of	0.02 gpm	1 gph
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	
Analogue 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)	< ± (3 % MW + 0,2 % MEW) / < ± (5 % MW + 0,5 % MEW); (water; glycol: 35%; oil: viscosity 68 mm²/s at 40 °C)	
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 for the switching output 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]	1688.8
Materials	housing: AlMgSi0,5 anodised; Sealing: FKM; connector housing: brass Optalloy-plated; PA 6.6; cover film: PA	
Materials (wetted parts)	stainless steel (1.4404 / 316L); FKM; PES; Centellen 200	
Process connection	threaded connection G 1 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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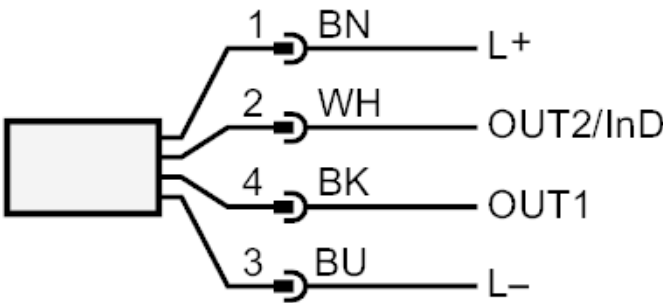
Accessories	
Accessories (supplied)	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2 NPT, stainless steel, E40192
	adapter for pipe: 1 x 3/4 NPT, stainless steel, E40193
	adapter for pipe: 1 x 1/2 NPT, brass, E40155
	adapter for pipe: 1 x 3/4 NPT, brass, E40156
Remarks	
Remarks	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; 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
analogue output volumetric flow quantity monitoring / Temperature monitoring
input counter reset

SU8001

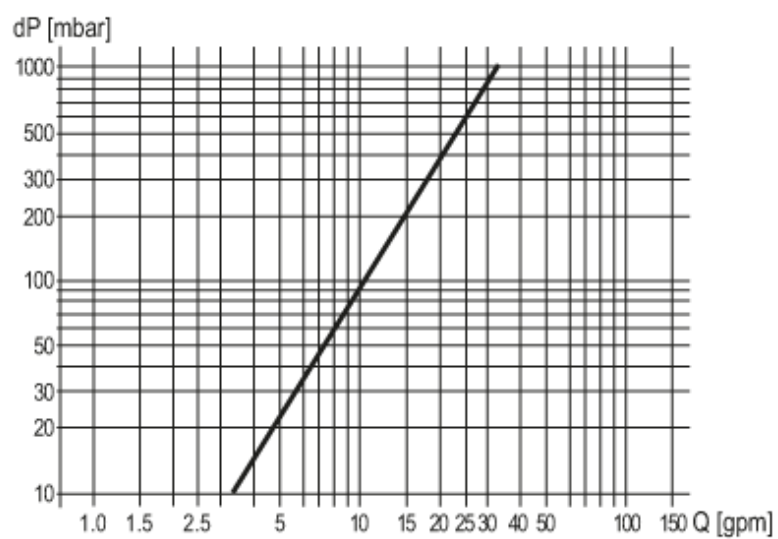
Ultrasonic flow meter

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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity