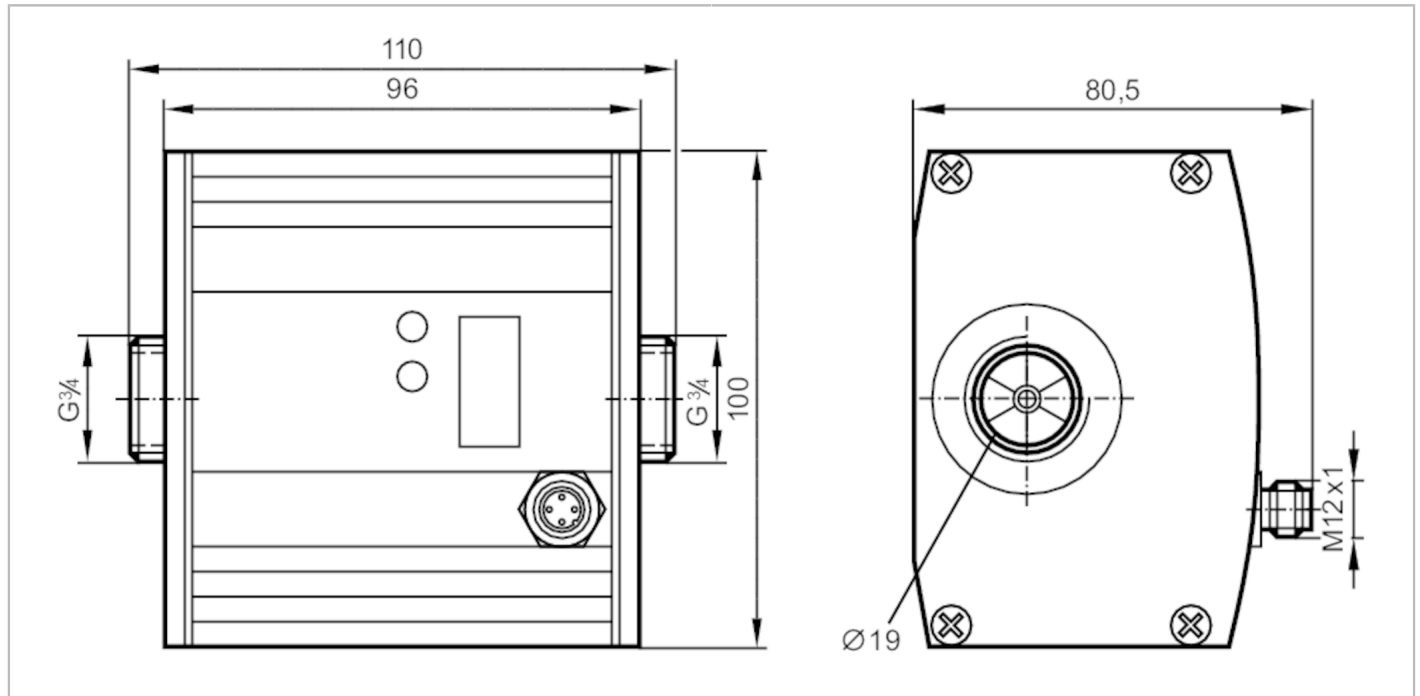


SU7001



Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	0...793 gph	0...13.22 gpm
Process connection	threaded connection G 3/4 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; oil	
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 [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 / outputs

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
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Ultrasonic flow meter

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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...793 gph	0...13.22 gpm
Display range	0...951 gph	0...15.86 gpm
Resolution	1 gph	0.02 gpm
Set point SP	1...793 gph	0.02...13.22 gpm
Reset point rP	0...791 gph	0...13.2 gpm
Analogue start point ASP	0...637 gph	0...10.62 gpm
Analogue end point AEP	156...793 gph	2.6...13.22 gpm
Max. flow rate	951 gph	15.86 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]	0,6...2	
Temperature monitoring		
Measuring range [°F]	14...176	
Resolution [°F]	0.5	
Set point SP [°F]	14...176	
Reset point rP [°F]	14...176	
Analogue start point [°F]	14...144	
Analogue end point [°F]	46...176	
In steps of [°F]	0.5	

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Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)	$< \pm (3 \% MW + 0,2 \% MEW) / < \pm (5 \% MW + 0,5 \% MEW);$ (water; glycol: 35%; oil: viscosity 68 mm ² /s at 40 °C)	
Repeatability	0,025 gpm; 1,5 gph	
Temperature monitoring		
Accuracy [K]	$\pm 5,4 (Q > 0,26 \text{ gpm})$	
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]	1505.5	
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 3/4 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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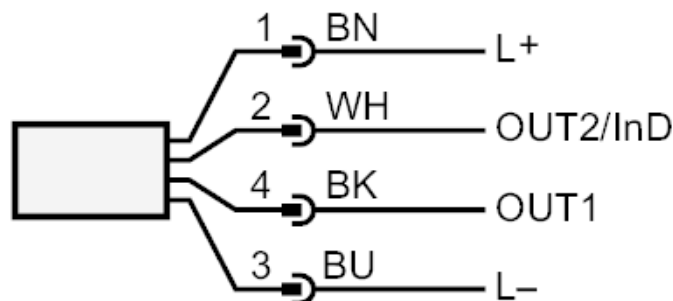
Accessories	
Accessories (supplied)	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2 NPT, stainless steel, E40191 adapter for pipe: 1 x 1/2 NPT, brass, E40154
Remarks	
Remarks	MW = measured value MEW = Final value of the measuring range sealing: only with supplied Centellen seals
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

SU7001

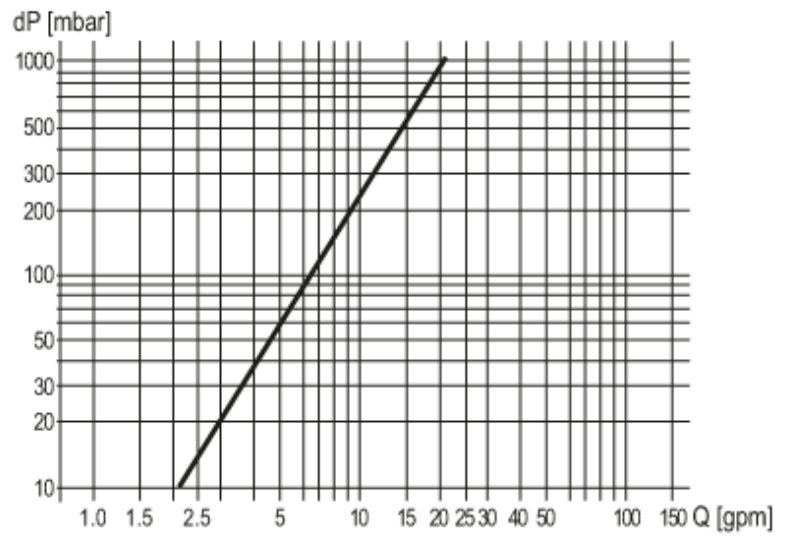
Ultrasonic flow meter

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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity