

SU7001



Ultrasonic flow meter

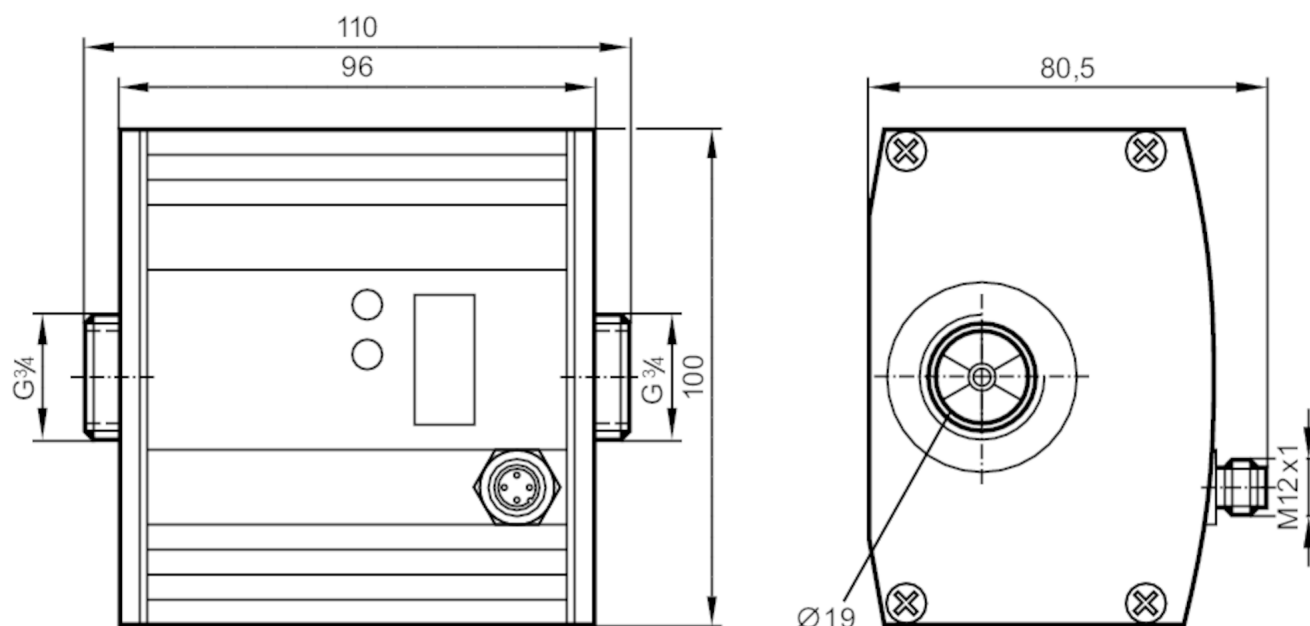
SUR34HGBFRKG/W/US-100-IPF

Article to be discontinued

Discontinuation date: 12/31/2025

Alternative articles: SU7031 or SU7631

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



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	0...792.5 gph	0...13.21 gpm
Process connection	threaded connection G 3/4 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

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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...792.5 gph	0...13.21 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
Analog start point ASP	0...637 gph	0...10.62 gpm
Analog 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 * 10³ 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	
Analog start point [°F]	14...144	

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Analog end point	[°F]	46...176
In steps of	[°F]	0.5
Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)		water: $< \pm (3 \% \text{ MW} + 0,2 \% \text{ MEW})$; glycol (35 %), oil (viscosity 68 mm ² /s at 40 °C): $< \pm (5 \% \text{ MW} + 0,5 \% \text{ MEW})$
Repeatability		0,025 gpm; 1,5 gph
Temperature monitoring		
Accuracy	[K]	$\pm 5,4 (Q > 0,26 \text{ gpm})$
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]	1505.5
Housing		rectangular
Dimensions	[mm]	110 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 3/4 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

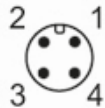
Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x 1/2" NPT, stainless steel, E40191
	adapter for pipe: 1 x 1/2" NPT, brass, E40154

Remarks

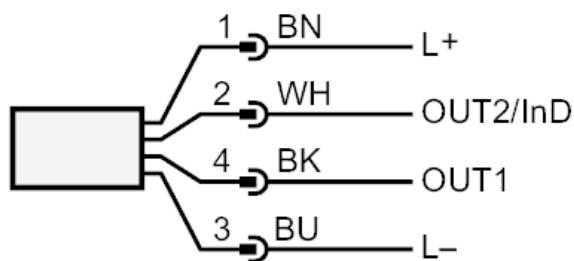
Remarks	MW = Measured value
	MEW = Final value of the measuring range
	sealing: only with supplied Centellen seals
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; 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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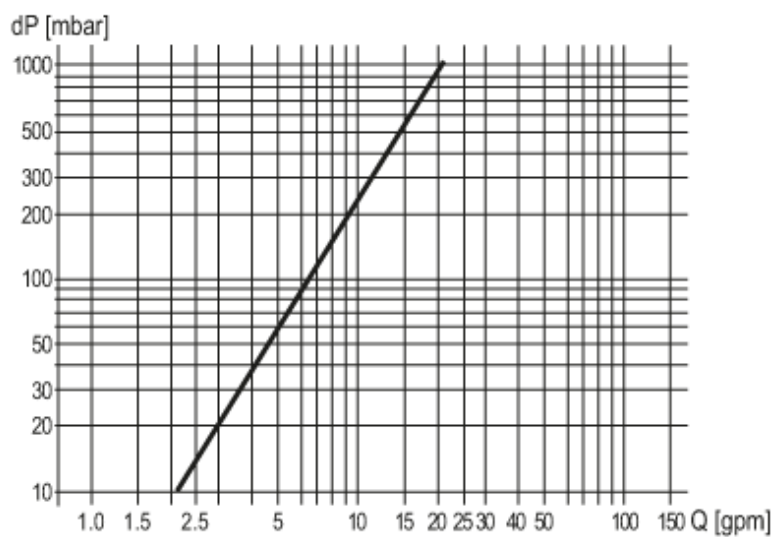
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Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity