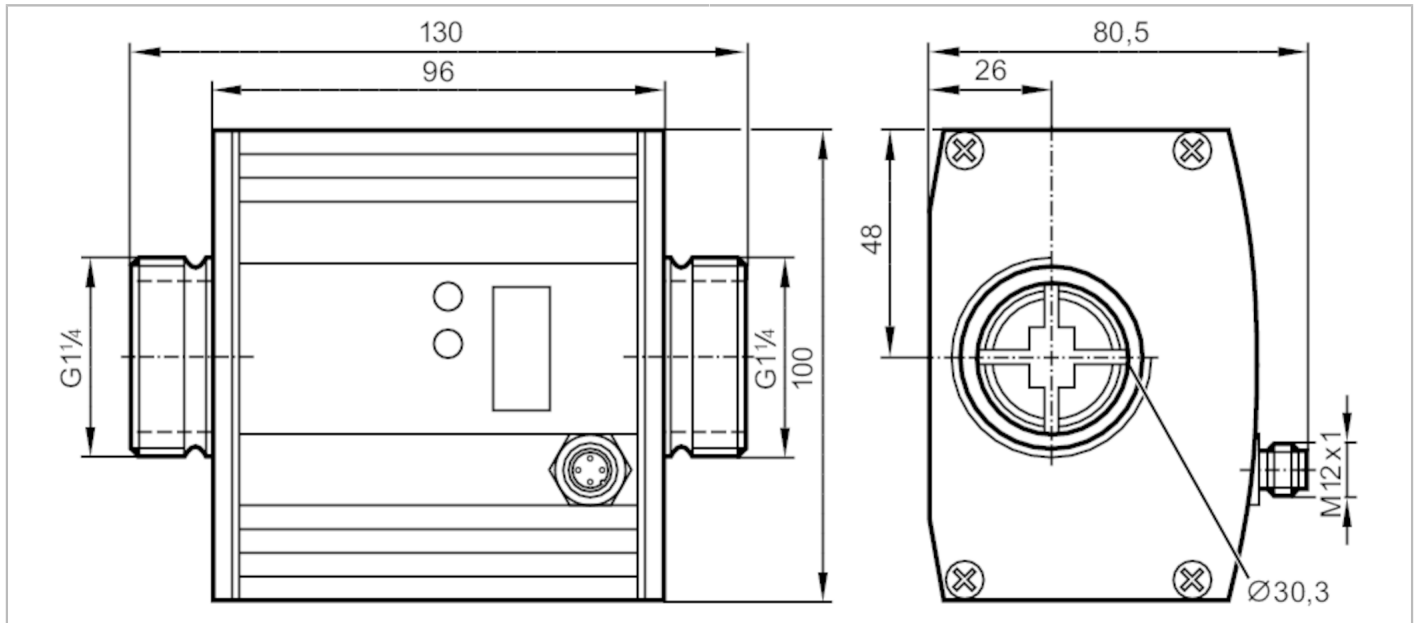


SU9001



Ultrasonic flow meter

SUR54HGBFRKG/W/US-100-IPF



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	0...3170 gph	0...52.84 gpm
Process connection	threaded connection G 1 1/4 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	[bar]	16
Pressure rating	[psi]	232

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

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
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SU9001



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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...3170 gph 0...52.84 gpm
Display range		0...3804 gph 0...63.4 gpm
Resolution		1 gph 0.02 gpm
Set point SP		7...3170 gph 0.12...52.84 gpm
Reset point rP		0...3163 gph 0...52.72 gpm
Analog start point ASP		0...2547 gph 0...42.46 gpm
Analog end point AEP		621...3170 gph 10.36...52.84 gpm
Max. flow rate		3804 gph 63.4 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]	0,095...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...144
Analog end point	[°F]	46...176
In steps of	[°F]	0.5

SU9001



Ultrasonic flow meter

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Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)	water: $< \pm (3 \% MW + 0,2 \% MEW)$; glycol (35 %), oil (viscosity 68 mm ² /s at 40 °C): $< \pm (8 \% MW + 0,5 \% MEW)$	
Repeatability	0,05 gpm; 3 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 = 30 (Q > 5 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]	1859	
Material	housing: AlMgSi0.5 anodized; sealing: FKM; PA 6.6; cover film: PA	
Materials (wetted parts)	stainless steel (1.4404 / 316L); FKM; PPS; Centellen 200	
Process connection	threaded connection G 1 1/4 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
Accessories		
Items supplied	sealings: 2, Centellen	
Accessories (optional)	adapter for pipe: 1 x 1" NPT, stainless steel, E40206	

SU9001



Ultrasonic flow meter

SUR54HGBFRKG/W/US-100-IPF

Remarks

Remarks

sealing: only with supplied Centellen seals

MW = Measured value

MEW = Final value of the measuring range

Pack quantity

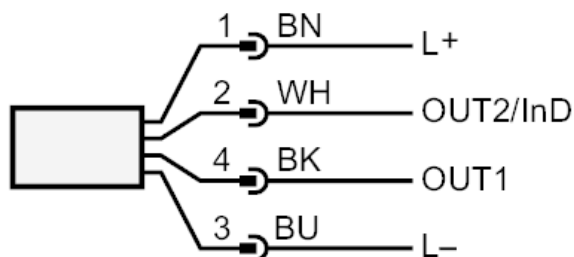
1 pcs.

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

SU9001

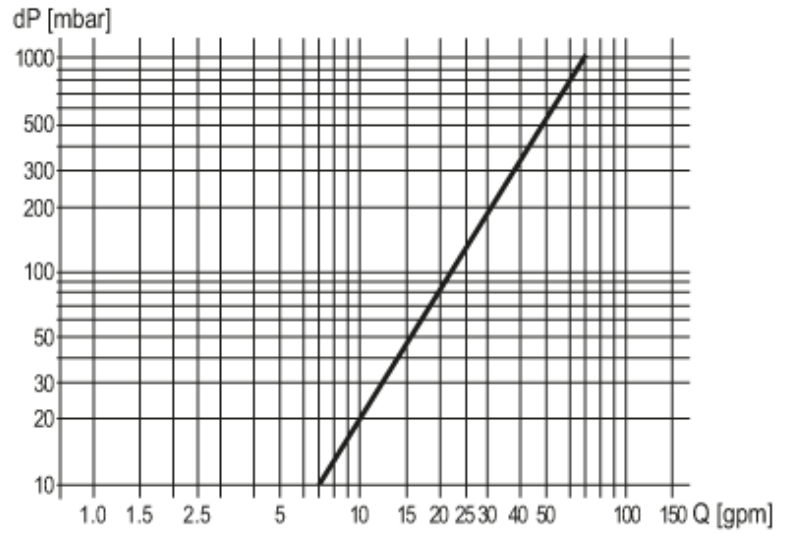
Ultrasonic flow meter

SUR54HGBFRKG/W/US-100-IPF



Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity