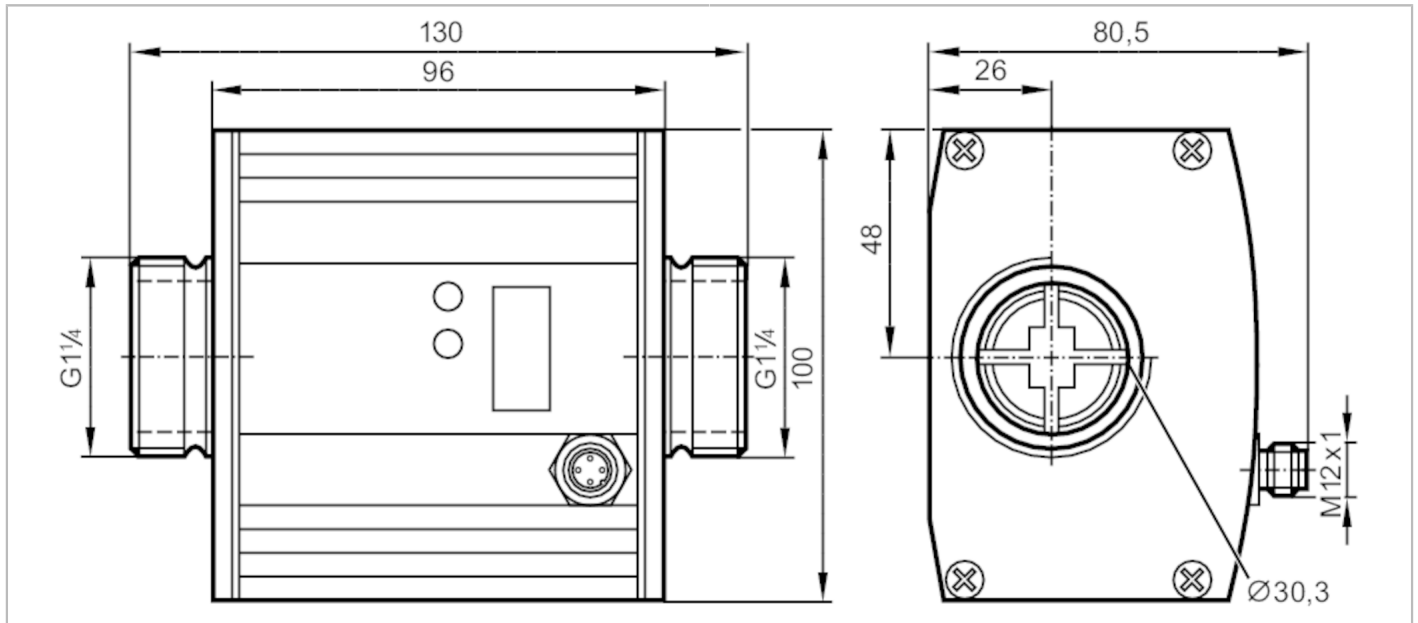


# SU9004



## Ultrasonic flow meter

SUR54HGB50KG/W/US-100-IPF



### Product characteristics

Number of inputs and outputs	Number of analog outputs: 2	
Measuring range	0...200 l/min	0...52.84 gpm
Process connection	threaded connection G 1 1/4 flat seal	

### Application

System	gold-plated contacts	
Application	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 <sup>2</sup> /s (40 °C) high-viscosity oils with viscosity: 30...68 mm <sup>2</sup> /s (40 °C)	
Medium temperature [°C]	-10...80	
Pressure rating	16 bar	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	

### Inputs / outputs

Number of inputs and outputs	Number of analog outputs: 2	
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### Outputs

Total number of outputs	2	
Output signal	analog signal	
Number of analog outputs	2	

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Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes

### Measuring/setting range

Measuring range	0...200 l/min	0...52.84 gpm
Display range	0...240 l/min	0...63.42 gpm
Resolution	0.1 l/min	0.02 gpm
Analog start point ASP	0...160 l/min	0...42.28 gpm
Analog end point AEP	40...200 l/min	10.28...52.84 gpm
Max. flow rate	[l/min]	220
In steps of	0.1 l/min	0.02 gpm

### Temperature monitoring

Measuring range	[°C]	-10...80
Resolution	[°C]	0.2
Analog start point	[°C]	-10...62
Analog end point	[°C]	8...80
In steps of	[°C]	0.2

### Accuracy / deviations

#### Flow monitoring

Accuracy (in the measuring range)	water: $< \pm (3 \% MW + 0,2 \% MEW)$ ; glycol (35 %), oil (viscosity 68 mm <sup>2</sup> /s at 40 °C): $< \pm (8 \% MW + 0,5 \% MEW)$
Repeatability	1 l/min; 60 l/h; 0,05 gpm; 3 gph

#### Temperature monitoring

Accuracy	[K]	$\pm 3 (Q > 20 \text{ l/min})$
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### Reaction times

#### Flow monitoring

Response time	[s]	0.25; (dAP = 0)
Damping process value dAP	[s]	0...1

#### Temperature monitoring

Dynamic response T05 / T09	[s]	T09 = 30 (Q > 20 l/min); (water)
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### Operating conditions

Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
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

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CPA approval	model number	001US
	accuracy class	3
	maximum allowable error	-
	Q (min)	0,3 m <sup>3</sup> /h
	Q (t)	0,84 m <sup>3</sup> /h
	Q (max)	12 m <sup>3</sup> /h
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]		203
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

### Mechanical data

Weight [g]	1883
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	6 x LED, green (l/min, m <sup>3</sup> /h, gpm, gph, °C, °F)
	Measured values	alphanumeric display, 4-digit
	Programming	alphanumeric display, 4-digit
Display unit	l/min; m <sup>3</sup> /h; gpm; gph; °C; °F	

### Accessories

Items supplied	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x R 1, stainless steel, E40205
	adapter for pipe: 1 x 1" NPT, stainless steel, E40206

### 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



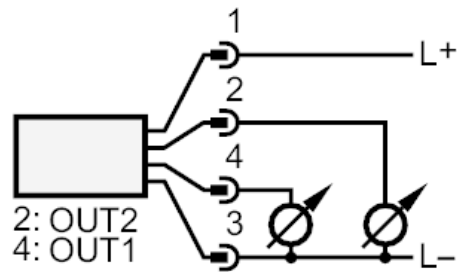
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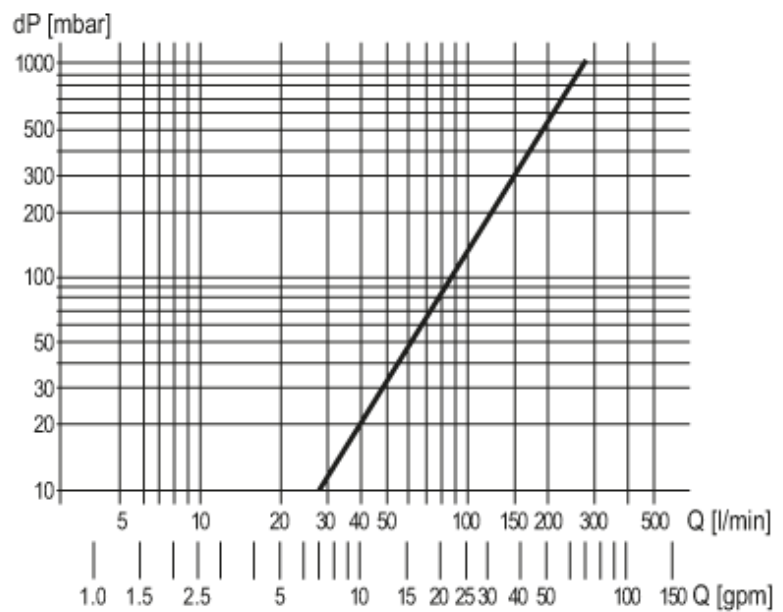
### Connection



OUT1: analog output Temperature monitoring  
OUT2: analog output Volumetric flow quantity monitoring

### Diagrams and graphs

#### Pressure loss



dP Pressure loss  
Q volumetric flow quantity