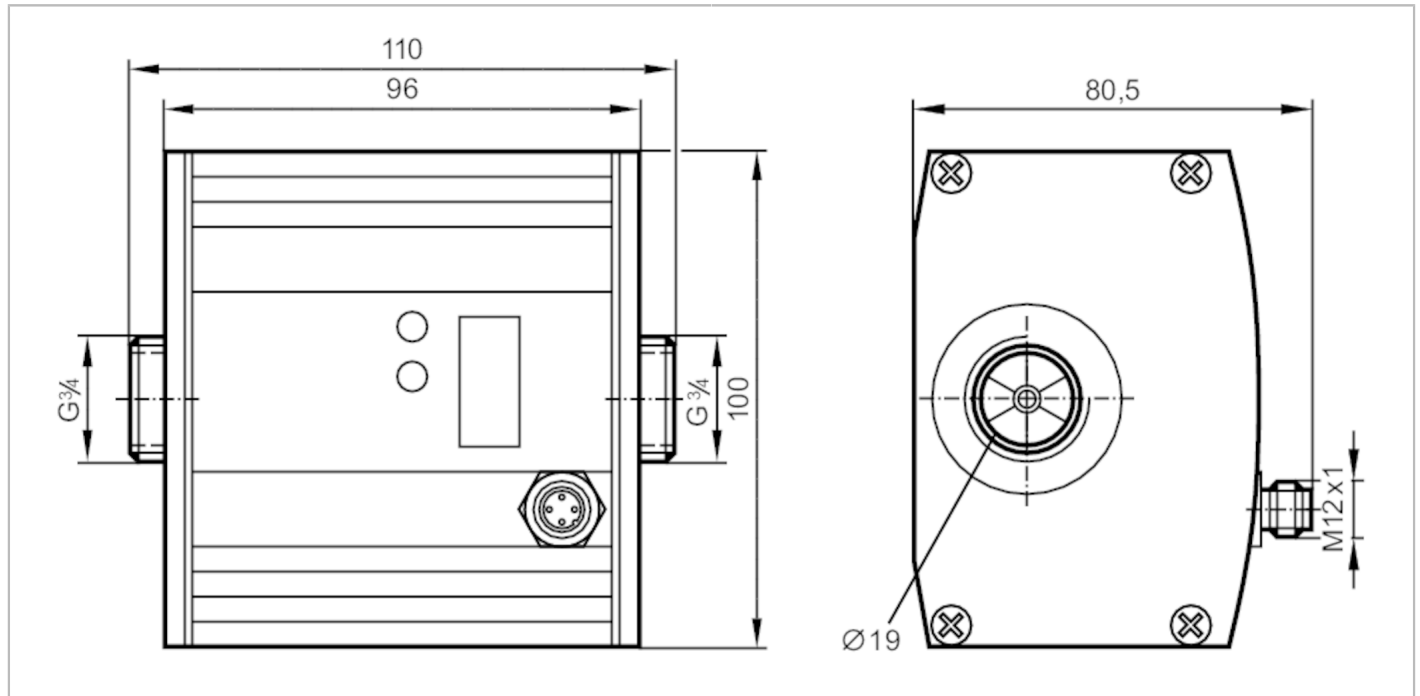


# SU7000



## Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	0...50 l/min	0...3 m³/h
Process connection	threaded connection G 3/4 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; oil	
Note on media	low-viscosity oils with viscosity: 7...40 mm²/s (40 °C) high-viscosity oils with viscosity: 30...68 mm²/s (40 °C)	
Medium temperature [°C]	-10...80	
Pressure rating [bar]	16	

### 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 analog outputs: 1	
------------------------------	---	--

### Inputs

Inputs	counter reset	
--------	---------------	--



## Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF

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...50 l/min	0...3 m³/h
Display range	0...60 l/min	0...3.6 m³/h
Resolution	0.1 l/min	0.005 m³/h
Set point SP	0.1...50 l/min	0.005...3 m³/h
Reset point rP	0...49.9 l/min	0...2.995 m³/h
Analog start point ASP	0...40 l/min	0...2.4 m³/h
Analog end point AEP	10...50 l/min	0.6...3 m³/h
Max. flow rate	60 l/min	3.6 m³/h
In steps of	0.1 l/min	0.005 m³/h
Volumetric flow quantity monitoring		
Pulse value		0.1 l...1 000 000 m³
Pulse length	[s]	0,05...2
Temperature monitoring		
Measuring range	[°C]	-10...80
Resolution	[°C]	0.2
Set point SP	[°C]	-9.8...80
Reset point rP	[°C]	-10...79.8
Analog start point	[°C]	-10...62
Analog end point	[°C]	8...80
In steps of	[°C]	0.2

# SU7000



## Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF

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 <sup>2</sup> /s at 40 °C)	
Repeatability	0,1 l/min; 6 l/h; 0,006 m <sup>3</sup> /h	
Temperature monitoring		
Accuracy [K]	$\pm 3 (Q > 1 \text{ l/min})$	
Reaction 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 > 5 l/min); (water)	
Software / programming		
Parameter setting options	Flow monitoring; quantity meter; Preset counter; Temperature monitoring	
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
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]	175	
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	1551.5	
Material	housing: AlMgSi0.5 anodized; 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	6 x LED, green (l/min, m <sup>3</sup> /h, l, m <sup>3</sup> , 10 <sup>3</sup> , °C)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, 4-digit
	Programming	alphanumeric display, 4-digit

# SU7000



## Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF

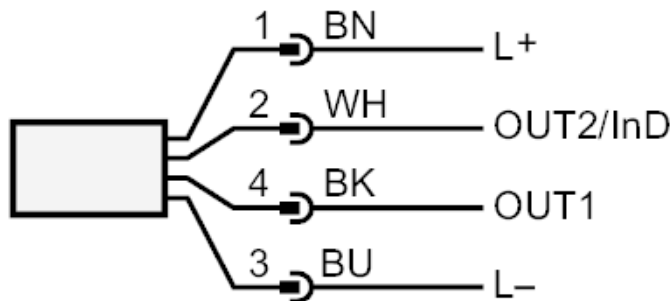
Accessories	
Accessories (supplied)	sealings: 2, Centellen
Accessories (optional)	adapter for pipe: 1 x R1/2, stainless steel, E40178 adapter for pipe: 1 x R1/2, brass, E40151
Remarks	
Remarks	MW = Measured value MEW = Final value of the measuring range sealing: only with supplied Centellen seals
Pack 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  
analog output Volumetric flow quantity monitoring / Temperature monitoring  
Input counter reset

# SU7000

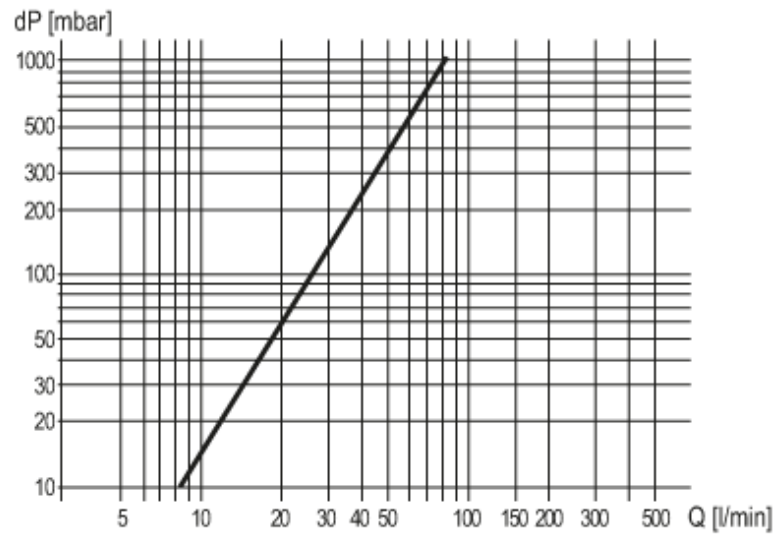


## Ultrasonic flow meter

SUR34HGBFRKG/W/US-100-IPF

### Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity