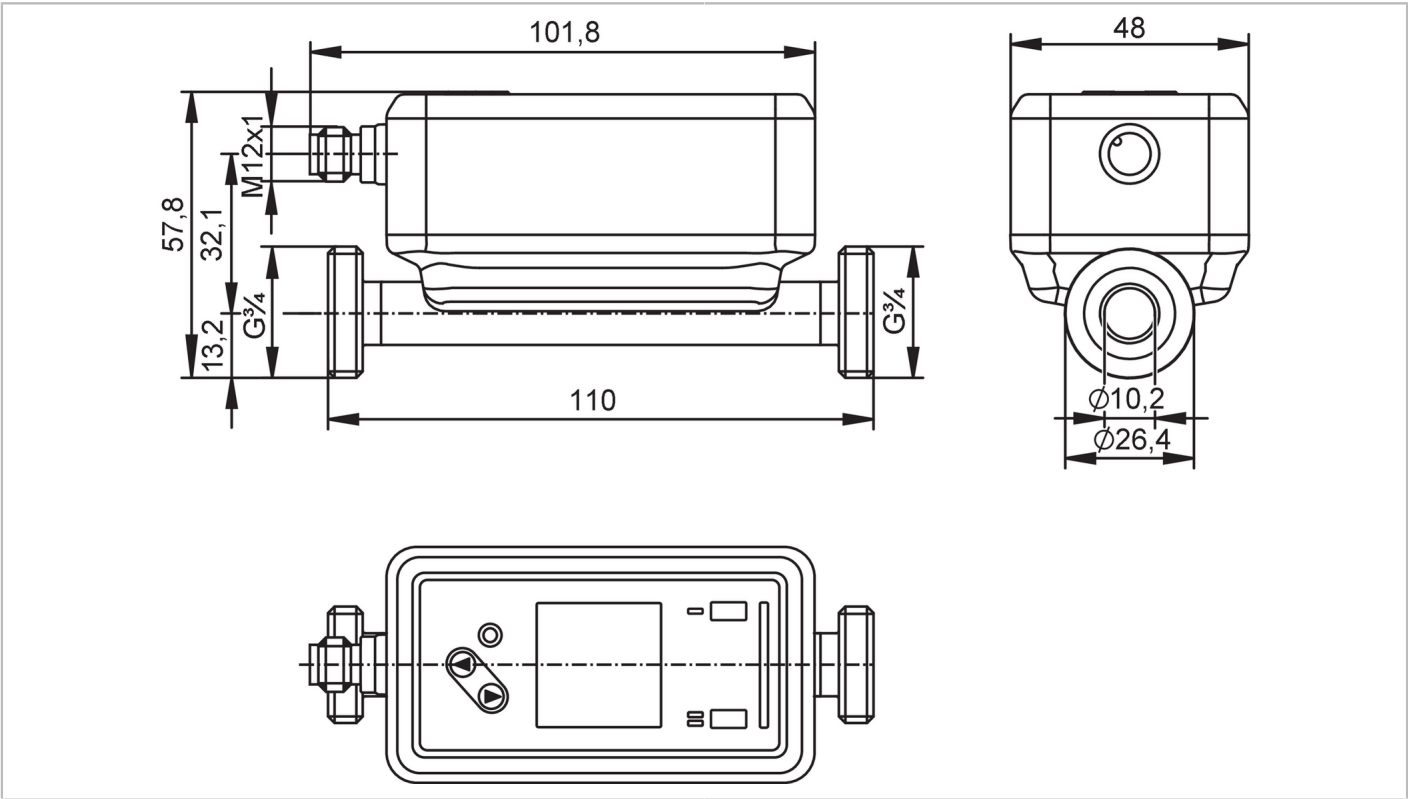


SU7030



Ultrasonic flow meter

SUR34XFBFRKG/US



ACS KTW/W270 Reg31

Product characteristics				
Measuring range	0.5...75 l/min	30...4500 l/h	0.104...15.601 m/s	0.03...4.5 m³/h
Process connection	threaded connection G 3/4 external thread DN20			
Application				
Special feature	Gold-plated contacts			
Media	ultra-pure water; water; hydrous media; glycol solutions; oils; coolants			
Note on media	hydrous media: for media with >10 % additives, the repeatability is the only available value			
	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]	-20...100		
Min. burst pressure	150 bar	15 MPa		
Pressure rating	100 bar	10 MPa		
Vacuum resistance	[mbar]	-1000		
Electrical data				
Operating voltage	[V]	18...32 DC; (to SELV/PELV)		
Current consumption	[mA]	< 75		
Protection class		III		
Reverse polarity protection		yes		
Power-on delay time	[s]	5		
Measuring principle		ultrasonic		
Inputs				
Inputs	counter reset			



Ultrasonic flow meter

SUR34XFBFRKG/US

Outputs				
Total number of outputs	2			
Output signal	switching signal; pulse signal; analogue signal; IO-Link; frequency signal; diagnostic signal; totaliser switching signal			
Electrical design	PNP/NPN			
Output function	normally open / normally closed; (parameterisable)			
Max. voltage drop switching output DC [V]	2			
Permanent current rating of switching output DC [mA]	100			
Switching frequency DC [Hz]	0...10000			
Analogue current output [mA]	4...20			
Max. load [Ω]	500			
Pulse output	flow rate meter			
Short-circuit protection	yes			
Type of short-circuit protection	pulsed			
Overload protection	yes			
Measuring/setting range				
Measuring range	0.5...75 l/min	30...4500 l/h	0.104...15.601 m/s	0.03...4.5 m³/h
Display range	-90...90 l/min	-5400...5400 l/h	-18.721...18.721 m/s	-5.4...5.4 m³/h
Resolution	0.1 l/min	2 l/h	0.001 m/s	0.002 m³/h
Set point SP	0.9...75 l/min	55...4500 l/h	0.192...15.601 m/s	0.055...4.5 m³/h
Reset point rP	0.5...74.6 l/min	32...4477 l/h	0.112...15.521 m/s	0.032...4.477 m³/h
Analogue start point ASP	-75...60 l/min	-4500...3600 l/h	-15.604...12.481 m/s	-4.5...3.6 m³/h
Analogue end point AEP	-60...75 l/min	-3600...4500 l/h	-12.481...15.601 m/s	-3.6...4.5 m³/h
Low flow cut-off LFC	0.5...3.2 l/min	30...195 l/h	0.104...0.676 m/s	0.03...0.195 m³/h
Frequency end point, FEP	15...75 l/min	903...4500 l/h	3.13...15.601 m/s	0.903...4.5 m³/h
Frequency at the end point FRP [Hz]	1...10000			
Volumetric flow quantity monitoring				
Pulse length [s]	0.002...2			
Pulse value	0.02...99990000 l			
Temperature monitoring				
Measuring range [°C]	-20...100			
Display range [°C]	-44...124			
Resolution [°C]	0.1			
Set point SP [°C]	-19.6...100			
Reset point rP [°C]	-20...99.6			
Analogue start point [°C]	-20...76			
Analogue end point [°C]	4...100			
Frequency start point, FSP [°C]	-20...76			
Frequency end point, FEP [°C]	4...100			
Frequency at the end point FRP [Hz]	1...10000			



Ultrasonic flow meter

SUR34XFBFRKG/US

Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)	glycol solutions (35%)	±(5,0 % MW + 0,5 % MEW)
	high-viscosity oils with viscosity 46mm2/s (40°C)	±(5,0 % MW + 1,0 % MEW)
	low-viscosity oils with viscosity 10mm2/s (40°C)	±(5,0 % MW + 1,0 % MEW)
	water	± (2,0 % MW + 0,5 % MEW)
Repeatability	± 0,2 % MEW	
Temperature monitoring		
Accuracy [K]	± 2,5 (Q > 5 % MEW)	
Temperature coefficient [% of the span / 10 K]	0,2	
Response times		
Flow monitoring		
Response time [s]	< 0.25; (dAP = 0, T09)	
Damping process value dAP [s]	0...5	
Temperature monitoring		
Dynamic response T05 / T09 [s]	5,7 / 86	
Software / programming		
Diagnostic functions	direction of flow detection; signal quality	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1.3	
SDCI standard	IEC 61131-9: 2013-07	
Profiles	BLOB	Binary Large Object transfer
	Common - I&D	Identification and Diagnosis
Required master port type	A	
Process data analogue	3	
Process data binary	2	
Min. process cycle time [ms]	9.6	
IO-Link process data (cyclical)	function	bit length
	totaliser	32
	Flow monitoring	32
	Temperature monitoring	32
	status	4
	Output 1	1
	Output 2	1
Supported DeviceIDs	Type of operation	DeviceID
	default	1756
Operating conditions		
Ambient temperature [°C]	-20...60	
Storage temperature [°C]	-25...80	
Protection	IP 65; IP 67	



Ultrasonic flow meter

SUR34XFBFRKG/US

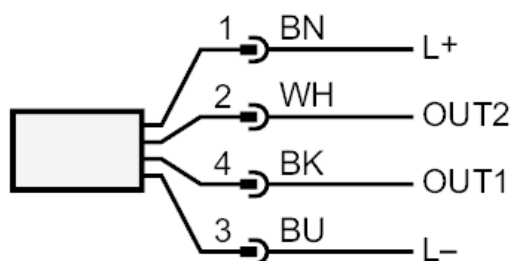
Tests / approvals		
EMC	DIN 61326-1:2021	
Shock resistance	DIN IEC 68-2-27	20 g (11ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000Hz)
MTTF [years]	160	
UL approval	UL approval no.	I034
Pressure Equipment Directive	can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	492.8	
Housing	rectangular	
Type of mounting	inlet pipe length 5xDN; outlet pipe length 1xDN	
Dimensions [mm]	110 x 48 x 57.8	
Materials	housing: stainless steel (316L/1.4404); Display: PFA; Sealing Display: FKM; connector: PBT	
Materials (wetted parts)	Pipe section: stainless steel (316L/1.4404); Process connection sealing: NBR reinforced fibre Flat seal	
Process connection	threaded connection G 3/4 external thread DN20	
Surface characteristics Ra/Rz of the wetted parts	Ra < 1.25 µm	
Displays / operating elements		
Display		colour display 1,44", 128 x 128 pixels
	Switching function	2 x LED, yellow
	diagnosis	1 x LED, three-colour
Display unit	l/min; l/h; m³/h; m/s	
Accessories		
Items supplied	Flat seal 2, Centellen package insert	
Remarks		
Remarks	MW = measured value	
	MEW = Final value of the measuring range	
	pulse and totaliser signal are only available for one of the two outputs	
	the accuracy indications are adhered to over the entire application area	
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: 4, gold-plated		
		



Ultrasonic flow meter

SUR34XFBFRKG/US

Connection



OUT1/IO-Link:

- switching output volumetric flow quantity monitoring
- switching output Temperature monitoring
- Pulse output quantity meter
- frequency output volumetric flow quantity monitoring
- frequency output Temperature monitoring
- Diagnostic output direction of flow detection / signal quality
- signal output Preset counter

OUT2/InD:

- switching output volumetric flow quantity monitoring
- switching output Temperature monitoring
- Pulse output quantity meter
- analogue output flow
- analogue output temperature
- Diagnostic output direction of flow detection / signal quality
- signal output Preset counter
- input counter reset

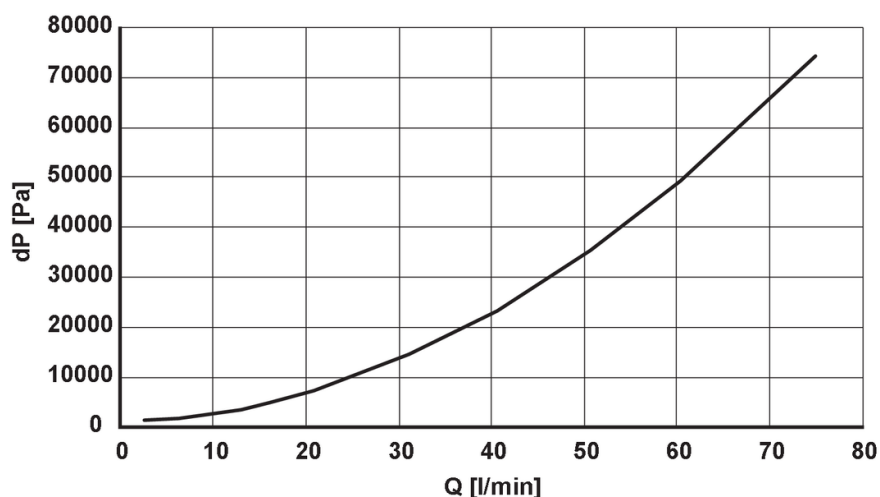
colours to DIN EN 60947-5-2

Core colours

- BK= black
- BN= brown
- BU= blue
- WH= white

Diagrams and graphs

Note on pressure loss



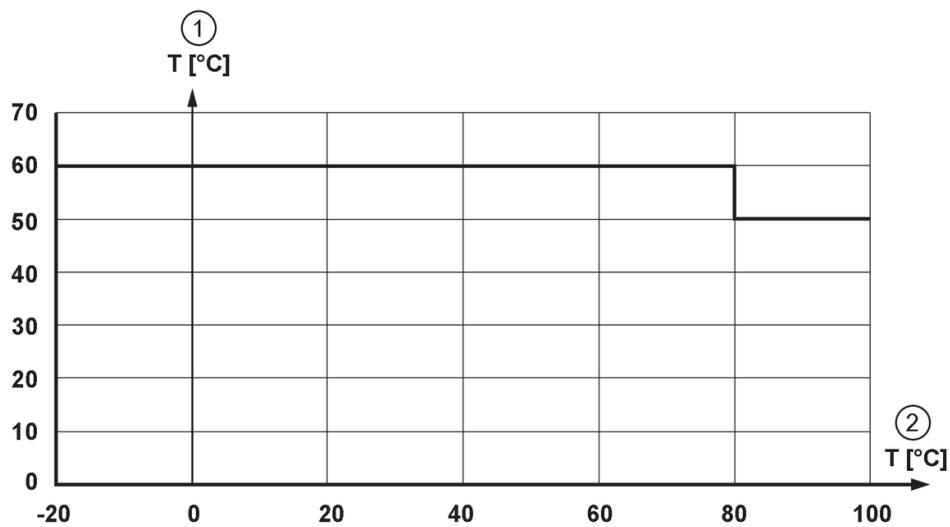
SU7030

Ultrasonic flow meter

SUR34XFBFRKG/US



derating ambient temperature



1 Ambient temperature

2 Medium temperature