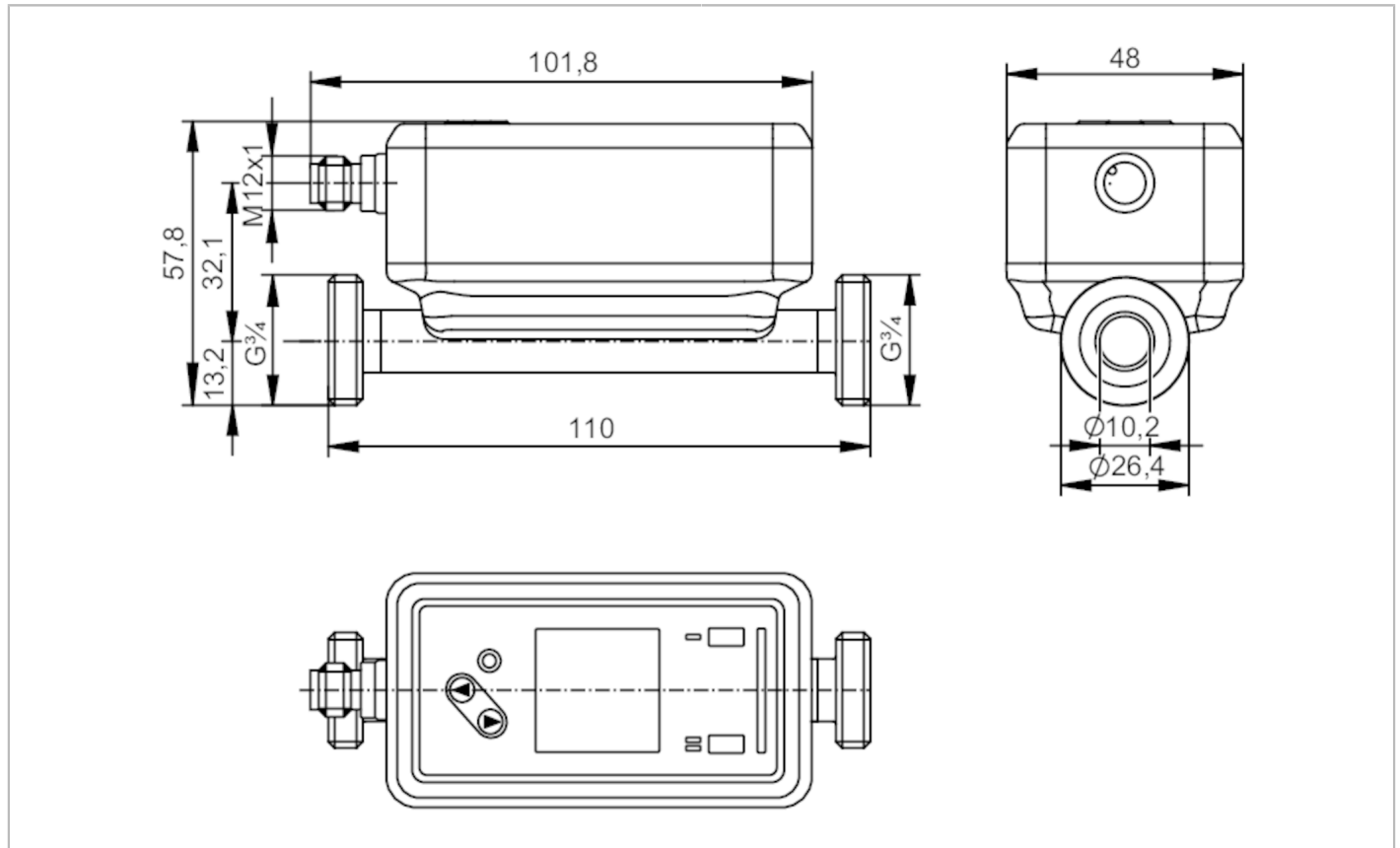


SU7020



Ultrasonic flow meter

SUR34XXBFRKG/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 m ³ /h
Process connection	G 3/4 DN20 external thread			
Application				
System	gold-plated contacts			
Media	ultra-pure water; water; water-based media			
Note on media	water-based media: for media with >10 % additives, the repeatability is the only available value			
Medium temperature	[°C]	-20...100		
Min. bursting 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		

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Outputs				
Total number of outputs	2			
Output signal	switching signal; pulse signal; analog signal; IO-Link; frequency signal; diagnostic signal; totalizer switching signal			
Electrical design	PNP/NPN			
Output function	normally open / closed; (configurable)			
Max. voltage drop switching output DC [V]	2			
Permanent current rating of switching output DC [mA]	100			
Switching frequency DC [Hz]	0...10000			
Analog current output [mA]	4...20			
Max. load [Ω]	500			
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	0.5...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
Analog start point ASP	-75...60 l/min	-4500...3600 l/h	-15.604...12.481 m/s	-4.5...3.6 m³/h
Analog 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			
Analog start point [°C]	-20...76			
Analog 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			

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Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)		$\pm (2,0 \% MW + 0,5 \% MEW)$
Repeatability		$\pm 0,2 \% MEW$
Temperature monitoring		
Accuracy [K]		$\pm 2,5 (Q > 5 \% MEW)$
Temperature coefficient [% of the span / 10 K]		0,2
Reaction 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		Identification and Diagnosis (0x4000)
Required master port class		A
Process data analog		3
Process data binary		2
Min. process cycle time [ms]		9.6
IO-Link process data (cyclical)	Function	bit length
	totalizer	32
	Flow monitoring	32
	Temperature monitoring	32
	status	4
	Output 1	1
	Output 2	1
	Supported DeviceIDs	Type of operation
default		1635
Operating conditions		
Ambient temperature [°C]		-20...60
Storage temperature [°C]		-25...80
Protection		IP 67
Tests / approvals		
EMC	DIN 61326-1:2021	
Shock resistance	DIN IEC 68-2-27	20 g (11ms)
Vibration resistance	DIN IEC 68-2-6	5 g (10...2000Hz)

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MTTF [years]	160
Pressure equipment directive	can be used for group 2 fluids; group 1 fluids on request

Mechanical data

Weight [g]	494.6
Type of mounting	inlet pipe length 5xDN; outlet pipe length 1xDN
Material	housing: stainless steel (1.4404 / 316L); Display: PFA; sealing Display: FKM; connector: POKAN
Materials (wetted parts)	Pipe section: stainless steel (1.4404 / 316L); Process connection sealing: Centellen Gasket
Process connection	G 3/4 DN20 external thread
Surface characteristics Ra/Rz of the wetted parts	1.25 µm

Displays / operating elements

Display	Color display 1,44", 128 x 128 pixels
Switching function	2 x LED, yellow
diagnosis	1 x LED, three-color

Accessories

Items supplied	Gasket 2, Centellen package insert
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Remarks

Remarks	MW = Measured value MEW = Final value of the measuring range pulse and totalizer 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: gold-plated



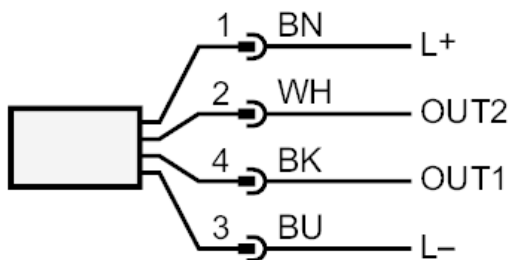
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Connection



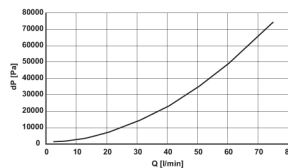
- OUT1/IO-Link: Switching output Volumetric flow quantity monitoring
 Switching output Temperature monitoring
 Pulse output quantity meter
 Frequency output Volumetric flow quantity monitoring
 Frequency output Temperature monitoring
 Diagnostic output direction of flow detection / signal quality
 signal output Preset counter
- OUT2/InD: Switching output Volumetric flow quantity monitoring
 Switching output Temperature monitoring
 Pulse output quantity meter
 analog output flow
 analog output temperature
 Diagnostic output direction of flow detection / signal quality
 signal output Preset counter
 Input counter reset

Colors to DIN EN 60947-5-2

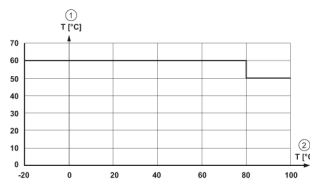
- Core colors
- BK= black
 - BN= brown
 - BU= blue
 - WH= white

Diagrams and graphs

Note on pressure loss



derating ambient temperature



- 1 Ambient temperature
- 2 Medium temperature