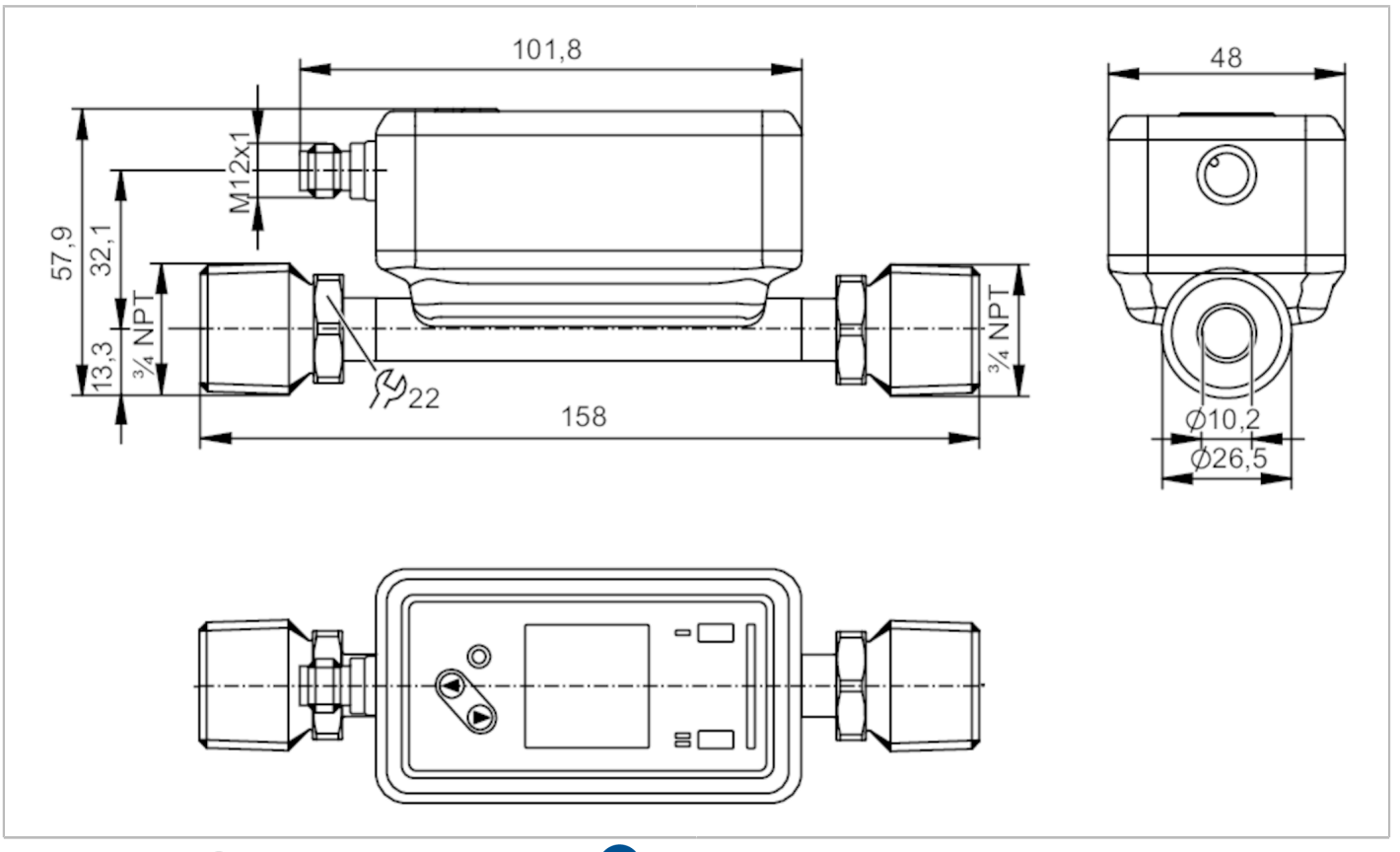
SU7621

Ultrasonic flow meter

SUN34XXBFRKG/US



ACS CE cULus LISTED IO-Link KTW/W270 NSF Reg31

Product characteristics				
Measuring range	0.5...75 l/min	0.03...4.5 m³/h	8...1189 gph	0.13...19.81 gpm
Process connection	threaded connection 3/4" NPT external thread DN20			
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	-20...100 °C		-4...212 °F	
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			

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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	0.03...4.5 m³/h	8...1189 gph	0.13...19.81 gpm
Display range		-90...90 l/min	-5.4...5.4 m³/h	-1427...1427 gph	-23.78...23.78 gpm
Resolution		0.1 l/min	0.002 m³/h	1 gph	0.01 gpm
Set point SP		0.9...75 l/min	0.055...4.5 m³/h	15...1189 gph	0.24...19.81 gpm
Reset point rP		0.5...74.6 l/min	0.032...4.477 m³/h	9...1183 gph	0.14...19.71 gpm
Analog start point ASP		-75...60 l/min	-4.5...3.6 m³/h	-1189...951 gph	-19.81...15.85 gpm
Analog end point AEP		-60...75 l/min	-3.6...4.5 m³/h	-951...1189 gph	-15.78...19.81 gpm
Low flow cut-off LFC		0.5...3.2 l/min	0.03...0.195 m³/h	8...59 gph	0.13...0.99 gpm
Frequency end point, FEP		15...75 l/min	0.903...4.5 m³/h	238...1189 gph	3.97...19.81 gpm
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; 0.005...26414563.515 gal			
Temperature monitoring					
Measuring range		-20...100 °C		-4...212 °F	
Display range		-44...124 °C		-47.2...255.2 °F	
Resolution		0.1 °C		0.1 °F	
Set point SP		-19.6...100 °C		-3.2...212 °F	
Reset point rP		-20...99.6 °C		-4...211.2 °F	
Analog start point		-20...76 °C		-4...168.8 °F	
Analog end point		4...100 °C		39.2...212 °F	
Frequency start point, FSP		-20...76 °C		4...168.8 °F	
Frequency end point, FEP		4...100 °C		4...212 °F	
Frequency at the end point FRP	[Hz]	1...10000			

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Accuracy / deviations			
Flow monitoring			
Accuracy (in the measuring range)		± (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	
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		BLOB	Binary Large Object transfer
		Common - I&D	Identification and Diagnosis
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**	**DeviceID**
		default	1636
Operating conditions			
Ambient temperature	[°C]	-20...60	
Storage temperature	[°C]	-25...80	
Protection		IP 65; 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	20 g (10...2000Hz)

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MTTF	[years]	160	
UL approval		UL approval number	I034
Pressure equipment directive		can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	590.5	
Housing		rectangular	
Type of mounting		inlet pipe length 5xDN; outlet pipe length 1xDN	
Dimensions	[mm]	158 x 48 x 57.9	
Material		housing: stainless steel (1.4404 / 316L); Display: PFA; sealing Display: FKM; connector: PBT	
Materials (wetted parts)		Pipe section: stainless steel (1.4404 / 316L)	
Process connection		threaded connection 3/4" NPT external thread DN20	
Surface characteristics Ra/Rz of the wetted parts		49.21 µin	

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	package insert

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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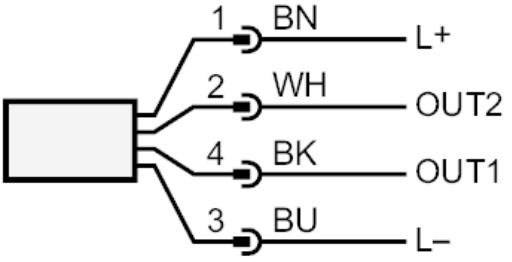
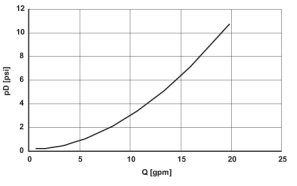
Connection



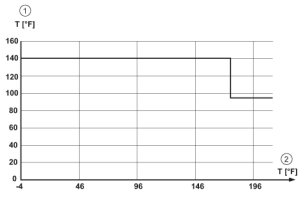
OUT1/IO-Link:	Switching output Volumetric flow quantity monitoring Switching output Temperature monitoring Pulse output quantity meter Frequency output Volumetric flow quantity monitoring Frequency output Temperature monitoring Diagnostic output direction of flow detection / signal quality signal output 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