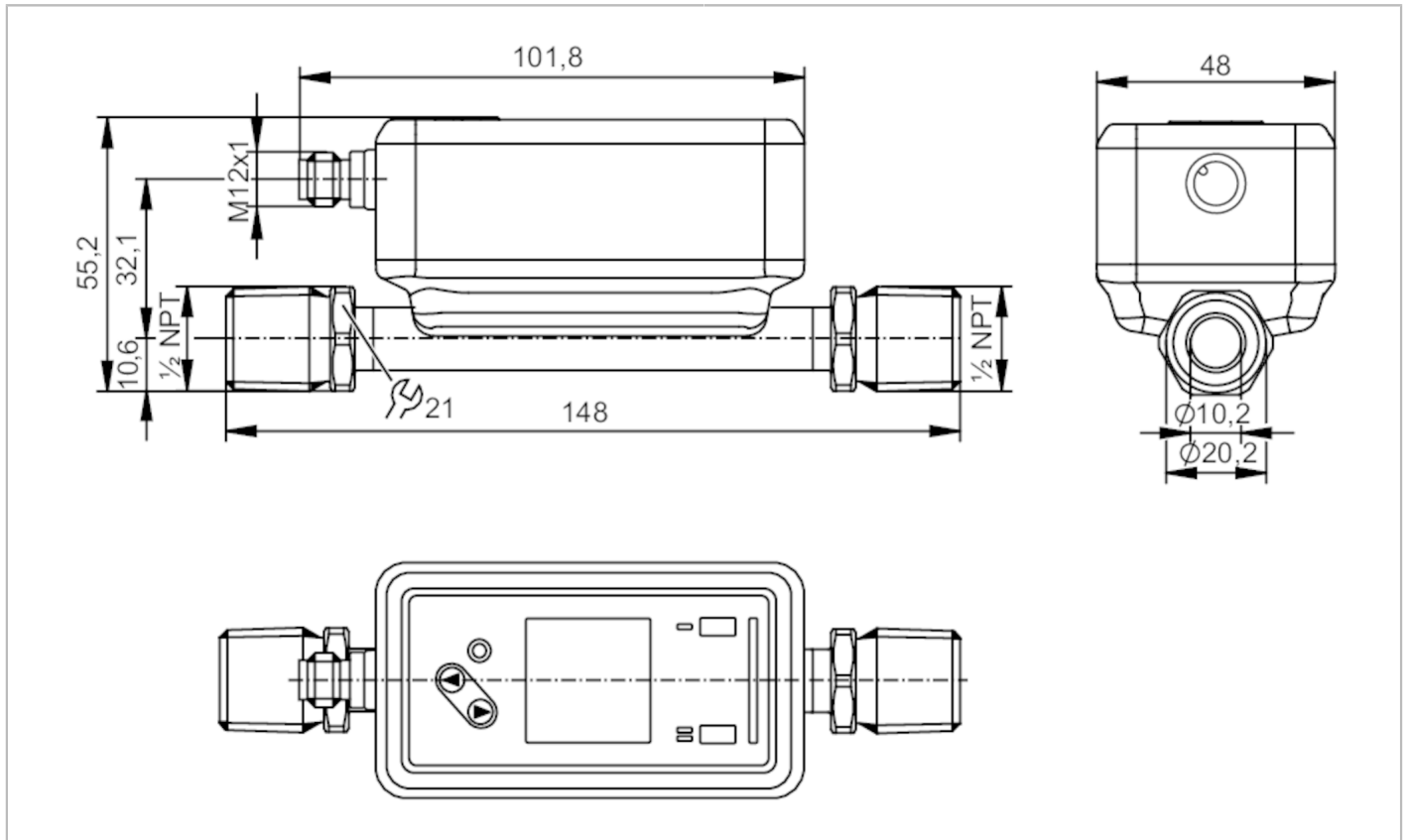


# SU6621



## Ultrasonic flow meter

SUN12XXBFRKG/US



ACS CE cUL US LISTED IO-Link KTW/W270 NSF Certified Refinement 81.0 Reg31

Product characteristics	
Measuring range	0.5...65 l/min    0.03...3.9 m <sup>3</sup> /h    8...1030 gph    0.13...17.17 gpm
Process connection	threaded connection 1/2" NPT external thread DN15
Application	
Special feature	Gold-plated contacts
Media	ultra-pure water; water; hydrous media
Note on media	hydrous 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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## Ultrasonic flow meter

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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...65 l/min	0.03...3.9 m³/h	8...1030 gph	0.13...17.17 gpm
Display range	-78...78 l/min	-4.68...4.68 m³/h	-1236...1236 gph	-20.61...20.61 gpm
Resolution	0.1 l/min	0.002 m³/h	1 gph	0.01 gpm
Set point SP	0.9...65 l/min	0.052...3.9 m³/h	14...1030 gph	0.23...17.17 gpm
Reset point rP	0.5...64.7 l/min	0.032...3.88 m³/h	8...1025 gph	0.14...17.08 gpm
Analogue start point ASP	-65...52 l/min	-3.9...3.12 m³/h	-1030...824 gph	-17.17...13.74 gpm
Analogue end point AEP	-52...65 l/min	-3.12...3.9 m³/h	-824...1030 gph	-13.74...17.17 gpm
Low flow cut-off LFC	0.5...3.2 l/min	0.03...0.195 m³/h	8...52 gph	0.13...0.86 gpm
Frequency end point, FEP	13...65 l/min	0.782...3.9 m³/h	207...1030 gph	3.44...17.17 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	
Analogue start point	-20...76 °C		-4...168.8 °F	
Analogue 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)		$\pm (2,0 \% MW + 0,5 \% MEW)$
Repeatability		$\pm 0,2 \% MEW$
Temperature monitoring		
Accuracy [K]		$\pm 2,5 (Q > 5 \% MEW)$
Temperature coefficient [% of the span / 10 K]		0,2
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)	<b>function</b>	<b>bit length</b>
	totaliser	32
	Flow monitoring	32
	Temperature monitoring	32
	status	4
	Output 1	1
	Output 2	1
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	1462
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	20 g (10...2000Hz)

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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]	524.7
Housing		rectangular
Type of mounting		inlet pipe length 5xDN; outlet pipe length 1xDN
Dimensions	[mm]	148 x 48 x 55.2
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		threaded connection 1/2" NPT external thread DN15
Surface characteristics Ra/Rz of the wetted parts		49.21 µin

### Displays / operating elements

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

### Accessories

Items supplied	package insert
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### 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: gold-plated



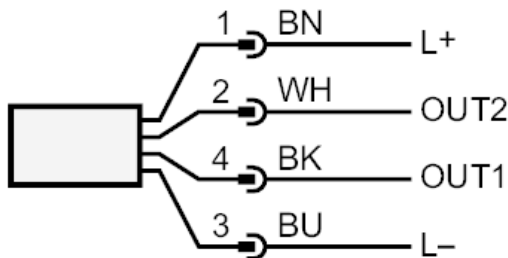
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### Connection



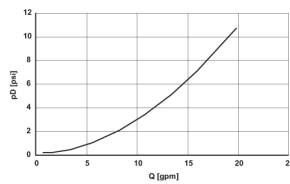
- OUT1/IO-Link:**
- switching output volumetric flow quantity monitoring
  - switching output Temperature monitoring
  - Pulse output quantity meter
  - frequency output volumetric flow quantity monitoring
  - frequency output Temperature monitoring
  - Diagnostic output direction of flow detection / signal quality
  - signal output Preset counter
- OUT2/InD:**
- switching output volumetric flow quantity monitoring
  - switching output Temperature monitoring
  - Pulse output quantity meter
  - 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

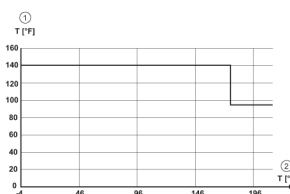
- Core colours
- BK= black
  - BN= brown
  - BU= blue
  - WH= white

### Diagrams and graphs

Note on pressure loss



derating ambient temperature



- 1 Ambient temperature
- 2 Medium temperature