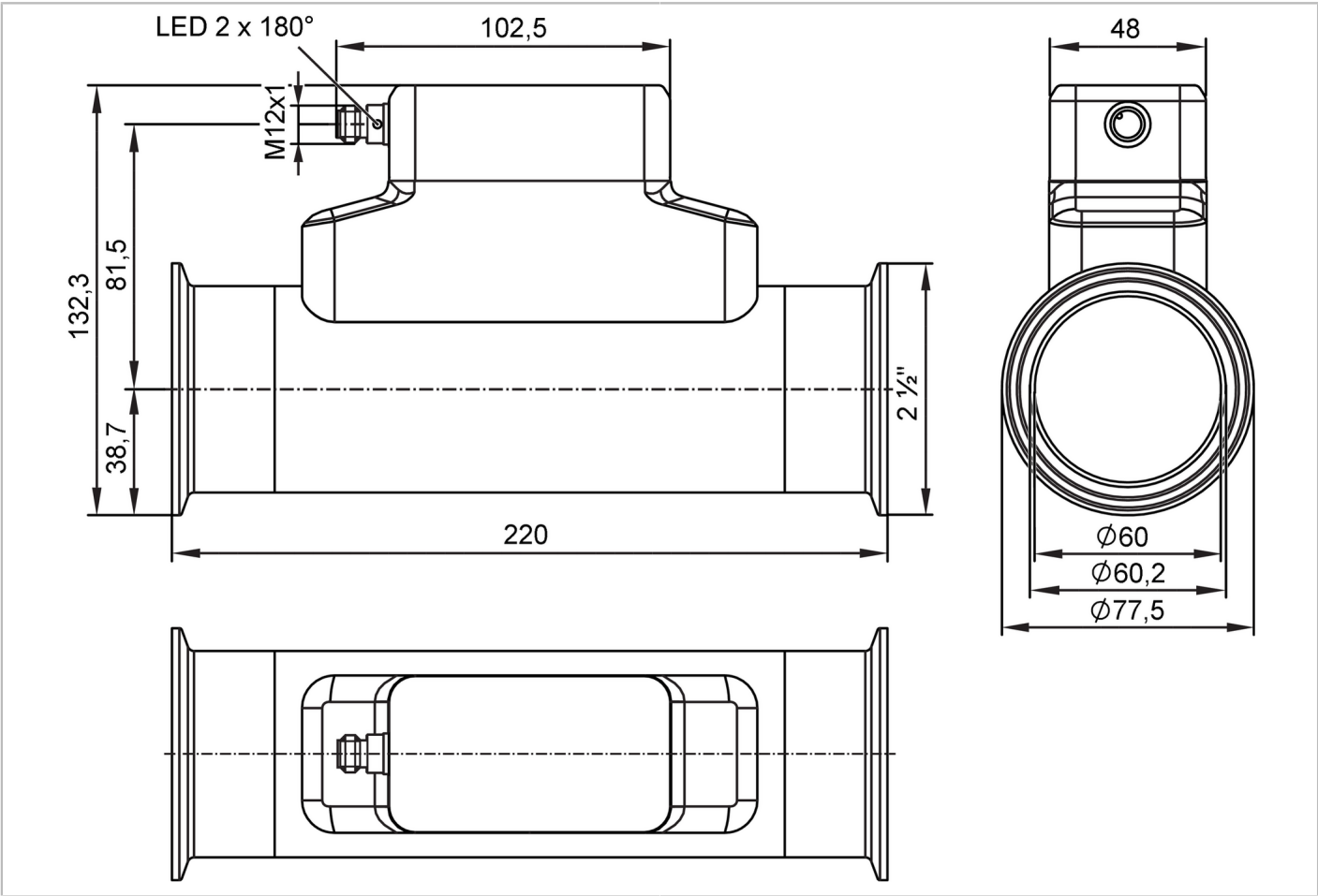


SUH501



Ultrasonic flow meter

SUC65XJBFRKG/US



ACS EC 1935/2004 FCM KTW/W270 Reg31

Product characteristics

Measuring range	20...2400 l/min	1.2...144 m³/h	320...38040 gph	5.2...634 gpm
Nominal diameter	DN65 (2 1/2")			
Process connection	Clamp 2,5" DIN 32676 series C (ASME BPE)			

Application

Special feature	gold-plated contacts	
Application	food and beverage industry	
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]	-40...120; (< 1 h: 150)	
Min. burst pressure	40 bar	4 MPa
Pressure rating	25 bar	2.5 MPa
Note on pressure rating	take into account the pressure resistance of the bracket and the seal used for clamp connection	
Vacuum resistance [mbar]	-1000	

Electrical data

Operating voltage [V]	18...32 DC; (to SELV/PELV)
Current consumption [mA]	< 75

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Protection class	III			
Reverse polarity protection	yes			
Power-on delay time [s]	5			
Measuring principle	ultrasonic			
Inputs / outputs				
Total number of inputs and outputs	2			
Inputs				
Inputs	OUT2		counter reset	
Outputs				
Total number of outputs	2			
Output signal	OUT1	switching signal; pulse signal; diagnostic signal; totalizer switching signal; frequency signal; IO-Link		
	OUT2	switching signal; pulse signal; diagnostic signal; totalizer switching signal; analog signal		
Electrical design	PNP/NPN			
Pulse output	flow rate meter			
Short-circuit protection	yes			
Type of short-circuit protection	yes (non-latching)			
Overload protection	yes			
Analog				
Number of analog outputs	1			
Analog current output [mA]	4...20			
Max. load [Ω]	500			
Digital				
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]	100			
Switching frequency DC [Hz]	0...10000			
Measuring/setting range				
Measuring range	20...2400 l/min	1.2...144 m³/h	320...38040 gph	5.2...634 gpm
Resolution	0.1 l/min	0.001 m³/h	1 gph	0.01 gpm
Note on factory setting	gpm, °F			
Set point SP	33.2...2400 l/min	1.99...144 m³/h	526...38041 gph	8.8...634 gpm
Reset point rP	20.7...2387.5 l/min	1.24...143.25 m³/h	328...37843 gph	5.5...630.7 gpm
Analog start point ASP	-2400...1920 l/min	-144...115.2 m³/h	-38041...30433 gph	-634...507.2 gpm
Analog end point AEP	-1920...2400 l/min	-115.2...144 m³/h	-30433...38041 gph	-507.2...634 gpm
Low flow cut-off LFC	20...120 l/min	1.2...7.2 m³/h	317...1902 gph	5.3...31.7 gpm
Frequency end point, FEP	481.5...2400 l/min	28.89...144 m³/h	7630...38040 gph	127.2...634 gpm
Frequency at the end point FRP [Hz]	1...10000			

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Volumetric flow quantity monitoring		
Pulse length	[s]	0.002...2
Pulse value		0.1...99990000 l; 0.026...26414563.515 gal
Temperature monitoring		
Measuring range	-40...120 °C	-40...248 °F
Resolution	0.1 °C	0.1 °F
Set point SP	-39.4...120 °C	-39...248 °F
Reset point rP	-40...119.4 °C	-40...247 °F
Analog start point	-40...88 °C	-40...190.4 °F
Analog end point	-8...120 °C	17.6...248 °F
Frequency start point, FSP	-40...88 °C	-40...190.4 °F
Frequency end point, FEP	-8...120 °C	17.6...248 °F
Frequency at the end point FRP	[Hz]	1...10000
Accuracy / deviations		
Accuracy (in the measuring range)	only up to 100 °C; at higher temperatures, only the repeatability is within the specification.	
Flow monitoring		
Accuracy (in the measuring range)	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	
Reaction times		
Flow monitoring		
Response time	[s]	< 0.5; (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

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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	1853

Operating conditions		
Ambient temperature	[°C]	-20...60
Storage temperature	[°C]	-25...80
Protection		IP 69; (DIN EN 60529)

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]	136
UL approval	UL approval number	I038
	File number UL	E174189
Pressure equipment directive	can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight	[g]	1689.05
Housing		rectangular
Inlet pipe length		15 x DN
Outlet pipe length		3 x DN
Dimensions	[mm]	220 x 77.5 x 132.3
Material		housing: stainless steel (1.4404 / 316L); connector: PEI, FKM
Materials (wetted parts)		Pipe section: stainless steel (1.4435 / 316L); Process connection: stainless steel (1.4404 / 316L)
Nominal diameter		DN65 (2 1/2")
Process connection		Clamp 2,5" DIN 32676 series C (ASME BPE)
Process connection suitable for pipe standard		2,5" / Ø 63,5 mm x 1,65 mm; (DIN 11866 series C); (DIN EN 10357 Series D)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.4 µm (16 µin); Rz = 4 µm (157 µin)

Displays / operating elements		
Display	operating status	1 x LED, green

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 specified surface characteristics Ra/Rz of the wetted surfaces do not apply to the weld seam.
Pack quantity	1 pcs.

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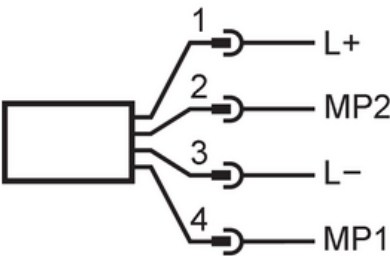
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Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection

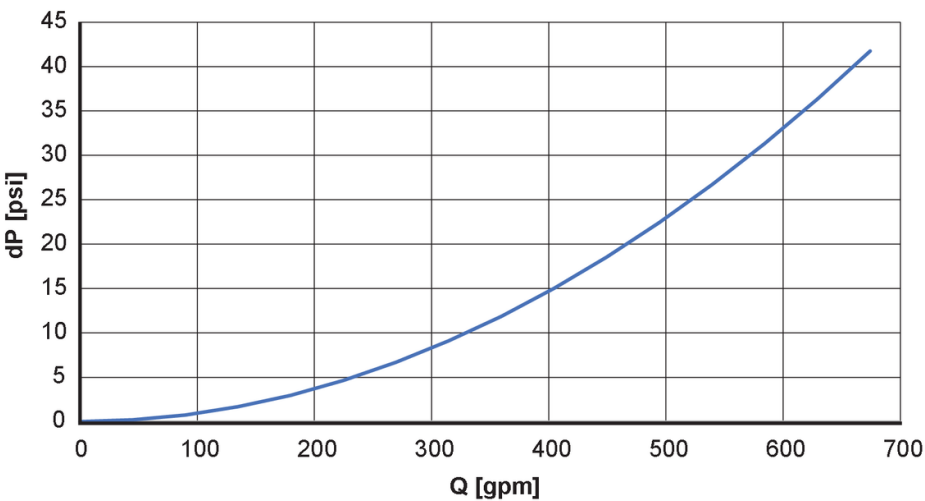


1 (L+)	L+	
2 (OUT2)	MP2	DO2, AO, DI
3 (L-)	L-	

4 (OUT1) MP1 DO1, FO, IO-Link

AO: analog output; DI: digital input; DO: digital output; FO: Frequency output; MP: multi-function connection

Diagrams and graphs



dP [psi] Pressure loss

Q [gpm] volumetric flow quantity