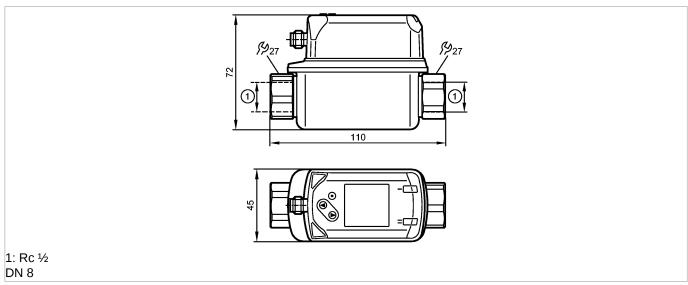
SVK12XXXIRKG/US-100



Flow sensors



$C \in U_{\text{LISTED}}$ us \bigcirc **IO**-Link

Product characteristics Vortex flow meter DN 8 Process connection: Rc ½ Measuring range 1...20 I/min

-10...90 °C

Application			
Application		Liquids of the fluid group 2 according to the Pressure Equipment Directive (PED): Water, deionised water, cooling water	
Pressure rating [bar]		P [kPa] 1200 1000 800 600 400 200	
		40 50 60 70 80 90 100 T [°C]	
Pressure rating	[bar]	12; (up to 40 °C)	
Medium temperature	[°C]	-1090	

Electrical data		
Electrical design		DC PNP/NPN
Operating voltage	[V]	1830 DC
Current consumption	[mA]	< 30
Insulation resistance	[ΜΩ]	> 100 (500 V DC)
Protection class		III
Reverse polarity protection	n	yes

Outputs	
Output function	OUT1: normally open / normally closed programmable or frequency or IO-Link
	OUT2: normally open / normally closed programmable or frequency



SV4500

Flow monitoring

SVK12XXXIRKG/US-100

FI	ow	sen	sors	

Voltage drop [V] 2.5 Short-circuit protection yes Measuring / setting range	Current rating	[mA]	1	.00	
Short-circuit protection yes					
Description					
Flow monitoring 120 [I/min] 0.061.2 [m³/h]	·		У	res	
Measuring range 120 [l/min] 0.0612 [m³/h] Display range 024 [l/min] 01.44 [m³/h] Resolution 0.1 [l/min] 0.005 [m³/h] Set point, SP 1.220 [l/min] 0.071.20 [m³/h] Reset point, rP 1.019.8 [l/min] 0.06119 [m³/h] Frequency end point, FEP 420 [l/min] 0.2412 [m³/h] in steps of 0.1 [l/min] 0.005 [m³/h] Frequency at the end point, FrP [Hz] 1001000 Measuring dynamics 1:20 Temperature monitoring Measuring range [°C] -1090 Display range [°C] -30110 Resolution [°C] 0.5 Set point, SP [°C] -990 Reset point, FP [°C] -1089 Frequency start point, FSP [°C] -1070 Frequency end point, FEP [°C] -1090 in steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy deviations Flow monitoring Accuracy deviations Flow monitoring Accuracy deviations Temperature monitoring Accuracy R[X] ± 1 Reaction times	Measuring / setting range				
Display range	Flow monitoring				
Resolution D.1 [/min] D.005 [m³/h]	Measuring range		120 [l/min]	0.061.2 [m³/h]	
Set point, SP	Display range		024 [l/min]	01.44 [m³/h]	
Reset point, rP	Resolution		0.1 [l/min] 0.005 [m³/h]		
Frequency end point, FEP 420 [l/min] 0.241.2 [m³/h] in steps of 0.1 [l/min] 0.005 [m³/h] Frequency at the end point, FrP [Hz] 1001000 Measuring dynamics 1:20 Temperature monitoring Measuring range [°C] -1090 Display range [°C] -30110 Resolution (°C] 0.5 Set point, SP (°C] -990 Reset point, rP [°C] -1089 Frequency start point, FSP (°C] -1070 Frequency at the end point, FEP (°C] -1090 in steps of (°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy deviations Flow monitoring Accuracy deviations Flow monitoring Accuracy 420 [l/min] 0.241.2 [m³/h] Accuracy 420 [l/min] 0.005 [m³/h] ### Pressure loss (dP) / flow rate (Q) ### Pressu	Set point, SP		1.220 [l/min] 0.071.20 [m³/h]		
See See	Reset point, rP		1.019.8 [l/min] 0.061.19 [m³/h]		
Frequency at the end point, FrP [Hz] 1001000	Frequency end point, FEP		420 [l/min]	0.241.2 [m³/h]	
Measuring dynamics 1:20	in steps of		0.1 [l/min]	0.005 [m³/h]	
Temperature monitoring Measuring range [°C] -1090 Display range [°C] -30110 Resolution [°C] 0.5 Set point, SP [°C] -990 Reset point, rP [°C] -1089 Frequency start point, FSP [°C] -1090 in steps of [°C] -1090 in steps of [°C] -1090 in steps of [°C] -101000 Accuracy / deviations Flow monitoring Accuracy Accuracy - 2 % MEW Repeatability +0.5 % MEW Pressure loss (dP) / flow rate (Q) Temperature monitoring Accuracy - 2 % MEW Repeatability - 2 % MEW Repeat	Frequency at the end point, F	rP [Hz]	100.	1000	
Measuring range [°C] -1090 Display range [°C] -30110 Resolution [°C] 0.5 Set point, SP [°C] -990 Reset point, FP [°C] -1089 Frequency start point, FEP [°C] -1070 Frequency end point, FEP [°C] -1090 in steps of [°C] 0.5 Frequency at the end point, FP [Hz] -1001000 Accuracy / deviations Flow monitoring Accuracy 4	Measuring dynamics		1	:20	
Display range [°C] -30110 Resolution [°C] 0.5 Set point, SP [°C] -990 Reset point, rP [°C] -1089 Frequency start point, FSP [°C] 1090 In steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy ± 2 % MEW Repeatability ± 0.5 % MEW Pressure loss (dP) / flow rate (Q) Temperature monitoring Accuracy K 1001000 Accuracy 100	Temperature monitoring				
Resolution [°C] 0.5 Set point, SP [°C] -990 Reset point, rP [°C] -1089 Frequency start point, FSP [°C] -1070 Frequency end point, FEP [°C] 1090 in steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy Repeatability + 2.% MEW Pressure loss (dP) / flow rate (Q) ### Applications ### Applica	Measuring range				
Set point, SP [°C] -990 Reset point, rP [°C] -1089 Frequency start point, FSP [°C] -1070 Frequency end point, FEP [°C] 1090 in steps of [°C] -0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy Repeatability Pressure loss (dP) / flow rate (Q) Temperature monitoring Accuracy [K] ± 1 Reaction times					
Reset point, rP [°C]	Resolution	n [°C]		0.5	
Frequency start point, FSP [°C] -1070 Frequency end point, FEP [°C] 1090 in steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy # 2 % MEW Repeatability Pressure loss (dP) / flow rate (Q) dP [mbar] DN8 400 350 300 250 200 150 100 Temperature monitoring Accuracy [K] ± 1 Reaction times					
Frequency end point, FEP [°C] 1090 in steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy Repeatability Pressure loss (dP) / flow rate (Q) Temperature monitoring Accuracy [K] ± 1 Reaction times					
in steps of [°C] 0.5 Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy					
Frequency at the end point, FrP [Hz] 1001000 Accuracy / deviations Flow monitoring Accuracy					
Accuracy / deviations Flow monitoring Accuracy	-		0.5		
Flow monitoring Accuracy	Frequency at the end point, FrP [Hz]		1001000		
## Accuracy ### 2 % MEW Repeatability ### 1.5 % MEW Pressure loss (dP) / flow rate (Q) ### 400					
Repeatability Pressure loss (dP) / flow rate (Q) dP [mbar] DN8 400 350 250 200 150 Q [l/min] Temperature monitoring Accuracy [K] ± 1 Reaction times	_	1			
Pressure loss (dP) / flow rate (Q) dP [mbar] DN8 400 350 300 250 200 150 Q [l/min] Temperature monitoring Accuracy [K] ± 1 Reaction times					
Temperature monitoring Accuracy [K] ±1 Reaction times				% MEW	
Temperature monitoring Accuracy [K] ± 1 Reaction times	Pressure loss (dP) / flow rate	(Q)			
Temperature monitoring Accuracy [K] ± 1 Reaction times					
Temperature monitoring Accuracy [K] ± 1 Reaction times					
Temperature monitoring Accuracy [K] ± 1 Reaction times					
Temperature monitoring Accuracy [K] ±1 Reaction times					
Temperature monitoring Accuracy [K] ± 1 Reaction times			200		
Temperature monitoring Accuracy [K] ± 1 Reaction times			150		
Temperature monitoring Accuracy [K] ± 1 Reaction times			100		
0 5 10 15 20			50		
Temperature monitoring Accuracy [K] ± 1 Reaction times				10 15 20	
Accuracy [K] ±1 Reaction times					
Reaction times	Temperature monitoring				
	Accuracy	[K]	<u> </u>	± 1	
Power-on delay time [s] < 3	Reaction times				
	Power-on delay time	[s]	<	< 3	



3 V 4 3 0 0



SVK12XXXIRKG/US-100 Flow sensors

Response time [s]	< 1 (dAP = 0)	
Damping, dAP [s]		
Temperature monitoring		
Response time [s]	T09 = 6	
Software / programming		
Programming options	hysteresis / window function; NO / NC; output polarity; frequency output; on dela off delay; damping; display unit	
Interfaces		
IO-Link Device		
Transfer type	COM2 (38.4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
IO-Link Device ID	484 d / 00 01 E4 h	
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port class	A	
Process data analogue	2	
Process data binary	2	
Min. process cycle time [ms]	3	
Environment		
Ambient temperature [°C]	060, at max. 80 °C medium temperature (050 °C at max. 90 °C medium temperature)	
Storage temperature [°C]	-2080	
Protection	IP 65 / IP 67	
Tests / approvals		
Pressure equipment directive	sound engineering practice	
EMC	DIN EN 61000-6-2 DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27 5 g (11 ms)	
Vibration resistance	with water 1050 Hz: 1 mm DIN EN 60068-2-6 with water 502000 Hz: 2 g	
UL approval number	1001	
Mechanical data		
Process connection	Rc ½	
Materials (wetted parts)	stainless steel (316L / 1.4404); ETFE; PA 6T; PPS; FKM	
Housing materials	stainless steel (316L / 1.4404); PC; PBT+PC-GF 30; PPS; TPE-U	
Tightening torque [Nm]		
Weight [kg]		
TTO:grit INGI	0.433	
	0.400	
Electrical connection Connection	M12 connector; gold-plated contacts	

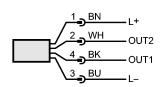




SVK12XXXIRKG/US-100 Flow sensors

Core colors
BK black
BN brown
BU blue
WH white





OUT1: Flow monitoring

- Switching output
- Frequency output
- IO-Link

OUT2: flow monitoring and temperature monitoring

- Switching output
- Frequency output

Colours to DIN EN 60947-5-2

Remarks		
Remarks		MW = measured value MEW = final value of the measuring range
Pack quantity	[piece]	1

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