



Process sensors

Measuring flow rates without any obstacles: the SU Puresonic ultrasonic sensor



Flow sensors / flow meters



Accurate flow measurement of ultrapure water and water

A robust, component-free measuring pipe made of stainless steel offers high media resistance and permanent ingress resistance

The operating status LED signals the sensor status according to Namur NE107

Conclusions about the process quality are possible on the basis of the signal strength provided



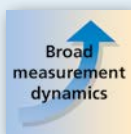
IO-Link



IP 69 K



High-grade stainless steel



Broad measurement dynamics



Operating temperature up to 100°C



LED diagnostics

Accurate measurement data even with ultrapure water

The SU Puresonic detects water flow rates with high precision at volumes up to 1000 l/min. Thanks to ultrasound technology, this also applies to ultrapure water with low conductivity as produced in reverse osmosis plants. In combination with the conductivity sensors of the LDL family, reliable quality control can be established in the filtration process.

The measuring pipe of the SU Puresonic is made of stainless steel and is free of measuring elements, seals and moving parts. This means that faults caused by damage, leaks or blockages, which can occur in mechanical systems such as impellers or turbines, or, design-related pressure drops are excluded from the outset.



Signal strength as a quality and maintenance indicator

The continuously monitored signal strength makes it possible to draw conclusions about the quality of the medium or the need for maintenance. A dropping value can be an indicator of an increase in particles in the medium or deposits on the inner wall of the pipe. The signal strength is transmitted acyclically via IO-Link and thus makes it possible to schedule maintenance work or adjust the process sequence at an early stage. This guarantees a high-end product quality. This function is also implemented for conventional systems that do not yet have IO-Link. If the signal strength falls below a predefined level, the device status will change and the sensor will signal this via the diagnostic output and the operating status LED.

LED: device status according to Namur recommendation

Similarly, changes in the device status are indicated by the clearly visible operating status LED. This is how the user on site will also be permanently informed about the health status of the sensor. The colouring corresponds to Namur Recommendation (NE) 107 for self-monitoring and diagnostics of field devices.

Minimising complexity / simple plug & play system

Compared to clamp-on sensors that need to be adjusted to the application depending on their installation situation, the SU Puresonic is a simple plug & play system: Influencing factors such as varying wall thicknesses and pipe materials no longer play a role thanks to the highly accurate inline measurement process. There is no need for time-consuming programming or adjustments, which saves a considerable amount of time during implementation.

Material and design offer maximum flexibility

The stainless steel measuring pipe ensures the SU Puresonic's resistance to a variety of media while the compact design makes the ultrasonic sensor very versatile and easy to use. The dimensions of the measuring and operating unit are kept so narrow that several sensors can easily be installed next to each other in a standard water manifold with a pitch of 50 millimetres.

Relevant process values via IO-Link

In addition to the flow rate and the sensor status, the total flow rate and the temperature are also available via IO-Link.

Measuring range		Process connection	Order no.
[l/min]	[gpm]		
1...240	-	G 1 (DN25)	SU8020
5...1000	-	G 2 (DN50)	SU2020
1...240	0.25...63.4	G 1 (DN25)	SU8021
5...1000	1.32...264.18	G 2 (DN50)	SU2021
1...240	0.25...63.4	1" (NPT)	SU8621
5...1000	1.32...264.18	2" (NPT)	SU2621

Common technical data Type SU

Pressure rating	[bar]	< 100
Output functions		IO-Link, analogue output 4...20 mA, pulse output, switching output, diagnostic output, totaliser switch point
Input functions		Counter reset

Flow

Accuracy	[%]	± (1.0 MV + 0.5 VMR)
Repeatability	[%]	± 0.2
Medium temperature	[°C]	-20...100
Minimum conductivity	[µS]	from 0 µS

Temperature



Measuring range	[°C]	-20...100
Accuracy	[K]	± 2.5

MV = value of the measuring range,
VMR = final value of the measuring range


Accessories

Type	Description	Order no.
------	-------------	-----------

IO-Link

	IO-Link master with PROFINET interface	AL1100
	moneo configure SA Stand-alone licence, software for online and offline parameter setting of IO-Link devices including maintenance and support until the end of the following year	QMP010

Additional sensors

Type	Description	Order no.
	Conductivity sensor for water with conductivity from 0.04 µS/cm	LDL101