

Technical Specification

SONALOK 7S

Non-Invasive Ultrasonic flowmeter

Stationary, Permanently installed ultrasonic clamp-on system
for flow measurement

Features

- low installation effort and costs
- measurement is independent of fluid conductivity and pressure
- no pressure loss, no possibility of leakage
- no cutting of pipes necessary, no interruption of process, no plant shut down
- bi-directional measuring
- Suitable for highly diverse nominal pipe sizes and pipe materials
- Digital signal processor (DSP) and signal processing ensure stable and reliable results even under difficult measurement conditions

Applications

- flow measurements in most general industry
- Leakage detection
- Reservoirs
- Monitoring process conditions

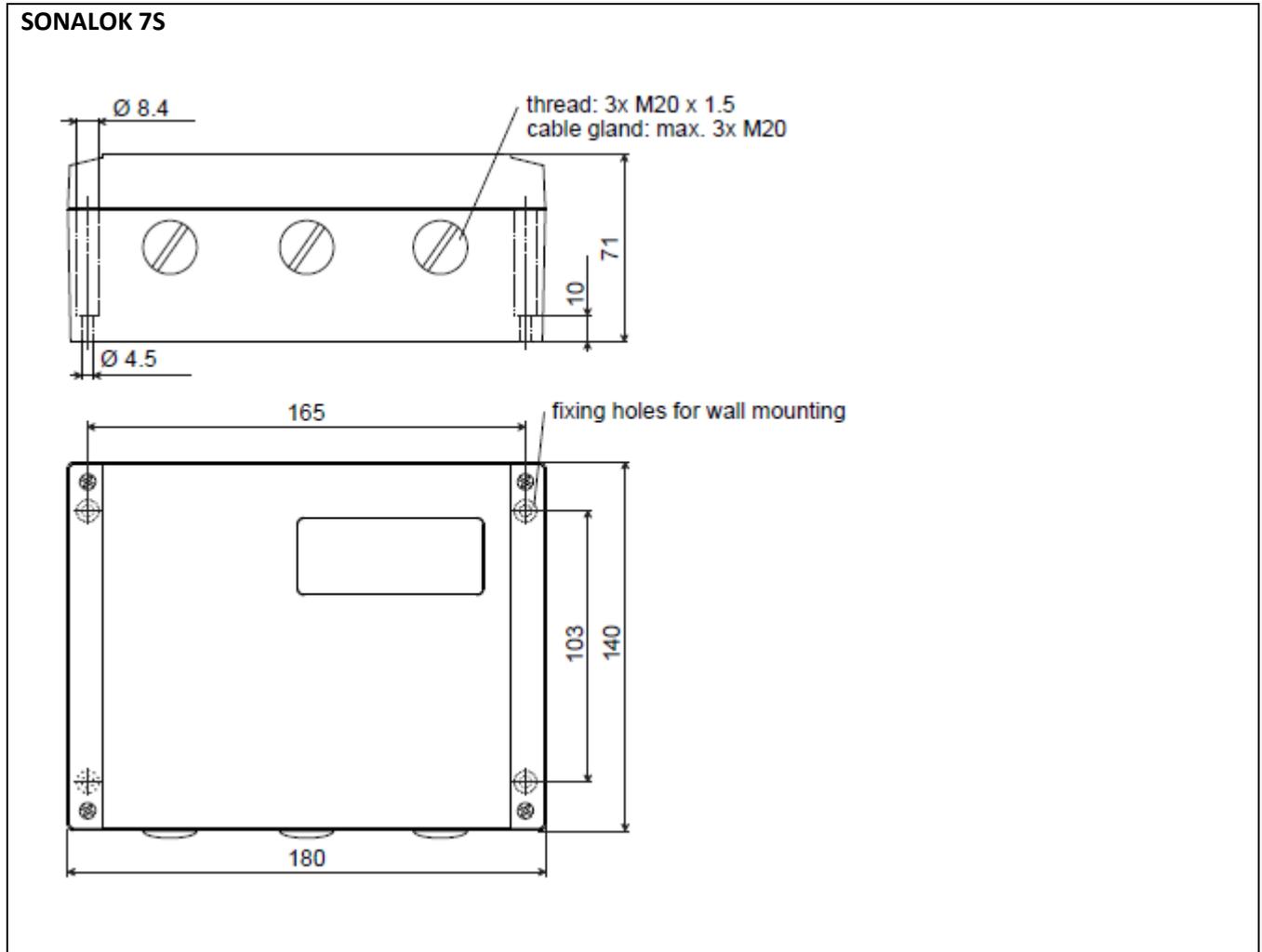


Transmitter

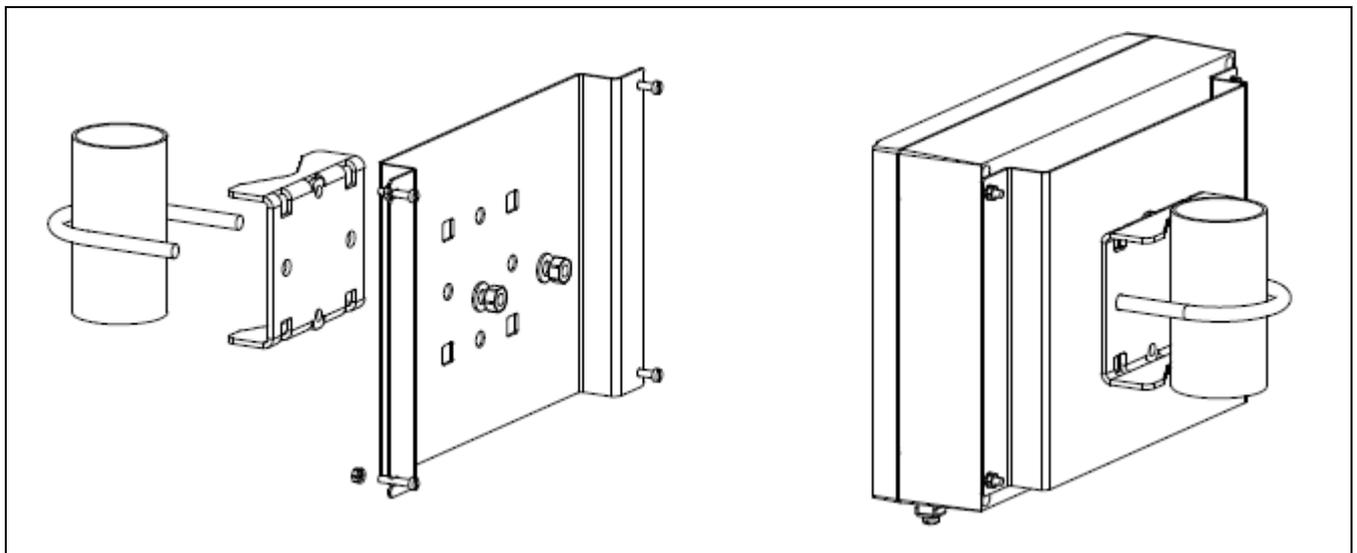
Technical Data

EESIFLO		SONALOK 7S
design		field device with 1 measuring channel
transducers		SLK7SQ: CDQ2LZ7 SLK7SM: CDM2LZ7
Measurement		
Measurement Principle		Transit time difference correlation principle
Flow Velocity	m/s	0.01...25
Repeatability		0.25% of reading ± 0.01 m/s
Fluid		Liquid phase
Accuracy ¹ - Volumetric flow rate		$\pm 2\%$ of reading ± 0.01 m/s
Flow Transmitter		
Power Supply		100...230 V/50...60 Hz or 20...32 V DC
Power Consumption	W	< 10
Number of meas. Channel		1
Damping	S	0...100, adjustable
Measuring cycle (1 Channel)	Hz	10
Response time	S	1
Housing Material		Aluminium, powder coated
Degree of protection according to IEC/EN 60529		IP 66
Dimension		See Dimensional Drawing
Weight	Kg	1.5
Fixation		Wall mounting, optional: 2" pipe mounting
Ambient temperature	°C	-10...+60
Display		2 x 16-character, dot matrix, backlight
Menu language		English
Measuring functions		
Physical quantities		Volumetric flow rate, mass flow rate, flow velocity
Totalizer		Volume, mass
Communication (Optional)		
interfaces		RS485 (Sender) or Modbus RTU
Outputs (Optional)		
		The outputs are galvanically isolated from the transmitter.
Current Output		
Number		1
Range	mA	4...20
Accuracy		0.1 % of reading ± 15 μ A
Active output		Rext < 500 Ω
Binary Output		
Number		2
Optorelay		28V / 100mA
Binary output as alarm output -functions		Limit, change of flow direction or error
Binary output as pulse output - Pulse value - Pulse width		Mainly for totalizing 0.01...1000 units 80...1000 ms

¹for reference conditions and $v > 0.25$ m/s

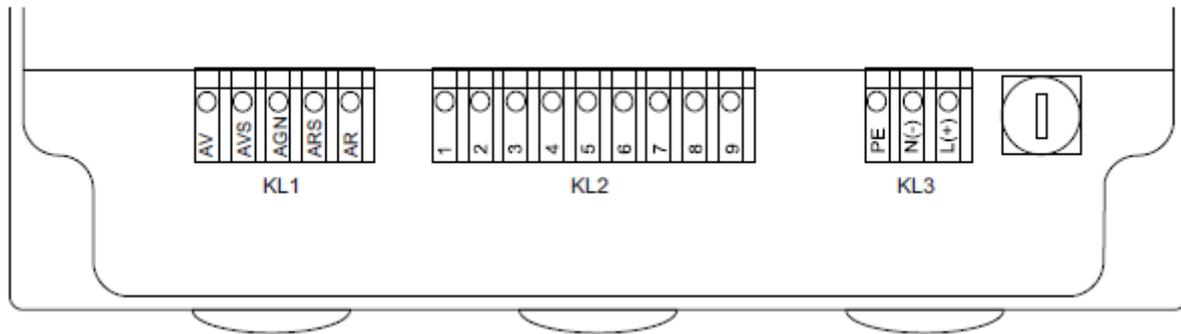
Dimensions

In mm

2" pipe mounting kit (optional)

Terminal Assignment

SONALOK 7S



Power Supply

Terminal strip KL3

Terminal	Connection (AC)	Connection (DC)
PE	Earth	Earth
N (-)	Neutral	-
L (+)	Phase	+

Transducers

Terminal strip KL 1

Extension cable, transducer cable	
Measuring channel, A	
Terminal	Connection
AV	transducer, ↑, signal
AVS	transducer, ↑, internal shield
ARS	transducers, ↗, internal shield
AR	transducers, ↗, Signal
Cable gland	External shield

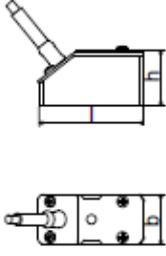
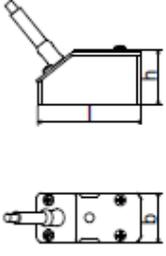
Outputs

Terminal strip KL 2

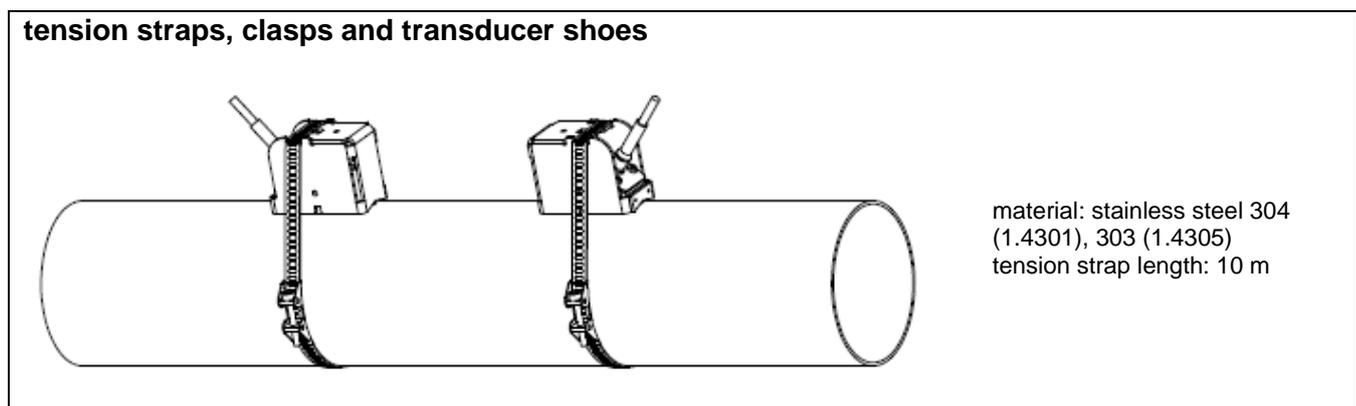
Terminal	Connection
1(-), 2(+)	Binary Output B1
3(-), 4(+)	Binary Output B2
5(-), 6(+)	Current Output I1
7(-), 8(+), 9(shield)	RS485 (Optional)

Transducers

Technical Data

Technical type		CDM2LZ7		CDQLZ7	
Transducers Frequency		MHz	1		4
Inner pipe diameter d					
Min. extended		mm	50		10
Min. recommended		mm	100		25
Max. recommended		mm	1000		150
Max. extended		mm	1500		-
Pipe wall thickness					
Min.		mm	2		0.6
Material					
Housing			PEEK with stainless steel cap 316Ti (1.4571)		PEEK with stainless steel cap 316Ti (1.4571)
Contact Surface			PEEK		PEEK
Degree of protection according to IEC/EN 60529			IP67		IP67
Transducer cable					
Type			2606		2606
Length		m	10		10
Dimension					
Length l		mm	59		36
Width b		mm	28		18
Height h		mm	31		21
Dimensional drawing					
Ambient temperature					
Min.		°C	-30		-30
Max.		°C	+100		+100

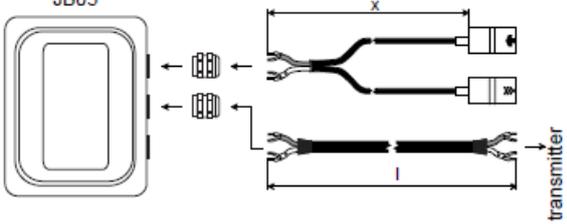
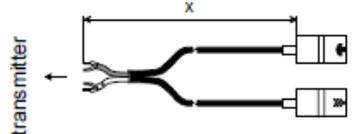
Transducers Mounting fixture



Coupling materials for transducers

Type	Ambient temperature °C	Material
Coupling foil type VT	-10...+200	Fluor elastomer
coupling compound type N	-30...+130	mineral grease paste

Connection systems

Connection with extension cable	Direct connection	Transducers technical type
		****LZ7

X – transducers cable length

l – max. length of extension cable

Transducer cable

Technical data

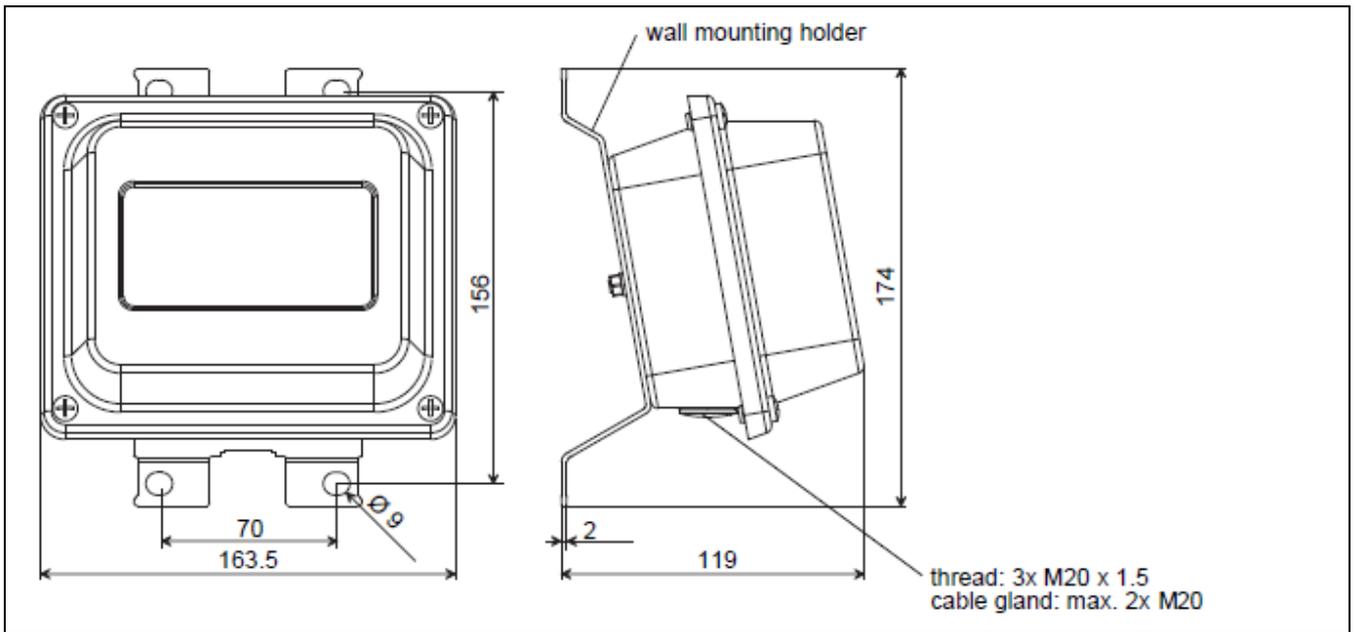
		Transducer cable		Extension cable	
Type		2606	2552	2615	
Standard length x	m	10	-	-	
Max. length l	m	-	**M****: 300 **Q****: 90		
Ambient temperature	°C	-40...+100	-25...+80	-40...+70	
properties				halogen free fire propagation test according to IEC 60332-1 combustion test according to IEC 60754-2	
Cable jacket					
Material		PUR	TPV	PUR	
Outer diameter	mm	5	12	12	
Thickness	mm			2	
Colour		Grey	Black	Black	
Shield		x	X	X	

Junction Box

Technical Data

Technical type		JB05
Dimension		See dimensional drawing
Weight	Kg	1.2 kg
Fixation		Wall mounting, optional: 2" Pipe mounting
Material		
Housing		Stainless steel 316L (1.4404)
Gasket		Silicone
Degree of protection according to IEC/ EN60529		IP 67
Ambient temperature		
Min.		-40
Max.		+80

Dimensions



In mm

2 " pipe mounting kit (optional)

