Level Sensor

P S 1

Main features

- Measuring ranges from 1 mWC to 250 mWC
- Standard signals 4...20 mA, 0...10 V, and others
- Media temperature range -40°C to 85°C
- No internal transmitting media
- Max. tensile force 4 kp
- Highly reliable
- Degree of protection IP68
- Precision Class 0.5 %

Applications

- Filling level measurement in tanks, vessels, water systems
- Point level measurement in rivers, rivulets, lakes or weirs

Description

Thanks to its stainless steel membrane and semiconductor thin-film technology, the filling level or point level sensor has excellent properties, is hermetically tight and very robust in its stainless steel housing. The reasonably priced probe is of long-term stability and simple to operate.

Options

- Cap configuration, as a weight of steel or plastic
- For more aggressive media with special coating

AZ NAGANO Sensortechnik

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Specification

PRESSURE RANGE								
Measuring range* silicon technology		p [bar]**	**0,10**	**0,25**	**0,50**			
Overload pressure		p [bar]**	0,3	0,5	1,0			
Burst pressure		p [bar]**	0,6	1,0	1,5			
Measuring range* stainless steel diaphragm		p [bar]**	**1**	**1,6**	**2,0**	**2,5**	**4,0**	**6,0**
Overload pressure		p [bar]**	6	6	6	6	10	20
Burst pressure		p [bar]**	9	9	9	9	15	30
Measuring range* stainless steel diaphragm		p [bar]**	**10**	**16**	**20**	**25**		
Overload pressure		p [bar]**	20	40	40	100		
Burst pressure		p [bar]**	30	60	60	150		

**** 1 bar is equivalent to ~ 10 mWC**

ELECTRICAL PARAMETER		signal		U_S [V_{DC}]	R_L [kΩ]	RA [Ω]
Output signal * and	R_A in Ohm	4...20 mA	(2-wire, 3-wire)	9...32		acc. to R_A = < (U_S - 10V) / 0,02 A
maximum acceptable burden R_A		0...10 V_{DC}	(3-wire)	12...32	> 5,0	
		1...5 V_{DC}		8...32	> 1,0	
Response time * (10-90%)	t [ms]	< 1				
Withstand voltage	U [V_{DC}]	350	option 710			

ACCURACY		for pressure range of 1 bar to 25 bar		for pressure range of 0,1 bar to 0,5 bar	
Accuracy @RT	% of the range	≤ 0,50	option ≤ 0,25	≤ 1,00	option ≤ 0,5
	BFSL	≤ 0,125		≤ 0,25	
Non-linearity	% of the range	≤ 0,15		≤ 0,15	
Repeatability	% of the range	≤ 0,10		≤ 0,10	
Stability/year	% of the range	≤ 0,10		≤ 0,10	

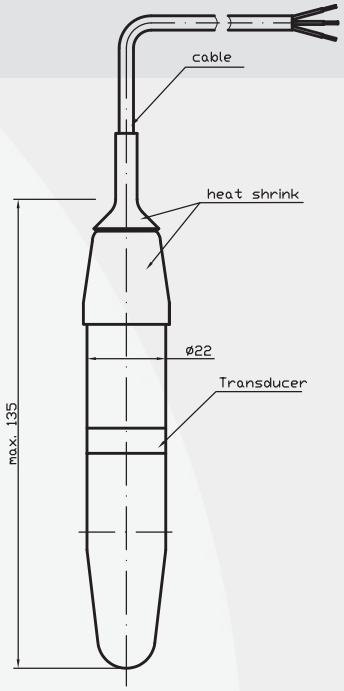
ACCEPTABLE TEMPERATURE RANGES			
Measuring medium	T [°C]	-40...85	
Ambience	T [°C]	-40...85	
Storage	T [°C]	-40...85	
Compensated range*	T [°C]	-20...85	
Temperature coefficient within the compensated range			
Mean TC offset	% of the range	≤ 0,15 / 10K	
Mean TC range	% of the range	≤ 0,15 / 10K	
Total error	% of the range	-40°C	2,00%
	% of the range	85°C	2,00%

MECHANICAL PARAMETER			
Parts in contact with the measuring medium		stainless steel	**for pressure range of 1 bar to 25 bar**
Parts in contact with the measuring medium		silicon	**for pressure range of 0,1 bar to 0,5 bar**
Housing		stainless steel	
Casing		plastic / stainless steel	
Cable		depending on medium	
Shock resistance	g	1000	acc. to IEC 68-2-32
Vibration resistance	g	20	acc. to IEC 68-2-6 and IEC 68-2-36
Mass with plastic casing	m [g]	100 plus cable	
Mass with steel casing	m [g]	190 plus cable	
Mass cable	m [g]	40 per m	
CE - conformity		EC Directive 89/336/EWG	

*** others upon request**

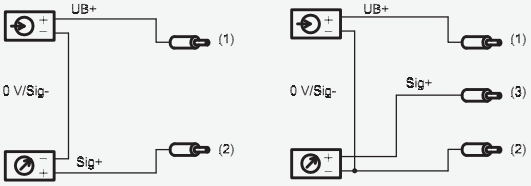
Configurations -examples-

with plastic casing with steel casing



Electrical Connections* (left: 2-wire, right: 3-wire)

cable output



Legend

power supply
consumer

(1) red
(2) black
(3) white

*** Custom-made adjustments acc. to pressure connections and connecting options are possible.**

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Product line

DS4	Electronic Pressure Switch	SMC	Pressure Transmitter with CANopen Interface
DPSX9I	Intrinsically Safe Electronic Pressure Switch for Current	SME	Pressure Transmitter in Miniature Design
DPSX9U	Intrinsically Safe Electronic Pressure Switch for Voltage	SMF	Pressure Transmitter with Flush Diaphragm
PS1	Level Sensor	SMH	High Pressure Transmitter
PSX2	Intrinsically Safe Level Sensor	SML	Pressure Transmitter for Industrial Application
SHP	High Precision Pressure Transmitter	SMO	Pressure Transmitter in Mobile Hydraulics
SIS	Low Pressure Transmitter in Short and Compact Design	SMS	OEM Pressure Transmitter for Hydraulics and Pneumatics
SIL	Low Pressure Transmitter for Industrial Application	SMX	Intrinsically Safe Pressure Transmitter for Industrial Application
SKE	High Temperature Pressure Transmitter with Detached Electronics	TPS	Multi-Function Transmitter for Pressure and Temperature
SKL	High Temperature Pressure Transmitter with Cooling Fins		

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