

Intrinsically Safe Level Sensor



PSX 2

Main features

- Measuring ranges from 1 mWC to 250 mWC
- Explosion-proof certificate for zone 0
II 1G Ex ia IIB T4
- Explosion-proof certificate for zone 1
II 2G Ex ia IIC T4
- Output signal 4...20 mA
- Protection class IP68

Applications

- Filling level measurement in tanks, vessels, water systems
- Application in environments that require ATEX-approved devices

Description

The explosion-proof filling level or point level sensor has excellent properties, is hermetically tight and very robust in its stainless steel housing. Appropriate protective circuits guarantee inverse-polarity protection and overvoltage resistance. The probe is of long-term stability and simple to operate.

- Options
- with steel or plastic cap
 - special coating for higher media resistance

zone 0 An area where an explosive atmosphere of a mix of air and combustible gases, vapours or sprays is permanently, over long periods or frequently prevails.

zone 1 An area where an explosive atmosphere of a mix of combustible materials in the form of gas, vapour or spray with air occurs occasionally in normal operation.

Safety Note:

When fitting, commissioning and operating this pressure transmitter, please observe relevant national safety regulations by all means.



Specification

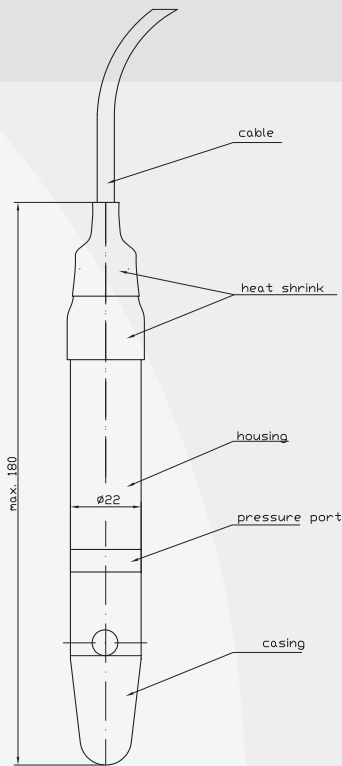
PRESSURE RANGE								
Measuring range* silicon technology	p [bar]**	0,10	0,25	0,50				
Overload pressure	p [bar]**	0,3	0,5	1,0				
Burst pressure	p [bar]**	0,6	1,0	1,5				
Measuring range* stainless steel diaphragm	p [bar]**	1,0	1,6	2,0	2,5	4,0	6,0	
Overload pressure	p [bar]**	6	6	6	6	10	20	
Burst pressure	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 _i [kΩ]	RA [Ω]	
Output signal * and maximum acceptable burden R _A	R _A in Ohm	4...20 mA	(2-wire)	20...27		acc. to R _A = < (U _s - 16V) / 0,02 A min 100 ohm		
Response time * (10-90%)	t [ms]	< 1						
Withstand voltage	U [V _{DC}]	350	option 710					
ACCURACY		for pressure ranges of 1 bar to 25 bar			for pressure ranges 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		zone 0			zone 1			
Measuring medium	T [°C]	-20...60			-40...100			
Ambience	T [°C]	-20...60			-40...85			
Storage	T [°C]	-40...120			-40...125			
Compensated range*	T [°C]	-20...60			-20...85			
Temperature coefficient within the compensated range								
Mean TC offset	% of the range	≤ 0,15 / 10K			≤ 0,15 / 10K			
Mean TC range	% of the range	≤ 0,15 / 10K			≤ 0,15 / 10K			
Total error	% of the range	-20°C	1,00%	-40°C		1,00%		
	% of the range	60°C	1,00%	85°C		1,00%		
DIRECTIVE ATEX		zone 0			zone 1			
Type of ignition protection	II 1G Ex ia IIB T4 (cable lenght max 30 m)			II 2G Ex ia IIC T4 (cable lenght max 30 m)				
Underlying standards	EN 60079-0, EN 60079-11, EN 60079-26, EN60079-14			EN 60079-0, EN 60079-11, EN 60079-26, EN60079-14				
Maximum connected power	27 V, 125 mA, 85 W			27 V, 125 mA, 85 W				
Temperature class	T4 (Ambience -20...+60° C)			T4 (Ambience -40...+85° C)				
MECHANICAL PARAMETER								
Parts in contact with the measuring medium	stainless steel		for pressure ranges of 1 bar to 25 bar					
Parts in contact with the measuring medium	silicon		for pressure ranges of 0,1 bar to 0,5 bar					
Housing	stainless steel							
Casing	plastic / stainless steel							
Cable	depending on media (max. tensile strenght 40 N)							
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]	150 plus cable						
Mass with steel casing	m [g]	240 plus cable						
Mass cable	m [g]	20 per m						
CE - conformity	EC Directive 94/9/EG					* others upon request		

Configurations -examples-

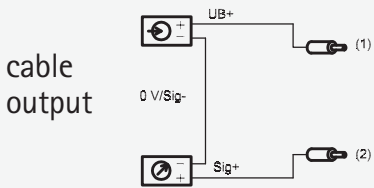


with plastic casing

with steel casing



Electrical Connections*



Legend	
	power supply
	consumer
(1)	red
(2)	black
(3)	white

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

PSX2

Intrinsically Safe
Level Sensor

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/SMX2	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		



ADZ NAGANO GmbH
Gesellschaft für Sensortechnik
Bergener Ring 43 • D-01458 Ottendorf-Okrilla
Germany
Phone: +49 (0) 35 205 / 59 69-30 • Fax: -59
Email: info@adz.de www.adz.de

Your contacts sales department:
Lutz Reinhardt
Marion Hotz

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