Pressure transducer for industrial application

S M L

Main features

- Measuring ranges -1...0 bar; 0...1 bar and to 0...1000 bar
- All standard signals for industry, hydraulics and pneumatics
- Temperature range of media -40°C to 125°C
- Shock and vibration resistance > 1000 g shock, > 20 g vibration
- No internal transmission media (fully welded, "dry" measuring cell)
- Protection class IP67 (special version up to IP69K)
- Compact and rugged model in stainless steel
- High flexibility for options thanks to modular design
- Plug systems MVS/A acc. to DIN EN 175301-803 A, MVS/C acc. to DIN EN 175301-803 E, M12
- Short delivery times

Applications

- generally to be used in industrial applications
- Hydraulics
- Pneumatics
- Engineering
- Industrial Equipment and Automation technology

Description

Thanks to its stainless steel membrane and to its semiconductor thin-film technology, the transducer has excellent properties that suggest its advantageous use in most industrial applications. Its robust design guarantees high reliability even in very rugged conditions. Its modular design permits cost-effective production, also in small batches, and offers a multitude of signal, thread and connecting options that can be supplied within very short time.

AZ NAGANO Sensortechnik

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Specifications

PRESSURE RANGE									
Measuring range*	p [bar]	**1,0**	**1,6**	**2,0**	**2,5**	**4,0**	**6,0**	**10,0**	**16,0**
Overload pressure	p [bar]	6	6	6	10	10	20	20	40
Burst pressure	p [bar]	9	9	9	15	15	30	30	60
Measuring range*	p [bar]	**20**	**25**	**40**	**60**	**100**	**160**	**200**	
Overload pressure	p [bar]	40	100	100	200	200	400	400	
Burst pressure	p [bar]	60	150	150	300	300	600	600	
Measuring range*	p [bar]	**250**	**400**	**600**	**1000**				
Overload pressure	p [bar]	750	750	840	1200	(vacuum, relative pressure, +-,			
Burst pressure	p [bar]	1000	1000	1050	1500	absolute pressure are available)			

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	
		0...5 V_{DC}		8...32	> 2,5	
		1...5 V_{DC}		8...32	> 2,5	
		0,5...4,5 V_{DC}	ratiometric	5 ±10%	> 4,7	
Response time* (10...90%)	t [ms]	< 1				
Withstand voltage	U [V_{DC}]	350	option 710			

ACCURACY				
Accuracy @ RT	% of the range	≤ 0,50**	option ≤ 0,25	** incl. nonlinearity, hysteresis, repeatability, zero-offset-
	BFSL	≤ 0,125		and final-offset (acc. to IEC 61298-2)
Non-linearity	% of the range	≤ 0,15		
Repeatability	% of the range	≤ 0,10		
Stability/year	% of the range	≤ 0,10		

ACCEPTABLE TEMPERATURE RANGES			
Measuring medium	T [°C]	-40...125	
Ambience	T [°C]	-40...105	(option -55)
Storage	T [°C]	-40...125	
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	105°C	2,00%

MECHANICAL PARAMETER			
Parts in contact with the measuring medium*		stainless steel	
Housing*		stainless steel	
Shock resistance	g	1000	acc. to IEC 68-2-32
Vibration resistance	g	20	acc. to IEC 68-2-6 und IEC 68-2-36
Mass	m [g]	80-120	depending on design
CE - conformity		EC Directive 89/336/EWG	
IP system of protection		The IP system of protection as specified in the data sheets generally applies, with their mating plug connected. Relative pressure transmitters usually require a ventilated mating plug and/or cable to aloow for pressure compensation. From a pressure range of 60bar, a ventilated mating plug and/or cable is not necessarily required.	

*** others upon request**

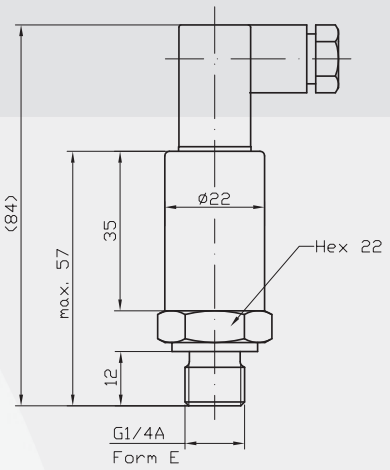
Configurations -examples-

MVS/A

MVS/C

M12x1
(S763)

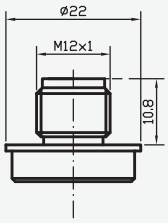
SML (MVS/C Conn.)



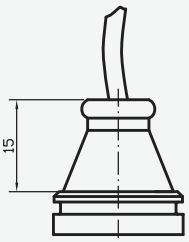
(deviations for absolute pressure are possible)

Connectors*

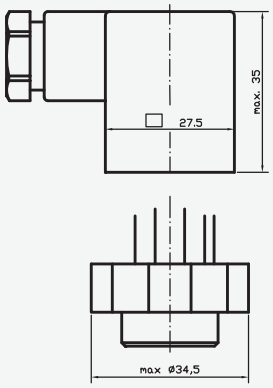
male socket
M12x1
(S763)



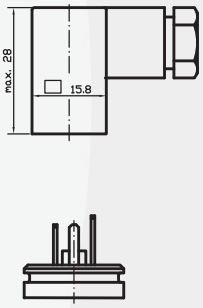
cable output



MVS/A
DIN EN 175301-803

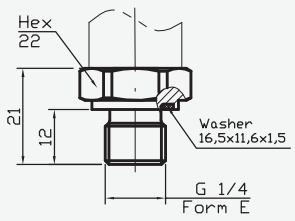


MVS/C
DIN EN 175301-803

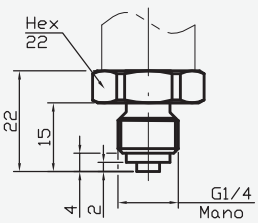


Pressure Connections*

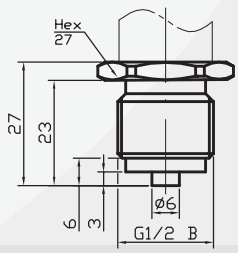
G ¼ A; DIN 3852; Form E



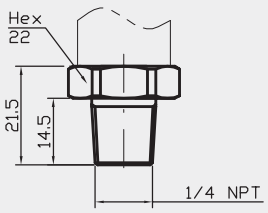
G ¼ B



G ½ B



¼ NPT



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

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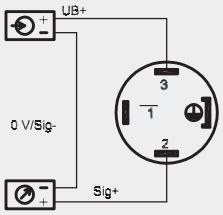
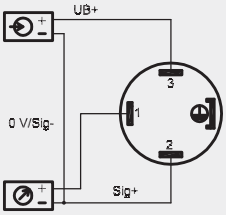
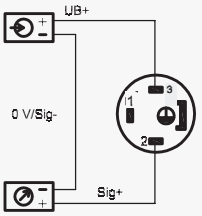
Electrical Connections* (left: 2-wire, right: 3-wire)

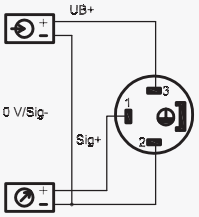
MVS/A, DIN EN 175301-803



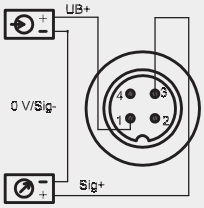


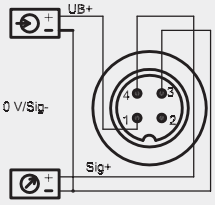
MVS/C, DIN EN 175301-803



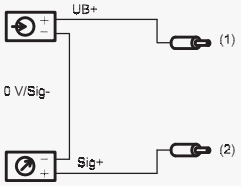


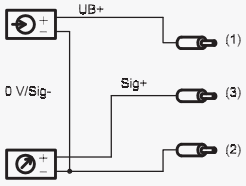
male socket M12x1 (S 763)





cable output





Legend

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

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

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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