

Intrinsically Safe Pressure Transmitter for Industrial Use

S M X

Main features

- Measuring ranges 0...1 bar to 0...2000 bar
- Explosion-proof certificate II 2G EEx ia IIC T4 acc. to Atex
- Output signal 4...20 mA for the industry, hydraulics and pneumatics and more
- Media temperature range -40°C to 100°C (Class T4)
- Shock and vibration resistance > 1000 g shock, > 20 g vibration
- No internal transmitting media (fully welded, "dry" measuring cell)
- Degree of protection from IP65 (special version up to IP69K)
- Compact and robust stainless steel design
- Highly flexible options by its modular design
- Short delivery times
- Highly reliable

Applications

- Chemical industry
- Oil and gas industry
- Food and drug industry
- Plant engineering and automation technology

Description

Thanks to its stainless steel diaphragm and semiconductor thin-film technology, the ex-proof pressure transmitter has excellent properties and can be applied in hydraulics, pneumatics, environmental engineering and more with all standard media compatible with stainless steel. Special protective circuitry prevents voltage reversal, overvoltage protection and limits power loss in the event of failure. Its application in a wide range of industries is guaranteed by its high precision and robust and compact design.

By being able to combine diverse mechanical and electronic connections, a variety of pressure measuring transmitters can be offered.

Safety Note:

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

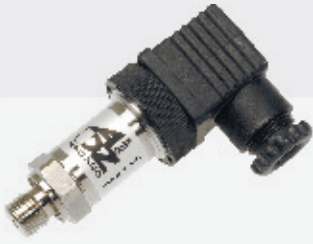


Specifications

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	250
Overload pressure	p [bar]	40	100	100	200	200	400	400	750
Burst pressure	p [bar]	60	150	150	300	300	600	600	1000
Measuring range*	p [bar]	400	600	1000	1600	2000			
Overload pressure	p [bar]	750	840	1200	2400	2400	(vacuum, relative pressure, +-, absolute pressure are available)		
Burst pressure	p [bar]	100	1050	1500	3000	3000			
ELECTRICAL PARAMETER		Signal				U _s [V _{DC}]	RA [Ω]		
Output signal * and maximum acceptable burden R _A	R _A in Ohm	4...20 mA (2-wire)				9...27	acc. to R _A = < (U _s - 10V) / 0,02 A		
Response time* (10...90%)	t [ms]	< 1							
Withstand voltage	U [V _{DC}]	720	(=500 V _{AC})						
ACCURACY									
Accuracy @ RT	% of the range	≤ 0,50**	option ≤ 0,25		** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)				
	BFSL	≤ 0,25							
Non-linearity	% of the range	≤ 0,15							
Repeatability	% of the range	≤ 0,15							
Stability/year	% of the range	≤ 0,15							
ACCEPTABLE TEMPERATURE RANGES									
Measuring medium	T [°C]	-20...85							
Ambience	T [°C]	-20...85							
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	85°C	2,00%						
DIRECTIVE ATEX									
Type of ignition protection	II 2G EEx ia IIC T4 (IBEx 04 Atex 1182)								
Underlying standards	EN 50014, EN 50020								
Maximum connected power	30 V, 50 mA, 1 W								
Temperature class	T4 (ambient temperature -40...+85° C)								
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 allow 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-

SMX (MVS/A connector)



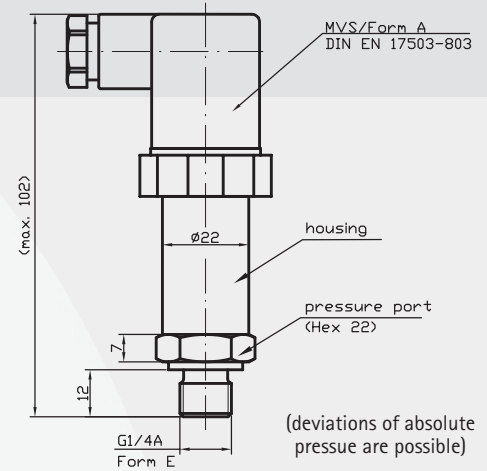
MVS/A



MVS/C

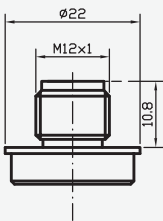


M12x1
(S763)

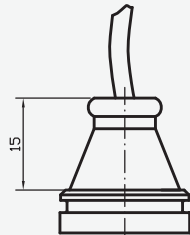


Connectors*

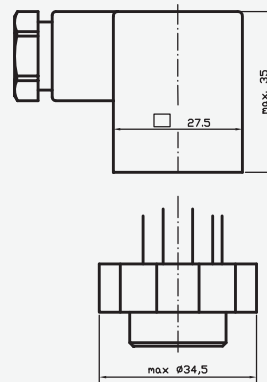
male socket
M12x1
(S 763)



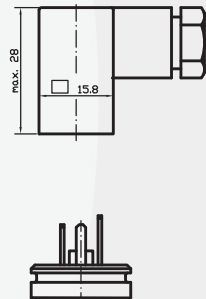
cable output
plastic



MSV/A
DIN EN 175301-803

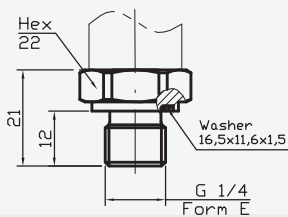


MSV/C
DIN EN 175301-803

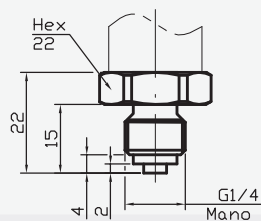


Pressure Connections*

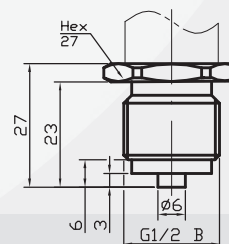
G 1/4 A;
DIN 3852; Form E



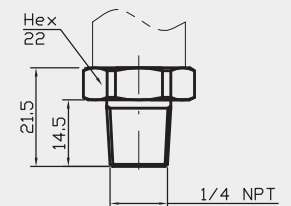
G 1/4 B



G 1/2 B



1/4 NPT



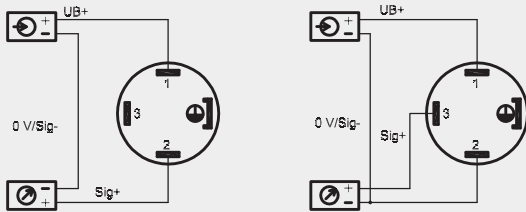
* custom-made adjustments acc. to pressure connections and connecting options are possible

S M X

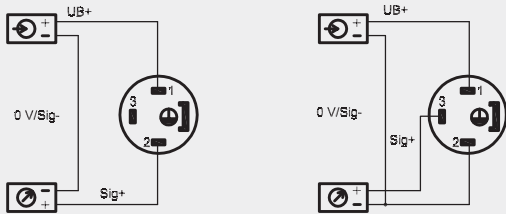
Intrinsically Safe Pressure Transmitter for Industrial Use

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

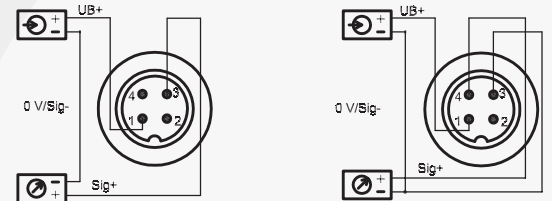
MVS/A
DIN EN
175301-803



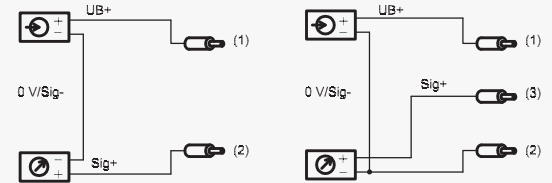
MVS/C
DIN EN
175301-803



male
socket
M12x1
(S763)



cable
output



Legend

power supply
 consumer

red
 black
 white

* 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		