



S M X

Intrinsically Safe Pressure Transmitter for Industrial Use

Main features

- Measuring ranges 0...1 bar to 0...2000 bar
- Explosion-proof certificate for zone 1 II 2G Ex ia IIC T4 Gb acc. to Atex
- Output signal 4...20 mA for the industry, hydraulics and pneumatics and more
- Media temperature range -40°C to 85°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
- 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.

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
Overload pressure	p [bar]	6	6	6	10	10	20	20
Burst pressure	p [bar]	9	9	9	15	15	30	30
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]	400	600	1000	1600	2000		
Overload pressure	p [bar]	750	840	1200	2400	2400		
Burst pressure	p [bar]	1000	1050	1500	3000	3000		

(Vacuum, relative pressure, +- or absolute pressure are available), Please note: > 1000 bar with thread M18x1,5

ELECTRICAL PARAMETER

		2-wire
Output signal*		4...20 mA
Supply voltage	$U_s [V_{DC}]$	10...27
Load resistor	R_A in Ohm	$R=(U_s-10V)/0,02A$
Response time	t [ms]	≤ 1
Maximum supply current	I [mA]	23
Isolation voltage*	U [V _{DC}]	720 DC

ACCURACY

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


ACCEPTABLE TEMPERATURE RANGES

Measuring medium	T [°C]	-40...85
Ambience	T [°C]	-40...85
Storage	T [°C]	-40...125
Compensated range*	T [°C]	-20...85
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 Ex ia IIC T4 Gb
Underlying standards	EN60079-0, EN60079-11
Maximum connected power	27 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 DIN EN 60068-2-32 – free fall
Vibration resistance	g 20 acc. to DIN EN 60068-2-6 – vibration sinusoidal
G-Force	g 50 acc. to DIN EN 60068-2-27 – shock
Mass	m [g] 80-120 depending on design
CE-conformity	IBExU04ATEX1182 

IP system of protection (IEC 605029) up to IP69K The IP system of protection as specified in the data sheets generally applies, with appropriate mating plug connected.

* customer specific configurations available

Configurations -examples-

SMX with MVS/A Conn.



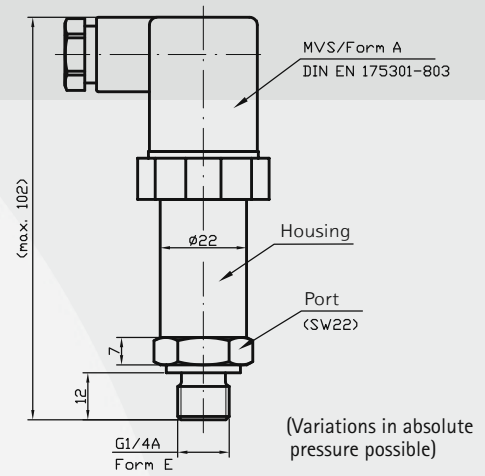
MVS/A



MVS/C

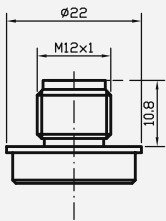


M12x1 (S763)

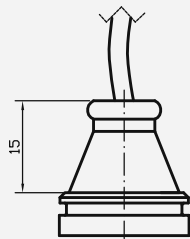


Electrical connections* -examples-

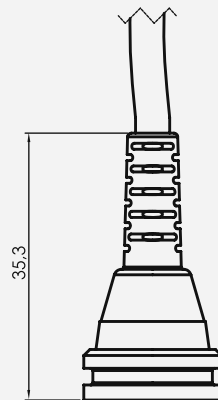
male socket
M12x1 (S763)
(IP67)



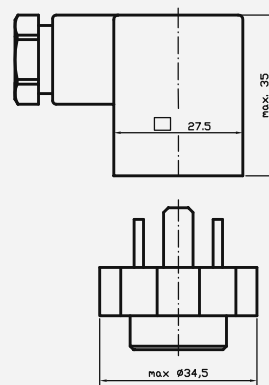
cable output
(IP67/IP69k)



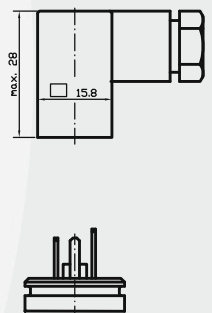
cable output
(IP67) with
bend protection



MVS/A
DIN EN 175301-803
(IP65)

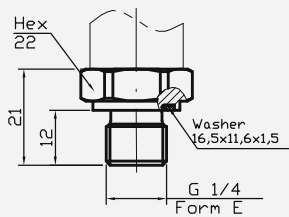


MVS/C
DIN EN 175301-803
(IP65)

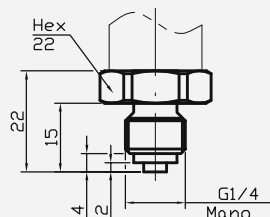


Pressure Connections* -examples-

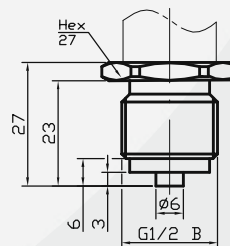
G 1/4 A; Form E



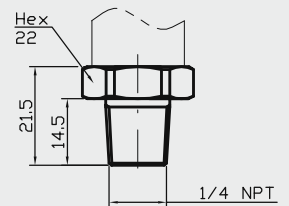
G 1/4 B



G 1/2 B

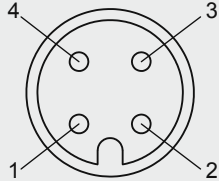
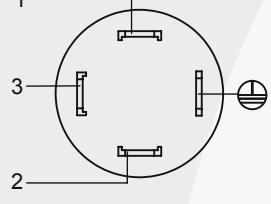
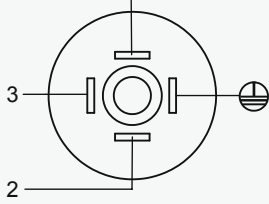


1/4 NPT



* customer specific configurations available

Electrical Configuration*

Plug M12x1	Cable port	DIN EN 175301-803-A	DIN EN 175301-803-C
			
2-wire 1: UB+ 2: nc 3: out 4: nc	2-wire red: UB+ black: out white: nc	2-wire 1: UB+ 2: out 3: nc ⊕: nc	2-wire 1: UB+ 2: out 3: nc ⊕: nc

nc = not connected

The electrical connection must be made in accordance with the respective connection diagram unless otherwise agreed upon.

* custom-made adjustments are possible

Product line

DS5	Electronic Pressure Switch	SME	Pressure Transmitter in Miniature Design
DPSX9I	Intrinsically Safe Electronic Pressure Switch for Current	SMF	Pressure Transmitter with Flush Diaphragm
DPSX9U	Intrinsically Safe Electronic Pressure Switch for Voltage	SMH	High Pressure Transmitter
PS1	Level Sensor	SML	Pressure Transmitter for Industrial Application
PSX2	Intrinsically Safe Level Sensor	SMO	Pressure Transmitter in Mobile Hydraulics
SHP	High Precision Pressure Transmitter	SMS	OEM Pressure Transmitter for Hydraulics and Pneumatics
SIS	Low Pressure Transmitter in Short and Compact Design	SMX	Intrinsically Safe Pressure Transmitter for Industrial Application
SIL	Low Pressure Transmitter for Industrial Application	SMX2	Intrinsically Safe Pressure Transmitter for Industrial Application
SKE	High Temperature Pressure Transmitter with Detached Electronics	TPSE	Multi-Function Transmitter for Pressure and Temperature – external sensor
SKL	High Temperature Pressure Transmitter with Cooling Fins	TPSI	Multi-Function Transmitter for Pressure and Temperature – internal sensor
SMC	Pressure Transmitter with CANopen Interface		

