

Intrinsically Safe Pressure Transmitter for Industrial Use



SMX2

Main features

- Measuring ranges 0...10 mbar to 0...2.000 bar
- Explosion-proof certificate for zone 0
II 1G Ex ia IIB T4 or II 1G Ex ia IIC T4
- Explosion-proof certificate for zone 1
II 2G Ex ia IIC T4
- Output signal 4...20 mA
- Highly reliable



Applications

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

Description

The SMX2 can be configured in both zone 0 and zone 1 and meets the requirements of Directive 94/9/EC. Appropriate protective circuits guarantee inverse-polarity protection, overvoltage resistance and limitation of capacity loss in the event of any failure. Its widely ranging industrial applications are guaranteed by its high precision and robust and compact design.

A wide range of pressure transducers is on offer with the possibility of combining various mechanical and electrical connections.

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.

Specifications

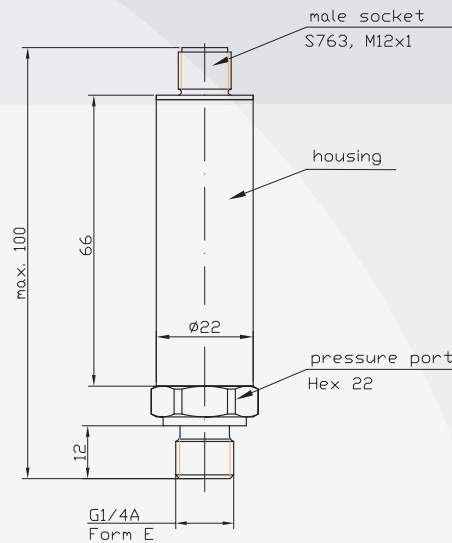
Pressure range								
Measuring range* silicon technology	p [mbar]	10	16	20	25	40		
Overload pressure	p [mbar]	50	80	100	125	200		
Burst pressure	p [mbar]	150	240	300	375	600		
Measuring range* silicon technology	p [mbar]	60	100	160	200	250	400	600
Overload pressure	p [mbar]	300	500	800	1000	1250	1200	1800
Burst pressure	p [mbar]	900	1500	2400	3000	3750	2000	3000
Measuring range* stainless steel diaphragm	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* stainless steel diaphragm	p [bar]	16	20	25	40	60	100	160
Overload pressure	p [bar]	40	40	100	100	200	200	400
Burst pressure	p [bar]	60	60	150	150	300	300	600
Measuring range* stainless steel diaphragm	p [bar]	200	250	400	600	1000	1600	2000
Overload pressure	p [bar]	400	750	750	840	1200	2400	2400
Burst pressure	p [bar]	600	1000	1000	1050	1500	3000	3000
(vacuum, relative pressure, + - or absolute pressure are available), Please note: > 1000 bar with thread M18x1,5								
Electrical parameter		signal			U _s [V _{DC}]		R _A [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						
Accuracy		pressure range 1 bar to 2000 bar			pressure range 10 mbar to 600 mbar			
Accuracy @RT	% of the range	≤ 0,50**	option ≤ 0,25		≤ 1,00**	option ≤ 0,5		
	BFSL	≤ 0,25			≤ 0,50			
Non-linearity	% of the range	≤ 0,15			≤ 0,30			
Repeatability	% of the range	≤ 0,15			≤ 0,30			
Stability/year	% of the range	≤ 0,20			≤ 0,40			
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		cabel output max. 5 m	
Type of ignition protection		II 1G Ex ia IIB T4			II 2G Ex ia IIC T4		or on request	
Type of ignition protection		II 1G Ex ia IIC T4 (only for M12x1 connector)						
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, 125mA, 85W			27 V, 125mA, 85W			
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 range of 1 bar to 2000 bar			
Parts in contact with the measuring medium*		silicon			for pressure range of 10 mbar to 600 mbar			
Housing*		stainless steel						
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	m [g]	~150	depending on design					
CE - conformity		EC Directive 94/9/EG						
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 60 bar, a ventilated mating plug and/or cable is not necessarily required.						
* others upon request								

Configuration

SMX2 with M12x1 (S763)

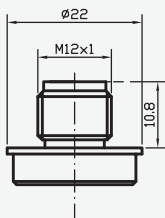


M12x1
(S763)

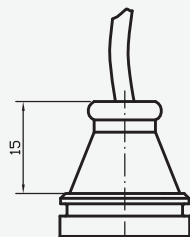


Connectors*

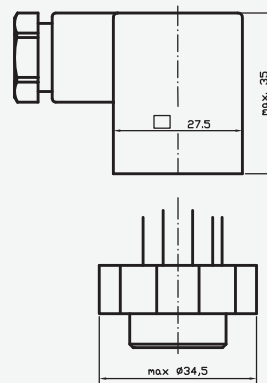
male socket
M12x1
(S 763)



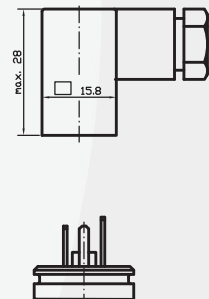
cable output
plastic



MSV/A
DIN EN 175301-803

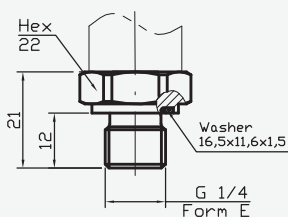


MSV/C
DIN EN 175301-803

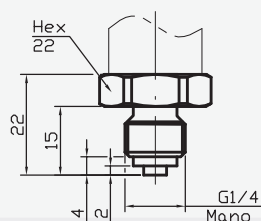


Pressure Connections*

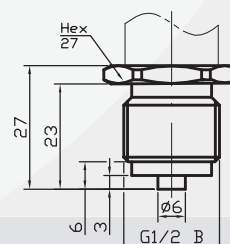
G 1/4 A;
DIN 3852; Form E



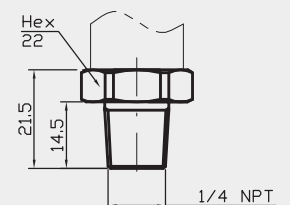
G 1/4 B



G 1/2 B



1/4 NPT



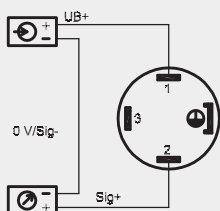
* custom-made adjustments acc. to pressure connections and connecting options are possible

S M X 2

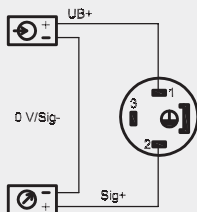
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Electrical Connections*

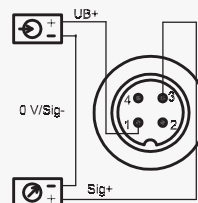
MVS/A
DIN EN
175301-803



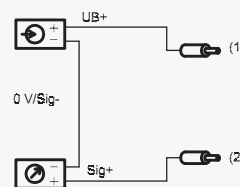
MVS/C
DIN EN
175301-803



male
socket
M12x1
(S763)



cable
output



Legend

power supply
 consumer

red
 black
 white

Connectors

MVC/A DIN EN 175301-803	II 1G Ex ia IIB T4
Round connector DIN 75585 3-/4- contacts	II 1G Ex ia IIB T4
Cable output steel	II 1G Ex ia IIB T4
Cable output plastic	II 1G Ex ia IIB T4
Cable gland	II 1G Ex ia IIB T4
Deutsch-connector 2-contacts	II 1G Ex ia IIB T4
Deutsch-connector 3-contacts	II 1G Ex ia IIB T4
Deutsch-connector 4-contacts	II 1G Ex ia IIB T4
Superseal	II 1G Ex ia IIB T4
Junior-Timer connector	II 1G Ex ia IIB T4
Packard connector	II 1G Ex ia IIB T4
MVS/C DIN EN 175301-803	II 1G Ex ia IIB T4
Male Socket M12x1 (S763)	II 1G Ex ia IIC T4



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