Intrinsically Safe Pressure Transmitter in Field Housing

S M X 2

Main features

- Measuring range 0 to 1...2000 bar
- Explosion-proof certificate for **zone 0**
  II 1G Ex ia IIB T4 Ga or II 1G Ex ia IIC T4 Ga
- Explosion-proof certificate for **zone 0**
  II 2G Ex ia IIC T4 Gb
- Zero-function, downscale 4:1

Applications

- Petro-chemical plants
- The oil and gas industry
- Gas pipelines, power plant armatures
- Plant engineering and automation technology

Description

The SMX2 in field housing has been designed for application in rugged environments. Thanks to its stainless-steel thin-film measuring cell, this pressure transducer features excellent properties, it isextremely robust, fully welded and without any hydraulic transmission media. The measuring range can be freely positioned at a ratio of 4:1 in the upper end range. There is also thepossibility to freely select the response time. Both parameters can be managed with the help of a service box, including software. Further advantages of this model consist in the transmitter being able to be adjusted or calibrated even without having to separate it from the measuring loop. Tests can be performed within the system by means of a loop generator (pressure simulator) inside the transmitter

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.

AZNAGANO Sensortechnik

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Technische Daten

DRUCKBEREICHE								
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	6	10	20	20
Burst pressure	p [bar]	9	9	9	9	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

(Vaccum, 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}]	20...27
Load resistor	R_A [Ω]	acc. to R = < (U_S-20V) / 0,02 A
Responde time	t [ms]	≥ 4 (digital)
Maximum supply current	I [mA]	23 mA
Isolation voltage*	U [V_{DC}]	500 VAC

ACCURACY	pressure range 1 bar to 2000 bar	
Genauigkeit @ RT	% of the range	≤ 0,50 *** option 0,25
Non-linearity	BFSL	≤ 0,15
Stability/year	% of the range	≤ 0,15

*** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)

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...120
Compensated range*	T [°C]	-20...60	-20...85
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%	digital: -40°C 1,00%
	% of the range	60°C 1,00%	digital: 85°C 1,00%

Directive ATEX	zone 0	zone 1
Type of ignition protection	**II 1G Ex ia IIB T4 Ga**	**II 2G Ex ia IIC T4 Gb**
Type of ignition protection	EN 60079-0, EN 60079-11, EN 60079-26, EN 60079-14	(both zones)
Maximum connected power	27 V, 125mA, 0,85W	27 V, 125mA, 0,85W
Temperature class	T4 (Ambience -20...+60° C)	T4 (Ambience -40...+85° C)

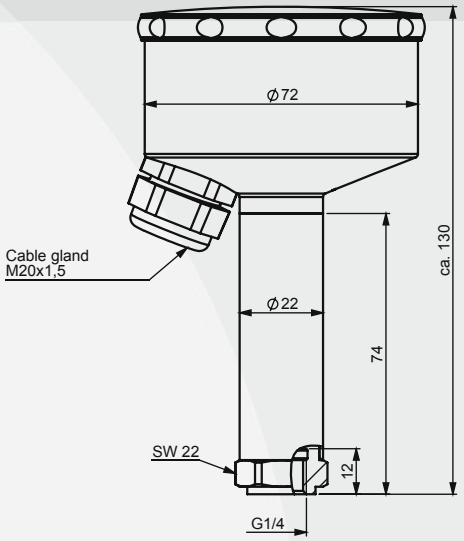
MECHANICAL PARAMETER			
Parts in contact with the measuring medium*		stainless steel	for pressure range of 1 bar to 2000 bar
Housing*		stainless steel	
Shock resistance	g	1000	acc. to DIN EN 60068-2-32 – free fall
Vibration resistance	g	20	acc. to DIN EN 60068-2-6 – vibration sinusoidal
G-Force	g	50	acc. to DIN EN 60068-2-27 – shock
Mass	m [g]	~600	depending on design
Approval		IBExU10ATEX1014	

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

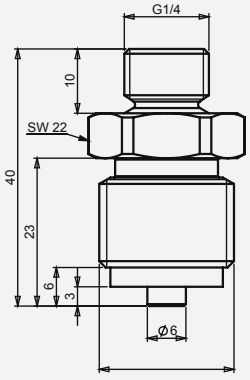
Configuration

SMX2 in Field Housing

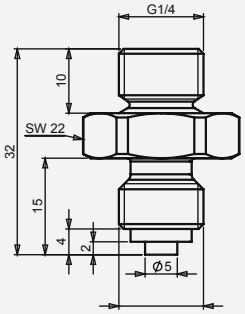


Pressure Connection – Adapter* -examples-

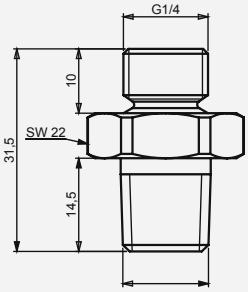
G ½ B Mano



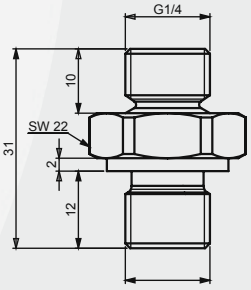
G ¼ B Mano



¼ NPT



G ¼ A Form E



*** customer specific configurations available**

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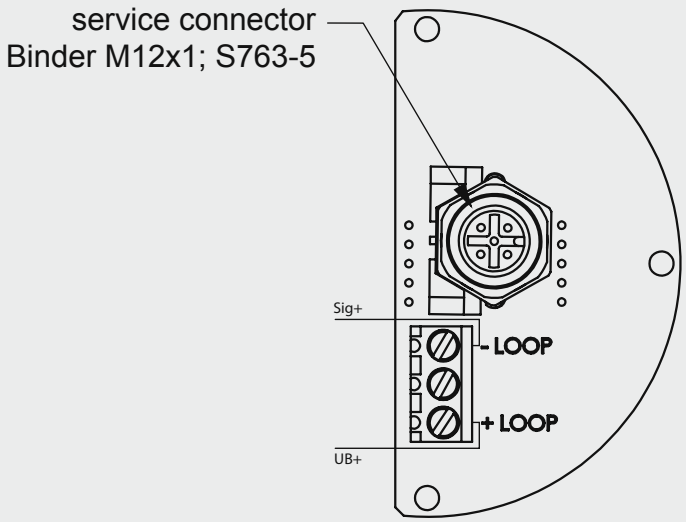
Electrical Connections



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 and J1939		

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Subject to change
due to technical progress.
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