

# Intrinsically Safe Pressure Transducers & Transmitters

## HT-SMX2 Series

- High accuracy & reliability
- Ranges 10mbar to 2,000 barg
- 2 wire 4-20mA output
- Field test/adjustment 4:1 rangeability
- Zone I media -40°C to +100°C
- Compact and rugged design



The HT-SMX2 is a compact and rugged industrial pressure transmitter ATEX approved for use in Zone 0 and Zone I hazardous area applications. The piezo-resistive sensing technology makes this sensor an ideal choice for Intrinsically Safe compliance and long term reliable measurements.

**Oil & Gas**  
**Chemical**  
**Food & Beverage**  
**Plant Engineering**  
**Refrigeration**  
**Automotive**

# Intrinsically Safe Pressure Transducers & Transmitters

## HT-SMX2 Series

### TECHNICAL SPECIFICATIONS

#### Standard pressure ranges & signal outputs

Measuring range (mbar)	10	16	20	25	40	60	100
Overload pressure	50	80	100	125	200	300	500
Burst pressure	150	240	300	375	600	900	1500
Measuring range (mbar)	160	200	250	400	600		
Overload pressure	800	1000	1250	1200	1800		
Burst pressure	2400	3000	3750	2000	3000		
Measuring range (bar)	1	1.6	2	2.5	4	6	10
Overload pressure	6	6	6	10	10	20	20
Burst pressure	9	9	9	15	15	30	30
Measuring range (bar)	16	20	25	40	60	100	160
Overload pressure	40	40	100	100	200	200	400
Burst pressure	60	60	150	150	300	600	600
Measuring range (bar)	200	250	400	600	1000	1600	2000
Overload pressure	400	750	750	840	1200	2400	2400
Burst pressure	600	1000	1000	1050	1500	3000	3000

\*Gauge ranges shown - vacuum and absolute ranges available on request

Electrical	2 wire
Output signal	4-20mA
Supply voltage	20-27 Vdc

- Media temperature zone 0 (zone 1)  
-20°C + 60°C (-40°C + 100°C)
- Compensated range zone 0 (zone 1)  
-20°C + 60°C (-20°C + 85°C)
- Ambient temperature zone 0 (zone 1)  
-20°C + 60°C (-40°C + 85°C)

#### Performance

- Accuracy: Non-linearity, hysteresis and non-repeatability at room temperature IEC 61298-2 (or BSFL/Best Fit Straight Line): <0.5% FS range (<0.25% BSFL) <1% FS range for 10 to 600 mbar ranges
- Thermal effects: Zero/Span typical coefficients <0.15% FS range/ 10°C
- Total Error Band: 1% FS from room temperature to -20°C or +60°C (Zone 0) / from room temperature to -40°C or +85°C (Zone 1)
- Long term stability: <0.2% FS range/year
- Response time: <1ms (10% to 90% FS range) (<4ms for field housing option)
- Vibration: 20g (IEC 68-2-6 / IEC 68-2-36)
- Shock: 1000g (to IEC to 68-2-32)
- Intrinsically safe approvals: (ATEX)  
Zone 0: II 1G Ex ia IIB T4  
\*(Tamb -20°C to +60°C)  
Zone 1: II 2G Ex ia IIC T4  
\*(Tamb -40°C to +85°C)

\*Field housing option - Ga/Gb (Zone 0/1)

#### Physical

- Material: body - stainless steel, inlet port stainless steel (+silicon for ranges <40bar)
- Process connection: G 1/4 A, G1/4B, G1/2B, 1/4 NPT  
*Other connections available on request*
- Electrical connection: integral cable, M12 x 1 male socket, DIN plug/socket, mini DIN plug socket (DIN EN 175301-803)
- Optional field housing with 4:1 rangeability & local test/adjustment facility.  
*Not available for ranges <1 bar*  
*Other connections available on request*
- Weight: approximately 150g (dependent upon configuration) 600g with field housing option
- Ingress protection: IP65 (for connector versions with their mating plug fitted)

#### Options

- Field housing option
  - Accuracy <0.25% FS (0.5% FS <1 bar)
  - additional cable (specify length)
- For customised products please contact us.*

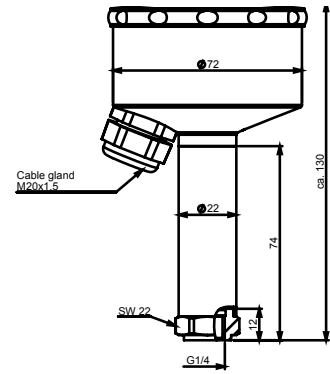
#### Related products

Hydrotechnik manufactures a wide range of sensors, test and measurement equipment. Contact us for further information or visit [www.hydrotechnik.co.uk](http://www.hydrotechnik.co.uk)

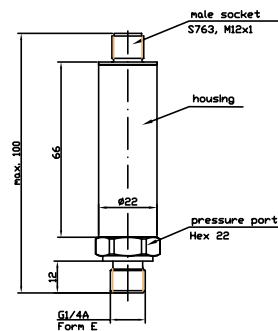
*Continuing development can necessitate specification changes without notice*

#### Dimensions

SMX2 with field housing

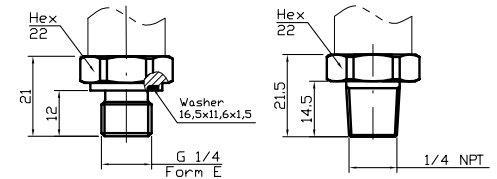


SMX2 with M12x1 (S763)

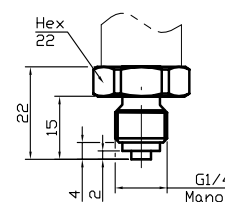


#### Mechanical Connections

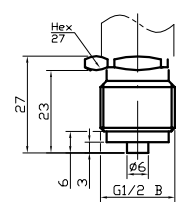
G 1/4 A; DIN 3852; Form E 1/4 NPT



G 1/4 B

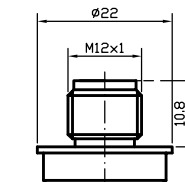


G 1/2 B

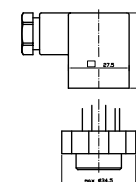


#### Electrical Connections

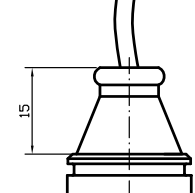
Male socket  
M12x1 (S763)



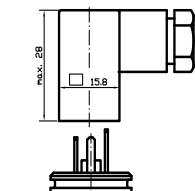
MSV/A  
DIN EN 175301-803



Cable output  
plastic



MSV/C  
DIN EN 175301-803



# HT-SMX2 Series ORDER CODES

Series	Output Signal	Pressure Range	Unit	Pressure Type	Process Connection	HEX	Electrical Connection	Extras
HT-SMX2	10.0	020000	BAR	(sr)	U72C	22	D03	ZO0

4 ... 20 mA / 2 wires	10.0
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bar	BAR
kPa	KPA
MPa	MPA
PSI	PSI
kg/cm <sup>2</sup>	KGC
m WC	MWS
in WC	IWS
others	CCC

Absolute Pressure	(a)
Relative Pressure	(g)
Sealed Reference	(sr)

MVC/A	MVA
MVC/C	MVC
Packard	PAI
Male Socket M 12 / S763	M12
Junior Timer	JTI
Bajonet DIN 72585	BJD
Super Seal	SUS
Deutsch 3-poles	D03
Deutsch 4-poles	D04
Cable Gland Plastic	CPI
Cable Steel 1.0*	KSI
Cable Plastic 1.0 *	KPI
Others	FFF

\* e.g. with cable length 1 metre

-1 ... 0	9000100	0 ... 10	0001000
-1 ... +1	9000900	0 ... 16	0001600
		0 ... 20	0002000
0 ... 0.060	0000006	0 ... 25	0002500
0 ... 0.100	0000010	0 ... 40	0004000
0 ... 0.160	0000016	0 ... 60	0006000
0 ... 0.200	0002000		
0 ... 0.250	0000025	0 ... 100	0010000
0 ... 0.600	0000060	0 ... 200	0020000
		0 ... 250	0025000
0 ... 1.0	0000100	0 ... 400	0040000
0 ... 1.6	0000160	0 ... 600	0060000
0 ... 2.0	0000200		
0 ... 2.5	0000250	0 ... 1000	0100000
0 ... 4	0000400	0 ... 1600	0160000
0 ... 6	0000600	0 ... 2000	0200000
-0.060 ... 0	9000006		
-0.100 ... 0	9000010		
-0.200 ... 0	9000020		
-0.250 ... 0	9000025		
-0.400 ... 0	9000040		
-0.600 ... 0	9000060		
		Others	BBB

G 1/8 A Shape A	G18A	22
G 1/4 A Shape A	G14A	22
G 1/4 A Shape E	G14E	22
G 1/4 B (Manom.)	G14B	22
G 1/2 B (Manom.)	G12B	22
G 1/2 A Shape E	G12E	27
1/8 NPT	I8NP	22
1/4 NPT	I4NP	22
7/16-20 UNF-2A	U72M	22
7/16-20 UNF-2A/2C	U72C	22
7/16-20 UNF-2B	U72F	22
3/8-24 UNF-2A	U38M	22
3/8-24 UNF-2A/C	U38C	22
1/2-20 UNF-2A	U12M	22
M 8x1 Shape A	M08M	22
M 10x1 Shape A	M10A	22
M 12x1 Shape E	M12E	22
M 12x1 Konical	M12C	22
M 12x1.5 CT-Ring	M12S	22
M 14x1.5 Shape A	M14A	22
M 14x1.5 Shape E	M14E	22
M 14x1.5 ISO	M140	22
M 16x1.5 Shape A	M16A	22
M 16x1.5 female	M16F	22
M 18x1.5 male	M18M	22
M 20x1.5 Manom.	M20B	22
R 1/4 male	RI4M	22
Others	DDDD	EE

Zone 0	ZO0
Restrictor 0.6 mm	RO6
Restrictor others	RXX
Total Error 0.25%	F25
Total Error Other	FXX
Cleaned for Oxygen Use	O2C
Metal Cone	SC0
Schrader Opener 2.9	S29
Others (see below),	GG