

BCX22

SMART LINE

EXPROOF PRESSURE TRANSMITTER



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BCX 22

" Suitable for Explosive Areas "



II 1G Ex ia IIC T4/T6 Ga
 II 1D Ex ia IIIC T120°C / T85°C Da
 ATEX and IECEx

GENERAL FEATURES

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Measurement Principle	Piezoresistive
Measurement Range	Diffrent models from 0...100mbar to 0...600Bar Different vacuum models from 0... -100mbar to 0...-1Bar
Output Signals	4...20mA (2 Wire) 0...10VDC 0.5-4.5 VDC Ratiometric, 0-5 VDC Ratiometric CANopen
Accuracy	±%0,3 FS @25°C
Process Connection	G1/4, G1/8, G1/2, NPT1/4, NPT1/8, NPT1/2, M14x1, M20x1.5, UNF7/16X20M, UNF7/16X20F
Operating Temperature	-40°C ... +85°C
Approval / Conformity	ATEX / IECEx, according to the norm EN IEC 60079-0:2018 / EN 60079-11:2012

APPLICATIONS

- Ex Zones 0, 1, 2 (gas); 20, 21, 22 (dust)
- Pneumatic Systems
- Hydraulic Systems
- Machines Equipments
- Air Cooling – Heating Systems
- Water Technologies
- Automation Applications

TECHNICAL FEATURES

ELECTRICAL DATA

Measurement Principle	Piezoresistive	
Measurement Range	Different models from 0...100mbar to 0...600Bar Different vacuum models from 0... -100mbar to 0...-1Bar	
Maximum Pressure Strength	300%F.S ≤700mbar, 200%F.S <250Bar, 150%F.S ≥250Bar *Can be 3 or 5 times.	
Oring – Sealing	Standard NBR, optional FKM(Viton) or EPDM	
Output Signal	4...20mA (2 Wire) 0...10VDC 0.5-4.5 VDC Ratiometric, 0-5 VDC Ratiometric CANopen	
Load	4-20mA	250Ω
	0-10VDC	≥5K
	Ratiometric	≥2.5K
Supply Voltage	4-20mA	8 ... 32 V _{DC}
	0-10VDC	12 ... 30 V _{DC}
	Ratiometric	5 V _{DC}
	CANopen	8...26 V _{DC}
Operating Current	30 mA max.	
Accuracy	±%0,3 FS @25°C	
Total Error Band	±0,3 %FS @-10...+70°C	
Resolution	12 bit	
Long Term Stability	±%0,3 FS / year	
Response Time	Standard: 25ms %10...%90 nominal pressure Optional: 1ms, 5ms, 125ms (1ms response time is only available for current output, not for voltage output models)	

MECHANICAL DATA

Sensor	Silicon	
Process Connection	G1/4, G1/8, G1/2, NPT1/4, NPT1/8, NPT1/2, M14x1, M20x1.5, UNF7/16X20M, UNF7/16X20F	
Mounting / Tightening	15 ... 20 Nm	
Electrical Connection	DIN43650-A, DIN43650-C, or M12 connector	
Housing Material	Stainless Steel - 1.4305 (AISI303) Optional Stainless Steel 316L or Titanium	

ENVIRONMENTAL DATA

Operating Temperature	-40°C ... +85°C	
Storage Temperature	-40°C ... +85°C	
Humidity	Max. %95 non-condensing	
Protection Class	IP65 or IP67 *IP67 protection is provided if M12 connector models are equipped with press-printed connectors	

EMC PROTECTION

Immunity	IEC 61000-6-2	
Emission	IEC 61000-6-3	

CANopen SPECIFICATIONS

Communication Profile	CiA 301	
Device Type	CANopen, CiA DS404	
Node ID	Can be set from 1 to 127 with LSS or SDO (Default Node ID:1)	
Baud Rate	10 kBit/s, 20 kBit/s, 50 kBit/s, 100 kBit/s, 125 kBit/s, 250 kBit/s, 500 kBit/s, 800 kBit/s, 1 Mbit/s Default Baud Rate:125 kBit/s	
PDO Data Rate	1000 ms	
Error Control	Heartbeat, Emergency Message	
PDO	4 Tx PDO	
PDO Modes	Event/Time triggered, Synch/Asynch	
SDO	1 server	
Position Information	Object Dictionary 0x6/7/8/9/130	
Termination Resistance	Optional	

* Product life will be shortened when more pressure is given than working pressure.

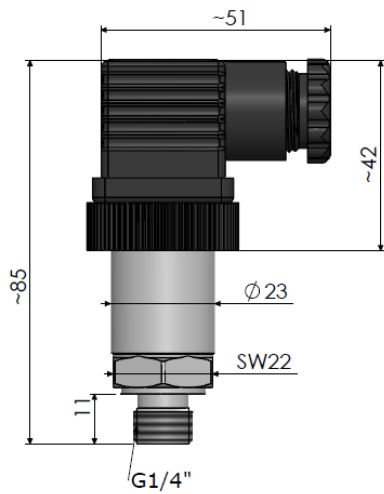
According to the product, it may be damaged at high pressure of 3-5 times.

** IP67 protection is provided if M12 connector models are equipped with press-printed connectors.

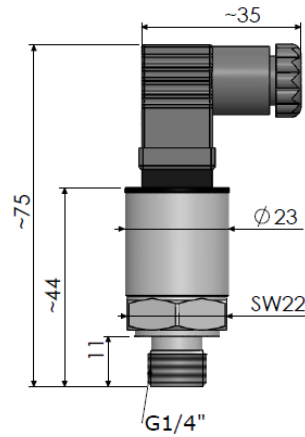
MECHANICAL DIMENSIONS (mm)

➤ Dimensions For Analog Output Model

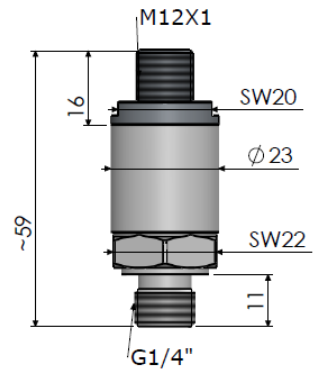
S30: DIN43650-A CONNECTOR



S31: DIN43650-C CONNECTOR

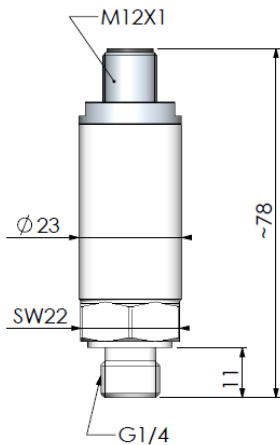


S12/S15: M12 CONNECTOR

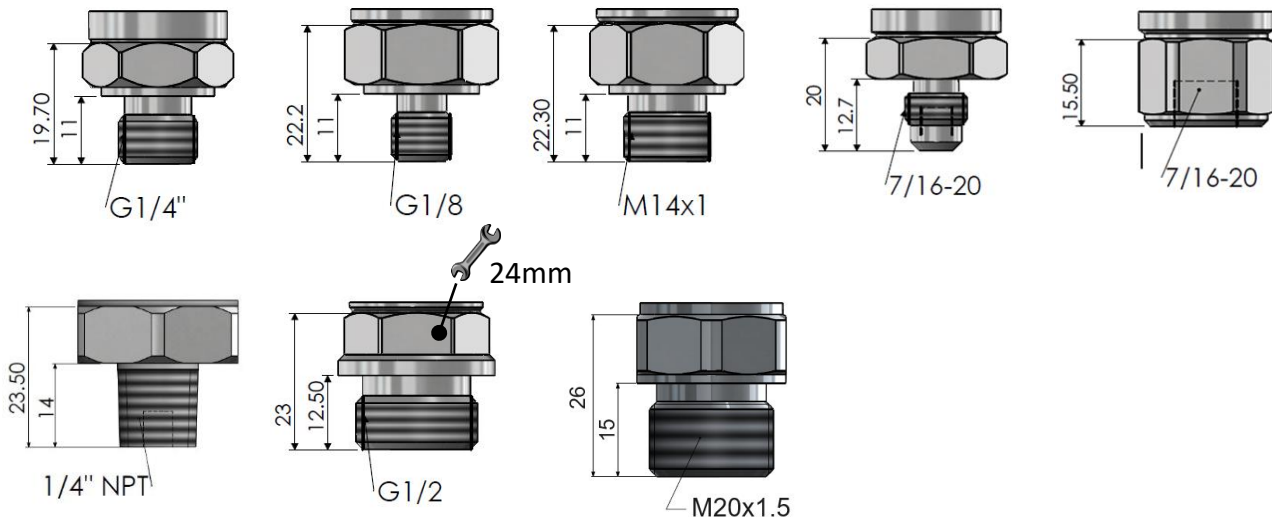


➤ Dimensions For CANopen Output Model

S13: M12 CONNECTOR



PROCESS CONNECTION OPTIONS

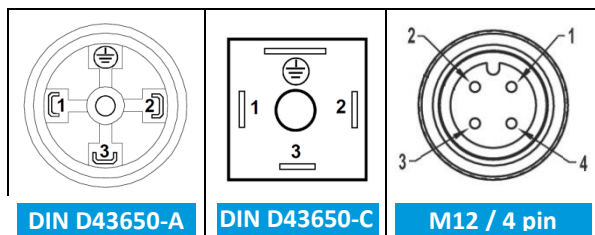


* In the case of the G1/2 model, the dimension of key slot is 24mm. All other models are 22mm.

** Do not turn the product by holding from connector during installation. Otherwise, the product may be damaged.

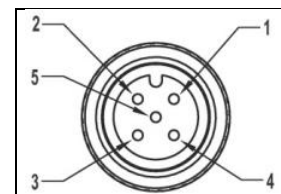
ELECTRICAL CONNECTIONS

➤ CONNECTIONS FOR ANALOG OUT



		S30	S31	S12	S15
		PIN NO		PIN NO	
CURRENT OUTPUT	+Vcc	2	2	2	1
	Analog	1	1	1	3
VOLTAGE OUTPUT	+Vcc	2	2	2	1
	GND	1	1	1	3
	Analog	3	3	3	2
Protection		IP65	IP65	IP67	
Ambient Temperature		-40°C ... +85°C			
Ex zones		0, 1, 2 20, 21, 22			

➤ CONNECTIONS FOR CANOPEN OUT



		S13
		PIN NO
CAN_SHIELD		Pin 1
V+ (8...26V)		Pin 2
GND (0V)		Pin 3
CAN_H		Pin 4
CAN_L		Pin 5
Protection		IP67
Ambient Temp.		-40°C ... +85°C
Ex zones		0, 1, 2 20, 21, 22

* For IP67 protection at model with M12 connector, press-printed cable should be used. Otherwise, it can not be used under IP67 conditions.

WARNING

Wrong connections may damage the sensor.

If the transmitter is used for water pressure measurement, do not remove the integrated M5 valve.

Otherwise, pressure peaks caused by the water pump may damage the transmitter.

MARKING

For Ex Zones	Marking
0, 1, 2	II 1G Ex ia IIC T4/T6 Ga
20, 21, 22	II 1D Ex ia IIIC T120°C / T85°C Da

S-PCM-22
Sensor range
0...100 mBar
-1...0 Bar
0...1 Bar
100 mBar
250 mBar
400 mBar
600 mBar
1 Bar
10 Bar
16 Bar
25Bar
100 Bar
250 Bar
400 Bar
600 Bar
Output
A (4...20 mA)
V (0...10 V)
Other (consult the supplier)
Process connection
G 1/4
G 1/8
G 1/2
NPT1/4
NPT 1/8
NPT 1/2
M12x1,5
M14x1
M20X1.5
7/16 M
7/16 F
Electrical connection
S12 (M12 X 1 4 PIN CONNECTOR - STANDARD)
S13 (M12 X 1 5 PIN CONNECTOR - CAN OPEN OUTPUT)
S15 (M12 X 1 4 PIN CONNECTOR .1 SUPPLY, 3 OUTPUT)
S30 (DIN43650 A TYPE LARGE)
S31 (DIN43650 C TYPE SMALL)
BODY MATERIAL
SS303
SS316

For the order code specific for your application, please contact SMERI.

