

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

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GENERAL FEATURES	
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.

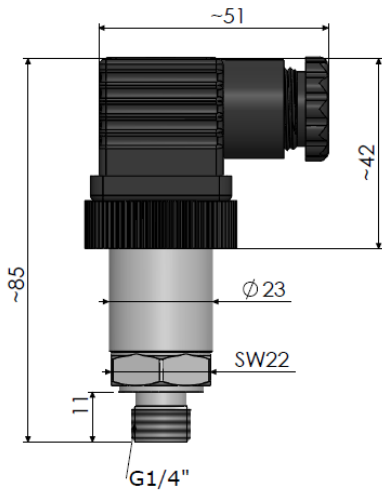
According to the product, it may be damaged at high pressure of 3-5 times.

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

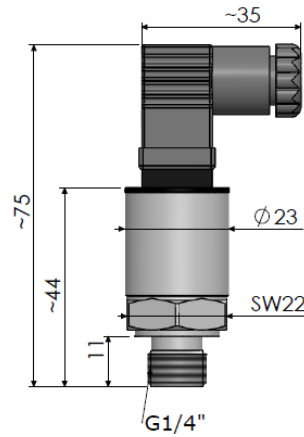
MECHANICAL DIMENSIONS (mm)

➤ Dimensions For Analog Output Model

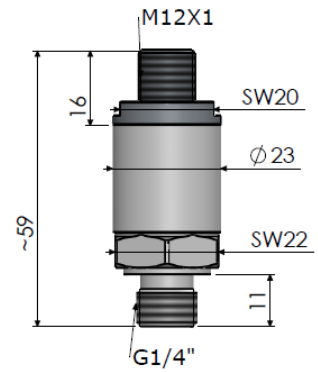
S30: DIN43650-A CONNECTOR



S31: DIN43650-C CONNECTOR

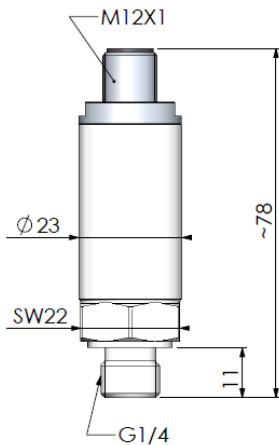


S12/S15: M12 CONNECTOR

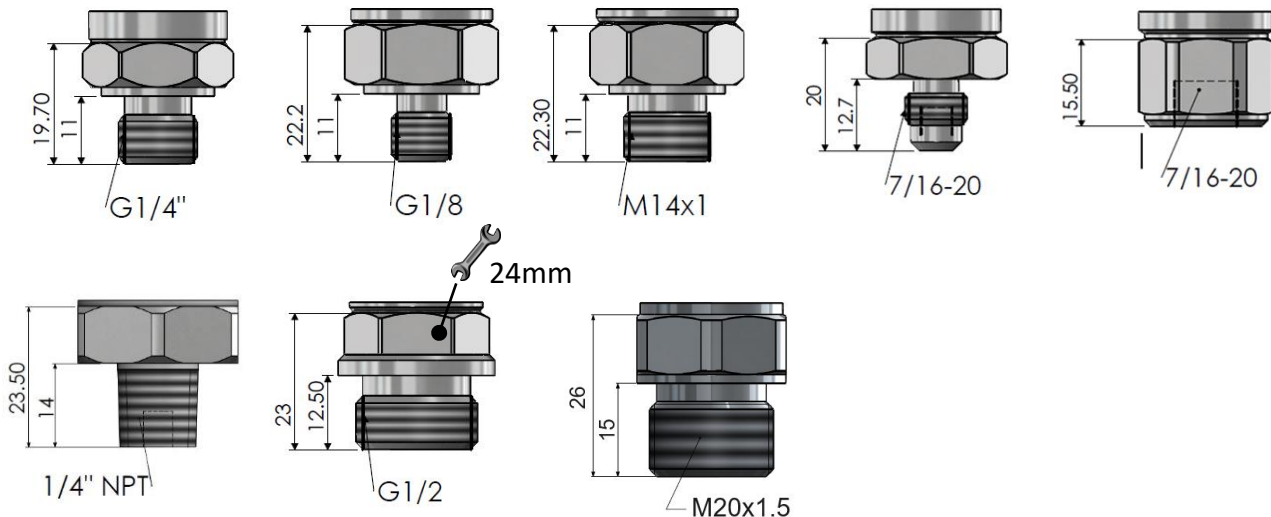


➤ Dimensions For CANopen Output Model

S13: M12 CONNECTOR



PROCESS CONNECTION OPTIONS

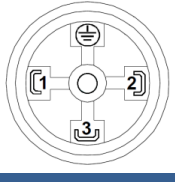
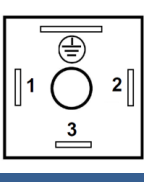
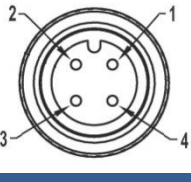


* In the case of the G1/2 model, the dimension of key slot is 24mm. All other models are 22mm.

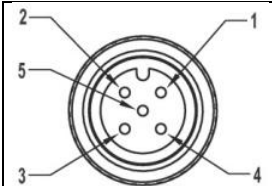
** Do not turn the product by holding from connector during installation. Otherwise, the product may be damaged.

ELECTRICAL CONNECTIONS

➤ CONNECTIONS FOR ANALOG OUT

				
		DIN D43650-A	DIN D43650-C	M12 / 4 pin
		S30	S31	S12 S15
		PIN NO	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

	
	M12 / 5 pin
	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

Model

BCX 22 — 10Bar — A — G1/4 — S30 — -

Output Signal

Voltage Output Product
V : 0-10VDC (standard)

Ratiometric Products
V8 : Ratiometric 0.5-4.5VDC
V9 : Ratiometric 0-5VDC

Current Output Products
A : 4-20mA (2-wire) (standard)

CANopen Output Products
C: CANopen

* Ask for other options.

Electrical Connection

S12 : M12x1 4 pin connector
S13 : M12x1 5 pin connector (for CANopen output)
S15 : M12x1 4 pin (1 supply, 3 output)
S30 : DIN43650-A type large type connector
S31 : DIN43650-C type small type connector

* Ask for other options.

Pressure Range

0...-100mBar : Vacuum 0...-100mbar
-1...0Bar : Vacuum -1...0BAR
0...-1Bar : Vacuum (Reverse Calibration)

100mBar : 0...100mbar
250mBar : 0...250mbar
400mBar : 0...400mbar
600mBar : 0...600mbar

1Bar : 0...1BAR
10Bar : 0...10BAR
16Bar : 0...16BAR
25Bar : 0...25BAR
100Bar : 0...100BAR
160Bar : 0...160BAR
250Bar : 0...250BAR
400Bar : 0...400BAR
600Bar : 0...600BAR

* Ask for other options.

Process Connection

G1/4 : G1/4 Connection
G1/8 : G1/8 Connection
G1/2 : G1/2 Connection
NPT1/4 : NPT1/4 Connection
NPT1/8 : NPT1/8 Connection
NPT1/2 : NPT1/2 Connection
M14 : M14x1 Connection
M20x1.5 : M20x1.5 Connection
7/16M : UNF7/16x20M Connection
7/16F : UNF7/16x20F Connection

* Ask for other options.

Body Material/
Custom Coding

Empty : Stainless 303
E316 : Stainless 316L

* Ask for other options.

Note: The products are standard in **relative** type. If **absolute** pressure is required, please specify this during the ordering process.

Sample Code:

BCX 22 100mBar A G1/4 S30

Features: 0...100mbar working range, 4-20mA analogue output (2 wire connection), G1/4 connection, DIN43650-A connector, stainless 303 body

BCX 22 10Bar A G1/4 S30 E316

Features: 0...10BAR working range, 4-20mA analogue output (2 wire connection), G1/4 connection, DIN43650-A connector, stainless 316L body