Atek Alfa

PRESSURE TRANSMITTER

BCT 22

" Piezoresistive Pressure Sensor "



- Piezoresistive pressure sensor
- 22 mm body diameter
- Different models from 0…100mbar to 0…600BAR
  Different vacuum models from 0…-100mbar to 0…-1BAR
- Analog 4 … 20mA / 0 ... 10VDC etc. different analog outputs or CANopen output option
- G1/4, G1/2, NPT1/4, NPT1/2, M14x1, M20x1.5, UNF7/16X20 etc. process connection options
- EMC and reverse polarity protection
- High accuracy and stabilityLong-term excellent work
- Stainless steel housing

ATEK BCT 22 series Pressure transmitters offer high performance for demanding commercial and heavy industry applications.

Our products with piezoresistive working principle can be used in water, air, oil etc. applications.

The standard stainless steel housing with IP65 / IP67 protection can work in harsh environments.

The BCT 22 series, which is not affected by electrical fluctuations and reverse connections due to over voltage and reverse polarity protection, has a long life.

APPLICATIONS

- Pneumatic Systems
- Hydraulic Systems
- Machines Equipments
- Air Cooling – Heating Systems
- Water Technologies
- Automation Applications

TECHNICAL FEATURES

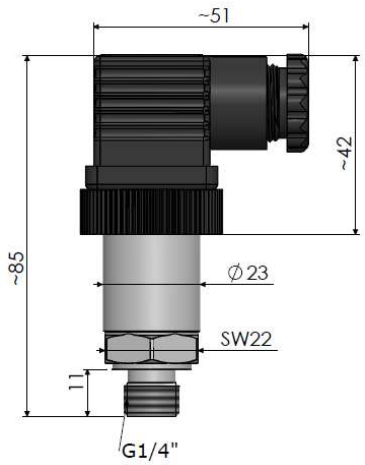
ELECTRICAL DATA		
Measurement Principle	Piezoresistive	
Measurement Type	Relative ambient pressure measurement (optional: absolute pressure) Air, Water, Oil, Non-explosive gases	
Measurement Range	Diffrent models from 0…100mbar to 0…600Bar Different vacuum models from 0… -100mbar to 0…-1Bar	
Maximum 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...20mA (3 Wire) 0...10VDC, 1…5VDC, 0...5VDC, Ratiometric CANopen	
Load	**4-20mA, 0-20mA**	250Ω
	0-5VDC, 1-5VDC	≥2.5K
	0-10VDC	≥5K
	Ratiometric	≥2.5K
Supply Voltage	**4-20mA**	8 ... 32 V_{DC}
	0-20mA	12 ... 30 V_{DC}
	0-10VDC, 0-5VDC, 1-5VDC	12 ... 30 V_{DC}
	Ratiometric	5 V_{DC}
	CANopen	8…26 V_{DC}
Operating Current	30 mA max.	
Accuracy	±%0,5 FS @25°C ±%1 FS @0…+70°C ±%2 FS @-40…+85°C	
Resolution	12 bit	
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	Ceramic or Silicon	
Process Connection	G1/4, G1/8, G1/2, NPT1/4, NPT1/8, NPT1/2, M14x1, M20x1.5, UNF7/16X20M, UNF7/16X20F	
Mounting / Tightening Torque	15 ... 20 Nm	
Electrical Connection	DIN43650-A, DIN43650-C, M12, Packard or 3 x 0.14mm^2 PVC cable	
Housing Material	Stainless Steel - 1.4305 (AISI303) Optional Stainless Steel 316L	
ENVIRONMENTAL DATA		
Operating Temperature	-40°C ... +85°C	
Storage Temperature	-40°C ... +85°C	
Humudity	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		
Communucation 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 0x6/7/8/9130	
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.

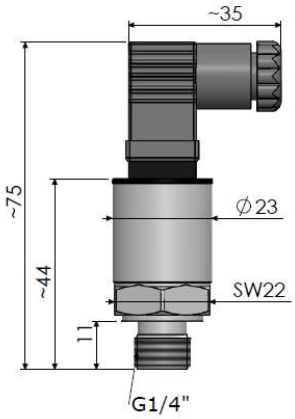
MECHANICAL DIMENSIONS (mm)

From -100 miliBar to 600 Bar (Analog Output)

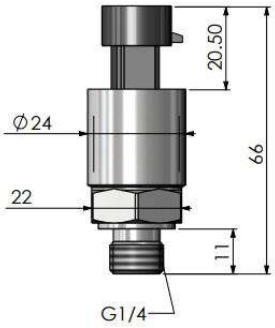
S30 CONNECTOR : DIN43650-A



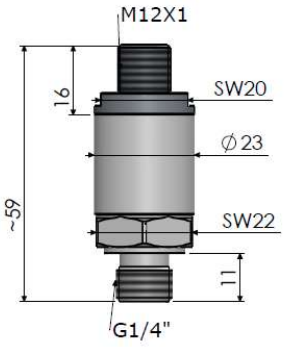
S31 CONNECTOR : DIN43650-C



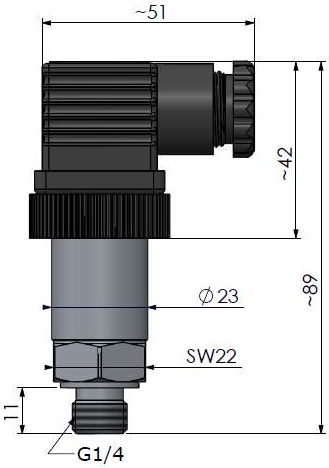
S32 CONNECTOR : PACKARD

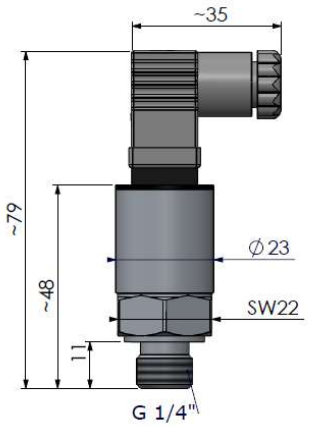


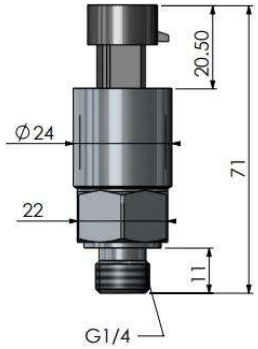
S12/S15 CONNECTOR : M12

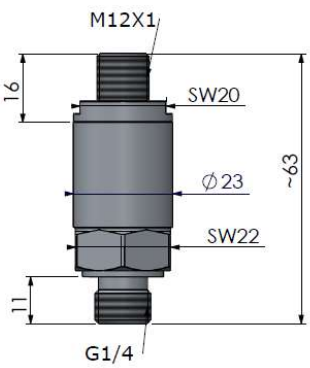


From 2 Bar to 400 Bar (Analog Output)

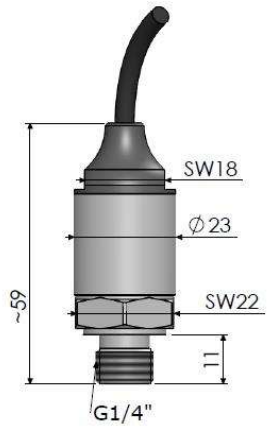


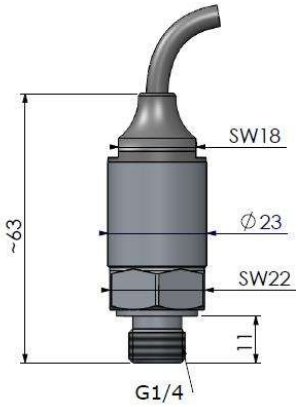




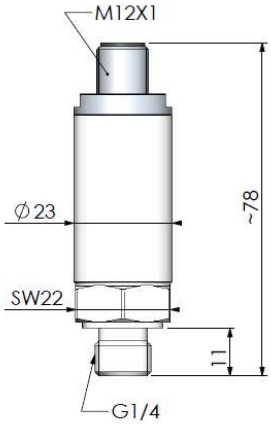


CABLE

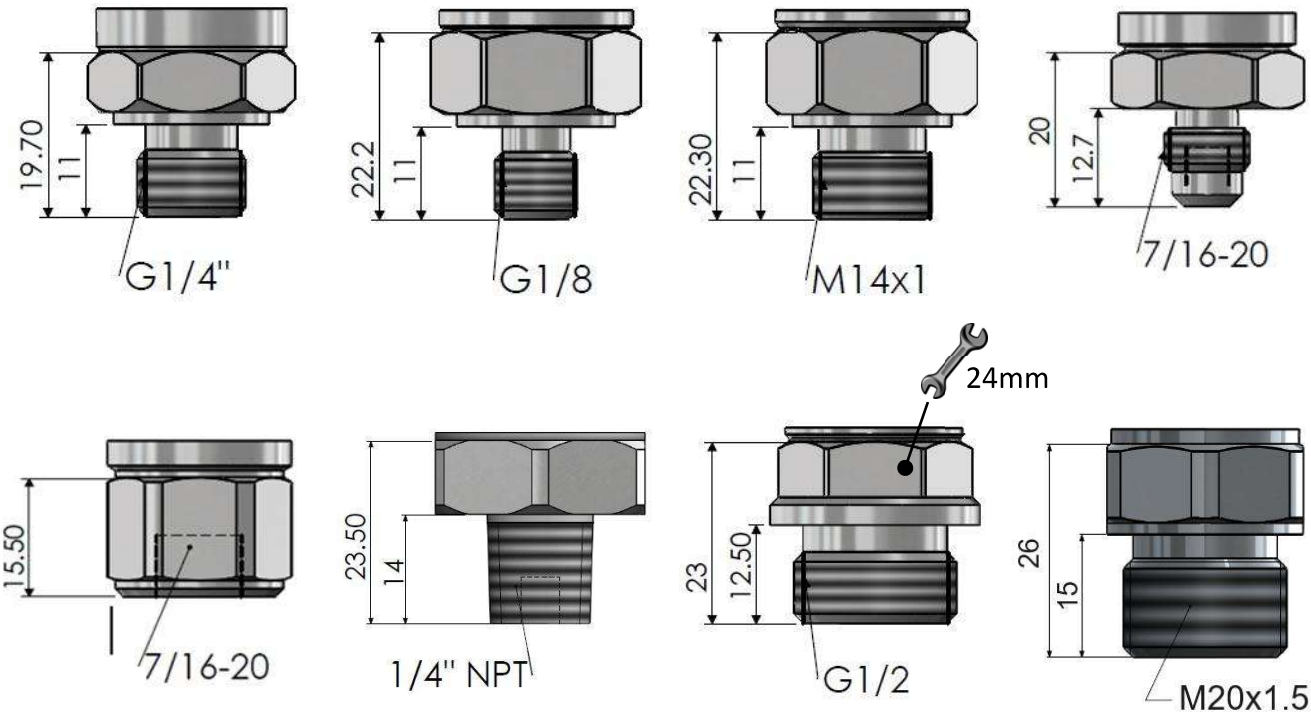




Mechanical Dimensions for CANopen Output



PROCESS CONNECTION OPTIONS

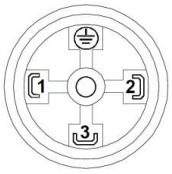


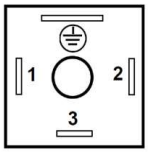
* In the case of the G1/2 model, the dimension of key slot is 24mm. All other models are 22mm.

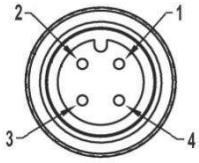
** Do not turn the product by holding from connector during installation. Otherwise, the product may be damaged.

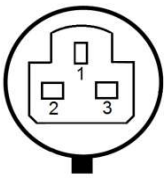
ELECTRICAL CONNECTION

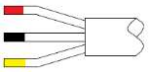
ELECTRICAL CONNECTION FOR ANALOG OUTPUTS







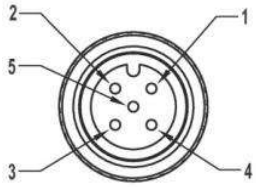


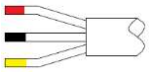


		DIN D43650-A	DIN D43650-C	M12 / 4 pin		PACKARD	CABLE
		S30	S31	S12	S15	S32	COLOR
		PIN NO	PIN NO	PIN NO		PIN NO	
CURRENT OUTPUT	+Vcc	2	2	2	1	B (2)	RED
	Analog Out	1	1	1	3	C (1)	BLACK
VOLTAGE OUTPUT	+Vcc	2	2	2	1	B (2)	RED
	GND	1	1	1	3	C (1)	BLACK
	Analog Out	3	3	3	2	A (3)	YELLOW

* For IP67 protection at model with M12 connector, press-printed cable should beused. Otherwise, it can not be used under IP67 conditions.
** PVC cable is used as standard in the model with cable.
*** On models with the PACKARD connector, the letter of pin numbers are 1(C) , 2(B) , 3(A).
**** Only S30 connector type can be selected for 0-20mA analog output. Other connector types or wired models cannot be selected.

ELECTRICAL CONNECTION FOR CANOPEN OUTPUTS





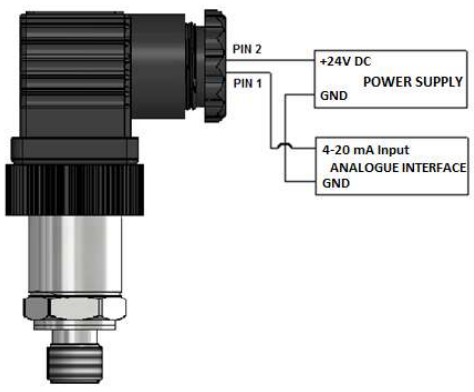
	M12 / 5 PIN (S13)	CABLE
CAN_SHIELD	Pin 1	SHİELD
V+ (8…26V)	Pin 2	RED
GND (0V)	Pin 3	BLACK
CAN_H	Pin 4	YELLOW
CAN_L	Pin 5	GREEN

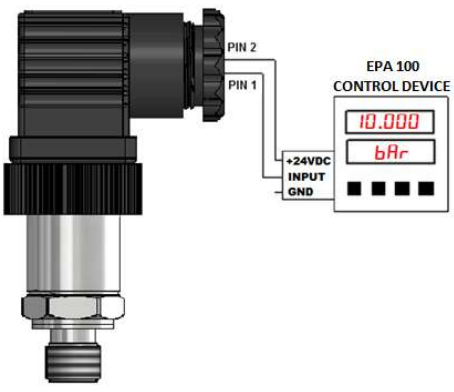
WARNING

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.

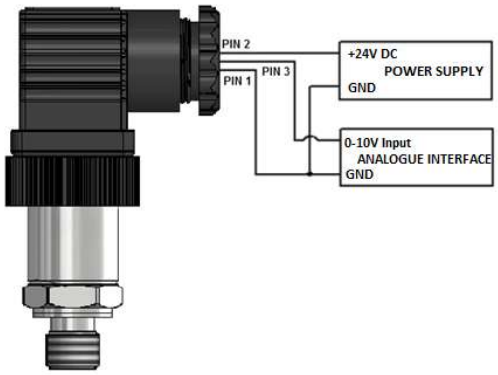
SAMPLE CONNECTIONS

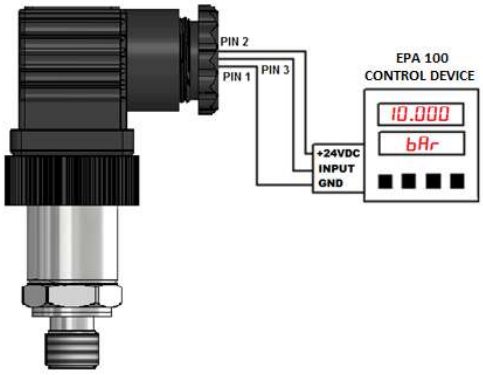
2 Wire 4-20mA Connection Connector Pin No	Signal
1	4...20mA Analogue Output
2	+8...32 VDC (Supply)



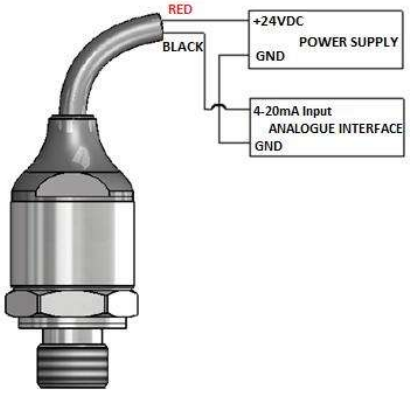


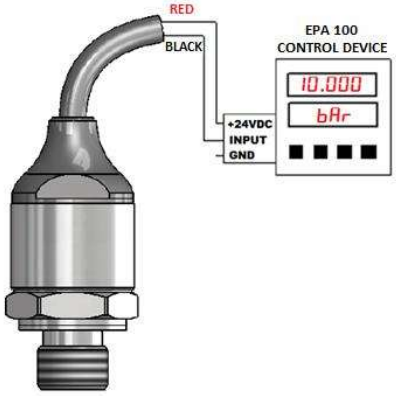
3 Wire 0-10VDC or 0-20 mA Connection Connector Pin No	Signal
1	GND
2	+12...30 VDC (Supply)
3	0…10VDC or 0-20 mA Output



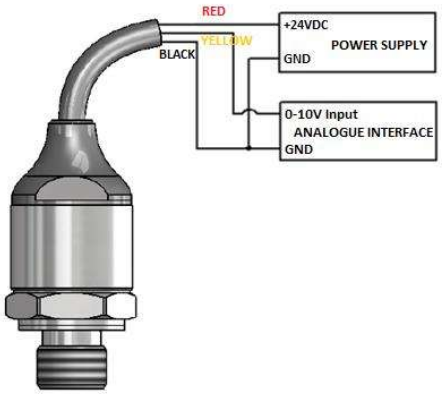


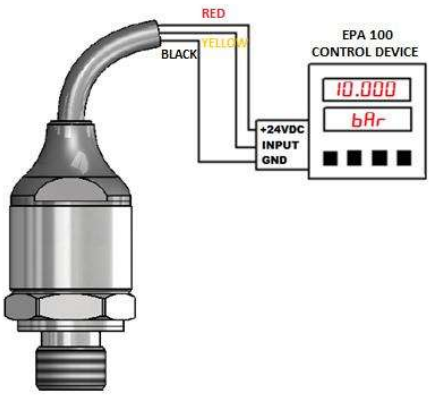
2 Wire 4-20mA Connection Cable Color	Signal
BLACK	4…20mA Analogue Output
RED	+8...32 VDC (Supply)





3 Wire 0-10VDC Connection Cable Color	Signal
BLACK	GND
RED	+12...30 VDC (Supply)
YELLOW	0…10VDC Output





ORDER CODE

Output Signal

Voltage Output Product
V : 0-10VDC (standard)
V1 : 0-5VDC
V2 : 1-6VDC
V3 : 0,5-4,5VDC
V4 : 0,5-5,5VDC
V5 : 1-5VDC
V6 : 1-10VDC

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

Current Output Products
A : 4-20mA (2-wire) (standard)
A0 : 0-20mA (3-wire)

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
S32 : Packard connector
2M : 2 meters cable

*Only S30 connector can be selected for 0-20mA (A0) analog output. Other connector types or wired models cannot be selected.
* Ask for other options.

Model

BCT 22 – 10Bar – A – G1/4 – S30 – -

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 :

BCT 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

BCT 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

RECOMMENDED PRODUCTS

BSS Series Pressure Transmitter Coolers
Max. 300 °C

EPA Series Process Control Devices
48x48mm model EPA 100
74x74mm model EPA 200
96x48mm model EPA 300







