

## BTT 22S Series

“-50...+150 °C Temperature Measuring Range,  
6...2000 Bar Pressure Measuring Range,  
Analog Output”



- Simultaneous pressure and temperature measurement with a single sensor
- Completely welded thin-film steel diaphragm structure that does not require o-ring
- Pressure measuring range options from 0...6 bar to 0...2000 bar
- Temperature measuring range options from -50 to +150°C
- 0-20 mA, 4-20mA, 0-5V, 0-10V, 1-5V, 0.25-4.75V analog output options
- G1/4, G1/2, NPT1/4, NPT1/2, M14x1 process connection options
- Stainless steel housing
- EMC and reverse polarity protection
- High accuracy and stability
- Excellent long-term operation

BTT 22S series combined pressure and temperature sensors provide simultaneous measurement of pressure and temperature in liquid and gaseous media via a single compact sensor, eliminating the need for 2 different sensors.

For reliable and accurate measurements, the sensor uses thin-film MEMS technology for pressure sensing as well as RTD for temperature sensing. Measurement values taken from sensors are converted into various analog output signals (4-20 mA, 0-10V, etc.) and integrated into automation systems.

BTT 22S series, which is not affected by electrical fluctuations and reverse connections thanks to overvoltage and reverse polarity protection, has a long life. With its fully welded thin-film steel diaphragm structure that does not require O-rings, it is resistant to vibrations and is ideal for use in difficult areas such as chemical applications.

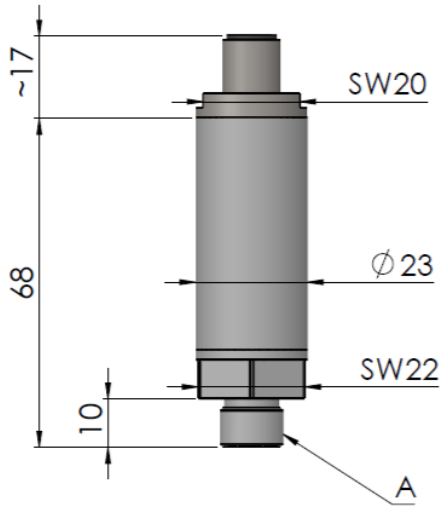
It has a wide range of user-selectable options such as measurement range, mechanical connection type, output signal, electrical connection type.

## APPLICATIONS

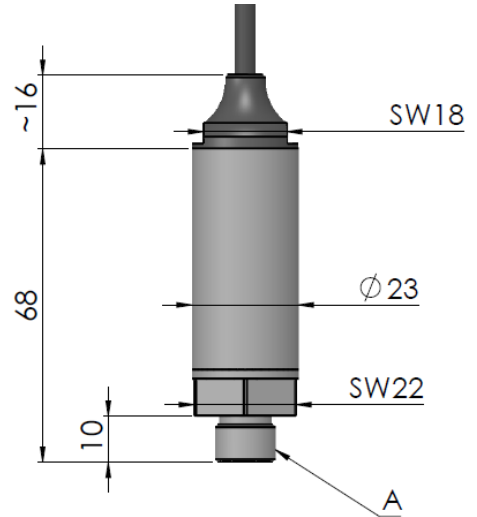
- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• Industrial Machines</li> <li>• Cooling and HVAC</li> <li>• Hydraulic and Pneumatic</li> </ul> | <ul style="list-style-type: none"> <li>• Energy Facilities</li> <li>• Automotive</li> <li>• Compressors and pumps</li> </ul> | <ul style="list-style-type: none"> <li>• Test Benches</li> <li>• Defense and aviation</li> <li>• Rail systems</li> </ul> |
|--|--|--|

## MECHANICAL DIMENSIONS (mm)

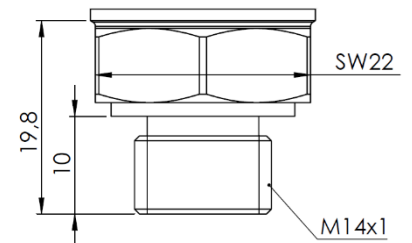
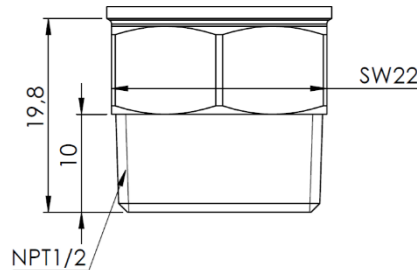
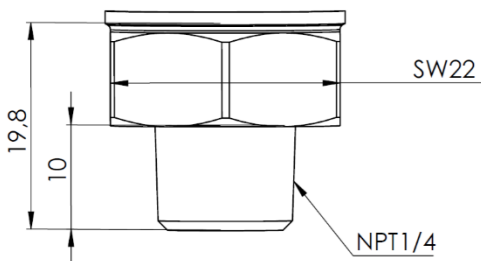
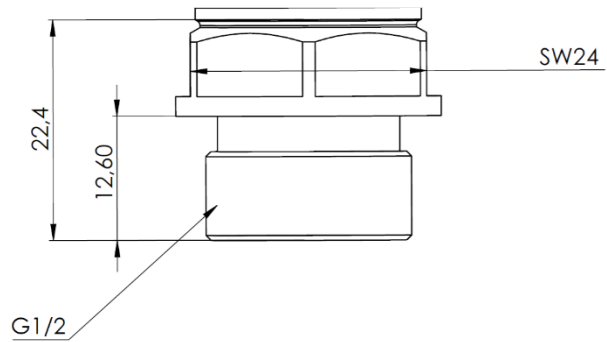
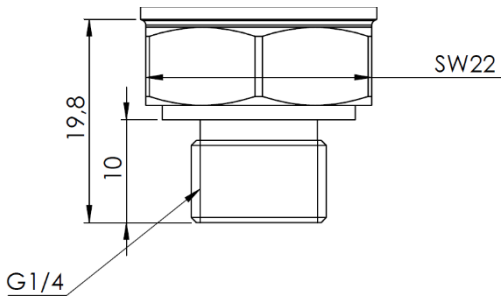
### M12 CONNECTOR



### CABLE



## PROCESS CONNECTION (A)


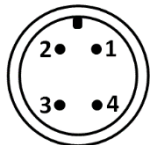




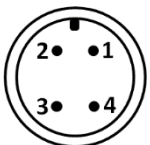

- \* In the case of the G1/2 model, the dimension of key slot is 24mm. All other models are 22mm.
- \*\* Do not turn the product by holding from socket during installation. Otherwise, the product may be damaged.

## TECHNICAL FEATURES

	Pressure	Temperature
<b>Measuring Sensor</b>	Thin-film MEMS Sensor	PT100 (Class B EN60751)
<b>Measuring Range</b>	6,10,16,25,40,100,250,400,600,1000 and 2000 bar	-50 ... +150 °C (optional others)
<b>Over Pressure</b>	%300FS <1000Bar, %150FS ≥1000Bar	-
<b>Burst Pressure</b>	%500FS (Max. 4000 bar)	-
<b>Response Time</b>	25ms (standard) %10...%90 nominal pressure 1ms, 5ms, 125ms (optional)	200 ms
<b>Accuracy</b>	±0.5%FS (@0°C~70°C)	±%0.1 FS (@0°C~70°C)
<b>Long Term Stability</b>	≤±%0.1 FS/ year	-
<b>Zero temperature drift</b>	±%0.03FS/°C	-
<b>Full scale temperature drift</b>	±%0.03FS/°C	-
<b>Output</b>	2 wire 4-20mA std. 3 wire 4-20mA, 0-20mA 0.25-4.75V, 0-5V, 1-5V, 0-10V	
<b>Supply Voltage</b>	2 wire : 8-32VDC 3 wire : 12-30VDC	
<b>Current Consumption</b>	2 wire : ≤20 mA @24VDC 3 wire : <30 mA @24VDC	
<b>Reverse polarity protection</b>	Yes	
<b>Short circuit protection</b>	Yes	
<b>Overload protection</b>	Yes	
<b>Electrical connection</b>	M12 connector or cable	
<b>Mechanical connection (A)</b>	G1/4, G1/2, NPT1/4, NPT1/2, M14x1	
<b>Mounting Torque</b>	15 ... 20 Nm	
<b>Material</b>	Body: 304L stainless steel Diaphragm: 316L stainless steel Process connection: 316L stainless steel	
<b>Operating Temperature</b>	-40°C ... +85°C	
<b>Storage Temperature</b>	-40°C ... +85°C	
<b>Protection</b>	IP65 or IP67 *IP67 protection is provided if M12 connector models are equipped with press-printed connectors.	

## ELECTRICAL CONNECTIONS

3-Wire 0.25-4.75V, 0-5V, 0-10V, 1-5V, 4-20mA, 0-20mA		
		
<b>Cable</b>	<b>M12 4 pin Male Connector</b>	<b>Signal</b>
Red	1	+12...30 VDC (Supply)
Yellow	2	0.25-4.75V, 0-5V, 0-10V, 1-5V, 0-20mA, 4-20mA (Pressure)
Black	3	GND
Green	4	0.25-4.75V, 0-5V, 0-10V, 1-5V, 0-20mA, 4-20mA (Temperature)

2-Wire 4-20mA		
		
<b>Cable</b>	<b>M12 4 pin Male Connector</b>	<b>Signal</b>
Red	1	+8...32 VDC (Supply)
Yellow	2	4-20mA (Pressure)
Black	3	N/C (Empty)
Green	4	4-20mA (Temp.)

## PRESSURE RANGE SELECTION

Code	Pressure Range	Overpressure	Burst Pressure
6Bar	0~6Bar	%300FS	%500FS
10Bar	0~10 Bar	%300FS	%500FS
16Bar	0~16Bar	%300FS	%500FS
25Bar	0~25Bar	%300FS	%500FS
40Bar	0~40Bar	%300FS	%500FS
100Bar	0~100Bar	%300FS	%500FS
250Bar	0~250Bar	%300FS	%500FS
400Bar	0~400Bar	%300FS	%500FS
600Bar	0~600Bar	%300FS	%500FS
1000Bar	0~1000Bar	%150FS	%500FS
2000Bar	0~2000Bar	%150FS	%500FS

## ORDER CODE

### 1-Model

BTT 22S

### 2- Temperature Range

-50 ... +150 °C selectable (Ask for others)

### 3- Pressure Range

6, 10, 16, 25, 40, 100, 250, 400, 600, 1000 and 2000 bar (Ask for others)

### 4- Temperature Output Signal

V : 0-10VDC	A : 4-20mA (2-wire)
V1 : 0-5VDC	A0 : 0-20mA (3- wire)
V5 : 1-5VDC	A7 : 4-20mA (3- wire)
V44 : 0.25-4.75VDC	

### 5- Pressure Output Signal

V : 0-10VDC	A : 4-20mA (2- wire)
V1 : 0-5VDC	A0 : 0-20mA (3- wire)
V3 : 0.5-4.5VDC	A7 : 4-20mA (3- wire)
V5 : 1-5VDC	

### 6- Process Connection

G1/4 : G1/4	NPT1/4 : NPT1/4	M14 : M14x1
G1/2 : G1/2	NPT1/2 : NPT1/2	
* Optional others		

### 7- Electrical Connection

S145 : M12 4 pin male (std)	1M : 1 meters cable
* Optional others	

### 8- Body Material

E304 : 304L  
\* Optional others

**Sample order code:** BTT 22S -20...+120 250Bar V A G1/4 S145 E304