



SMART TEMPERATURE TRANSMITTER BTT3224

(with HART® Protocol)

- Output signal 4...20mA with Hart protocol
- Galvanic insulation (In, Out)
- Programmable sensor type
- Programmable measuring range
- Resistant thermo resistance line compensation
- Compensation of thermocouple cold junction
- Autodiagnostic system
- Intrinsic safety certificate (ATEX, IECEx)
- Explosion proof certificate (ATEX, IECEx)

GENERAL DESCRIPTIONS

The temperature transmitter BTT3224ALW is applicable to converting resistance of temperature or voltage of thermocouple sensor to standard current signal 4-20mA. The transmitter has two separate channels enabling measurement of difference temperature, average, average with redundancy, max. or min. temperature. Transmitter has compensation of ambient temperature influence and compensation of thermocouple cold junction using internal/external (Pt100) sensor or constant temperature. Most of parameters such as: sensor type, measuring range, current alarm signal when electric circuit is broken, output characteristic correction, user characteristic (60 points) are programmed using PC with Hart/USB/Bluetooth converter and BASI RAPORT 2 configuration software or KAP-03 communicator. For request BASI can set temperature transmitter parameters like measuring range, type of sensor. The Transmitter BTT3224/ALW is designed for field use. BTT3224ALW can be used with temperature sensors mounted directly in transmitter's casing or with external sensors connected with cable. their values are printed on label.

TECHNICAL SPECIFICATIONS

Input signal	: K, J,S,B,N,T, R, E, voltage, Pt-xxx, Ni100, Resistance
Limit Prcess	: -10mV < E < 100mV or -100mV < E < 1000mV 0 Ω < R < 400 Ω or 0 Ω < R < 2000 Ω
Min Range	: 10mV or 10 Ω or 10K
Wire Resistance	: max 500 Ω
Output signal	: Two-wire 4-20, 20-4 mA + HART® Protocol
Power supply	: 13,5...55 VDC (Ex 13,5...30 VDC) when display illumination switched on 16,5...55 VDC (Ex 16,5...30 VDC)
Load limitation	: 0 - 600 Ω for 24VDC
Indicator	: LCD indicator with backlight
Ambient. temp	: -40 to 80°C (Ex -40 to 75°C)
Time constant	: 0,3 seconds
Sensor break	: 3,75mA / 21,5mA (NORMAL) or 3,6 mA / 21mA (NAMUR NE89) or setting by user
Humidity limits	: 0 - 100% RH
Damping adj.	: Adjustable 0-30 seconds
Configuration	: By pushbutton on the transmitter or HHT, PC using HART® Protocol



Performance Specifications

Accuracy	: ±0.1%
Hazardous area	: IP67 weather-proof, Intrinsic safety certificate (ATEX, IECEx) Explosion proof certificate (ATEX, IECEx)

Physical Specifications

Electrical connection	: M20x1,5 or ½"-14NPT
Process connection	: Remote mounted temperature sensor or direct mounted temperature sensor
Electronic housing	: Injected aluminum with polyester painting IP67 or SS316 housing
Identification plate	: 304 SST
Mounting	: Directly supported by piping or optionally with mounting bracket for 2" pipes or

Stainless Steel Housing



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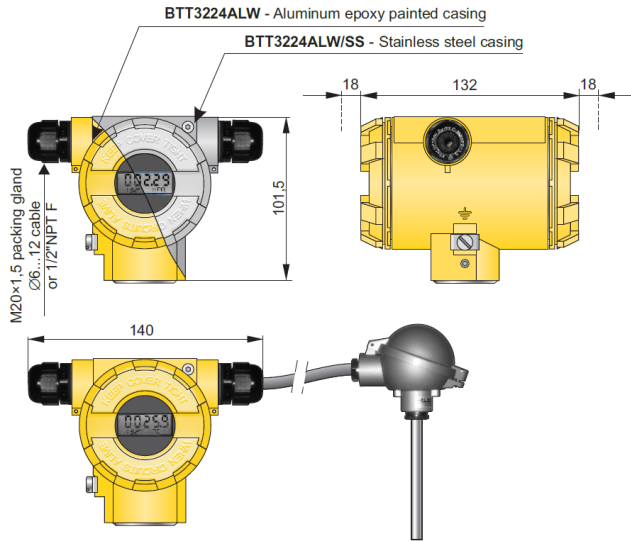
Smart Temperature Transmitter

BPT3224

No. DS 24:3-E Issue: 5 19/10/18

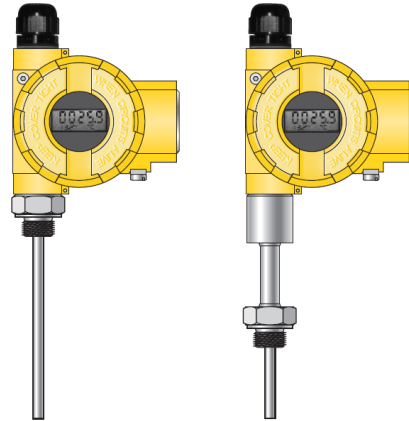
MECHANICAL SPECIFICATIONS

Explosion proof certificate (ATEX, IECEx)



BTT3224ALW with remote mounted temperature sensor

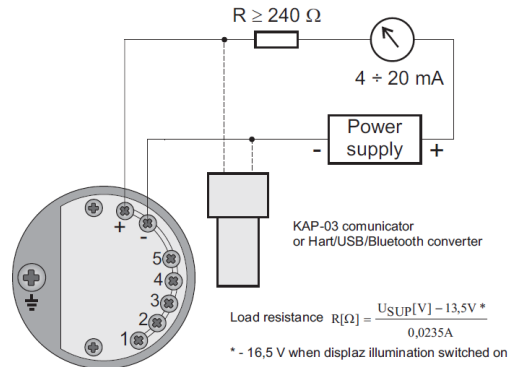
II 1/2G Ex ia IIC T4-T6 Ga/Gb
I M1 Ex ia I Ma (with SS316 enclosure only)
II 1D Ex ia IIIC T105°C Da



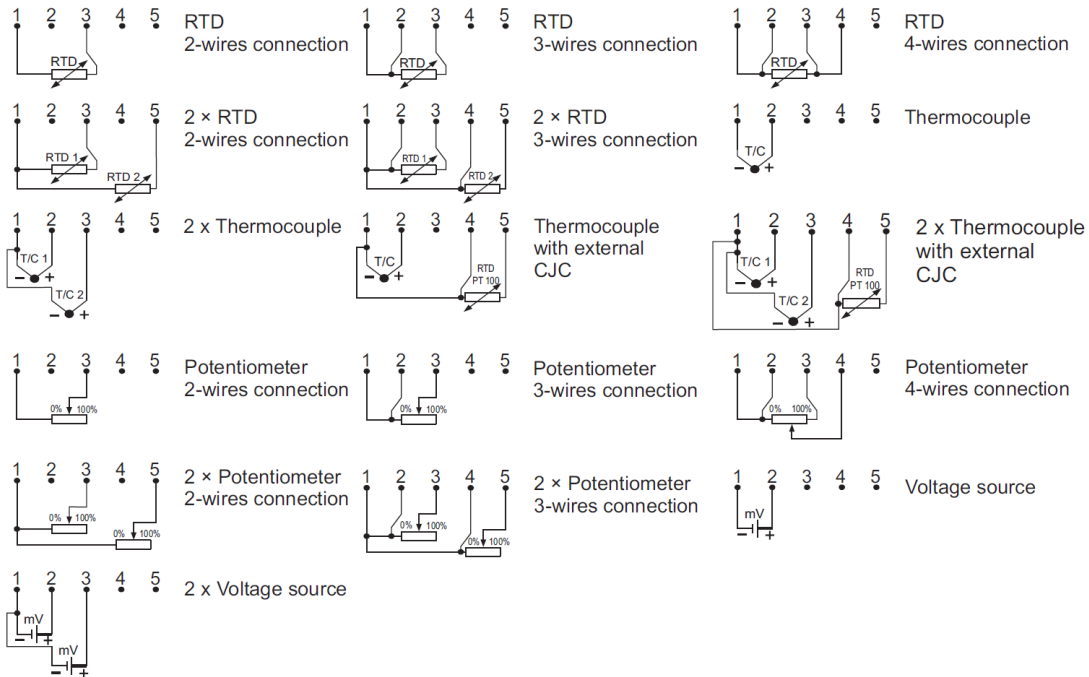
BTT3224ALW with direct mounted temperature sensor

Input type	Range	Input type	Range
Pt10	-200+850°C	B	250 ± 1820°C
Pt50	-200+850°C	E	-200 ± 1000°C
Pt100	-200+850°C	J	-210 ± 1200°C
Pt200	-200+850°C	K	-200 ± 1372°C
Pt500	-200+850°C	N	-200 ± 1300°C
Pt1000	-200+266°C	R	-20 ± 1768,1°C
Pt 98	-200+650°C	S	-30 ± 1768,1°C
Ni100	-60 ± 180°C	T	-200 ± 400°C
Cu100	-50 ± 180°C	L	-200 ± 800°C
Resistance 1	0...400 Ω	Voltage 1	-10...100mV
Resistance 2	0...2000 Ω	Voltage 2	-100...1000mV

Electrical diagrams



Electrical diagrams





Ordering code

BTT3224AL/ / / ÷ °C/

Special version:

Exia, Exd, IP67, SS, US

Type of measuring element

Set measuring range

Alarm signal

Special version:

- Exia** – Intrinsic safety certificate (ATEX, IECEx)
- Exd** – Explosion proof certificate (ATEX, IECEx)
- IP67** – protection class IP67
- SS** – housing material SS316
- US** – electrical connection 1/2"NPT F



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