

1/16 DIN Analog Setting Temperature Controller BTC-901, BTC-902



FEATURES

- Build-in Laser Trim ASIC
- Easy to change range
- ON-OFF or time proportional selectable
- Compact, only 86mm in depth
- Wide selection of control output option
- Wide selection of ranges
- Sensor break protection
- Low cost
- Safety: UL, CSA
- EMC, LVD: CE

SPECIFICATIONS

INPUT

Thermocouple (T/C) : Type J, K

RTD : 3-wires PT 100 ohms, DIN or JIS

Range : See ordering information

Accuracy : $\pm 2\%$ of span

Cold Junction Compensatin : $\pm 0.1^\circ\text{C}$ / 1°C

Rejection of RTD Lead Resistance =

(0.1°C - 0.025% of PV reading) / ohm

Sensor Break Protection : Upscale External

Resistance : 100 ohms max. Normal Mode

Rejection : 60 dB

Common Mode Rejection : 120 dB Sample

Rate : 3 times / second

CONTROL

Proportional Band : 2.2% of span

ON-OFF Hysteresis : 1 % of span

Cycle Time : 20 seconds for relay output, 1 second for pulsed voltage output, 0.02 second for linear current or voltage output.

Control Action : Reverse action

OUTPUT

Control : Relay 5A / 240V max. resistive load

Pulsed Voltage: 20mA / 32VDC max.

Current: 4-20mA, 0-20mA, max. load 500 ohms

Voltage: 0- 10V, min. load 500k ohms

ADJUSTMENT

Set point : Single turn wirewound potentiometer

Resolution of set point : 0.2% of span

Accuracy of set point : $\pm 2\%$ of span

Repeatability of set point : ± 0.1 span

INDICATION

Process Indicator : BTC-902 : HI/LO LED indicators

BTC-901 : None

Status Indicator : ON (red) LED Lamp, OFF (green) LED Lamp

POWER

Rating : 100-130VAC or 200-240VAC, 50/60Hz

Consumption : Less than 5VA

ENVIRONMENTAL & PHYSICAL

Operating Temperature : $0-50^\circ\text{C}$

Humidity : 0-90% RH (non-condensing)

Insulation : 20M ohms min. (500VDC)

Breakdown : AC 2000V, 50 / 60Hz, 1 minute

Vibration : 10-55Hz. amplitude 1 mm

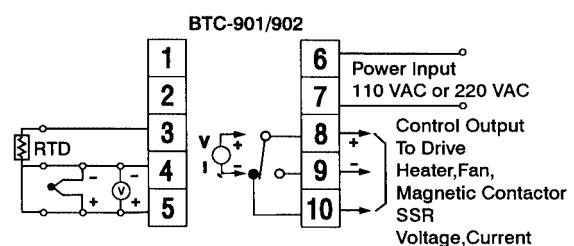
Shock : 200m/s^2 (20g)

Weight: BTC-901: 240 grams, BTC-902: 270 grams

Dimension: 48(W)X48(H)X86mm (depth behind panel)

Panel cutout: 45 X 45mm

CONNECTION DIAGRAM



BITC-901, BTC-902

ORDERING INFORMATION

Model NO. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
(1) (2) (3) (4) (5) (6) (7) (8)

(1) Power Input

1	100-130VAC, 50Hz/60Hz
2	200-240VAC, 50Hz/60Hz

(2) Signal Input

1	Type J thermocouple	4	PT 100 ohm JIS
2	Type K thermocouple	9	Other
3	1 PT100 ohm DIN		

(3) Range Code

Code	Range	Code	Range	Selected Solder GAP
2	0 ~ 100°C	A	50 ~ 200°F	J3
3	0 ~ 200°C	B	50 ~ 400°F	J4
4	0 ~ 300°C	C	50 ~ 550°F	J5
5	0 ~ 400°C	D	50 ~ 750°F	J6
		E	50 ~ 850°F	J7
6	0 ~ 600°C	F	50 ~ 1100°F	J8
7	0 ~ 800°C	G	50 ~ 1400°F	J9
8	0 ~ 1200°C	H	*0 ~ 2200°F	J10
9	Other			

(4) Control Mode

Code	Mode	J11
1	ON-OFF	Short
2	P (proportional)	Open

(5) Output I

1	Relay, rated 5A/240VAC resistive
2	Pulsed voltage to drive SSR, rated 20mA/24V
3	4-20mA linear, max. load 500 ohms
4	0-20mA linear, max. load 500 ohms
5	0-10V linear, min. load 500k ohms
9	Other

(6) Output II

0	None
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(7) Alarm

0	None
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(8) Communication

0	None
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FUNCTION OF SOLDER GAP J1~J11

Location	Short	Open	Function
J1	o		T/C Type J or K
"		o	PT 100 ohms DIN or JIS
J2		o	Reverse Control
"	o		Forward control
J3	o		100°C span
J4	o		200°C span
J5	o		300°C span
J6	o		400°C span
J7	o		460°C span
J8	o		600°C span
J9	o		800°C span
J10	o		1200°C span
J11	o		ON-OFF control
"		o	Time proportional control

FUNCTION OF SOLDER GAP J12-J13

J12	J13	Cycle time	Function
Short	Short	20 Secs.	Relay output
Open	Short	1 Sec.	SSR drive
Open	Open	0.02 Sec.	Linear current or voltage output

* Please refer detailed conversion from full technical information