

# 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 Compensation :  $\pm 0.1^\circ\text{C} / 1^\circ\text{C}$   
 Rejection of RTD Lead Resistance =  
 $(0.1^\circ\text{C} - 0.025\% \text{ of PV reading}) / \text{ohm}$   
 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 :  $\pm 0.1$  span

## INDICATION

Process Indicator : BTC-902 : HI/LO LED indicators  
 BTC-901 : None  
 Status Indicator : ON (red) LED Lamp, OFF (green) LED Lamp

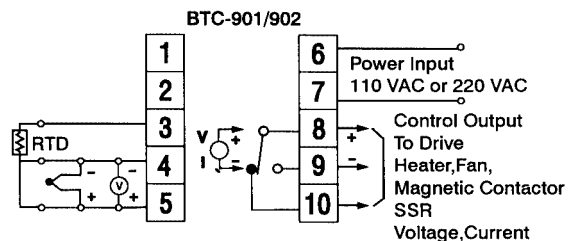
## POWER

Rating : 100-130VAC or 200-240VAC, 50/60Hz  
 Consumption : Less than 5VA

## ENVIRONMENTAL & PHYSICAL

Operating Temperature : 0-50°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<sup>2</sup> (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