



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

SPECIFICATION

INPUT

Thermocouple (T/C): Type J, K

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

Range : See ordering information

Accuracy : ± 1 % of span

Cold Junction Compensation : $\pm 0.1^\circ\text{C} / ^\circ\text{C}$

Rejection of RTD Lead Resistance =
($0.1^\circ\text{C} - 0.025\%$ 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: 3-digit or 4-digit switch

Manual Reset: Adjustable 2.6% of span (BTC-905 only)

Resolution of set point: 1 LSD (Least Significant Digit)

Accuracy of set point: ± 1 % of span

Repeatability of set point: ± 1 LSD

INDICATION

Process Indicator: 3-1 / 2 digit, 0.4" red LED display

Status Indicator: Red LED Lamp

POWER

Rating: 90-240VAC, 50Hz / 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

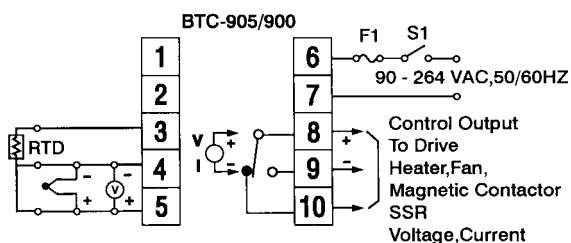
Shock: 200m/s² (20g)

Weight: BTC-905: 190 grams, BTC-900: 140 grams

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

Panel cutout: 45 X 45mm

CONNECTION DIAGRAM



For BTC-900 pin 8, pin 9 and pin 10 are not used.

ORDERING INFORMATION

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

(1) Power Input

4	90-240VAC, 50/60Hz
9	Other

(2) Signal Input

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

(3) Range Code

Code	Range	Code	Range
2	-199 ~ 199°C	K	-399~399°F
3	-99.9 ~ 99.9°C	L	-199 ~ 199°F
4	-99 ~ 99°C	M	-99.9 ~ 99.9°F
5	-49.9 ~ 49.9°C	N	-99 ~ 99°F
6	0 ~ 49.9°C	p	0 ~ 99°F
7	0 ~ 99°C	Q	0 ~ 99.9°F
8	0 ~ 99.9°C	R	0 ~ 199°F
A	0 ~ 199°C	S	0 ~ 399°F
B	0 ~ 199.9°C	T	0 ~ 599°F
C	0 ~ 299°C	U	0 ~ 799°F
D	0 ~ 399°C	V	0 ~ 999°F
E	0 ~ 499°C	W	0 ~ 1999°F
F	0 ~ 599°C		
G	0 ~ 799°C		
H	0 ~ 999°C		
I	0 ~ 1200°C		

(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

FUNCTION OF SOLDER GAP J14-J15

J14	J15	Function
Short	Open	Positive Setting
Open	Open	Positive and Negative setting
Open	Short	Negative setting

* Please refer detailed conversion from full technical information