

1/16 DIN Digital Setting Temperature Controller/Indicator BTC-905, BTC-900



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 : $\pm 1\%$ of span

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

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: 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: $\pm 1\%$ 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: $0-50^\circ\text{C}$

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

Insulation: 20M ohms min. (500VDC)

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

Vibration: 10-55Hz. amplitude 1 mm

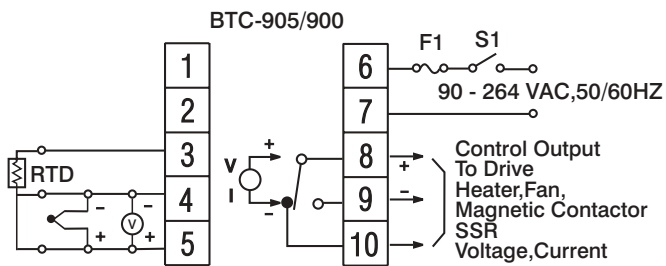
Shock: 200m/s^2 (20g)

Weight: BTC-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	90-264 VAC, 50/60Hz
5	20-32 VDC/VAC
9	Other

(2) Signal Input

1	Type J thermocouple	4	PT100 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	Y	0 ~ 499 °F
G	0 ~ 799 °C	Z	0 ~ 1200 °F
H	0 ~ 999 °C		
J	0 ~ 1200 °C		

(4) Control Mode (For BTC-905)

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

(4) Control Mode (For BTC-900)

0	None
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(5) Output I (For BTC-905)

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

(5) Output I (For BTC-900)

0	None
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(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