Thermocouple Transmitter MODEL SBTC

■ Features

- Simple wiring using a plug-in socket
- Compact
- 3-port insulation (Input-Output-Power)

■ Model

SBTC - □ □ - □

Input

2: K	8: S
3: E	9: N
4: J	10: PL-Ⅱ
5: T	11: W5Re/W26Re
6: B	12: W3Re/W25Re
7: R	
0:Specify	

Output

A: 4 to 20mA DC	3: 0 to 1V DC
D: 0 to 20mA DC	4: 0 to 10V DC
F: 0 to 10mA DC	5: 0 to 5V DC
I: 0 to 12mA DC	6: 1 to 5V DC
Z:Specify current	0:Specify voltage

Power supply

M: 100 to 240V AC
R: 24V DC

■ How to order

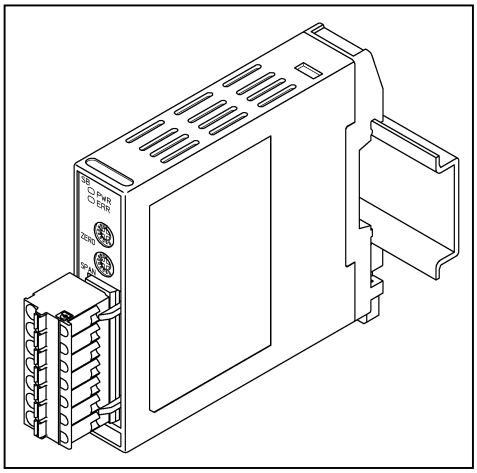
Specify a model.
(e.g.) SBTC-2A-M
0 to 400℃

■ Input specifications

Input resistance : 1MΩ or more
External resistance: 100Ω or less,
However, B: 40Ω or less
Burnout: Upscale, Downscale (Selectable by the DIP switch)
Input:

Thermocouple	Input range	
K	-200 to 1370℃	-328 to 2498℉
J	-200 to 1000℃	-328 to 1832℉
R	-50 to 1760℃	-58 to 3200℉
S	-50 to 1760℃	-58 to 3200℉
B	0 to 1820℃	32 to 3308℉
E	-200 to 800℃	-328 to 1472℉
T	-200 to 400℃	-328 to 752℉
N	-200 to 1300℃	-328 to 2372℉
PL-Ⅱ	0 to 1390℃	32 to 2534℉
W5Re/W26Re	0 to 2315℃	32 to 4199℉
W3Re/W25Re	0 to 2315℃	32 to 4199℉

Minimum span: 50℃ (100℉)



■ Output specifications

When the output range lower limit is zero, (even if zero adjustment results in a negative value), the output value will not be negative.

DC current

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
4 to 20mA DC	600Ω or less	-2.5 to 2.5%	97.5 to 102.5%
0 to 20mA DC	600Ω or less	0 to 2.5%	97.5 to 102.5%
0 to 12mA DC	1kΩ or less	0 to 2.5%	97.5 to 102.5%
0 to 10mA DC	1kΩ or less	0 to 2.5%	97.5 to 102.5%

DC voltage

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
0 to 1V DC	100Ω or more	0 to 2.5%	97.5 to 102.5%
0 to 5V DC	500Ω or more	0 to 2.5%	97.5 to 102.5%
1 to 5V DC	500Ω or more	-2.5 to 2.5%	97.5 to 102.5%
0 to 10V DC	1kΩ or more	0 to 2.5%	97.5 to 102.5%

■ Performance

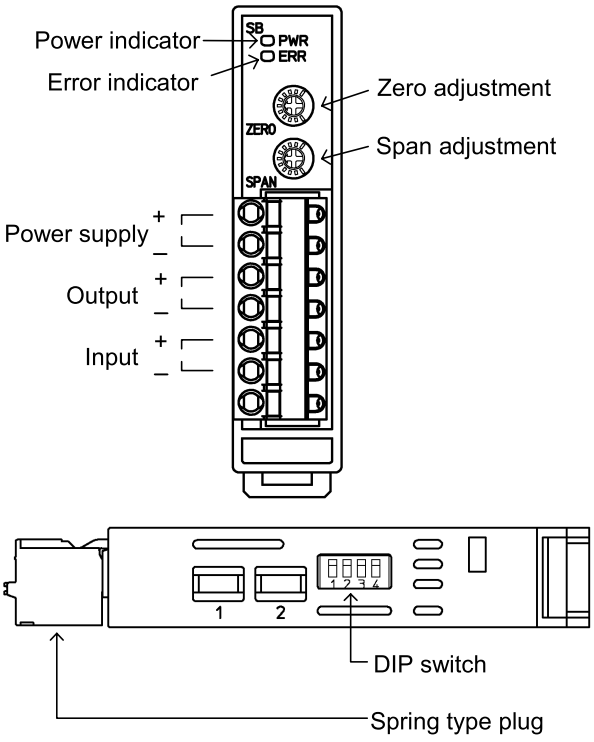
Accuracy

• Input: Within ±0.2% of each input span, or ±2℃ (4℉) whichever is greater
R, S inputs, Less than 200℃ (400℉):
Within ±6℃ (12℉)
B input, Less than 300℃ (600℉):
Accuracy is not guaranteed.
K, J, E, T, N inputs, Less than 0℃ (32℉):
Within 4℃ (8℉)

Cold junction compensation accuracy:
Within ±1.0℃ at -5 to 55℃
Response time : 1 sec. (0 → 90%)
(Average 0.5 sec)
Temperature coefficient: ±0.015%/℃
Insulation resistance : 10MΩ or more, at 500V DC
(Input-Output-Power)
Dielectric strength : 2.0kV AC for 1 minute
(Input-Output-Power)

■ Instrument specifications

Case : Flame resistant resin Color: Light gray
Front panel : Polycarbonate
Spring type plug: Polyamide Color: Green
Adjustment: By the front potentiometer
Zero adjustment : ±2.5%
Span adjustment : ±2.5%
Indication:
Power indicator (PWR): Green
Lights when the power is turned on.
Flashes in 500ms cycles when an error has occurred in non-volatile IC memory.
Error indicator (ERR): Red
Flashes in 250ms cycles when input is 110% or more.
Flashes in 500ms cycles when input is -10% or less.
Output status selection: Selects Normal or Reverse with the DIP switch.
No.1 OFF: Normal, ON: Reverse
Burnout: Selects Upscale or Downscale with the DIP switch.
No.2 OFF: Upscale, ON: Downscale
Momentary power failure: 30msec.
Self diagnosis:
The CPU is monitored by a watchdog timer, and when an abnormal status is found on the CPU, the unit restarts with the reset action.



■ Installation specifications

Power supply
• 100 to 240V AC 50/60Hz
Allowable voltage range: 85 to 264V AC
Power consumption : Approx. 3.5VA
• 24V DC
Allowable voltage range: 20 to 28V DC
Power consumption : Approx. 3.5W

Ambient temperature: -5 to 55℃
Ambient humidity : 35 to 85%RH (non-condensing)
Weight : Approx. 80g
Mounting method : DIN rail mounting
Be sure to use fastening plates at both ends of the unit after the unit is mounted to the DIN rail.
External dimensions : 17.5 (W) x 75 (H) x 85 (D) mm

■ Environmental specification

RoHS directive compliance

■ Ferrules

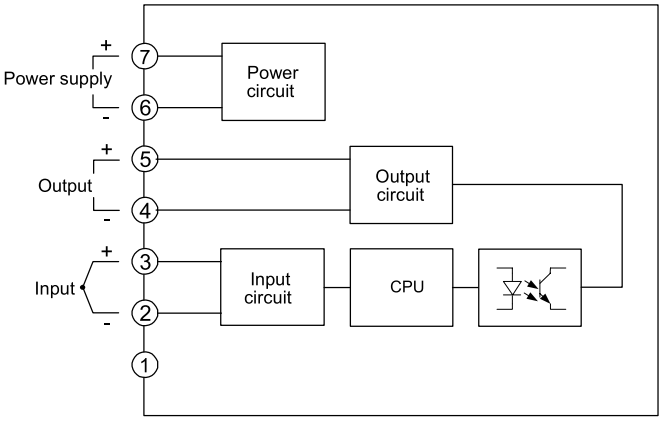
Made by Phoenix Contact GMBH & CO.

Insulation sleeve attached

Model	Conductor cross section
AI0.25-6BU	0.2 – 0.25mm^2
AI0.34-8TQ	0.25 – 0.34mm^2
AI0.5-8WH	0.34 – 0.5mm^2
AI0.75-8GY	0.5 – 0.75mm^2
AI1-8RD	0.75 – 1.0mm^2
AI1.5-8BK	1.0 – 1.5mm^2
AI2.5-8BU	1.5 – 2.5mm^2

Crimping pliers
CRIMPFOX ZA3
CRIMPFOX UD6

■ Circuit configuration, terminal arrangement



■ External dimensions (Scale: mm)