

Thermocouple Transmitter (with indication function) MODEL SAWTC

Model SAWTC-□□□-□

Output 2 _____
 A: 4 to 20mA
 D: 0 to 20mA
 (Output 1: Universal)

Power supply _____
 M: 100 to 240V AC
 R: 24V AC/DC

How to order
 Specify a model. (e.g.) SAWTC-2AA-M
 0 to 400°C

Default value	
Input	K -200 to 1370°C
Output 1	4 to 20mA DC
Output 2	Fixed range

Input specifications

Thermocouple
 Input resistance : 1MΩ or more
 External resistance: 100Ω or less, however, B: 40Ω or less
 Burnout : Upscale, Downscale

Input:

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

Minimum span: 50°C(100°F)

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.

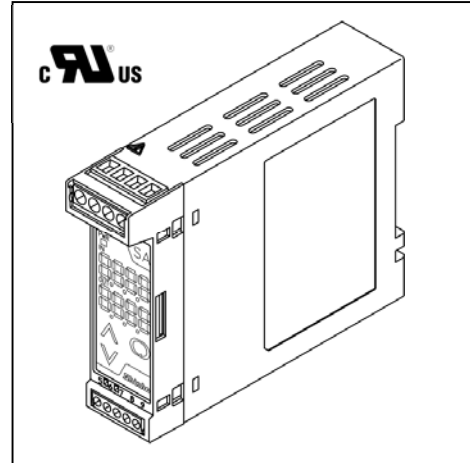
Output 1 (Universal)

DC current

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
4 to 20mA DC	700Ω or less	-5 to 5%	95 to 105%
0 to 20mA DC	700Ω or less	0 to 5%	95 to 105%
0 to 12mA DC	1.2kΩ or less	0 to 5%	95 to 105%
0 to 10mA DC	1.2kΩ or less	0 to 5%	95 to 105%
1 to 5mA DC	2.4kΩ or less	-5 to 5%	95 to 105%

DC voltage

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
0 to 1V DC	100Ω or more	0 to 5%	95 to 105%
0 to 5V DC	500Ω or more	0 to 5%	95 to 105%
1 to 5V DC	500Ω or more	-5 to 5%	95 to 105%
0 to 10V DC	1kΩ or more	0 to 5%	95 to 105%



Output 2 (Fixed range) DC current

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
4 to 20mA DC	300Ω or less	-5 to 5%	95 to 105%
0 to 20mA DC	300Ω or less	0 to 5%	95 to 105%

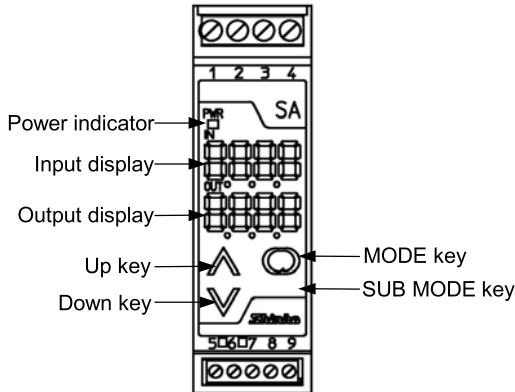
Performance

- Accuracy:
- Input:
 - Within ±0.1% of each input span
 - R, S inputs, -50 to 200°C (-58 to 392°F):
Within ±6°C (12°F)
 - B input, 0 to 300°C (32 to 572°F):
Accuracy is not guaranteed.
 - K, J, E, T, N inputs, Less than 0°C(32°F):
Within ±0.4% of each input span
 - Output 1: Within ±0.1%
 - Output 2: Within ±0.15%
- Cold junction compensation accuracy:
 Within ±1°C at -5 to 55°C
- Display accuracy:
 Within input accuracy ±1 digit
- Response time:
 Output 1: 0.5 sec. (typical) (0 → 90%)
 Output 2: 1.0 sec. (typical) (0 → 90%)
- Temperature coefficient:
 Output 1: ±0.015%/°C
 Output 2: ±0.015%/°C
- Insulation resistance: 10MΩ or more, at 500V DC
 (Input - Output 1 - Output 2 - Power)
- Dielectric strength: 2.0kV AC for 1 minute:
 (Input - Output 1 - Power),
 (Output 1 - Output 2 - Power)
 1.35kV AC for 1 minute:
 (Input - Output 2)
- Isolation: 3-port isolation (between Input - Output - Power)

SAW series

General structure

- Case : Flame-resistant resin Color: Light gray
 Front panel: Membrane sheet
 Setting : By the front keypad
 Indication : Input display:
 7-segment, Red LED display 4-digit
 Character size, 7.4 x 4.0mm (H x W)
 Output display:
 7-segment, Green LED display 4-digit
 Character size, 7.4 x 4.0mm (H x W)
 Power indicator: Green LED



Installation specifications

- Power supply : 100 to 240V AC 50/60Hz
 24V AC/DC 50/60Hz
 Allowable voltage range: 85 to 264V AC
 20 to 28V AC/DC
 Power consumption : Approx. 6VA
 Ambient temperature : -5 to 55°C
 Ambient humidity : 35 to 85%RH (non-condensing)
 Weight : Approx. 120g
 Mounting : DIN rail mounting
 External dimensions : 22.5 (W) x 75 (H) x 100 (D)mm

Attached functions

- Power failure countermeasure:
 The data is backed up in non-volatile IC memory.
 Self diagnosis:
 The CPU is monitored by a watchdog timer, and when an abnormal status is found on the CPU, the unit is switched to warm-up status with turning all outputs off.
 Cold junction compensation: Available

Environmental specification

RoHS directive compliance

Settings

- Function keys
 (1) Up key : Increases the numeric value.
 (2) Down key : Decreases the numeric value.
 (3) MODE key : Selects the setting mode.
 (4) SUB MODE key: Press with the MODE key to select the setting mode.

Setting items

- Setting by pressing the MODE key for 3 seconds
 (1) Output 1 zero adjustment
 (2) Output 1 span adjustment
 (3) Output 2 zero adjustment
 (4) Output 2 span adjustment

- Setting by the MODE key and SUB MODE key
 (1) Set value lock
 (2) Input selection
 (3) Decimal point place
 (4) Output 0% value
 (5) Output 100% value
 (6) Filter time constant
 (7) Sensor correction

- (8) Output 1 output range
 (9) Output Normal/Reverse
 (10) Burnout selection
 (11) Display selection
 (12) Indication time

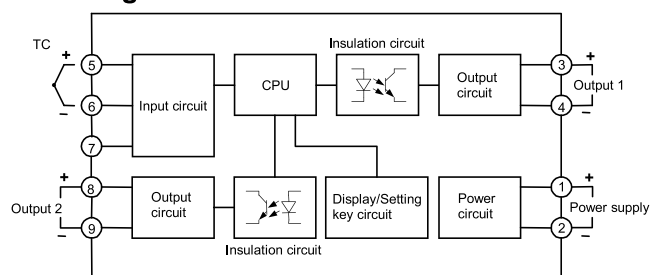
Displays and indicators

- Input display : Indicates the input value.
 Indication of -200.0 or less:
 The minus (-) sign and input value light in turn.
 Under range: “- - - -” flashes on the Input display.
 Over range : “ ” flashes on the Input display.
 Warm-up indication:
 For approx. 3 seconds after the power to the instrument is turned on, the input type is indicated on the Input display, and Output1 type is indicated on the Output display.
 Output display : Indicates the output volume in percentage (%) form.
 Power indicator : The green LED lights when the power to the instrument is turned on.

Ferrules

- Terminals from 1 to 4
 Insulation sleeve attached (Phoenix Contact GMBH & CO.)
 AI0.25-8YE 0.2 – 0.25mm²
 AI0.34-8TQ 0.25 – 0.34mm²
 AI0.5-8WH 0.34 – 0.5mm²
 AI0.75-8GY 0.5 – 0.75mm²
 AI1.0-8RD 0.75 – 1.0mm²
 AI1.5-8BK 1.0 – 1.5mm²
 Crimping pliers (Phoenix Contact GMBH & CO.)
 CRIMPFOX ZA3
 CRIMPFOX UD6
 Terminals from 5 to 9
 Insulation sleeve attached (Phoenix Contact GMBH & CO.)
 AI0.25-8YE 0.2 – 0.25mm²
 AI0.34-8TQ 0.25 – 0.34mm²
 AI0.5-8WH 0.34 – 0.5mm²
 Crimping pliers (Phoenix Contact GMBH & CO.)
 CRIMPFOX ZA3
 CRIMPFOX UD6

Circuit configuration and terminal arrangement



External dimensions (Scale: mm)

