

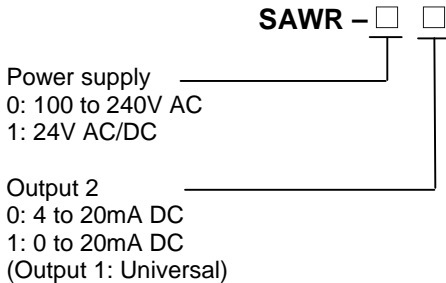
# SAW series

SPEC. SHEET

## RTD Transmitter (with indication function)

Model: **SAWR**  


### Model



### How to order

Specify a model.  
 (e.g.) SAWR-00

Default value

Input	Pt100 -200 to 850°C
Output 1	4 to 20mA DC
Output 2	Fixed range

### Input specifications

#### RTD (3-wire system)

Input detection current : Approx. 0.2mA

Allowable lead wire resistance: 10Ω or less per wire

Burnout : Upscale, Downscale

Input:

RTD	Input range	
Pt100	-200 to 850°C	-328 to 1562°F
JPt100	-200 to 500°C	-328 to 932°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.

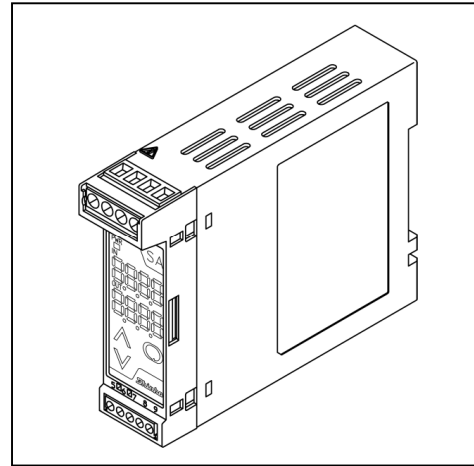
#### Output 1 (Universal)

##### 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

- Output 1: Within ±0.1%

- Output 2: Within ±0.15%

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)

### 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

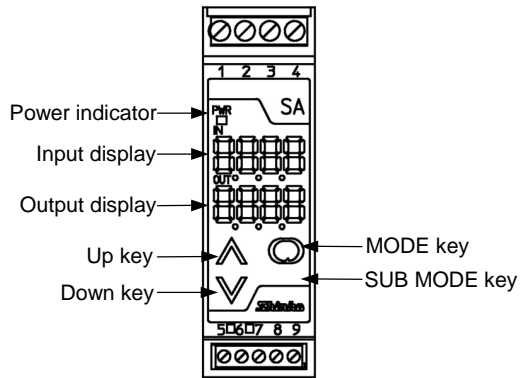
Character size, 7.4 x 4.0mm (H x W)

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.

### ■ 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 alternately.

- 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 Output 1 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.)

A10.25-8YE	0.2 – 0.25mm <sup>2</sup>
A10.34-8TQ	0.25 – 0.34mm <sup>2</sup>
A10.5-8WH	0.34 – 0.5mm <sup>2</sup>
A10.75-8GY	0.5 – 0.75mm <sup>2</sup>
A11.0-8RD	0.75 – 1.0mm <sup>2</sup>
A11.5-8BK	1.0 – 1.5mm <sup>2</sup>

Crimping pliers (Phoenix Contact GMBH & CO.)

- CRIMPFOX ZA3
- CRIMPFOX UD6

Terminals from 5 to 9

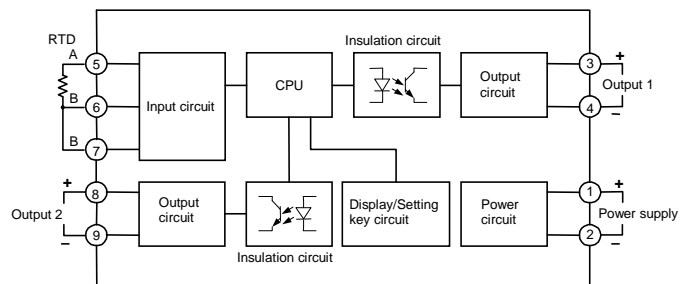
Insulation sleeve attached (Phoenix Contact GMBH & CO.)

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Crimping pliers (Phoenix Contact GMBH & CO.)

- CRIMPFOX ZA3
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### ■ Circuit configuration and terminal arrangement



### ■ External dimensions (Scale: mm)

