

## ISOLATOR (with indication function)

## MODEL SAWDC

### Model SAWDC-□□□-□

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.) SAWDC-AAA-M

Default value

Input	4 to 20mA DC
Output 1	4 to 20mA DC
Output 2	Fixed range

### Accessories (sold separately)

Name	Model	Specification
Shunt resistor	RES-S02-050	50Ω ±0.1%
	RES-S02-100	100Ω ±0.1%
	RES-S02-200	200Ω ±0.1%
	RES-S02-01K	1kΩ ±0.1%

### Input specifications

DC current

Input range	Shunt resistor
4 to 20mA DC	50Ω
0 to 20mA DC	
0 to 16mA DC	100Ω
2 to 10mA DC	
0 to 10mA DC	200Ω
1 to 5mA DC	
0 to 1mA DC	1kΩ

Connect a shunt resistor (sold separately) between input terminals.

DC voltage

Input range	Input resistance	Allowable signal source resistance
0 to 10mV DC	1MΩ	20Ω or less
-10 to 10mV DC		40Ω or less
0 to 50mV DC		200Ω or less
0 to 60mV DC		
0 to 100mV DC	2kΩ or less	
0 to 1V DC		

### 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.

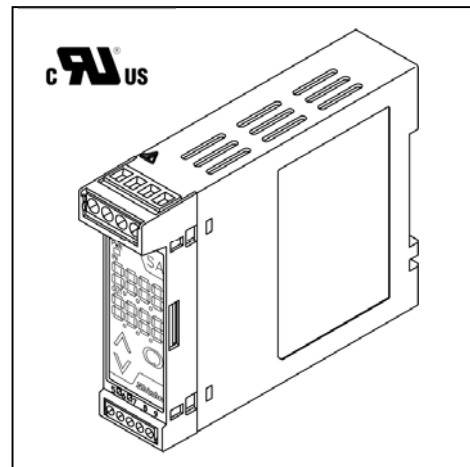
#### Output 1 (Universal)

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:

- DC current input: Within ±0.1%
- 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:  
(Between 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:

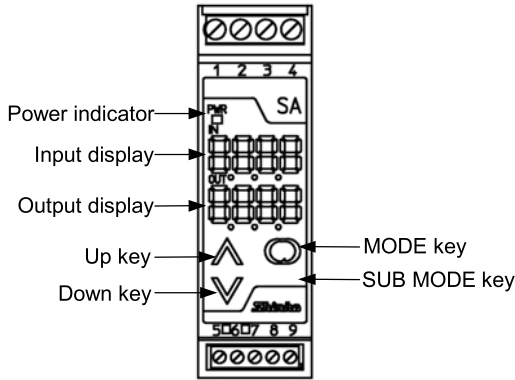
7-segment, Red LED display 4-digit  
Character size, 7.4 x 4.0mm (H x W)

Output display:

7-segment, Green LED display 4-digit  
Character size, 7.4 x 4.0mm (H x W)

Power indicator: Green LED

# SAW series



## ■ 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) Display selection
- (11) Indication time

## ■ Displays and indicators

- Input display : Indicates the input value.  
 Indication of -2000 or less:  
 The minus (-) sign and input value light alternately.

Indication of 10000 or more:  
 The lower 4 digits flash.

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 – 0.25mm <sup>2</sup>
AI0.34-8TQ	0.25 – 0.34mm <sup>2</sup>
AI0.5-8WH	0.34 – 0.5mm <sup>2</sup>
AI0.75-8GY	0.5 – 0.75mm <sup>2</sup>
AI1.0-8RD	0.75 – 1.0mm <sup>2</sup>
AI1.5-8BK	1.0 – 1.5mm <sup>2</sup>

Crimping pliers (Phoenix Contact GMBH & CO.)

- CRIMPFOX ZA3
- CRIMPFOX UD6

Terminals from 5 to 9

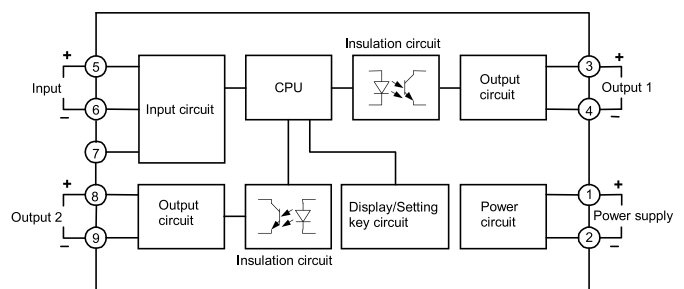
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- CRIMPFOX ZA3
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## ■ Circuit configuration and terminal arrangement



## ■ External dimensions (Scale: mm)

