

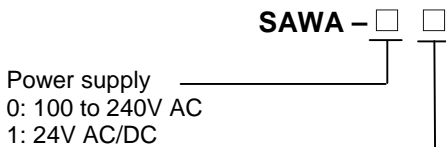
SAW series

SPEC. SHEET

ISOLATOR (with indication function)

Model: **SAWA**
C **RA** US

Model



How to order

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

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 | |
| 2 to 10mA DC | 100Ω |
| 0 to 10mA DC | |
| 1 to 5mA DC | 200Ω |
| 0 to 1mA DC | 1kΩ |

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

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.

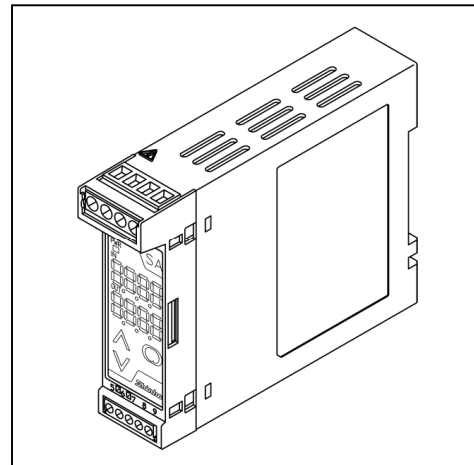
Output 1 (Universal)

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

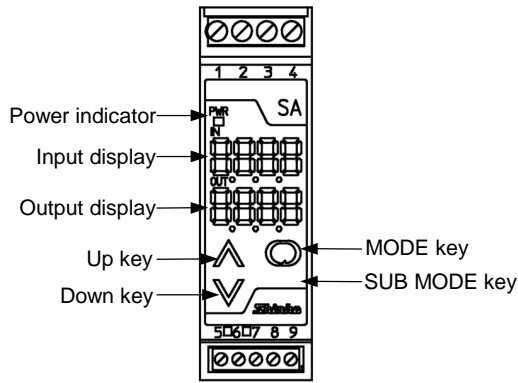
Case : Flame-resistant resin Color: Light gray
Front panel: Membrane sheet
Setting : By the front keypad
Indication : Input display:

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



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 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 |
| AI1.0-8RD | 0.75 – 1.0mm ² |
| AI1.5-8BK | 1.0 – 1.5mm ² |

Crimping pliers (Phoenix Contact GMBH & CO.)

- CRIMPFOX ZA3
- CRIMPFOX UD6

Terminals from 5 to 9

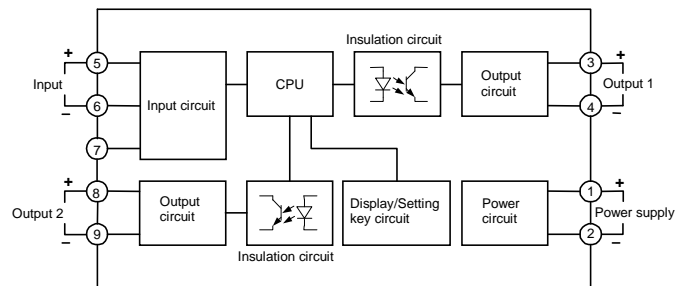
Insulation sleeve attached (Phoenix Contact GMBH & CO.)

| | |
|------------|----------------------------|
| AI0.25-8YE | 0.2 – 0.25mm ² |
| AI0.34-8TQ | 0.25 – 0.34mm ² |
| AI0.5-8WH | 0.34 – 0.5mm ² |

Crimping pliers (Phoenix Contact GMBH & CO.)

- CRIMPFOX ZA3
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Circuit configuration and terminal arrangement



External dimensions (Scale: mm)

