

SA series

SPEC. SHEET

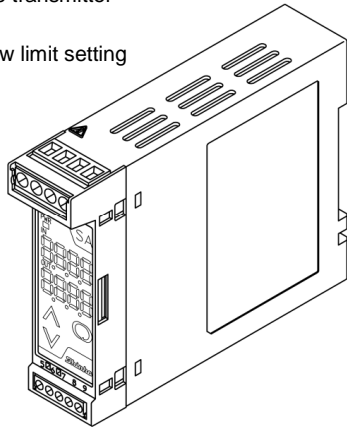
RATIO

Current Loop Supply (with indication function)

Model: **SADR**

■ Features

- Power supply for 2-wire transmitter
- Ratio, bias setting
- Output display High/Low limit setting



■ Model

SADR-□ T1060-1

Power supply
0: 100 to 240V AC
1: 24V AC/DC

■ How to order

Specify a model. (e.g.) SADR-0 T1060-1

Default value

Input	4 to 20mA DC
Output	4 to 20mA DC

■ Input specifications

DC current

Input range	Shunt resistor
4 to 20mA DC	50Ω built-in

■ 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
0 to 10mA DC	1.2kΩ or less	0 to 5%	95 to 105%
0 to 12mA DC			
0 to 20mA DC	700Ω or less	-5 to 5%	
4 to 20mA DC			
1 to 5mA DC	2.4kΩ or less		

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 10V DC	1kΩ or more		
0 to 5V DC	500Ω or more		
1 to 5V DC		-5 to 5%	

■ Power for 2-wire transmitter

Output voltage : 24 to 28V ±3V DC (When load current is 20mA)
Ripple voltage : Within 200mV DC (When load current is 20mA)
Max load current: 25mA DC

■ Performance

Accuracy:

Input: Within ±0.1% (Ratio=1.00 times, at bias 0%)

Output: Within ±0.1% (Ratio=1.00 times, at bias 0%)

Display accuracy : Within input accuracy ±1 digit

Response time : 0.5 sec. (typical) (0 → 90%)

Ratio setting : 0.10 to 4.00 times

Bias setting : -100 to 100%

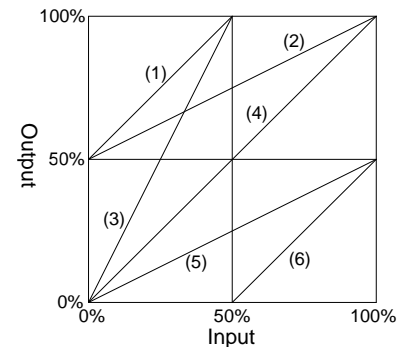
Equation : $O=RI+B$ (Normal output)

: $O=S-(RI+B)$ (Reverse output)

Where O=Output (%), R=Ratio, I=Input (%)
B=Bias, S=100%

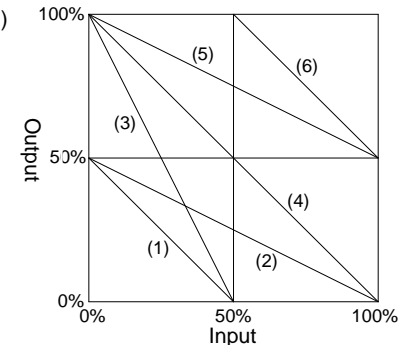
(Output status: Normal)

- (1) R=1.0 B=50
- (2) R=0.5 B=50
- (3) R=2.0 B=0
- (4) R=1.0 B=0
- (5) R=0.5 B=0
- (6) R=1.0 B=-50



(Output status: Reverse)

- (1) R=1.0 B=50
- (2) R=0.5 B=50
- (3) R=2.0 B=0
- (4) R=1.0 B=0
- (5) R=0.5 B=0
- (6) R=1.0 B=-50



Temperature coefficient: ±0.015%/°C

Insulation resistance : 10MΩ or more, at 500V DC
(Input - Output - Power)

Dielectric strength : 2.0kV AC for 1 minute
(Input - Output - Power)

Isolation : 3-port isolation (between Input-Output-Power)

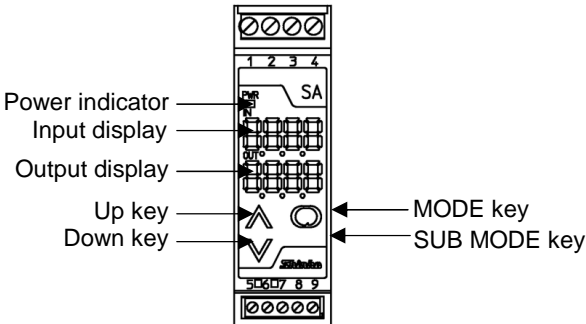
Note: Input includes power supply for 2-wire transmission (terminals 5, 6, 7).

■ General structure

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

Indication:

- Power indicator : Green LED
- 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)



■ 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. 7VA
- Ambient temperature : -5 to 55°C
- Ambient humidity : 35 to 85%RH (non-condensing)
- Mounting : DIN rail mounting
- External dimensions : 22.5 (W) x 75 (H) x 100 (D)mm
- Weight : Approx. 120g

■ 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 zero adjustment
 - (2) Output span adjustment
- Setting by the MODE key and SUB MODE key
 - (1) Set value lock
 - (2) Decimal point place (for Input display)
 - (3) Output 0% value (for Input display)
 - (4) Output 100% value (for Input display)
 - (5) Filter time constant
 - (6) Sensor correction
 - (7) Output selection
 - (8) Output Normal/Reverse
 - (9) Display selection
 - (10) Indication time
 - (11) Ratio setting
 - (12) Bias setting
 - (13) Output decimal point place (for Output display)
 - (14) Output low limit (for Output display)
 - (15) Output high limit (for Output display)

■ Displays and indicators

- Power indicator : The green LED lights when the power to the instrument is turned on.
- 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.

- Output display : Indicates the output volume in percentage (%) form.
Indicates output decimal point place, output low limit value, output high limit value, based on output (%).
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 power-on, the input type is indicated on the Input display, and Output type is indicated on the Output display.

■ Ferrules

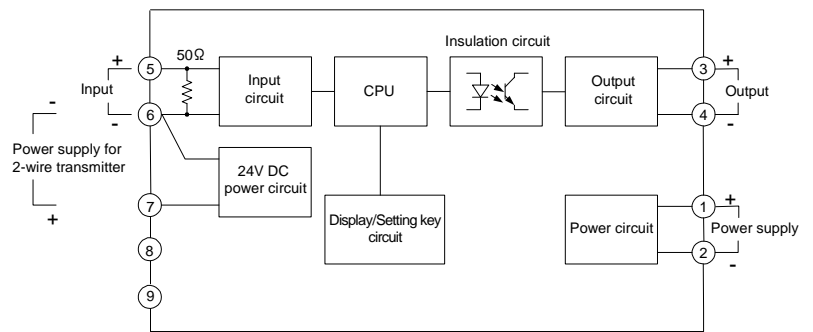
Terminals from 1 to 4

- 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

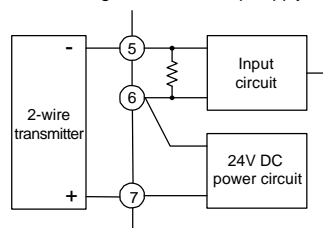
Terminals from 5 to 9

- 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

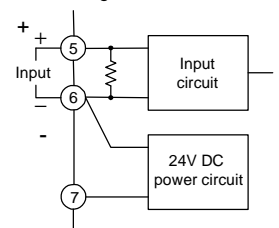
■ Circuit configuration and terminal arrangement



When using as a Current loop supply



When using as an Isolator



■ External dimensions (Scale: mm)

