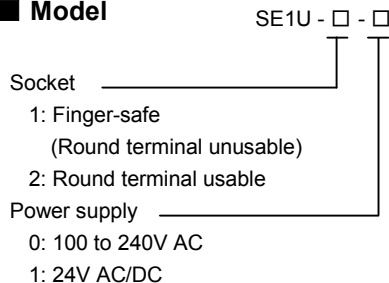


1ch Universal Signal Conditioner

Model: **SE1U**

(with indication function)

■ **Model**



■ **How to order**

Specify the model (e.g.) SE1U-1-0
Default value

Input signal	1 to 5V DC
Output signal	4 to 20mA DC

■ **Accessories (sold separately)**

Model	Model	Spec.	
Shunt resistor	Round Type	RES-S01-050	50Ω ±0.1%
		RES-S01-100	100Ω ±0.1%
		RES-S01-200	200Ω ±0.1%
		RES-S01-01K	1kΩ ±0.1%
Y type	RES-S06-050	50Ω ±0.1%	
	RES-S06-100	100Ω ±0.1%	
	RES-S06-200	200Ω ±0.1%	
	RES-S06-01K	1kΩ ±0.1%	

Communication cable for the console software: CMB-001

■ **Input specification**

Thermocouple

Input resistance : 1MΩ or more
External resistor: 100Ω or less, however, B input, 40Ω or less
Burnout : Upscale, Downscale
(Selectable by keypad)

Input signal

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)

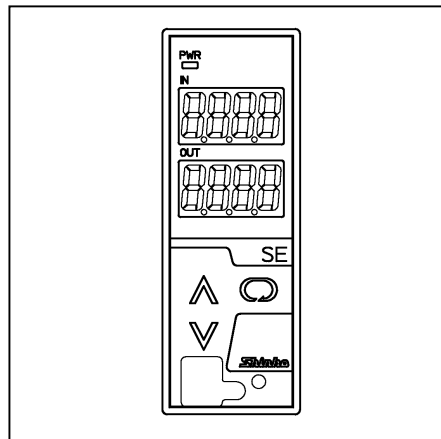
RTD (3-wire system)

Input detection current : Approx. 0.2mA
Allowable lead wire resistance: 10Ω or less per wire
Burnout : Upscale, Downscale
(Selectable by keypad)

Input signal

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)



DC current

Connect a shunt resistor (sold separately) between input terminals

Input	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	
0 to 1mA DC	1kΩ

DC voltage

Input	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		
0 to 1V DC		2kΩ or less
0 to 5V DC		1kΩ or less
1 to 5V DC		
0 to 10V DC		

■ **Output specification**

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
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%

■ Performance

Accuracy (When ambient temperature is 23°C):

Input:

- Thermocouple:
 - Within ±0.1% of each input span, however,
 - R, S input, -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 input, less than 0°C (32°F):

Within ±0.4% of each input span

- RTD: Within ±0.1% of each input span
- DC current: Within ±0.1%
- DC voltage: Within ±0.1%

Output: Within ±0.1%

Cold junction compensation accuracy: Within ±1°C at -5 to 55°C

Indication accuracy: Within input accuracy ±1 digit

Input sampling period: 25ms, 125ms, 250ms (Selectable by keypad)

Response time: 66ms (typ.) (0→90%) (Input sampling period 25ms)

225ms (typ.) (0→90%) (Input sampling period 125ms)

425ms (typ.) (0→90%) (Input sampling period 250ms)

(Selectable by keypad)

Temperature coefficient: ±0.015%/°C or less

Insulation resistance: 10MΩ or more, at 500V DC

(Input – Output – Power supply)

Dielectric strength: 2.0kV AC for 1 minute

(Input – Output – Power supply)

■ General structure

Case: Flame-resistant resin, Color: Light gray

Front panel: Membrane sheet

Setting: By the front key pad

Connector for console software: Only for CMB-001

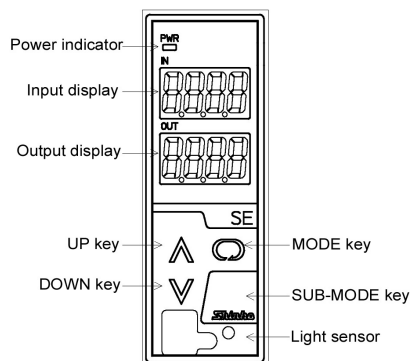
Indication: Input display: 7-segment, Red LED display 4-digit

Character size 10×4.6mm (H×W)

Output display: 7-segment, Red LED display 4-digit

Character size 10×4.6mm (H×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. 8VA

Ambient temperature : -5 to 55°C

Ambient humidity : 35 to 85%RH (Non-condensing)

Mounting : DIN rail mounting

External dimensions: W30×H85×D108mm (including the socket)

Weight : Approx. 190g (including the socket)

■ Attached functions

Auto-light function: Display brightness is controlled in accordance with the surrounding area. Unnecessary brightness is reduced, thus saving energy.

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 tuning 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 : Decrease the numeric value
- (3) MODE key : Selects the setting mode
- (4) SUB-MODE key : Turns the displays ON again when they are in OFF status.

(The UP, DOWN, MODE key also turns the displays ON again when they are in OFF status)

■ Displays and indicators

Input display: Indicates the input value

Indication of -200.0 or less (In case of the range with decimal point):

The minus (-) sign and input value light alternately.

Indication of -2000 or less (In case of DC input):

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

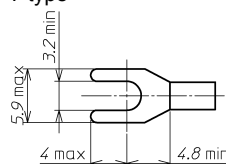
Warm-up indication: For approx. 3sec. after the power to the instrument is turned on, the input type is indicated on the input display, and output type is indicated on the output display.

Output display: Indicates output volume in percentage (%) form.

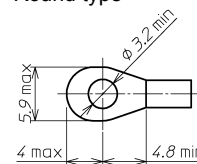
Power indicator: The green LED lights when the power to the instrument is turned on.

■ Solderless terminal

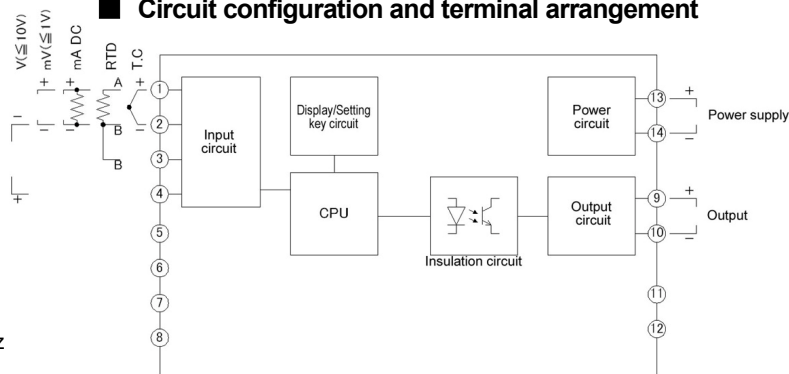
Y type



Round type



■ Circuit configuration and terminal arrangement



■ External dimensions (Scale: mm)

