Plug-in type
Programmable Signal Conditioner

SE Series

Easily Settable I/O, High-Clarity Indication,
Plug-in Convenience

I/O indication

4-digit displays show
I/O values.

I/O easily settable

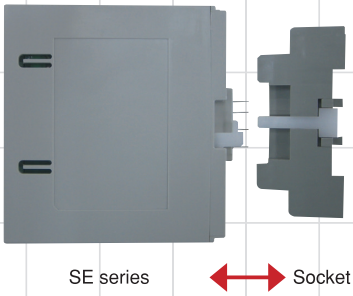
I/O can be set/changed
with 3 front keys.
(Settings are also possible from a
PC using the cable sold separately)

Space saving

One unit with two-unit
functions means dual
functionality.

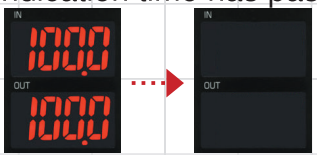
Enhanced working efficiency

Plug-in type allows easy
replacement of units.



Energy saving mode

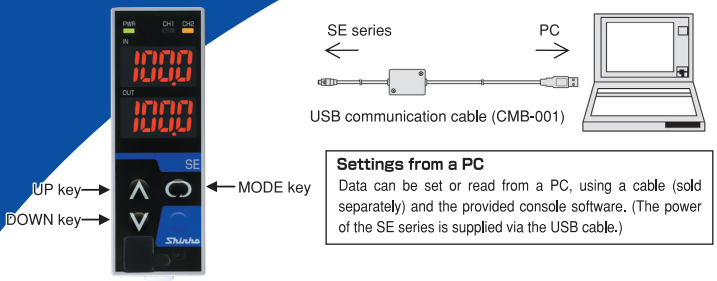
Automatically turns OFF after
indication time has passed.



Point 1 I/O Configurable

●Simple operation

I/O can be changed with 3 front keys.



Settings from a PC

Data can be set or read from a PC, using a cable (sold separately) and the provided console software. (The power of the SE series is supplied via the USB cable.)

●Reduce stock

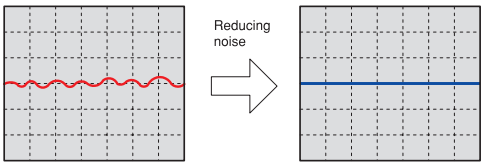
Even one unit carries out multiple roles using a wide range of input/output types.

●I/O displays viewable

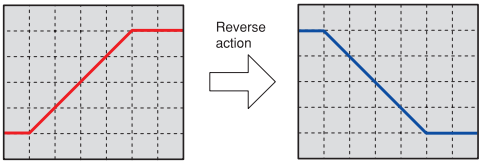
I/O status can be viewed on site.
Displays turn off after the set time has passed, thus saving energy.

Point 2 Various standard functions

●Filter time constant



●Normal/Reverse



●Response time selectable

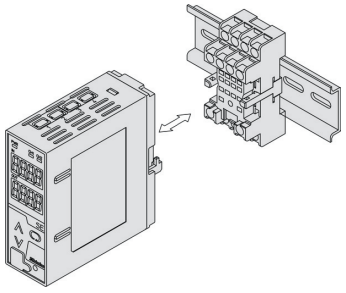
Selectable by keypad in accordance with usage

●2-channel signal conditioner

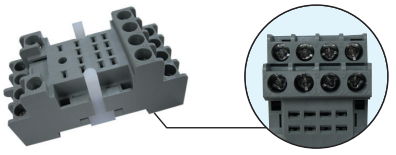
With one unit, the functions of 2 units are provided.

Point 3 Enhanced work efficiency

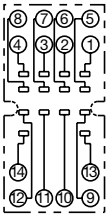
Only the socket uses wires. Therefore the SE units can be replaced without wiring. This reduces time spent on maintenance or replacement.
Socket types:
(1) Finger-safe socket (for Y terminal)
(2) Socket for ring terminal



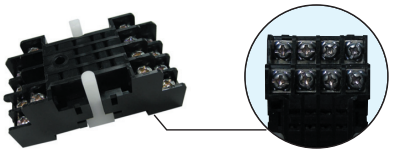
・Finger-safe & screw fall prevention socket (for Y terminal)



(Terminal arrangement)



・Socket for ring terminal



■Ordering example (Ordering example differs depending on models. Please contact us for details.)

SE □ □ — □ □
- Model : (e.g.) SE1D-□□, SE2U-□□
- Socket : 1: Finger-safe (for Y terminal), 2: For ring terminal
- Power supply: 0: 100 to 240V AC, 1: 24V AC/DC

■Model

SE	□□	□-	□	□	
Signal conditioner type	1 U				1ch Universal transmitter (*1)
	2 U				2ch Universal transmitter (*1)
	1 D				1ch Current loop supply
	1 D			F	1ch Current loop supply (Field communicator available)
Socket		1			Finger-safe & screw fall prevention (for Y terminal)
		2			For ring terminal
Power supply			0		100 to 240V AC
			1		24V AC/DC

(*1) SE1U and SE2U accept universal (all types of) inputs (thermocouple, RTD, DC current and voltage) and outputs (DC current and voltage).
For DC current input, a shunt resistor (sold separately) is required.

■Specifications

Dimensions, Weight	Dimensions : 30(W) x 85(H) x 108(D) mm (socket included) Weight : Approx. 190g (socket included) (for SE1U, SE2U) Approx. 180g (socket included) (for SE1D, SE1D-F)
Mounting	DIN rail mounting
Material, Color	Case: Flame-resistant resin, Color: Light gray
Displays	Input display : 7-segment, red LED display 4-digit, Character size 10 x 4.6mm (H x W) Output display : 7-segment, red LED display 4-digit, Character size 10 x 4.6mm (H x W)
Accuracy	Within ±0.1% of each input span (at 23℃)
Cold junction compensation accuracy	Within ±1℃ at -5 to 55℃ [for SE1U, SE2U (thermocouple input only)]

Response time	Selectable by keypad. Can be changed during Input sampling period (Response time) selection mode. 65ms (typ.) (0→90%) (Input sampling period: 25ms) 225ms (typ.) (0→90%) (Input sampling period: 125ms) 425ms (typ.) (0→90%) (Input sampling period: 250ms)
Temperature coefficient	0.015%/℃ or less
Insulation resistance	Between Input - Output - Power: 10MΩ or more, at 500V DC
Dielectric strength	Between Input - Output - Power: 2.0kV AC for 1 minute
Power supply	100 to 240V AC (85 to 264V AC) 50/60Hz, 24V AC/DC (20 to 28V AC/DC) 50/60Hz
Power consumption	Approx. 8VA
Ambient temperature	Ambient temperature: -5 to 55℃ Ambient humidity: 35 to 85%RH (Non-condensing)

・Shunt resistor (sold separately) (for SE1U, SE2U)
For DC current input, a shunt resistor (sold separately) is required. Specify a model according to the input range from the table below.

Shunt resistor (for Y terminal)

Input range	Model	Spec
4 to 20mA DC, 0 to 20mA DC, 0 to 16mA DC	RES-S06-050	50Ω ±0.1%
2 to 10mA DC, 0 to 10mA DC	RES-S06-100	100Ω ±0.1%
1 to 5mA DC	RES-S06-200	200Ω ±0.1%
0 to 1mA DC	RES-S06-01K	1kΩ ±0.1%

Shunt resistor (for ring terminal)

Input range	Model	Spec
4 to 20mA DC, 0 to 20mA DC, 0 to 16mA DC	RES-S01-050	50Ω ±0.1%
2 to 10mA DC, 0 to 10mA DC	RES-S01-100	100Ω ±0.1%
1 to 5mA DC	RES-S01-200	200Ω ±0.1%
0 to 1mA DC	RES-S01-01K	1kΩ ±0.1%

・Communication cable for connecting console (sold separately) (for SE1U, SE2U) Model: CMB-001 [Console software (CD provided)]

■ Input specifications

・Thermocouple (SE1U, SE2U)
Input resistance: 1MΩ or more
External resistance: 100Ω or less (B: 40Ω or less)

Thermocouple	Input range	
K	−200 to 1370℃	−328 to 2498℉
J	−200 to 1000℃	−328 to 1832℉
R	−50 to 1760℃	−58 to 3200℉
S	−50 to 1760℃	−58 to 3200℉
B	0 to 1820℃	−32 to 3308℉
E	−200 to 800℃	−328 to 1472℉
T	−200 to 400℃	−328 to 752℉
N	−200 to 1300℃	−328 to 2372℉
PL-Ⅱ	0 to 1390℃	32 to 2534℉
W5Re/W26Re	0 to 2315℃	32 to 4199℉
W3Re/W26Re	0 to 2315℃	32 to 4199℉

・RTD (3-wire system) (SE1U, SE2U)
Input detection current: Approx. 0.2mA
Allowable lead wire resistance: 10Ω or less per wire

RTD	Input range	
Pt100	−200 to 850℃	−328 to 1562℉
JPt100	−200 to 500℃	−328 to 932℉

・Current loop supply (SE1D, SE1D-F)

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

・DC Current (SE1U, SE2U)
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	200Ω
0 to 1mA DC	1kΩ

・DC Voltage (SE1U, SE2U)

Input	Input resistance
0 to 10mV DC	1MΩ
−10 to 10mV DC	
0 to 50mV DC	
0 to 60mV DC	
0 to 100mV DC	
0 to 1 V DC	
0 to 5 V DC	
1 to 5 V DC	
0 to 10 V DC	

■ Output specifications

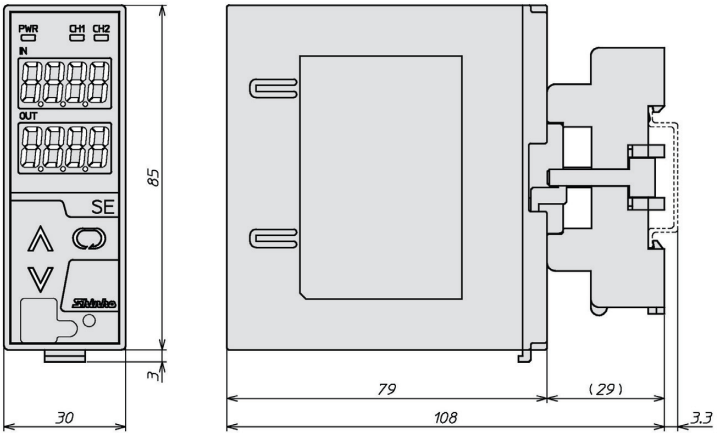
・DC Current

Output	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

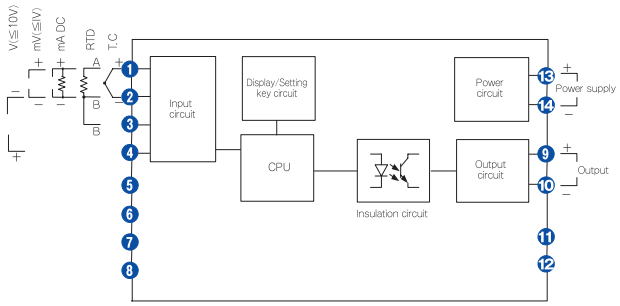
Output	Allowable load resistance	Zero adjustment range	Span adjustment range
0 to 1V DC	100Ω or more	0 to 5%	95 to 105%
0 to 10V DC	1 kΩ or more		
0 to 5V DC	500Ω or more		
1 to 5V DC		−5 to 5%	

■ External dimensions (Scale: mm)

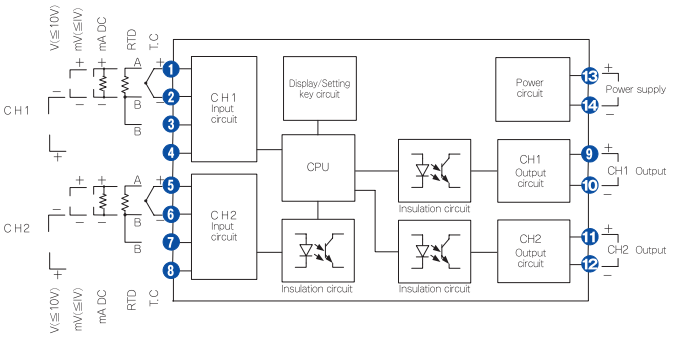


■Terminal arrangement, Circuit configuration

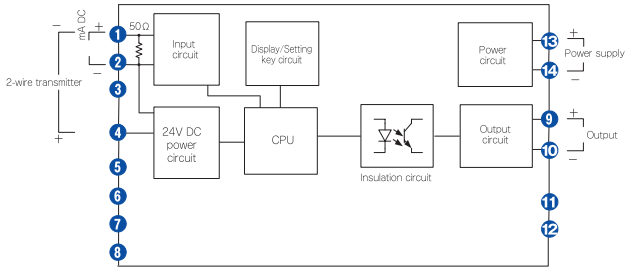
SE 1 U



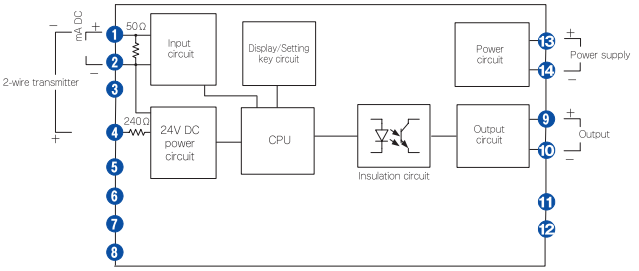
SE 2 U



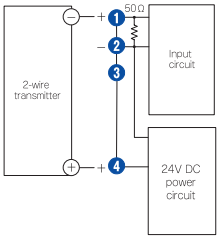
SE 1D



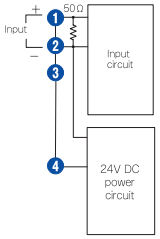
SE 1D-F



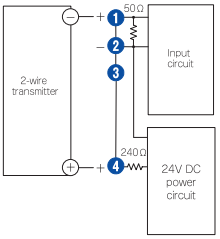
When using as a Current loop supply



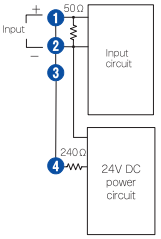
When using as an Isolator



When using as a Current loop supply



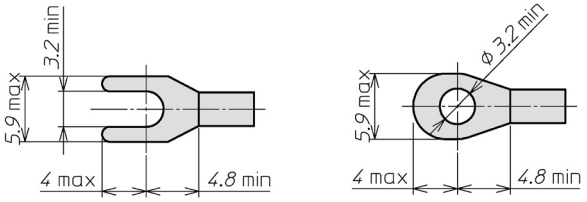
When using as an Isolator



■Lead wire solderless terminal

Use a solderless terminal with an insulator in which an M3 screw fits as shown below.
For the sockets with finger-safe & screw fall preventions, the ring terminals cannot be used.
The torque should be 0.63N･m.

Solderless terminal	Manufacturer	Model
Y type	Nichifu Terminal Industries CO., LTD.	TMEV1.25 Y -3S
Ring type	Nichifu Terminal Industries CO., LTD.	TMEV1.25-3
	Japan Solderless Terminal MFG CO., LTD.	V1.25-3



SAFETY PRECAUTIONS

- To ensure safe and correct use, thoroughly read and understand the manual before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after consulting purpose of use with our agency or main office.
  (Never use this instrument for medical purposes with which human lives are involved.)
- External protection devices such as protection equipment against excessive temperature rise, etc. must be installed, as malfunction of this product could result in serious damage to the system or injury to personnel. Also proper periodic maintenance is required.
- This instrument must be used under the conditions and environment described in the manual. Shinko Technos Co., Ltd. does not accept liability for any injury, loss of life or damage occurring due to the instrument being used under conditions not otherwise stated in the manual.

Caution with respect to Export Trade Control Ordinance

To avoid this instrument from being used as a component in, or as being utilized in the manufacture of weapons of mass destruction (i.e. military applications, military equipment, etc.), please investigate the end users and the final use of this instrument.
In the case of resale, ensure that this instrument is not illegally exported.

· This catalog is as of May 2021 and its contents are subject to change without notice.
· If you have any inquiries, please consult us or our agency.

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