

# SB series

SPEC. SHEET

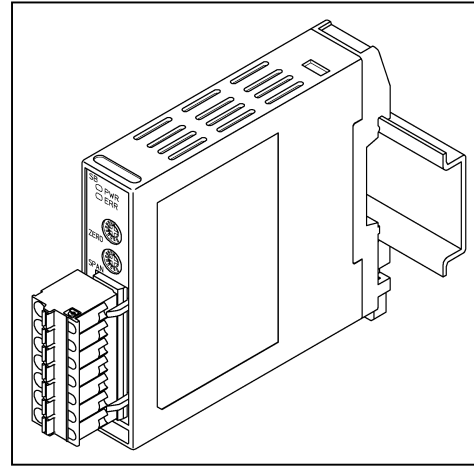
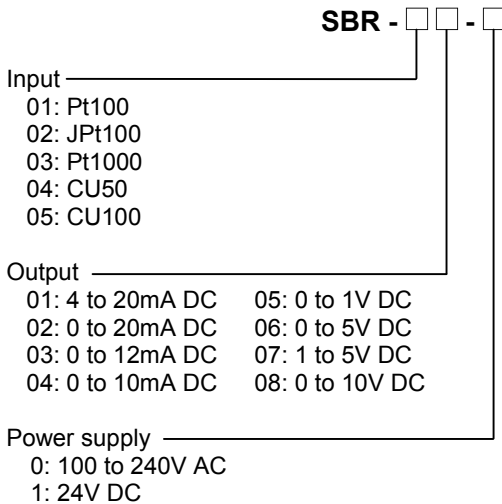
## RTD Transmitter

Model: **SBR**

### ■ Features

- Simple wiring using a plug-in socket
- Compact
- 3-port insulation (Input-Output-Power)

### ■ Model



### ■ How to order

Specify a model and input range.  
(e.g.) SBR-0101-0  
0 to 400°C

### ■ Input specifications

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

#### Input:

RTD	Input range	
Pt100	-200 to 850°C	-328 to 1562°F
JPt100	-200 to 500°C	-328 to 932°F
Pt1000	-200 to 850°C	-328 to 1562°F
CU50	-50 to 150°C	-58 to 302°F
CU100	-50 to 150°C	-58 to 302°F

Minimum span: 50°C (100°F)

### ■ 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
4 to 20mA DC	600Ω or less	-2.5 to 2.5%	97.5 to 102.5%
0 to 20mA DC	600Ω or less	0 to 2.5%	97.5 to 102.5%
0 to 12mA DC	1kΩ or less	0 to 2.5%	97.5 to 102.5%
0 to 10mA DC	1kΩ or less	0 to 2.5%	97.5 to 102.5%

#### DC voltage

Output range	Allowable load resistance	Zero adjustment range	Span adjustment range
0 to 1V DC	100Ω or more	0 to 2.5%	97.5 to 102.5%
0 to 5V DC	500Ω or more	0 to 2.5%	97.5 to 102.5%
1 to 5V DC	500Ω or more	-2.5 to 2.5%	97.5 to 102.5%
0 to 10V DC	1kΩ or more	0 to 2.5%	97.5 to 102.5%

### ■ Performance

Accuracy : Within ±0.2%  
 Response time : 1 sec. (0 → 90%)  
 (Average 0.5sec)  
 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)

## ■ Instrument specifications

Case : Flame resistant resin Color: Light gray  
 Front panel : Polycarbonate  
 Spring type plug: Polyamide Color: Green  
 Adjustment: By the front potentiometer

Zero adjustment :  $\pm 2.5\%$   
 Span adjustment :  $\pm 2.5\%$

### Indication:

Power indicator (PWR): Green

Lights when the power is turned on.

Flashes in 500ms cycles when an error has occurred in non-volatile IC memory.

Error indicator (ERR): Red

Flashes in 250ms cycles when input is 110% or more.

Flashes in 500ms cycles when input is -10% or less.

Output status selection: Selects Normal or Reverse with the DIP switch.

No.1 OFF: Normal, ON: Reverse

Burnout: Selects Upscale or Downscale with the DIP switch.

No.2 OFF: Upscale, ON: Downscale

Momentary power failure: 30msec.

### Self diagnosis:

The CPU is monitored by a watchdog timer, and when an abnormal status is found on the CPU, the unit restarts with the reset action.

Ambient temperature: -5 to 55°C

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

Weight : Approx. 80g

Mounting method : DIN rail mounting

Be sure to use fastening plates at both ends of the unit after the unit is mounted to the DIN rail.

External dimensions : 17.5 (W) x 75 (H) x 85 (D) mm

## ■ Environmental specification

RoHS directive compliance

## ■ Ferrules

Made by Phoenix Contact GMBH & CO.

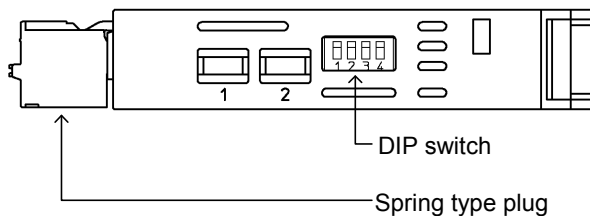
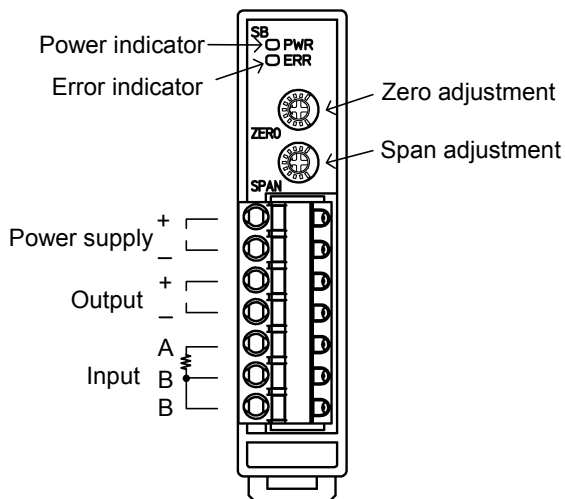
### Insulation sleeve attached

Model	Conductor cross section
AI0.25-6BU	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>
AI1-8RD	0.75 – 1.0mm <sup>2</sup>
AI1.5-8BK	1.0 – 1.5mm <sup>2</sup>
AI2.5-8BU	1.5 – 2.5mm <sup>2</sup>

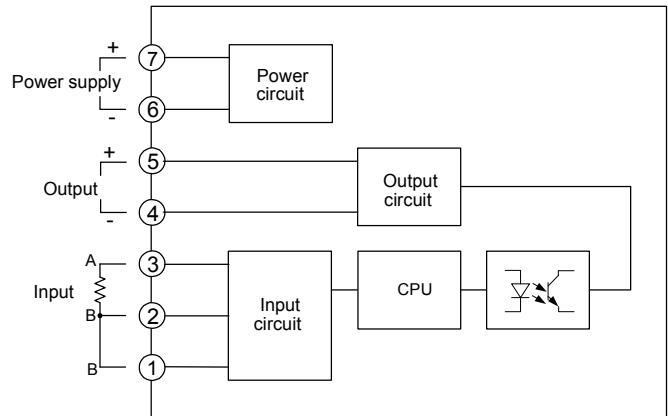
### Crimping pliers

CRIMPFOX ZA3

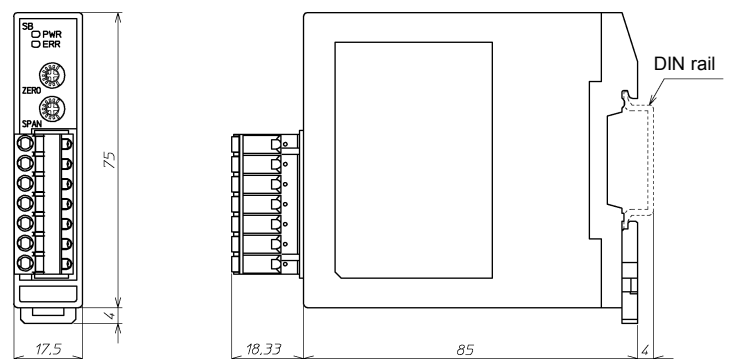
CRIMPFOX UD6



## ■ Circuit configuration, terminal arrangement



## ■ External dimensions (Scale: mm)



## ■ Installation specifications

### Power supply

- 100 to 240V AC 50/60Hz  
 Allowable voltage range: 85 to 264V AC  
 Power consumption : Approx. 3.5VA
- 24V DC  
 Allowable voltage range: 20 to 28V DC  
 Power consumption : Approx. 3.5W