SF SERIES

AC Instrument

1ch Potentiometer Transmitter

Model: **SF1P**

■ Model

SF1P - ☐☐ - ☐ - ☐

Input sampling period
01: 25ms
02: 125ms
03: 250ms
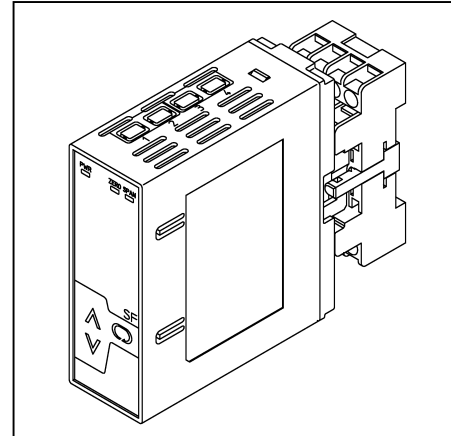
Output
01: 4 to 20mA DC 06: 0 to 1V DC
02: 0 to 20mA DC 07: 0 to 5V DC
03: 0 to 12mA DC 08: 1 to 5V DC
04: 0 to 10mA DC 09: 0 to 10V DC
05: 1 to 5mA DC

Socket
1: Screw fall prevention, finger-safe
   (For Y terminal)
2: For Ring terminal

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

■ How to Order

Specify a model.
(e.g.) SF1P-0101-1-0
Default value

Output	4 to 20mA DC
Input sampling period	25ms

■ Input Specifications

Potentiometer
Total resistance: 100Ω to 10kΩ
Excitation: 1.0V DC

■ Output Specifications

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: Within ±0.2% of input span (at 23℃ of ambient temperature)
Input sampling period: 25ms, 125ms, 250ms
                       (Must be specified)
Response time:
  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: 10MΩ or more, at 500V DC
                       (Input - Output - Power)
Dielectric strength: 2.0kV AC for 1 minute
                     (Input - Output - Power)

■ General Structure

Case: Flame-resistant resin   Color: Light gray
Front panel: Membrane sheet
Adjustment: Using the front keypad
 (1) Press the MODE Key. The ZERO indicator becomes
     lit. The unit moves to the Potentiometer input ZERO
     adjustment mode.
 (2) Set the potentiometer to any position, and press the
     DOWN Key once.
     The automatic adjustment will be performed, then
     the ZERO position will be registered.
     Press the MODE Key.
     The SPAN indicator becomes lit, and the unit moves
     to the Potentiometer input SPAN adjustment mode.
 (3) Set the potentiometer to any position (larger than
     the ZERO position) of MAX side, and press the UP
     Key once. The automatic adjustment will be
     performed, then the Span position will be registered.
 (4) Pressing the MODE Key returns to Step (1).
     If the MODE Key is pressed for approx 3 sec, or if no
     operation occurs for approx. 30 sec, the unit will
     revert to the RUN mode.

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Indication:

PWR indicator (Green):

Lit when power is turned ON.

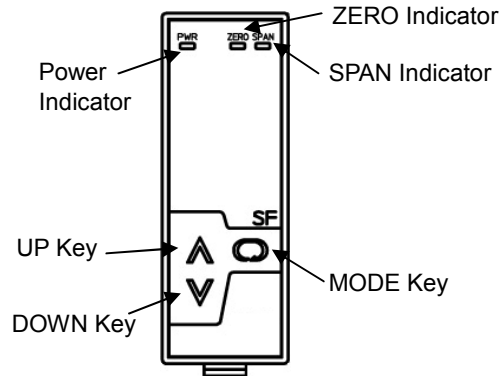Flashes in 0.5 second cycles if non-volatile memory errors occur.

Flashes in 0.25 second cycles if input errors occur.

ZERO indicator (Yellow):

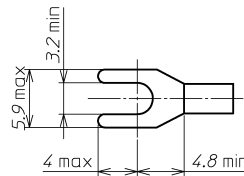Lit in the Output ZERO adjustment mode.

SPAN indicator (Yellow):
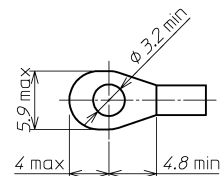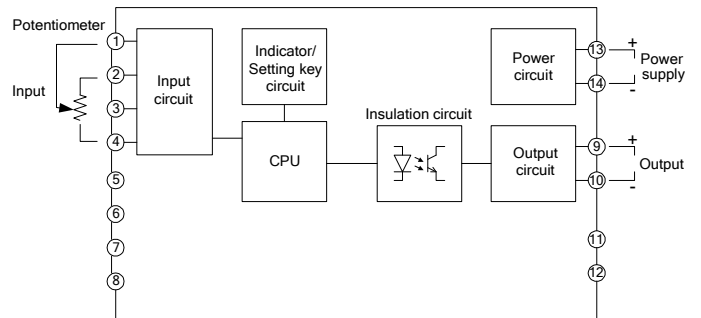
Lit in the Output SPAN adjustment mode.

ZERO Indicator

Power Indicator

SPAN Indicator

UP Key

MODE Key

DOWN Key

■ 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℃

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

Weight: Approx. 190g (including socket)

Mounting: DIN rail

Dimensions: W30 x H88 x D108mm (including socket)

■ 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 turning all outputs OFF.

■ Environmental Specifications

RoHS directive compliance

■ Settings

Function keys

(1) UP Key: Increases a numerical value.

(2) DOWN Key: Decreases a numerical value.

(3) MODE Key: Switches from RUN mode to the Adjustment mode, and registers the adjustment value.

■ Solderless Terminals

Y Terminal

Ring Terminal

■ Circuit Configuration, Terminal Arrangement

Potentiometer

Input

Input circuit

Indicator/ Setting key circuit

CPU

Insulation circuit

Power circuit

Output circuit

Power supply

Output

■ External Dimensions (Scale: mm)

PWR ZERO SPAN

SF

85

3

30

79

(29)

108

3.3