## Shinho

## SF SERIES

## 1ch Isolator

## Model



How to Order
Specify a model and input range.
(e.g.) SF1V-010101-1-0

Default value

| Input | 0 to 1 V DC |
| :--- | :--- |
| Output | 4 to 20 mA DC |
| Input sampling period | 25 ms |

Input Specifications
Input:

| DC voltage input | Input resistance | Allowable signal <br> resistance |
| :---: | :---: | :---: |
| 0 to 1 V DC | $1 \mathrm{M} \Omega$ | $2 \mathrm{k} \Omega$ or less |
| 0 to 5 V DC | $1 \mathrm{M} \Omega$ | $100 \Omega$ or less |
| 1 to 5 V DC | $1 \mathrm{M} \Omega$ | $100 \Omega$ or less |
| 0 to 10 V DC | $1 \mathrm{M} \Omega$ | $100 \Omega$ or less |
| 0 to 10 mV DC | $1 \mathrm{M} \Omega$ | $20 \Omega$ or less |
| -10 to 10 mV DC | $1 \mathrm{M} \Omega$ | $40 \Omega$ or less |
| 0 to 50 mV DC | $1 \mathrm{M} \Omega$ | $200 \Omega$ or less |
| 0 to 60 mV DC | $1 \mathrm{M} \Omega$ | $200 \Omega$ or less |
| 0 to 100 mV DC | $1 \mathrm{M} \Omega$ | $200 \Omega$ or less |



- Output Specifications

| DC Current | Allowable <br> load <br> Output <br> range | Zero <br> resistance | Span <br> rangent |
| :---: | :---: | :---: | :---: |
| 4 to 20 mA DC | $700 \Omega$ or less | -5 to $5 \%$ | 95 to $105 \%$ |
| 0 to 20 mA DC | $700 \Omega$ or less | 0 to $5 \%$ | 95 to $105 \%$ |
| 0 to 12 mA DC | $1.2 \mathrm{k} \Omega$ or less | 0 to $5 \%$ | 95 to $105 \%$ |
| 0 to 10 mA DC | $1.2 \mathrm{k} \Omega$ or less | 0 to $5 \%$ | 95 to $105 \%$ |
| 1 to 5 mA DC | $2.4 \mathrm{k} \Omega$ or less | -5 to $5 \%$ | 95 to $105 \%$ |

DC Voltage

| Output <br> range | Allowable <br> load <br> resistance | Zero <br> adjustment <br> range | Span <br> adjustment <br> range |
| :---: | :---: | :---: | :---: |
| 0 to 1 V DC | $100 \Omega$ or more | 0 to $5 \%$ | 95 to $105 \%$ |
| 0 to 5 V DC | $500 \Omega$ or more | 0 to $5 \%$ | 95 to $105 \%$ |
| 1 to 5 V DC | $500 \Omega$ or more | -5 to $5 \%$ | 95 to $105 \%$ |
| 0 to 10 V DC | $1 \mathrm{k} \Omega$ or more | 0 to $5 \%$ | 95 to $105 \%$ |

## Performance

Accuracy: Within $\pm 0.2 \%$ of input span (at $23^{\circ} \mathrm{C}$ of ambient temperature)
Input sampling period: $25 \mathrm{~ms}, 125 \mathrm{~ms}, 250 \mathrm{~ms}$
(Must be specified.)
Response time:
65 ms (typ.)( $0 \rightarrow 90 \%$ )(Input sampling period: 25ms)
225 ms (typ.) $(0 \rightarrow 90 \%$ )(Input sampling period: 125 ms )
425 ms (typ.)( $0 \rightarrow 90 \%$ )(Input sampling period: 250 ms )
Temperature coefficient: $\pm 0.015 \% /{ }^{\circ} \mathrm{C}$ or less
Insulation resistance: $10 \mathrm{M} \Omega$ or more, at 500 V DC
(Input - Output - Power)

Dielectric strength: 2.0 kV 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 Output ZERO adjustment mode.
(2) Press the MODE Key in the Output ZERO adjustment mode. The SPAN indicator becomes lit. The unit moves to the Output SPAN adjustment mode.
(3) 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.

## 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.


Installation Specifications
Power supply: 100 to 240 V AC $50 / 60 \mathrm{~Hz}$ 24 V AC/DC $50 / 60 \mathrm{~Hz}$
Allowable voltage range: 85 to 264 V AC 20 to 28 V AC/DC
Power consumption: Approx. 6VA
Ambient temperature: -5 to $55^{\circ} \mathrm{C}$
Ambient humidity: 35 to $85 \%$ RH (non-condensing)
Weight: Approx. 190g (including socket)
Mounting: DIN rail
Dimensions: W30 $\times$ 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



■ External Dimensions (Scale: mm)


