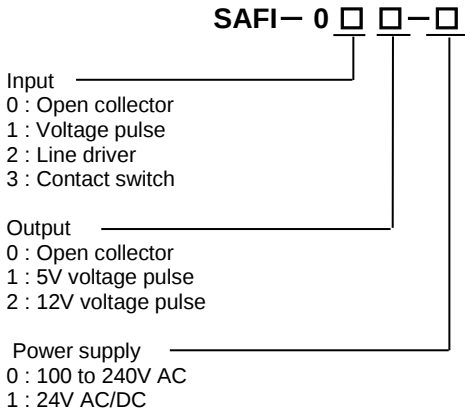


Pulse Isolator

(With indication function & sensor power)

Model : **SAFI**

■ Model



■ How to order

Specify a model, input frequency & scaling value.
(e.g.) SAFI-000-0 (Input frequency 800Hz, Scaling value: 0 to 800)

Default value (If not specified, shipped as the following default value)

Input frequency	9999Hz
Scaling value	0 to 9999

■ Input specifications

Open collector

Frequency range : 0.001Hz to 15kHz
 Minimum pulse width : 5μs or more (for ON and OFF)
 Input detection voltage/current: ON: Max. 30mA (30V or less)
 OFF: Residual voltage 0.5V or less
 Action input conditions : ON: 200Ω or less
 OFF: 100kΩ or more
 Max rated input frequency : 20kHz

Voltage pulse

Frequency range : 0.001Hz to 15kHz
 Minimum pulse width : 5μs or more (for High and Low)
 Waveform : Rectangular, sine waveforms or similar
 Detection level : Low: 1V DC or less
 High: 2V DC or more
 Input impedance : 100kΩ or more
 Input amplitude : 2 to 50V_{p-p}
 Max rated input frequency : 20kHz

Line driver

AM26LS31 or equivalent
 Receiver: AM26LS32 or equivalent
 Terminal resistor : 120Ω

Contact switch

Frequency range : 0.001 to 10Hz
 Minimum pulse width : 10ms or more (for ON and OFF)
 Action input conditions : ON: 200Ω or less
 OFF: 100kΩ or more

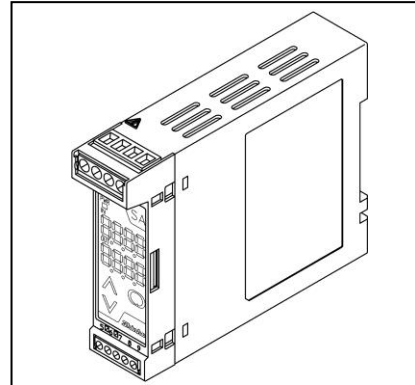
■ Output Specifications

Open collector

Output rating : 12V DC/30mA
 Max. frequency : 15kHz

Voltage pulse

Output rating : 5V, 12V DC±10%
 Allowable load resistance: 500Ω or more
 Max. frequency : 15kHz

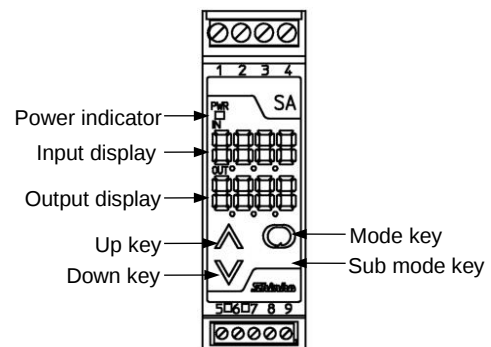


■ Performance

Accuracy : Within ±0.1% (At 23°C of ambient temperature)
 Display accuracy : Within Accuracy±1 digit
 Response time : 15μs or less
 For open collector output, rising time delays depend on load.
 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
 Setting : By the front keypad
 Displays, indicator : Input display
 7-segment, Red LED display 4-digit
 Character size, 7.4 x 4.0mm (H x W)
 Output display:
 7-segment, Green LED display 4-digit
 Character size, 7.4 x 4.0mm (H x 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. 9VA
 Power supply for sensor: 12V DC $\pm 5\%$, 25mA
 Ambient temperature : -5 to 55°C (23 to 131°F)
 Ambient humidity : 35 to 85%RH (non-condensing)
 Weight : Approx 120g
 Mounting : DIN rail mounting
 External dimensions : 22.5 (W) x 75 (H) x 100 (D)mm

■ 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 after turning all outputs off.
 Detecting unconnected sensor:
 If pulse is not detected for a constant period, the unit will revert to the initial status (0Hz).
 (Low pulse: 1000sec or 100sec, Frequency: 1sec)

■ Settings

Function keys

- (1) Up key : Increases the numeric value.
- (2) Down key : Decreases the numeric value.
- (3) Mode key : Switches the setting mode.
- (4) Sub mode key: Press with the Mode key to proceed to the Setup mode.

Setting items

Setting by the Mode key and Sub mode key

- (1) Set value lock
- (2) Frequency type/unit
- (3) Frequency high limit value
- (4) Output 0% value
- (5) Output 100% value
- (6) Decimal point place
- (7) One-shot output pulse width
- (8) Output Normal/Reverse
- (9) Display selection
- (10) Indication time

■ Displays and indicators

Input display : Indicates the input frequency.

Indication of 10000 or more:

The lower 4 digits flash. 0 flashes when pulse is absent.

Over range: " " flashes on the Input display.

(1.1 times frequency high limit value)

Warm-up indication: For approx. 2 seconds after power-on, the model name is indicated on the Input display,

Output display : Unlit. Indicates set values during Setup mode.

Power indicator : The green LED lights when power-on.

■ Ferrules

Terminals from 1 to 4

Insulation sleeve attached (Phoenix Contact GMBH & CO.)

AI0.25-8YE	0.2—0.25mm ²
AI0.34-8TQ	0.25—0.34mm ²
AI0.5-8WH	0.34—0.5mm ²
AI0.75-8GY	0.5—0.75mm ²
AI1.0-8RD	0.75—1.0mm ²
AI1.5-8BK	1.0—1.5mm ²

Crimping pliers (Phoenix Contact GMBH & CO.)

CRIMPFOX ZA3
 CRIMPFOX UD6

Terminals from 5 to 9

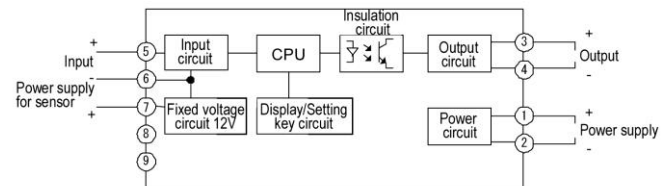
Insulation sleeve attached (Phoenix Contact GMBH & CO.)

AI0.25-8YE	0.2—0.25mm ²
AI0.34-8TQ	0.25—0.34mm ²
AI0.5-8WH	0.34—0.5mm ²

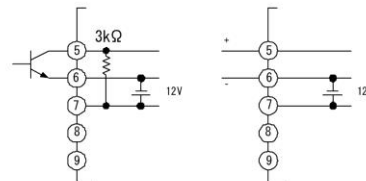
Crimping pliers (Phoenix Contact GMBH & CO.)

CRIMPFOX ZA3
 CRIMPFOX UD6

■ Circuit configuration and Terminal arrangement

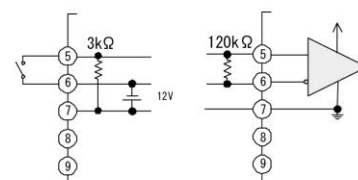


Input connection example



Open collector

Voltage pulse



Contact switch

Line driver

■ External Dimensions (Scale: mm)

