

□ Function & Features

- Frequency or Pulse inputs
- 10-position rotary switch : (x100, x10, x1) x Rate(Hz)
- Rotary Switch Type :
The Input range is set by using a combination of Rate(Hz) and the rotary switches.
The rotary selector value is multiplied by the multiplication factor set on Rate(Hz)
The minimum full-scale value for the input is : 001 x 0.0001 = 0.0001 Hz
The maximum full-scale value for the input is : 999 x 1000 = 999000 Hz
- Display Type : Front-programmable 4-digit LED display
Display main(ex: %) or input value(ex:FREQUENCY) alternately with key



*** (Input of 50KHz or more is an order specification.)

- Four-way isolation (input/output1/output2/power)
- Protection Input and output TVS diode
- Analog One or Two outputs (independent output module)
- Universal power input
- Power fuse (240V/0.12A)



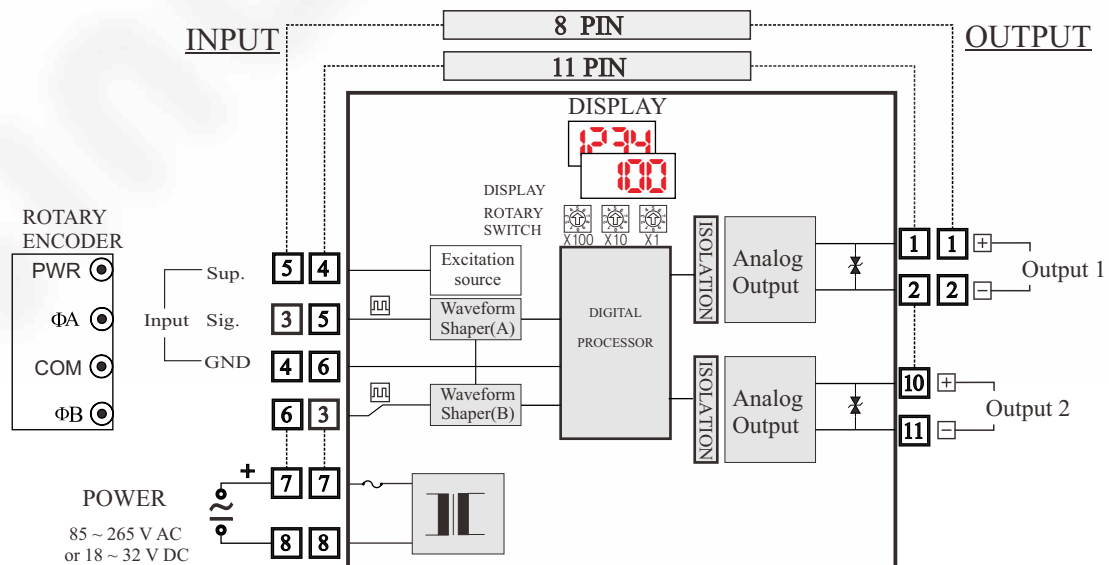
□ PERFORMANCE

- Accuracy : $\pm 0.2\%$ LESS(F.S) at 23 °C
- Temperature Coefficient : $\pm 0.015\%$ / °C
- Response Time : 0.5 Sec or less (< 5Hz)
- Insulation Resistance : 100 MΩ or more with 500V DC between Input / Output / Power
- Dielectric Strength : 1500V AC 0.5 mA/Min (Input to Output to Power)

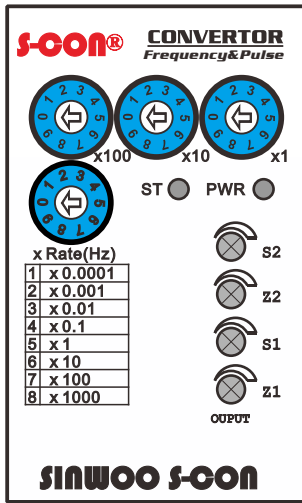
□ GENERAL SPECIFICATIONS

- Construction : Plug-in
- Connection : M3.5 Screw terminals
- Housing material : flame-retardant Poly Carbonate (Black)
- Power supply : AC 85 ~ 265V or DC 18 ~ 32V (about 3VA)
- Operating temperature : -5 ~ 55 °C (23 ~ 131°F)
- Operating humidity : 10 ~ 90 % RH (non-condensing)
- Isolation : Input / Output 1 / Output 2 / Power
- Display range : 4 Digits (-1999 ~ 9999)
- Dimension : W52 x H77 x D112mm (2.04" x 3.03" x 4.40")
- Weight : about 350g

SCHEMATIC CIRCUIT & CONNECTION DIAGRAM



※ ROTARY SWITCH



Input

The Input range is set by using a combination of Rate(Hz) and the rotary switches.
The rotary selector value is multiplied by the multiplication factor set on RATE(Hz)

For Example:

The input frequency full-scale value is 563Hz.
The 100's selector is set to 5, the 10's selector is set to 6 and the 1's selector is set to 3.
The multiplier is then set to 5(x1) (563 x 1 = 563Hz).
The minimum full-scale value for the input is : 001 x 0.0001 = 0.0001 Hz
The maximum full-scale value for the input is : 999 x 1000 = 999000 Hz
*** (Input of 50KHz or more is an order specification.)

Calculation of input frequency :

$$((N \times 100) + (N \times 10) + (N \times 1)) \times (6: x10 \text{ Rate(Hz)})$$

$$((1 \times 100) + (2 \times 10) + (3 \times 1)) \times (10) = 123 \times 10 = 1230 \text{ Hz}$$

$$((1 \times 100) + (2 \times 10) + (3 \times 1)) \times (0.1) = 123 \times 0.1 = 12.3 \text{ Hz}$$

■ INPUT SPECIFICATIONS

Excitation : 12V DC \pm 2V @30mA

- Open Collector

Max. frequency : 100 KHz
Sensing : Approx. 12V DC @2.5 mA
ON/OFF Level : >OFF (>2.5k Ω /6V), ON (<1.6k Ω /4V)

- DC Voltage Pulse

Max. frequency : 100 KHz
Waveform : Square or Sine
Input impedance : 10 k Ω min.
Input Amplitude : 2~50Vp-p
Detecting Level : 12V pulse : Low(off) < 4V - 6V < High(on)
5V pulse : Low(off) < 1V - 3V < High(on)

- AC Voltage Pulse

Max. frequency : 100 KHz
Waveform : Sine
Input impedance : 10 k Ω min.
Input Amplitude : 0.1~100Vp-p (\pm 50V max.)

- Two-wire Current Pulse

Max. frequency : 100 KHz
Input Resistance : 250 Ω
Input Range : 0 ~ 25mA
Detecting Level : Low(off) < 4mA - 12mA < High(on)

- 10-position rotary switch : (X100,X10,X1) x (X)rate

- Frequency Range : 0.0001 to 999000 (***) Input of 50KHz or more is an order specification.)

■ ANALOG OUTPUT :

- DC Current : 0 ~ 20 mA DC max. (Load resistance : 600 Ω max.)
- DC Voltage : -10V min. ~ +10V DC max. (Load Resistance : 10 K Ω or more)
- 2-Wire Transmitter(4~20mA DC), supply out voltage (9 V ~ 35 V DC)
- Easy Calibration of the Gain (Max. \pm 5% of F.S) and Offset(Max. \pm 5% of F.S)

MODEL & SUFFIX CODE

NFDC-

Model Type Selection

- 2 : 1 Output with Display
- 5 : 1 Output with Rotary Switch
- 7 : 2 Output with Display
- 8 : 2 Output with Rotary Switch

Input Type Selection

- A : 3-Wire Voltage Pulse
- B : 2-Wire Current Pulse
- C : 2-Wire Voltage Pulse
- D : Open Collector
- E : Dry Contact

R : Other Special Spec.

Output Type & Range Selection (Available for Output 1 & Output 2)

- 0 : Not Used
- 1 : DC 4~20mA (Load Resistance : 0~600 Ω)
- 2 : DC 0~20mA (Load Resistance : 0~600 Ω)
- 3 : DC 1~5V (Load Resistance : 5 KΩ or more)
- 4 : DC 0~5V (Load Resistance : 5 KΩ or more)
- 5 : DC 2~10V (Load Resistance : 10 KΩ or more)
- 6 : DC 0~10V (Load Resistance : 10 KΩ or more)
- 7 : DC -5~+5V (Load Resistance : 10 KΩ or more)
- 8 : DC -10~+10V (Load Resistance : 10 KΩ or more)
- 9 : 2-Wire Transmitter(4~20mA DC) (9V ~ 35V DC)

R : Other Special Spec.

Power Supply

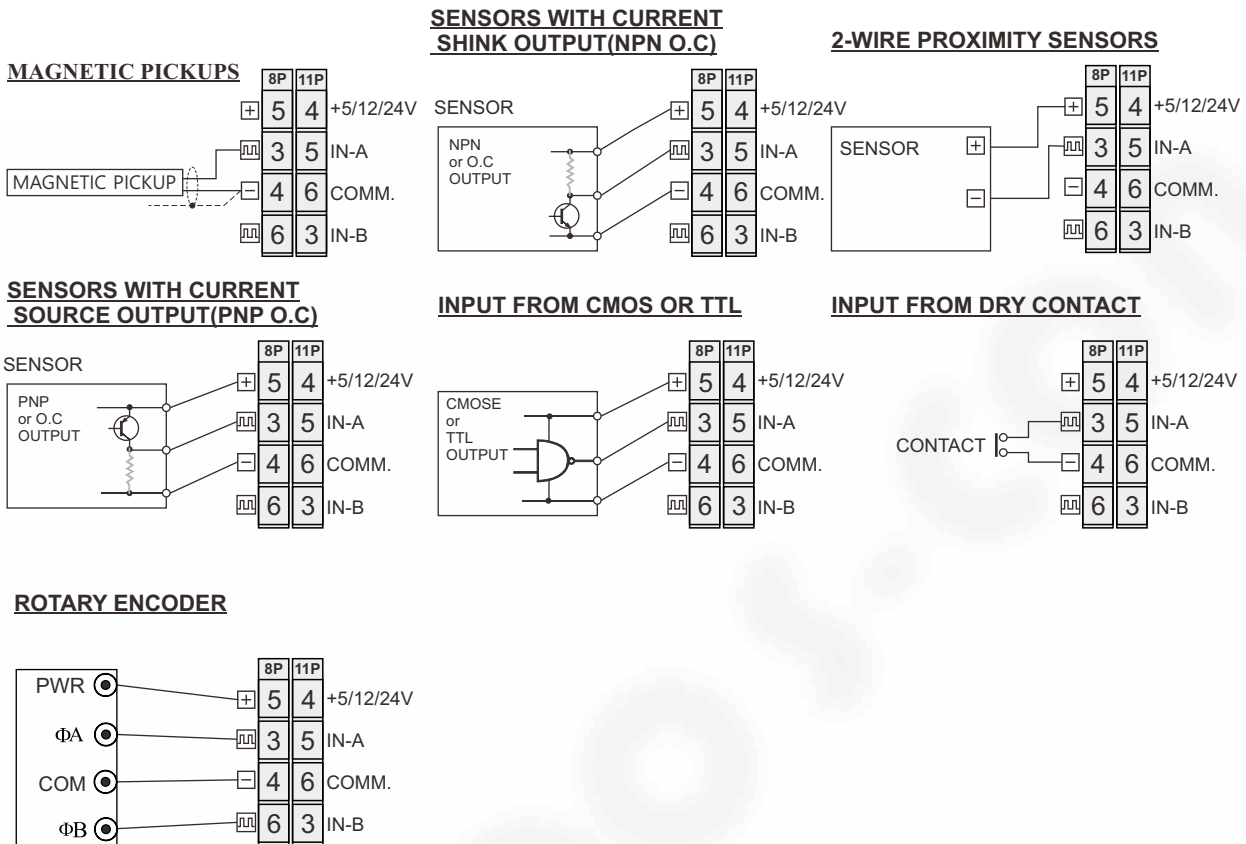
- Z : AC 85~265V
- Y : DC 18~32V
- R : Other Special Spec.

Socket

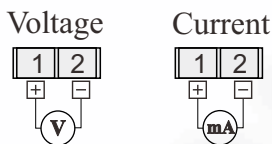
- A : 8 PIN
- B : 11 PIN

INPUT CONNECTION DIAGRAM

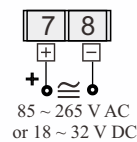
INPUT



OUTPUT 1



POWER

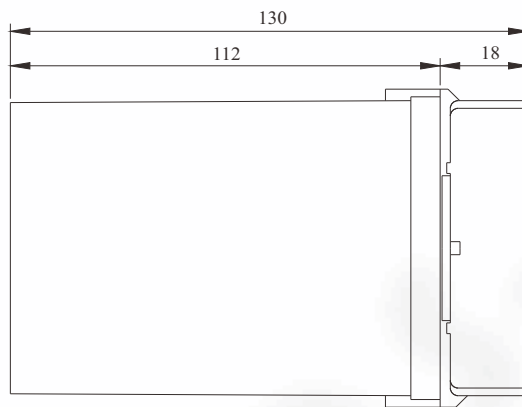
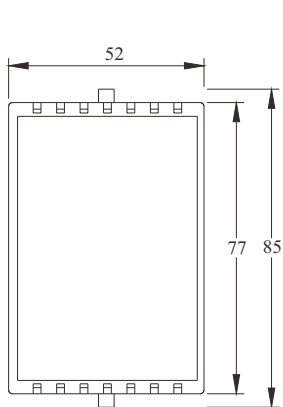


[OPTION]

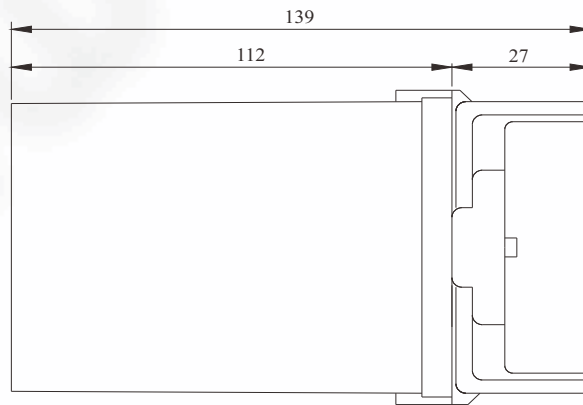
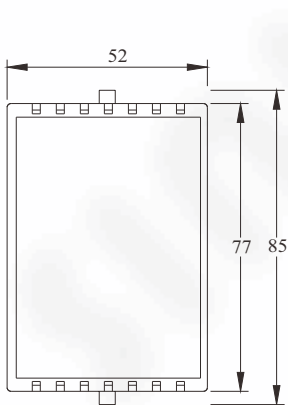
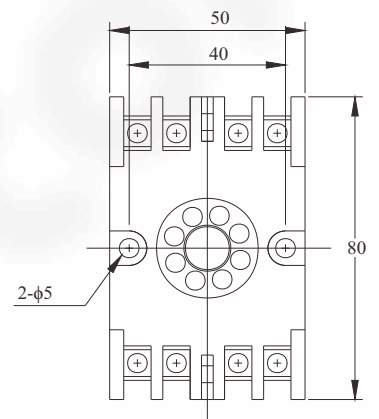
OUTPUT 2 (option)



DEMENSION



(8 PIN SOCKET)



(11 PIN SOCKET)

