

Sensor Controller

# HPA-12

## INSTRUCTION MANUAL

We appreciate you for purchasing HanYoung NUX Co.,Ltd product. Before using the product you have purchased, check to make sure that it is exactly what you ordered. Then, please use it following the instructions below.

### MAIN PRODUCTS

- DIGITAL : Temperature Controller, Counter, Timer, Speedmeter, Tachometer, Panel Meter, Recorder
- SENSOR : Proximity Sensor/Photo Electric Sensor, Rotary Encoder, Optical Fiber Sensor, Pressure Sensor
- ANALOG : Timer, Temperature Controller

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HANYOUNG NUX



## ■ Safety information

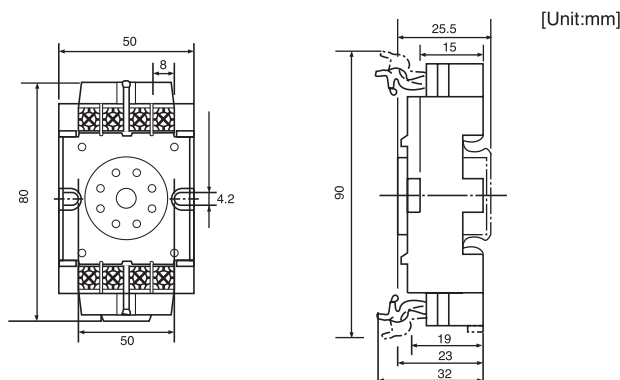
Before you use, read safety precautions carefully, and use this product properly. The precautions described in this manual contain important contents related with safety; therefore, please follow the instructions accordingly. The precautions are composed of CAUTION.

### ⚠ CAUTION

1. Before turning the power ON, please make sure that the wiring is properly connected.
2. Please avoid places with steam, dust, corrosive gas, or splashing water when installing a controller
3. For the AC power cable, the sensor signal should be away from it and please shield the AC power cable with metal conduit.
4. Before using, please make sure that the sensor and PNP, NPN selection switch.
5. To prevent the damage and malfunction of the product, please apply the power voltage in accordance with the rating.

※ If you do not follow the contents described in the safety information then it is possible to be a cause of the product's malfunction so please follow them.

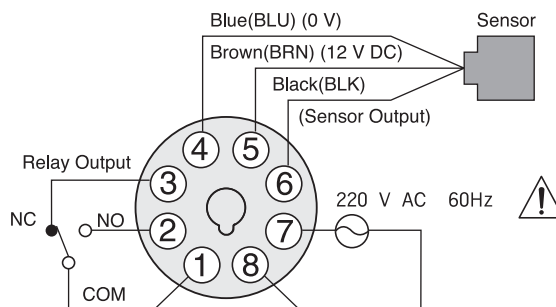
## ■ The aspect dimension of the socket



## ■ Ratings

Rated Voltage	220 V AC (voltage fluctuation rate $\pm 10\%$ ) 60 Hz
Power Consumption	Approx. 4 VA
Power for Sensor	12 V DC ( $\pm 10\%$ ) below 50 mA
Connectable Sensor (Input)	Transistor output sensor of NPN, PNP
Control Output	Relay Contact: 1c (250 V AC 3 A Resistive Load) (Rated Load Lifetime: above 100 thousands times)
Response Time	Approx. 10 ms
Operating Ambient Temperature/Humidity	-10 ~ 50 °C, 35 ~ 85 % R.H. (with no freezing or no condensation)
Noise Immunity	Power cable: 1500 VP, Pulse width: 0.5 $\mu$ s (by a noise simulator)
Dielectric Strength	1500 V AC for 1 minute (between the power and the output)
Insulated Resistance	10 m/s <sup>2</sup> (500 V DC at mega between the power and the output)
Vibration resistance	10 ~ 55 Hz (cycle for 1 minute), double amplitudes width: 0.75 mm, each X · Y · Z direction for 2 hours (but while the power is off)
Shock Resistance	Durability: 100 m/s <sup>2</sup> (approx. 10 G), each X · Y · Z direction for 2 times (but while the power is off)
Weight	Approx. 260 g

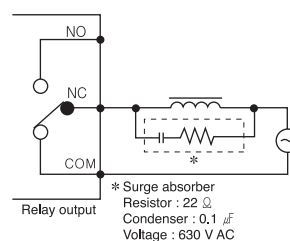
## ■ Wiring diagram



The controller (HPA-12) for sensor has the output circuit which operates the power relay as amplifying the output of NPN type and PNP type and the power circuit for sensor. If the sensor detects an object, the relay will be operating.

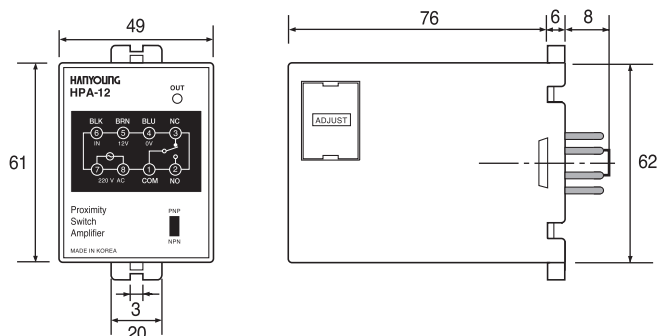
### ■ About the wiring of the load

To the both sides of terminals of the Inductive load (motor, solenoid, etc), connect the surge absorber like the right picture then it suppress the noise occur



## ■ Aspect dimension

[Unit:mm]



## ■ Operation chart

	NPN	PNP
Level in the input	ON OFF	ON OFF
Relay Output (1c)	NO ON OFF NC ON OFF	NO ON OFF NC ON OFF
Operation Indicator (Red LED)	Light ON Light OFF	Light ON Light OFF