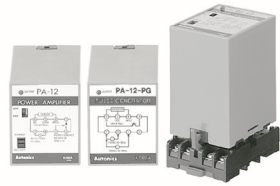


Autonics Sensor Controller PA-12 SERIES

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

- ※ Please keep these instructions and review them before using this unit.
- ※ Please observe the cautions that follow:
 - Warning** Serious injury may result if instructions are not followed.
 - Caution** Product may be damaged, or injury may result if instructions are not followed.
- ※ The following is an explanation of the symbols used in the operation manual.
 - ⚠ caution: Injury or danger may occur under special conditions.

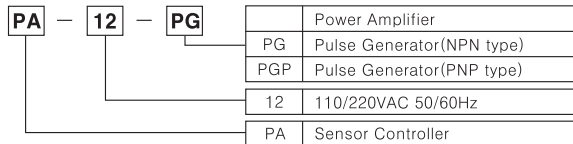
Warning

- In case of using this unit with machineries (Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus entertainment or safety device etc), it requires installing fail-safe device, or contact us for information on type required. It may result in serious damage, fire or human injury.
- This unit must be mounted on panel. It may give an electric shock.
- Do not connect terminals when it is power on. It may give an electric shock.
- Do not repair or checkup when power on. It may give an electric shock.

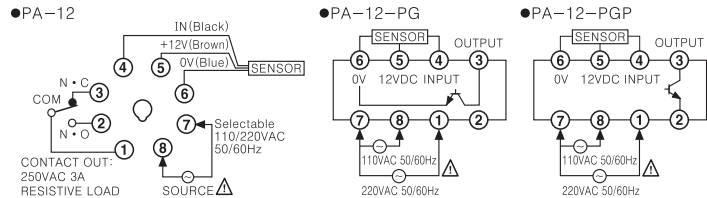
Caution

- This unit shall not be used outdoors. It might shorten the life cycle of the product or give an electric shock.
- Please observe specification rating. It might shorten the life cycle of the product and cause a fire.
- Do not use the load beyond rated switching capacity of Relay contact. It may cause insulation failure, contact melt, contact failure, relay broken, fire etc.
- In cleaning the unit, do not use water or an organic solvents. It might cause an electric shock or fire that will result in damage to this product.
- Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray of the sun, radiant heat, vibration, impact etc. It may cause explosion.
- Do not inflow dust or wire dregs into inside of this unit. It may cause a fire or mechanical trouble.

Ordering information

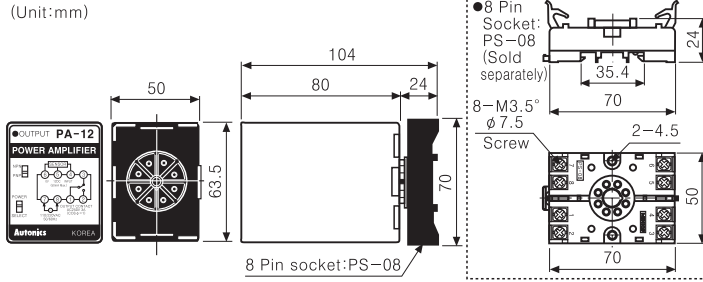


Connection



※ The above specifications are subject to change and some models may be discontinued without notice.

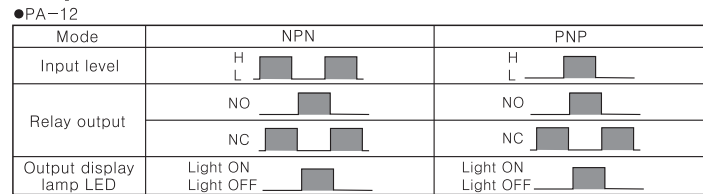
Dimensions



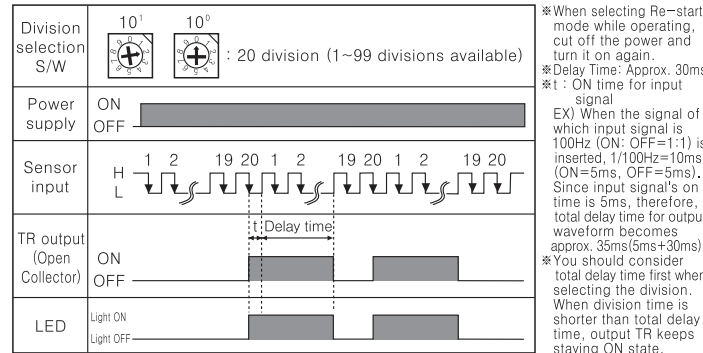
Specification

| Model | PA-12 | PA-12-PG | PA-12-PGP |
|-------------------------|---|---|---------------------------|
| Type | Selectable NPN/PNP | NPN Open Collector Only | PNP Open Collector Only |
| Power supply | Selectable 110-220VAC 50/60Hz | 110/220VAC 50/60Hz | 110/220VAC 50/60Hz |
| Power consumption | Approx. 4VA | | |
| Power supply for sensor | 12VDC \pm 10% 50mA | 12VDC \pm 10% 30mA | |
| Control output | <ul style="list-style-type: none"> Relay Contact Output : (Contact Capacity : 250VAC 3A Resistance Load, Contact Arrangement 1a1b) Life Expectancy [※] Mechanical : Min. 10,000,000 operations Electrical : Min. 100,000 operations | NPN Open Collector output | PNP Open Collector output |
| Input signal | <ul style="list-style-type: none"> NPN [※] Short-circuit impedance : Max. 1kΩ Residual voltage : Max. 2VDC Open-circuit impedance : Min. 100kΩ PNP [※] High Level["H"] : 7-12VDC, Low Level["L"] : 0-5VDC | Allowable Input Voltage : Max. 30VDC, Rated Current : Max. 50mA High Level["H"] : 7-12VDC, Low Level["L"] : 0-5VDC | |
| Input resistance | 10k Ω | | |
| Response time | | 30cps, 2kcps (Semi-contact selectable) | |
| Ambient temperature | -10 to +50 $^{\circ}$ C (Non-freezing condition) | | |
| Ambient humidity | 35-85%RH | | |
| Weight | Approx. 269g | | |

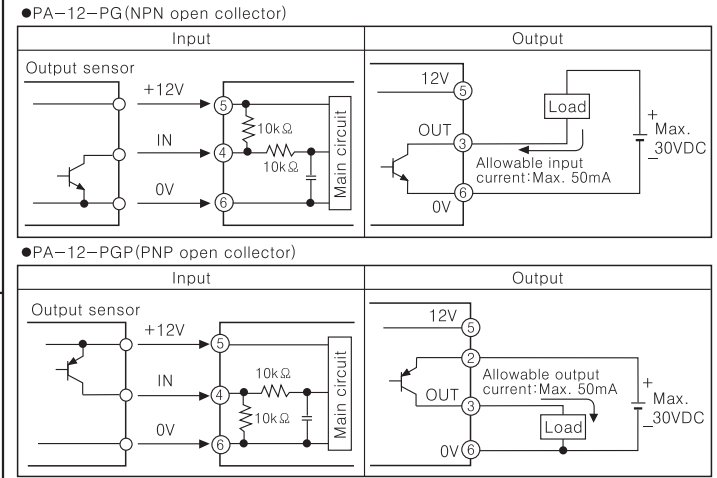
Operation mode



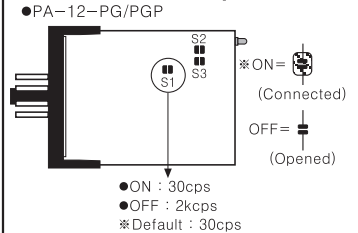
PA-12-PG/PGP



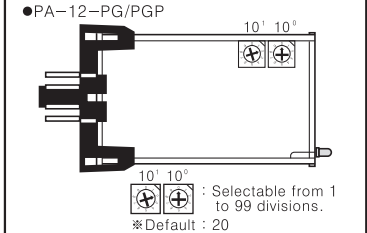
Function diagram



Semi-contact specification



Division selection switch



Caution for using

- Wiring
 - Check your connections first to avoid faulty wiring.
 - Please be cautious not to short-circuit the 12VDC terminal at GND since there is no over-current protective circuit on sensor's power supply.
 - Do not install the unit at place where vapor, dust, corrosive gas or water exists.
 - Input signal line
 - Shorten the cable distance between the sensor and this product.
 - Please shielded wire for input signal needed to be long.
 - Please wire input signal line separated from power line.
 - When test dielectric voltage and insulation resistance of the control panel with this unit installed.
 - Please isolate this unit from the circuit of control panel.
 - Please make all terminals of this unit short-circuited.
 - Place where there are direct ray of the sun
 - Place where strong magnetic field or electric noise are generated.
 - Installation environment
 - It shall be used indoor
 - Altitude Max. 2000m
 - Pollution Degree 2
 - Installation Category II
- ※ It may cause malfunction if above instructions are not followed.

Major products

- Photoelectric sensors
- Fiber optic sensors
- Door sensors
- Door side sensors
- Area sensors
- Proximity sensors
- Pressure sensors
- IO Terminal Blocks & Cables
- Stapper motors/drivers/motion controllers
- Graphic/Logic panels
- Field network devices
- Laser marking system (Fiber, CO₂, Nd:YAG)
- Laser welding/soldering system
- Temperature controllers
- Temperature/humidity transducers
- Tachometer/Fuse/Rate/meters
- SSR/Power controllers
- Sensor controllers
- Display units
- Panel meters
- Counters
- Timers
- Switching mode power supplies
- Control switches/Lamps/Buzzers
- Stapper motors/drivers/motion controllers
- Graphic/Logic panels
- Field network devices
- Laser marking system (Fiber, CO₂, Nd:YAG)
- Laser welding/soldering system

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