

Autonics Compact Long Distance Type Photoelectric Sensing with Amplifier BJX SERIES INSTRUCTION MANUAL



Thank you for choosing our Autonics product. Please read the following safety considerations before use.

Safety Considerations

Please observe all safety considerations for safe and proper product operation to avoid hazards.

Warning symbol represents caution due to special circumstances in which hazards may occur.

Warning Failure to follow these instructions may result in serious injury or death.

Caution Failure to follow these instructions may result in personal injury or product damage.

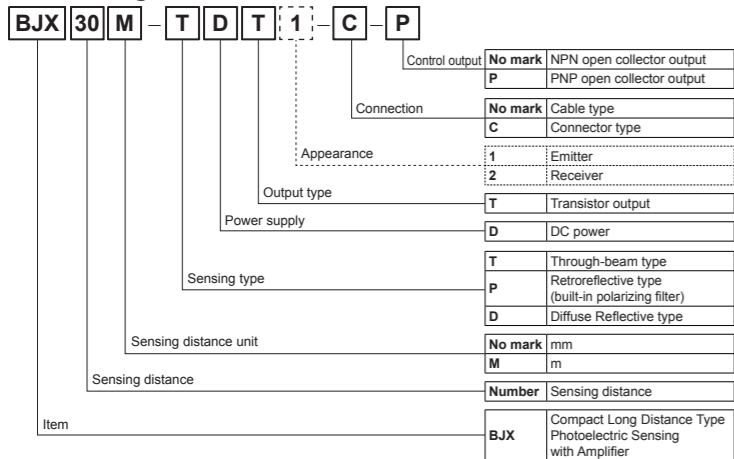
Warning

- 1. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.
2. Do not disassemble or modify the unit.
3. Do not connect, repair, or inspect the unit while connected to a power source.
4. Check 'Connections' before wiring.

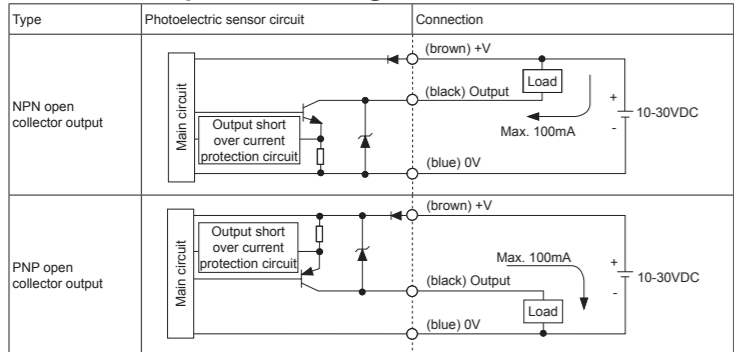
Caution

- 1. Use the unit within the rated specifications.
2. Use dry cloth to clean the unit, and do not use water or organic solvent.
3. Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.

Ordering Information



Control Output Circuit Diagram

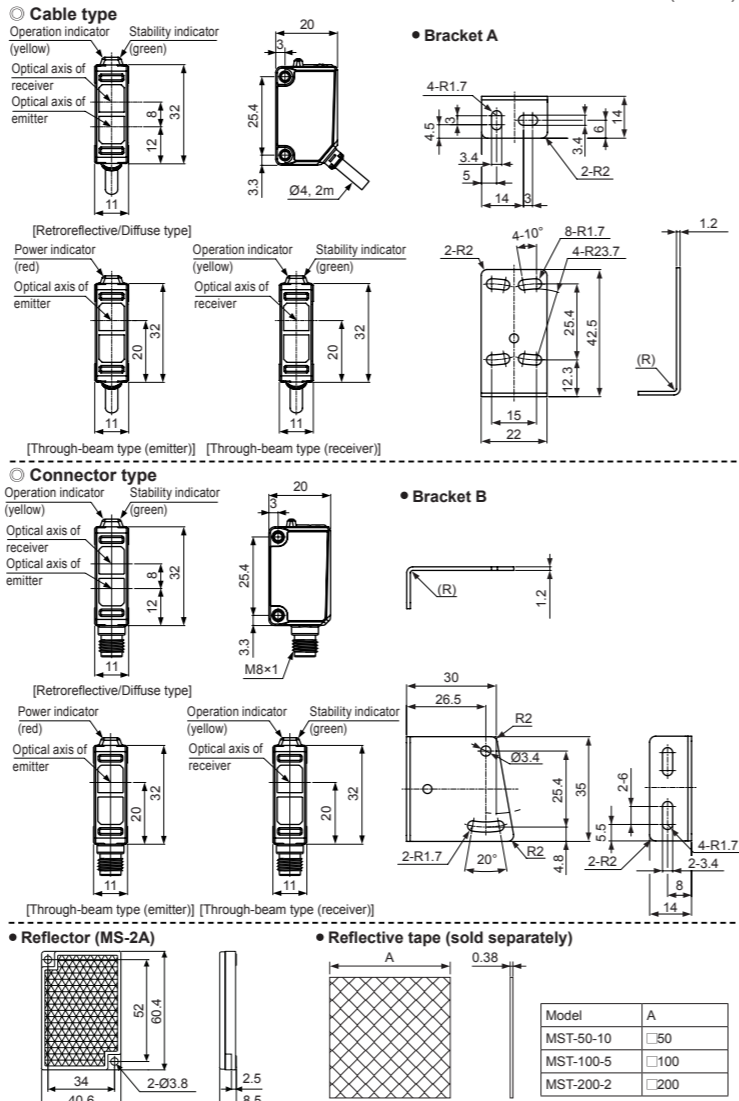


If short-circuit the control output terminal or supply current over the rated specification, normal control signal is not output due to the output short over current protection circuit. The above specifications are subject to change and some models may be discontinued without notice.

Specifications

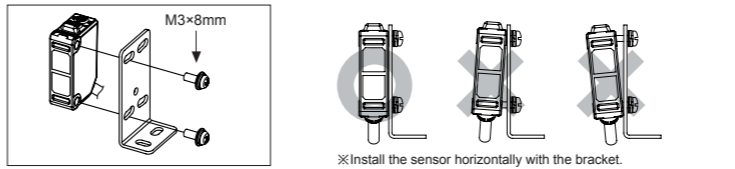
Table with columns for Model, Sensing type, Sensing distance, Sensing target, Hysteresis, Response time, Power supply, Power consumption, Light source, Sensitivity adjustment, Operation mode, Control output, Protection circuit, Indicator, Insulation resistance, Noise immunity, Dielectric strength, Vibration, Shock, Environ-ment, Protection structure, Material, Cable, Accessory, Approval, Weight, and Connector type.

Dimensions

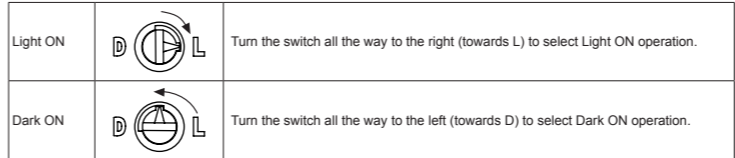


Installation and Adjustment

For mounting: When using the reflective type photoelectric sensors closely over three units, it may result in malfunction due to mutual interference. When installing the product, tighten the screw with a tightening torque of 0.5N.m.



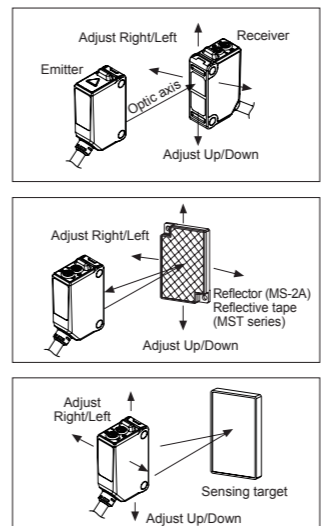
Operation mode switching



For through-beam type, the switch is built-in the receiver.

Optical axis adjustment

- 1. Place the emitter and the receiver facing each other and supply the power.
2. After adjusting the position of the emitter and the receiver and checking their stable indicating range, mount them in the middle of the range.
3. After mounting this unit, check the operation of the sensor and lighting of the stability indicator in both status.

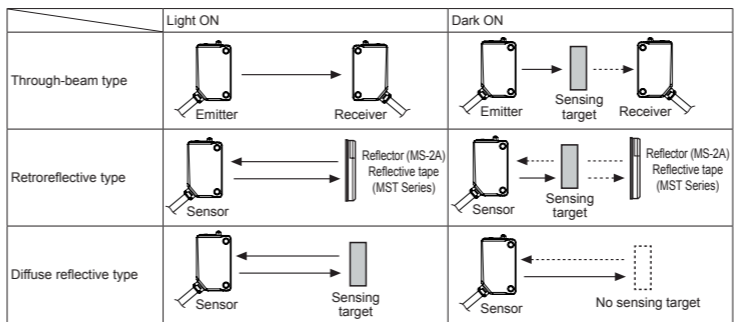


Diffuse reflective type

- 1. Place the emitter and the receiver facing each other and supply the power.
2. After adjusting the position of the emitter and the receiver and checking their stable indicating range, mount them in the middle of the range.
3. After mounting this unit, check the operation of the sensor and lighting of the stability indicator in both status.

Sensitivity setting

Table with columns for Order, Sensitivity setting, and Descriptions, detailing steps for setting sensitivity from Light ON to Dark ON.

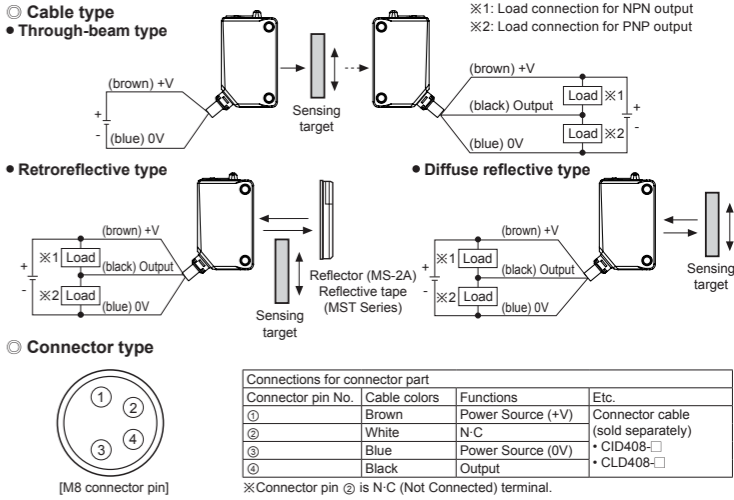


Please set the sensitivity setting adjuster is executed in stable Light ON area and the reliability of environment (temperature, supply, dust etc.) is increased after the mounting it in a stable area.

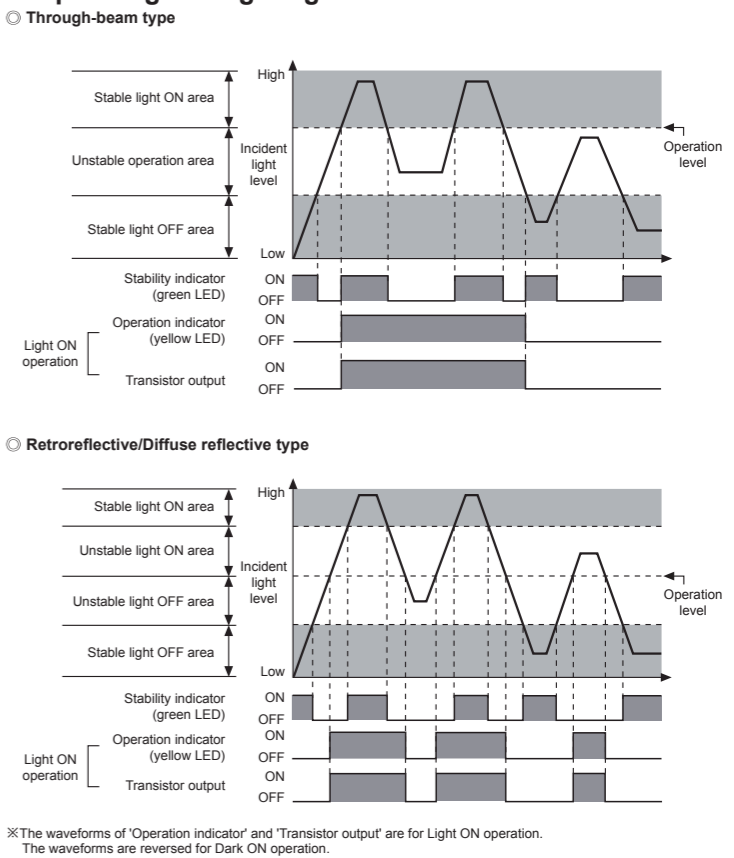
Operation Mode

Table showing the operation mode (Light ON/Dark ON) and the resulting states for Receiver operation, Operation indicator (yellow LED), and Transistor output.

Connections



Operating Timing Diagram



Cautions during Use

- 1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. When connecting a DC relay or other inductive load to the output, remove surge by using diodes or varistors.
3. Use the product, 0.5 sec after supplying power.
4. When using separate power supply for the sensor and load, supply power to sensor first.
5. 10-30VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
6. When using switching mode power supply to supply the power, ground F.G. terminal and connect a condenser between 0V and F.G. terminal to remove noise.
7. When using sensor with the equipment which generates noise (switching regulator, inverter, servo motor, etc.), ground F.G. terminal of the equipment.
8. This unit may be used in the following environments.

Major Products

- Photoelectric Sensors, Fiber Optic Sensors, Door Sensors, Door Side Sensors, Area Sensors, Proximity Sensors, Pressure Sensors, Rotary Encoders, Connectors/Sockets, Switching Mode Power Supplies, Control Switches/Lamps/Buzzers, I/O Terminal Blocks & Cables, Stepper Motors/Drivers/Motion Controllers, Graphic/Logic Panels, Field Network Devices, Laser Marking System (Fiber, CO2, Nd: YAG), Laser Welding/Cutting System, Temperature Controllers, Temperature/Humidity Transducers, SSRs/Power Controllers, Counters, Timers, Panel Meters, Tachometer/Pulse (Rate) Meters, Display Units, Sensor Controllers.

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