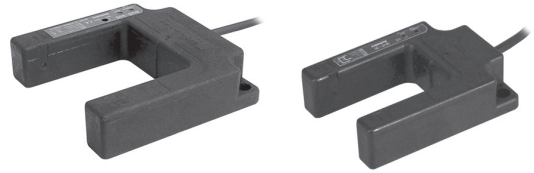


Reinforced Plastic Case U-shaped Type

■ Features

- Improves noise resistance to disturbance light
- Max. 1ms high speed response type
- Built-in reverse polarity protection circuit and output overcurrent (short-circuit) protection circuit
- Light ON / Dark ON Selectable by control wire
- Protection structure IP66 (IEC standard)
: BUP-30, BUP-50



⚠ Please read "Caution for your safety" in operation manual before using.



■ Specifications

| Model | NPN open collector output | BUP-30 | BUP-30S | BUP-50 | BUP-50S |
|------------------------|---|--|---------------------------------|--------------|-------------------------------|
| | PNP open collector output | BUP-30-P | BUP-30S-P | BUP-50-P | BUP-50S-P |
| Sensing type | Through-beam | | | | |
| Sensing target | Opaque materials of min. Ø4mm | | Opaque materials of min. Ø1.5mm | | Opaque materials of min. Ø4mm |
| Operation mode | Selectable Light ON or Dark ON by control wire | | | | |
| Sensing distance | 30mm | | | 50mm | |
| Response speed | Max. 1ms | | | | |
| Power supply | 12-24VDC ±10% (ripple P-P: max. 10%) | | | | |
| Current consumption | Max. 30mA | | | | |
| Light source | Infrared LED (940nm) | | | | |
| Sensitivity adjustment | Fixed | | Sensitivity adjuster | | Fixed |
| Control output | NPN or PNP open collector output ●Load voltage: Max. 30VDC ●Load current: Max. 200mA ●Residual voltage - NPN: Max. 1V, PNP: Max. 2.5V | | | | |
| Protection circuit | Reverse polarity protection circuit, output overcurrent (short-circuit) protection circuit | | | | |
| Indication | Power indicator: green LED, Operation indicator: red LED | | | | |
| Insulation resistance | Over 20MΩ (at 500VDC megger) | | | | |
| Noise immunity | ±240V the square wave noise (pulse width: 1μs) by the noise simulator | | | | |
| Dielectric strength | 1,000VAC 50/60Hz for 1 minute | | | | |
| Vibration | 1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours | | | | |
| Shock | 500m/s ² (approx. 50G) in each X, Y, Z direction for 3 times | | | | |
| Environment | Ambient illumination | Sunlight: Max. 11,000lx Incandescent lamp: Max. 3,000lx (receiving illumination) | | | |
| | Ambient temperature | -25 to 65°C[BUP-30S (-P) & BUP-50S (-P)] -10 to 60°C, storage: -25 to 70°C | | | |
| | Ambient humidity | 35 to 85%RH, storage: 35 to 85%RH | | | |
| Protection structure | IP66 (IEC standard) | | IP50 (IEC standard) | | IP66 (IEC standard) |
| Material | Case: Acrylonitrile butadiene styrene, Cap: Polycarbonate | | | | |
| Cable | Ø4mm, 4-wire, 2m (AWG22, core diameter: 0.08mm, number of cores: 60, insulation out diameter: Ø1.25mm) | | | | |
| Accessory | — | | Adjuster driver | | — |
| Approval | CE | | | | |
| Unit weight | Approx. 90g | | | Approx. 140g | |

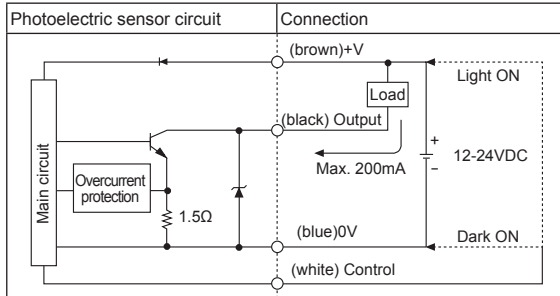
※The temperature or humidity mentioned in Environment indicates a non freezing or condensation environment.

| | |
|-----|--|
| (A) | Photoelectric Sensors |
| (B) | Fiber Optic Sensors |
| (C) | Door/Area Sensors |
| (D) | Proximity Sensors |
| (E) | Pressure Sensors |
| (F) | Rotary Encoders |
| (G) | Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets |
| (H) | Temperature Controllers |
| (I) | SSRs / Power Controllers |
| (J) | Counters |
| (K) | Timers |
| (L) | Panel Meters |
| (M) | Tacho / Speed / Pulse Meters |
| (N) | Display Units |
| (O) | Sensor Controllers |
| (P) | Switching Mode Power Supplies |
| (Q) | Stepper Motors & Drivers & Controllers |
| (R) | Graphic/ Logic Panels |
| (S) | Field Network Devices |
| (T) | Software |

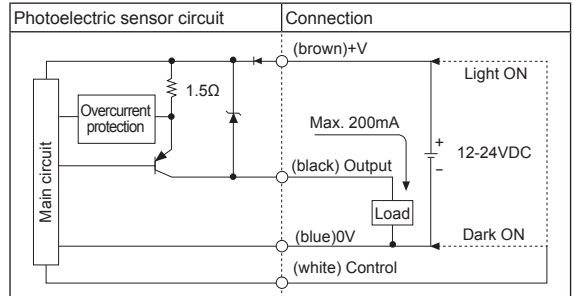
BUP Series

Control Output Diagram

NPN open collector output



PNP open collector output



※Select Light ON / Dark ON by control wire. - Light ON: Connect control wire to +V / Dark ON: Connect control wire to 0V

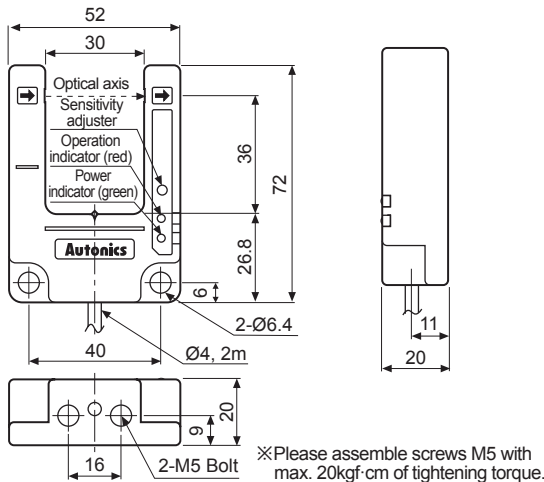
Operation Mode

| Operation mode | Light ON | Dark ON |
|-------------------------------|-------------------------------------|-------------------------------------|
| Receiver operation | Received light Interrupted light | Received light Interrupted light |
| Operation indicator (red LED) | ON OFF | ON OFF |
| Transistor output | ON OFF | ON OFF |

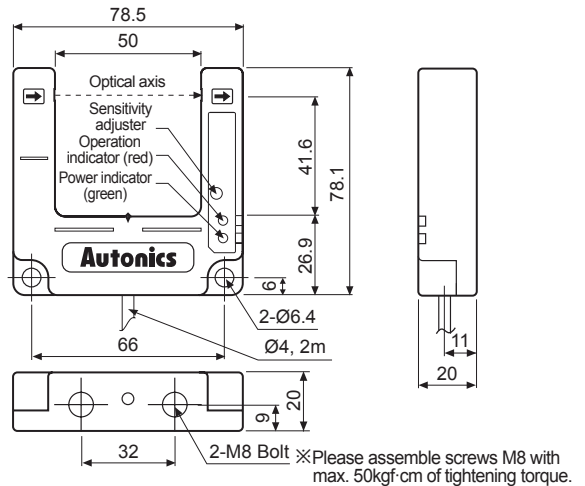
Dimensions

(unit: mm)

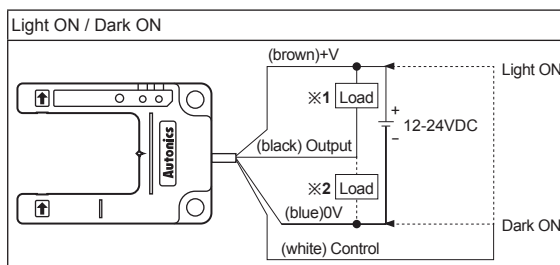
BUP-30, BUP-30-P, BUP-30S, BUP-30S-P



BUP-50, BUP-50-P, BUP-50S, BUP-50S-P



Connections



※1: Load connection for NPN open collector output
 ※2: Load connection for PNP open collector output

Mounting And Sensitivity Adjustment

Check the position where the photoelectric sensor will be used and the connection then supply the power and set sensitivity as below.

When placing a target within sensing range of sensor, turn the sensitivity adjuster from the minimum position and check the position 'A' where the operation indicator is turned on (dark on) or turned off (light on). Turn the sensitivity adjuster to 'B' in the middle between 'A' and 'C' which is the maximum sensitivity position, this will be the optimal sensitivity position. (the operation indicator can be operated at the lowest sensitivity position.)

