

Autonics

Photoelectric Sensor BUM 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.
- ※ ⚠ 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.

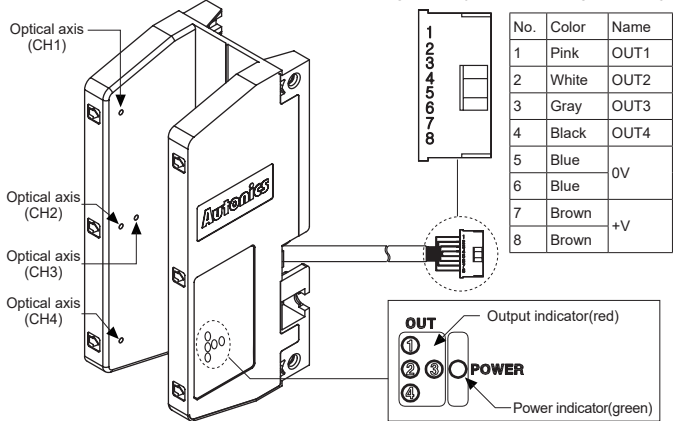
⚠ Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in personal injury, economic loss or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**
Failure to follow this instruction may result in explosion or fire.
- Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire.
- Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire.
- Check 'Connections' before wiring.**
Failure to follow this instruction may result in fire.

⚠ Caution

- Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire.

■ Connections



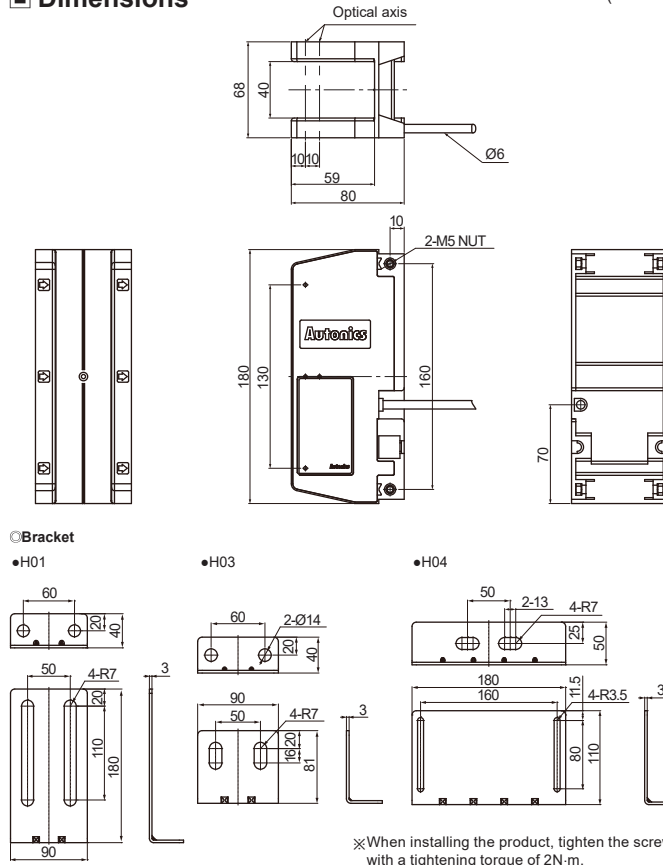
■ Operation Mode

Operation mode	Dark ON
Receiver operation	Received light Interrupt light
Operation indicator(LED)	ON OFF
Transistor output	ON OFF

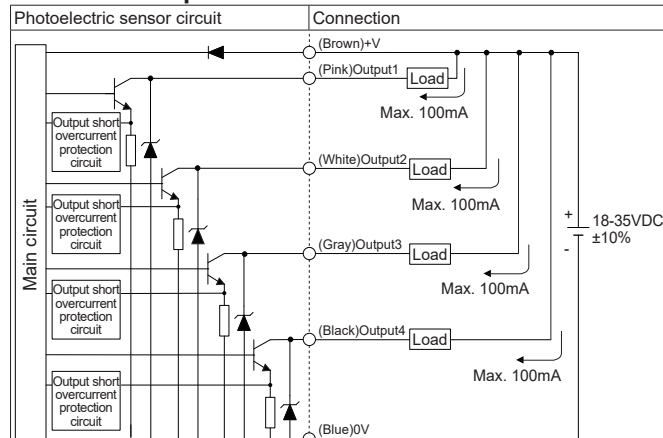
- ※ The above specifications are subject to change and some models may be discontinued without notice.
- ※ Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

■ Dimensions

(unit:mm)



■ Control Output Circuit



※ 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.

■ Specifications

Model	BUM4-40D-W-4M	BUM4-40D-W-2M/A	BUM4-40D-W-3M/A	BUM4-40D-W-4M/A	BUM4-40D-W-2M/B	BUM4-40D-W-3M/B	BUM4-40D-W-4M/B
Sensing type	Through-beam						
Sensing distance	40mm						
Sensing target	Opaque materials of min.ø4.0mm						
Sensing CH	4 channels						
Hysteresis	Max. 1ms						
Power supply	18-35VDC±10%(ripple P-P: max. 10%)						
Current consumption	Max. 50mA						
Light source	Infrared LED(940nm)						
Operation mode	Dark ON						
Control output	NPN open collector output(individual 4 outputs) • Load voltage: Max. 35VDC±, • Load current: Max. 100mA, • Residual voltage: Max. 4VDC±						
Protection circuit	Power reverse polarity protection circuit, output short-circuit over current protection circuit						
Indicator	Output indicator: red LED, Power indicator: green LED						
Insulation resistance	Max. 20MΩ(at 500VDC megger)						
Noise resistance	±240V the square wave noise (pulse width 1μs) by noise simulator						
Dielectric strength	1000VAC 50/60Hz for 1 min.						
Vibration	1.5mm amplitude at frequency of 10to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours						
Shock	500m/s ² (approx. 50G) in each of X, Y, Z directions for 3 times						
Environment	Ambient illumination	Sunlight: Max. 11000lx, Incandescent lamp: Max. 3000lx (receiver illumination)					
	Ambient temperature	-25 to 65°C, storage: -25 to 70°C					
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH					
Protection	IP65(IEC standards)						
Material	Case, Cover: ABS						
Cable	ø6.0mm, 8-wire(AWG 22, core diameter: ø1.2, number of cores: 60)						
Cable length	4m	2m	3m	4m	2m	3m	4m
Bracket	-		H01/H04(G01)		H03/H04(G02)		
Accessory	M12 bolt: 4, M12 nut: 4, M5 bolt: 2						
Approval	CE						
Weight	Approx. 510g (Approx. 500g)		Approx. 1.5kg(Approx. 500g)				

- ※ 1: The weight is with packaging and the weight in parenthesis is only unit weight.
- ※ The temperature or humidity mentioned in Environment indicates a non-freezing or condensation environment.

■ Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- When connecting a DC relay or other inductive load to the output, remove surge by using diodes or varistors.
- Use the product, 0.5 sec after supplying power.
When using separate power supply for the sensor and load, supply power to sensor first.
- 18-35VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Wire as short as possible and keep away from high voltage lines or power lines, to prevent inductive noise.
- 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.
- When using sensor with the equipment which generates noise (switching regulator, inverter, servo motor, etc.), ground F.G. terminal of the equipment.
- This unit may be used in the following environments.
 - ① Indoors (in the environment condition rated in 'Specifications')
 - ② Altitude max. 2,000m
 - ③ Pollution degree 2
 - ④ Installation category III

■ Major Products

- Photoelectric sensors
- Fiber optic sensors
- Door sensors
- Door side sensors
- Area sensors
- Proximity sensors
- Pressure sensors
- Rotary encoders
- Connector/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
- SSR/Power controllers
- Counters
- Timers
- Panel meters
- Tachometer/Pulse(Rate)meters
- Display units
- Sensor controllers

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