

Button Adjustment Fiber Optic Amplifiers



BF4 Series CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- High response time: max. 0.5 ms
- Auto sensitivity setting (button setting) / remote sensitivity setting type
- External synchronization input, mutual interference protection, self-diagnosis
- Reverse power protection and output short overcurrent protection circuit
- Timer function: OFF delay timer approx. 40 ms fixed. (standard type, remote sensitivity setting type only)
- Automatically selectable Light ON / Dark ON
- Precise detection of small target and easy to install in the complicated place

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

BF4 ① ② - ③

① Light source

R: Red LED
G: Green LED

② Control output

No mark: NPN open collector output
P: PNP open collector output

③ Features

No mark: Standard type
E: External synchronization input type
R: Remote sensitivity setting type

Product Components

- Product
- Bracket
- Instruction manual
- Bolt / Nut × 2

Specifications

Model	BF4R□□-□	BF4G□□-□
Light source	Red LED	Green LED
Peak emission wavelength	660 nm, modulated	525 nm, modulated
Response time	Built-in 2 differential frequencies (frequency 1: ≤ 0.5 ms, frequency 2: ≤ 0.7 ms)	
Sensitivity setting	Button / Remote sensitivity setting	
Operation mode	Light ON / Dark ON selectable	
Self-diagnosis output	YES	
Load voltage	≤ 30 VDC≒	
Load current	≤ 50 mA	
Residual voltage	NPN: ≤ 1 VDC≒ (load current: 50 mA), ≤ 0.4 VDC≒ (load current: 16 mA) PNP: ≤ 2.5 VDC≒	
Indicator	Operation indicator (red), stability indicator (green)	
Approval	CE ENEC	CE ENEC
Unit weight (packaged)	≈ 65 g (≈ 120 g)	≈ 65 g (≈ 120 g)

Power supply	12-24 VDC≒ ±10% (ripple P-P: ≤ 10%)
Current consumption	≤ 45 mA
Control output	NPN open collector output / PNP open collector output model
Load voltage	≤ 30 VDC≒
Load current	≤ 100 mA
Residual voltage	NPN: ≤ 1 VDC≒ (load current: 100 mA), ≤ 0.4 VDC≒ (load current: 16 mA) PNP: ≤ 2.5 VDC≒
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC≒ megger)
Noise immunity	±240 VDC≒ the square wave noise (pulse width: 1 μs) by the noise simulator
Dielectric strength	1,000 VAC ~ 50 / 60 Hz for 1 min
Vibration	1 mm double amplitude at frequency 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s ² (≈ 50 G) in each X, Y, Z directions for 3 times
Ambient illuminance (receiver)	Sunlight: ≤ 11,000 lx, incandescent lamp: ≤ 3,000 lx
Ambient temperature	-10 to 50 °C, storage: -20 to 70 °C (no freezing or condensation)
Ambient humidity	35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)
Cable spec.	Standard type: Ø 4 mm, 4-wire, 2 m External synchronization input, remote sensitivity setting type: Ø 4 mm, 6-wire, 2 m
Wire spec.	Standard type: AWG22 (0.08 mm, 60-core), insulator outer diameter: Ø 1.25 mm External synchronization input, remote sensitivity setting type: AWG24 (0.08 mm, 40-core), insulator outer diameter: Ø 1 mm
Material	Case: heat-resistance ABS, cover: PC

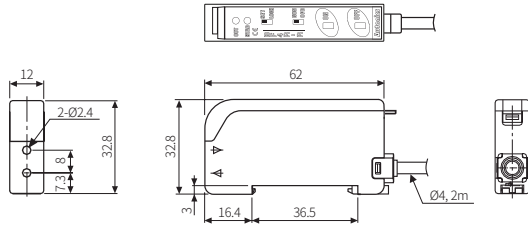
Supporting Functions of Each Model

• For more detailed information on functions and settings, refer to the manual.

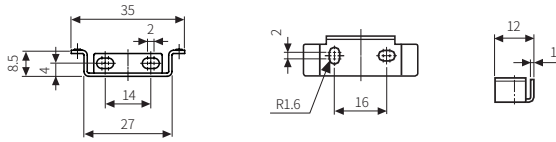
	Standard type	External synchronization input type	Remote sensitivity setting type
Sensitivity setting by the button	○	○	○
Remote sensitivity setting	-	-	○
Sensitivity setting output (Answer back)	-	-	○
Operation mode of the timer (OFF Delay 40 ms fixed)	○	-	○
Mutual interference prevention	○	○	○
Self-diagnosis output	○	○	○
External synchronization input	-	○	-
Emitter OFF function	-	○	-

Dimensions

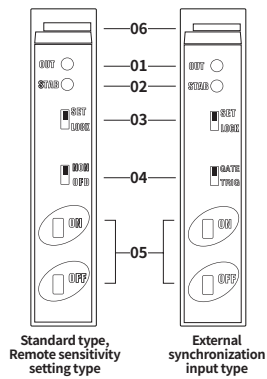
- Unit: mm, For the detailed drawings, follow the Autonics website.



Bracket



Unit Descriptions



- 01. Operation indicator (red)**
- 02. Stability indicator (green)**
- 03. Setting switch for the mode**
 - SET: function setting
 - LOCK: lock mode
- 04. Setting switch for the timer / external synchronization**
 - NON: not used,
 - OFD: OFF Delay mode
 - GATE: gate synchronization,
 - TRIG: trigger synchronization
- 05. Sensitivity setting button**
- 06. Lever lock**
 - It is used to fix the fiber optic unit.

Sold Separately

- Fiber optic units