

# Dual Display

## Fiber Optic Amplifiers

### BFX Series



#### Features

- Dual-display for light incident level and setting value
- Enables to detect the minute object with 1/10,000 high resolution
- Enables to detect with high-speed moving object (response time 50  $\mu$ s)
- 5 response times:  
ultra fast mode (50  $\mu$ s), fast mode (150  $\mu$ s), standard mode (500  $\mu$ s), long distance mode (4 ms), ultra long distance mode (10 ms)
- Anti-saturation setting function prevents malfunction by saturated light
- External input: emitter OFF, remote sensitivity setting, peak reset, output ON/OFF/Keep, energy saving OFF
- Multiple sensitivity setting modes available:  
auto tuning (fine-adjusting sensitivity)  
teaching sensitivity setting  
(button or external input auto-tuning, 1-point, 2-point, positioning)

#### Specifications

Model	BFX-D1-□
Light source	Red LED
Peak emission wavelength	660 nm, modulated
Response time	Standard (500 $\mu$ s), Long distance (4 ms), Ultra long distance (10 ms), Ultra fast (50 $\mu$ s), Fast (150 $\mu$ s) mode
Sensitivity setting	Manual, Teaching (Auto-tuning, 1-point, 2-point, positioning)
Operation mode	Light ON, Dark ON
Measured value display	7-segment LCD, 4-digit (decimal, percentage)
Operation mode of the timer	OFF, OFF Delay, ON Delay, One-shot
External input	Teaching sensitivity, initialization of the incident light level, emitter OFF, control output setting, energy saving mode release
Indicator	Operation indicator (red), display screen (PV display part: red LED, SV display part: green LED)
Approval	CE ENEC
Unit weight (packaged)	$\approx$ 16 g ( $\approx$ 115 g)
Power supply	12-24 VDC $\pm$ 10% (ripple P-P: $\leq$ 10%)
Current consumption	$\leq$ 50 mA
Control output	NPN open collector output / PNP open collector output model
Load voltage	$\leq$ 24 VDC $\pm$
Load current	$\leq$ 100 mA
Residual voltage	NPN: $\leq$ 1 VDC $\pm$ , PNP: $\leq$ 3 VDC $\pm$
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit, surge protection circuit
Insulation resistance	$\geq$ 20 M $\Omega$ (500 VDC $\pm$ megger)
Dielectric strength	1,000 VAC $\sim$ 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 <sup>2</sup> ( $\approx$ 50 G) in each X, Y, Z direction for 3 times
Ambient illuminance (receiver)	Sunlight: $\leq$ 11,000 lx, incandescent lamp: $\leq$ 3,000 lx
Ambient temperature <sup>01)</sup>	-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)
Protection rating	IP40 (IEC standard)
Connection	Connector cable
Cable spec.	$\varnothing$ 4 mm, 4-wire, 2 m
Wire spec.	AWG22 (0.08 mm, 60-core), insulator outer diameter: $\varnothing$ 1.25 mm
Tightening torque for fiber optic unit	$\geq$ 2kgf
Material	Case: POK, cover: PC

01) 1 to 2 units: -10 to 50 °C, 3 to 8 units: -10 to 35 °C  
Be cautious about the heat transfer when the number of connected units is more than 8.  
The ambient temperature varies with the number of connected amplifiers that are mounted on the DIN rail.  
Be sure to check the temperatures when installing in the enclosed area.



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