Optical Fiber Amplifier

Features

- Sensing distance can be set by key (Self learning)
- Stability indicator
- Light on/ Dark on optional
- Output can be set, NO delay or OFF delay 100ms
- Reverse polarity protection, shock protection, overload protection and short-circuit protection

Item Code

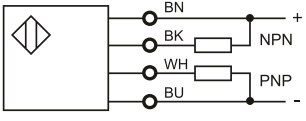
NPN+PNP L.ON/D.ON 896-7305

Parameters

Model	**896-7305**
Limiting voltage	DC10-30V
Fluctuation voltage	< 10%
Current consumption	< 40mA
Leak current	< 0.1mA
Output delay	There are two ways for setting: Norm; Off delay 100ms
Output mode	NPN+PNP ; L.ON/D.ON Dial switch optional
Power Supply Protection	Polarity protection, shock protection
Output protection	Overload protection, short-circuit protection
Voltage drop	< 2.5V (@I_{LOAD}=100mA)
Indicator display	Output indicator, power indicator, stability indicator, short-circuit/overload indicator, setting indicator
Rated load current	100mA
Min load current	1mA
Hysteresis	3%-20%
Repeated accuracy	< 5%
Efficient operation distance	1~80mm (90% reflective rate, 100*100mm white card, with fiber cable PRC-610 for test)
Distance regulation	Key
Response time	< 1ms
Temperature drift	<10%
Ambient temperature	0℃~50℃
Light source	Visible red light
EMC-ESD	±4kV CD/±8kV AD (IEC61000-4-2)
EMC-Burst	±2kV 5kHz (IEC61000-4-4)
EMC-HF radiated /conducted	3V/m (IEC61000-4-3)/ 3V (IEC61000-4-6)
Dielectric property	<0.2mA (500VAC , 60s)
Anti-vibration	Amplitude:1mm ; Frequency:10~55Hz ; Sweep frequency cycle:5min
Anti-shock	Shock(Impulse)wave shape:Half sine;Peak speed:30g_n;Pulse duration:11ms
Protection degree	IP54
Connection	2M PVC cable
Housing material	PC+ABS

Electrical wiring diagram

NPN+PNP L.ON/D.ON

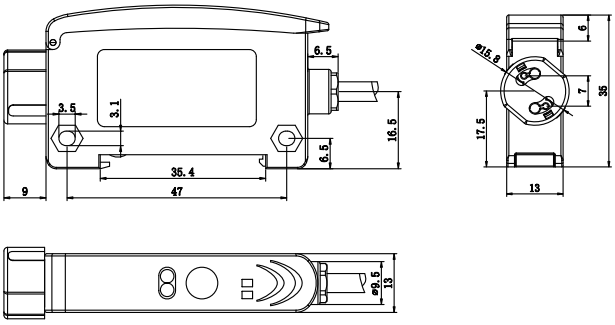


Cable color (Comply with DIN IEC 60757)

BN....Brown BK.....Black

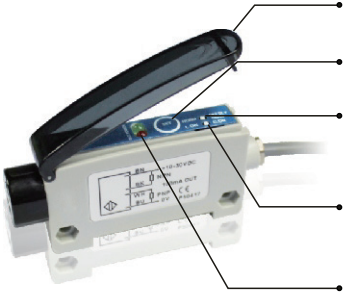
BU.... Blue WH....White

Dimensions



Operating instructions

● Control panel symbol



PC transparent housing, good-looking and dustproof

Sensing distance can be set by key

Time-delay setting
NORM：Output is without delay
OFF DLY100ms：Off delay 100ms

Light on/ Dark on optional
LON：Output is on when there is light signal NPN+PNP
D.ON：Output is on when there is no light signalNPN+PNP

Green LED(Power)：Power indicator, signal stability indicator
Red LED(Out)：Output indicator, short-circuit indicator

● Definition of key and dial switch

Function of SET key: Sensing distance setting

① Put target object in the distance setting position

② Press SET key for 2~5 seconds, then release, red and green LED will flicker mutually with 2Hz frequency, then it will enter setting mode.

③ If the sensor enters working mode after red and green LED flickering 3 times at the same time with 2Hz frequency, it means that the setting is successful.

④ If red and green LED flicker mutually with 8Hz frequency, it means that the receiving signal is not strong and the setting failed. Based on this condition, please take corresponding actions according to below failure reasons, and repeat ① ② steps once failures removed.

Failure reason	Measures
The size of sensing face is too small	Increase the size of sensing face
The distance is too far	Reduce the distance between the target object and optical fiber head
The reflective rate of target object is too low	Increase the reflective rate of target object

NORM/OFF DLY 100ms Function definition

NORM：Output is without delay

OFF DLY 100ms：Off delay 100ms

L.ON/D.ON Definition

L.ON:The output is on where there is light signal

D.ON:The output is on where there is no light signal

● LED indicator

Red LED (OUT) ：Output indicator, short-circuit indicator

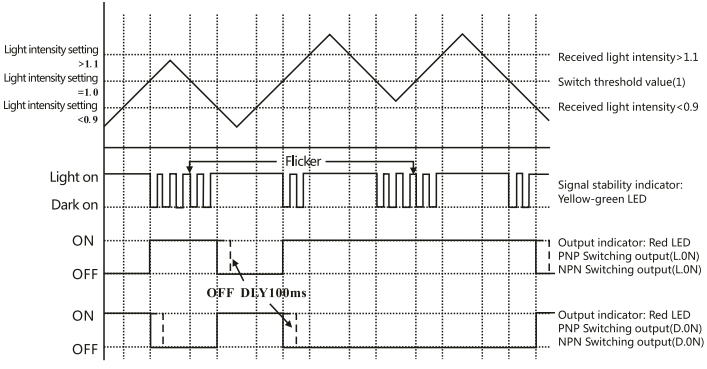
Output indicator: Red LED and output relations are as shown in below figure

Short-circuit indicator: When output is on and short-circuit appears, red LED will flicker with 4Hz frequency.

Green LED (POWER): Power indicator, signal stability indicator

Signal stability indicator: When there is stable light signal or no light signal, the indicator is on; When light signal is unstable, green LED will flicker with 2Hz frequency.

Power indicator: Green LED is always on or flickers with 2Hz frequency, which means that the power is stable.



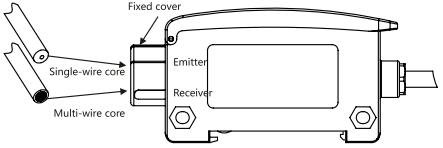
Attentions

- When red LED flickers rapidly, it means that the load current is exceeded or there appears short circuit, so please check the load and reduce the load current.

Installation instructions

● Optical fiber installation

Unscrew the fixed cover (As shown below), insert the fiber cable into corresponding fixed hole, and reversely screw the fixed cover.

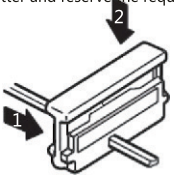


* To ensure normal use of the product, please embed the fiber cable into the bottom of fixed cover.

● Use of cutter

Optical fiber cutter can cut the fiber to be actual required length.

1. Put fiber into corresponding hole of cutter and reserve the required length in advance.
2. Press the cutter blade with high speed, which can cut the fiber successfully.

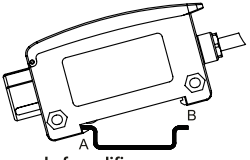


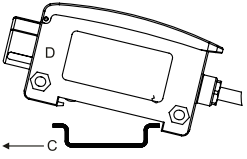
* To ensure the fiber performance, every cutter hole can be used only once.
* To ensure the fiber performance, try to cut the fiber successfully at a time, please avoid cutting the same point for many times.

● Installation and removal of amplifier

Installation of amplifier

1. Press the A-end of the amplifier into DIN guide rail or mounting rack;
2. Press the B-end of amplifier into DIN guide rail or mounting rack. The sequence of A and B can't be reversed during installation, if installed backward, the installation strength will be reduced.



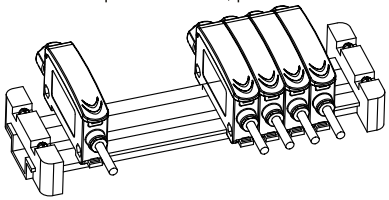


Removal of amplifier

Press the amplifier to direction C, and uplift the imbedded fiber to direction D, which can remove the amplifier.

Installed side by side

1. Install the amplifier on DIN rail, one amplifier one time.
2. Push the permanent seat to the end, so that the amplifier can be fixed. (Permanent seat is included in the expansion module, please be sure to use it.)



Commitment

● Attentions

1. For security reason, please do not use this product for human body detection, when there is need to detect body, please select safety sensors published in our product summary.
2. Please contact our customer service department and confirm the specification first to make sure safety in case of below special applications:
   ① Used in outdoors, potential chemical pollution environment, or the environment which have never recorded in product manual or operation instruction.
   ② Used in atomic energy control device, incineration equipment, railway, aviation, vehicle equipment, medical equipment, entertainment equipment, safety device or any other special defined manufacturing devices etc.
   ③ Used in system or device which may threat human life or property.
   ④ Used in gas, waterway or electric power supply system, or high-reliability device which runs 24 hours a day.
   ⑤ Used in application which needs high-security.