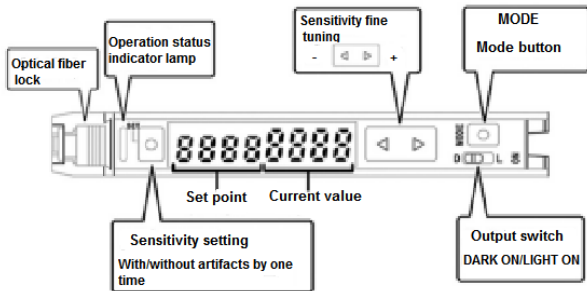


BS-501 Dual Digital Display Color Fiber Sensor Instruction Manual

purposes.

2. this product shall not be used as an explosion-proof product. Do not use this product in dangerous places and / or in the environment of potential explosive gases.
3. the product is DC power sensor. Do not use AC power. Otherwise, it will cause the product to explode or catch fire.
4. do not line the amplifier along the power line or high voltage line, otherwise the sensor will fail or be damaged by noise.
5. using a commercial switch regulator, ensure that the frame grounding terminal and grounding terminal are grounded.
6. do not use outside or outside light directly into the light receiving surface.

Description of product components:



Technical specifications:

Model	BS-501	BS-501P
	NPN output	PNP output
Type	1 output ,1 synchronous input, lead out	
Control output	1 outlet	
Light source	Red ,4-element LED	
Reaction time	MARK model 50 US, CLOLOR model 130	
Output selection	LIGHT-ON/DARK-ON(switch selection)	
Display indicator	operation indicator: red light emitting diode, double digit monitor: double 7-digit display, threshold (4-digit green light emitting diode body indicator) and current value (4-digit red light emitting diode body indicator) are lit together. Current range :0-9999	

Notes:

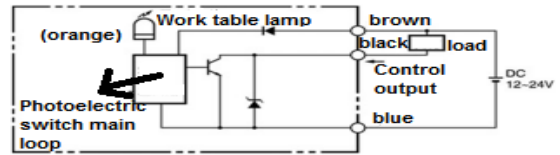
To ensure your safety, be sure to comply with the following regulations:

1. this product is for target detection only. Do not use this product to protect human body or human body parts and other

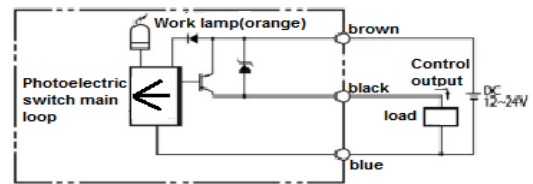
Detection methods	Light intensity detection MARK and color automatic matching detection C and color + light value detection CI	
Delay function	Disconnect delay timer / open delay timer / single timer / open delay single timer, optional. The duration of the display is optional :1 ms to ms 9999	
Control output	NPN/PNP open collector 24 V, maximum 100 mA (limited to main components) maximum 20 (when extended components are connected, residual voltage :1 V. type sensor with M words is analog output, analog voltage from 0-5 V, detection accuracy is 1/1000	
Power supply	Floating ratio between 12 and 24 VDC±10 per cent (P-P): maximum 10 per cent rating 2	
Working environment brightness	Maximum :20,000 lux, daylight: lux 30,000	
Power Consumption	Criteria: Maximum mW 300 Maximum voltage :24 V	Criteria: Maximum mW 300 Maximum voltage :24 V
Vibration Resistance	Two amplitudes Hz, 10 to 55:1.5 mm, X, Y, Z 2 hours	
Ambient temperature	-10 to +55°C, no freezing	

Output circuit:

BS-501NPN model



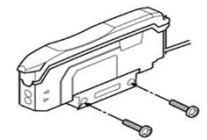
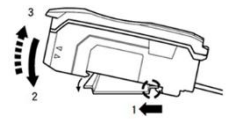
BS-501P PNP model



Correct installation method:

Mounted on DIN track

- align the slot at the bottom of the host with the track. Push the host in the direction of arrow 1 and tilt it in the direction of arrow 2.
- removing the sensor is to lift the host in the direction of arrow 3 while pushing the host in the direction of arrow 1.

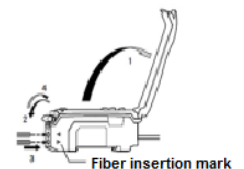


Mounted on wall (for main module only)

A module is placed on an optional mounting frame, mounted together and secured with two M3 screws.

Connected optical fiber module

- Open the dust cover in the direction shown in arrow 1.
- move down the fiber lock bar in the direction shown in arrow 2.



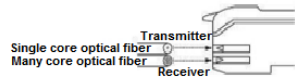
Insert the marked length of the fiber module mark into the fiber hole.

- move down the fiber lock bar in the direction shown in arrow 4.

- If a thinner fiber module is used, the adapter provided with it is

required.

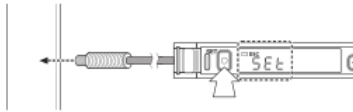
If the correct adapter is not connected, the thin fiber module will not detect the target correctly. The adapter is provided with the fiber module.)



7. If the coaxial reflective fiber module is connected to the amplifier, the single core fiber should be connected to the transmitter side and the multi-core fiber to the receiver side.

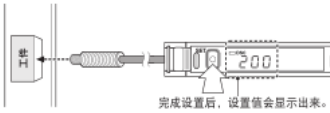
Set sensitivity

2 point calibration in MARK mode:



Step 1, when no workpiece is placed in front of the fiber head, press the SET (set button (button time is not more than 2 seconds).

Step 2, place a workpiece in front of the fiber and press the SET (setting button (no more than 2 seconds).

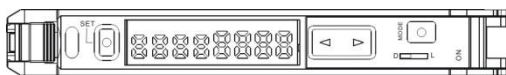


Both the measured values and the RGB detection channel are displayed on the screen and stored automatically.

Calibration self-learning in C or CI mode: align the optical fiber to the color to be detected, press the next SET, the sensor will automatically record the current color matching value and bright value, as the normal working criteria

Sensitivity fine-tuning:

Press the up-down arrow key to fix the setting value directly (as shown below)



After pressing the button, the screen value flashes and the setting value can be corrected.

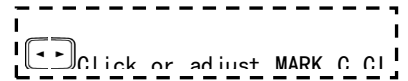
Hold on to the arrow key, will quickly increase or decrease, the longer the time to add and subtract the faster.

Basic Function Operation:

- Power on 86 Short press or key 1999, then press or can directly adjust the size of the set value.
- Short press, if MARK mode is selected to display the selected RGB channel MA-R 1999
- When C or CI mode is selected , 900 C or CI are displayed
- Short press, display DEL 10, press or directly adjust the size of data 10. DEL data can be adjusted, in C or CI mode to eliminate output errors, increase the detection of stability redundancy is very good
- Short press, back to 86 999 Display menu

Hold down the MODE key for more than 3 seconds. Enter the following process:

MARK 1999MARK flicker



MATK is a normal color standard detection mode, the amplifier will choose one of the RGB channels as the judgment channel. C mode when the general color matching detection mode , 1/1000 means that the color is exactly the same, it is generally considered that 900/1000 is a color. CI is color + light value mode, used to accurately detect the color of the object and the bright value of the object. 1000/1000 means exactly the same. The sloshing of the object in front of the fiber in C mode can also be detected normally. In CI mode, any sloshing of the object in front of the fiber will cause the signal value to decrease sharply, so the sensor thinks the CI does not match.



TOFF OUT1TOFF position flashing

Short press or key into delay mode

OFFD ----OFFD 10

ON-D ----ON-D 10


SHOT ----SHOT 10

COM OFF press or key COM will be 

Jump between OFF ON and enter synchronization check menu when ON

At COM ON, when the white wire input is low,

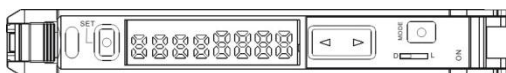
OUT1 output will start, if the white wire is high or floating, the OUT1 has been pulling down without output; when COM OFF, the white wire level does not play any role, OUT1 normal output. This feature prevents any misoperation when detecting color and color + brightness. White wires are generally connected to another black line or PLC output of the sensor in place, low level effective.



Short press 

Press END END MODE, to exit the function menu. UP DOWN press
Then back to the function menu.

Output selection:


You can adjust the unplug switch, select light-on or dark-on patterns

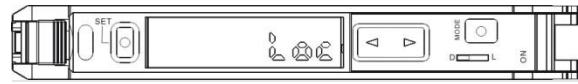


  In delay mode, the OFFD position will flicker. After the key is pressed, the number 10 position will flicker, and the adjusted value will


Keyboard lock function:

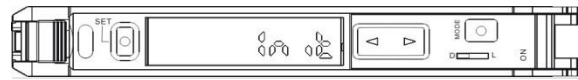
Use keyboard lock function to stop all key functions

 At the same time hold down and key for more than 3 seconds, screen display Loc, all keys are locked. At the same time hold down and key for more than 3 seconds, screen display Unl key lock function release.



Initialization settings:

 In display mode 86 Press the SET button for at least 3 seconds while pressing the button in 1999. The screen displays: Init



Product Guarantee

When ordering our products with reference to the sample of products, when the quotation form, contract, specification and so on do not mention the special description items, the following guarantee content, exemption items, suitable conditions for use, etc. shall apply.

Please be sure to place an order after confirming the following.

- 1. shelf life

The shelf life is one year from the date the product is sent to the buyer's designated place.

2. coverage

In the event of failure of the purchased goods due to our liability within the above warranty period, the Company shall be responsible for the free repair of the products.

Failure, however, does not fall within the scope of the guaranteed object when it is caused by:

1) Failure caused by use other than the conditions stated in the Company's product specification

2) Failure not attributable to the Company

Failure 3) modification and repair not carried out by the Company

4) carried out the use of

5) an unforeseen scientific level may cause problems after shipment

6) other failures caused by natural disasters, disasters and other non-responsible factors

At the same time, the above guarantee only refers to the company's products themselves, the damage caused by the company's product failure is excluded from the guarantee object.

3. liability limits

1) special losses, indirect losses, and other related losses (equipment damage, loss of opportunity, loss of profits) caused by our products, the Company shall not bear any liability.

2) the use of programmable equipment, due to non-company personnel programming, or the consequences arising therefrom, the company does not assume any responsibility.

4. suitability, conditions

1) our products are designed and manufactured for general products in the general industry, our products shall not be used for the following applications and are not suitable for their use. If you need to use it on the following occasions, please discuss with the sales staff of our company, confirm the product specifications, and select the products with

certain scope of rated performance, and consider all kinds of safety countermeasures, even if failure occurs. Can also minimize the risk of safety circuits and so on.

a. facilities that have a serious impact on life and property, such as atomic energy control equipment, incineration equipment, railway · aviation · vehicle equipment, medical equipment, recreational equipment, safety devices, and equipment that must comply with the special regulations of administrative organs and individual industries.

b. utilities such as gas, tap water, power supply system, 24-hour continuous operation system and other requirements for high reliability equipment.

c. systems, equipment, devices that may endanger personal property.

outdoor use d. similar or similar conditions.

2) when users use our products in situations closely related to personal and property safety, they should make clear the overall danger of the system, and adopt special redundant design to ensure safety. At the same time, according to the company's products in the system applicable purposes, to achieve supporting distribution settings.

3) be sure to comply with all usage precautions and prohibitions to avoid incorrect use and damage caused by third parties.

5. Service Scope

The company's product price does not include technical personnel dispatch fees and other service costs, if there is such demand, can contact consultation.