



PTW-500 Color Code Sensor



Specification

Model	PTW-500N	PTW-500P
	NPN output	PNP output
Type	1 output port, cable type	
Control Output	1 output port, includes short circuit protection and anti interference function	
Light Source	white LED, adjustable spot, minimum spot size: 3.6MM	
Response time	AUTO, C and CI mode 200us, MARK mode 160us	
Output option	LIGHT-ON/DARK-ON	
Indicator	Operation indicator: Red LED LED display	
Detection Way:	AUTO, C and CI mode and MARK mode sensing distance : 30MM—500MM	
Timer	OFF delay/ON delay/one shot/ ON delay one shot, optional. Timer range (ms): 1ms~9999ms	
Control Output	NPN/PNP open collector 24V, 100mA or less (only main components) Current consumption 40mA or less remaining voltage: 2V	
Power Supply	12~24VDC±10%, ripple (P-P) 10% or less, Class 2	
Ambient Light	Incandescent 20,000lux or less Sunlight 30,000lux or less	
Power Consumption	Voltage: 24V or less, Current 60mA or less	Voltage: 24V or less, Current 60mA or less
Vibration Resistance	10 to 55Hz, double amplitude: 1.5mm, 2 hours in each of X, Y and z direction	
Ambient temperature	-10 to +55°C, no freezing	

Attention:

To ensure safety, please follow the below regulations when using sensor:

- 1、 This product only use for detecting object. Never use it as a sensing device for personnel protection.
- 2、 This product can't be used as an explosion-proof product. Please don't use this product in hazardous place or the place with potentially explosive gases.
- 3、 This product input DC power, Prohibit use AC power. Otherwise, it will cause product explosion and be on fire
- 4、 Please don't wire the amplifier along with the power or high-voltage lines, otherwise the sensor be damaged.
- 5、 When using commercial switch voltage regulator, please ensure frame ground terminal and ground terminal ground connection.
- 6、 Please don't use this item outdoor or in the location where external light can enter the receiving surface.

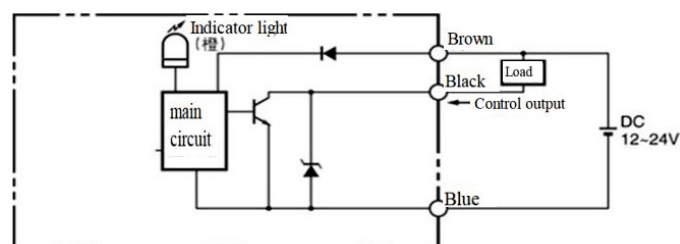
Setting

Under display menu

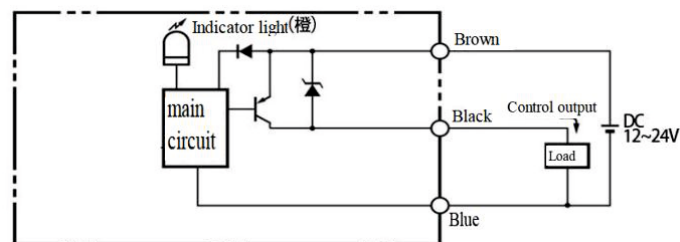
In MARK mode, two-point calibration: In MARK mode, STB C I

Circuit and Wiring Diagram

PTW-500N NPN



PTW-500P PNP



The STB in the indicator light will light up, C I indicator light off, means it in the MARK color code state.

Step 1. Align the spot with the color code of workpiece and press SET key, the screen will display SET1 and flash.

Step 2, move the spot to the background and press the SET button.

Then the sensor will automatically select the appropriate receiving channel (R, G, or B channel), while remembering the threshold value

The display screen will alternately display the threshold and the received channel. If R is displayed, it indicates that the red channel is selected, if G is displayed, the green channel is selected, and B indicates that the blue channel is selected.

In C and CI color modes: Two point calibration:

The display screen displays the word SET1. Then align the spot with the background and press the SET button again. The sensor will determine the threshold and display it. The default threshold is 900

When CI is selected as the working mode, all three indicator lights of STB C I will light up. If the working mode is selected as C Mode, only STB C will light up, and I will not light up.

In AUTO color mode: Two point calibration:

Align the spot directly with the color code of object, and press the SET key. The display screen displays the word SET1

Then align the spot with the background and press the SET key again. The sensor will determine the threshold and display it.

The default threshold is 800. When performing self-learning in AUTO, the sensor will automatically select either C mode or CI mode. When the color difference between the object and the background is significant, the sensor will choose C mode. When the object is in contact with the background. When the color difference is not significant, the sensor will choose C I mode.

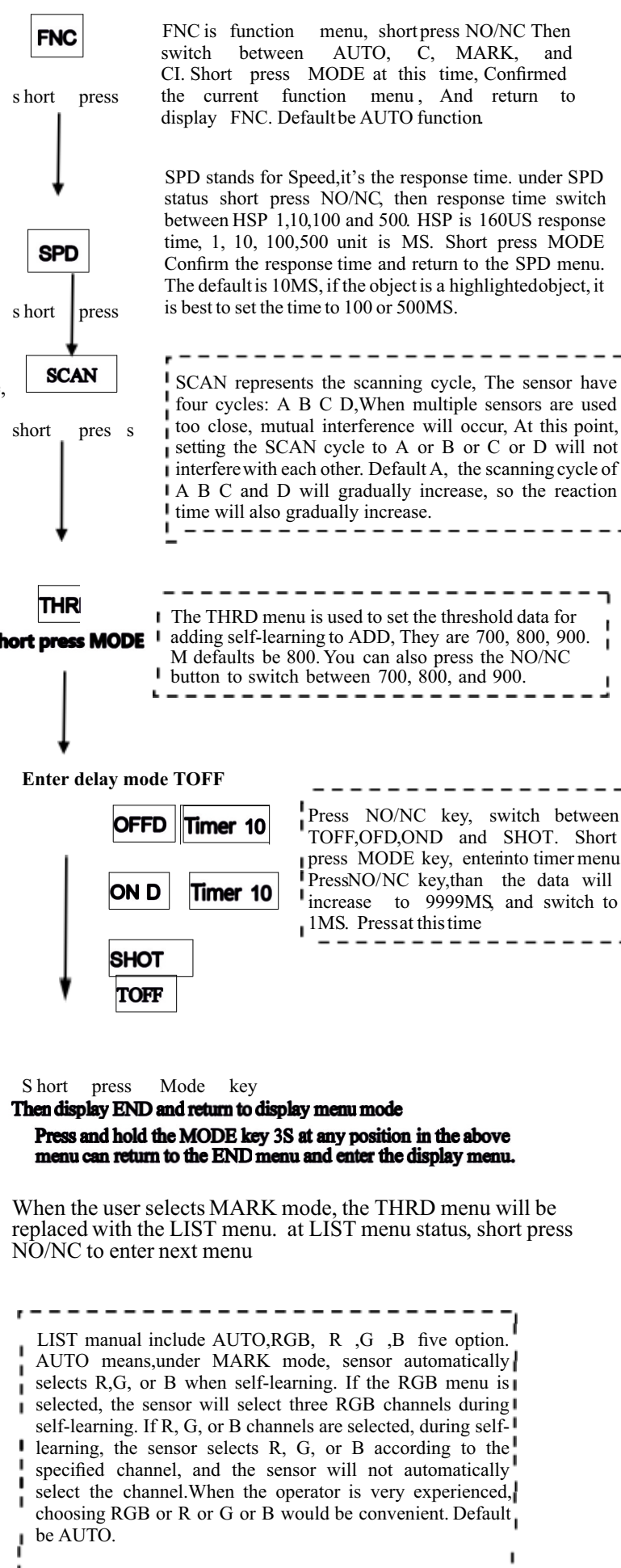
When CI is selected as the working mode, all three indicator lights of STB C I will light up. If the working mode is selected as C mode, only STB C will light up and I will not light up.

Add self-learning during self-learning (ADD function):

In AUTO C CI mode, After pressing the SET key, the display screen shows SET1. Then press and hold the SET key again, the display screen will alternately display SET and ADD. Under the ADD function, select CI, the default threshold is 700, 800, or 900. This data is selected in the menu THRD. The ADD self-learning function is suitable for highly reflective and bright objects in lithium batteries or photovoltaics, It has a very good effect.

Select L.ON or D.ON; press NO/NC and hold on 3s, will appear L.ON or D.on. At this time, short pressing the NO/NC or MODE key will switch. Move the object at this time, and the sensor will automatically learn all the color of the object.

Adjust threshold function: short press MODE key or NO/NC keys, threshold value will flash and display, press MODE key at this time, The threshold value will decrease, and pressing NO/NC will increase the threshold value.



Keyboard lock function:

Use keyboard lock function can stop all functions of key.

Press and hold MODE, NO/NC more than 3s, screen display LOC, all keys be locked at this moment. Press and hold MODE, More than 3S, screen showULOC.

Initial setting:

In display mode status, press MODE and SET 3S, screen display: init, Indicates restoring to factory default mode

Dimensions

