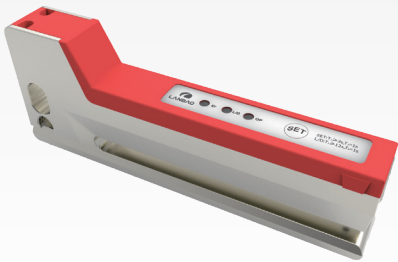


Photoelectric Label Sensor LAP Series

Operation manual



www.lanbaosensor.com

Precautions

- Please make sure that the power supply voltage is within the rated voltage range before powering on
- The sensor can be detected normally after 100ms of power charged on
- When using different power sources for the sensor and load, be sure to turn on the power of the sensor first
- When the sensor is not used, it is recommended to cut off the power of the load first and then turn off the power of the sensor
- Do not subject the sensor to severe external forces (such as hammer hits,etc.) during installation, so as not to damage the sensor performance
- Avoid using thinner, alcohol or other organic solvents when cleaning

Safety Warning

- Do not use in an environment with flammable, explosive or corrosive gases
- Do not use in oil or chemical environments
- Do not use in a high humidity environment
- Do not use in direct sunlight
- Do not use in other environmental conditions that exceed the rated value
- Do not disassemble, repair or modify this product without authorization

Scrap Treatment

- When the product is scrapped, please dispose of it as industrial waste

LAP-Ver.2.0 Z0218

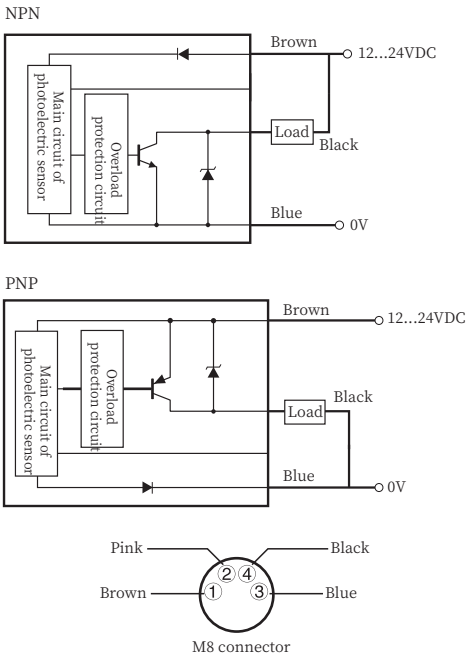
This specification doesn't relate to patent responsibility.Moreover, our company is always devoting to improving product quality, and reserves the right to improve products by changing pattern or size without prior notice.We have considered all the notes when compiling this specification, but for the wrong or clipped parts, and any loss caused by using this manual information, we bear no responsibility.

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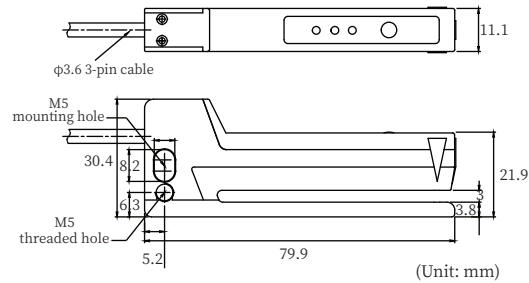
■ Technical specifications

Model	NPN	LAP-TR03TNB	LAP-TR03TNB-F3
	PNP	LAP-TR03TPB	LAP-TR03TPB-F3
Slot width	3mm		
Slot depth	60mm		
Label minimum spacing	≥2mm		
Light source	Infrared light (940nm)		
Response frequency	Max 10kHz		
Label passing speed	≤20m/min (0.3m/s)		
Response time	≤50μs		
Delay after startup	≤300ms		
Supply voltage high/low	12...24VDC (Ripple≤15%)		
Current consumption	≤30mA		
Warning output	Red indicator light on		
Switch output function	Light on/ dark on (Switchable)		
Voltage drop	≤2.5V		
Output current	≤50mA		
Indicator	Red light: Calibration error / operation error; Green light: NO NC; Blue light: detect label switch output signal		
Operation temperature	-20...60°C(No icing, no condensation)		
Storage temperature	-30...70°C		
Protection degree	IP65		
VDE safety level	III		
Weight	Approximately 55g (100g with wire)		
Material	Zinc die casting; surface electroless nickel plating (Silver); PC plastic		
Connection	2m 3 pins cable	25cm cable+ M8 connector	

■ Wiring diagram



■ Dimensions



■ Calibration Settings

- 1.NO mode (Green light on)**
Move one or more labels from the substrate and push the blank area towards the sensor.
 - When the blank area enters into the detection center, the blue output indicator lights up.
 - When the label enters into the detection center, the blue output indicator is off.
 - If set correctly, the LED lights up normally between the label and the gap. Operation is complete.
- 2.NC mode (Green light off)**
Move one or more labels from the substrate and push the blank area towards the sensor.
 - When the blank area enters into the detection center, the blue output indicator lights off.
 - When the label enters into the detection center, the blue output indicator is on.
 - If set correctly, the LED lights up normally between the label and the gap. Operation is complete.
- 3.Adjust the output method of the switch output signal**
(Output a switch signal at the label gap/ Output a switch signal at the label)
In the operation process, the sensor is usually used this standard function.This product can accurately detect the label and its gap at high speed. Mainly observe the blue output indicator and switch output.

Indicator (Take NO as an example):

Error Indicator Red light	If there is no operation error, the red light does not turn on.If the set upper limit is reached or the last calibration is improperly calibrated, the red light turns on.
NO NC Indicator Green light	When the sensor is in operation, the green light is always on.
Output Indicator Blue light	Display switch output signal. If a label gap is detected, the LED turns on.

- 4.Calibration teaching**
The label sensor has the sensitivity to correctly detect various labels at high speed.

- 4.1 Dynamic calibration preparation**
 - Insert the label conveyor into the sensor.
- 4.2 Static calibration preparation**
 - Move the label out of the sensor substrate and push the blank area into the sensor.
 - Press and hold the calibration button for 3 seconds until both the green and blue lights flash simultaneously.
 - Release the calibration button.

- 4.3 Dynamic indication**
 - Push a label conveyor with a maximum speed of 20m/min and pass through the sensor, with at least 3 to 7 labels passing through the sensor.
 - Press the calibration button briefly to end the calibration operation, and the sensor enters standard mode.

- 4.4 Static teaching**
 - Blank area is maintained in the detection area of the sensor.
 - Press the calibration button briefly to end the calibration operation, and the sensor enters standard mode.
 - If the calibration operation is wrong (e.g., the detected label is transparent or uneven), the red light will turn on, the green light and the blue light will flash quickly, and the error output signal will also be generated.
 - When an error occurs, the operation must be re-calibrated . After re-calibration, if the error cannot be corrected, then this type of labels does not apply to the product.

Operation process:
The calibration button must be pressed for at least 3 seconds to operate the product.

