

Operation Instructions

Make your choice...

M-220LE Vertical Safety Laser Sensor



1 Safety instruction

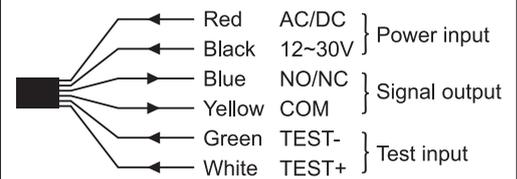


Thanks so much for your purchasing, please read this instruction before using

2 Product Overview & Wiring Diagram



- | | |
|---|--|
| ① Mounting bracket fitting(use with ②) | ⑥ Scanning range close to ground switch |
| ② Rotating bracket (for exposed installation) | ⑦ Scanning range away from ground switch |
| ③ LED Indicator | ⑧ Filter front cover |
| ④ Transmitting cabin | ⑨ Fixing screw(use with ⑩) |
| ⑤ Receiving cabin | ⑩ Decorative cover(for concealed installation) |



Wiring Diagram

3 Product Debugging



Each adjusted the position of laser beam, **please recover the filter cover, power-off then re-power on**, self-learning with 8 seconds. When you hear a quick beep and a blue light flash, it means that it's in the learning background. When you hear a long beep, the learning is complete, the blue light is always on, and the system can work normally. Generally, no special adjustment is required. The factory default scanning range is about 35cm from the ground. If adjustment is required, the steps are as follows:

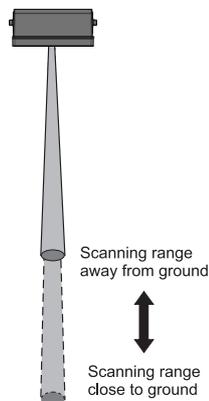
[1] Adjust the scanning range by button

Scanning range away from ground



Scanning range close to ground

The scanning range total 7 levels, push button once, one beep voice, scanning range increase or decrease about 5cm, if you hear two beep voice, it's mean the scanning range is to the limit.



[2] Working mode

Push and hold the button for 5s, with a long beep voice, entering the normal state.

Push and hold the button for 5s, with a long beep voice, entering the stable state.

Normal Mode

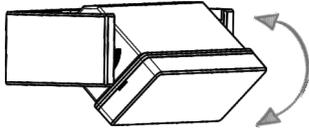
Stable Mode



The stable mode is recommended when there are unstable environmental factors such as floating blades, complex ground, and rainy days. The factory default is normal mode.

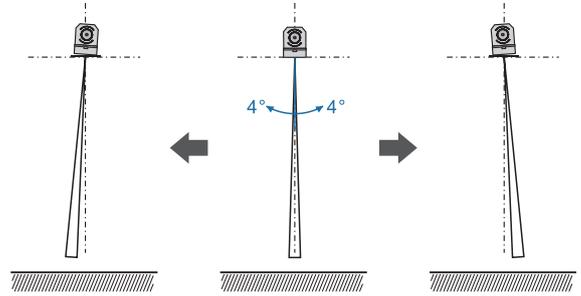
[3] Install tilt Angle Settings

In order to more accurately adjust the side detection range of the sensor, this device with front and rear scanning ranges fine-tuning settings.



◀ Flexible rotating angle by exposed installation

Front and rear 4° range adjustable by concealed installation ▶



[4]  TEST signal input high/low switch		[5]  Output signal NO/NC switch	
STEP 1	 Push and hold " Scanning range close to ground switch" for 5 seconds	STEP 1	 Push and hold " Scanning range away from ground switch" for 5 seconds
STEP 2	 You will hear one long beep, and don't release the switch	STEP 2	 You will hear one long beep, and don't release the switch
STEP 3	 Continue to push and hold it for 5s	STEP 3	 Continue to push and hold it for 5s
STEP 4	 You will hear one long beep again	STEP 4	 You will hear one long beep again
STEP 5	 Release it	STEP 5	 Release it
↓	↓	↓	↓
 Heard one long beep	 Heard continuous short beep	 Heard one long beep	 Heard continuous short beep
↓	↓	↓	↓
Test signal is switched to high input active (Factory default high input active)	Test signal is switched to low input active	Output signal is switched to NC signal (Factory default NC signal)	Output signal is switched to NO signal



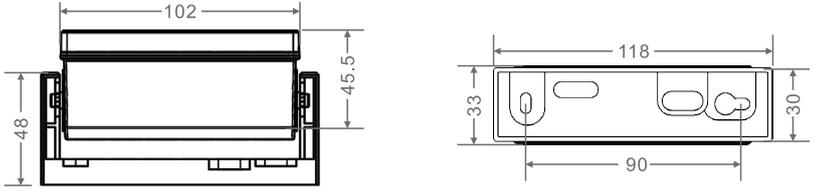
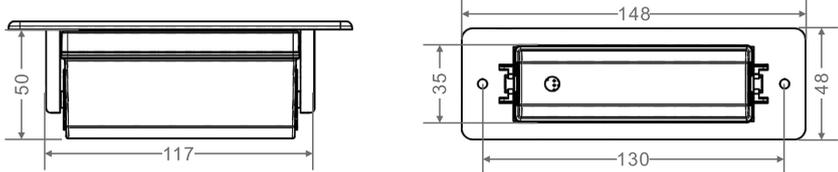
NOTE: When the test signal function is not used, it must be set in the high input active state, otherwise the sensor will not work normally.

[6]	 	Restore factory settings
STEP 1		Press and hold the two scanning range keys for 3 seconds at the same time
STEP 2		You will hear the continuous short beep, then release it
STEP 3		The system restore factory settings successfully.
Restore data includes: 1, Scanning range return to the 4th level; 2, Working mode returns to normal mode; 3, Test signal output is high output active; 4, Output signal is NC signal.		

4 Troubleshooting

Symbol	Reason	Methods
Sensor indicator light don't work, no beep voice	Power supply isn't connect	Check the power supply and wiring
When door open, red light flashes, door run unstable	Scanning range is too close to ground	Adjust the scanning range height
Sensor indicator light is normal, door is always open	Signal cable NO NC connection error	Reconnect the signal cable correctly
Sensor red indicator is always on, door is always open	Background learning don't complete	Power off then power on and learn background

5 Sensor Dimension

Exposed Installation		(mm)
		(mm)

6 Technical parameters

Detection principle: Time-of-Flight technology(TOF)	Working temperature: -20°C~60°C
Light medium: 890nm infrared laser	Working voltage: AC/DC 12-30V
Laser category: Class I eye-safe laser	Standby current: 50mA(12V power)
Detection diameter: 100mm light spots(2.8meters height)	Action current: 90mA(12V power)
Detection response time: normal mode 20ms, stable mode 100ms	Signal output: Relay NO or NC
Detection range: away from the ground large than 20CM	Trigger mode: Moving or stationary
Detection angle: $\pm 4^\circ$ adjustable when exposed installation	Function instruction: LED indicator, standby: BLUE, detection: RED
Installation height(max): 5m(fixed position), 3.5m(moving door leaf)	Shell material: ABS, PC

7 Packing List

No.	Parts	PCS	Remark
1	Sensor	1	
2	Instructions	1	
3	Bracket with expose installation	1	
4	Bracket with concealed installation	1	
5	Screws bag	1	Rubber plug*2, screws*4, Mounting bracket fitting*2