

TRAIN DOOR SENSOR

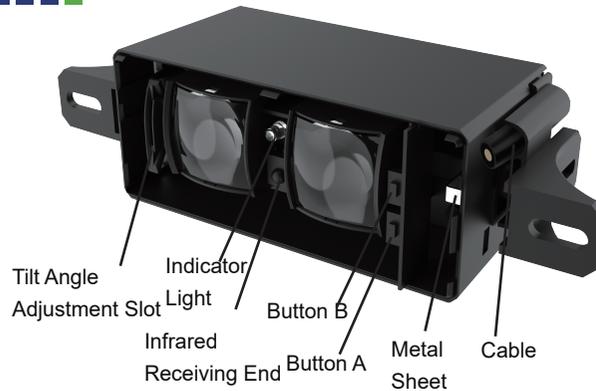
USER MANUAL

Please read this manual carefully before installation and use. Follow the instructions in this guide precisely, otherwise the sensor may not work properly. Keep this manual for future reference.

Description and Wiring

Gray – Normally Closed (NC)
 Yellow – Normally Open (NO)
 White – Common (COM)
 Green – Power
 Brown – Power

After powering on, the sensor requires a few seconds of learning time. During this period, people must stand outside the detection area to ensure successful learning.

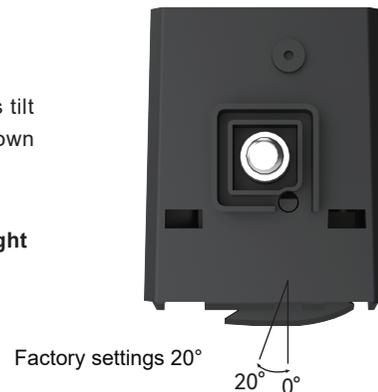


Tilt Angle Adjustment

Use the metal plate (as shown above) to adjust the lens tilt angle. Insert it into the tilt angle adjustment slot (as shown above). Angle adjustable from 0° to 20° (in steps of 4°).

Detection area at 2m installation height when all 15 light spots are active:

Angle = 0°, Detection area = 100cm (W) x 100cm (D)
 Angle = 20°, Detection area = 100cm (W) x 120cm (D)



Technical Specifications

Application Technology	Active infrared focusing technology with microprocessor
Optical Characteristics	15 independent light spots forming a square detection area
Maximum Installation Height	2.5m
Tilt Angle	0° to 20° (5° per step)
Detection Area	1m (width) x 1.2m (depth)
(at 2m installation height, 20° angle) Typical Light Spot Size	130mm (diameter)
Detection Mode	Motion and Presence
Response Time	< 100ms
Power Supply Voltage	12V to 30VAC ±10%; 12V to 45VDC ±10%
Power Supply Frequency	50 to 60 Hz
Power Consumption	< 3W (VA)
Output Relay (Dry Contact)	- Maximum Contact Voltage: 42VAC-60VDC - Maximum Contact Current: 1A (resistive) - Maximum Switching Power: 30W/62.5VA
Monitoring Input (Optocoupler, Dry Contact)	- Input Voltage: 10V-24VDC- Input Current: < 10mA (at 24V)
Hold Time	0.5s to 9s (adjustable)
Indicator Lights	Red and Green
Connector	7-pin plug, non-detachable
Installation Method	Surface or Recessed
Storage Temperature	-40 C ~ 70 C
Operating Temperature	-25 C ~ 60 C
Protection Class	IP41
Dimensions	138mm (L) x 37.5mm (W) x 52.5mm (D)
Weight	Approximately 0.1kg
Material	PC Plastic
Housing Color	Smoke Black
Cable Length	2.5m
Manual Adjustment	- Sensitivity (button-adjustable)- Detection Area (button-adjustable) - Tilt Angle (mechanical adjustment)
Remote Control Adjustment	- Sensitivity: 4 levels- Hold Time: 0.5s to 9s, 10 levels adjustable - Detection Area Shape: Selectable via preset programs (9 levels) - Presence Time: 20s to 25min, 10 levels adjustable - Security: 4-digit password

Parameter Setting via Buttons

Without a remote control, two parameters can be set using buttons: "Sensitivity" (1 to 4 levels) and "Detection Area" (1 to 9 levels). Buttons and the metal sheet are shown in the figure above.

Setting Sensitivity

1. Press Button A once to enter sensitivity setting. The red light flashes, and the number of flashes indicates the current sensitivity level.
2. Press Button A again to increase the sensitivity level. The red light flashes to show the new level. When reaching level 4, pressing again cycles back to level 1.
3. Once the desired level is reached, press Button B to exit the setting.

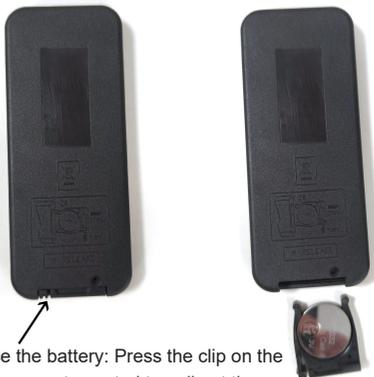
Setting Detection Area

1. Press Button B once to enter detection area setting. The green light flashes, and the number of flashes indicates the current detection area level.
 2. Press Button B again to increase the detection area level. The green light flashes to show the new level. When reaching level 9, pressing again cycles back to level 1.
 3. Once the desired level is reached, press Button A to exit the setting.
- If no buttons are pressed within 1 minute, the setting will end automatically.

Parameter Setting via Remote Control

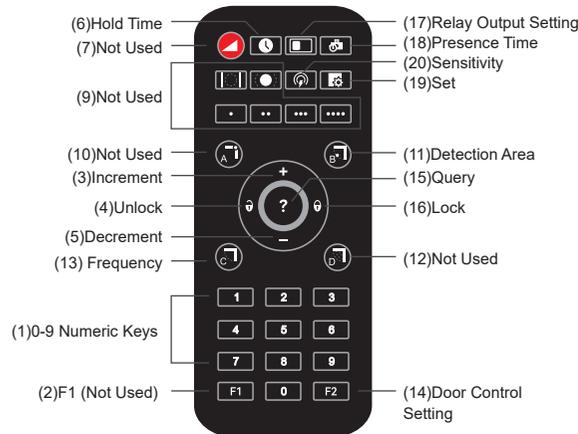
1. Install Remote Control Battery

- Remove the battery compartment.
- Insert a CR2032 button battery, ensuring correct polarity.
- Reinsert the battery compartment.



To replace the battery: Press the clip on the back of the remote control to pull out the compartment and insert a new battery.

2. Remote Control Buttons



Note: Operate within 2 meters, pointing the remote control vertically at the sensor's infrared receiver.

3. Setting Sensor Parameters

Each parameter setting starts with the Unlock key and ends with pressing the Lock key twice.

PARAMETER	OPERATION	INDICATOR DISPLAY
Unlock	With Password: Press Unlock key (4), enter a 4-digit password using numeric keys 0-9, then press Unlock key (4) again. - Without Password: <ul style="list-style-type: none"> • First-time power-on of the sensor; • If the password is "0000" (factory default); • Within the first minute after the sensor is powered on again. 	- Red light flashes rapidly, waiting for password input.- When the password is correct or no password is required, the red light flashes slowly, indicating successful unlocking and readiness for parameter setting.
Lock	- After parameter setting, press Lock key (16).- To set a new password: Enter a 4-digit password using numeric keys 0-9 within 1 minute, then press Lock key (16) again. - To keep the existing password: Press Lock key (16) twice. - If no buttons are pressed within 1 minute, the sensor locks automatically.	The indicator light turns off, and the sensor enters normal operation.

Note: All parameters below can only be set after unlocking. The red light will flash slowly.

The following methods can be used to query or change the corresponding parameters:

PARAMETER	OPERATION
Query	Press the key corresponding to the parameter to check, then press Query key (15). The number of indicator flashes equals the parameter value; no flashes indicate a value of 0. Repeat to query other parameters. Example: Press Anti-interference (20) then Query (15); 3 flashes mean level 3 anti-interference.
Increment/Decrement	Press the key of the parameter to modify (e.g., Anti-interference or Hold Time), then press Increment (+) or Decrement (-) key. Each press changes the value by 1.

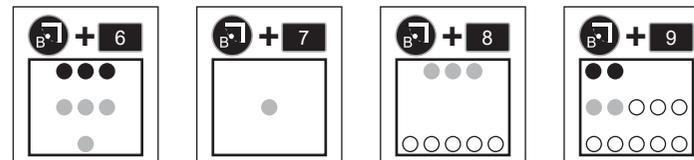
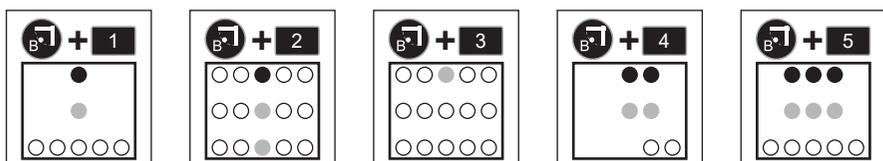
Indicator display instructions: When the indicator light flashes rapidly, the sensor is waiting for parameter input. Once the parameters have been input, the indicator light will continue to flash slowly.

PARAMETER	OPERATION	DEFINITION AND RECOMMENDATIONS
Sensitivity	Press Sensitivity key (20), then press numeric keys 1-4 to select the level (for motion and safety).	
Hold Time	Press Hold Time key (6), then press numeric keys 0-9 to set the hold time (0.5s to 9s).	Hold time is the duration of output after detection ends. It is recommended to set it here rather than on the door controller to avoid conflicts.
Detection Area	Press Detection Area key (11), then press numeric keys 1-9 to select the desired area (see next page).	The detection area consists of 3 rows of 5 light spots (15 total). Each spot can be individually turned on/off and set to detect motion (gray spot) or presence (black spot). Preset 9 detection areas are available.

PARAMETER	OPERATION	DEFINITION AND RECOMMENDATIONS									
Frequency 	Press Frequency key (13), then press numeric keys 1-3 to select the frequency: 1=Low, 2=Medium, 3=High.	Different frequencies prevent mutual interference when two sensors have overlapping detection areas.									
Relay Output Setting 	Press Relay Output Setting key (17), then press numeric keys 1-2 to select the mode: 1=Active Mode (relay energizes on detection, de-energizes when no detection), 2=Passive Mode (relay de-energizes on detection, energizes when no detection).	<table border="1"> <tr> <td></td> <td>Active </td> <td>Passive </td> </tr> <tr> <td>Detection present</td> <td>COM(3) — NO(4) NO(5)</td> <td>COM(3) — NO(4) NO(5)</td> </tr> <tr> <td>No detection present</td> <td>COM(3) — NO(4) NO(5)</td> <td>COM(3) — NO(4) NO(5)</td> </tr> </table>		Active 	Passive 	Detection present	COM(3) — NO(4) NO(5)	COM(3) — NO(4) NO(5)	No detection present	COM(3) — NO(4) NO(5)	COM(3) — NO(4) NO(5)
			Active 	Passive 							
Detection present	COM(3) — NO(4) NO(5)	COM(3) — NO(4) NO(5)									
No detection present	COM(3) — NO(4) NO(5)	COM(3) — NO(4) NO(5)									
Door Control Setting 	Press Door Control key (14), then press numeric keys 1-3 to select the mode: 1=Auto Operation, 2=Door Always Open, 3=Door Always Closed.	- In Door Always Open mode, the detector continuously outputs a detection signal, and the red light stays on.- In Door Always Closed mode, the sensor is in standby (no detection), and the red light stays off.									
Presence Time 	Press Presence Time key (18), then press numeric keys 0-9 to set the time: 0=20s, 1=1min, 2=2min, 3=3min, 4=5min, 5=7min, 6=10min, 7=15min, 8=20min, 9=25min.	Exceeding the presence time triggers the detector to re-learn the background and enter standby.									
Reset (Set 0) 	Press Set key (19), then press numeric key 0 to initiate a reset.	Re-learns the background once.									
Factory Reset (Set 9) 	Press Set key (19), then press numeric key 9 to restore all parameters to factory defaults.	Factory Default Values									
		Parameter	Range	Factory Default							
		Sensitivity	1 – 4	3							
		Hold Time	0 – 9	0							
		Detection Area	1 – 9	1							
		Frequency	1 – 3	2							
Relay Output Setting	1 – 2	1									
Door Control	1 – 3	1									
Presence Time	0 – 9	0									

Detection Area

The detection area is composed of 15 light spots (3 rows × 5 columns). Each spot can be independently turned on/off and set to detect motion (gray spot) or presence (black spot). The sensor has 9 preset detection areas that can be selected via remote control or button operation.



Troubleshooting

SYMPTOM	POSSIBLE REASONS	CORRECTION METHODS
Sensor has no power	Power supply failure	Check and ensure the power supply is normal.
Door opens and closes continuously	Sensor interference from door movement: 1. Detection area is too close to the door hinge. 2. Affected by door vibration.	1. Increase the tilt angle. 2. Ensure the sensor is securely installed.
Mutual interference between two closely installed sensors	Overlapping detection areas	Select different frequencies (e.g., one set to low frequency, the other to medium).
Remote control does not work	1. Incorrect battery polarity or low battery. 2. Remote control is misaligned. 3. The sensor is in setting mode.	1. Check the polarity or replace the battery. 2. Point it vertically at the sensor. 3. Power off and restart, stand outside the detection area, and wait for the setting to complete (approximately a few seconds).
Sensor does not unlock after password input	Incorrect password	Power off and restart. Unlock without a password within 1 minute of power-on, then press Unlock and Lock keys to reset the password.
Red light flashes rapidly (~2 times/second)	Internal self-test failure, sensor enters safe mode	Replace the sensor.