4.3.5.1 Intelligent control board

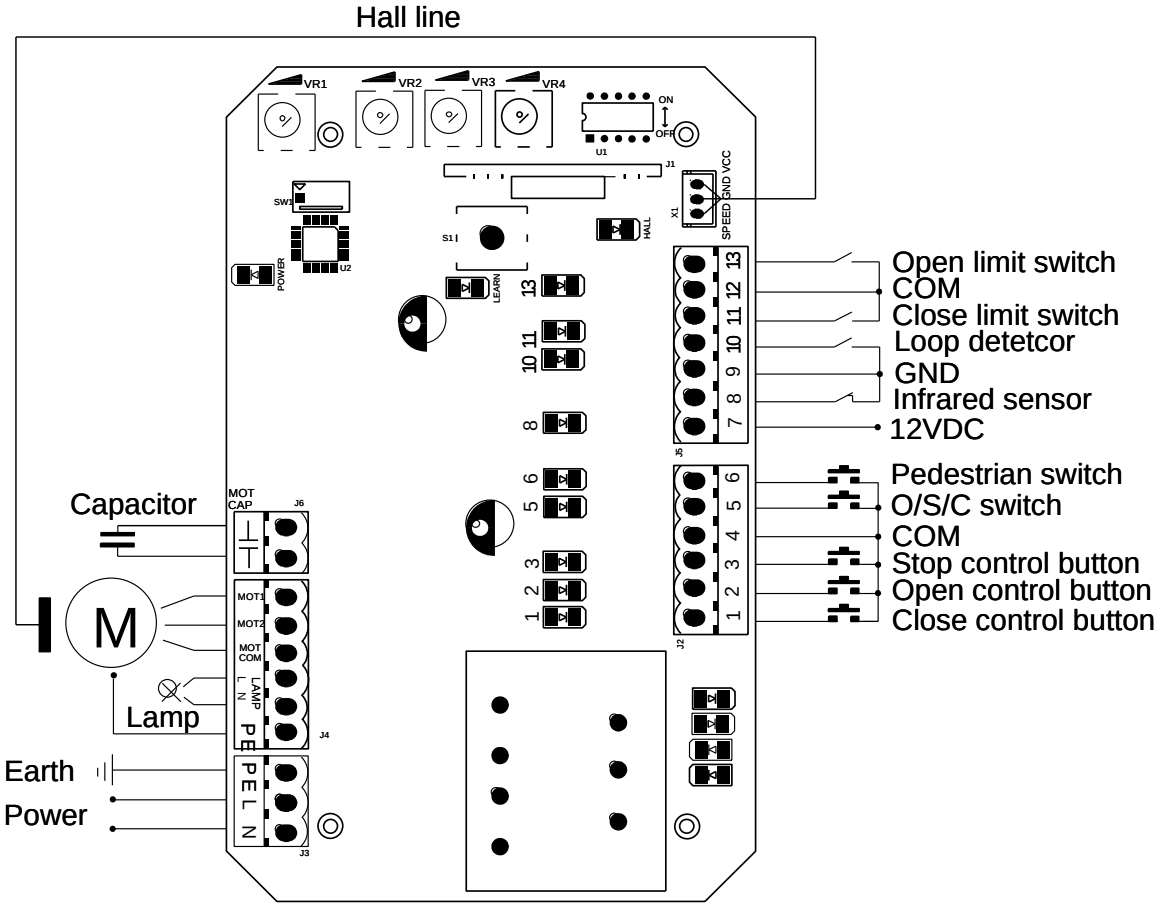


Figure 15

Wiring instruction:

1. Connect L and N to the power supply of AC220V/50HZ; AC110V/60HZ; L is live wire, N is Neutral wire, and PE is grounding wire.

2. Connect LAMP to caution light; voltage: AC220V/50HZ; AC110V/60HZ.

3. Connect the motor wire MOT2 to the REV motor wire, connect MOT1 to the FWD motor wire, and connect MOTCOM to the motor common wire.

4. Connect MOTCAP to the capacitor wire.

J2 Terminal (For the convenience of wiring, this terminal is accompanied with failure diagnosis light)

1. Gate close control button (N.O.)
2. Gate open control button (N.O.)
3. Stop control button (N.O.)
4. Control button common terminal
5. Open/Stop/Close/Stop loop control button (N.O.)
6. Pedestrian mode control button (N.O.)

Press the button while the door is closed, it will open for 1 meter which is for pedestrian only.

J5 Terminal (For the convenience of wiring, this terminal is accompanied with failure diagnosis

light)

7. Power supply for fittings: +12VDC（Electric current ≤100mA）
8. Photocell input (N.C.); short out the device with terminal 9(GND) if not used.
9. GND
10. Loop detector (sensor coil) connector (N.O.)
    In the closing process, once vehicles are detected by the loop detector, the gate will open immediately; when the vehicle passes, the gate will close automatically. When the gate is in a halted state, it will keep this state when vehicles are detected; after the vehicle passes, the gate will close automatically.
    In the above loop detector function, users can make the gate close automatically 12 seconds later after the vehicle passes. Change the No.4 key of the dip switch on circuit board, and the gate will close automatically 12 seconds later after the vehicle passes.
11. Close limit switch
12. Limit switch and other input signal common terminal
13. Open limit switch

Function adjustment

Functional parameters of the control board equipped with microprocessor can be adjusted through potentiometer and dip switch, so as to meet different installation requirements.

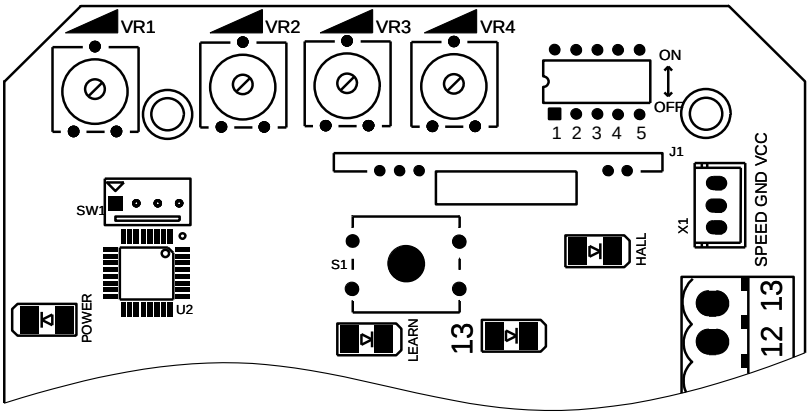


Figure 16

Adjusting knob

VR1: When meet obstacle reverse function is enabled (DIP switch 5 on OFF position and the motor assembled with the hall line)**,** this knob is used for sensitivity adjustment of meeting obstacle.

Clockwise rotation to reduce sensitivity of obstacle, counter-clockwise rotation to increase sensitivity of obstacle.

When meet obstacle reverse function is disabled (DIP switch 5 on ON position), this knob is used for motor working total time adjustment. Clockwise rotation to increase, counter-clockwise rotation to reduce. The total time can be set to 10 seconds as minimum and 90 seconds as maximum.

VR2: For brake force adjustment in limit position.

Clockwise rotation to increase, counter-clockwise rotation to reduce.

Rotate to the minimum to cancel brake function in place.

VR3: For slow stop width adjustment.

Clockwise rotation to increase, counter-clockwise rotation to reduce.

Rotate to the minimum to cancel the slow stop function.
VR4: For motor output force adjustment to ensure safety.
Clockwise rotation to increase, counter-clockwise rotation to reduce.
Note: The default setting is VR1, VR2, VR3, VR4 are the maximum value, and the user can adjust according to the actual requirement.
Warning: The motor output force cannot set too large, just to be able to drive the gate.

Dip switch

1. Soft start function. OFF - enabled; ON - disabled.
2. Limit switch setting. OFF- normal open (N.O.); ON - normal close (N.C.).
3. Automatic close time.
4. Automatic close time.

Setting for automatic close time:
3 OFF 4 ON: automatic close time is 12s,
3 ON 4 OFF: automatic close time is 24s,
3 ON 4 ON: automatic close time is 36s,
3 OFF 4 OFF: no automatic close function.

5. Meet obstacle reversal function. OFF - enabled; ON - disabled.

Infrared connection

Infrared photocell function: In the closing process, when infrared ray of the photocell is covered by people or objects during its detection range, the gate will open immediately for security protection. The distance between photocell receiver and photocell emitter should be more than 2 meters, otherwise will affect the induction of the photocell.

If connect the infrared sensor, please remove the short connection between 8 and 9 on the J5 terminal.

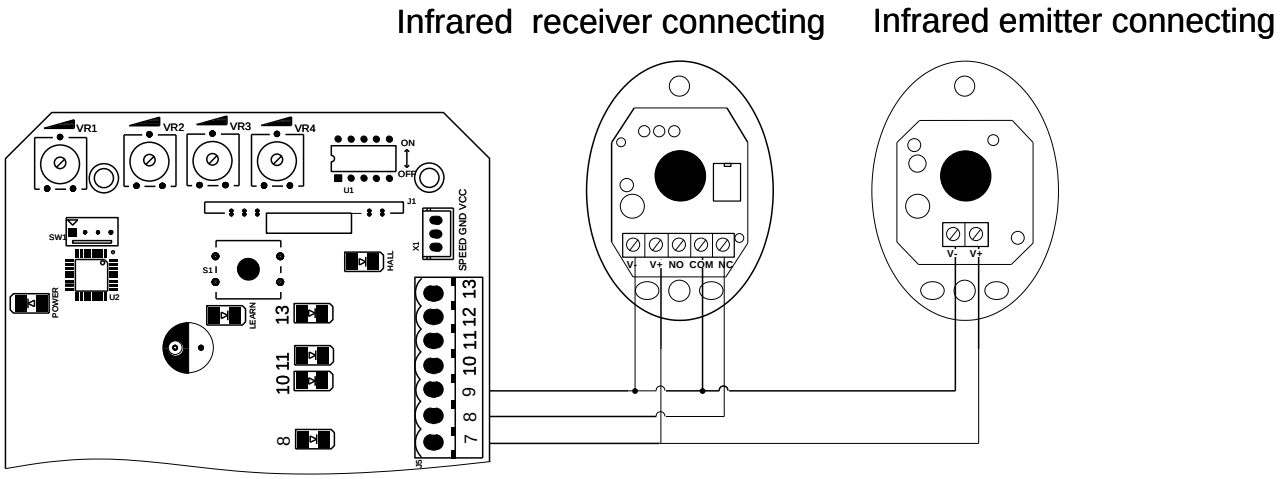


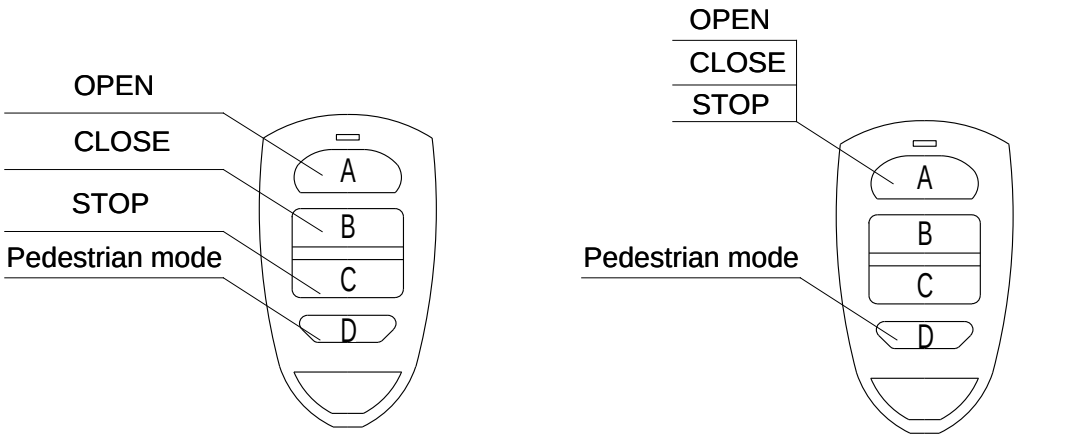
Figure 17

Adjustment and operation

Remote control operation

Three button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by three buttons separately on the remote control.

Single button mode remote control: OPEN/CLOSE/STOP of main engine are controlled by one button circularly on the remote control.



Three button mode remote control

Single button remote control

Figure 18

Add extra remote control (remote control learning): Remove the main engine housing, then take out the upper cover of the control box, press and hold the learning button S1 for 2 seconds, then the indicator light LEARN will be on; press the button that to be learned on the remote control twice, the LEARN will flash several times and be off; remote control learning complete. A maximum of 40 remote controls can be learned.

Delete remote control: To delete remote control that have been learned; press and hold the learning button S1, the indicator light LEARN will be on; Then release it until LEARN is off. After the steps, all the matched remote controls will be deleted.

The fourth button on the remote control is for pedestrian mode, press the button while the door is closed, it will open for 1 meter which is for pedestrian only.

Note: To disengage gate opener, move the gate to the middle position, then close the clutch and press the open button of external button switch to open the gate. ***If the gate opening direction is wrong, you can exchange the motor phase-sequence lines MOT2 and MOT1. If the opening or closing limit is wrong, please exchange limit switch lines which are connected to the corresponding terminal 11 and 13 on the control board.***

5. Others

5.1 Maintenance

Check whether the gate operates normally every month.

For the sake of safety, each gate is suggested to be equipped with infrared protector, and regular inspection is required.

Before installation and operation of the gate opener, please read all instructions carefully.

Our company reverses the right to change the instruction without prior notice.

5.2 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and LED does not light.	1.The power is off. 2.Fuse is burned. 3.Control board power wiring with problem.	1.Switch on the power supply. 2.Check the fuse (code FU), change the fuse if burnt. 3.Re wiring according to instructions.
The gate can open but cannot close.	1.Photocell wiring with problem. 2.Photocell mounting with problem. 3.Photocell is blocked by objects. 4.Sensitivity of obstacle is too high (Intelligent type). 5.Hall switch parts is damaged (Intelligent type).	1.If not connect photocell, please make sure that the infrared port and GND short circuit; if connect infrared sensor, please make sure the wiring is correct and the photocell is N.C. 2.Make sure that the photocell mounting position can be mutually aligned. 3.Remove the obstacle. 4.Reduce the sensitivity of obstacle. 5.Change hall switch parts.
Remote control doesn't work.	1.Battery level of the remote control is low. 2.Remote control learning is not completed.	1.Change the remote control battery. 2.Re-conduct remote control learning.
Press OPEN, CLOSE button, the gate is not moving, motor has noise.	1.Capacitor is broken. 2.Capacitor is poor connected. 3.Gate moving is not smoothly.	1.Change capacitor. 2.Check the capacitor wiring. 3.According to the actual situation to adjust the motor or the gate.
Not stop at the limit position when opening / closing.	1. The limit direction is wrong. 2. The mounting of magnetic limit switch with problem.	1.Check whether the limit switch wiring is consistent with the actual direction of operation. 2. Check whether the distance between magnetic limit switch and motor, and the height of the magnetic limit switch can reach up the mounting requirement.
Leakage switch tripped.	Power supply line short circuit or motor line short circuit.	Check wiring.

Remote control working distance is too short.	Signal is blocked.	Connect external receiver antenna, 1.5 meters above ground.
The gate moves to the middle position to stop or reverse.	1.Motor output force is not enough (Intelligent type). 2.Sensitivity of obstacle is too big (Intelligent type). 3.Gate meets obstacle.	1.Adjust the VR4. 2.Adjust the VR1. 3.Remove the obstacle.
Gate opens automatically	Automatic close function has been turned on but with incorrect opening direction.	Please refer to the attentions under 4.3.5.1 and 4.3.5.2 to change the opening direction.

Warranty

Warranty Ordinance

1. To repair against this warranty card and invoice during the warranty period.
2. Warranty period: 1 year after the date of invoice.
3. Without unauthorized dismantling, any product broken or damage due to quality problem, we'll offer the repair service for free or replace for free.
4. The malfunction and damaged caused by incorrect use or man fault is not covered by this warranty.

Maintenance Record

Check Date	Check Content	Maintained by