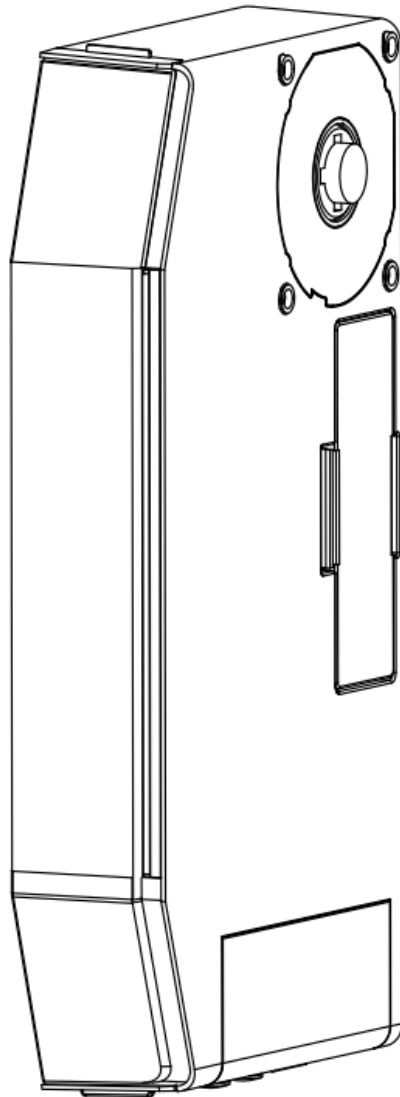# Multi Drive
Garage & Commercial Door Opener

Control System Instructions And User Guide

Table Of Contents

Table Of Contents

1.General Information

Product Overview

The Multi Drive is a versatile garage and commercial door opener control system designed for reliable and efficient operation.

Installation and Maintenance

This system requires professional installation and maintenance by qualified personnel. Refer to the user manual for detailed instructions.

Safety Precautions

Electric current is hazardous. Ensure all electrical work is performed by qualified personnel, and the power is disconnected before any maintenance or installation tasks.

2.Installation Instructions

Qualified Personnel

Only competent and professional individuals should install and operate the door opener.

The installer must be electronically qualified for this type of installation.

Original Components

Any modifications or replacements must be authorized by the manufacturer and use

original components or replacement parts.

Safety Precautions

Electric shock, burns, and death can result from contact with live components.

Ensure the power is disconnected during any electrical work and the system is protected

against accidental reconnection.

User Awareness

Inform the user/owner of the hazards associated with the door and electrical installation

upon delivery, and ensure this information is passed on to any other users.

Correct Rotation

The control box is programmed for clockwise (right-rotating) operation. Ensure the

operator is correctly installed to avoid damage.

3.User Instructions

Qualified Operation

Children and individuals with limited physical, sensory, or mental abilities should not

operate the control box or play near the powered door.

Maintenance and Safety

Regular maintenance is essential for safe operation. Inspect the system regularly and

address any defects promptly.

Authorized Use

Control components, including hand-held openers, should be stored safely out of reach

to prevent unauthorized access.

Environmental Considerations

Do not use the control box in environments prone to condensation.

4. Maintenance, Disassembly and Disposal

Maintenance

The operator and control box are maintenance-free. However, the following inspections are recommended during maintenance:

- Check the complete fitting of the operator and control box.
- Check the balance of the door and correct if necessary.
- Check the function of the end switch, encoder, and limit switch setting.
- Check the function of all (safety) switches.
- Check the function of any safety edge or light curtain.
- Check the function of any braking device.
- Conduct a general (audio) visual inspection.

Disassembly

The installation manual can be used as a reference for disassembling the operator and control box. Note that the described adjustment work does not apply in this case.
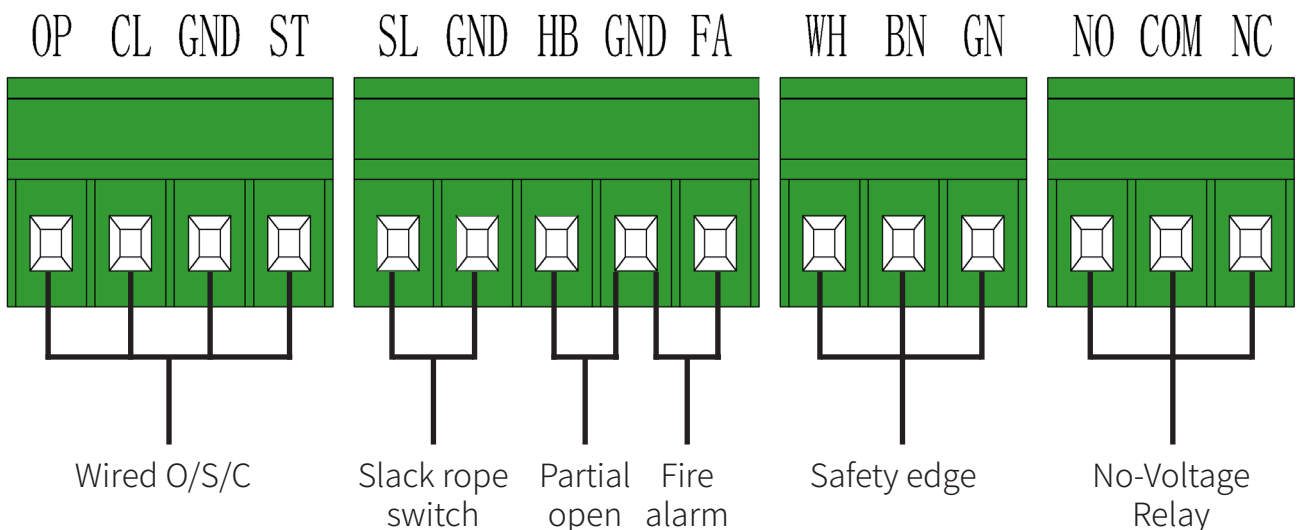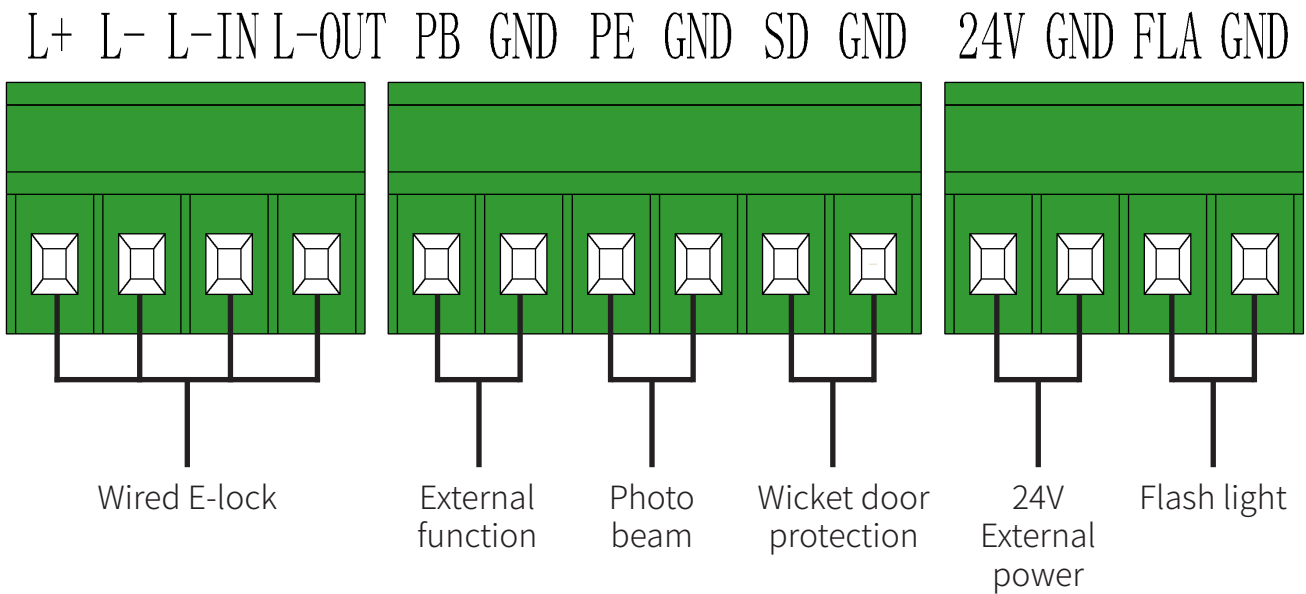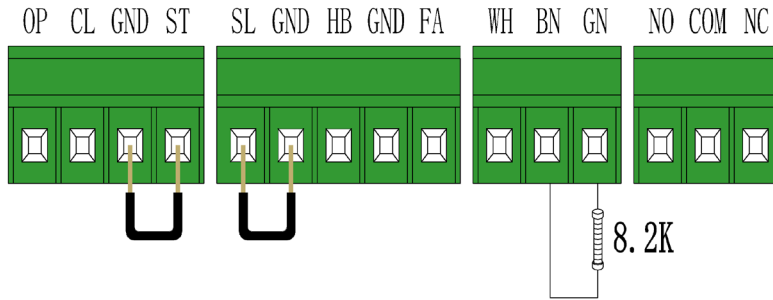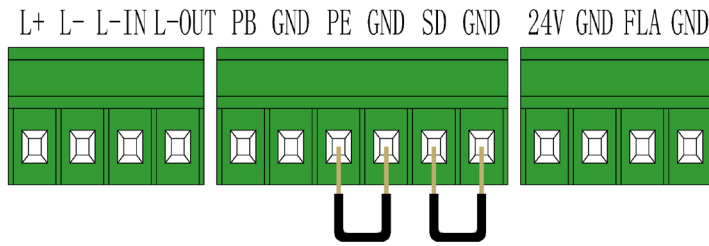
Disposal

- Waste products must be separated into metals, plastics, electrical parts, and lubricants.
- Dispose of materials according to applicable national regulations.
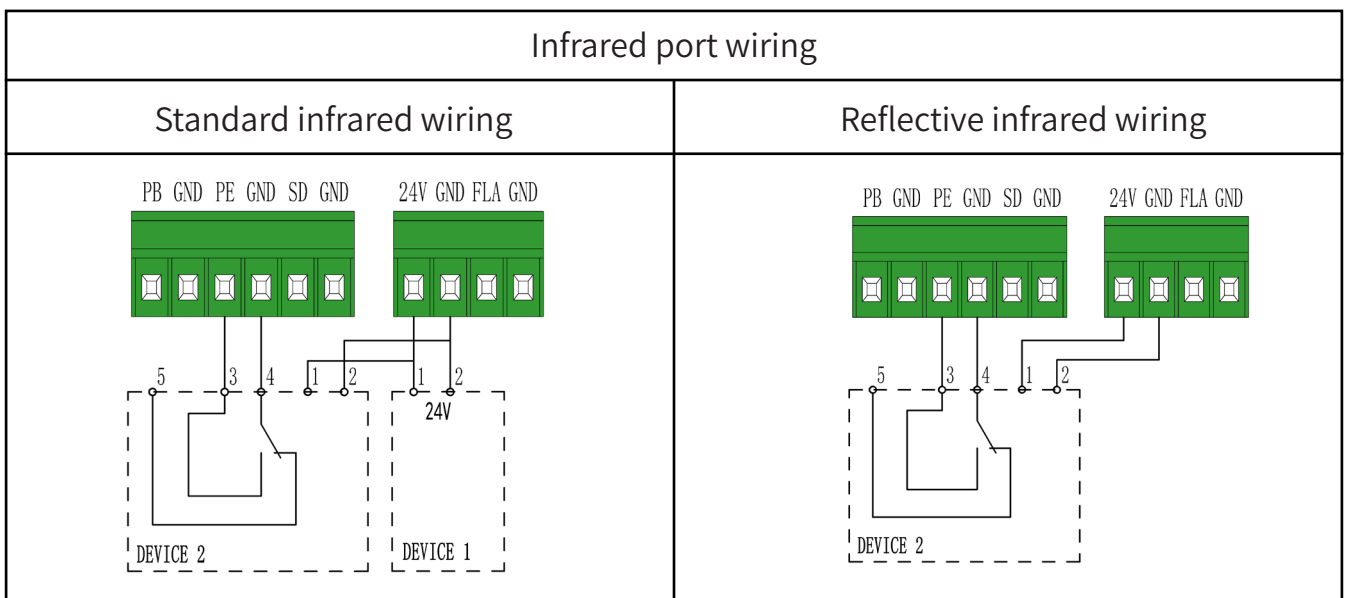- Do not dispose of the product with household waste. It should be treated as electronic equipment.
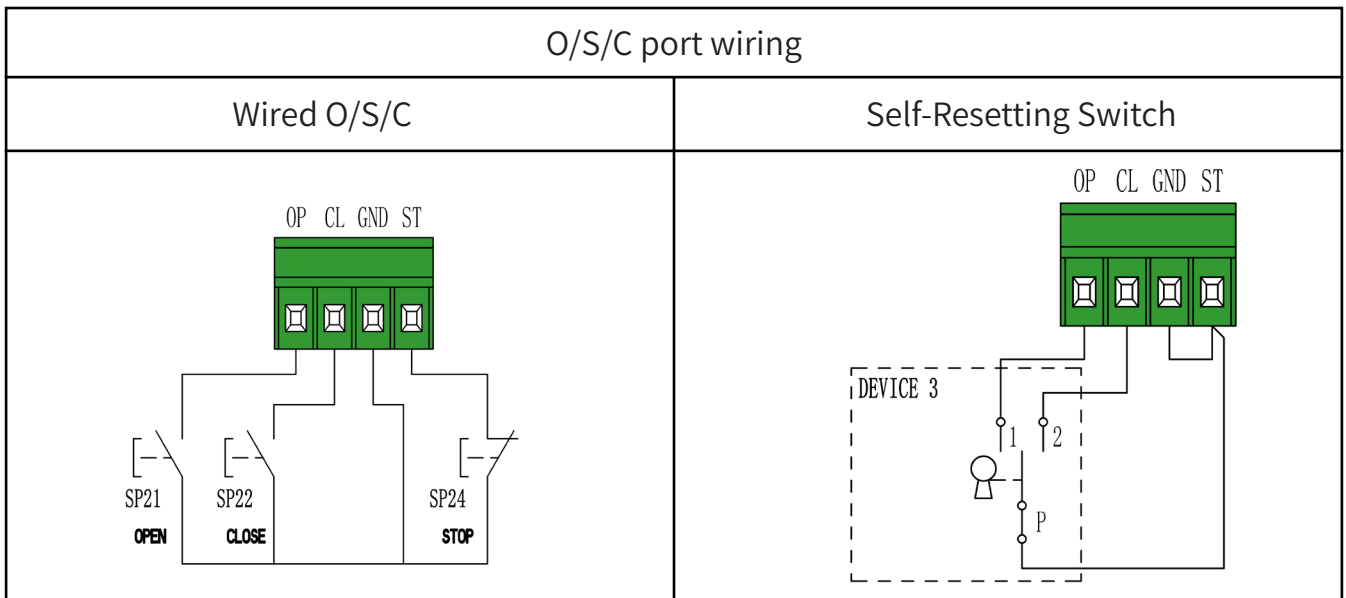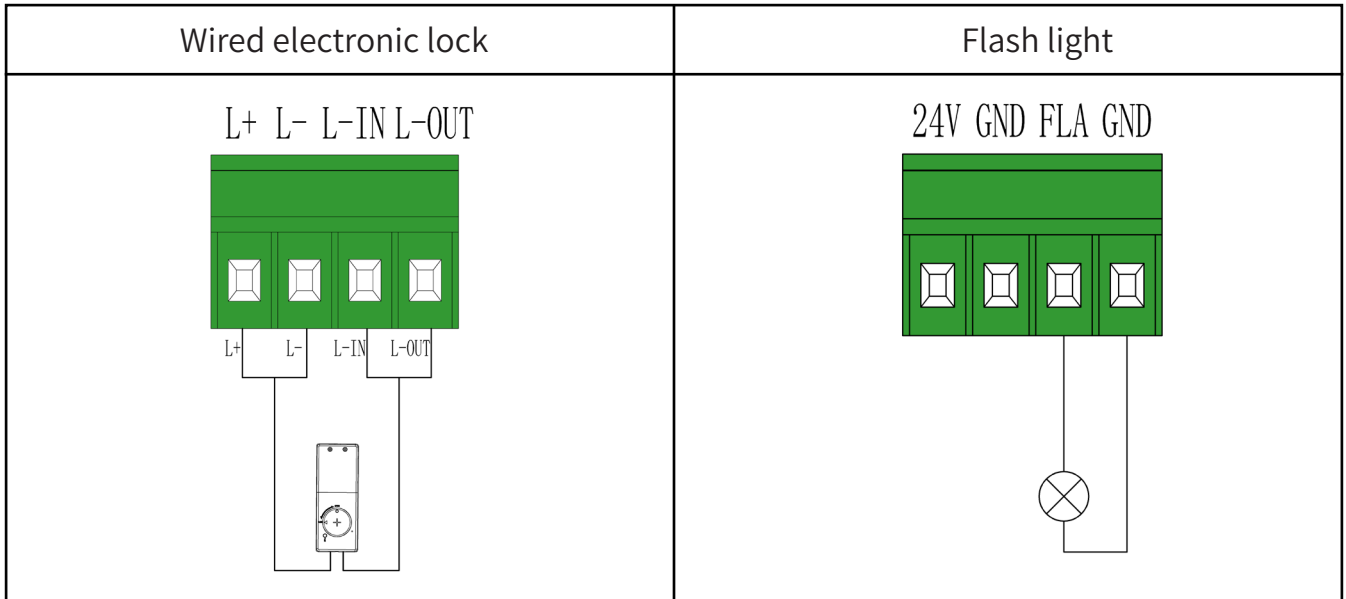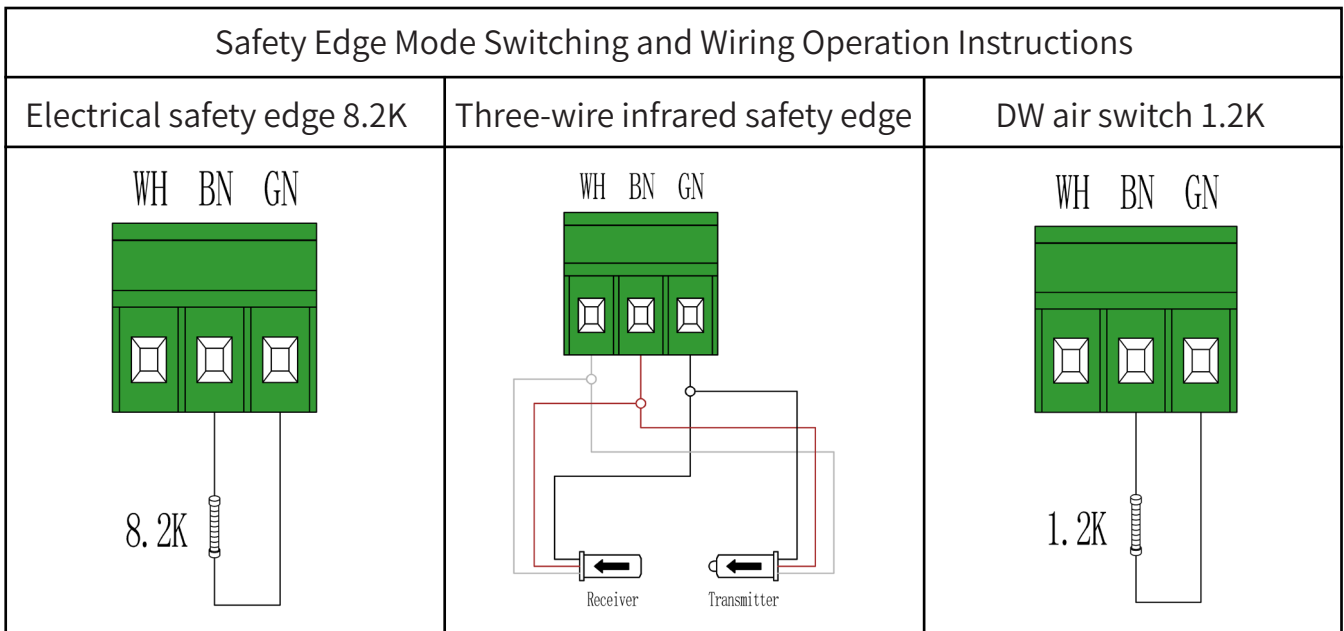
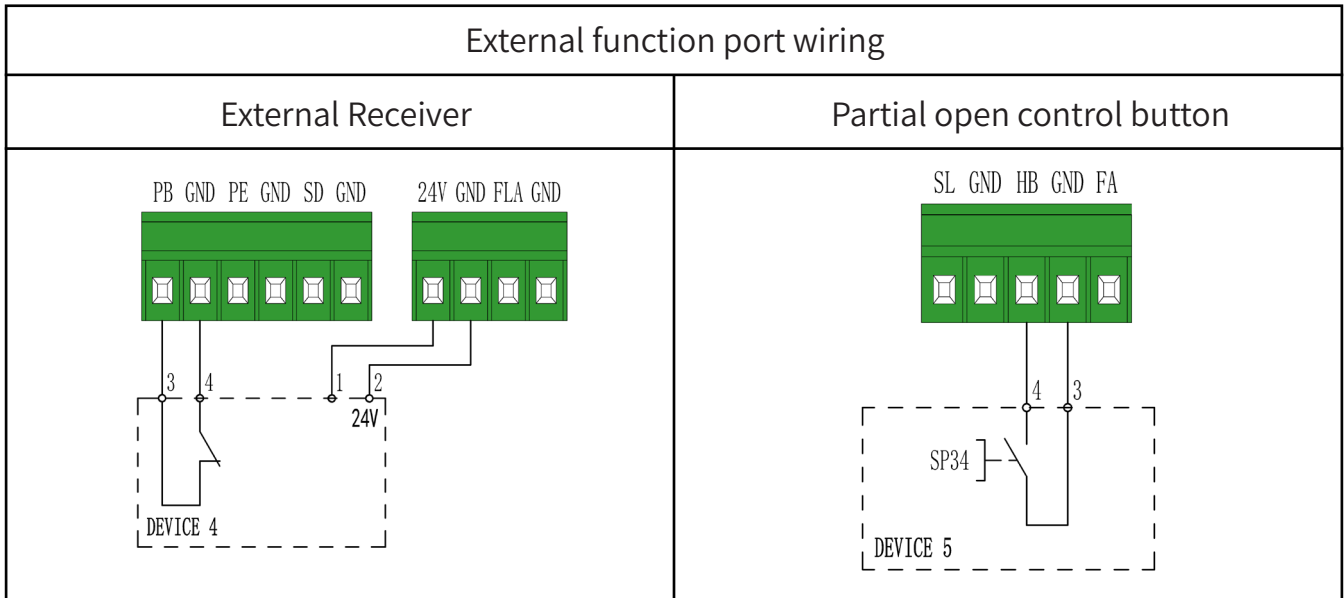# 5.Electrical Specifications

Series Name	Multi Drive
Dimensions (L*W*H mm)	443*221*73
Installation	Vertical, No Vibration (without rail adapter)
Power supply frequency (HZ)	50/60
Power supply voltage (±10%)	110V-127V or 220V-240V
Phase protection current (A)	3.15
External power supply：24V	24V(DC)
	0.5A
Bulti-in lithium battery input voltage（V）	29.6
System Control Voltage（V）	3.3
Standby Power Consumption (W)	5
Temperature range (° C)	-20°C～ +60°C
Enclosure protection level	IP43
Limit switch	DES (Digital Limit Switch)

6.Port Descriptions

L+ L− L−IN L−OUT PB GND PE GND SD GND   24V GND FLA GND

OP CL GND ST   SL GND HB GND FA   WH BN GN   NO COM NC

8.2K

L+ L− L−IN L−OUT   PB GND PE GND SD GND   24V GND FLA GND

Wired E-lock   External function   Photo beam   Wicket door protection   24V External power   Flash light

OP CL GND ST   SL GND HB GND FA   WH BN GN   NO COM NC

Wired O/S/C   Slack rope switch   Partial open   Fire alarm   Safety edge   No-Voltage Relay

7.Electrical Installation and Wiring

Wired electronic lock	Flash light
L+ L- L-IN L-OUT	24V GND FLA GND

O/S/C port wiring	
Wired O/S/C	Self-Resetting Switch
OP CL GND ST	OP CL GND ST
SP21 SP22 SP24 OPEN CLOSE STOP	DEVICE 3 1 2 P

Infrared port wiring	
Standard infrared wiring	Reflective infrared wiring
PB GND PE GND SD GND 24V GND FLA GND 5 3 4 1 2 1 2 24V DEVICE 2 DEVICE 1	PB GND PE GND SD GND 24V GND FLA GND 5 3 4 1 2 DEVICE 2

External function port wiring	
External Receiver	Partial open control button

PB GND PE GND SD GND   24V GND FLA GND

3 4   1 2
24V

DEVICE 4

SL GND HB GND FA

4 3

SP34

DEVICE 5

Safety Edge Mode Switching and Wiring Operation Instructions		
Electrical safety edge 8.2K	Three-wire infrared safety edge	DW air switch 1.2K

WH BN GN

8.2K

WH BN GN

Receiver   Transmitter

WH BN GN

1.2K

Precautions

1. Power Disconnection: Before switching the safety edge port mode, ensure that the power to the control box is completely disconnected to avoid any safety hazards.
2. Device Replacement: After disconnecting the power, replace the existing safety edge device with the desired one.
3. Power Reconnection: Once the new device is connected, reconnect the power to the control box. The safety edge port will automatically detect the change and switch to the appropriate mode.
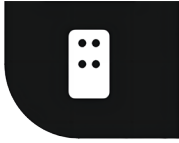
Important Notes

1. Power Off Requirement: If the power is not disconnected before switching modes, the safety edge port may not recognize the change, potentially causing the control box to display an error message.
2. Wireless Priority: If both a wired safety edge port and a wireless safety edge device are connected simultaneously, the system will prioritize the wireless device. The wired safety edge port will become inactive in this case.

8.Control Box Button Functions

	Display Digital: Displays the current operating status and error codes.
	Wireless Device Indicator: Indicates the status of paired wireless devices (e.g., E-lock, photo beam, safety edge, wicket door, slack rope switch).
	Operation Buttons

8.1 Control panel button operation instructions

Item	Button	Function Description
1.	⚙	**Short press:** Menu confirmation button **Long press:** Enter the menu
2.	🎛	**Short press:** Enter coding mode,display menu,return to the standby screen `. .` **Long press for 8 seconds:** Clear all remote control codes and display `CC`
3.	▲	**Short press:** Door opening button/ move up to adjust the function menu / Travel limit setting "Door opening" button
4.	▼	**Short press:** Door closing button / Move down to adjust the function menu / Travel limit setting "Door closing" button
5.	◔	**Short press:** Display the current door opening speed parameters, default parameters: `A0` **Long press:** adjust the door opening speed, parameter range: `60` ~ `A0`
6.	⇅ 3S	**Long press for 3 seconds:** Enter the wireless device pairing state, the indicator light is always white, and the display `1.` **Long press for 8 seconds:** Clear all wireless paired devices, and release the button when the indicator light flashes red.

Item	Button	Function Description
7.		**Short press**: Display the current door opening force level parameters, default parameters: `05` **Long press**: adjust the door opening force level, level range: `01` ~ `09`
8.		**Short press**: Display the current door closing force level parameters, default parameters: `03` **Long press**: adjust the door closing force level, level range: `01` ~ `09` **Note:** Entering or exiting parameter 01 needs to relearn the travel limit.

8.2 Detailed Description of the LED Status on the Control Box Panel Label Equipment

8.2.1 The following figure is a reference for the LED color display
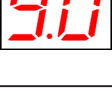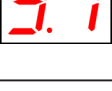
8.1.2 Wireless security device status corresponds to different colors of LED display：

LED Color Device Name	Red	Green	Cyan	Purple	White
E-LOCK: Wireless E-LOCK	Device is paired and triggered	Device is paired and not triggered	Low battery, Device is not triggered	Low battery, Device is triggered	Device signal lost
PE: Wireless Photo Beam	Device is paired and triggered	Device is paired and not triggered	Low battery, Device is not triggered	Low battery, Device is triggered	Device signal lost
SE: Wireless Safety Edge	Device is paired and triggered	Device is paired and not triggered	Low battery, Device is not triggered	Low battery, Device is triggered	Device signal lost
WD: Wireless Wicket Door	Device is paired and triggered	Device is paired and not triggered	Low battery, Device is not triggered	Low battery, Device is triggered	Device signal lost
SRS: Wireless Slack Rope Switch	Device is paired and triggered	Device is paired and not triggered	Low battery, Device is not triggered	Low battery, Device is triggered	Device signal lost

9. Parameter Overview

Par	Function Description	Description of default parameters	P.
0.0	Travel limit setting	Learning the open limit and close limit of motor	18
0.1	Motor rotation direction setting	**00** : Motor standard direction (Default)	20
0.2	Remote control function selection	**0.0** : Standard function, single key cycle (Default)	20
1.0	Open/close button model setting	**04** : Click to open the door, click to close the door (Default)	22
1.1	Safety edge pre-limit fine-tuning	**02** : Safety edge pre-limit area parameters (Default)	23
1.2	Motor open limit fine-tuning	**−5** : Actually the limit shifts towards the door closing direction (Default)	24
1.3	Motor close limit fine-tuning	**−2** : The actual close limit shifts toward the door opening direction (Default)	25
2.0	Door closing speed adjustment	**70** : Door closing speed parameter (Default)	27
2.1	Door opening speed adjustment	**A0** : Door opening speed parameter (Default)	27
2.2	Soft stop range adjustment	**04** : The closing speed reduction distance is the door travel limit 20% (Default)	28
2.3	Soft start range adjustment	**02** : The door opening speed reduction distance is the door travel limit 10% (Default)	29
2.4	Closing soft stop speed adjustment	**35** : Door closing soft stop parameters (Default)	30
2.5	Opening soft stop speed adjustment	**70** : Door opening soft stop parameters (Default)	30
3.0	Soft stop time setting	**0.7** : The slow stop time when the motor is running is 0.7 seconds (Default)	31

Par	Function Description	Description of default parameters	P.
3.1	Soft start time setting	**0.7** ： Motor start time 0.7 seconds (Default)	32
3.2	Motor close limit overflow time setting	**20** ： Close limit overflow time 0.20s (Default)	33
3.3	Obstruction reversal sensitive adjustment	**00** ： Response time of safety edge encountering obstacles 0.005 seconds (Default)	34
3.4	Photo beam obstruction reversal sensitive adjustment	**50** ： Infrared resistance reaction time 0.5 seconds (Default)	35
3.5	Reverse running time adjustment	**00** ： Reverse to the open limit when encountering resistance(Default)	36
4.0	Automatic closing function	**00** ： Automatic door closing function off (Default)	37
4.1	Automatic closing condition function setting	**00** ： Open limit executes automatic door closing (Default)	38
4.2	Relevance Setting for Automatic Closing and Photo Beam	**00** ： After the PE port is triggered, stop the automatic door closing timer and turn off the automatic door closing function (Default)	39
5.0	PE port function setting	**01** ： Standard infrared function (Default)	40
6.0	Partial open function setting	**00** ： Feature not enabled (Default)	43
6.1	PB port function setting	**01** ： Switch stop cycle function (Default)	45
6.2	Flash light port function setting	**0.0** ： Function disabled (Default)	46
6.3	Electronic lock function setting	**0.0** ： Function disabled (Default)	47
6.4	Partial open port function setting	**04** ： Semi -Opening Function (Default)	48
6.5	Relay function setting	**00** ： Function is turned off (Default)	49

Par	Function Description	Description of default parameters	P.
6.6	Safety edge types identification	Query function： View the current safety edge type	55
7.0	Courtesy light delay off function setting	**03**： Delay 3 minutes to close (Default)	57
7.1	Restore factory setting	All function settings are set to factory settings! Except for the motor's cumulative running time and the number of maintenance alarms.	57
7.2	Customer version inquiry	Query function： query the customer code version information of the IDO controller	58
7.3	Software version inquiry	Software version information of IDO controller	58
7.4	Motor running cycles inquiry	Query function： query the cumulative running times of the motor	58
7.5	Inquiry of the latest 4 fault codes of the motor	Query function： query the last 4 fault codes of the motor	59
8.0	Maintenance alarm times setting	**00**： The number of maintenance alarms is not enabled (Default)	60
8.1	Maintenance alarm times inquiry	Query function： query the remaining number of maintenance alarms	60
9.0	Fire alarm port function setting	**03**： Fire Alarm Normally Open Port Triggers Door Opening for Emergency Escape (Default)	62
9.1	Transmitter lock function setting	**00**： Function off (can also be enabled by standard remote control) (Default)	63
9.2	Display button lock function	**00**： Function off (Default)	64

Par	Function Description	Description of default parameters	P.
9.3	Pre-warning time setting before door closing (The parameter time setting range is: 0 seconds to 9 seconds. Compatible with the warning light function port 00-06 in section 6.2, the corresponding function menu can be seen after it is enabled)	**00** : Pre-operation warning time is set to 0 seconds (Default)	64
9.4	Pre-warning time setting before auto - closing (compatible with the application of function 00-06 in section 6.2), and it is necessary to enable the automatic door closing function menu in section 4.0	**00** : The warning time is 0 (Default)	65
9.5	Warning light flashing frequency setting (The warning light has a flashing frequency of 60 times per minute, compatible with the application of the warning light function port 00-06 in section 6.2, the corresponding function menu can be seen after it is enabled)	**03** : The flashing frequency of the warning light is 60 times per minute (Default)	65
9.6	Flash light off delay setting after door closed (Compatible with the warning light function port 00-06 in section 6.2, the corresponding function menu can be seen after it is enabled)	**00** : Warning light delay function off (Default)	66
A.0	Relay module function - traffic light pre-warning time setting before the dust operation (This menu is only visible when the traffic light function 01-06 is enabled for the relay port in menu 6.5.)	**00** : The warning time is 0 (Default)	68

Par	Function Description	Description of default parameters	P.
A.1	Relay module function -traffic light pre-warning time setting before Auto-closing (The parameter time ranges from 0 to 120 seconds (x = n x 10). This menu only enables the 01-06 traffic light function in the trunk port of menu 6.5 and requires opening the 4.0 automatic door closing function menu)	**00** ： The warning time is 0 (Default)	68
A.2	Relay module function - traffic light traffic light flash frequency setting (This function is used to adjust the flashing frequency of relay a. This menu is only visible when the traffic light function 01-06 is enabled for the relay port in menu 6.5)	**03** ： Relay - X66 flashing frequency 60 times/minute (Default)	69
A.3	Relay module function traffic light Traffic light off delay time setting (This function is used to adjust the delay release time when the relay port reaches the lower limit. This menu is only visible when the traffic light function 01-06 is enabled for the relay port in menu 6.5)	**00** ： Relay - X66 Release (Default)	70
A.4	Relay module function - traffic light Traffic light flash ranges setting during closing (This function is used to adjust the activation of the area above the relay port's lower limit. This menu is only visible after enabling function 30 for the relay port in menu 6.5)	**00** ： 5% area above the close limit (Default)	71
A.5	Relay module function traffic light Traffic light flash ranges setting during opening (This function is used to adjust the activation area below the relay port upper limit. This menu is only visible after enabling function 31 in the relay port open function in menu 6.5)	**00** ： 5% area below the open limit (Default)	72

10.Parameter Details

| $\boxed{0.-}$ | Menu 0: Motor travel limit setting |

Function Guide
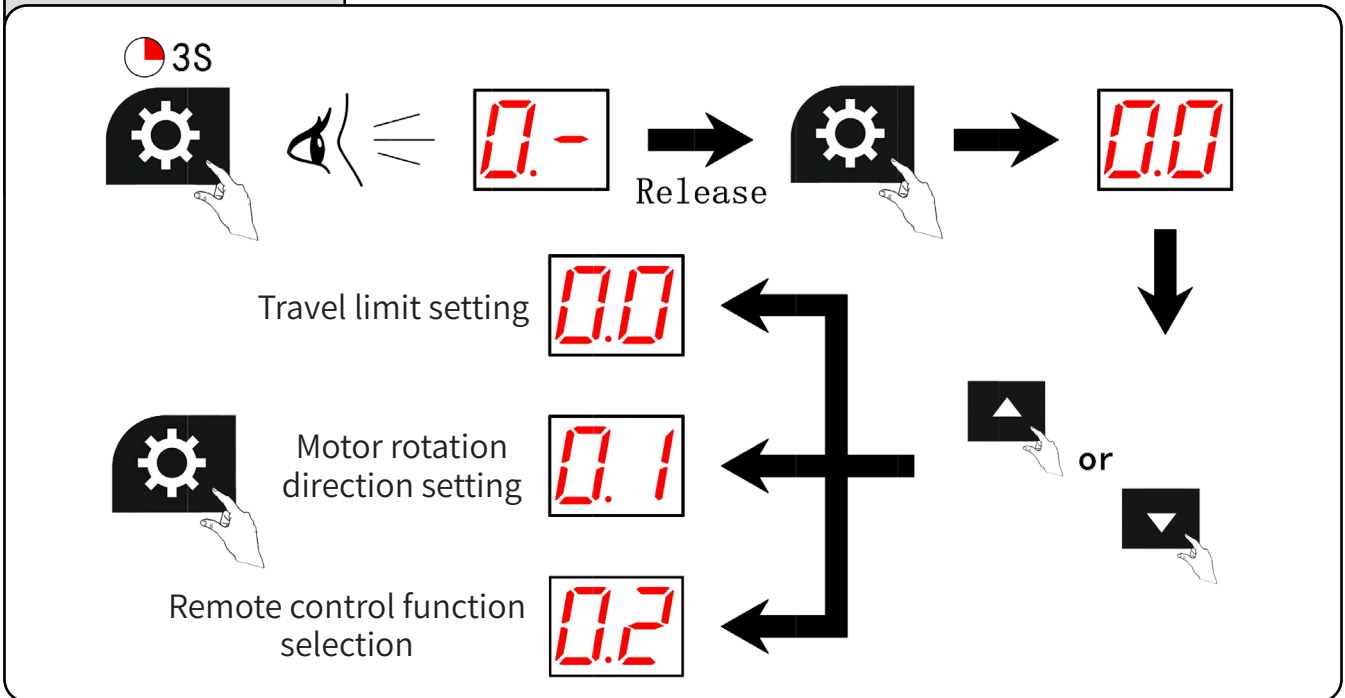
| $\boxed{0.0}$ | Travel limit setting |

To prevent any damage resulting from incorrect rotation during operation, it is crucial to manually open the door halfway before initially setting the travel stroke.

Important Note: Once you access the travel limit setting menu, the previous travel limits will be erased, necessitating re-learning the travel itinerary.
After configuring the upper and lower travel distances, the motor will initiate a self-learning cycle for one complete door opening and closing sequence. Kindly exercise

Travel limit setting

1. Enter motor travel setting
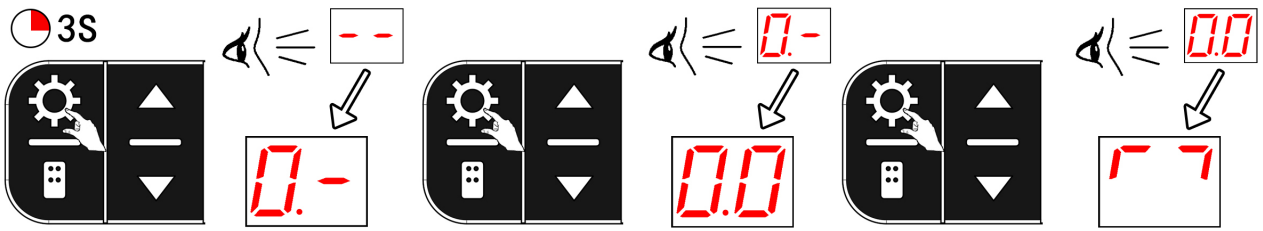
2. Check motor output direction and door running direction

OK

NG
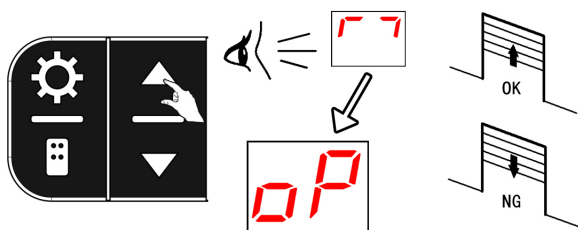
Note: If the motor running direction does not match the door running direction, please exit the learning process first and adjust the motor running direction in the 0.1 menu.

3. Start the travel limit set, open the door and move to the open limit position	4. Save upper limit position
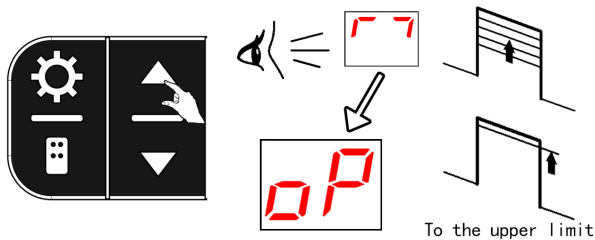
To the upper limit
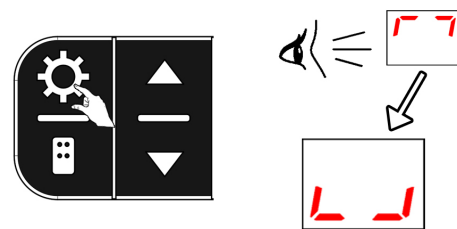
5. Close the door and move to the close limit.	6. After confirming the close limit position, the motor enters into self-learning. When the motor self-learning is complete, the travel limit set is complete.
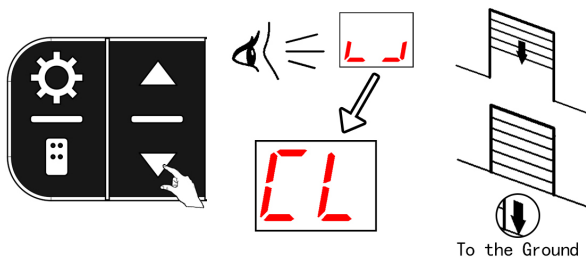
To the Ground
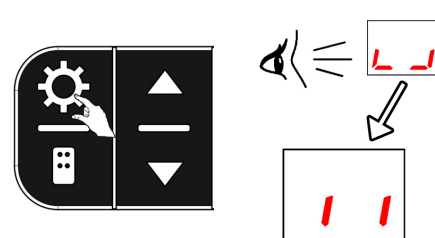
0.1 Motor rotation direction setting

Prior to setting the motor's travel limits, confirm that the motor's opening direction aligns with the door's intended operation direction. This alignment is crucial for accurate travel limit learning.

In case of a mismatch between the motor's opening direction and the door's operation direction, promptly adjust the motor's rotation direction to ensure proper synchronization.
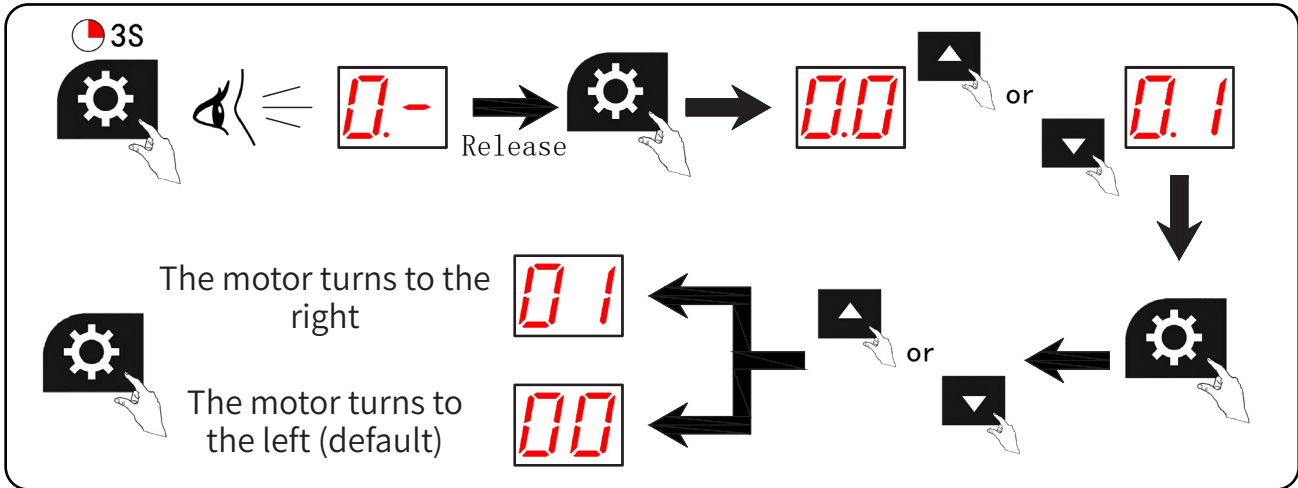
0.2 Remote control function selection

The default capacity for storing remote controls is set to 50. Upon reaching this limit (i.e., 50 remotes learned), attempting to add the 51st remote will automatically overwrite the earliest entry (the 1st remote).

00	Standard Functions - Single Key Cycle (Default)
01	Ignore the key value function, all keys are valid, open-stop-close-cycle
02	Multi-function button 1 : No. 1 key controls the motor on-off cycle; No. 2 partial open function; No. 3 key warning light on and off control; No. 4 key remote lock function;
03	Multi-function button 2 : No. 1 to open the door; No. 2 key to stop; No. 3 to close the door; No. 4 key remote lock function;
04	Multi-function button 3 : No. 1 to open the door; No. 2 key to stop; No. 3 to close the door; No. 4 key CF function; ("CF" function means that pressing the 4th button will directly open the door without stopping, and it will directly execute the door opening action when closing the door)

Menu 1： Motor common function setting

⏱ 3S

Open/Close button model setting — 1.0

Safety edge pre-limit fine-tuning — 1.1

Motor open limit fine-tuning (DES) — 1.2

Motor close limit fine-tuning (DES) — 1.3
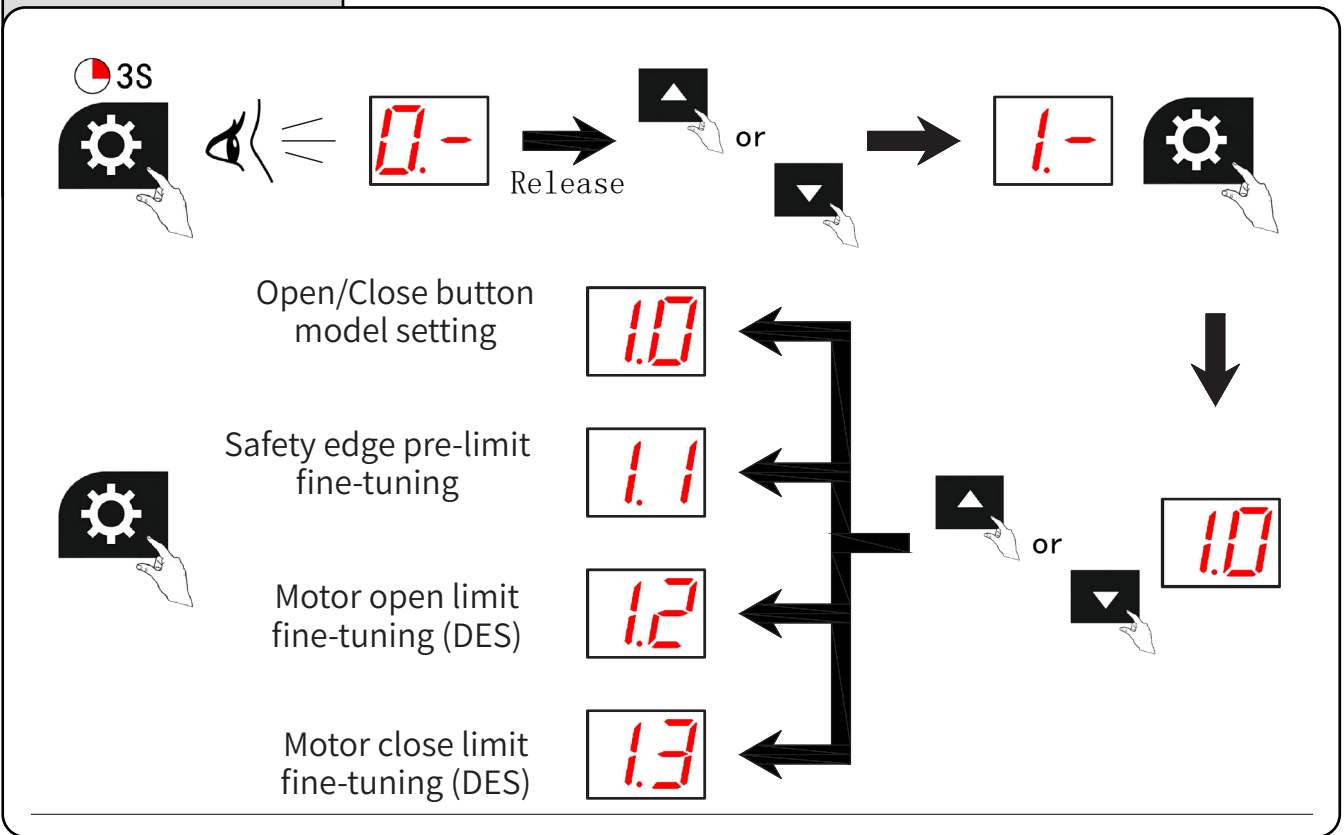
1.0 Open/Close button mode setting

⏱ 3S

Click to open the door
Click to close the door (Default) — 04

Long press to open the door
Click to close the door — 03

Click to open the door
Long press to close the door — 02

Long press to open the door
Long press to close the door — 01

/./ Safety edge pre-limit fine-tuning

Adjust the parameter by increments of 2-5mm each time, taking into account the size of the door rail system and the tower wheel. This adjustment should be tailored to the actual door conditions.

ⓘ Within the zone beneath the pre-set safety edge position, either the safety edge itself or the infrared-triggered motor will initiate the stopping action.

Considering an 18-inch flat wheel (approximately 150mm diameter, or 5cm wide):

Function Clarification:
In the specified area, upon obstruction of the safety edge or infrared sensor, the motor halts its operation immediately without reversing.
When the DW (Dynamic Weighing or equivalent) function with the safety edge is concurrently engaged, this location serves as the initiation point for the DW function's self-test.

 Motor open limit fine-tuning

Function description：

This function fine-tunes the open limit of the motor.
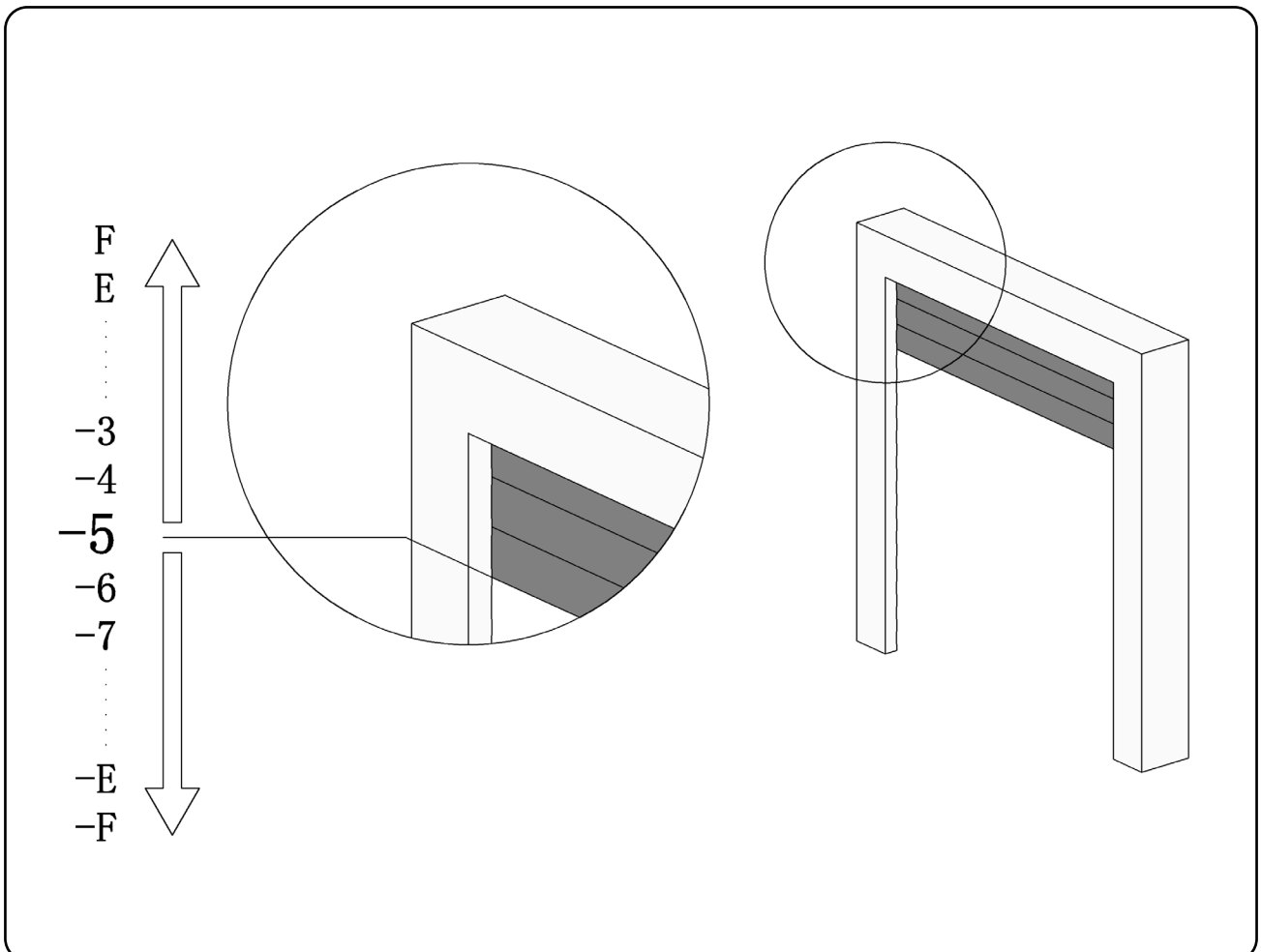
1.3 Motor close limit fine-tuning

ⓘ If the close limit fine-tuning setting exceeds the ground position, it is easy to cause the wire rope to loosen. Please adjust according to the actual situation.
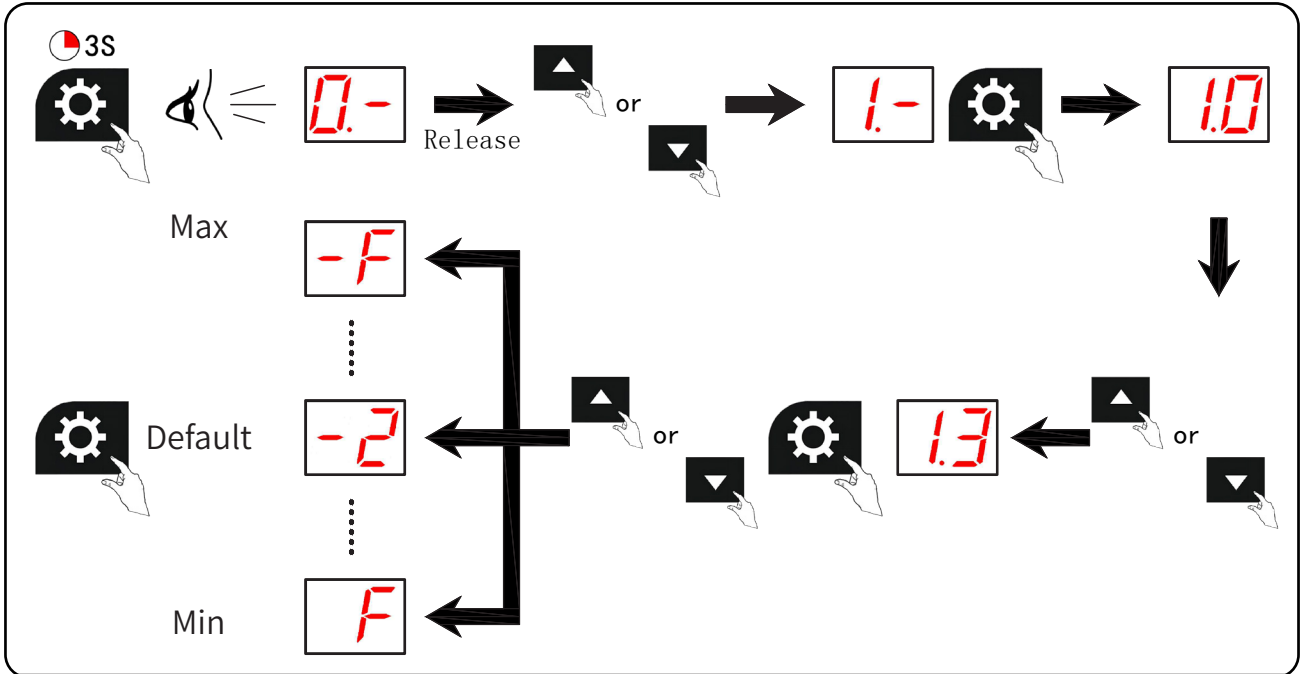
Function description： This function fine-tunes the close limit of motor.
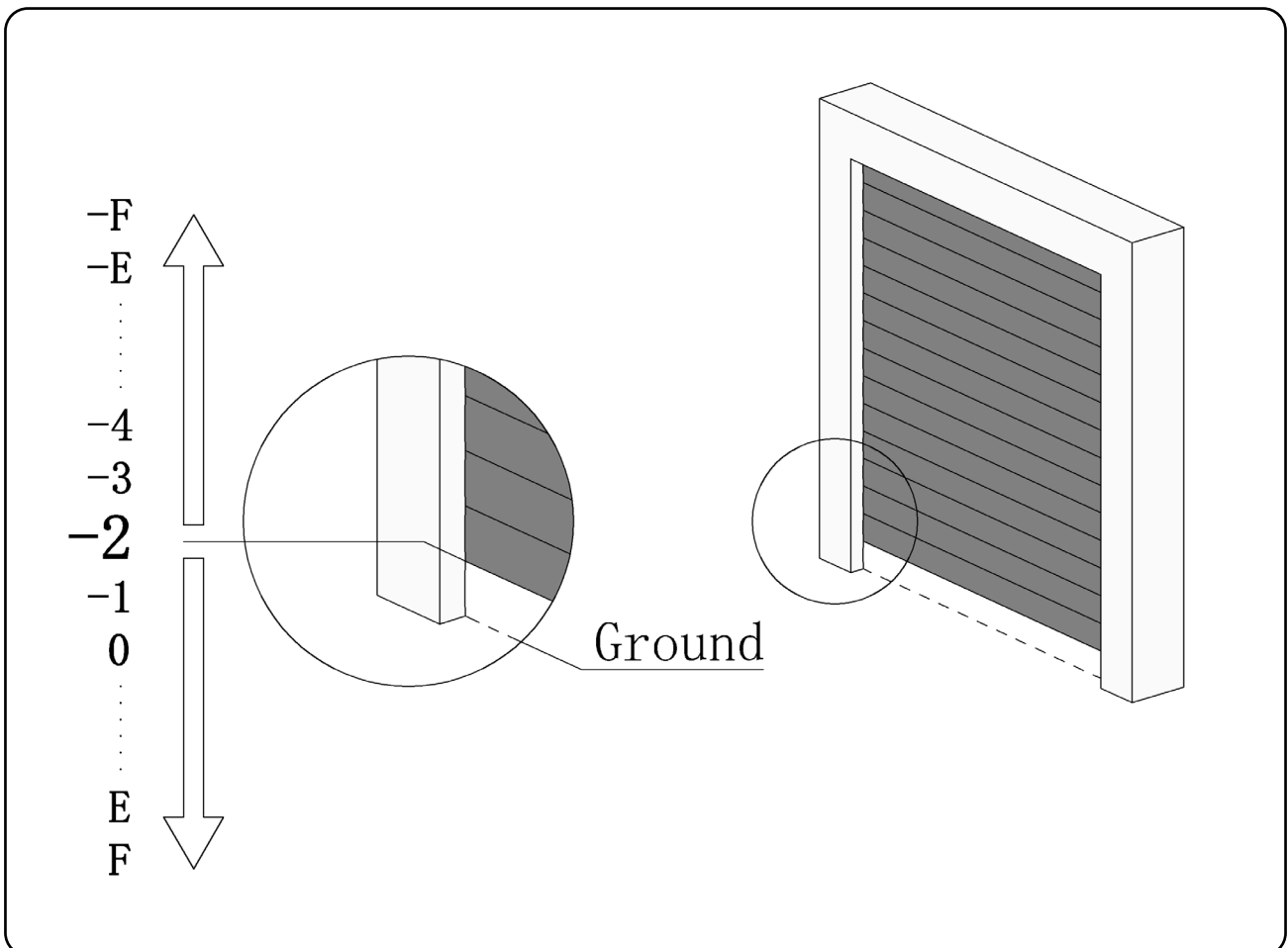
2.- Menu 2: Motor running parameter setting
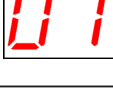
ⓘ **This function is only applicable to inverter drive with DES electronic limit mode.**

Function Guide

Door closing speed adjustment	**2.0**
Door opening speed adjustment	**2.1**
Soft stop range adjustment	**2.2**
Soft start range adjustment	**2.3**
Closing soft stop speed adjustment	**2.4**
Opening soft stop speed adjustment	**2.5**

2.0 Door closing speed adjustment

ⓘ When the door closing speed is set to be lower than the closing soft end speed specified in the 2.4 menu, the motor will automatically adjust the 2.4 soft end speed to match the 2.0 door closing speed setting.

2.1 Door opening speed adjustment

ⓘ When the door opening speed is set to be lower than the opening soft end speed specified in the 2.5 menu, the motor will automatically adjust the 2.5 soft end speed to match the 2.1 door closing speed setting.

2.2 Soft stop range adjustment

01	The soft end distance of the door closing is 5% of the door travel
02	The soft end distance of the door closing is 10% of the door travel
03	The soft end distance of the door closing is 15% of the door travel
04	The soft end distance of the door closing is 20% of the door travel(Default)
05	The soft end distance of the door closing is 30% of the door travel
06	The soft end distance of the door closing is 40% of the door travel
07	The soft end distance of the door closing is 50% of the door travel
08	The soft end distance of the door closing is 60% of the door travel

2.3 Soft start range adjustment

The soft end distance of door opening is 60% of the door stroke → **08**

⋮

The soft end distance of door opening is 10% of the door travel (Default) → **02**

The soft end distance of door opening is 5% of the door stroke → **01**
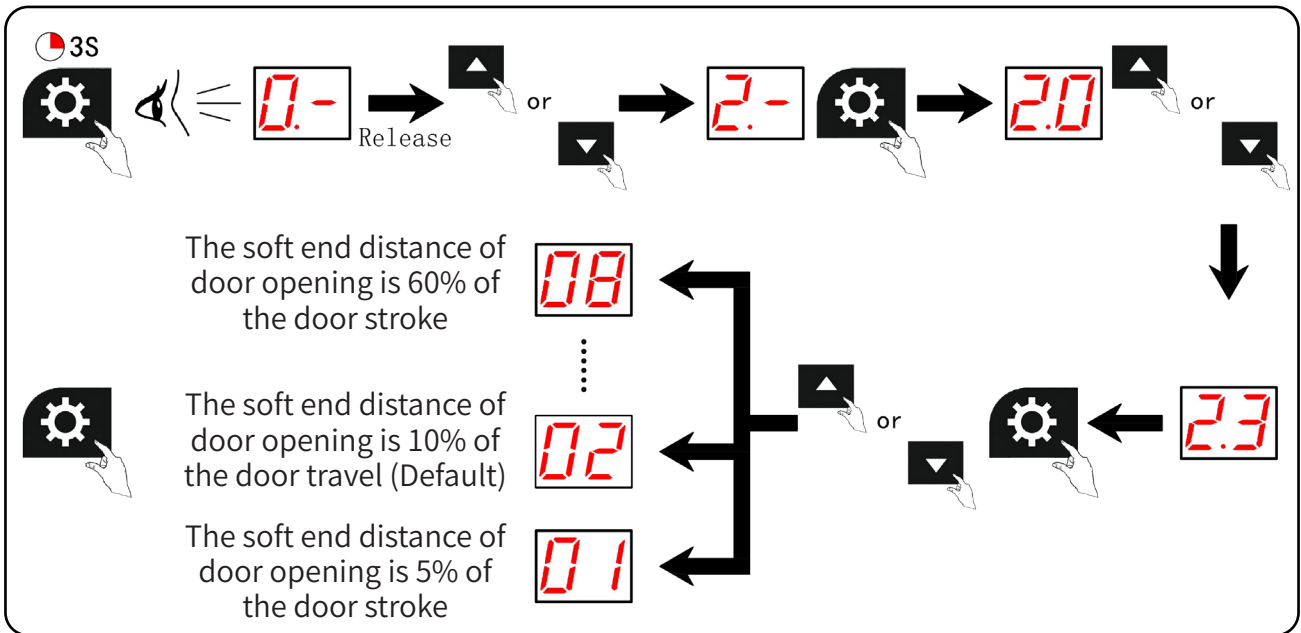
01	The soft end distance of the door opening is 5% of the door travel
02	The soft end distance of the door opening is 10% of the door travel(Default)
03	The soft end distance of the door opening is 15% of the door travel
04	The soft end distance of the door opening is 20% of the door travel
05	The soft end distance of the door opening is 30% of the door travel
06	The soft end distance of the door opening is 40% of the door travel
07	The soft end distance of the door opening is 50% of the door travel
08	The soft end distance of the door opening is 60% of the door travel

2.4 Closing soft stop speed adjustment

ⓘ When the closing soft end speed is set higher than the 2.0 closing speed, it will be auto-adjusted to match the 2.0 setting for door closing speed.

2.5 Opening soft stop speed adjustment

When the opening soft end speed is set higher than the 2.1 opening speed, it will be auto-adjusted to match the 2.1 setting for door opening speed.

`3.-` Menu 3: Motor parameter time setting

Function Guide

⏱ 3S

⚙️ (press) → 👁 ≪ ← `0.-` ⟹ (Release) → ▲/▼ or → `3.-` → ⚙️ → `3.0`

Soft stop time setting	`3.0`	
Soft start time setting	`3.1`	
Motor close limit overflow time setting	`3.2`	▲ or ▼
Obstruction reversal sensitive adjustment	`3.3`	
Photo beam obstruction reversal sensitive adjustment	`3.4`	
Reverse running time adjustment	`3.5`	
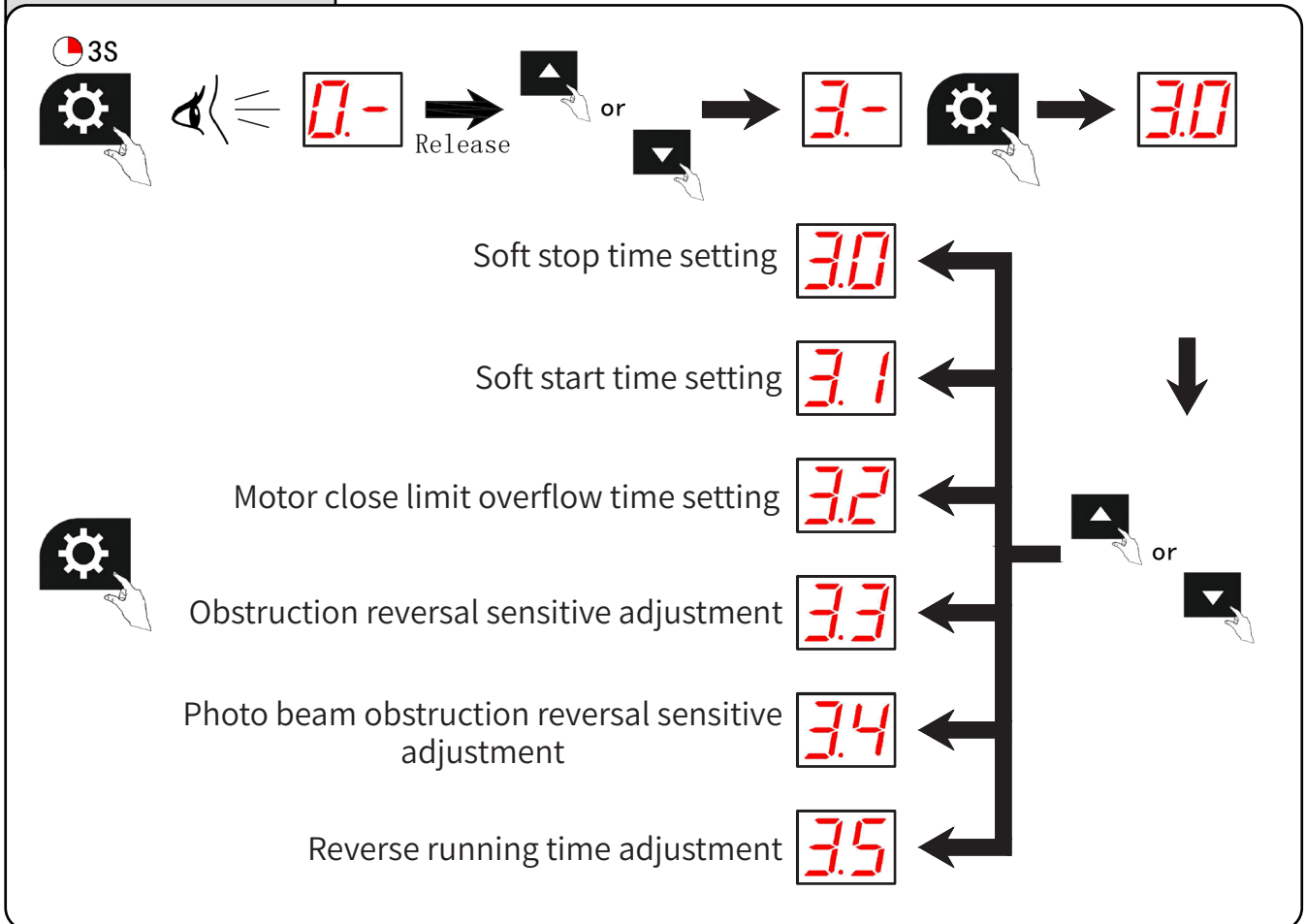
`3.0` **Soft stop time setting**

ⓘ The slow stop time during motor operation sets the duration outside the soft stop zone to lessen impact on the door and motor.

3S

⚙	👁	𝟘.-	Release	▲ or ▼	𝟛.-	⚙ → 𝟛𝟘

Max 𝟚𝟘

Default 𝟘𝟟

Min 𝟘.𝟙

Example：

Parameter： 𝟙𝟘 :1s

𝟛.𝟙 **Soft start time setting**

3S

Max 𝟚𝟘

Default 𝟘𝟟

Min 𝟘.𝟙

Example：

Parameter： 𝟙𝟘 :1s
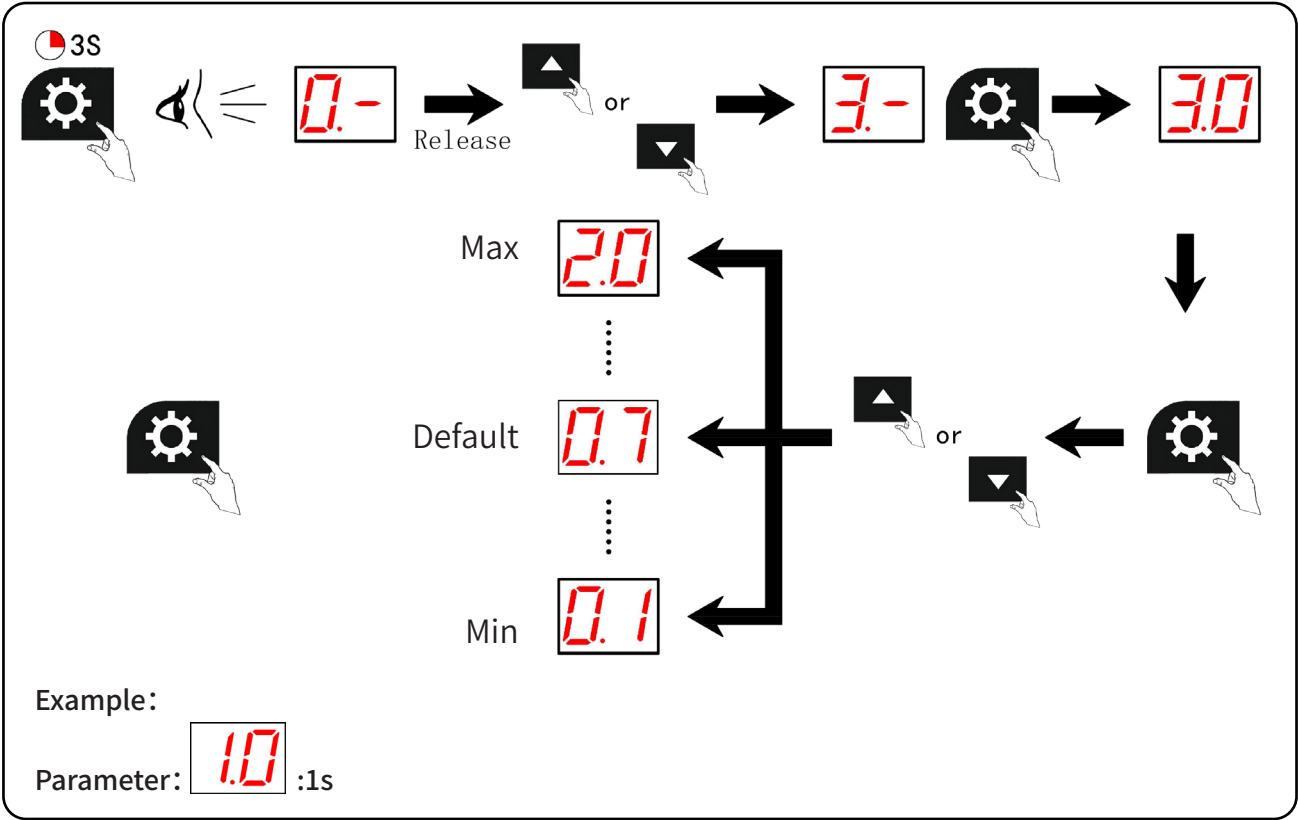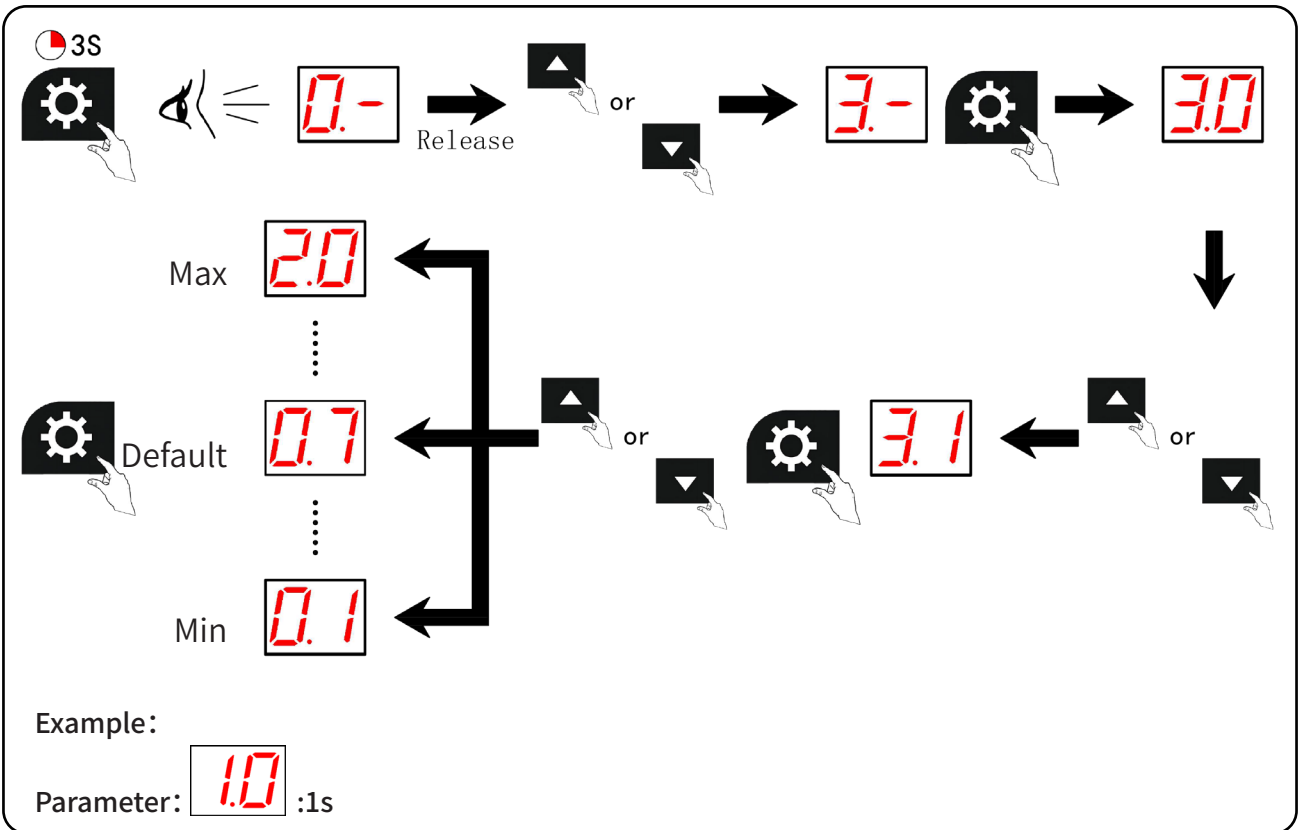
3.2 Motor close limit overflow time setting

ⓘ If using DW air switch as the safety edge, enable overflow time to avoid DW self-test failure.

ⓘ During overflow, motor checks safety edge & stops if triggered.

ⓘ Adjust lower limit overflow based on door condition to ensure full closure. If DW self-test fails with door closed, adjust overflow as needed.

Max **50**

Close limit overflow time
0.20s(default) **20**

Min **01**

Close limit overflow
time is closed **00**
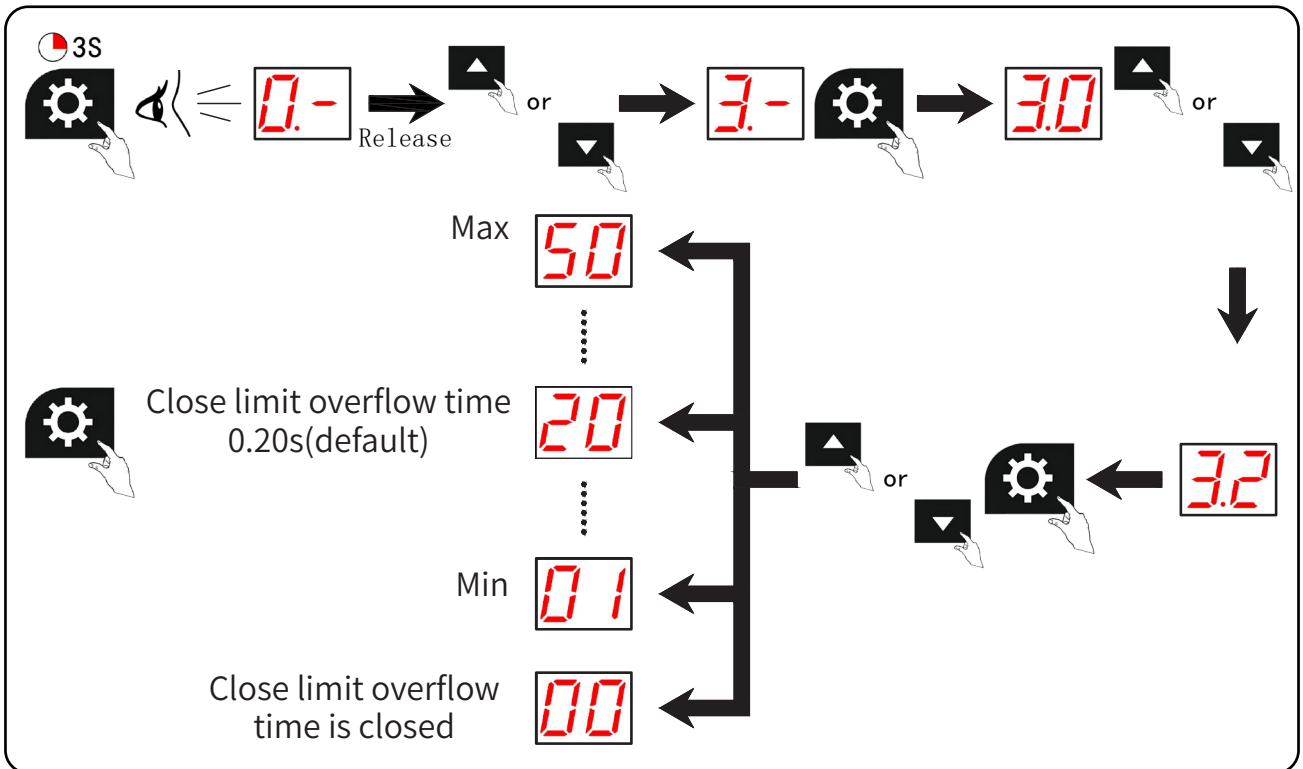
Example:

Parameter: **20** :0.20s

Graphical description
(right picture):
A: The set close limit
position
B: The location after
setting the overflow time
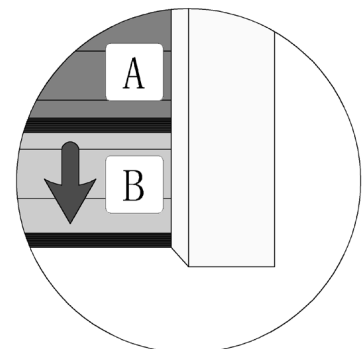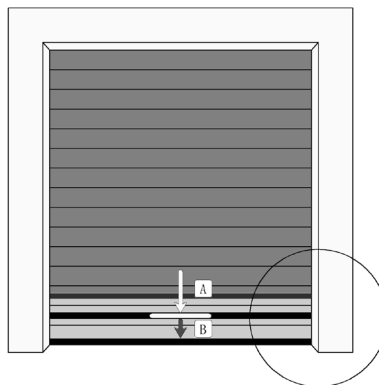
3.3 Obstruction reversal sensitive adjustment

ⓘ The safety edge reaction time is the time between the reversing of the control door after the door detects an obstacle.
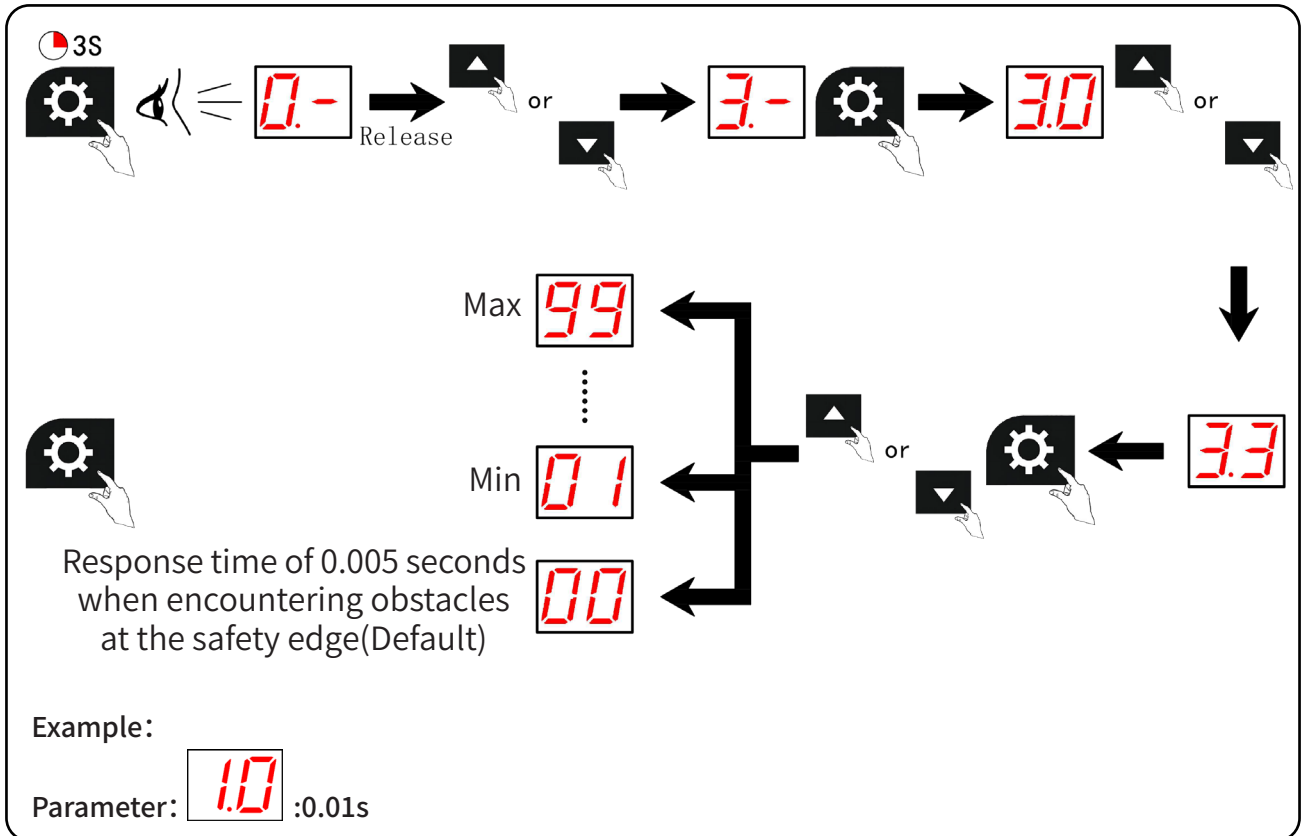
ⓘ The time setting range of this parameter is : 0.01 seconds -0.99 seconds.

Max **99**

Min **01**

Response time of 0.005 seconds when encountering obstacles at the safety edge(Default) **00**

Example:

Parameter: **1.0** :0.01s

3.4 Photo beam obstruction reversal sensitive adjustment

ⓘ The time setting range of this parameter is : 0.01 seconds-0.99 seconds.

ⓘ According to the actual situation of the door body or the needs of the scene, the reaction time of the safety edge is adjusted.

Example:

Parameter: [01] :0.01s
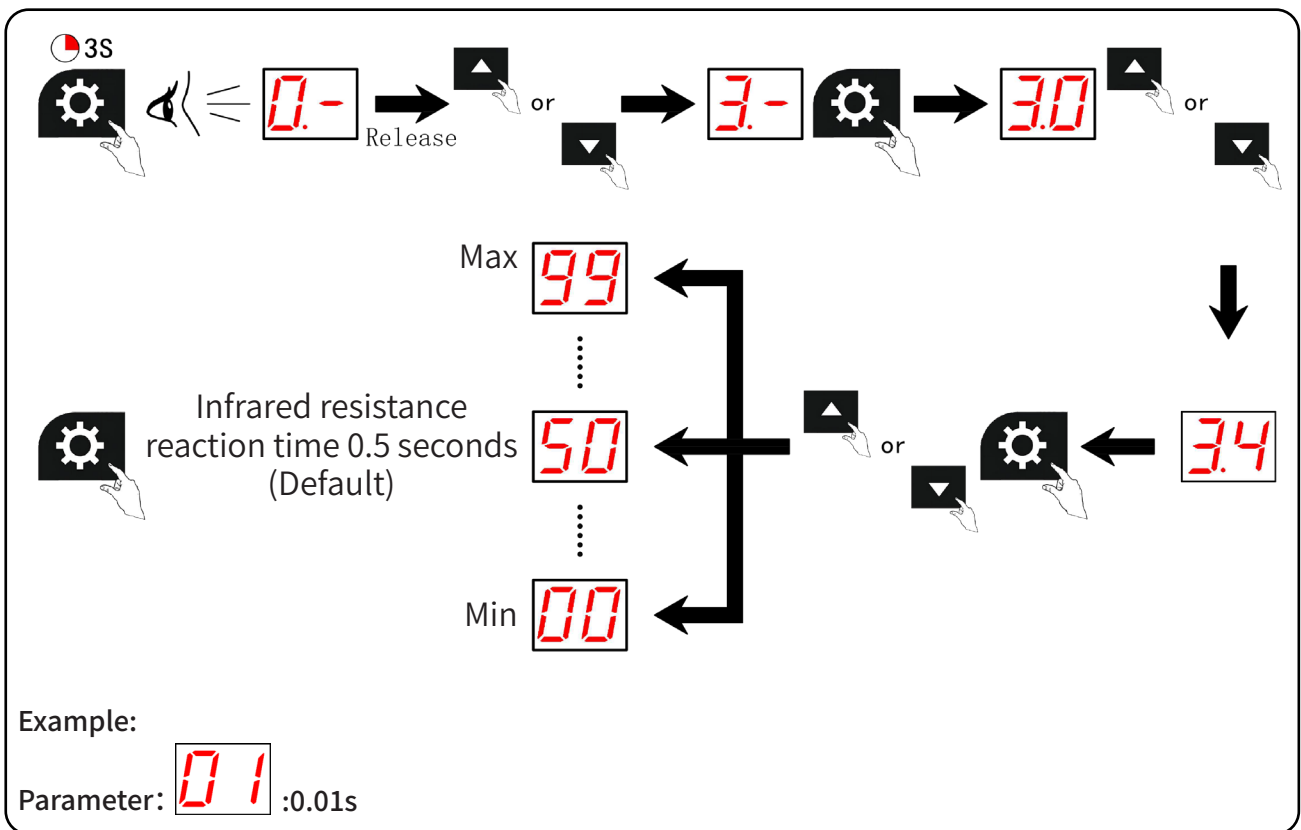
3.5 Reverse running time adjustment

ⓘ Reversal time for resistance is motor's run time to open door opposite after safety trigger during close.

ⓘ Range: 1-9 seconds (stops at open limit if not reached).

ⓘ Adjust safety edge response based on door or scene needs

Max **09**

Min **01**

Reverse to the open limit when encountering resistance (Default) **00**

Example:
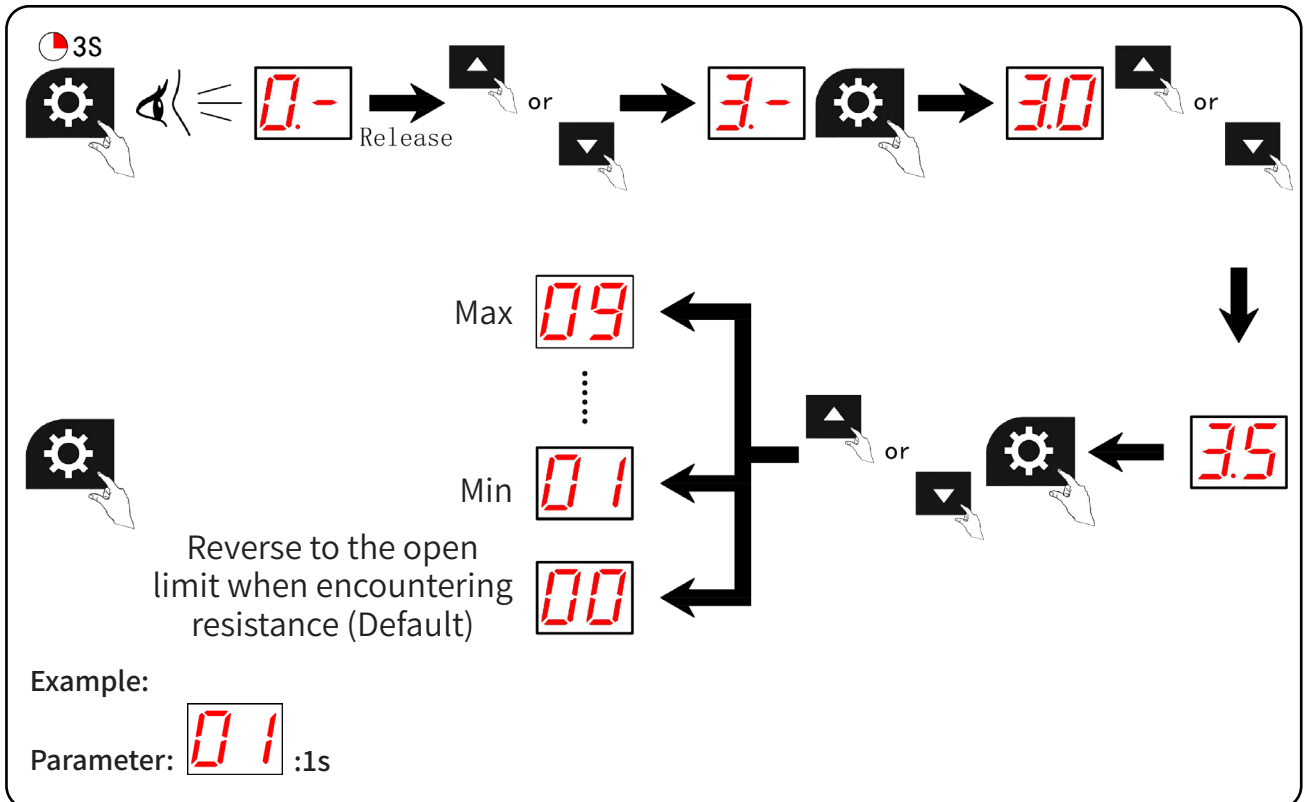
Parameter: **01** :1s

Menu 4： Automatic door closing function setting

Function Guide

Automatic closing function — 4.0

Automatic closing condition function setting — 4.1

Relevance Setting for Automatic Closing and Photo Beam — 4.2
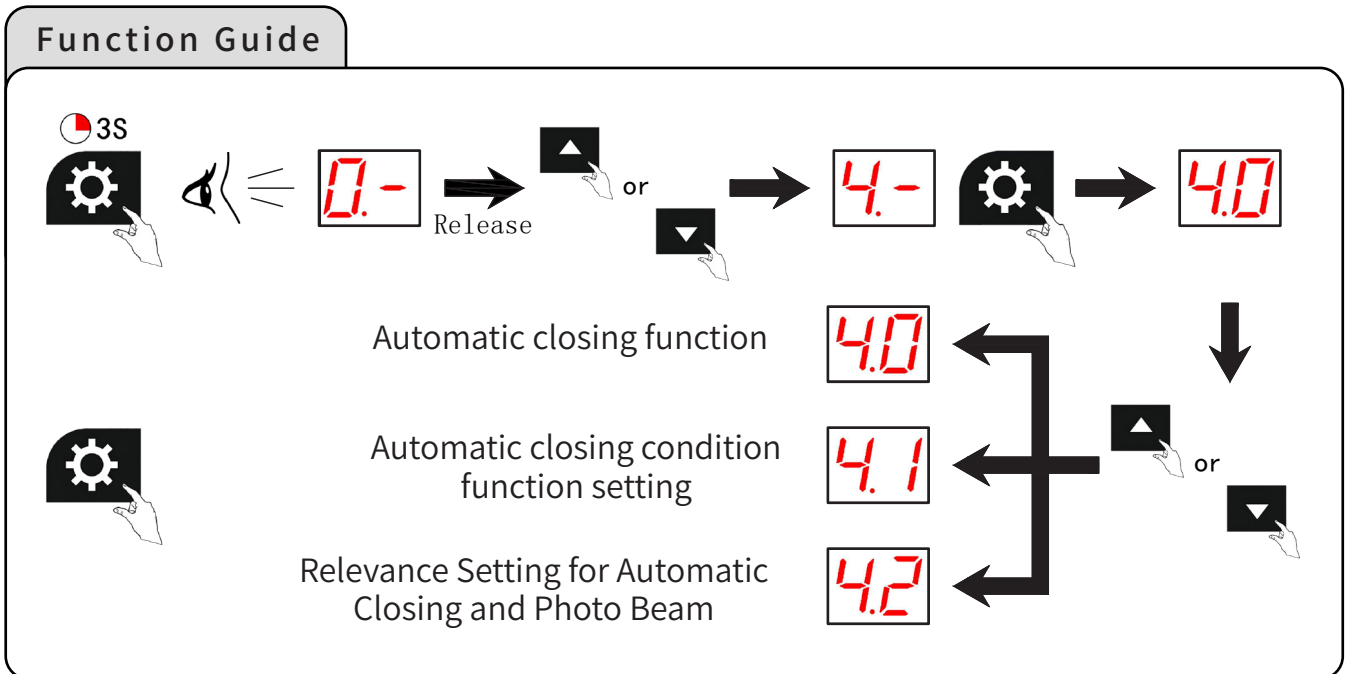
4.0 Automatic closing function

ⓘ The time setting range of this parameter is : 1 second - 990 seconds.

ⓘ Press the + button to set the parameter per second to flash slowly 1-99, and when the + button exceeds 99, the parameter resets to flash 1-99 quickly, and each parameter is 1*10 seconds at this time.
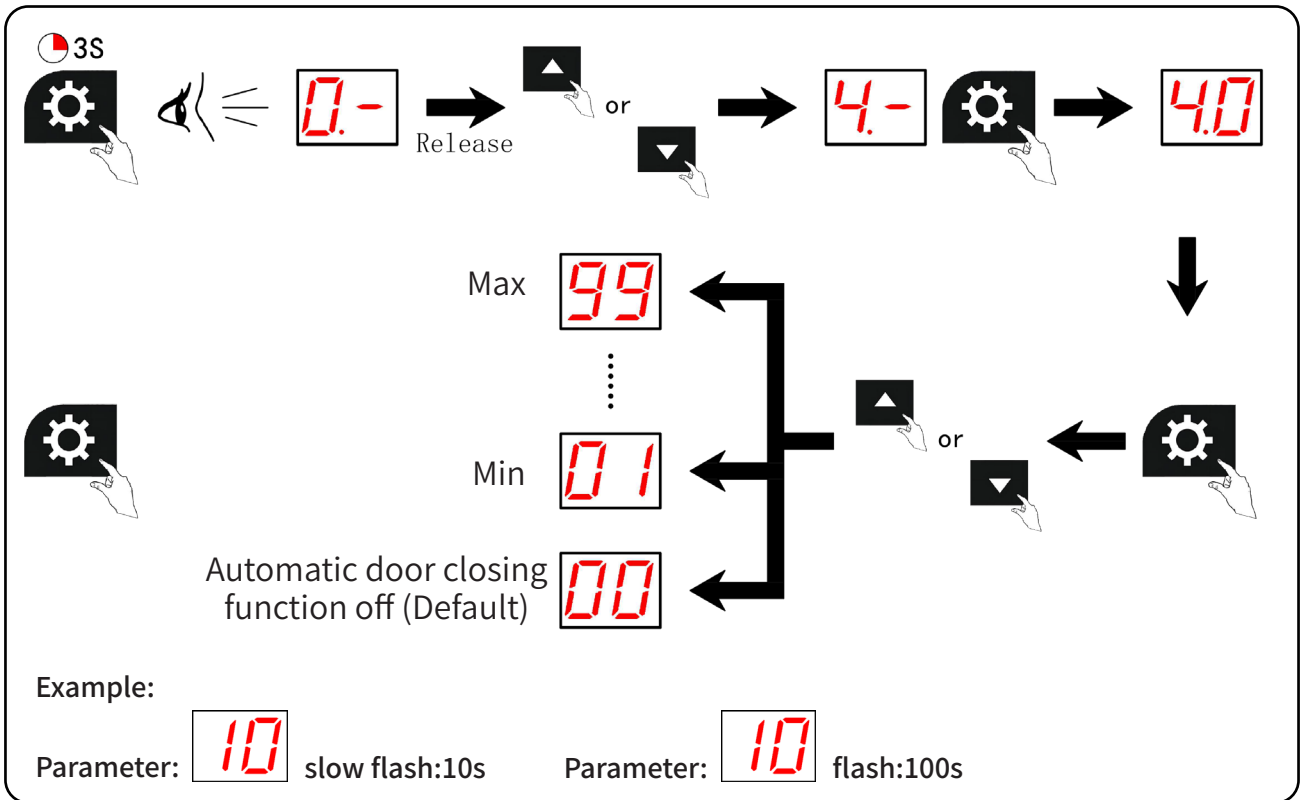
4.1 Automatic closing condition function setting

ⓘ The automatic door closing condition is only used with the 4.0 automatic door closing function.
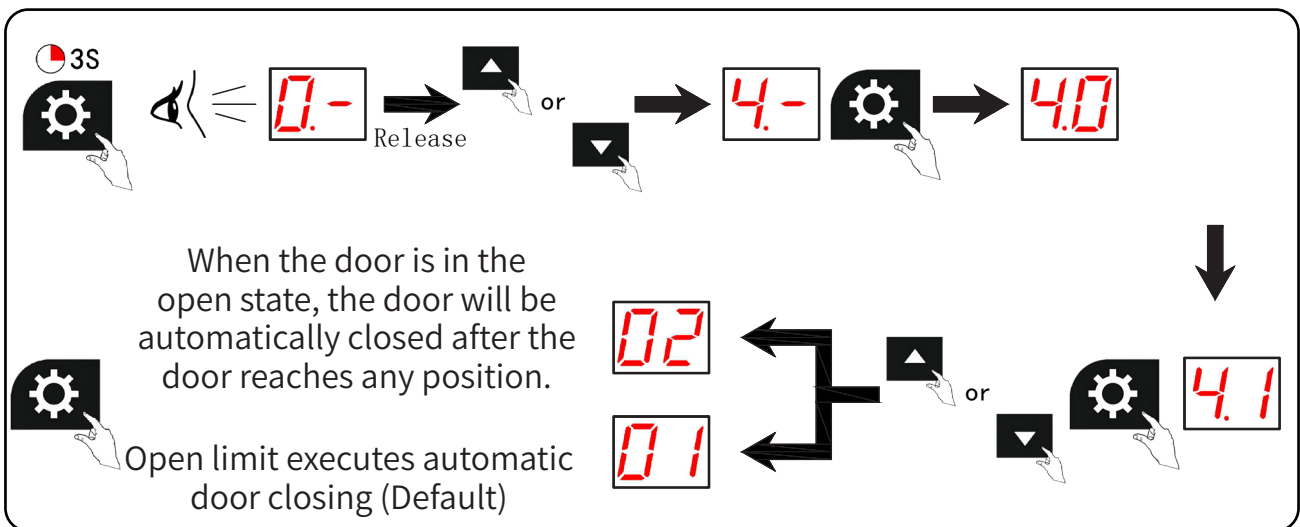
4.2 Relevance setting for automatic closing and photo beam

ⓘ The automatic door closing and PE function association is only compatible with the infrared feature in menu 5.

ⓘ Default Setting: **00** An infrared-initiated door opening will not trigger automatic door closure during the current cycle. Automatic closing will resume in the subsequent cycle following a normal door opening (infrared-initiated openings bypass automatic closure).

ⓘ Once timing is configured, the door will continue to close automatically upon infrared activation. The automatic closure timer resets after infrared activation. The adjustable range is from 0.1 to 3 seconds.

Max **30**

⋮

Min **01**

00

If the door is opened due to the trigger of the infrared port, the automatic door closing will not be executed next time (Default).

Example:

Parameter: **10** :1s
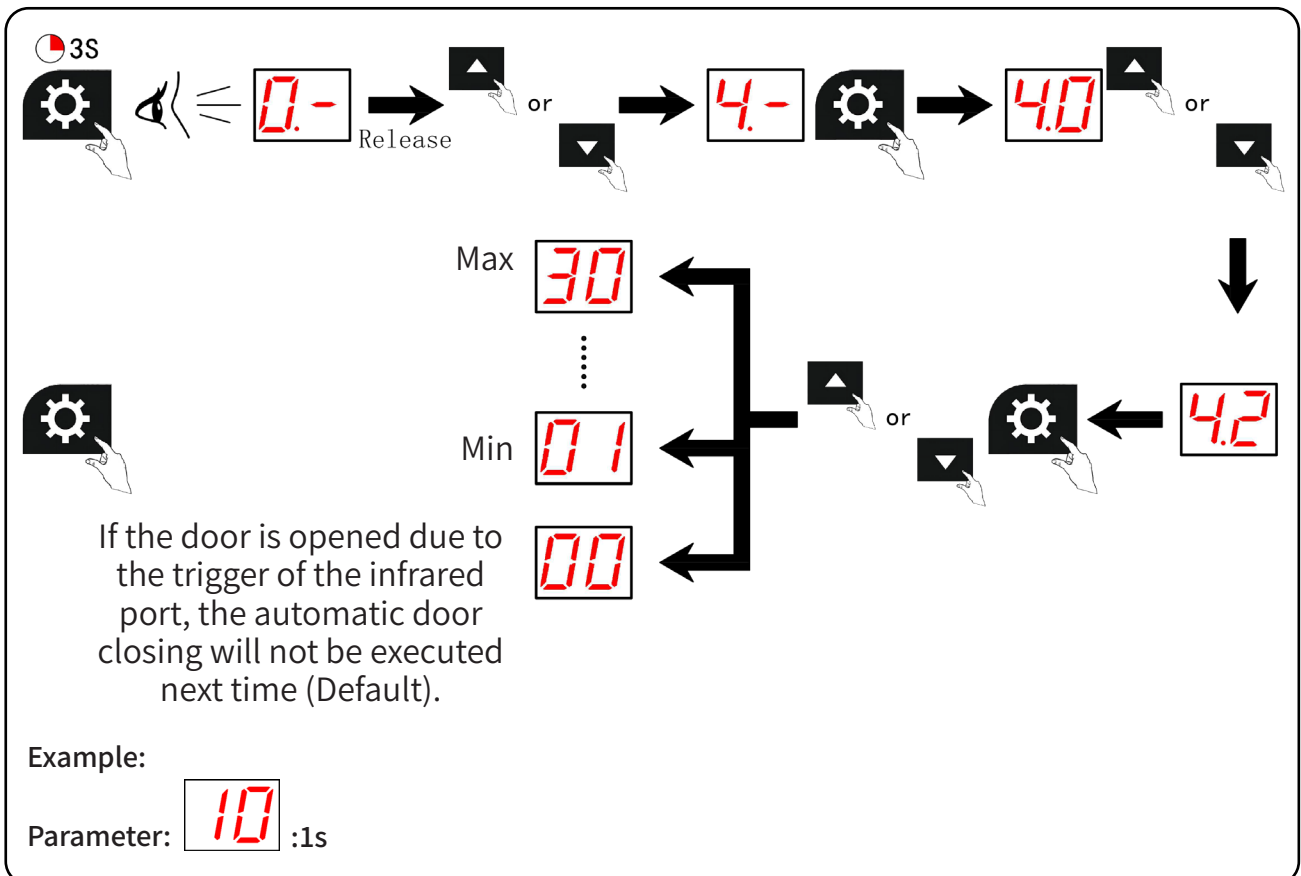
5.– Menu 5: Photo beam function

5.0 PE port function setting

ⓘ **Connection Description: PE-GND port**

Built-in (within track) photo beam function **02**

Standard photocell function **01**
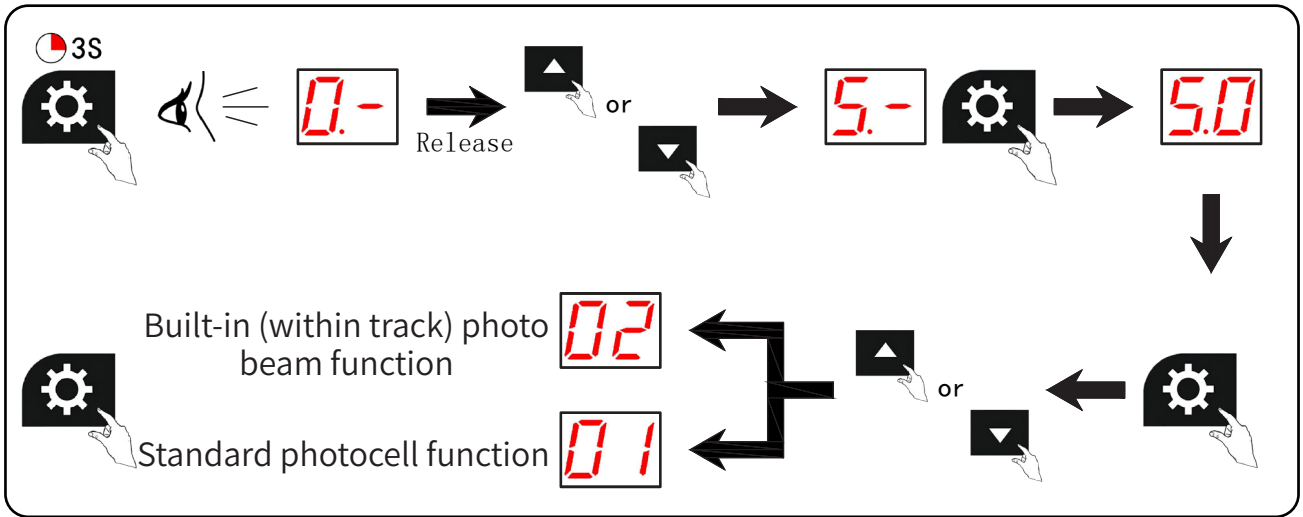
�~01 Standard photo beam function

ⓘ Before using this function, the infrared device needs to be installed on both sides of the door.
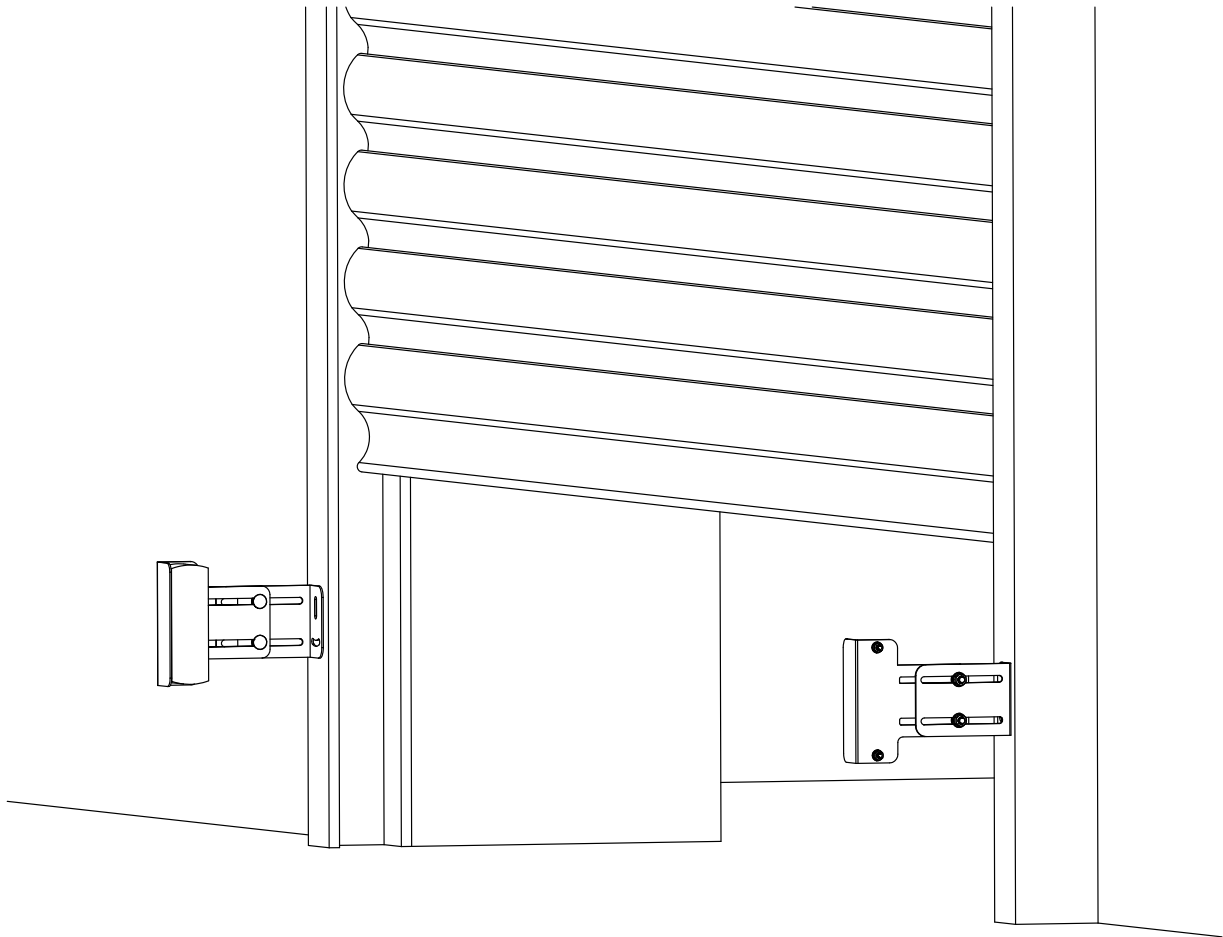
02 Built-in (within track) photo beam function

ⓘ Installation Prerequisite: Install the infrared beam within the door track prior to using the function.

ⓘ FOperational Notes: To engage the track's infrared beam, ensure the door is fully opened to its open limit. Failure to reach this limit will trigger an error **E9**. An error **E9** will also be indicated if the infrared beam is not detected during door closure to the fully sealed position.
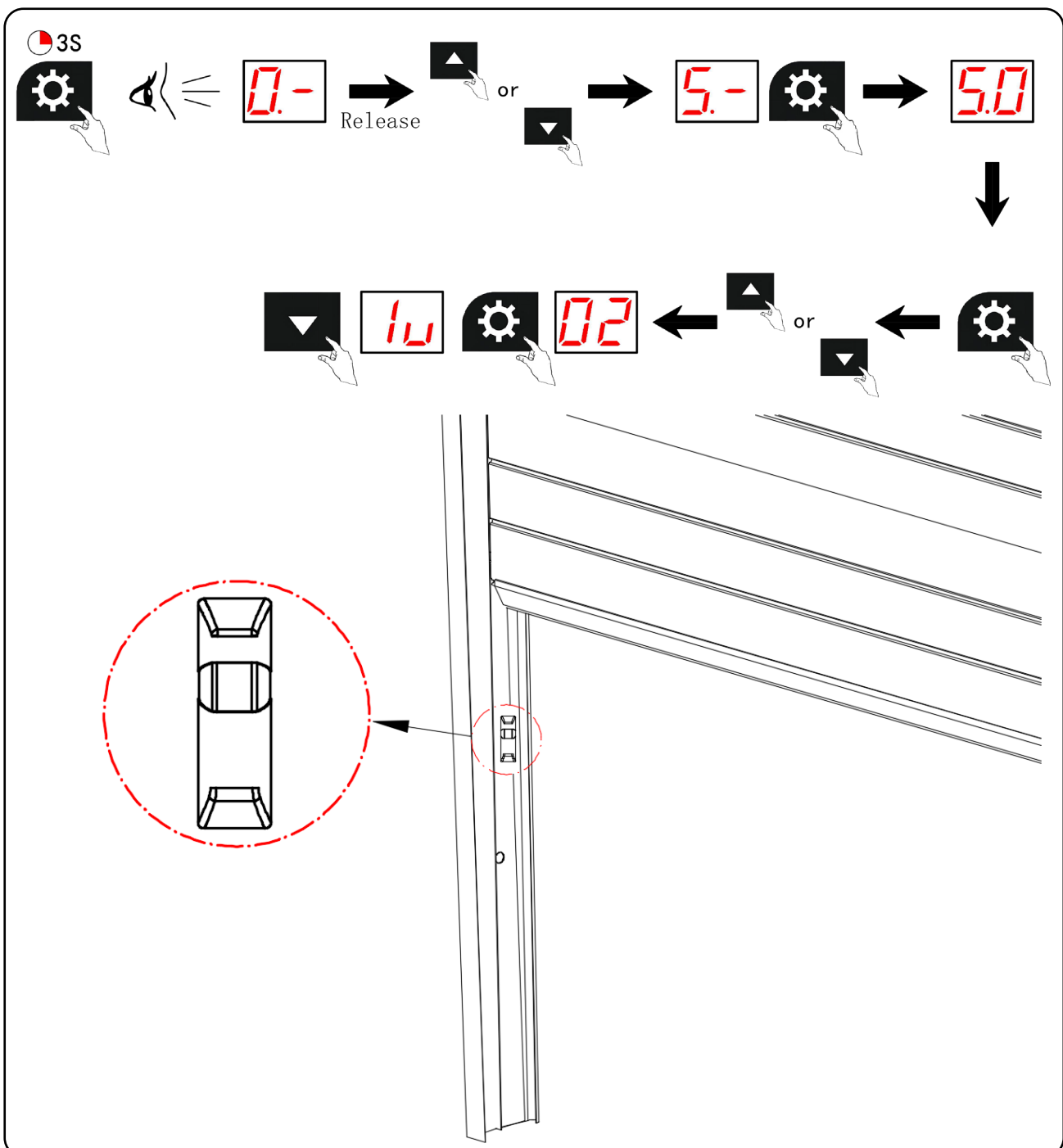
6. -   Menu 6: External port function setting

Function Guide

Partial open function setting	6.0
PB port function setting	6.1
Flash light port function setting	6.2
Electronic lock function setting	6.3
Partial open port function setting	6.4
Relay function setting	6.5
Safety edge types identification	6.6
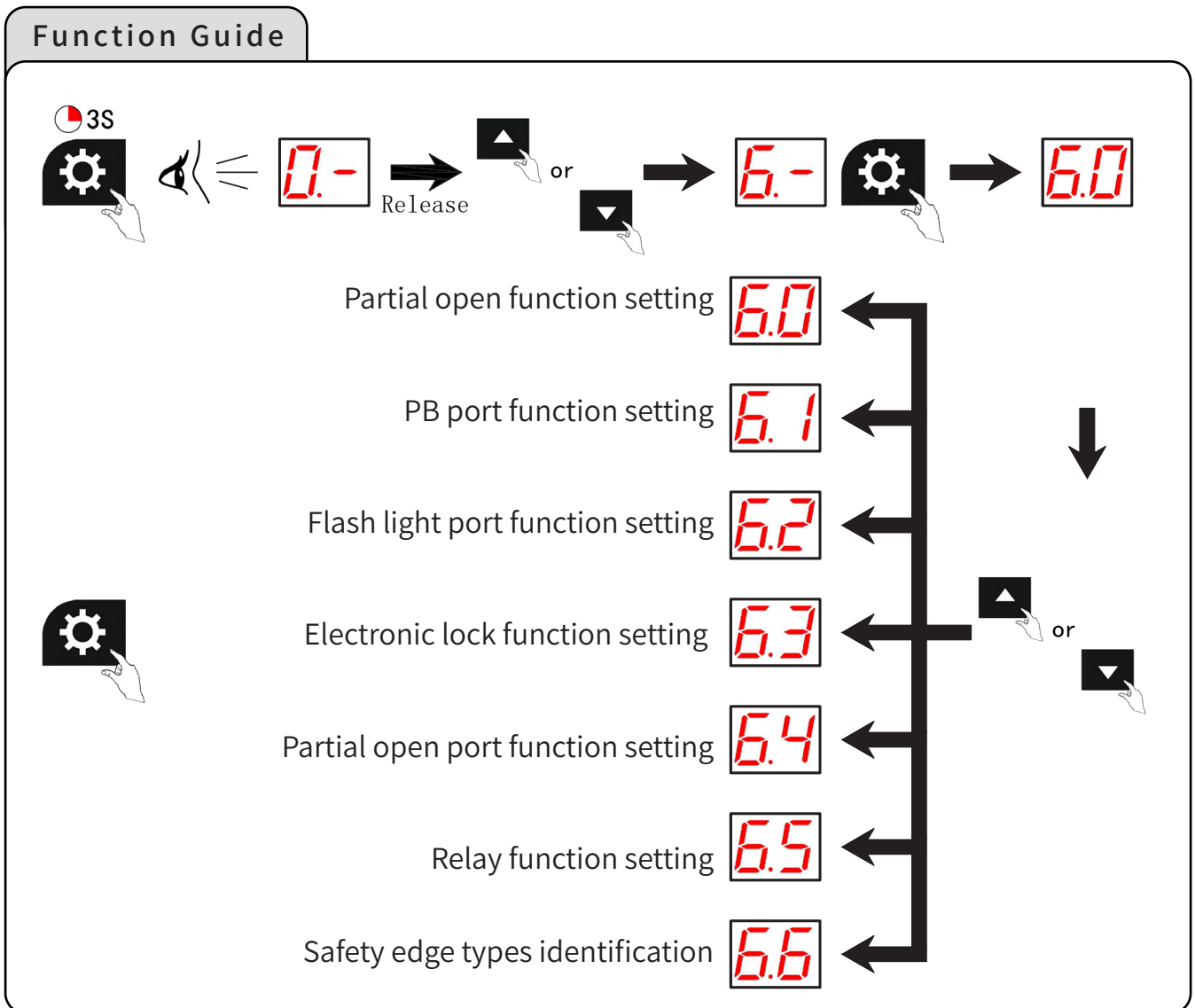
6.0   **Partial open function setting**

Parameter **01** — **08** :

ⓘ Connection instructions: HB-GND port.

ⓘ Set the door opening position, the partial open door port contact activates the door opening state.

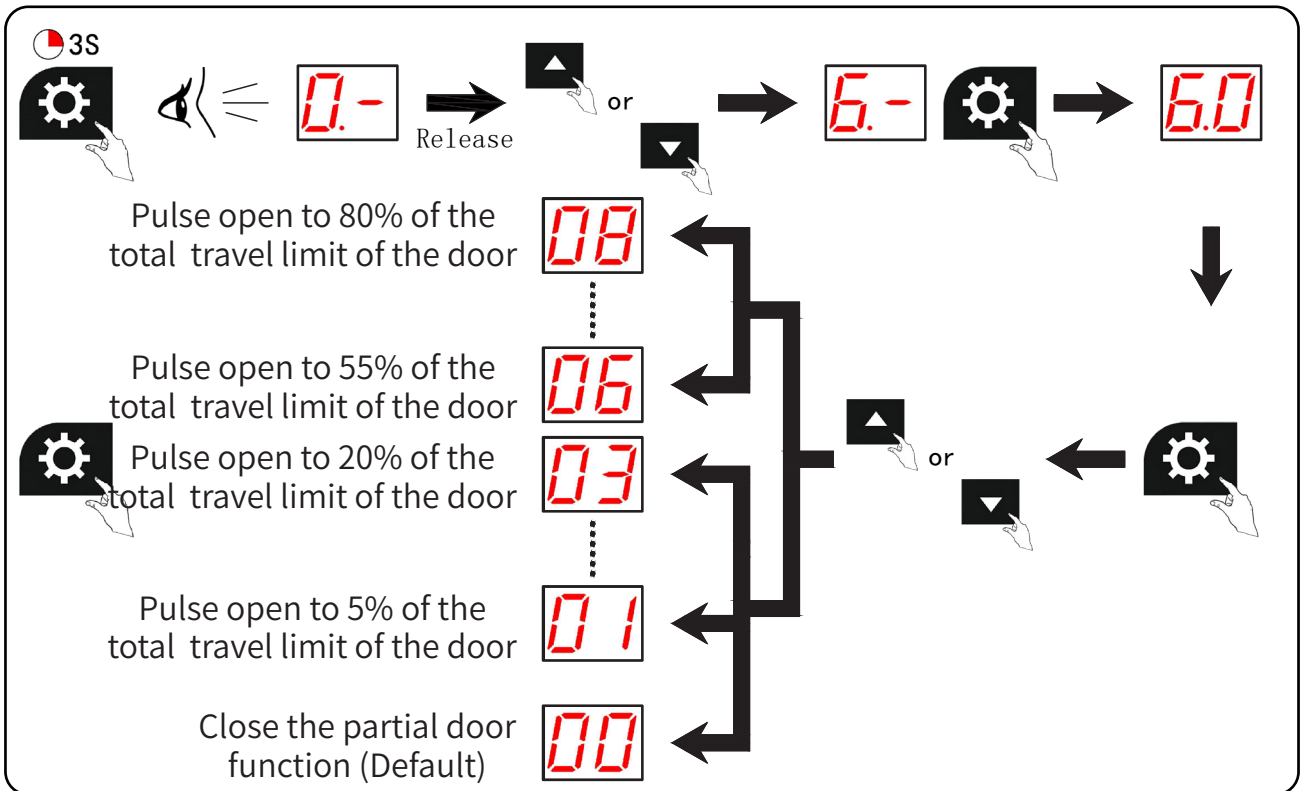|	
00	Close the partial door function (Default)
01	The partial open position is 5% of the total travel limit of the door movement
02	The partial open position is 10 % of the total travel limit of the door movement
03	The partial open position is 20 % of the total travel limit of the door movement
04	The partial open position is 40 % of the total travel limit of the door movement
05	The partial open position is 50 % of the total travel limit of the door movement
06	The partial open position is 55 % of the total travel limit of the door movement
07	The partial open position is 60 % of the total travel limit of the door movement
08	The partial open position is 80 % of the total travel limit of the door movement

6.1 PB port function setting

ⓘ Connection Description: PB-GND port.

ⓘ Port performs the pulse trigger function.

ⓘ When using the 04 Partial open function, the parameters in menu 6.0 need to be set.

The process of closing the door triggers the execution of opening the door (only the trigger is valid during the process of closing the door) — **05**

Partial open function — **04**

Only perform door opening function — **03**

Close the door at the open limit, open the door at the close limit, and only open the door when it stops at other positions — **02**

Switch stop cycle function (Default) — **01**
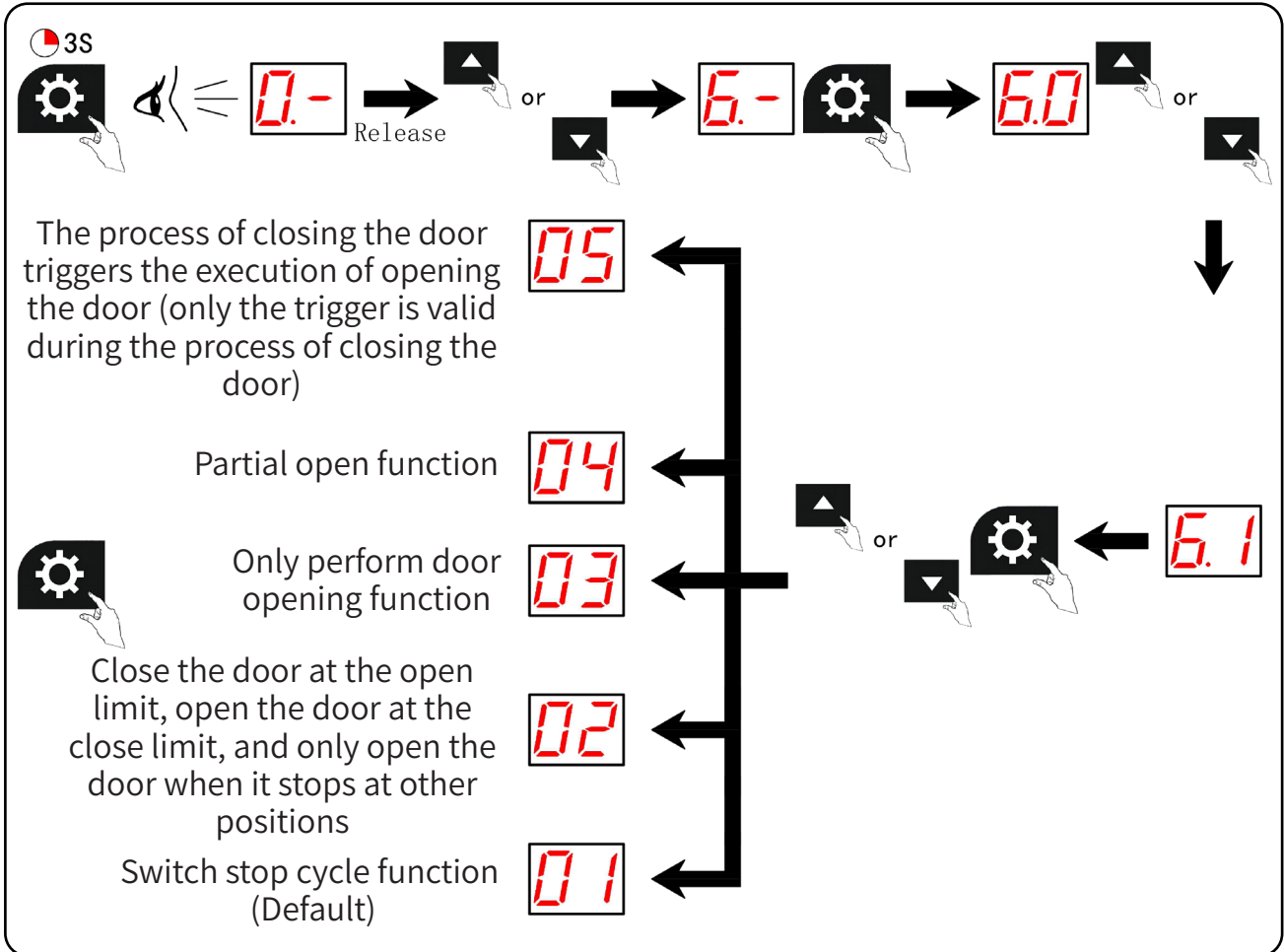
6.2 Flash light port function setting

ⓘ Connection Description: FLA-GND port.
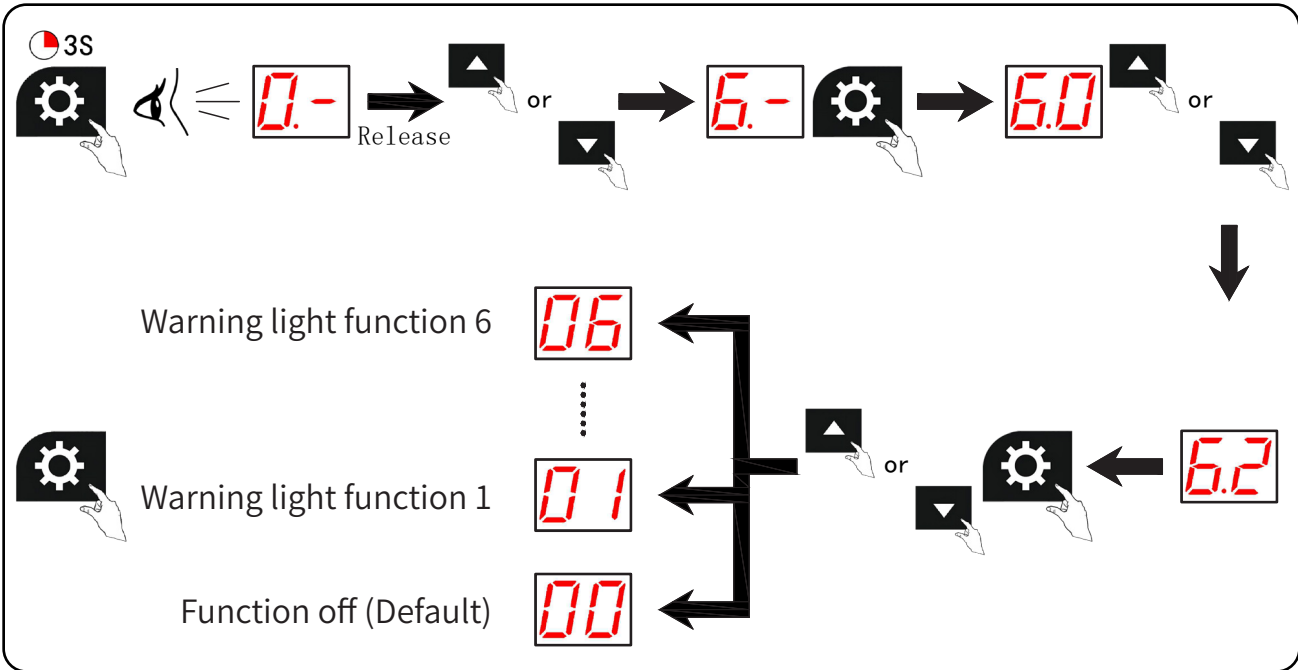
Standard flash light features

ⓘ **Light Operation: Flashes during activity; turns off when inactive.**

ⓘ **Flash Rate: Controlled by parameter 9.5 (Warning Light Frequency).**

CODE	Function	Close limit state	Open limit state	Alert status	Operating status
00	standard application (Default)	OFF	OFF	OFF（without warning）	Flashing[2]

More functions for flash light

ⓘ 1. Warning light duration is set by param 9.3.

ⓘ 2. Flashing frequency is set by param 9.5.

ⓘ 3. Close-limit light state is set by param 9.6.

CODE	Function	Close limit state[3]	Open limit state	Alert status[1]	Operating status
01	Warning light function 1	OFF	OFF	Flashing[2]	ON
02	Warning light function 2	OFF	OFF	Flashing	Flashing
03	Warning light function 3	OFF	OFF	ON	ON
04	Warning light function 4	OFF	OFF	Flashing	OFF
05	Warning light function 5	OFF	ON	Flashing	OFF
06	Warning light function 6	OFF	ON	OFF	OFF

6.3 Electronic lock function setting

ⓘ Connect the electronic lock to the E-lock port of the motor.

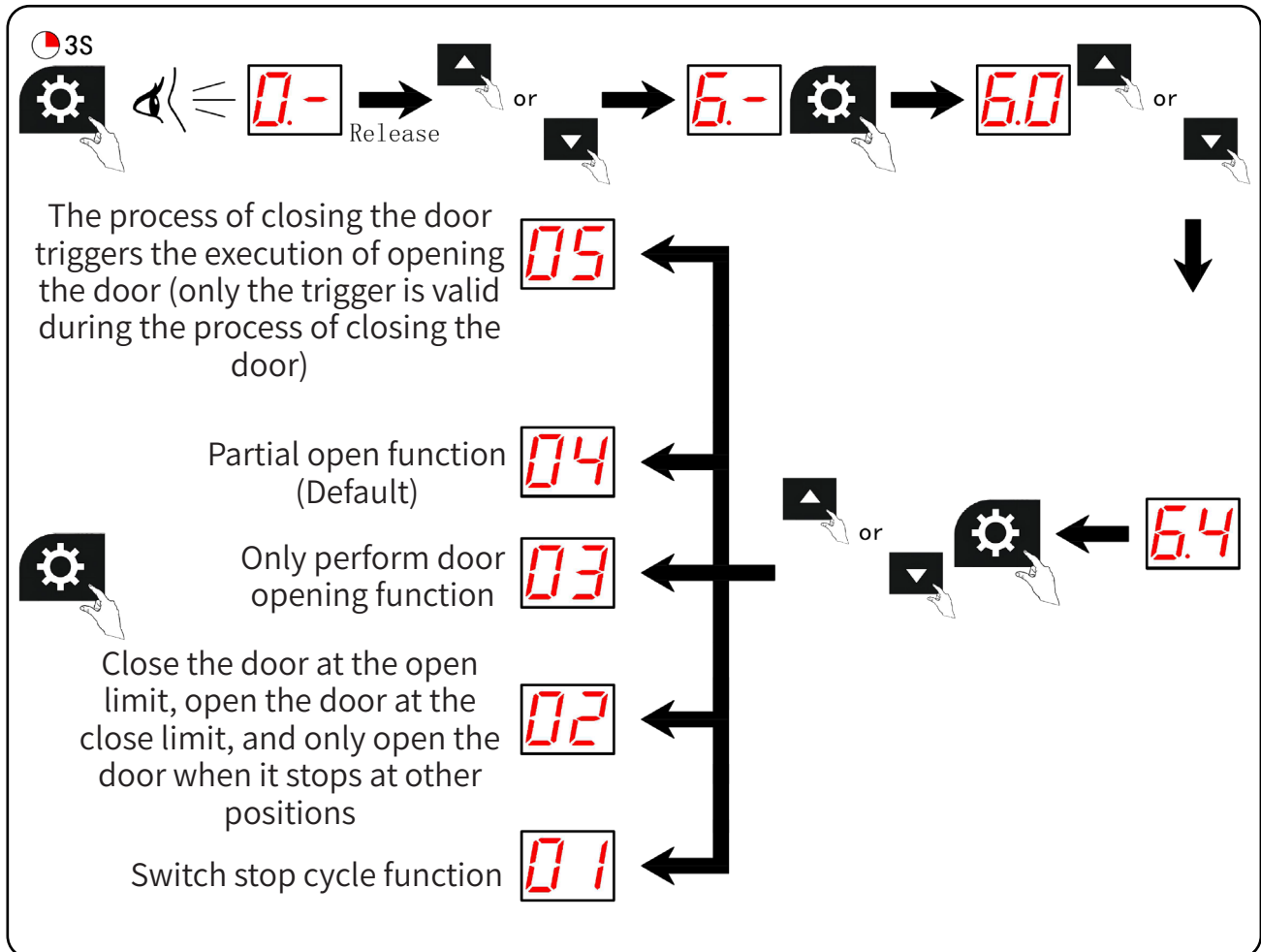Red: L +   Gray: L - IN
Black: L -   Pink: L - OUT

ⓘ Once the electronic lock is properly connected and the door is fully closed, the lock cylinder extends. (Reverse connect of the lock may damage the door or lock upon opening; ensure correct wire connection order.)
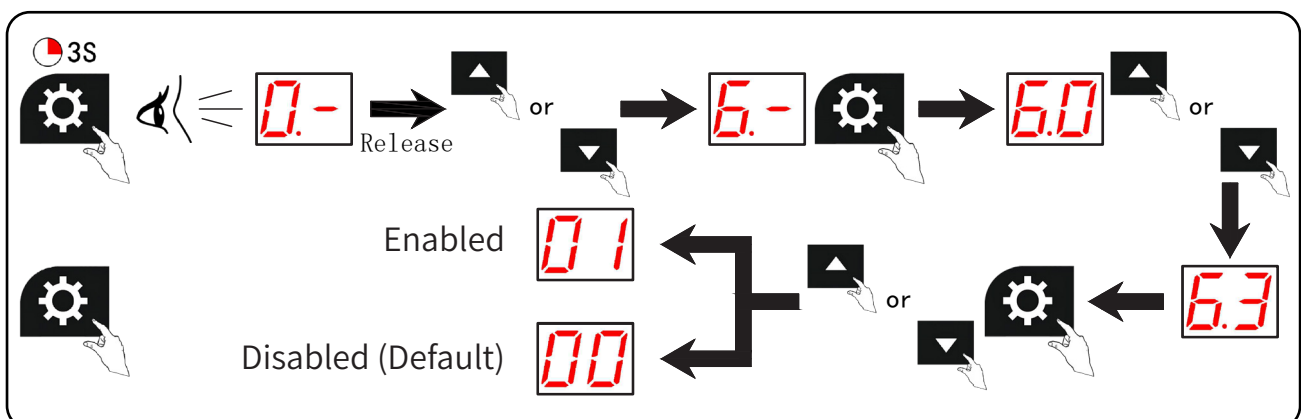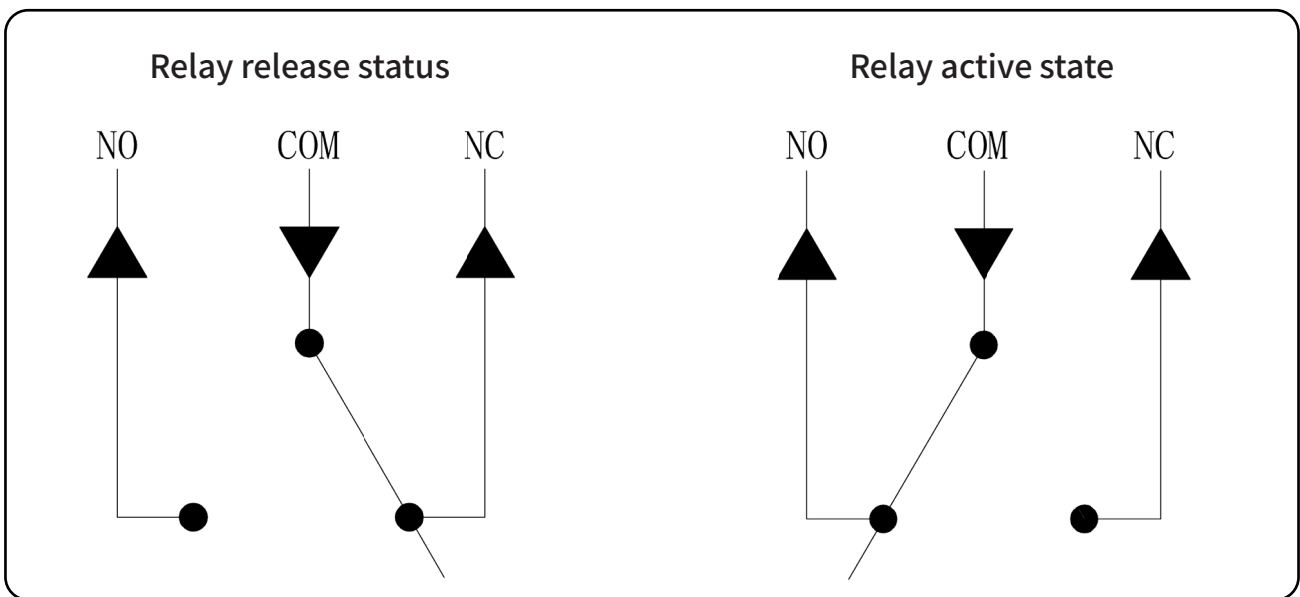
6.4 Partial open port function setting

ⓘ Connection Description： HB-GND port

ⓘ Port performs the pulse trigger function.

ⓘ When using the 04 Partial open function, the parameters in menu 6.0 need to be set.

The process of closing the door triggers the execution of opening the door (only the trigger is valid during the process of closing the door) — **05**

Partial open function (Default) — **04**

Only perform door opening function — **03**

Close the door at the open limit, open the door at the close limit, and only open the door when it stops at other positions — **02**

Switch stop cycle function — **01**

6.5 Relay function setting

ⓘ Connection instructions： NO-COM-NC port.

ⓘ Menu A.0/A.1/A.2/A.3 is visible when using relay RL - A traffic light function group.

ⓘ Menu A.4 is visible when using function 30 in relay RL - A (relay active in close limit zone).

ⓘ Menu A.5 is visible when using function 31 in relay RL - A (relay active in open limit zone).

ⓘ Relay status description：

Relay release status	Relay active state
NO COM NC	NO COM NC

3S

Release

or

Loading platform function - Partial open — `54`

Lighting (Outdoor) Function — `52`

Activates when door is running — `34`

The relay activates in the close limit area — `30`

Open limit activation — `21`

Door activation — `20`

or

Middle position activation — `14`

Open limit activation — `10`

Traffic light - green light 6 — `06`

Traffic light - red light 1 — `01`

Relay function off (Default) — `00`

Code	Function	Function Description
00	Relay function off (Default)	No function - Relay released state

Traffic light function description::

① 1: Pre-warning status is set by the pre-warning time in parameter A.0 (Relay A traffic light).

① 2: Flashing frequency is set by parameter A.2 (Relay A traffic light frequency).

① 3: Close limit state is set by parameter A.3 (Relay A traffic light delay off).

Code	Traffic light function	Close limit state[3]	Open limit state	Alert status[1]	Operating status
01	Traffic light - red light1	OFF	OFF	Flashing[2]	ON
02	Traffic light - red light2	OFF	OFF	Flashing	Flashing
03	Traffic light - red light3	OFF	OFF	ON	ON
04	Traffic light - red light4	OFF	OFF	Flashing	OFF
05	Traffic light - green light5	OFF	ON	Flashing	OFF
06	Traffic light - green light6	OFF	ON	OFF	OFF

Door Position Function Group
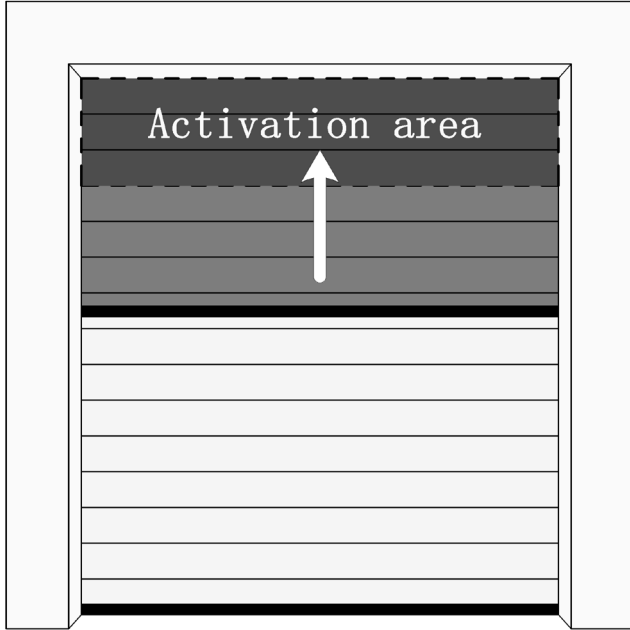
ⓘ **Relay triggering based on door position.**
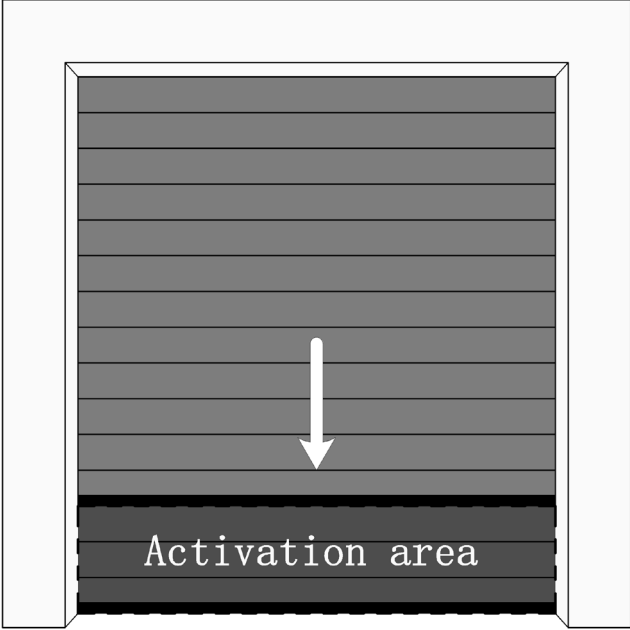
Code	Function	Close imit state	Open limit state	Centre position	Operating status
`10`	Open limit activation	OFF	ON	ON	OFF
`11`	Close limit activation	ON	OFF	OFF	OFF
`12`	Open limit closed	ON	OFF	OFF	ON
`13`	Close limit closed	OFF	ON	ON	ON
`14`	Middle position activation	OFF	OFF	ON	OFF

Pulse function group

Code	Function	Function Description
`20`	Door activation	Each time the motor executes a door open, the relay activates for one second
`21`	Open limit activation	After the motor opens the door and reaches the open limit, the relay is activated for two seconds

Gate Runtime Function Group

ⓘ **Relay triggering based on the door movement state**

Code	Function	Function Description
30	The relay activates in the close limit area	When the door travel limits below the set position, the relay activates. The position at which the relay activates can be set using parameter A.4. Activation area
31	The relay activates in the open limit area	When the door travel limits above the set position, the relay activates. The position at which the relay activates is programmable using parameter A.5. Activation area

Code	Function	Function Description
32	Activation with door open	When the door is open and running, the relay is activated
33	Activate with door closed	When the door body is closed, the relay is activated
34	Activates when the door is running	When the door is opened or closed, the relay is activated

Add-on function group

ⓘ **Relay triggering based on the door movement state**

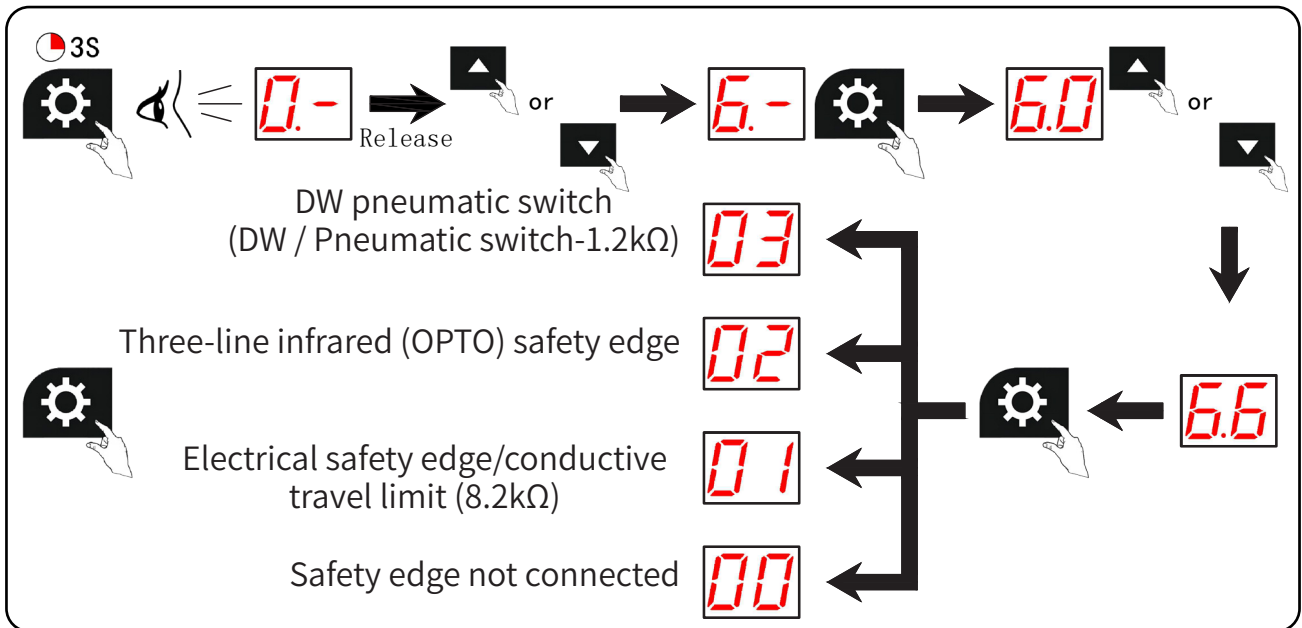| Code	Function	Function Description
52	Lighting (outdoor) function	The relay activates when there is a door open command and remains active for 2 minutes at the open limit.
53	Loading platform function - fully open	The relay establishes communication with the dock leveler. Doors are fully open during dock leveler operations.
54	Loading platform function - partial door	The relay establishes communication with the dock leveler. Doors are in the partial open position when the leveler is in operation.

6.6 Safety edge types identification

The motor will recognize the types of safety edges automatically.

Ensure the safety edge has been installed properly before starting, otherwise, the motor runs in dead man (hold to run) mode during closing.

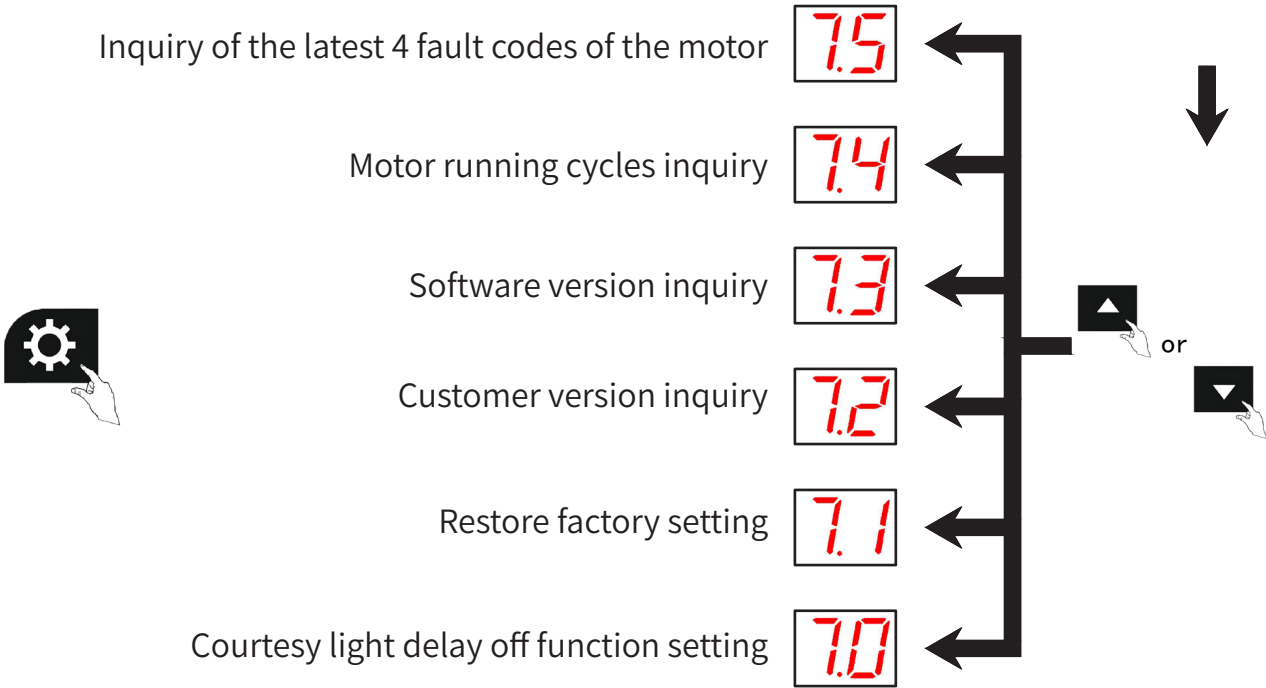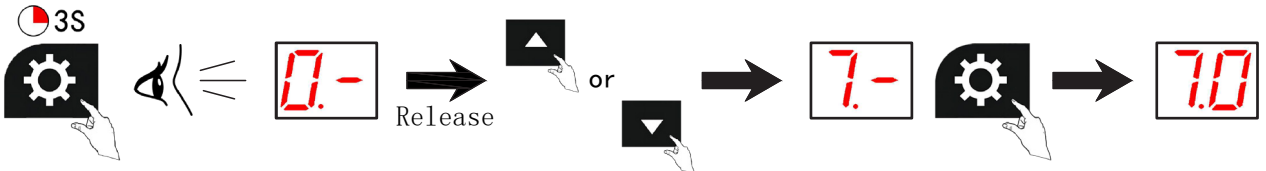ⓘ Closure triggers reverse set by params 3.3 (rebound time) and 3.4 (reaction time).

DW pneumatic switch (DW / Pneumatic switch-1.2kΩ) — 03

Three-line infrared (OPTO) safety edge — 02

Electrical safety edge/conductive travel limit (8.2kΩ) — 01

Safety edge not connected — 00

Menu 7: Motor query function setting

Inquiry of the latest 4 fault codes of the motor `7.5`

Motor running cycles inquiry `7.4`

Software version inquiry `7.3`

Customer version inquiry `7.2`

Restore factory setting `7.1`

Courtesy light delay off function setting `7.0`

56

7.0 Courtesy light delay off function setting

ⓘ This function menu is only visible on DC - IDO motors.

ⓘ Used to set the delay time for the courtesy light to turn off after the motor stops running.


```
Max    09
        ⋮
Default 03
        ⋮
Min    01
```

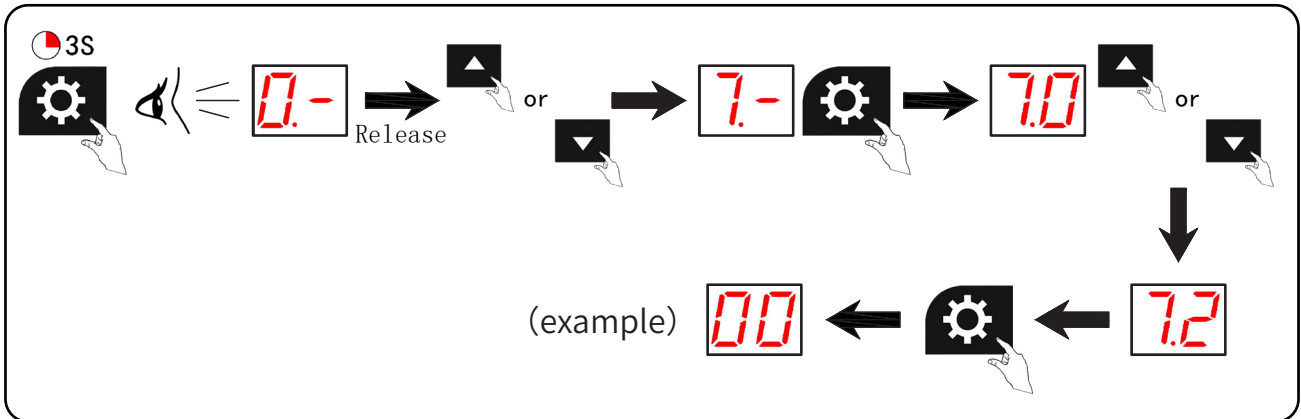Example:

Parameter: `01` :1min
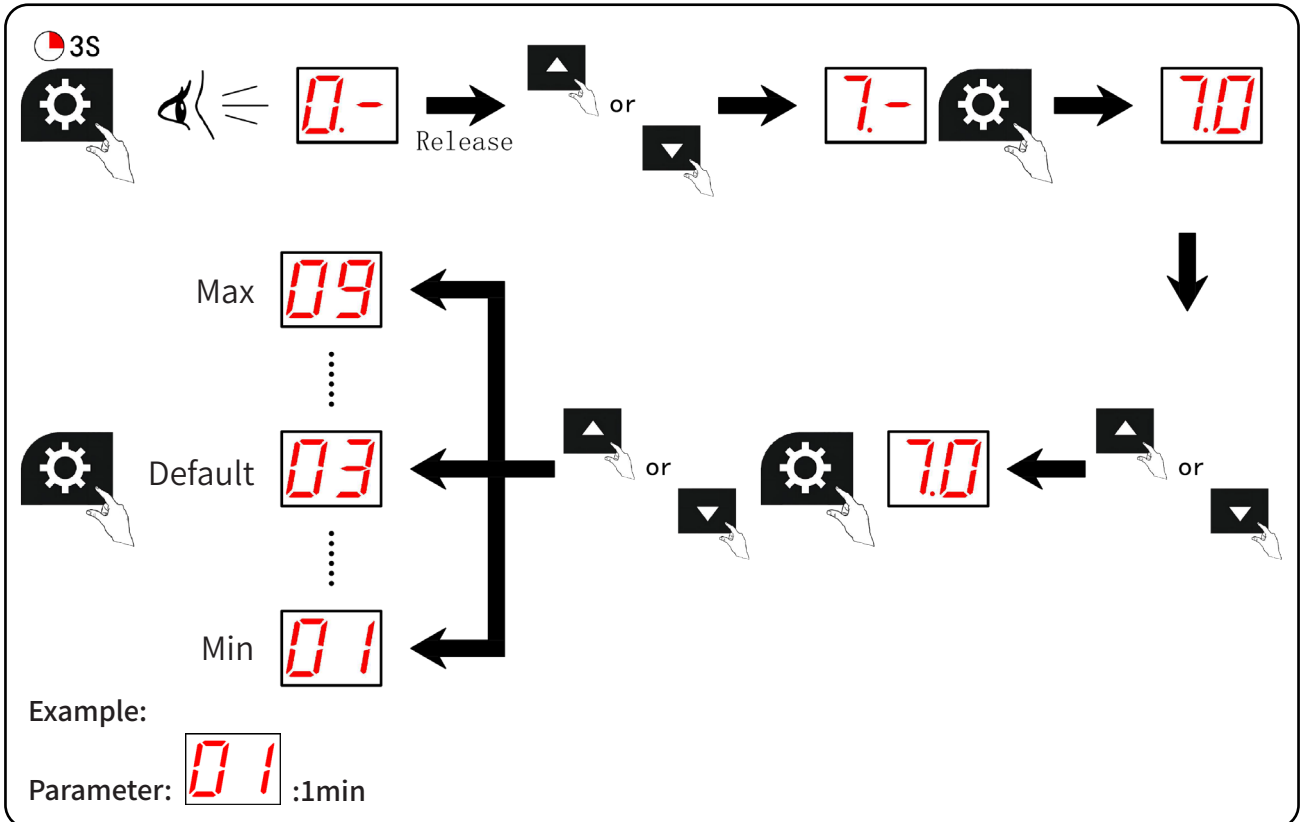
7.1 Restore factory setting

ⓘ All settings are set to factory settings! In addition to the cumulative running times of the motor and the number of maintenance alarms.

ⓘ After restoring the factory settings, power off the system for 1 minute and then power on again.
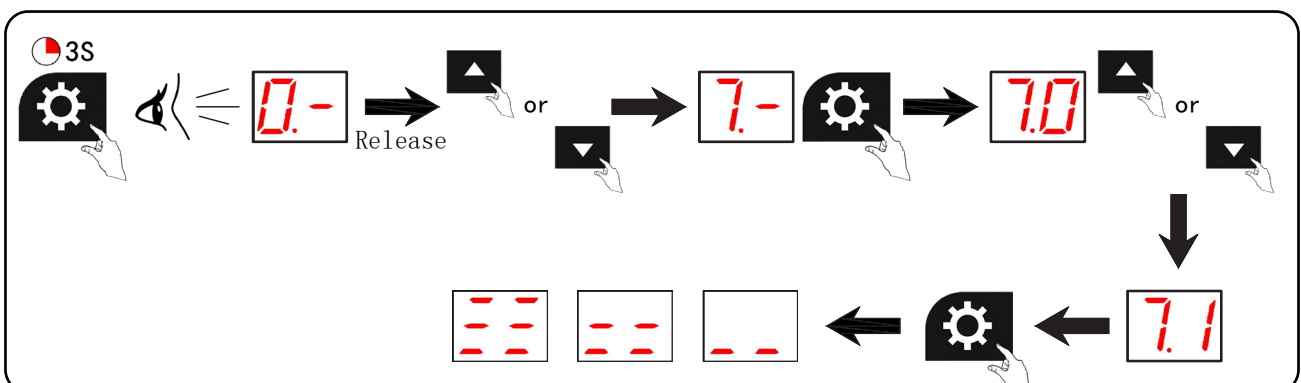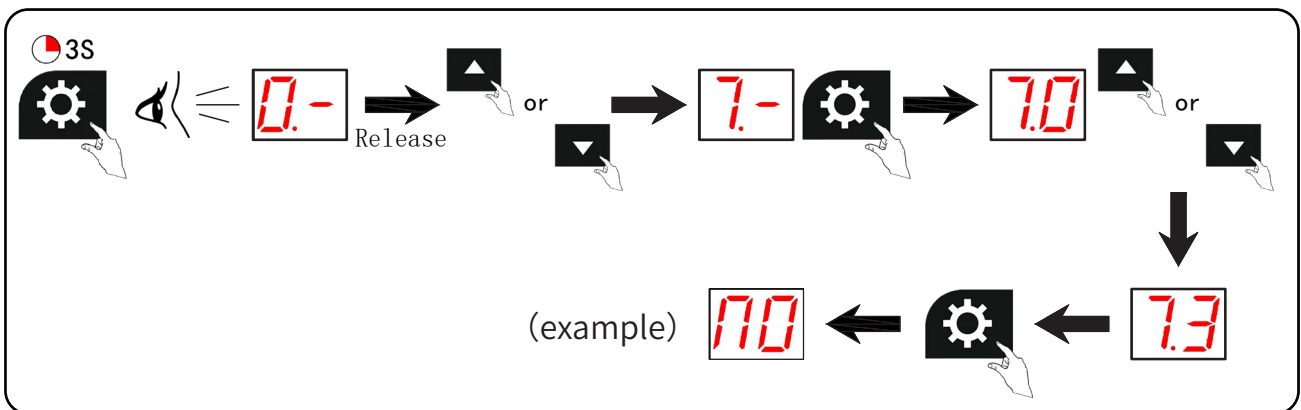
7.2 Customer version inquiry

ⓘ This function can query the customer code.

3S ... 0.- → Release (▲ or ▼) → 7.- → 7.0 (▲ or ▼) → 7.2 → ← 00 (example)

7.3 Software version inquiry

ⓘ This function can query the hardware versions of the control module, encoder module, power limit module and inverter module.
ⓘ Example: Display in the order of A0-10-C0-b0.

3S ... 0.- → Release (▲ or ▼) → 7.- → 7.0 (▲ or ▼) → 7.3 → ← ⌐0 (example)

7.4 Motor running cycles inquiry

ⓘ This function can query the accumulative running times of the motor.
ⓘ The accumulative running times of the motor will not be cleared after the motor is restored to factory settings.

3S ... 0.- → Release (▲ or ▼) → 7.- → 7.0 (▲ or ▼) → 7.4 → ← 00 00 05 (example)
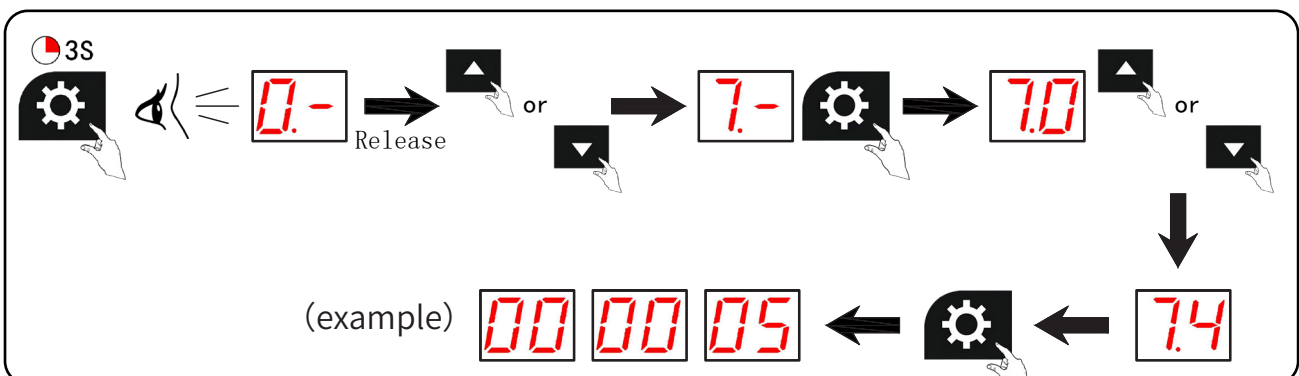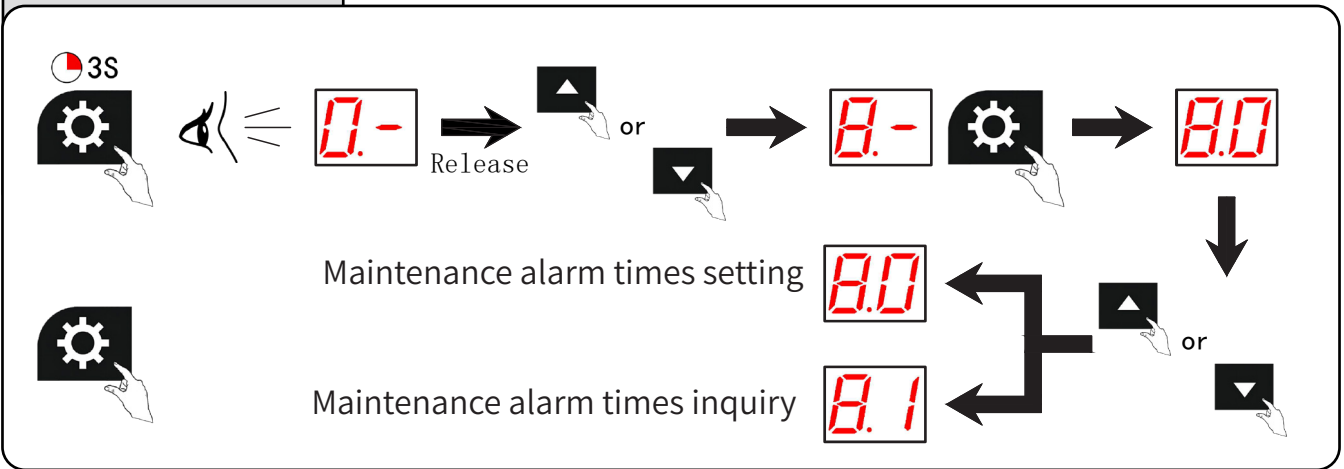
7.5 Inquiry of the latest 4 fault codes of the motor

ⓘ This function can query the last four fault codes of the motor.
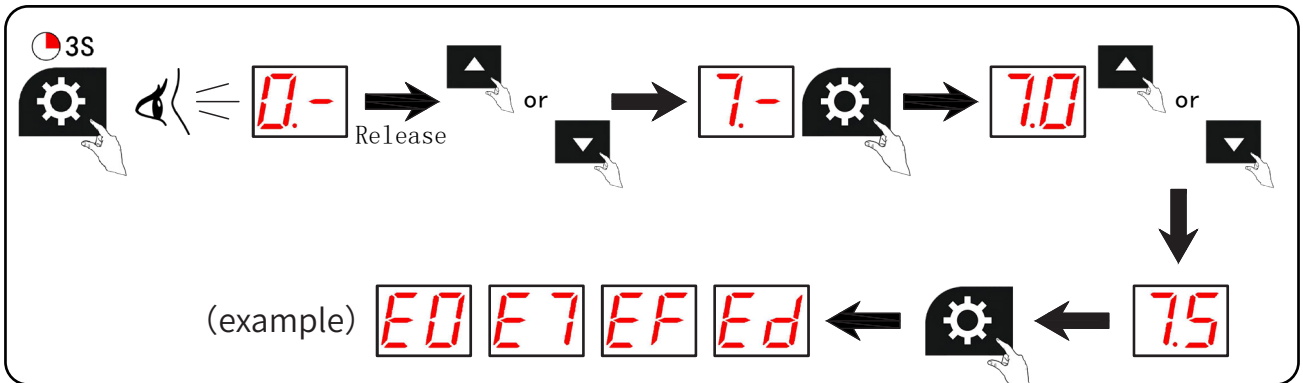
8.- Menu 8: Maintenance alarm function setting

Function Guide

🕐3S

⚙ ◀ **0.-** → Release ▲ or ▼ → **8.-** ⚙ → **8.0**

Maintenance alarm times setting **8.0** ← ▲ or ▼

⚙ Maintenance alarm times inquiry **8.1** ←

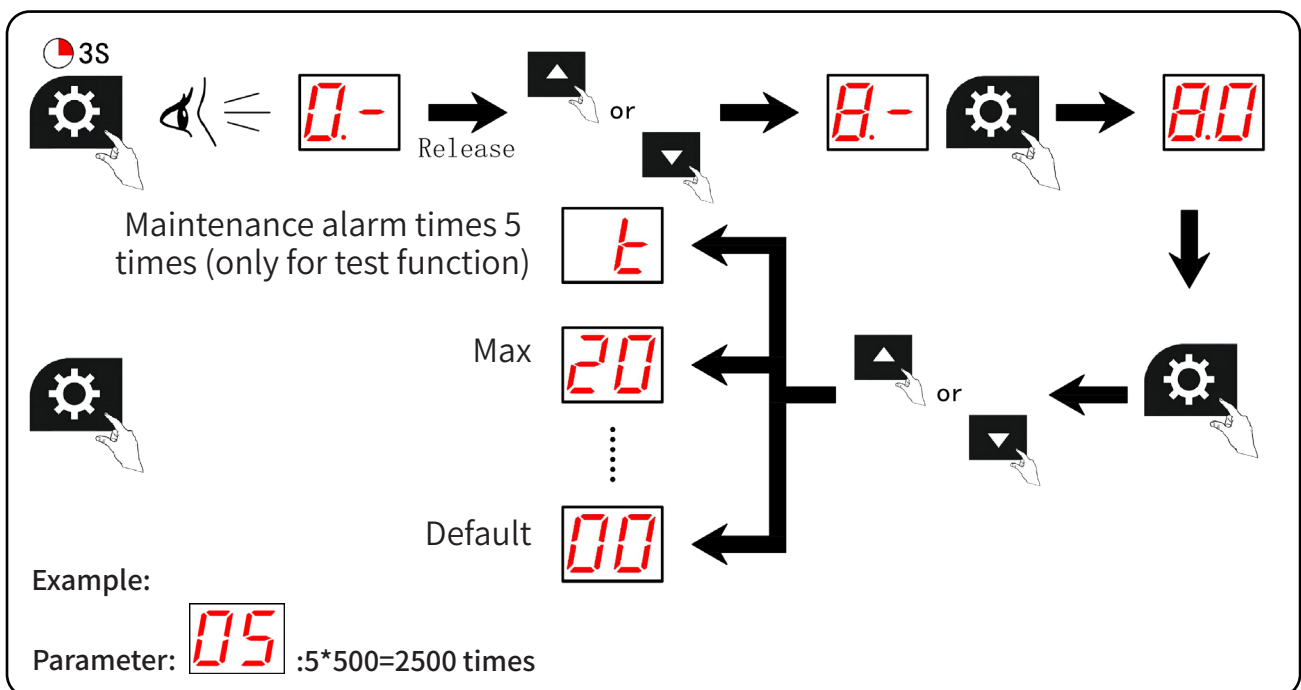**8.0** Maintenance alarm times setting

ⓘ Once the maintenance alarm cycle limit is reached, the motor switch door's digital tube will show a prompt code **CA** . Reset by re-entering menu 8.0 to set the maintenance alarm level.

ⓘ Motor behavior post-maintenance alarm limit is set by the corresponding parameter **8.1** .
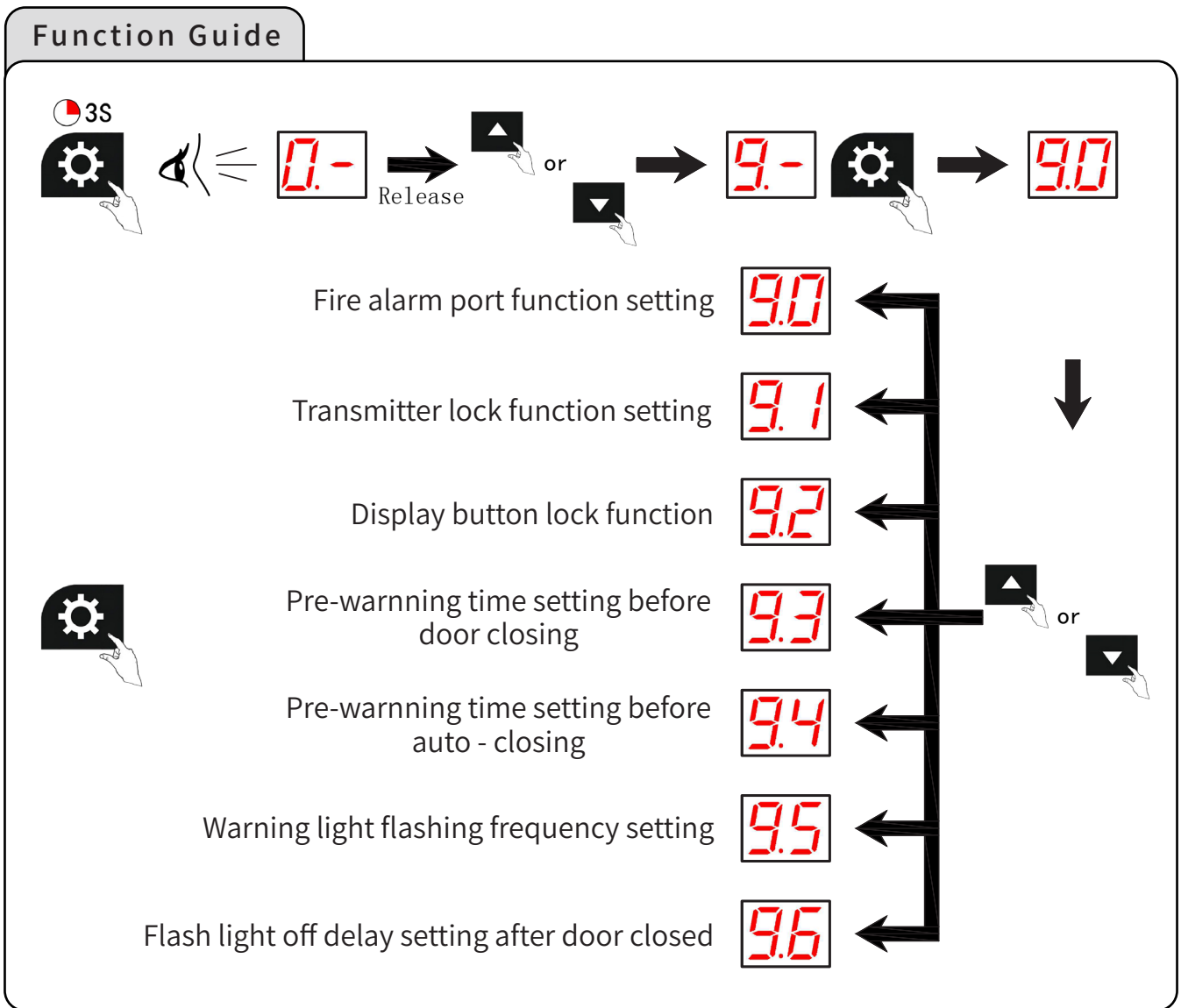
🕐3S

⚙ ◀ **0.-** → Release ▲ or ▼ → **8.-** ⚙ → **8.0**

Maintenance alarm times 5 times (only for test function) **t** ←

Max **20** ← ▲ or ▼ ← ⚙

...

⚙ Default **00** ←

Example:

Parameter: **05** :5*500=2500 times

60

8.1 Maintenance alarm times inquiry

ⓘ The number of maintenance alarms will not be cleared after the motor is restored to factory settings.

ⓘ After the maintenance of the door body is completed, the maintenance personnel need to re-enter the menu to set the maintenance times, and the number of motor maintenance alarms will start counting again.
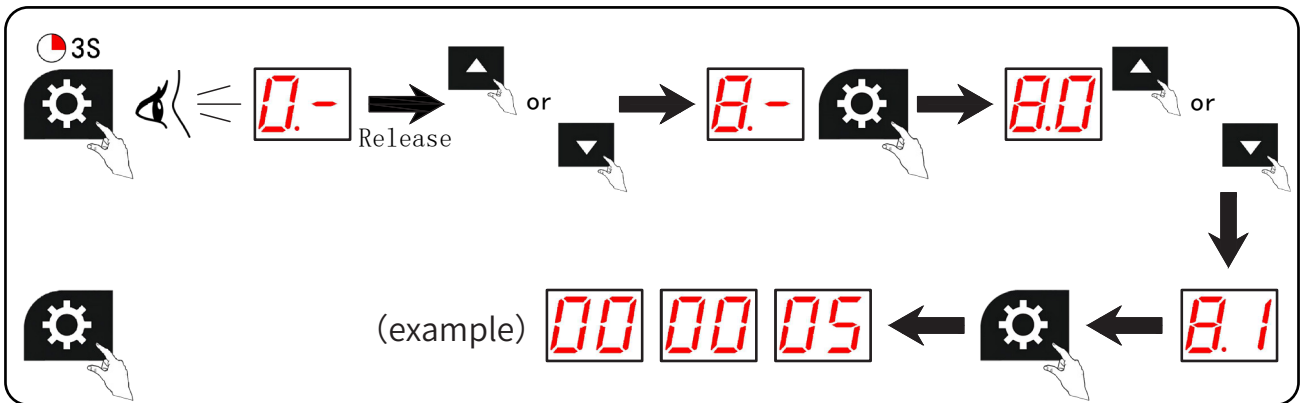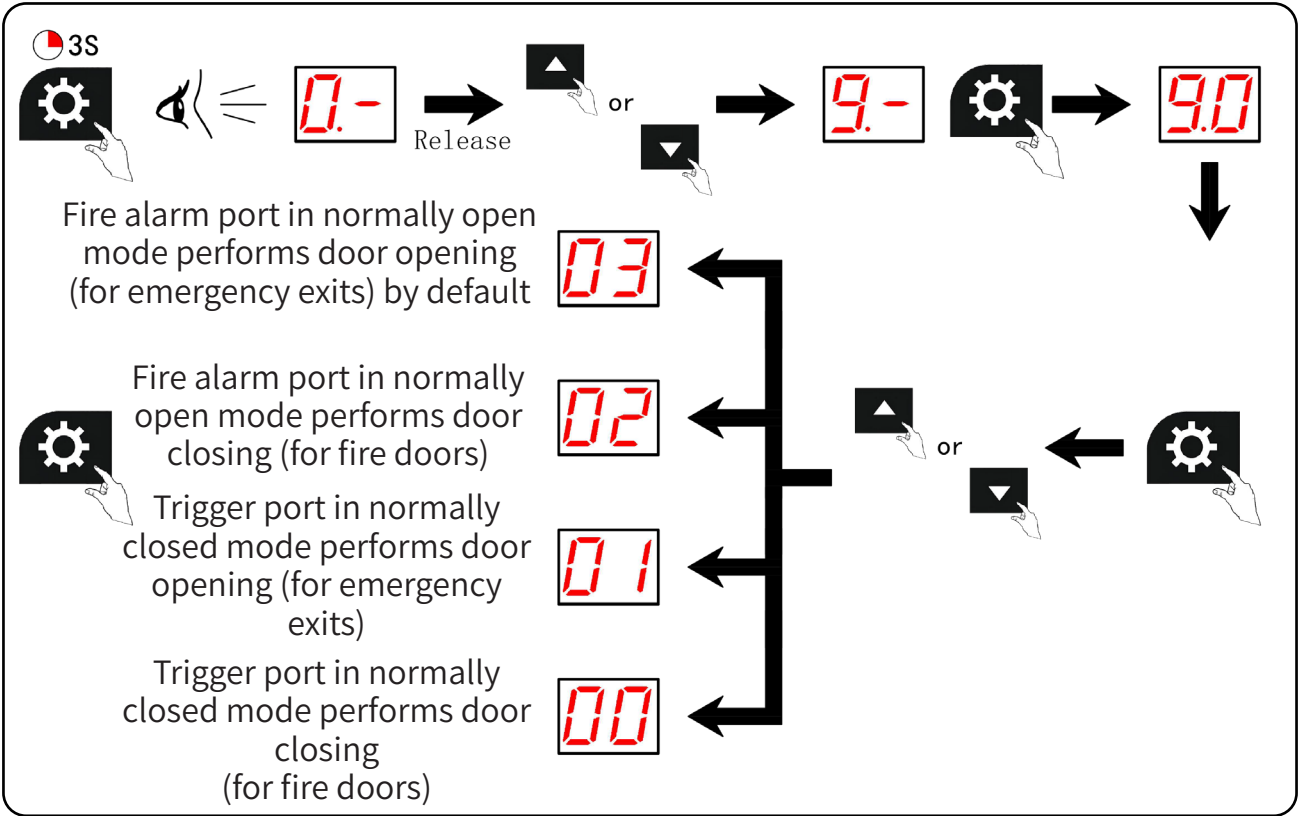
# 9.- Menu 9: Other function settings of the motor

⏱3S

⚙ ◁= 0.- → ▲ or ▼ → 9.- ⚙ → 9.0

Fire alarm port function setting — 9.0

Transmitter lock function setting — 9.1

Display button lock function — 9.2

⚙ Pre-warnning time setting before door closing — 9.3

Pre-warnning time setting before auto - closing — 9.4

Warning light flashing frequency setting — 9.5

Flash light off delay setting after door closed — 9.6

or ▲ ▼

9.0 Fire alarm port function setting

ⓘ This function is used to change the door body operation after the fire alarm function is triggered. After the fire alarm triggers the door body action, only (FA-GND) port can control the motor to stop, and other stop operation commands cannot stop the door body run.

Fire alarm port in normally open mode performs door opening (for emergency exits) by default

Fire alarm port in normally open mode performs door closing (for fire doors)

Trigger port in normally closed mode performs door opening (for emergency exits)

Trigger port in normally closed mode performs door closing (for fire doors)

9.1 Transmitter lock function setting

ⓘ The remote controller control will be locked after the function is turned on. Can be unlocked and locked via this menu or the remote control receiver

ⓘ Displayed when the remote lock is locked LΓ ,Show when unlocked ΓL .
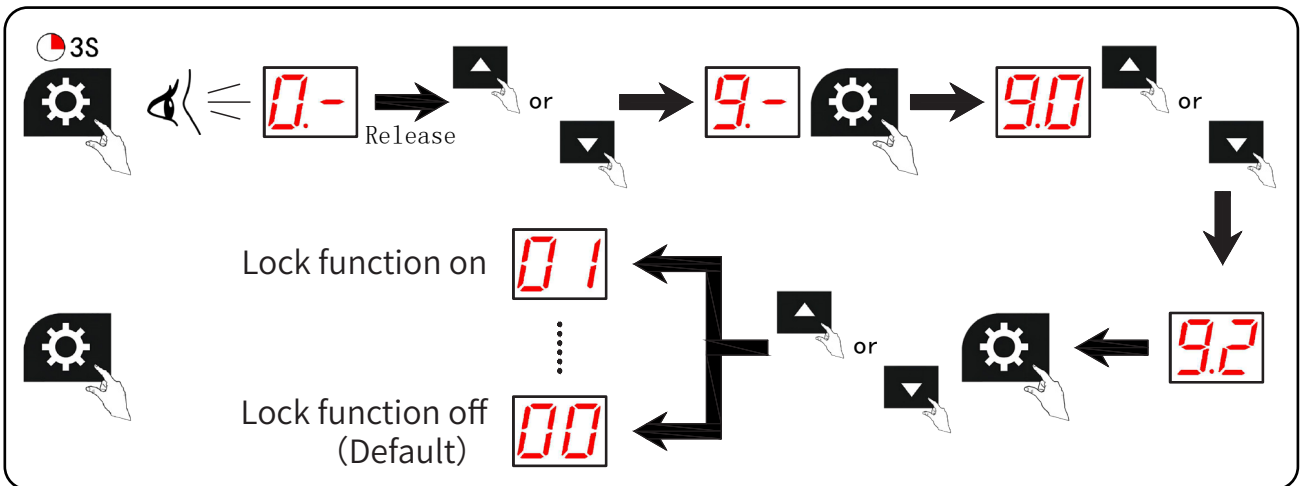

Lock function on

Lock function off (Default)
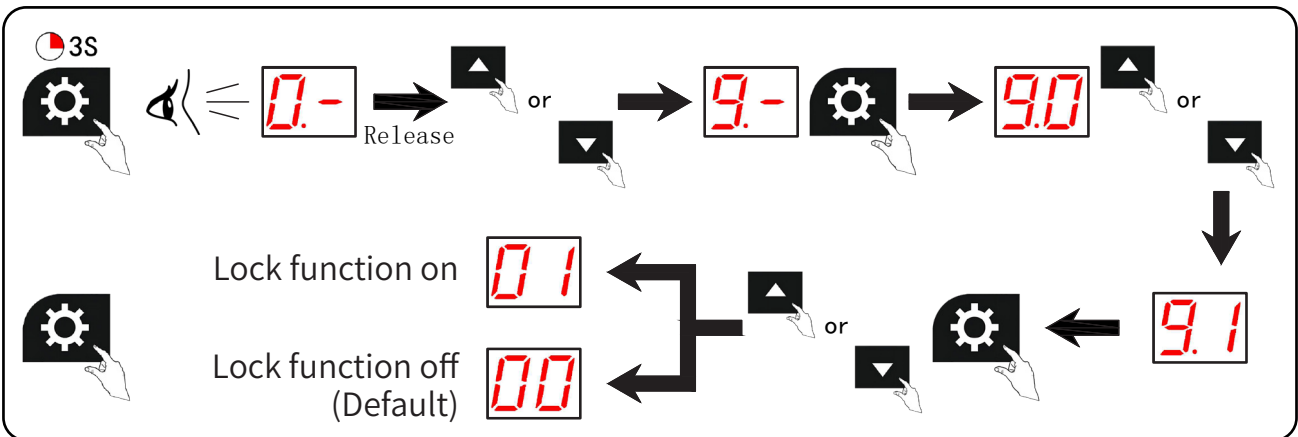
9.2 Display button lock function

ⓘ After turning on the display lock function, the control panel buttons are invalid, except for long pressing the SET button to enter the menu settings.

ⓘ After the lock is turned on, the control box button triggers the display: **UL**
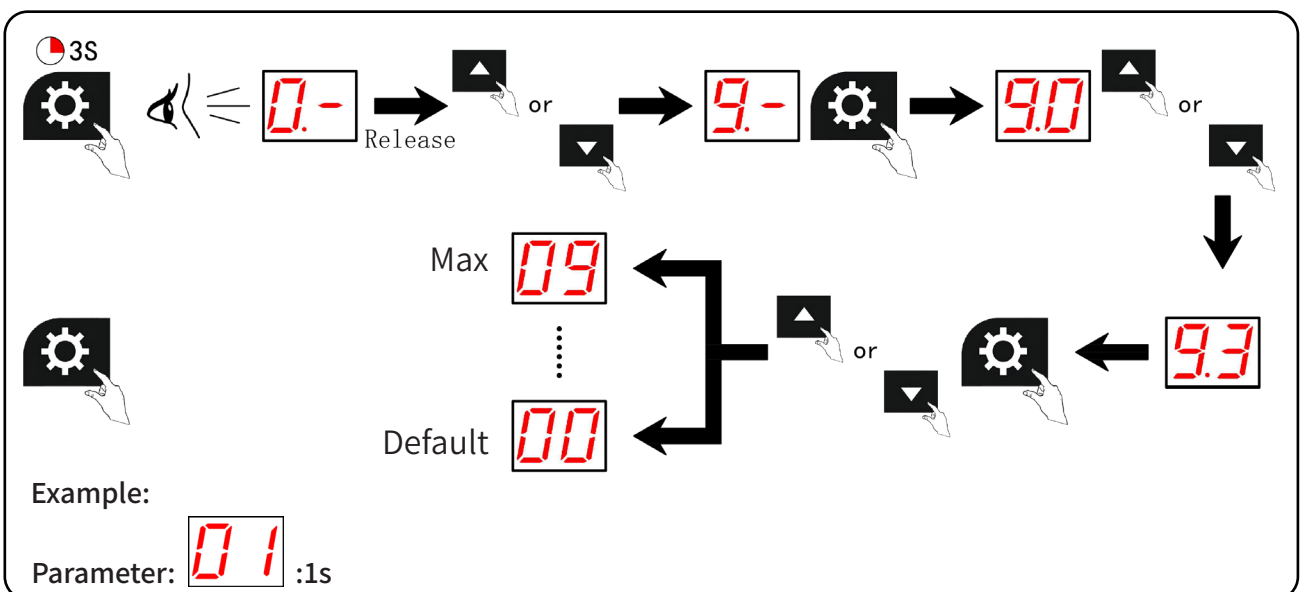
Lock off display: **LC**

Lock function on **01**
⋮
Lock function off
(Default) **00**

9.3 Pre-warnning time setting before door closing

ⓘ The time setting range of this parameter is : 0 seconds-9 seconds.

ⓘ This menu is only visible after the warning light turns on the 01-06 traffic light function in menu 6.2

Max **09**
⋮
Default **00**

Example:

Parameter: **01** :1s
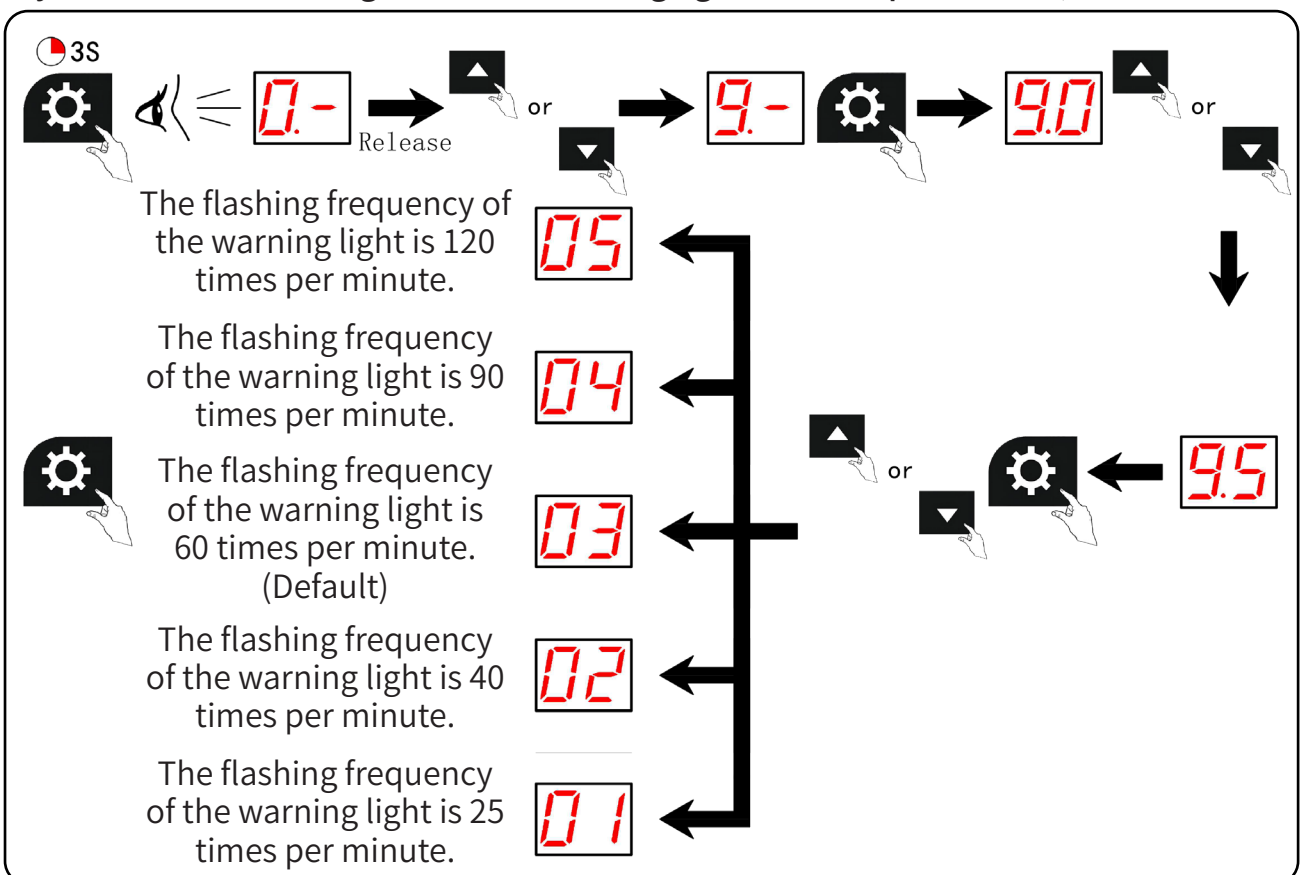
9.4 Pre-warnning time setting before auto - closing

ⓘ The time setting range of this parameter is: 0 seconds-120 seconds (X=n*10 seconds).
ⓘ Before using this function, you need to turn on the 01-06 traffic light function in menu 6.2.
ⓘ To use this function, you need to enable the automatic door closing function in menu 4.0.
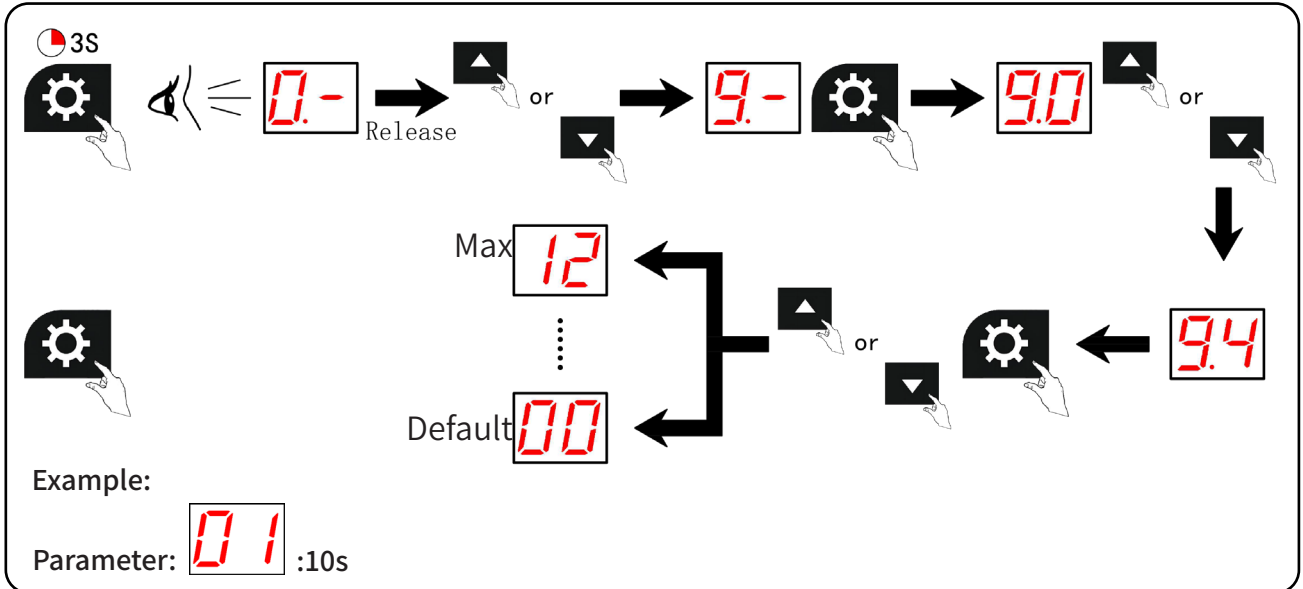
Example:

Parameter: [01] :10s

9.5 Warning light flashing frequency setting

ⓘ This function is used to adjust the flashing frequency of the warning light.
ⓘ The flashing frequency of the warning light is 60 times/minute (this function menu can only be seen after turning on the 6.2 warning light function port 0 1 -06)

The flashing frequency of the warning light is 120 times per minute.

The flashing frequency of the warning light is 90 times per minute.

The flashing frequency of the warning light is 60 times per minute. (Default)

The flashing frequency of the warning light is 40 times per minute.

The flashing frequency of the warning light is 25 times per minute.

9.6 Flash light off delay setting after door closed

ⓘ This function is used to adjust the delay off time after the warning light reaches the close limit.

ⓘ Before using this function, you need to turn on the 01-06 traffic light function in menu 6.2.
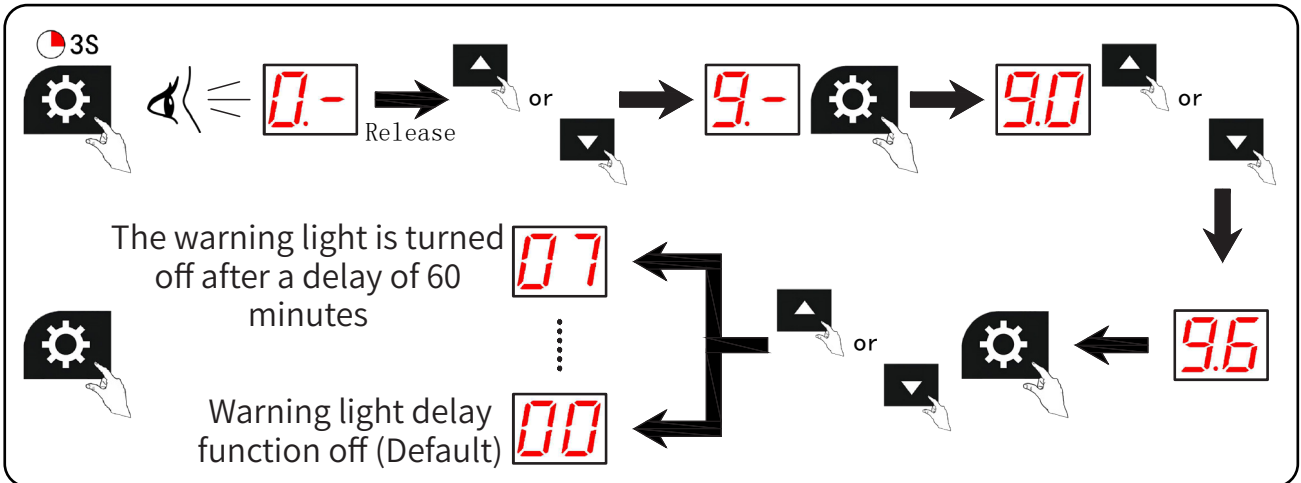
00	The warning light delay function is turned off. (Default)
01	The warning light delay function is on.
02	The warning light turns off after a delay of 1 minute.
03	The warning light will be turned off after a 3-minute delay.
04	The warning light will be turned off after a 5-minute delay.
05	The warning lights are turned off after a 20-minute delay.
06	The warning lights are turned off after a 30-minute delay.
07	The warning light will be turned off after a delay of 60 minutes.

Menu A: Relay module function setting

ⓘ This menu is only visible if the relay port 6.5 menu function is enabled.

Function Guide
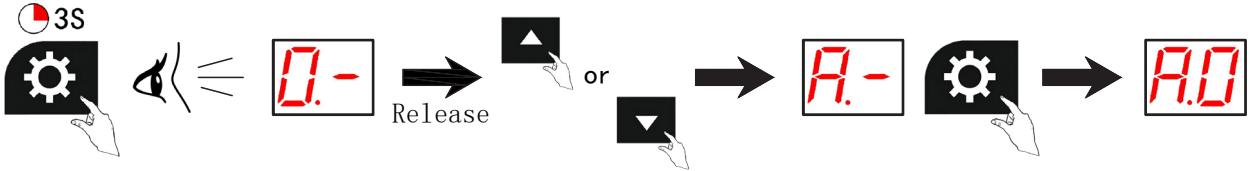
Relay module function - traffic light
pre-warning time setting before the dust operation — A.0

Relay module function -traffic light
pre-warning time setting before Auto-closing — A.1

Relay module function - traffic light
Traffic light flash frequency setting — A.2

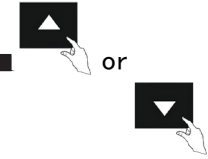Relay module function traffic light
Traffic light off delay time setting — A.3

Relay module function - traffic light
Traffic Light flash ranges setting during closing — A.4

Relay module function - traffic light
Traffic Light flash ranges setting during opening — A.5

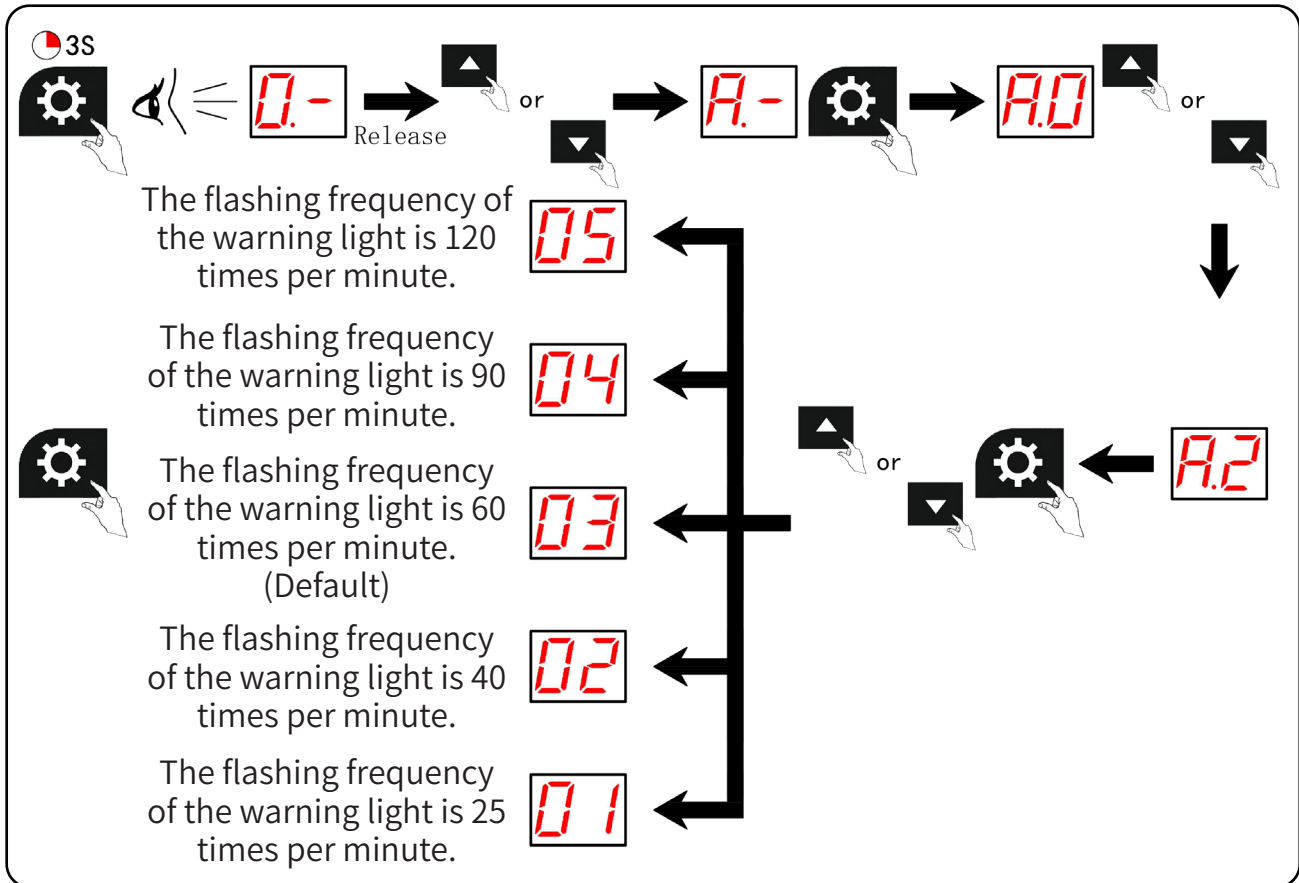**A.0** Relay module function - traffic light pre-warning time setting before the dust operation

ⓘ The time setting range of this parameter is: 0 seconds ~ 9 seconds.
ⓘ This menu is only visible when the relay port is turned on in 6.5 function and the 01-06 traffic light function is turned on.
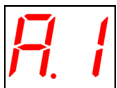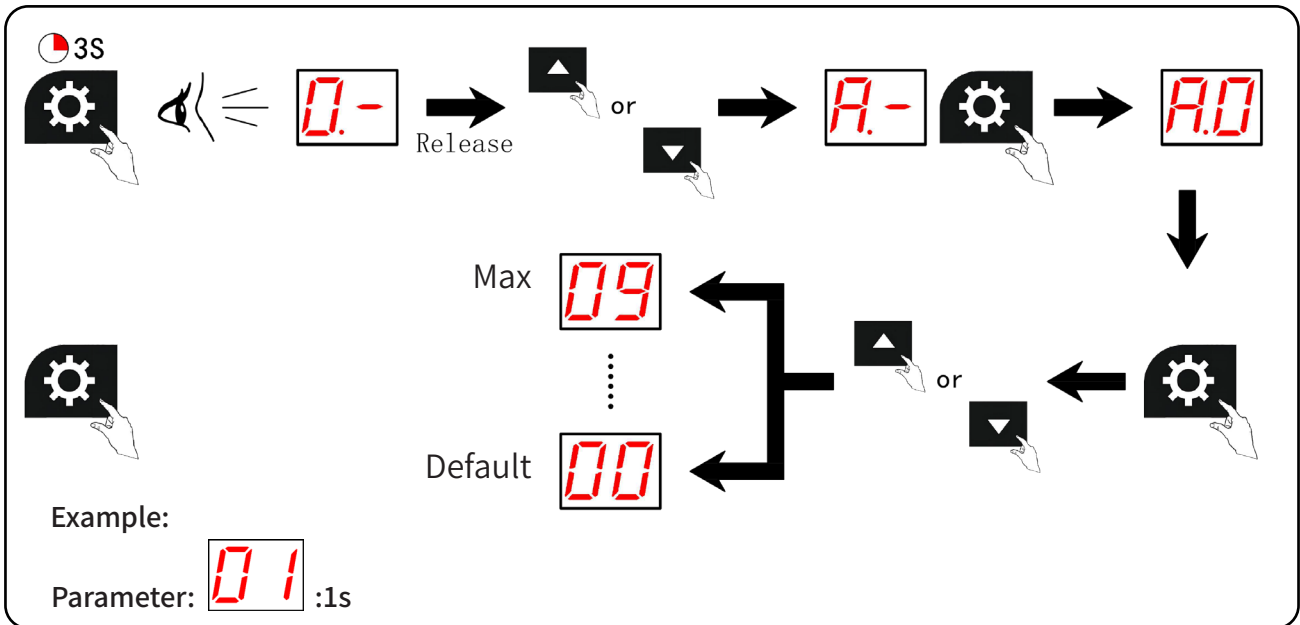
Max **09**
⋮
Default **00**

Example:
Parameter: **01** :1s

A.1 Relay module function -traffic light pre-warning time setting before Auto-closing

ⓘ The time setting range of this parameter is: 0 seconds ~ 120 seconds (x=n*10).
ⓘ This menu is only visible when the relay port in the 6.5 function turns on the 01-06 traffic light function and the 4.0 automatic door closing function menu is turned on
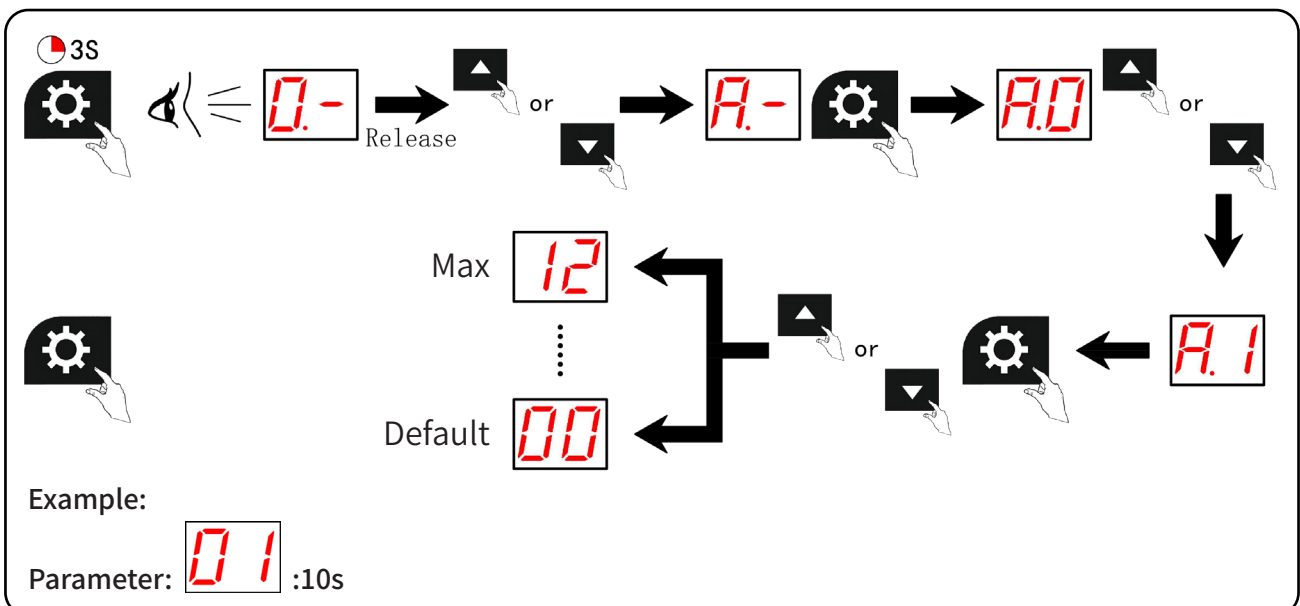
Max **12**
⋮
Default **00**

Example:
Parameter: **01** :10s

68

A.2 Relay module function - traffic light
Traffic light flash frequency setting

ⓘ This function is used to adjust the flashing frequency of the relay .

ⓘ This menu is only visible when the relay port is turned on in function 6.5 and the 01-06 traffic light function is turned on.

The flashing frequency of the warning light is 120 times per minute. **05**

The flashing frequency of the warning light is 90 times per minute. **04**

The flashing frequency of the warning light is 60 times per minute. (Default) **03**

The flashing frequency of the warning light is 40 times per minute. **02**

The flashing frequency of the warning light is 25 times per minute. **01**

R.3 Relay module function - traffic light
Traffic light off delay time setting

ⓘ This function is used to adjust the delayed release time when the relay port reaches the close limit.

ⓘ This menu is only visible when the relay port in 6.5 function is turned on and 01-06 traffic light function is turned on.
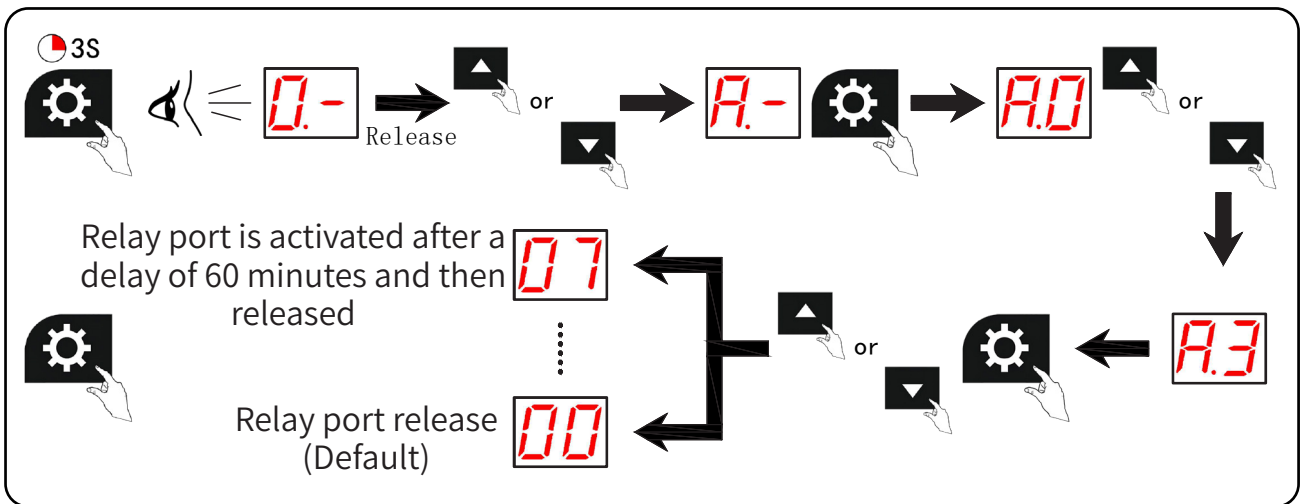
00	Relay -X66 released. (Default)
01	Relay -X66 is activated.
02	Relay -X66 is released after 1 minute delay activation.
03	Relay -X66 is released after 3 minutes of delayed activation.
04	Relay -X66 is released after 5 minutes of delayed activation.
05	Relay -X66 is activated after a delay of 20 minutes and released.
06	Relay -X66 is released after 30 minutes of delayed activation.
07	Relay -X66 releases after 60 minutes of delayed activation.

A.4 Relay module function - traffic light
Traffic Light flash ranges setting during closing

ⓘ This function is used to adjust the activation of the area above the close limit of the relay.

ⓘ This menu is only visible after the relay port is turned on in function 6.5 and function 30 is turned on.
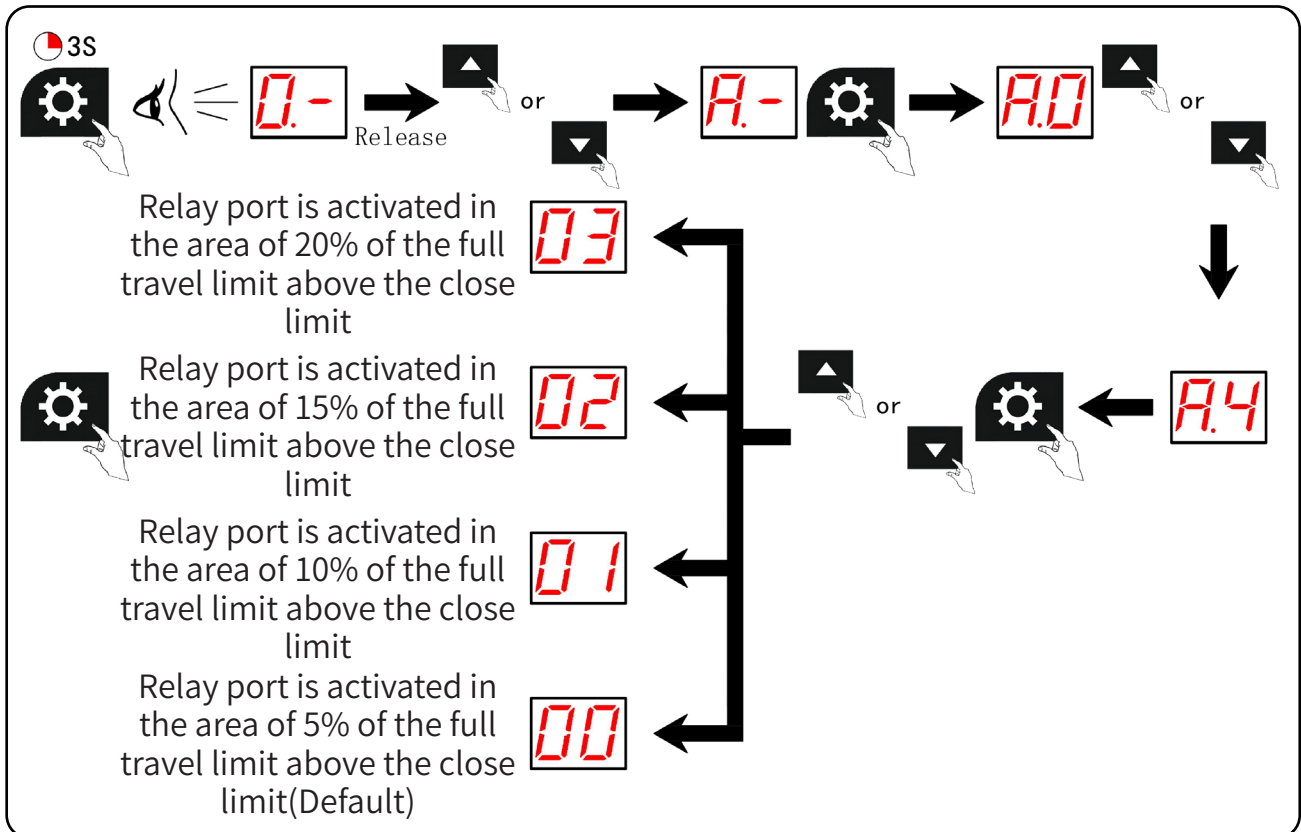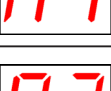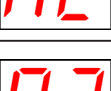
Relay port is activated in the area of 20% of the full travel limit above the close limit — **03**

Relay port is activated in the area of 15% of the full travel limit above the close limit — **02**

Relay port is activated in the area of 10% of the full travel limit above the close limit — **01**

Relay port is activated in the area of 5% of the full travel limit above the close limit(Default) — **00**
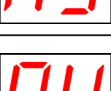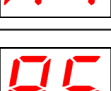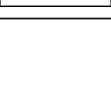
A.5 Relay module function - traffic light
Traffic Light flash ranges setting during opening

ⓘ This function is used to adjust the activation of the area below the open limit of the relay port.

ⓘ This menu is only visible after the relay port in function 6.5 is turned on and function 31 is turned on .

The relay port is activated in the area below the open limit by 20% — **03**

Relay port is activated in the area of 15% of the full travel limit below the open limit — **02**

Relay port is activated in the area of 10% of the full travel limit below the open limit — **01**

Relay port is activated in the 5% area of the full travel limit below the open limit (Default) — **00**
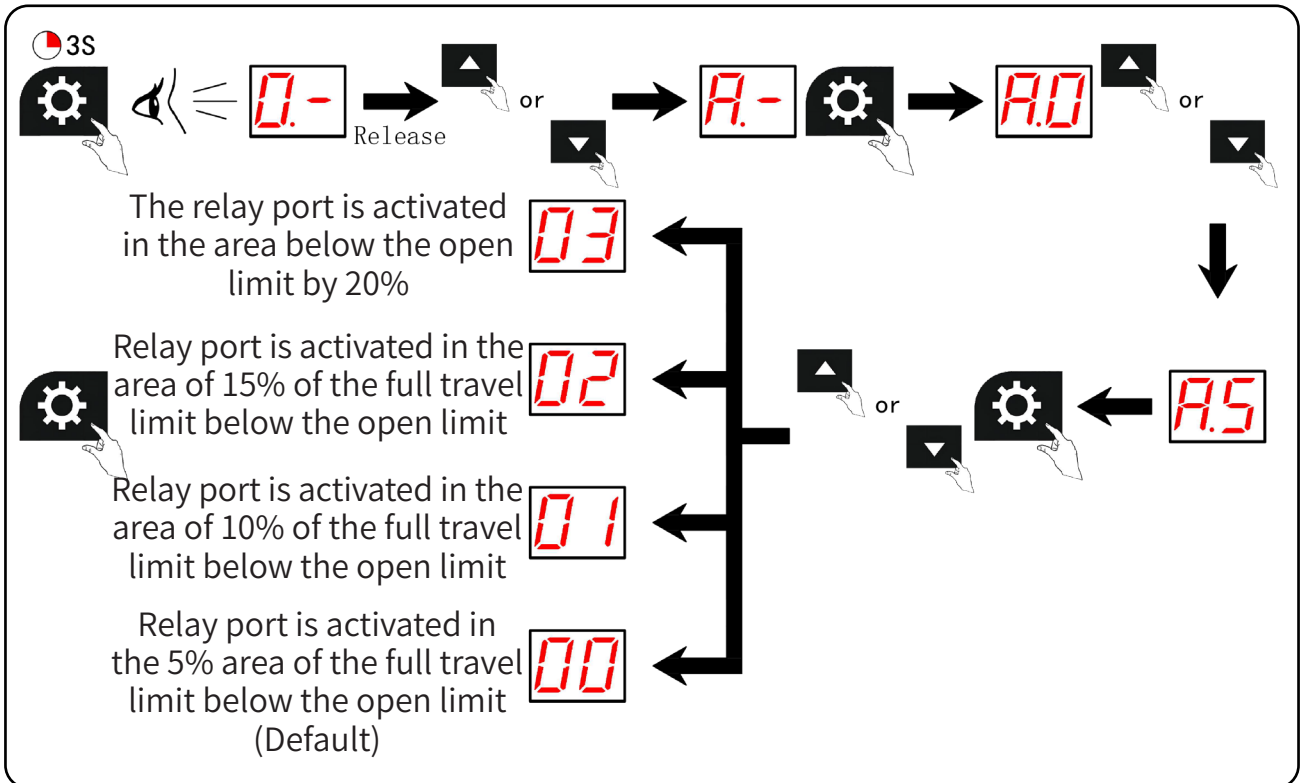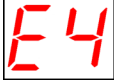
11.System Running Display Codes

Display information	
- -	No travel limit state, can run in long press mode
ı ı	With travel limit status display
r ٦	Open limit learning status display
L ┘	Close limit learning status display
oP	Door open display
CL	Closed door operation display
F1	PE/GND port is triggered
F5	ST/GND port three-button wall switch stop trigger
F6	BN/GN port safety edge conductive strip is triggered
F7	BN/GN Port safety edge DW is triggered by the port
F8	BN/GN port safety edge three-line infrared is triggered
F9	BN/GN Port safety edge DW self-test failure fault
FA	FA/GND The port fire alarm port is triggered
FE	Motor fuse blown
C0	Emergency stop port is triggered
CA	After the number of maintenance alarms in menu 8.0 is reached, it will be displayed every time

Display information	
Lr	Remote control function lock display
rL	Remote control function unlock display
LC	Control box child lock status
UL	Control box child lock unlock status
Ab	Wireless infrared is triggered
AC	Wireless slack rope switch is triggered
Ad	Wireless wicket door is triggered
AE	Wireless electronic lock is triggered
AF	Wireless safety edge is triggered
A0	Wireless electronic lock device communication failed
A1	Wireless safety edge junction box device communication failed
A2	Wireless infrared device communication failed
A3	Wireless infrared device battery is low
A4	Wireless electronic lock device battery is low
A5	Wireless safety device battery is low
A6	Wireless wicket door device battery is low

12.System Fault Codes

Fault display code	Problem Description	Solution
E0	Encoder can't get data during door running. Motor can't open or close the door.	1.Stuck point in the door, check door and track. 2. Door running speed is too slow, adjust speed from Menu 2.0 and 2.1. 3. Travel limit gear structure problem, change a new motor.
E1	Encoder failure.	Replace the encoder.
E2	Communication failure between travel limit module and encoder.	1 Eliminate the interference source and re-execute the control operation. 2.Replace a new connection cable. 3.Replace a new encoder.
E3	Travel limit module not detected.	1. Replace the encoder accessories. 2. Replace the encoder chip. 3. If the travel limit system fails, replace the control module.
E4	Motor overload.	1. Check door running is proper and smooth enough. 2. Replace a new motor.
E7	Slack rope switch port.	Check and fix steel rope.
E8	Safety edge port is not connected with any device.	No safety edge device is connected, motor only can be operated in Dead man mode. Connect with a safety edge device to solve the problem.

Fault display code	Problem Description	Solution
E9	1. During setting the door open/close limit, it appears when pressing SET. 2. Motor operation exceeds the limit turns. 3. It appears when the built-in infrared coordinate setting condition is not at the door open limit, or appears when both are built-in infrared. 4. When the automatic closing is executed, the door can not be closed due to related faults or DW setting in Dead man mode.	According to the operating instructions, adjust the settings when meeting the relevant conditions.
Eb	1. Wired E-Lock is triggered or faults 2."6.3" function is switched on, but no wired E-Lock is connected	1. Check the wired E-Lock wiring 2. Check whether the wired E-Lock is abnormal or damaged, the wired E-Lock bolt can not retract properly
EC	Door travel limit set failure, travel is too short or exceed encoder turns.	Reset door open/close position limit.
Ed	Wicket door port triggers the emergency stop.	Check wicket door device.
EE	Motor wiring sequence mistake.	Adjust the correct wiring sequence.

13. Drive System Fault Codes

Fault display code	Problem Description	Solution
b0	The program and the circuit board do not match.	Check whether the PRO version and STD version display control module, WiFi module, terminal wiring module are consistent.
b1 *b2*	The connection between the driver module and the display control module is abnormal.	1. Check whether the display control module connection cable is damaged. 2. Check whether the wiring of the drive module and display control module is loose. 3. Check whether the driver module is connected normally. 4. Replace the driver module or display control module.