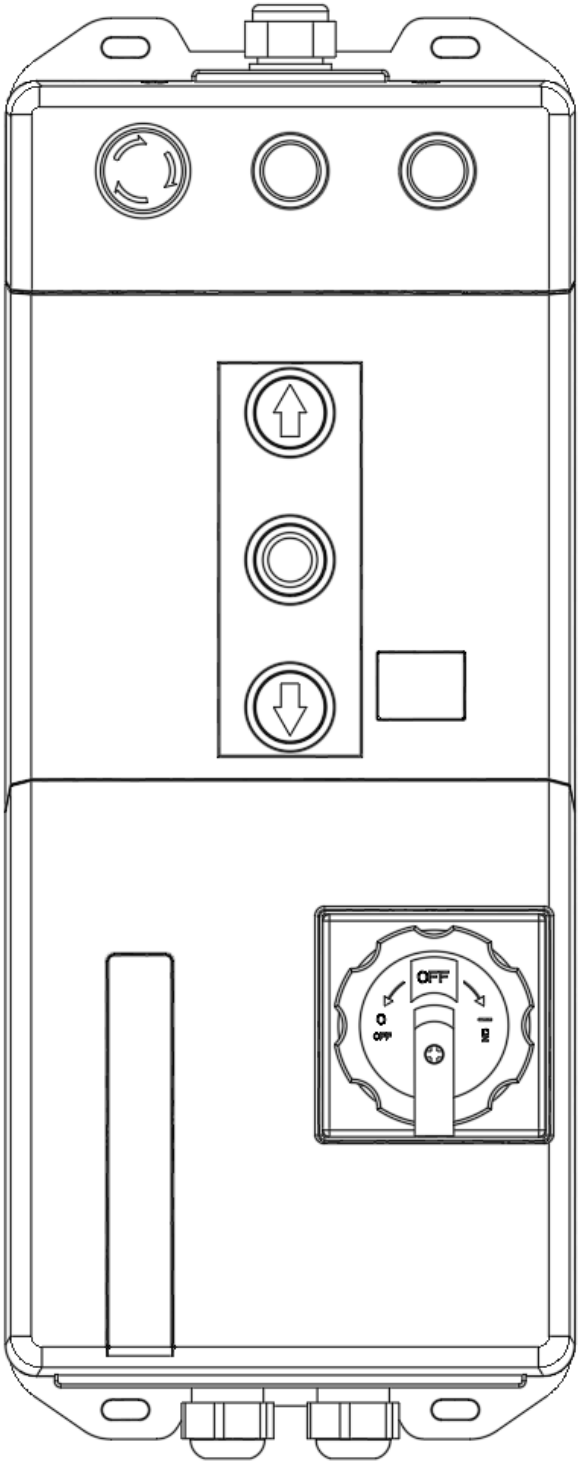
AC 380V Universal Control Unit Instructions



Available for AC 380V	Industrial Door Drives
	Rolling Shutter Drives

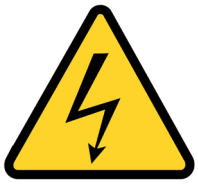
Table Of Contents

Table Of Contents

1.General Information

Warning – General hazard

Hazard for user and/ or fitter Intended to draw attention to the caption.

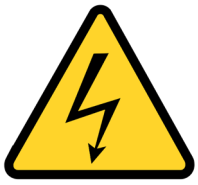


Warning – Electrical hazard

Symbol denotes a specific hazard regarding electricity.

Precautions – Important

★ **The schematic diagram is based on the product example, and the delivered product may deviate.**



WARNING:

Do not connect the CEE plug until installation is complete, all plug-in terminals are attached and all connectors secured.

2.Installation&Installation Instructions

- Only competent and professional persons may install and fit the door. The person responsible for electrical installation of the door must also have electron qualification in order to work on such an installation. Persons may not be allowed to work on the door or its electrical installation if they are under the influence of drugs, alcohol or medication which may reduce their reactive capacity.

- The supplied product may only be converted and/or changed following consultation with the manufacturer. Original components or original replacement parts must always be used. Any liability will automatically be canceled if any other parts are used.

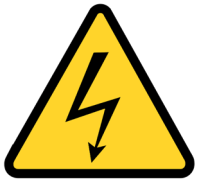
- Electric current is a hazard. Contact with live components can result in electric shock, burns and even death. Only professional and electron qualified persons may conduct work on electrical components. The installation must be disconnected from the mains power during any work. Always check the disconnection before work is conducted. When working on the electrical installation, the entire system must be protected against unintentional reconnection to the mains network by a third party.

- Before starting up the installation, it must be checked whether all connections are sound and fitted according to the user manual. It must also be checked whether all fittings of the operator and control box are sound. All electric cables must be fitted and connected in such a way that they cannot be unintentionally moved. The control box must be

programmed in such a manner that it is guaranteed to work safely and according to standards.

- Upon delivery of the door with the electrical installation, the responsible user/owner must be informed of the hazards of the door and the electrical installation. He/she must also be informed that this information must be passed on to any other users.

-The competent and professional person, and in the case of an electrical installation also an electron qualified person, is responsible for correct fitting of the door and the electrical install.



WARNING:

The control box is programmed for a clockwise (right-rotating field). Avoid any damage caused by incorrect rotation of the operator.*

3.Instructions for Use

- Children and/or any person with limited physical, sensory or mental capacity must not be allowed to operate the control box. It is also not permitted to play in the direct vicinity of an electrically operated door. These persons must not be allowed to operate the door even under supervision.
- Defective components can be extremely hazardous and can result in serious and even fatal injury. In the case of failure of a component, the door and its electrical installation must be switched off. In doing so, the installation must be disconnected from the mains network. This disconnection must take place in such a manner that accidentally switching the door back on is reasonably impossible. The defective component or components may only be repaired and/or replaced by a competent and professional person.
- The electrical installation must always be in good condition when in use. It is essential that proper maintenance and management takes place as given in the user manual.
- The electrical installation and its components may only be deployed for the described purpose.
- Children and/or any person with limited physical, sensory or mental capacity must not be allowed access to hand-held openers and other control components. These must be stored safely and out of reach, in order to avoid unintentional and unauthorized use.
- The control box must not be used in environments where there is a risk of condensation.

4.Maintenance, Disassembly and Disposal

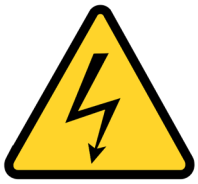
Maintenance

The operator and control box are maintenance-free. The following inspections are to be conducted during maintenance.

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

The supplied product may only be converted and/or changed following consultation with the manufacturer. Original components or original replacement parts must always be used. Any liability will automatically be canceled if any other parts are used.

Disassembly



HAZARD:
with a view to the hazards of maintenance work, this may only be conducted by a competent and professional person.*

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

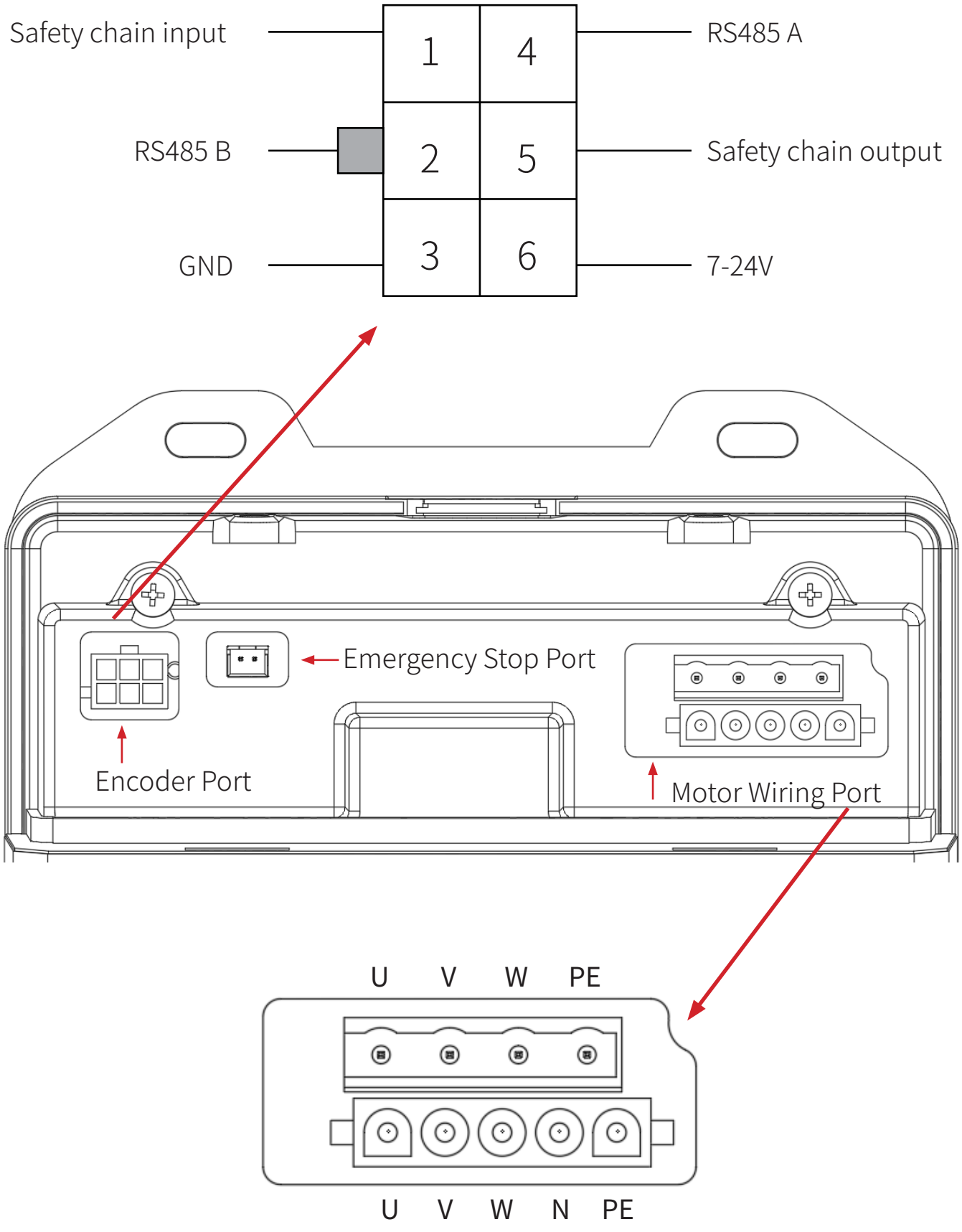
Disposal

- When disposing of waste products, these must be separated into metals, plastics, electrical parts and lubricants.
- The applicable national rules must be taken into account for disposal of materials .
- The product must not be disposed of with regular household waste, and must be disposed of as electronic equipment.

5.Electrical Parameters

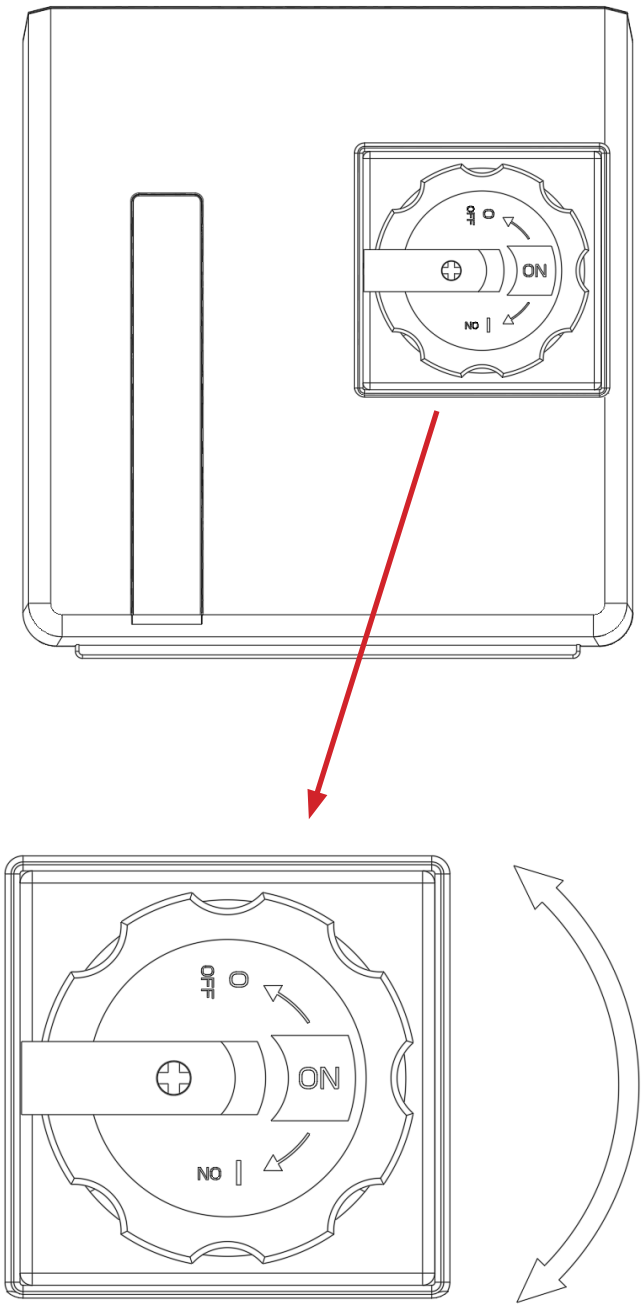
Series Name	AC380 Universal Control Box
Dimensions (L*W*H mm)	446*174*112
Installation	Vertical, No Vibration
Power supply frequency (HZ)	50/60
Power supply voltage (±10%)	3 N~380-400 V, PE
Drive unit output power max (KW)	1.5
Phase protection current (A)	10-12
External power supply：24V/GND	24V(DC)
	0.5A
External power supply：X1(L/N) (Protection via F1 fuse)	1 N~230 V
	1.6A
Control input	24V(DC)
	500mA
Control power consumption	4.2W
Temperature range (° C)	-20°C～ +60°C
Enclosure protection level	IP54
Limit switch	DES (Digital Limit Switch)

6.Control Box Encoder and Motor Wiring Port Instructions



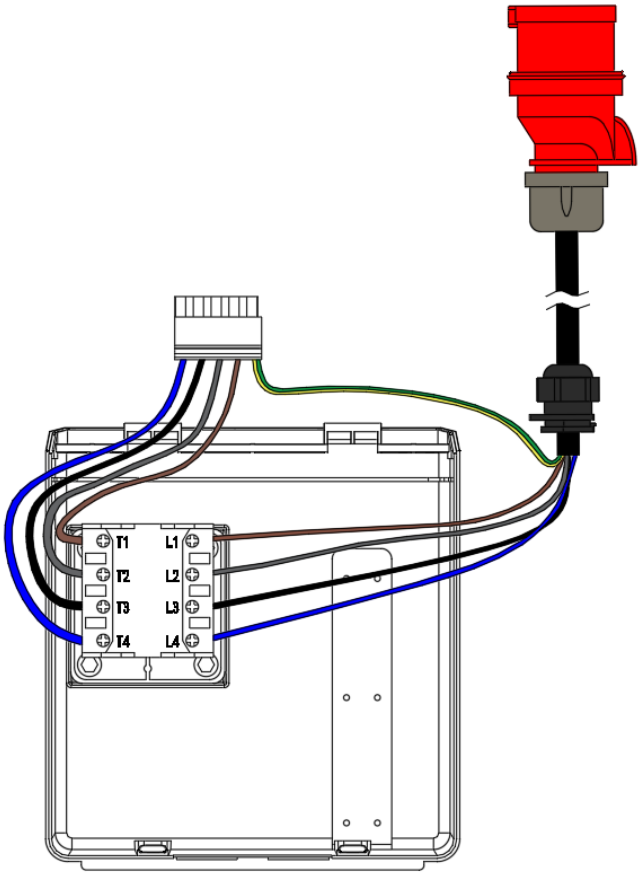
7.Disconnect Switch Assembly and Reversible Three-phase Power Cable

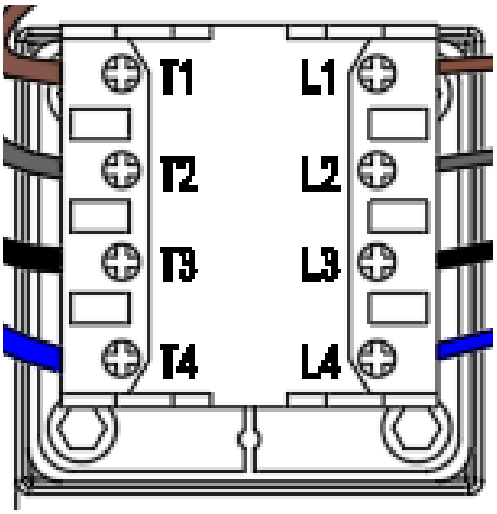
Disconnect Switch Front Side



Note: Rotate the disconnect switch to turn the power on or off.

Disconnect Switch Reverse and Wiring





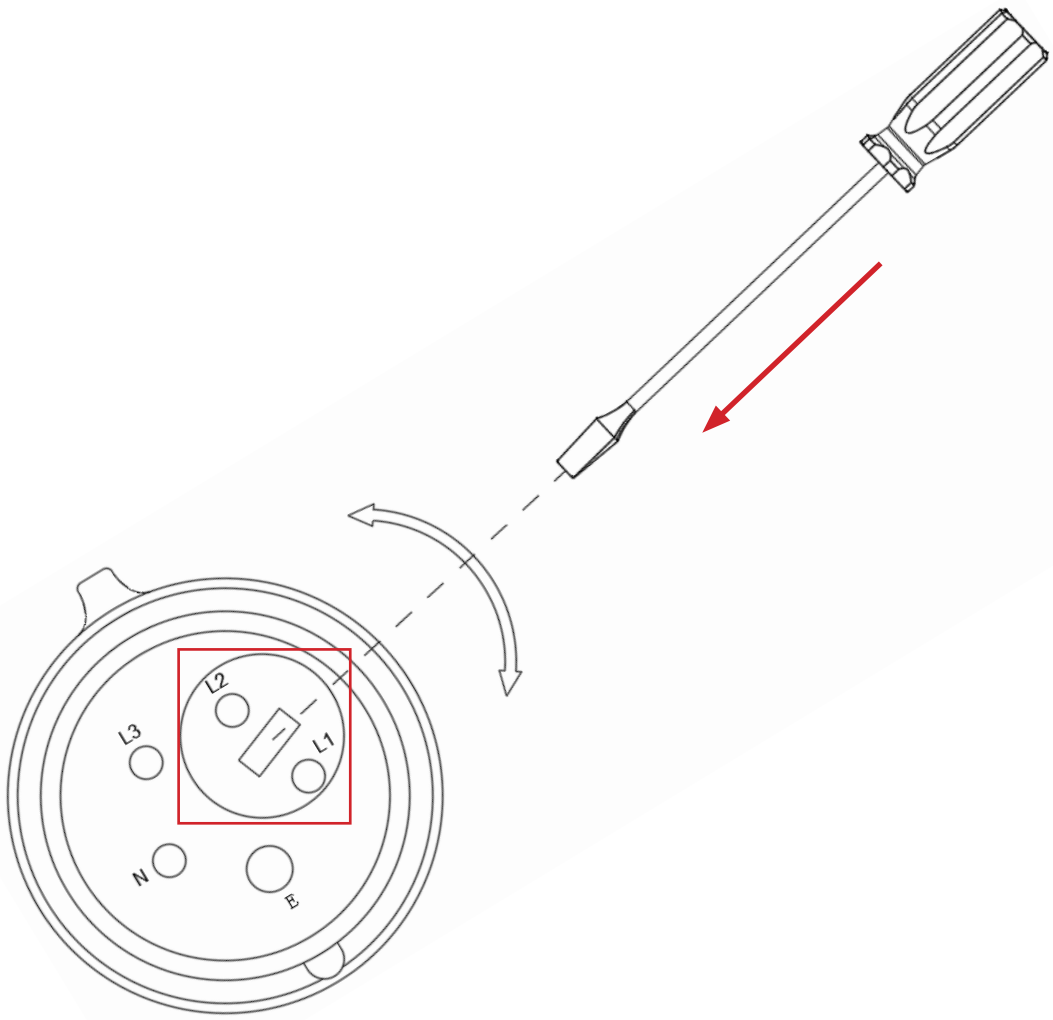
L1 - T1 BN
L2 - T2 GY
L3 - T3 BK
L4 - T4 BU

Convertible Three-phase Power Cables And Change Phase Sequence Instructions

① . In order to ensure the normal and safe operation of the AC380V motor, it is necessary to ensure that the phase sequence of the power input terminal is correct after power-on.

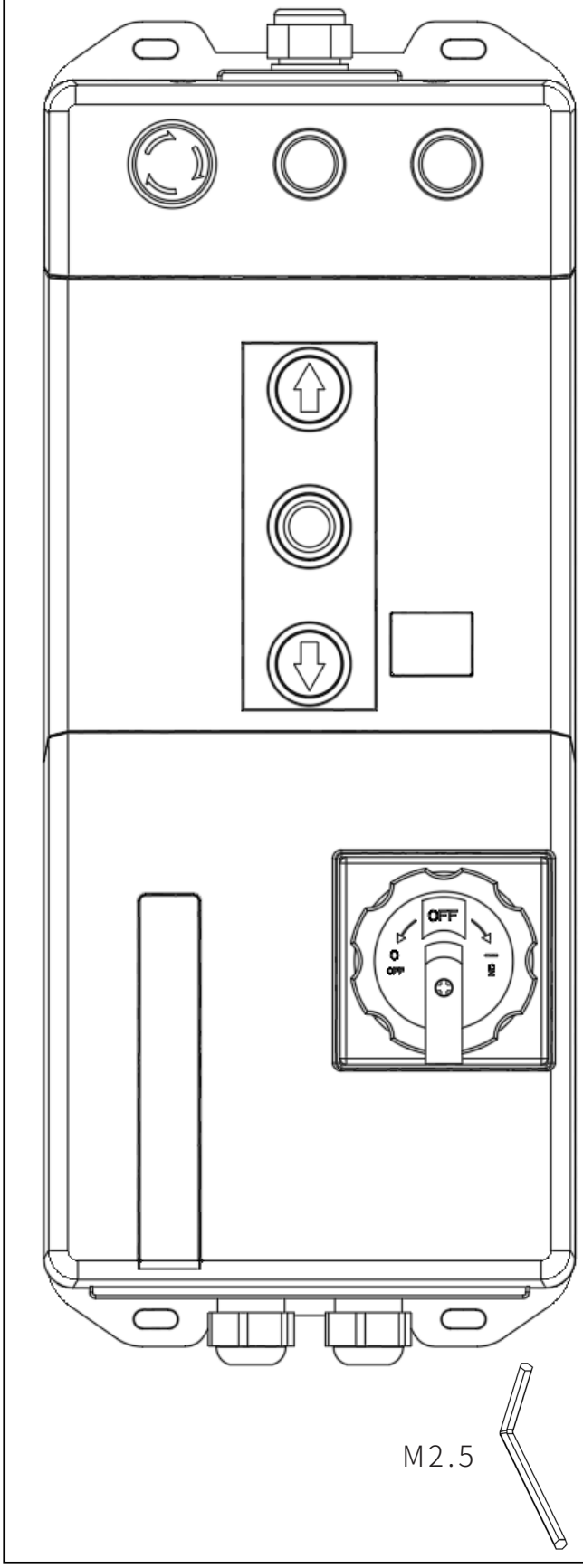
② . When the motor learns to travel, the 

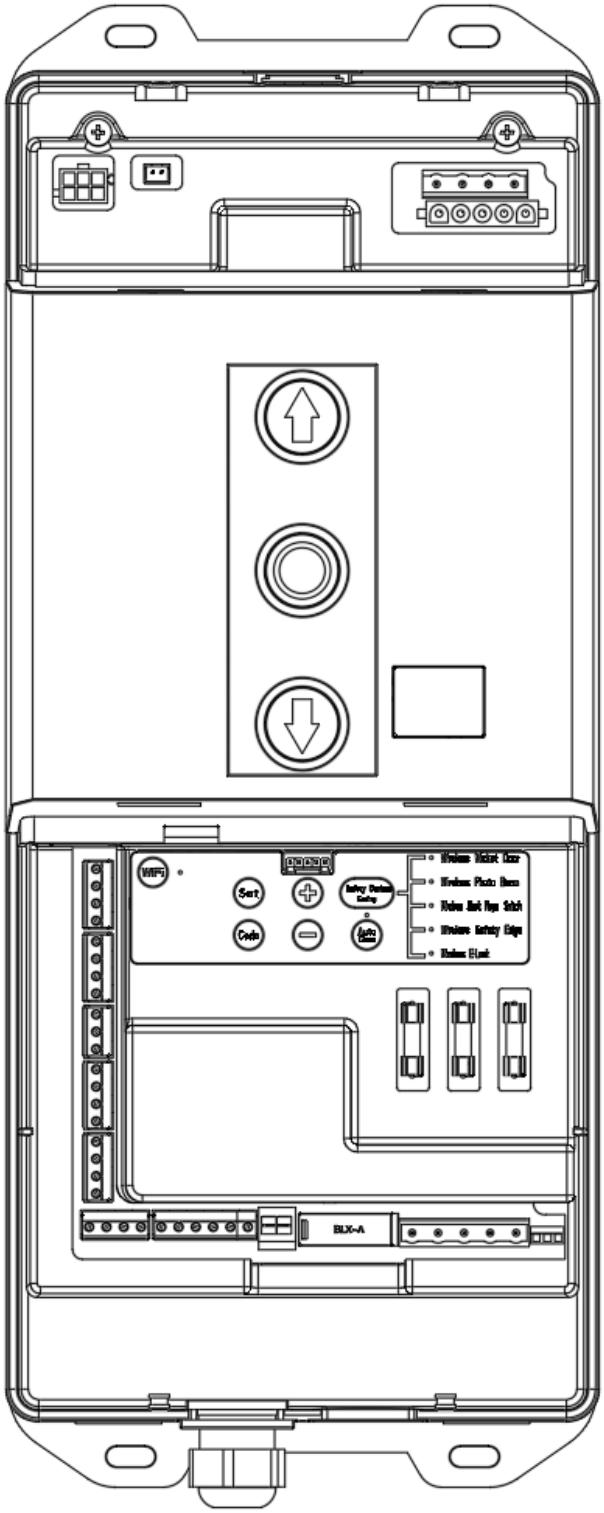
reports an error, first unplug the three-phase power supply, rotate the phase sequence inside the three-phase power supply plug through the screwdriver.



8. Instructions for Connection of Motor/ Control box Connection Wire and Power Wire

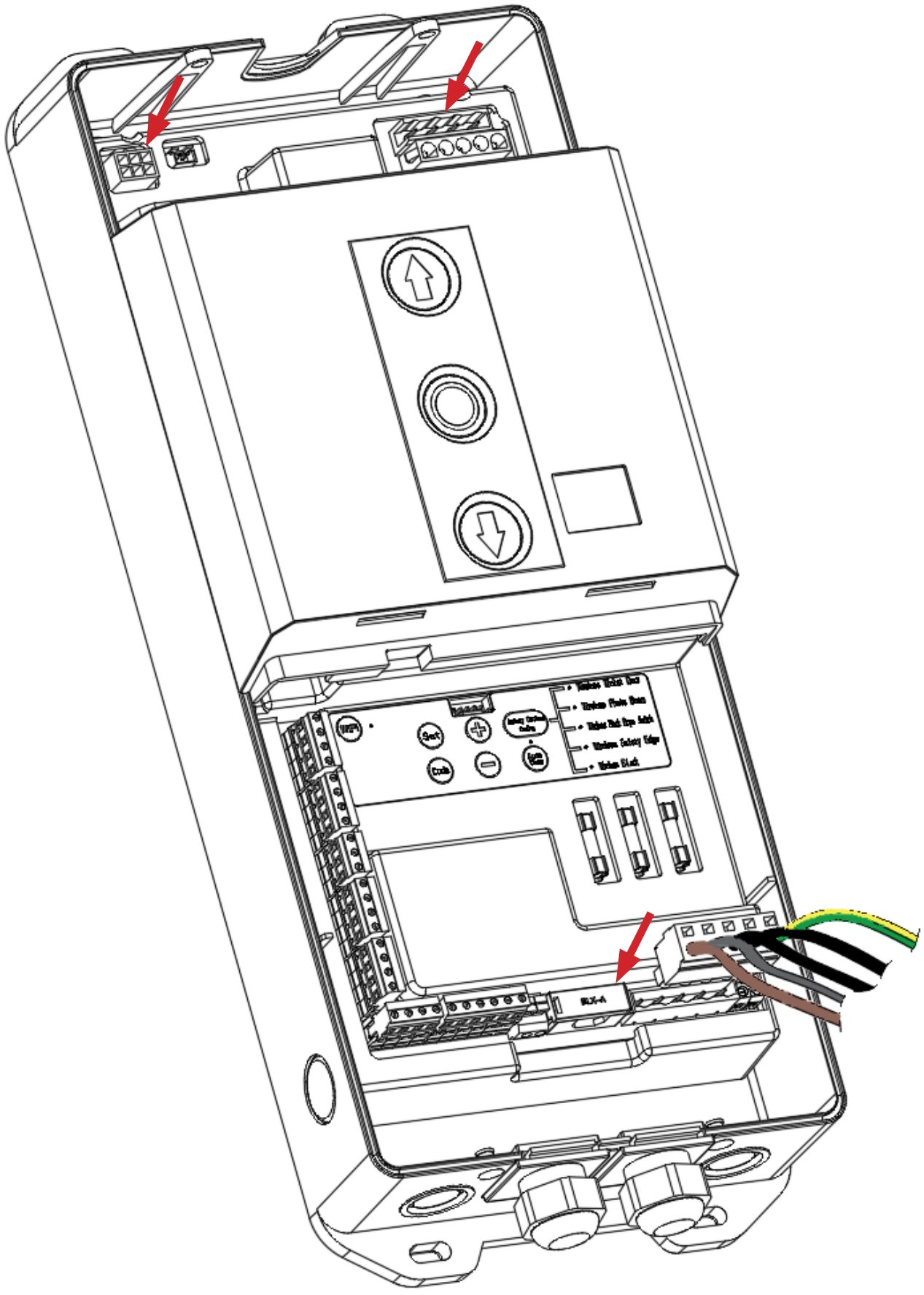
1.Unscrew the screw and open the cover of the control box



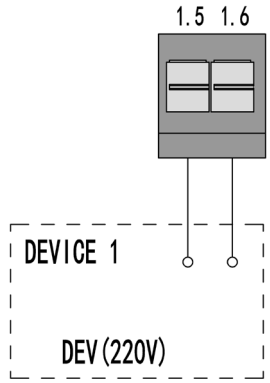
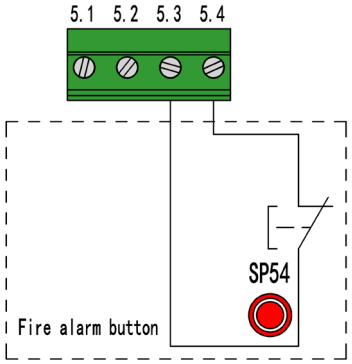


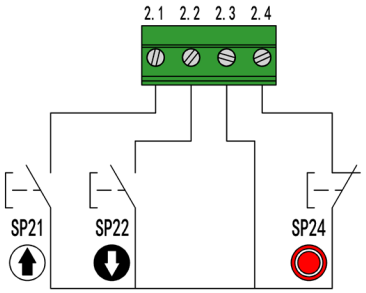
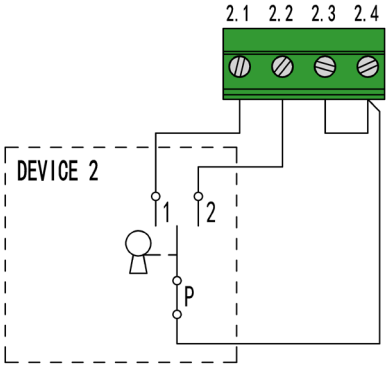
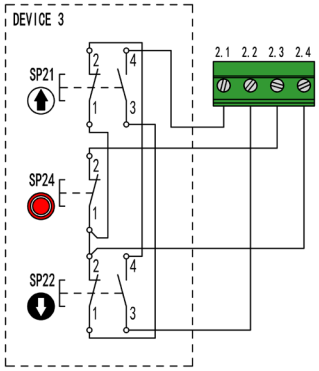
M2.5

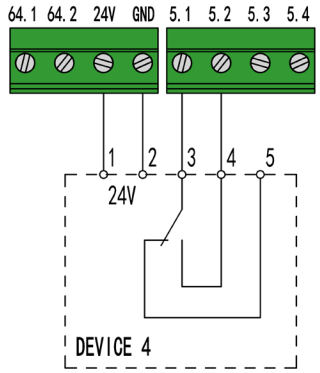
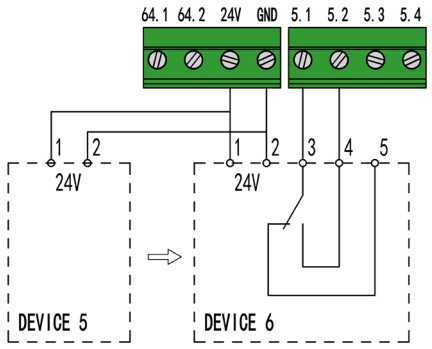
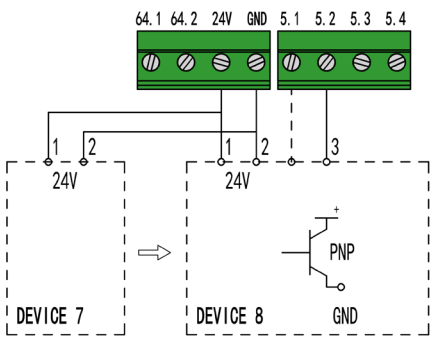
2.Connecting the Control Box Cable/ Control Box Power Cable

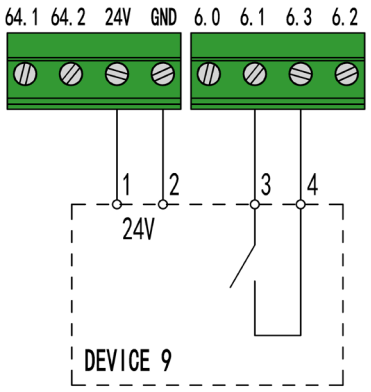
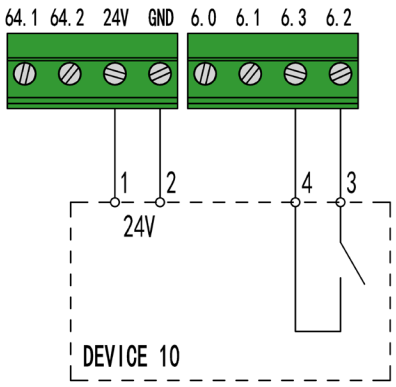
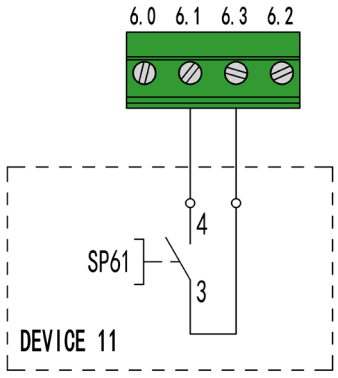


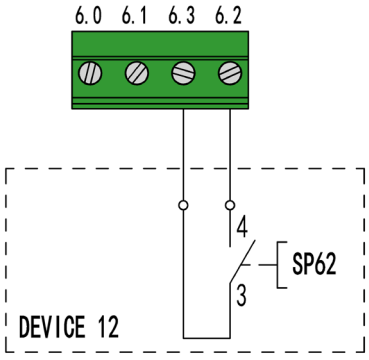
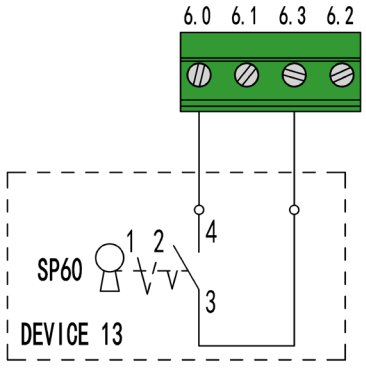
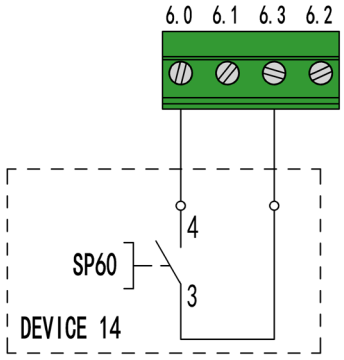
9.Electrical Installation Wiring Instructions

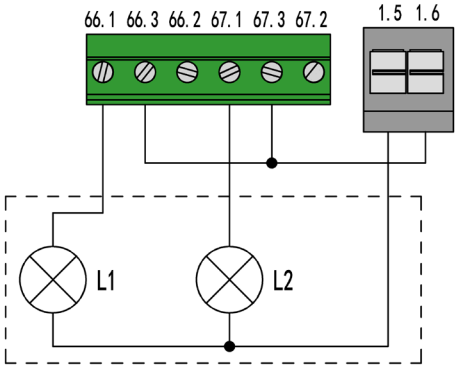
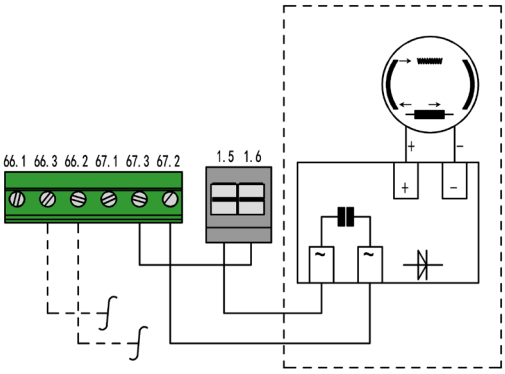
External power output X1		Emergency stop self-locking switch X4	
			
DEVICE1	External equipment (220V MAX：1.6A)	DEVICE2	Fire alarm button

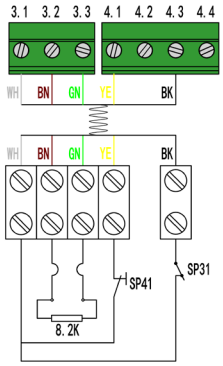
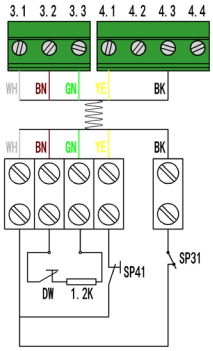
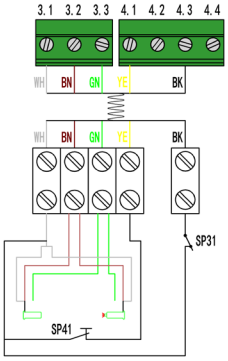
External switch stop control port X2				
				
	DEVICE2	Key self-resetting switch	DEVICE3	Three-button wired wall switch

Infrared function port X5					
					
DEVICE4	Reflective photo cell	DEVICE5 DEVICE6	Through-beam photo cell Transmitter Receiver	DEVICE7 DEVICE8	Through-beam photo cell Transmitter Receiver

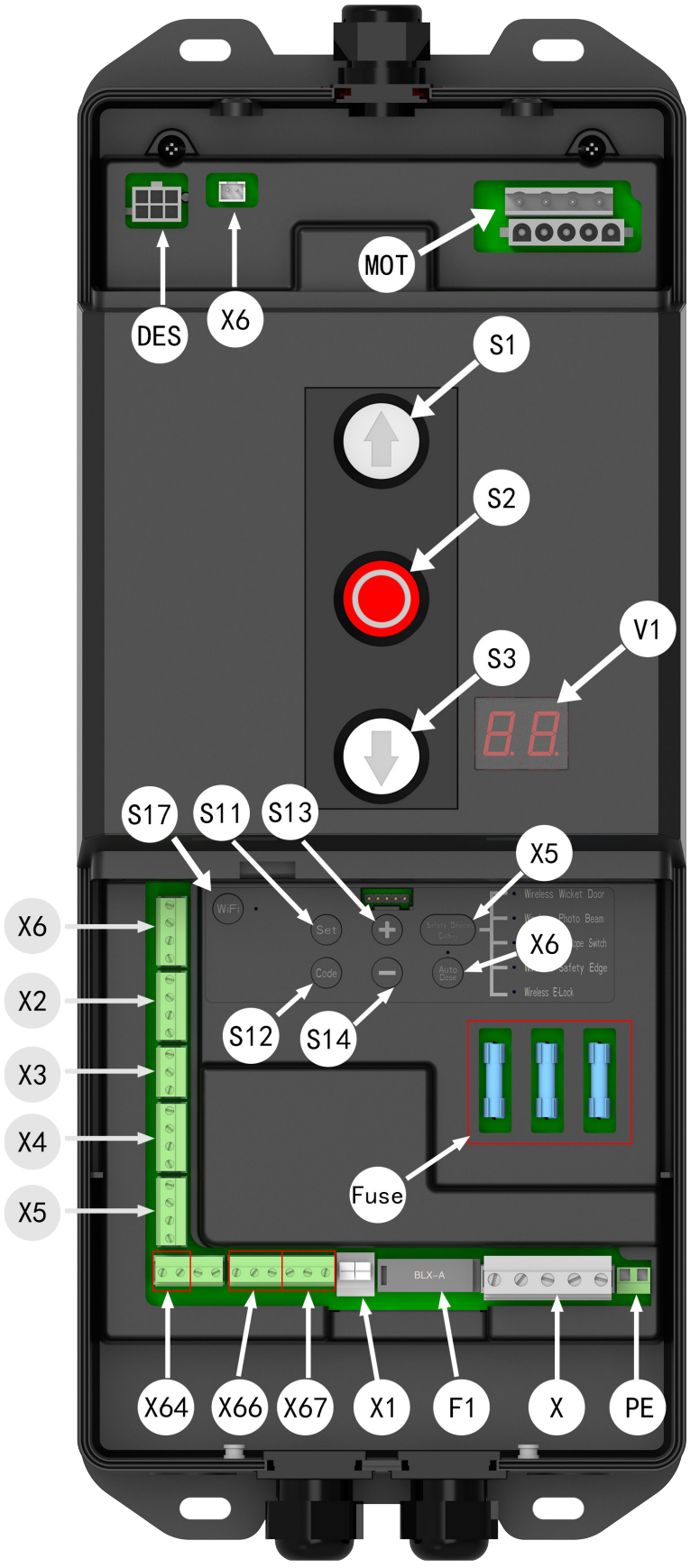
External receiver X6.1		External receiver X6.2		Self-resetting switch X6.1	
					
DEVICE9	X6.1/6.3 external receiver (For detailed function, refer to menu 6.1 to set P.54)	DEVICE10	X6.1/6.3 external receiver (For detailed function, refer to menu 6.2 to set P.55)	DEVICE11 :SP61	X6.1/6.3 self-resetting switch (For detailed function, refer to menu 6.1 to set P.54)

Self-resetting switch X6.2		Self-locking switch X6.0		Self-locking switch X6.0	
					
DEVICE12: SP62	X6.2/6.3 self-resetting switch (For detailed function, refer to menu 6.2 to set P.55)	DEVICE13: SP60	When closed: All door opening commands execute the pa door command (Enable: 01-09 function selection in menu 6.0 _P.52)	DEVICE14: SP60	X6.0/6.3 Self-resetting switch, pulse-triggered partial open command (enable: menu 6.0 for function selection 10-18_ P.53)

Traffic lights (red/green) X66/X67		Brake function X66/X67
		
L1 L2	traffic light green light traffic light red light	The use of electromagnetic brakes needs to cooperate with the relay function 6.6/6.7-25/26 (25/26 can be selected according to the characteristics of the brake device to trigger the brake with NO or NC)

Safety Edge Port Wiring		
Electrical safety edge		GN BN WH Conductive strips(8.2K in series) YE SP41 Slack rope switch BK SP31 door-in-door switch
Pneumatic safety edge		GN DW airbag detection switch BN (1.2K in series) WH GND YE SP41 Slack rope swicth BK SP31 door-in-door switch
Three-line infrared security edge		GN BN 3line infrared 1KHZsignal WH +12V GND YE SP41 Slack rope swicth BK SP31 door-in-door switch

10.Control Port Overview

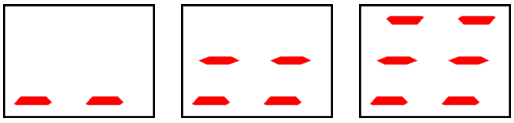


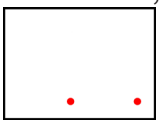
DES/NES	DES/NES limit port
MOT	Motor wiring port
F1	X1 (220V) output port blown fuse 1.6A
S1	Open button
S2	Stop button
S3	Close button
S11	Menu settings button
S12	Remote control pairing button
S13	Plus button/Open limit travel setting door open button
S14	Minus button/Close limit travel setting door closing button
S15	Wireless security device pairing button
S16	Automatic close button
S17	WIFI reset button
V1	Digital tube display
X	AC power supply port
X1	External equipment power supply (220V/1.6A)
X2	Three/push-button wall switch wiring port
X3	Safety edge port
X4	Slack rope swicth port/ door-in-door security port
X5	Infrared/fire alarm (X 5.3/5..4) function port
X6	External function port
X7	Emergency stop port
X64	Warning light wiring port
X66	No power relay port A
X67	No power relay port B
Fuse	Fuse（12A 700V）

11.Basic Key Operation Instructions

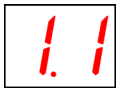
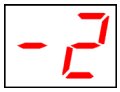
Item	Button	Function Description
1.		**Short press:** Confirm settings **Long press:** Enter the function menu setting (standby interface)
2.		**Short press:** Move up to adjust the function menu/travel setting "door open" button **Long press:** Restore factory settings (standby interface)
3.		**Short press:** Move down to adjust the function menu/travel setting "close door" button **Long press:** Quick query of running times (standby interface)
4.		**Short press:** Enter remote control code pairing mode / Return to the function menu setting (standby interface) **Long press:** Clear the remote control code
5.		**Long press:** Quickly activate the "automatic door closing" function (standby interface)
6.		**Long press 3 seconds:** Enter wireless security device pairing code mode **Long press 8 seconds:** Clear all wireless device pairing code

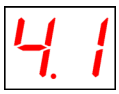
12.General Function Quick Setup Instructions

Function Name	Function Operation	Function Description
Automatic close	Long press for 3 seconds: 	● Long press the "Auto Close" button, when the indicator light turns on. This means that the "automatic door closing" function has been activated. (Default condition： the door can only be closed automatically when it is in the upper limit position, and the automatic close gate time is 15 seconds). NOTE: If necessary, see page 40 - Menu 4 to change the Auto Off any settings for closing conditions or timing. NOTE: If no safety edge or infrared is installed, the door cannot be closed and the LED ● The display will show the letters "E9" as an indication. Long press the "Auto Close" button, when the light turns off, it means the "Auto Close" function is deactivated
Run count query	Long press for 5 seconds: 	● The digital tube scrolls to display the running times  Indicates that the motor has run 10 times Note: The number of runs is displayed in 6 digits
Restore factory settings	Long press for 5 seconds: 	● Digital tube scrolling display  Indicates that the motor has been restored to factory settings Remarks: The running times are displayed in 6 digits (it is recommended to power off for 1 minute after restoring the factory and then power on again).

Function Name	Function Operation	Function Description
Remote control code pairing function	Short press : Code	Short press: a) In the setting state, short press CODE to exit the current operation and return to the standby interface. b) In standby mode, short press CODE, there will be a dot at the corner, then it will enter the learning mode  . First click the button on the handheld transmitter you want to use, the dot may disappear, then press the same button on the handheld transmitter again, the dot will blink, so far, the code learning is complete. Long press: Clear the remote control code. Press and hold the CODE button until the letters  are displayed, all stored remote control codes will be deleted.
Wireless device pairing function	Long press for 3 seconds: Safety Devices Coding	Long press for 3 seconds: Press and hold for more than 3 seconds to enter the wireless device pairing mode, the LED light will start flashing slowly, if the pairing is not carried out for more than 10 seconds, the LED light will go out by itself. Successful pairing: The LED light flashes three times continuously, and the LED light of the paired security device will light up ● Wireless Wicket Door ● Wireless Photo Beam ● Wireless Slack Rope Switch ● Wireless Safety Edge ● Wireless E-Lock Long press for 8 seconds: Press and hold for more than 8 seconds to clear all paired wireless devices, and the LEDs will turn off. The LEDs correspond to the status of the wireless security devices: Bright: the wireless security device is working normally Blinking: the wireless security device is triggered or abnormal

13.Parameter Overview

Par	Function Description	Description of default parameters	P.
	Travel limit setting	Learning the upper limit and lower limit of motor travel	25
	Motor rotation direction adjustment	 : Motor standard direction (Default)	27
	Remote control function selection	 : Standard Functions - Single Key Cycle (Default)	29
	Door opening and closing operation mode	 : Click to open the door Long press to close the door(Default)	30
	Safety edge pre-limit fine-tuning (only applicable to DES electronic limit)	 : Safety edge pre-limit area parameters (Default)	31
	Motor upper limit fine-tuning (only applicable to DES electronic limit)	 : Actually the limit shifts towards the door closing direction (Default)	32
	Motor lower limit fine-tuning (only applicable to DES electronic limit)	 : The actual lower limit shifts toward the door opening direction (Default)	33
	S6 auxiliary limit coordinate function setting (only applicable to NES mechanical limit: default safety side pre-lower limit function)	 : Mechanical limit safety edge pre-limit (Default)	34
	Motor lower limit overflow time setting	 : Lower limit overflow time is closed(Default)	36
	Wire rope anti-loose reverse time setting	 : Function not active (Default)	37
	X3 (3.3-3.4) port safety edge encounter resistance reaction time setting	 : Response time of safety edge encountering obstacles 0.005 seconds (Default)	38
	(X5.1-X5.3/X5.2-X5.3) Response time setting for infrared resistance	 : Infrared resistance reaction time 0.5 seconds (Default)	39

Par	Function Description	Description of default parameters	P.
	Reversal time setting in case of resistance	 ： Motor reverse running time 0.005 seconds after encountering resistance (Default)	39
	Motor monitoring running time function setting (only applicable to NES mechanical limit)	 ： The monitoring runtime function is not activated (Default)	40
	Automatic door closing function	 ： Automatic door closing function off (Default)	42
	Automatic door closing condition function setting	 ： Upper limit executes automatic door closing (Default)	43
	Association setting of automatic door closing and infrared function	 ： After the PE port is triggered, stop the automatic door closing timer and turn off the automatic door closing function (Default)	44
	Association setting of automatic door closing and STOP&STP port (S3 and (X2.4-X2.3)) function	 ： STOP triggers to stop this automatic door closing (Default)	45
	X5.1/X5.3 infrared port function setting	 ：Feature not enabled (Default)	46
	X5.2/X5.3 infrared port function setting	 ：Feature not enabled (Default)	49
	Partial open door function setting	 ：Feature not enabled (Default)	52
	X6.1/6.3 port function setting	 ： Switch stop cycle function (Default)	54
	X6.2/6.3 port function setting	 ： Door closing process executes door opening (Default)	55

Par	Function Description	Description of default parameters	P.
6.4	Warning light function setting	00 ：Function off（Default）	56
6.5	Buzzer function setting	00 ：Buzzer function off（Default）	58
6.6	Relay A-X66 function setting	00 ：Relay A-X66 port function is closed（Default）	58
6.7	Relay b-X67 function setting	00 ：Relay b-X67 port function is closed（Default）	64
6.8	Safety edge function (security edge port self-adaptation, only for query)	Query function： View the current safety edge type	70
7.1	Restore factory function settings	For factory reset	71
7.2	Software version query function	Query function： query all software versions of the IDO controller	72
7.3	Hardware version query function	Query function： query all hardware versions of the IDO controller	72
7.4	Motor accumulative running times query function	Query function： query the cumulative running times of the motor	73
7.5	Motor last 4 fault query function codes	Query function： query the last 4 fault codes of the motor	73
8.0	Maintenance alarm times function setting	00 ：The number of maintenance alarms is not enabled (Default)	74
8.1	Motor performance function setting after the number of maintenance times is reached	03 ：Display the fault code, force to switch to the long press mode for opening and closing the door (Default)	75

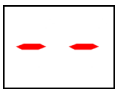
Par	Function Description	Description of default parameters	P.
	Inquiry function for the remaining number of maintenance alarms	Query function： query the remaining number of maintenance alarms	76
	X5.4/5.3 fire alarm port function control mode setting	 ： The port triggers to open the door, only emergency stop, in the closed state, the door cannot be closed (Default)	78
	Remote control lock function setting (holiday mode)	 ： Function off (can also be enabled by standard remote control) (Default)	78
	Control box on/off/stop (S1/S2/S3) key lock function	 ： Function off (Default)	79
	Warning light X64 pre-warning time before closing the door (cooperate with X64 port 01-06 application, open the corresponding function menu to see)	 ： The warning time is 0 (Default)	79
	Warning light X64 extra warning time for automatic door closing (cooperate with the application of X64 port 01-06, and the automatic door closing function menu can be seen at the same time)	 ： The warning time is 0 (Default)	80
	The warning light X64 flashes at a frequency of 60 times/minute (cooperate with the X64 port 00-06 application, and the corresponding function menu can be seen when it is turned on)	 ： Flashing frequency 60 times/min (Default)	80
	Warning light X64 delay off setting (with the application of X64 port 01-06, the corresponding function menu can be seen when it is turned on)	 ： Warning light delay function off (Default)	81
	Relay A-X66 Early warning time before closing the door (cooperate with X66 port 01-06 traffic light application, open the corresponding function menu to see)	 ： The warning time is 0 (Default)	83

Par	Function Description	Description of default parameters	P.
A.1	Relay A-X66 extra warning time for automatic door closing (cooperate with X66 port 01-06 traffic light application, and open the automatic door closing function menu at the same time)	00 : The warning time is 0 (Default)	83
A.2	Relay A-X66 flashing frequency function setting (cooperate with X66 port 01-06 traffic light application, open the corresponding function menu to see)	03 : Relay X66 flashing frequency 60 times/minute (Default)	84
A.3	Relay A-X66 delay off traffic light function setting (cooperate with X66 port 01-06 traffic light application, open the corresponding function menu to see)	00 : Relay - X66 Release (Default)	85
A.4	Relay A-X66 is in an active state in the area of 5% of the full stroke above the lower limit (cooperate with X66 port 30 function application, open the corresponding function menu to see)	00 : 5% area above the lower limit (Default)	86
A.5	Relay A-X66 is in an active state within 5% of the full stroke below the upper limit (cooperate with X66 port 31 function application, open the corresponding function menu to see)	00 : 5% area below the upper limit (Default)	87
b.0	Relay b-X67 early warning time traffic light setting (cooperate with X67 port 01-06 traffic light application, open the corresponding function menu to see)	00 : The warning time is 0 (Default)	89
b.1	Relay b-X67 automatic door closing extra warning time traffic light function setting (cooperate with X67 port 01-06 traffic light application, and open the automatic door closing function menu at the same time)	00 : The warning time is 0 (Default)	89

Par	Function Description	Description of default parameters	P.
	Relay b-X67 flashing frequency function setting (cooperate with X67 port 01-06 traffic light application, open the corresponding function menu to see)	 ： Relay b-X67 flashing frequency 60 times/min (Default)	90
	Relay b-X67 delay off traffic light function setting (cooperate with X67 port 01-06 traffic light application, open the corresponding function menu to see)	 ： Relay b-X67 Release (Default)	91
	The relay b-X67 is in an active state in the area of 5% of the full stroke above the lower limit (cooperate with. X67 port 30 function application, open the corresponding function menu to see)	 ： 5% area above the lower limit (Default)	92
	Relay b-X67 is in an active state within 5% of the full stroke area below the upper limit (cooperate with X67 port 31 function application, open the corresponding function menu to see)	 ： 5% area below the upper limit (Default)	93

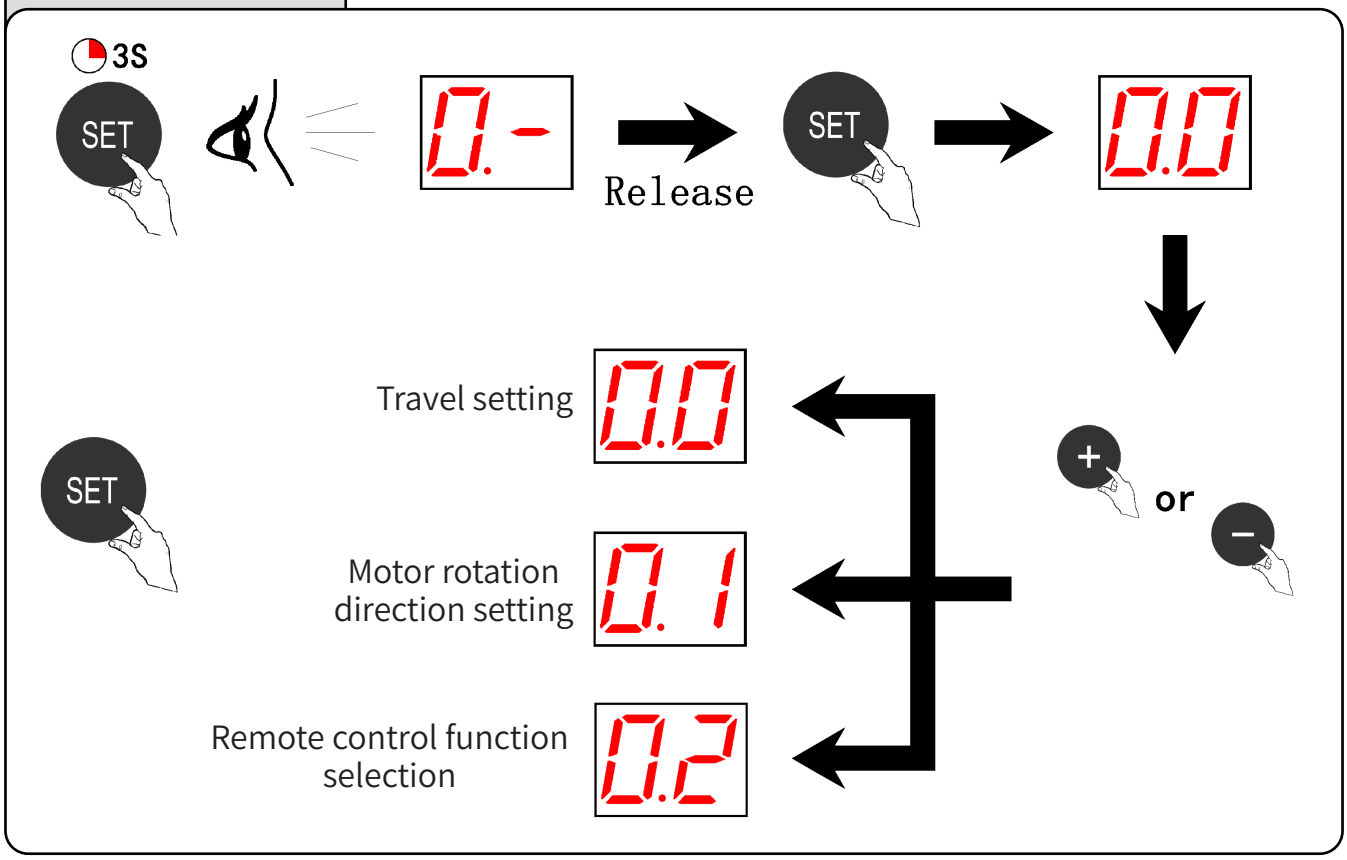
14.Parameter Details

Menu 0： Motor stroke setting

ⓘ  : The motor has no stroke, and the door can be opened and closed in long press mode.

ⓘ  : The motor has a stroke.

Function Guide



 Travel setting

！ Avoid any damage caused by incorrect rotation during operation. Manually open the door halfway before setting the stroke for the first time.

！ Once you enter the itinerary setting menu, the previous itinerary will be cleared, and you need to learn the itinerary again.

ⓘ When using an AC380V motor, it is recommended to learn the lower limit position about 2cm from the ground, and then fine-tune the lower limit in menu 1.3.

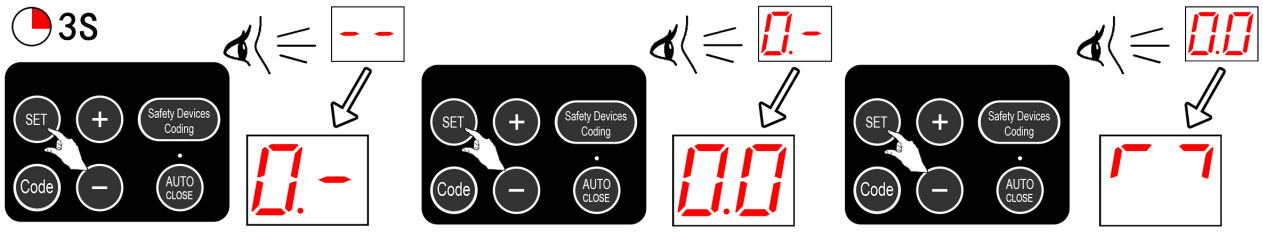
Motor travel setting:

First learn the upper limit of the motor stroke  ,

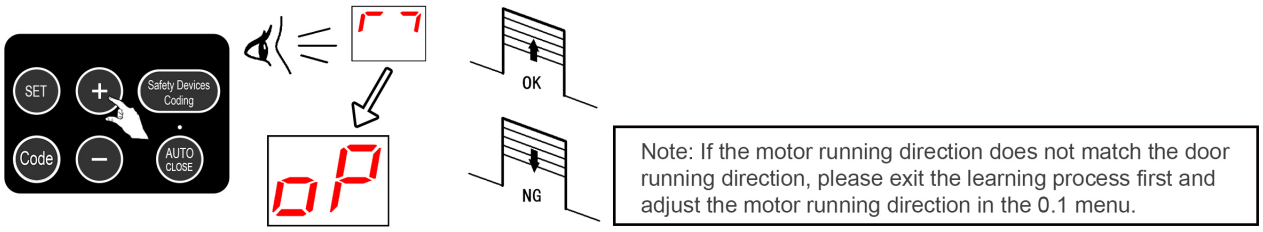
Re-learn the lower limit of the motor stroke  ,

For detailed operation steps, please see the figure below:

1. Enter motor travel setting

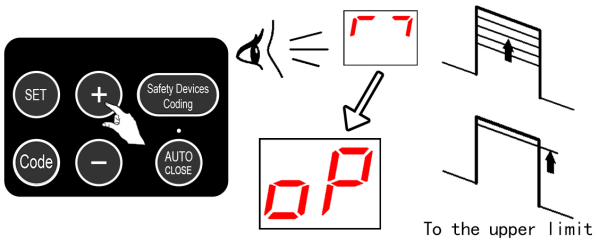


2.Check motor output direction and door direction

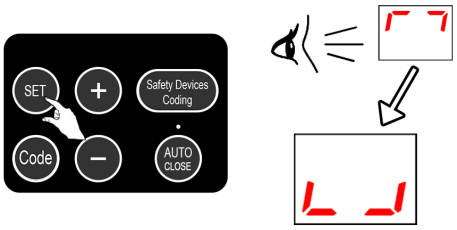


Note: If the motor running direction does not match the door running direction, please exit the learning process first and adjust the motor running direction in the 0.1 menu.

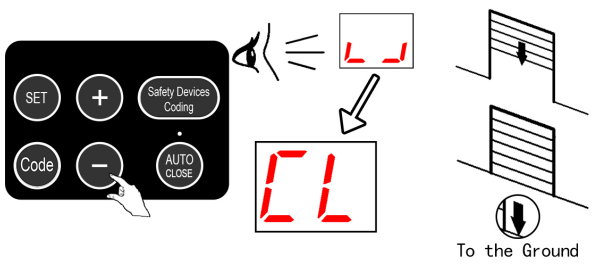
3. Start the learning journey, open the door and move to the upper limit position



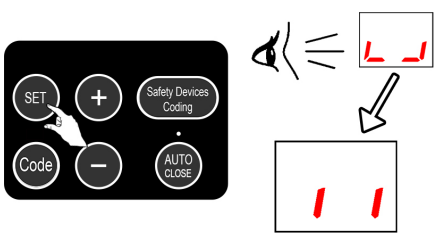
4. Save upper limit position



5.Close the door and move to the lower limit

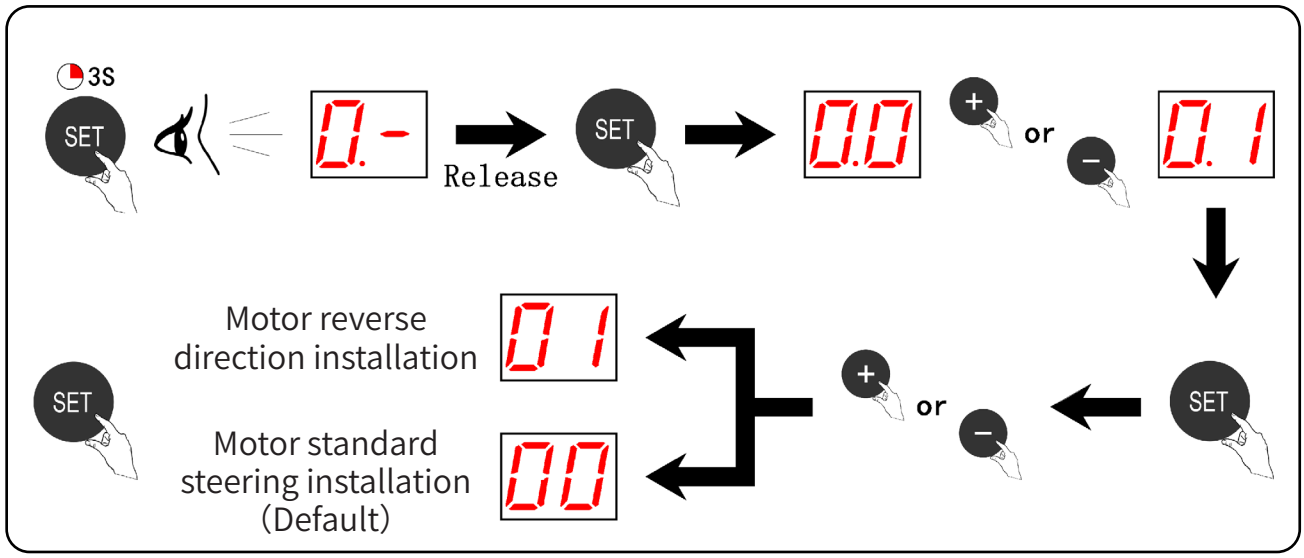


6. Save the lower limit position and complete the stroke learning



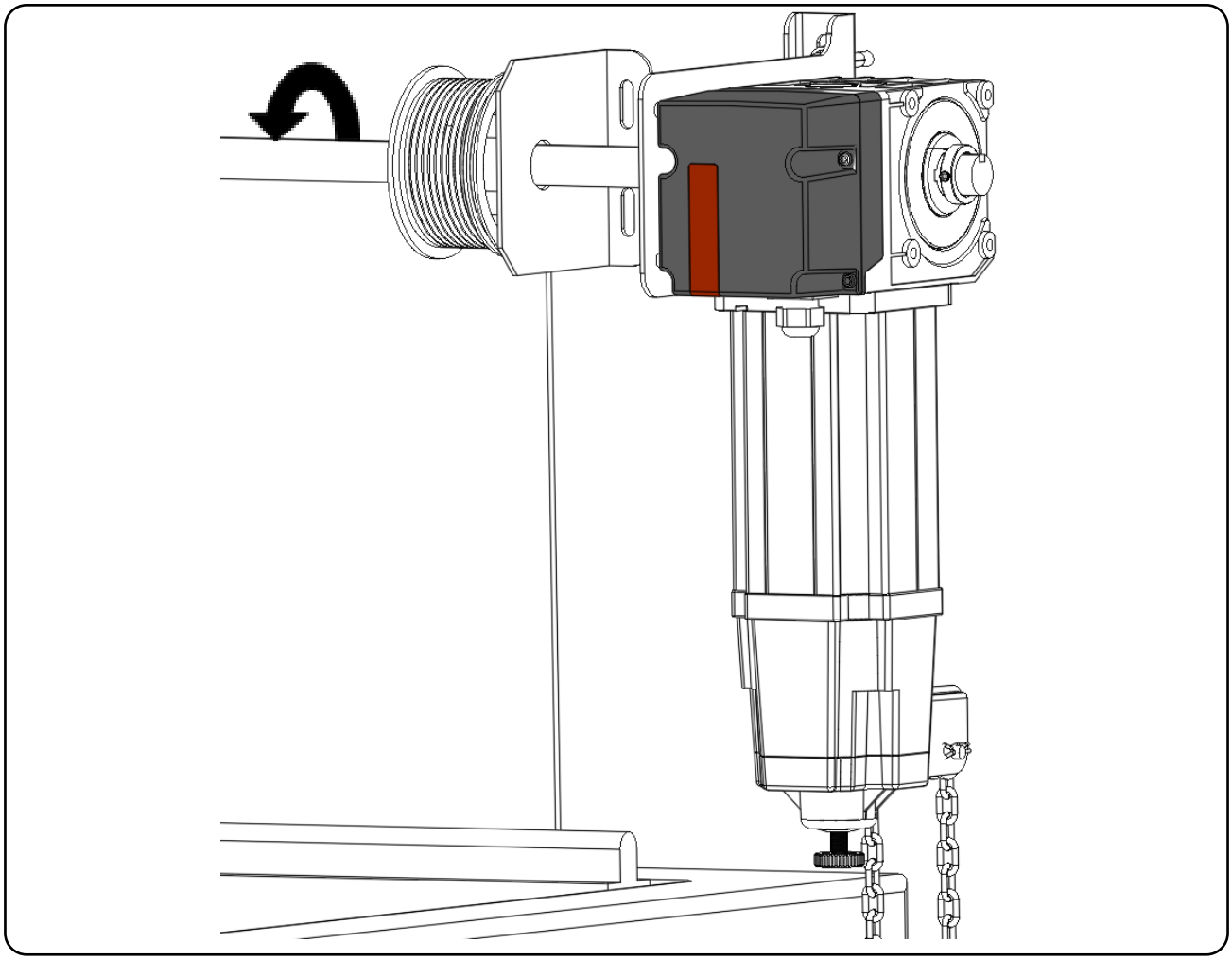
0.1 Motor rotation direction setting

! The motor steering adjustment must be confirmed when the stroke is set, and then learn the stroke after confirmation to avoid damage to the door body by the motor.



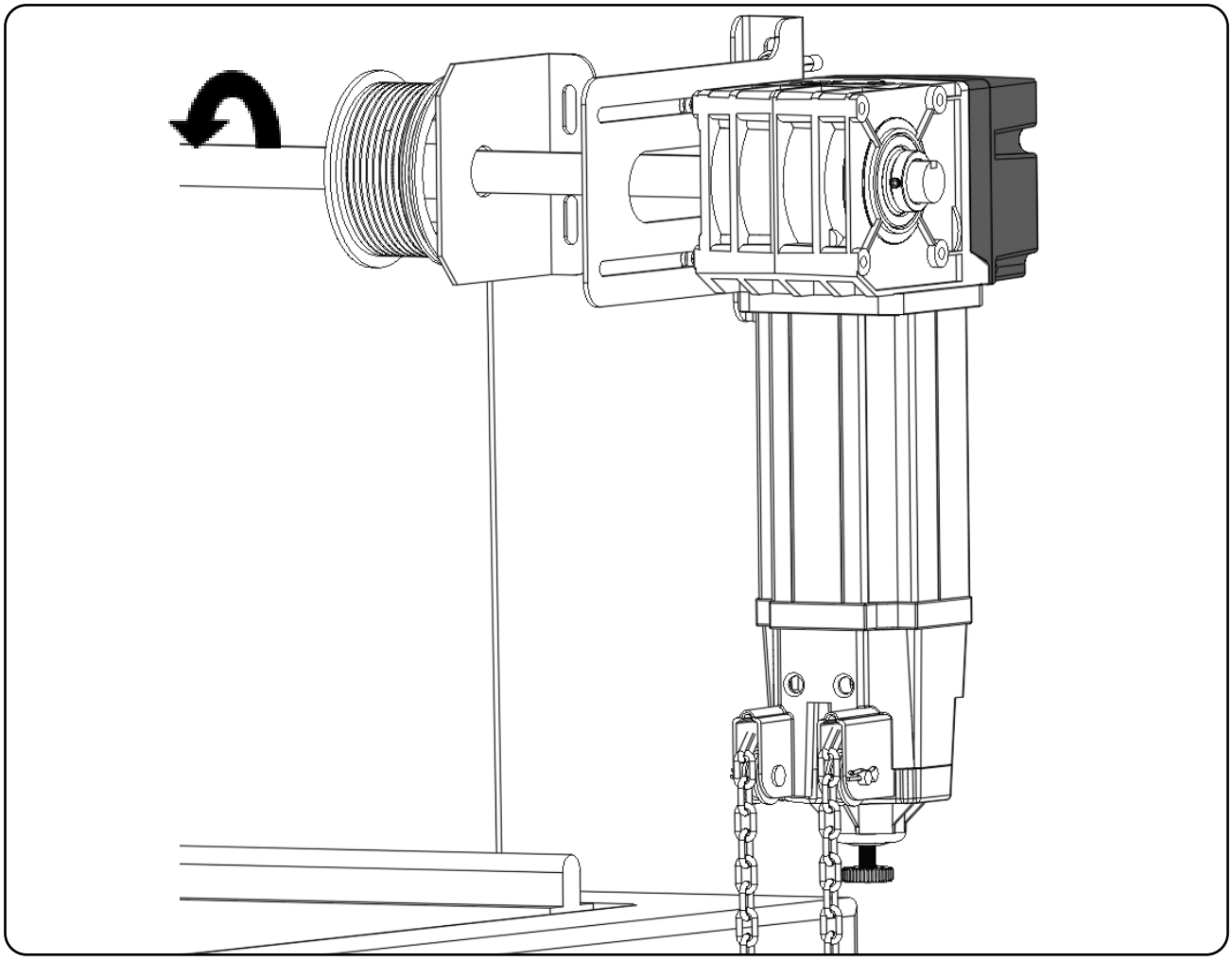
00 Motor standard steering installation (Default)

ⓘ When the door is opened, when the tower wheel rotates as shown in the picture, the motor is installed as shown in the figure.



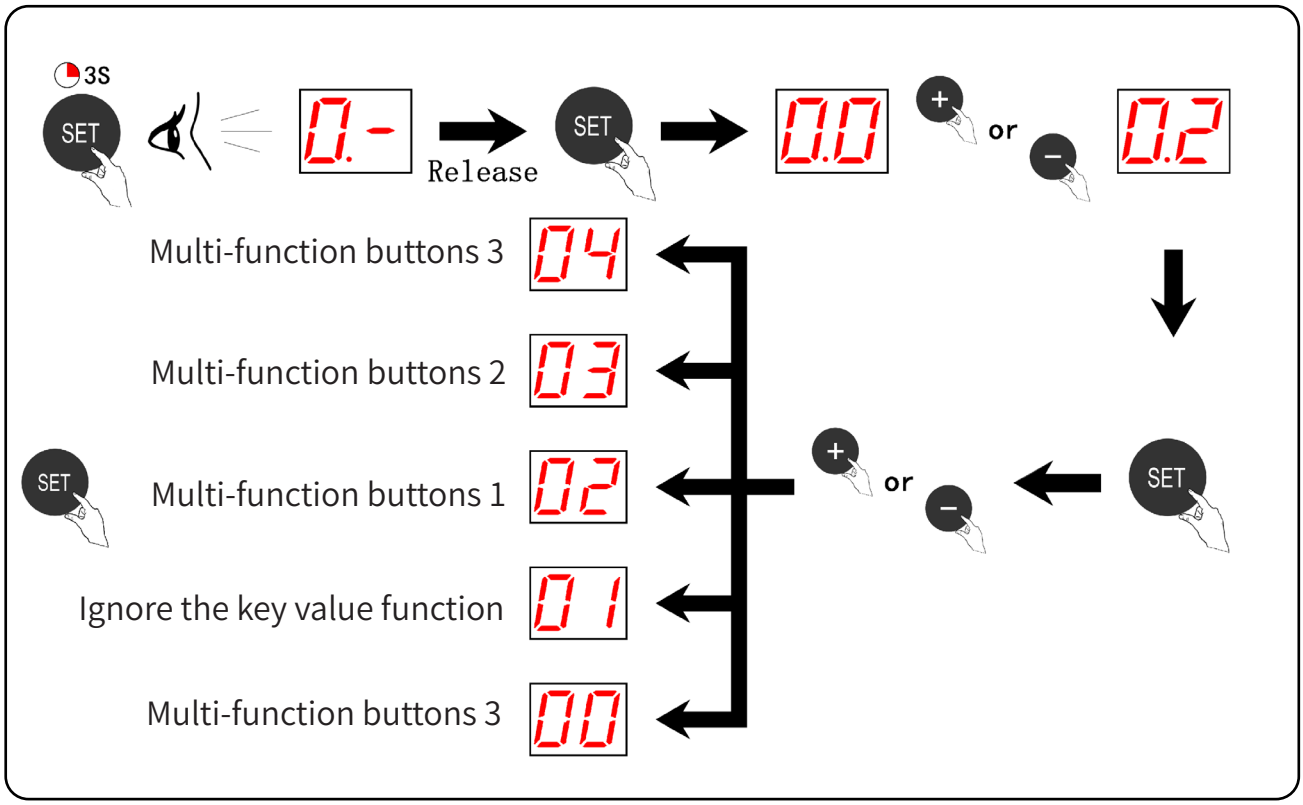
01 Motor reverse direction installation

ⓘ When the door is opened, when the tower wheel rotates as shown in the picture, the motor is installed as shown in the figure.



0.2 Motor reverse direction installation

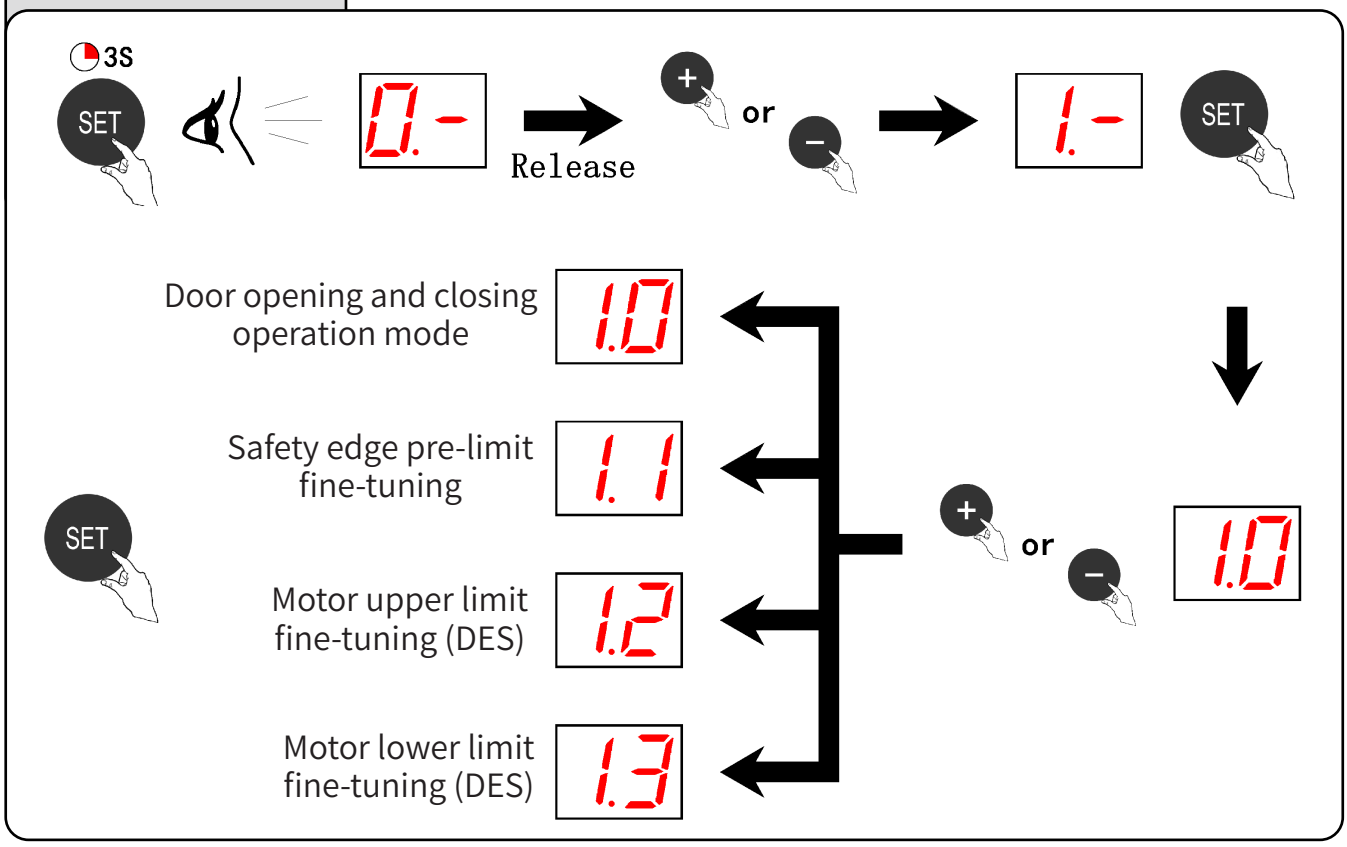
!Default maximum number of remotes to be stored is 50, when 50 remotes are learned, the 51st one will automatically overwrite the 1st one.



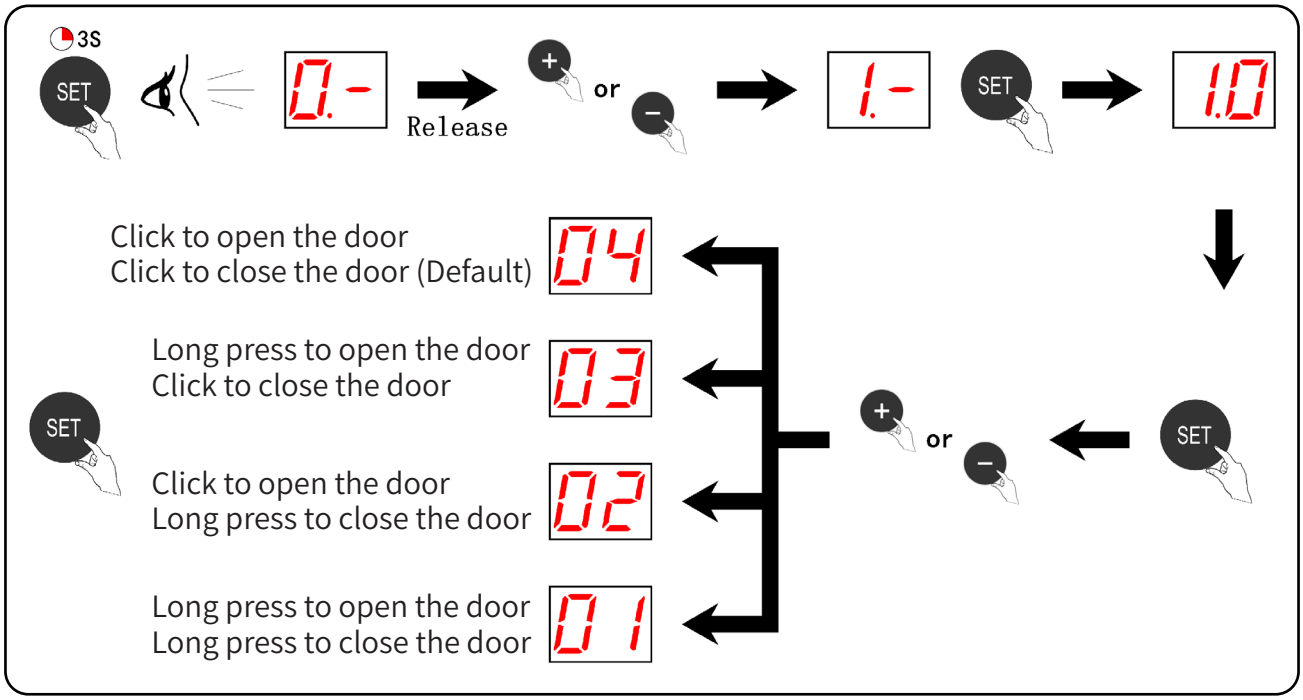
00	Standard Functions - Single Key Cycle (Default)
01	Ignore the key value function, all keys are valid, open-stop-close-cycle
02	Multi-function button 1: No. 1 key controls the motor on-off cycle; No. 2 partial open function; No. 3 key warning light on and off control; No. 4 key remote lock function;
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

Function Guide



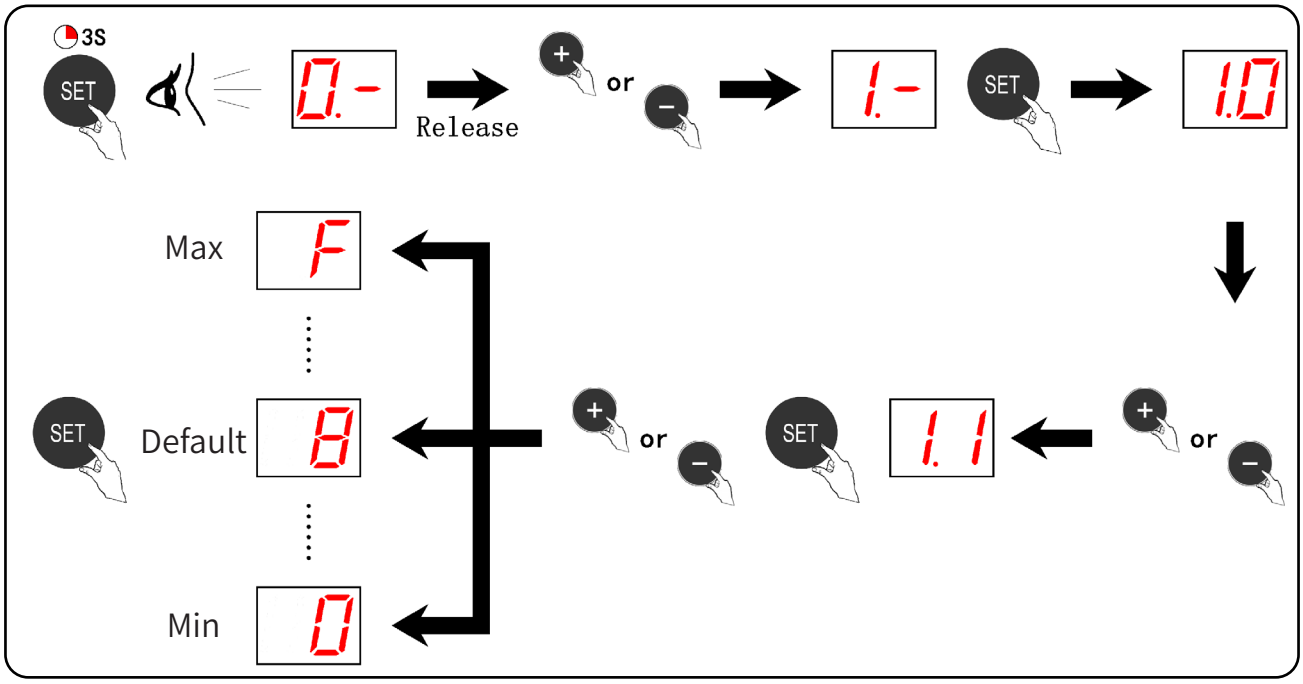
1.0 Door opening and closing operation mode



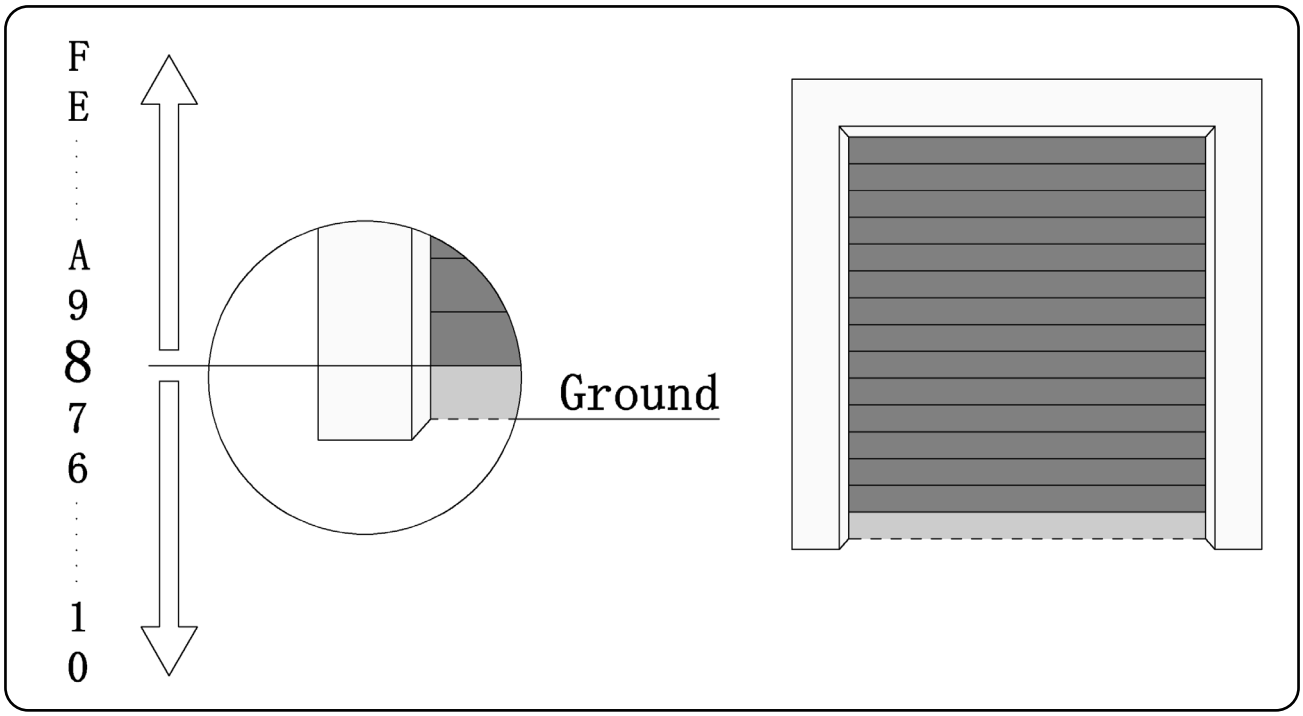
1.1 Safety edge pre-limit fine-tuning (DES)

! Please adjust the adjustment range between 2-5mm each time according to the size of the door rail system and the tower wheel. This parameter needs to be selected according to the actual state of the door.

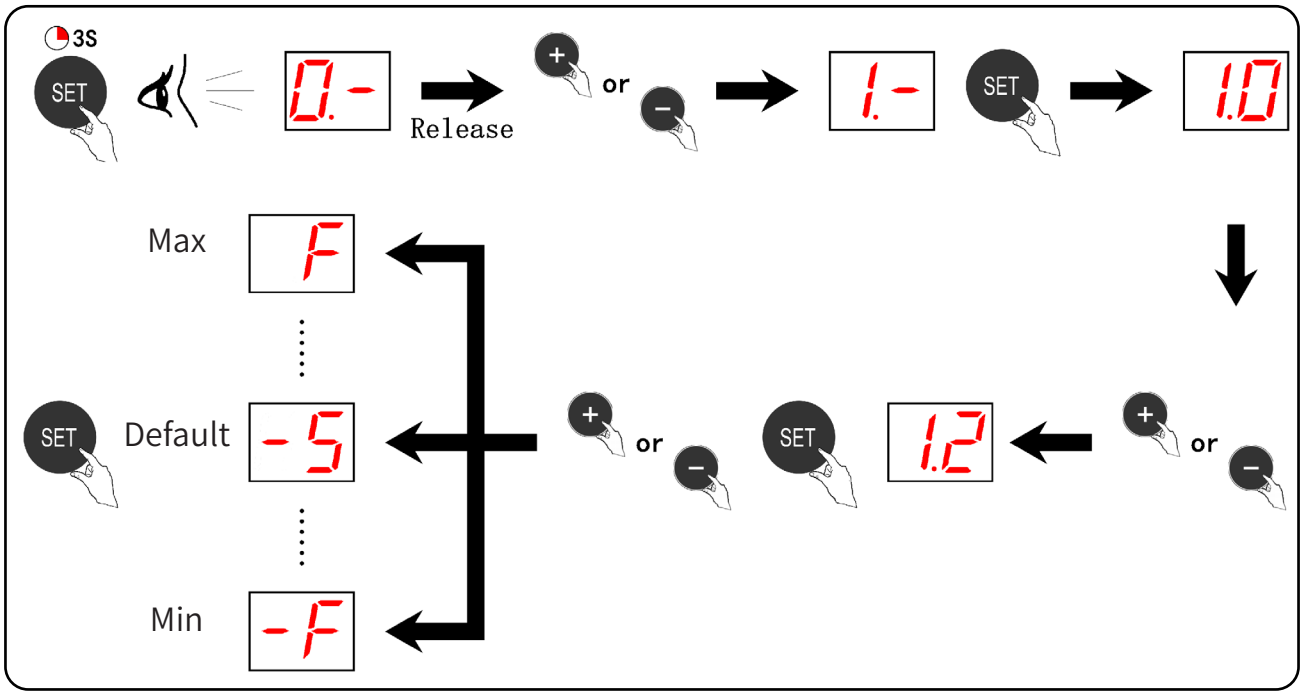
ⓘ In the area below the pre-limit position of the safety edge, the safety edge or the infrared trigger motor will perform the stop action.



ⓘ Take an 18-inch flat wheel (about 150MM in diameter) as an example： about 5CM
Function description： In this area, when the safety edge is blocked or the infrared is blocked, the motor does not perform the function of reversing when it is blocked, and it will stop when it is blocked; when using the DW function safety edge at the same time, this position is where the DW function starts self-test starting point.

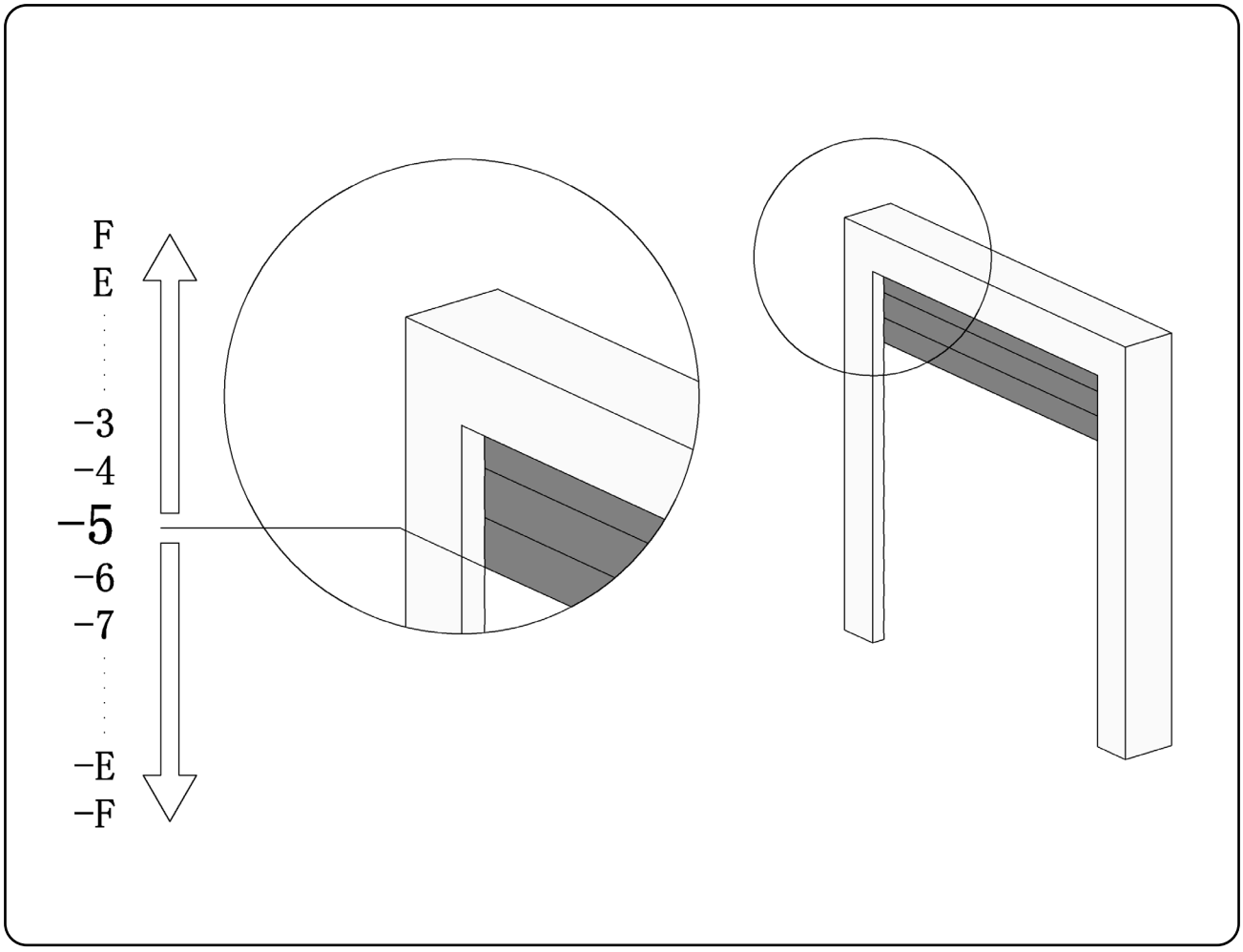


1.2 Motor upper limit fine-tuning (DES)



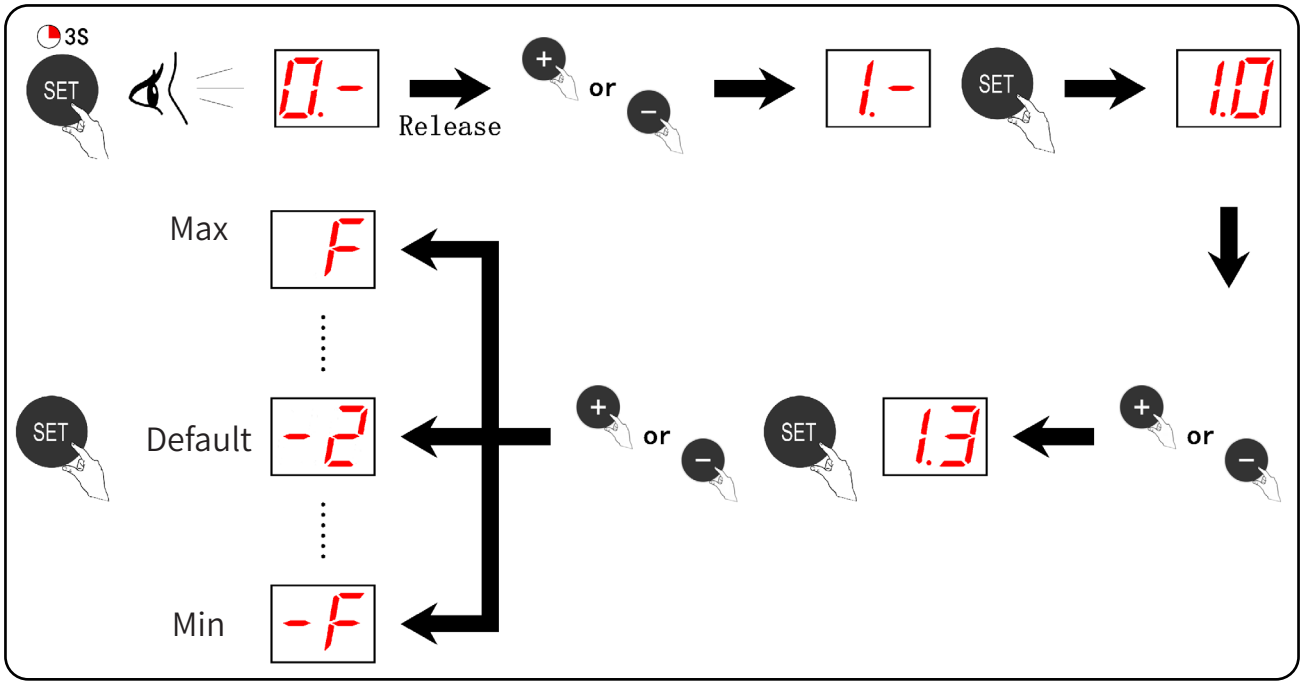
Function description:

This function fine-tunes the upper limit of the motor.

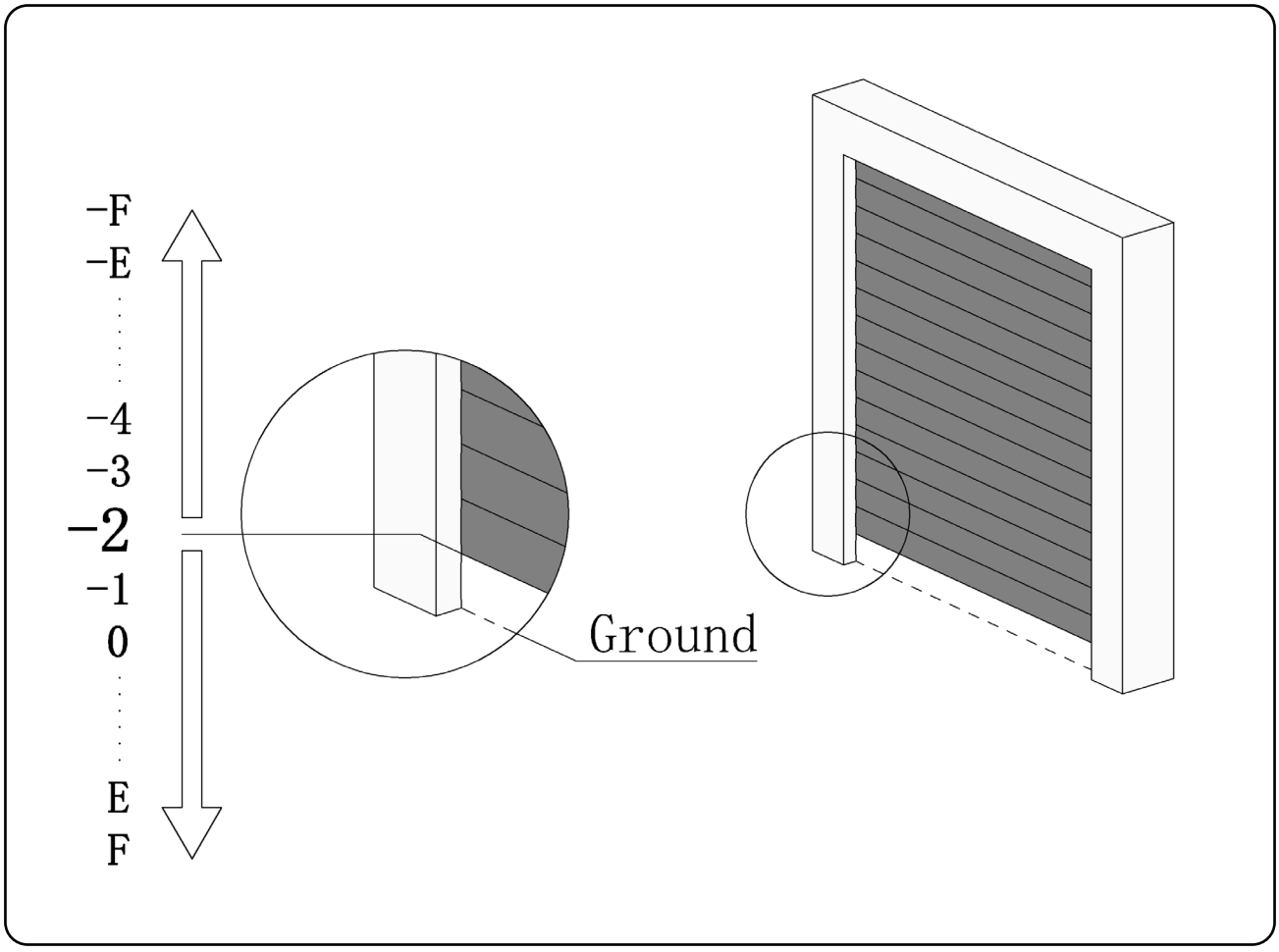


1.3 Motor lower limit fine-tuning (DES)

ⓘ If the lower 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.



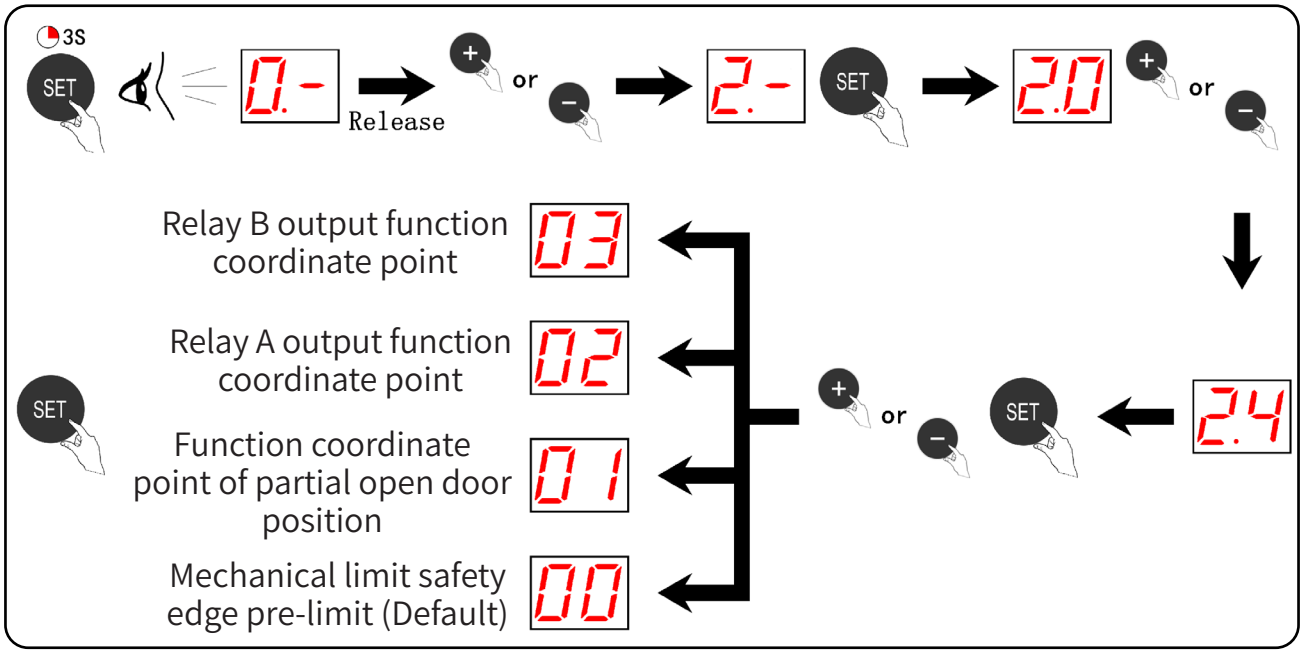
Function description： This function fine-tunes the lower limit of motor.



Menu 2： Motor running parameter setting

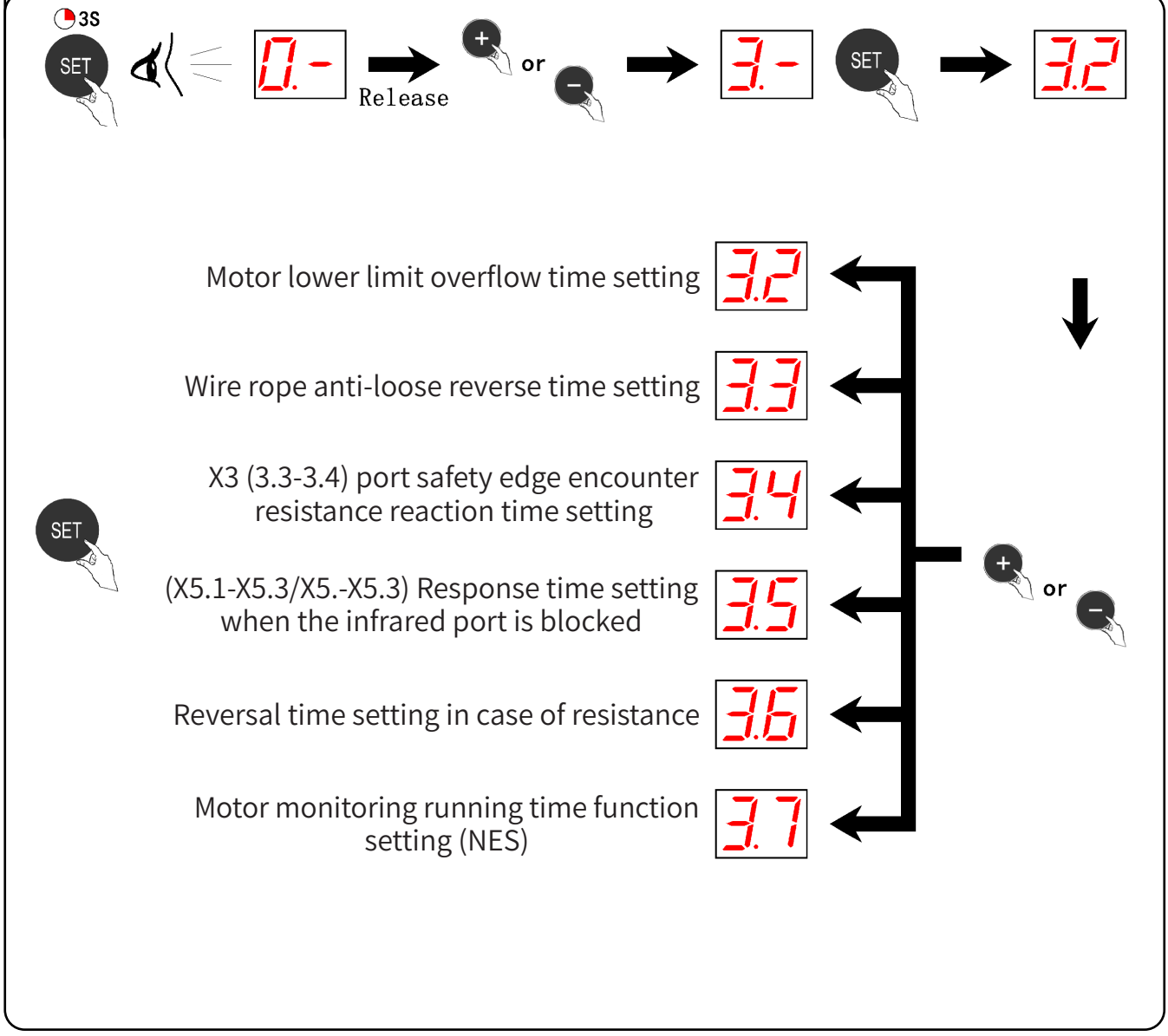
S6 auxiliary limit coordinate function setting (NES mechanical limit)

ⓘ This feature is only visible for motors using NES mechanical stops.



Menu 3： Motor parameter time setting

Function Guide



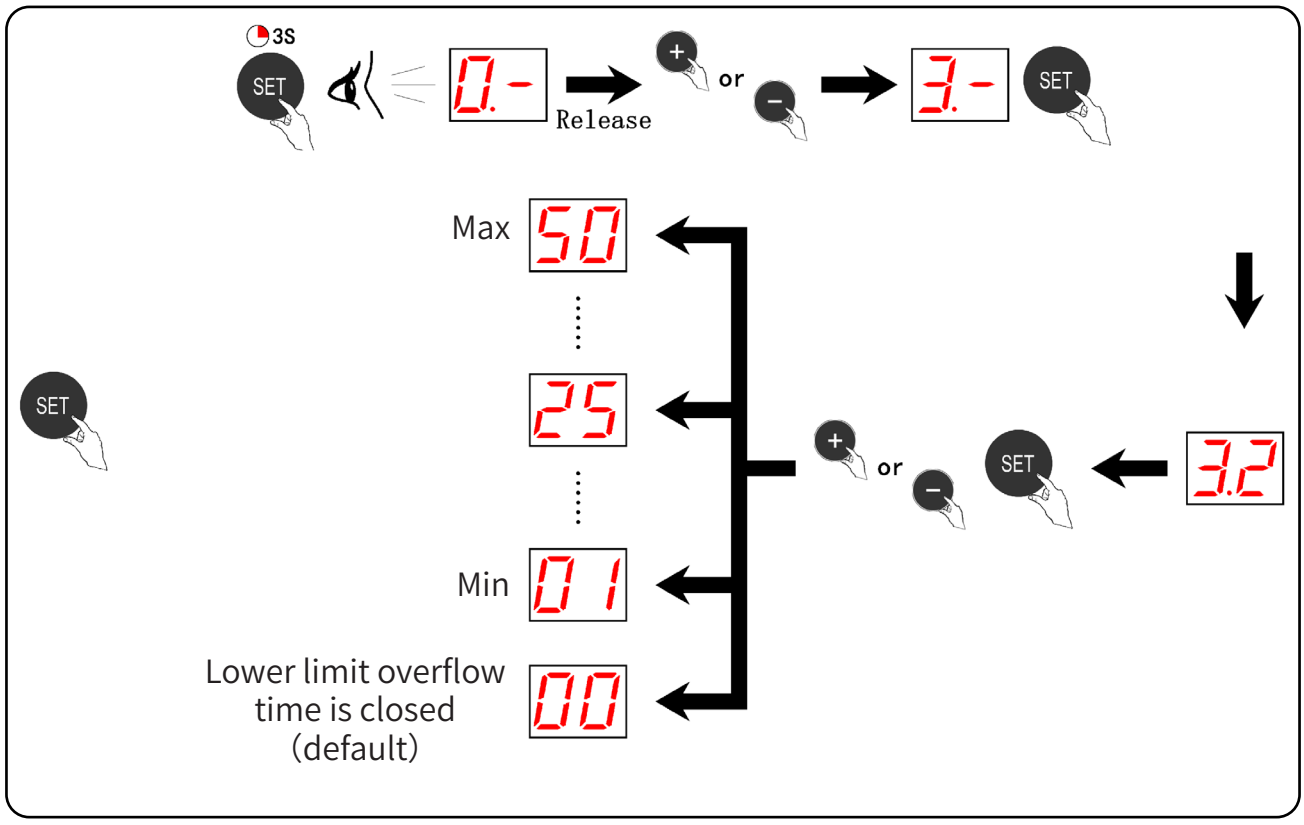
Motor lower limit overflow time setting

! If you use the DW air switch on the safety side, it is recommended to turn on the overflow time. If you do not turn on the DW self-test function, it may fail.

ⓘ During the overflow time of the lower limit, the motor will also detect the activation of the safety edge and perform an obstruction stop.

ⓘ Adjust the overflow time of the lower limit according to the condition of the door. This setting is mainly to complement the lower limit in the user's stroke. Closing the door by motor through this setting will ensure that the door is on the ground.

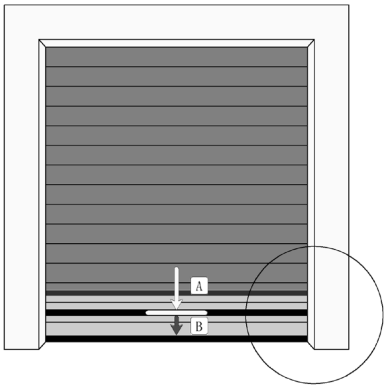
ⓘ In the case of ensuring that the DW air switch is safe and works normally, if the DW self-test cycle cannot be completed when the door is closed, please adjust the overflow time according to the actual situation.

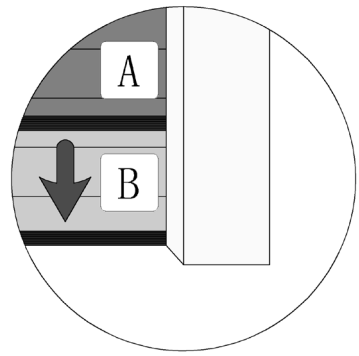


Example:

Parameter: 25 :0.25s

Graphical description (right picture):
A: The set lower limit position
B: The location after setting the overflow time

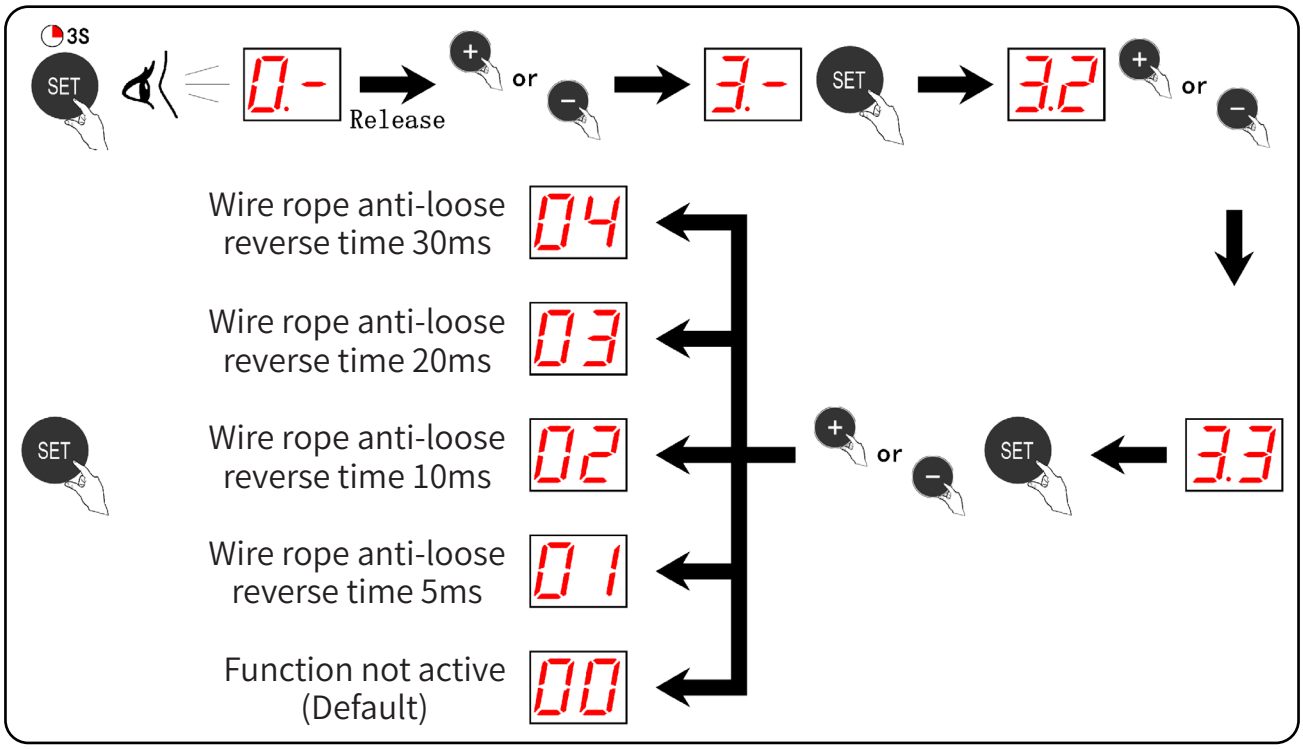




3.3 Wire rope anti-loose reverse time setting（Lifting cable tensioning function）

ⓘ When using this function, after the door body is closed to the lower limit position, the door body will reverse and run in the direction of door opening for the time set in the parameters to prevent the door body wire rope from loosening.

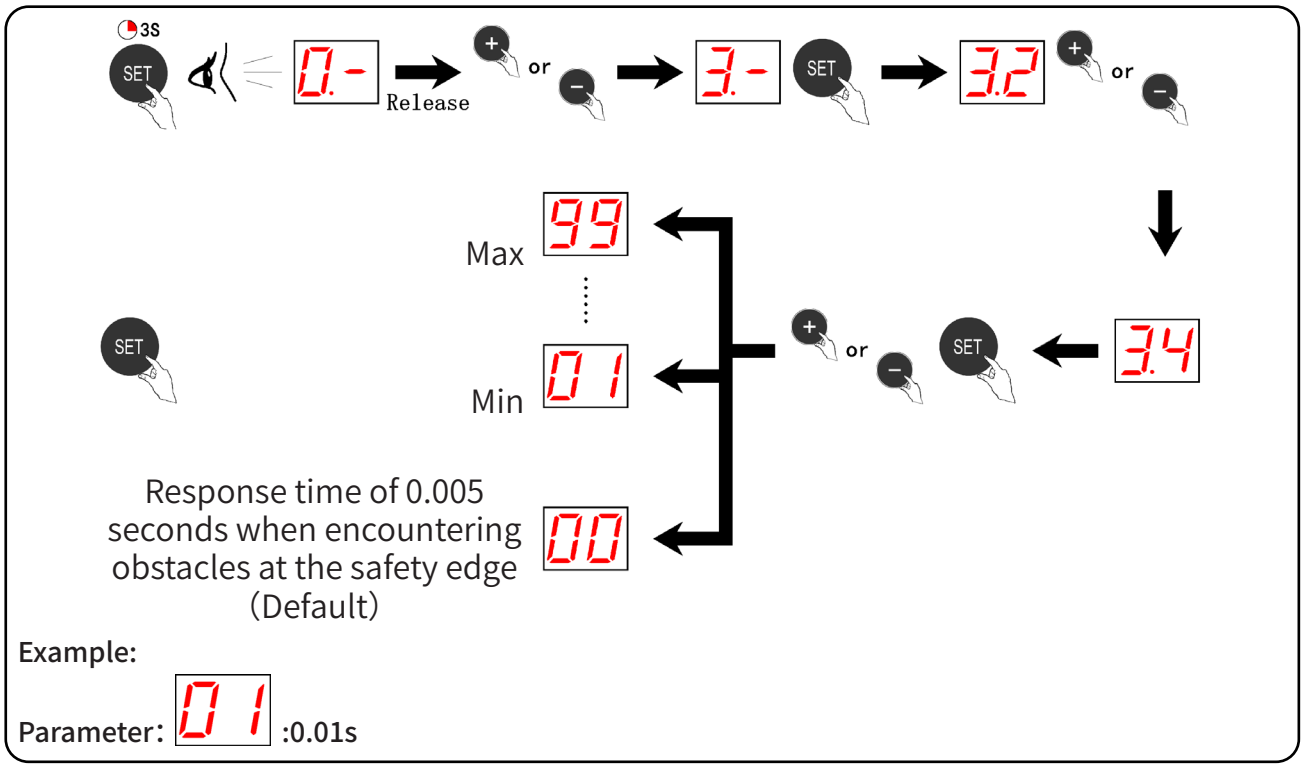
ⓘ The time setting range of this parameter is: (AC drive: 5m-s-30ms) .



X3 (3.3-3.4) port safety edge encounter resistance reaction time setting

ⓘ 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.

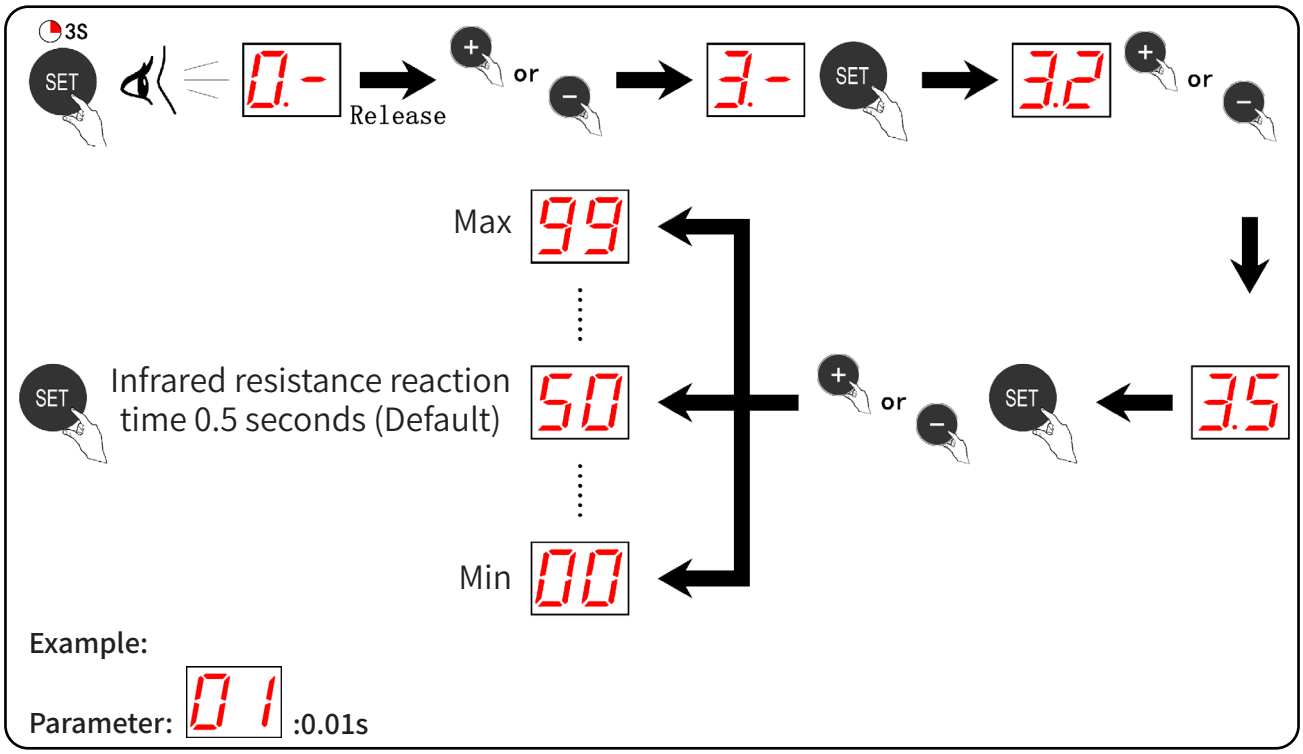


3.5 (X5.1-X5.3/X5.-X5.3) Response time setting for infrared resistance

ⓘ The reaction time of the infrared port is the time from when the door detects an obstacle to control the door to reverse operation.

ⓘ 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.

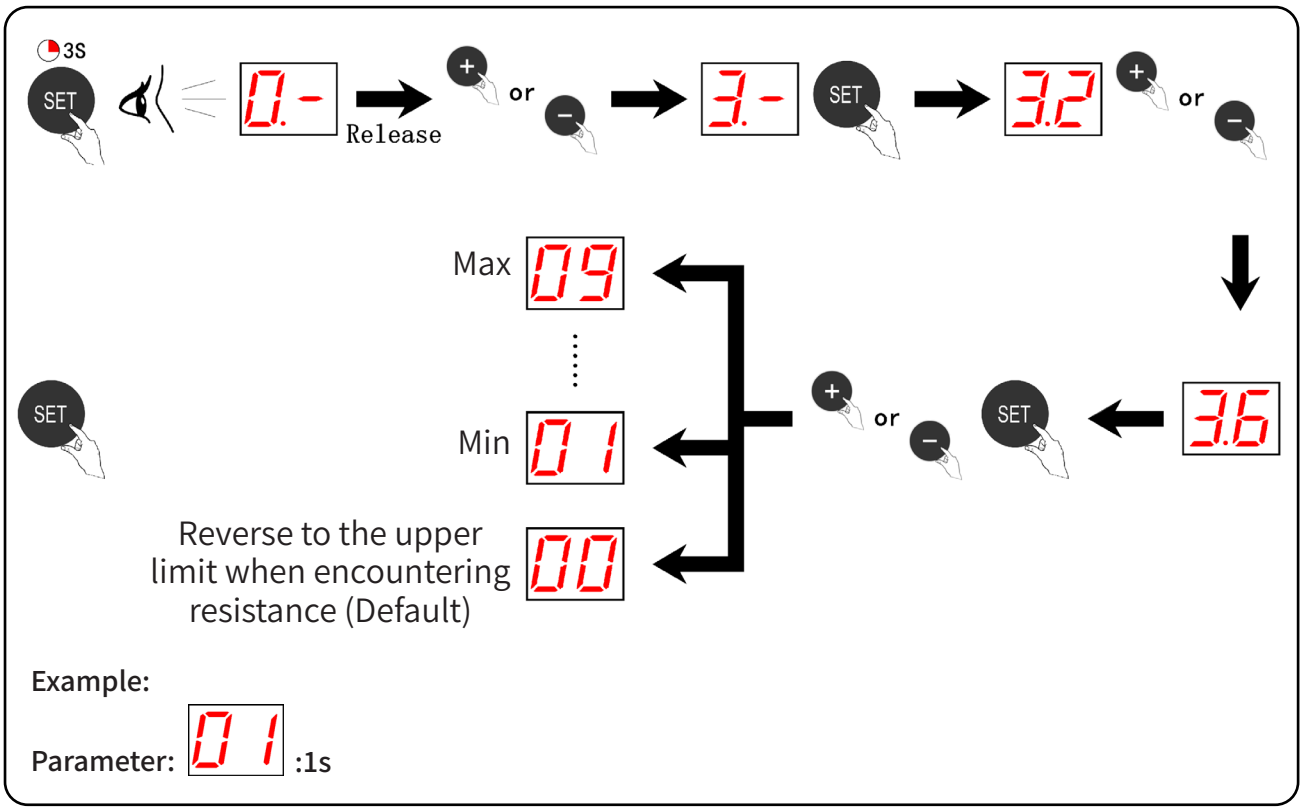


3.6 Reversal time setting in case of resistance

ⓘ Reversal time in case of resistance refers to the running time for the motor to open the door in the opposite direction after the safety edge or infrared or door closing overcurrent during the door closing process.

ⓘ The time setting range of this parameter is: 1 second - 9 seconds (if the time is not up, the motor will stop first when it reaches the upper limit)

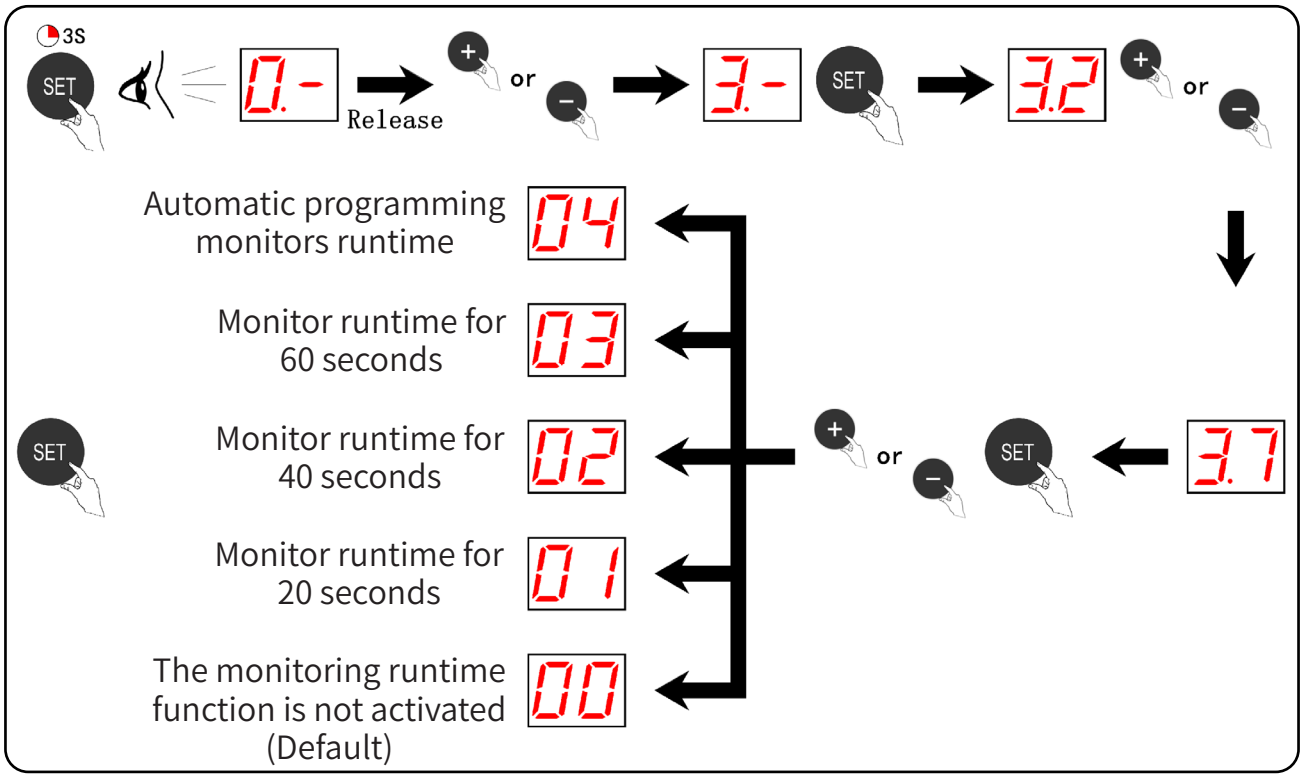
ⓘ According to the actual situation of the door body or the needs of the scene, the reaction time of the safety edge is adjusted.



Motor monitoring running time function setting (NES)

ⓘ This feature is only visible for motors using NES (Mechanical Limits).

ⓘ Once the motor runs beyond the set monitoring time, the motor will stop running.



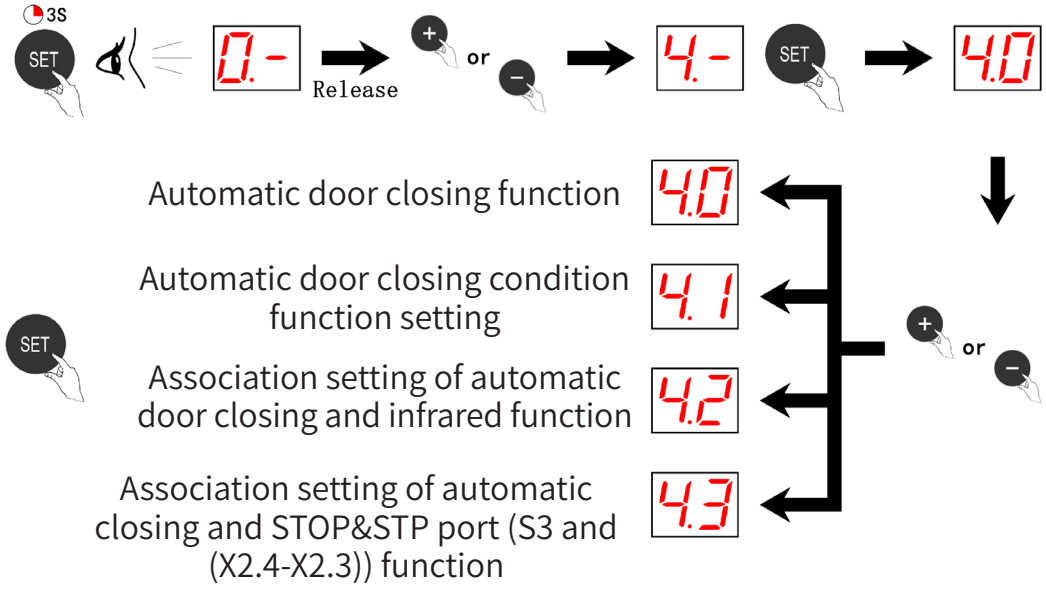
Automatic programming monitors runtime

ⓘ Before using this function, the door must be closed to the lower limit of the learned stroke.
ⓘ The door must be closed to the lower limit to see this option.
ⓘ Using this function, the door body will automatically open and close the door once, calculate and record the opening and closing time.
ⓘ Automatic programming monitoring running time:
1. Door opening monitoring time = door opening learning time × 112%
2. Door closing monitoring time = door closing learning time × 112%

Function usage steps：
1. Close the door to the lower limit.
2. After selecting this function, wait for the door to automatically open and close once.

Menu 4： Automatic door closing function setting

Function Guide

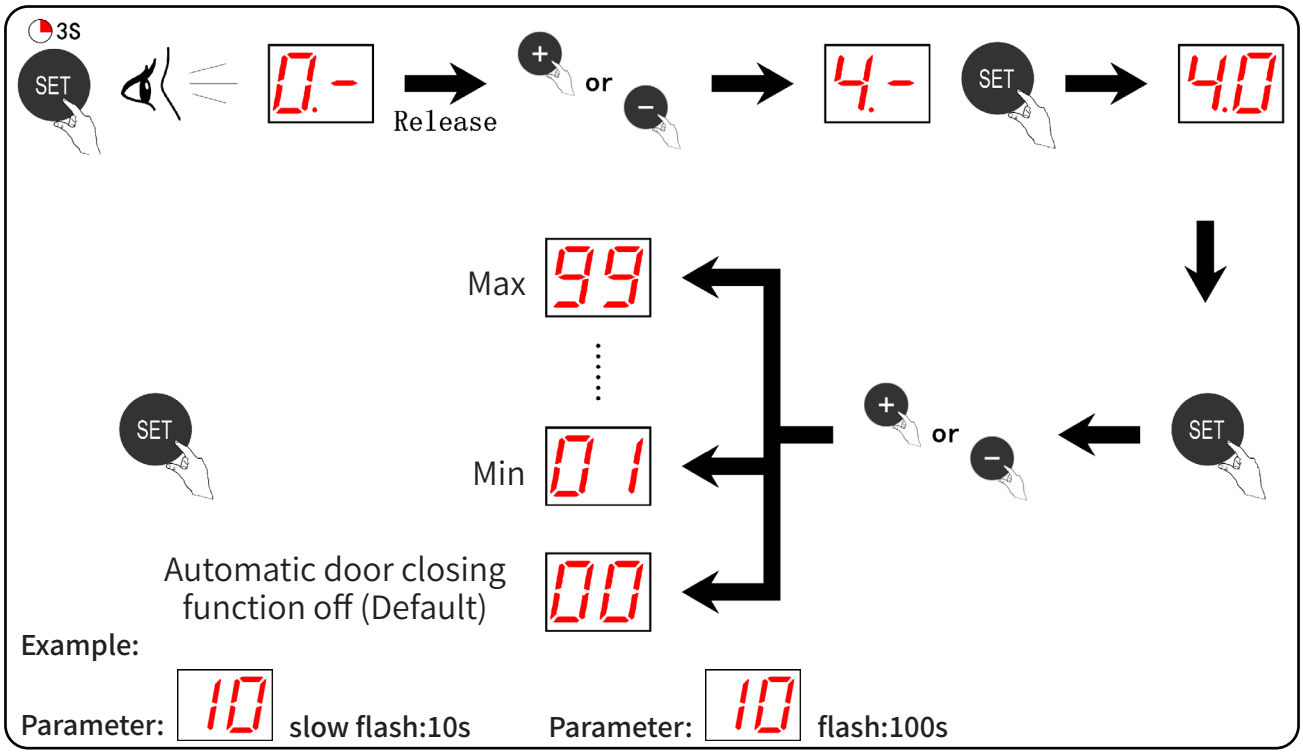


Automatic door closing function（Automatic closure）

ⓘ To use the automatic door closing function, a safety edge protection device or infrared safety protection must be installed. And the motor door is in jog mode (menu 1.0)

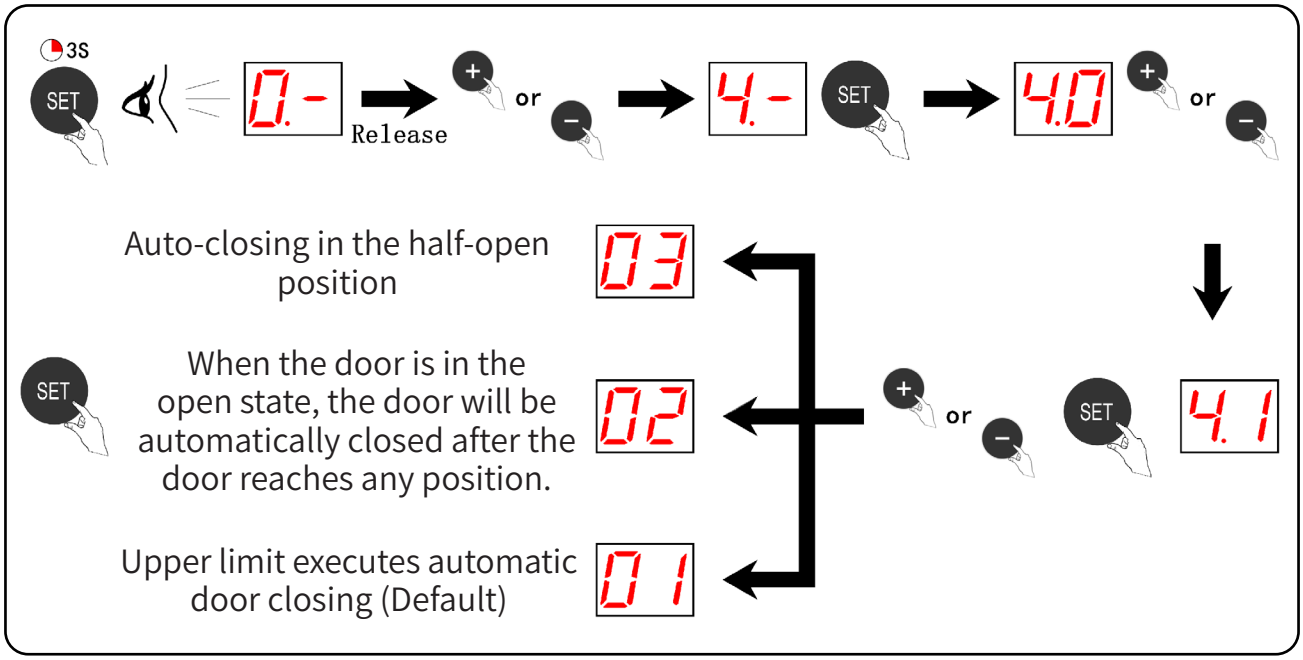
ⓘ The time setting range of this parameter is： 1 second - 990 seconds.

ⓘ 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 door closing condition function setting**

ⓘ **The automatic door closing condition is only used with the 4.0 automatic door closing function.**

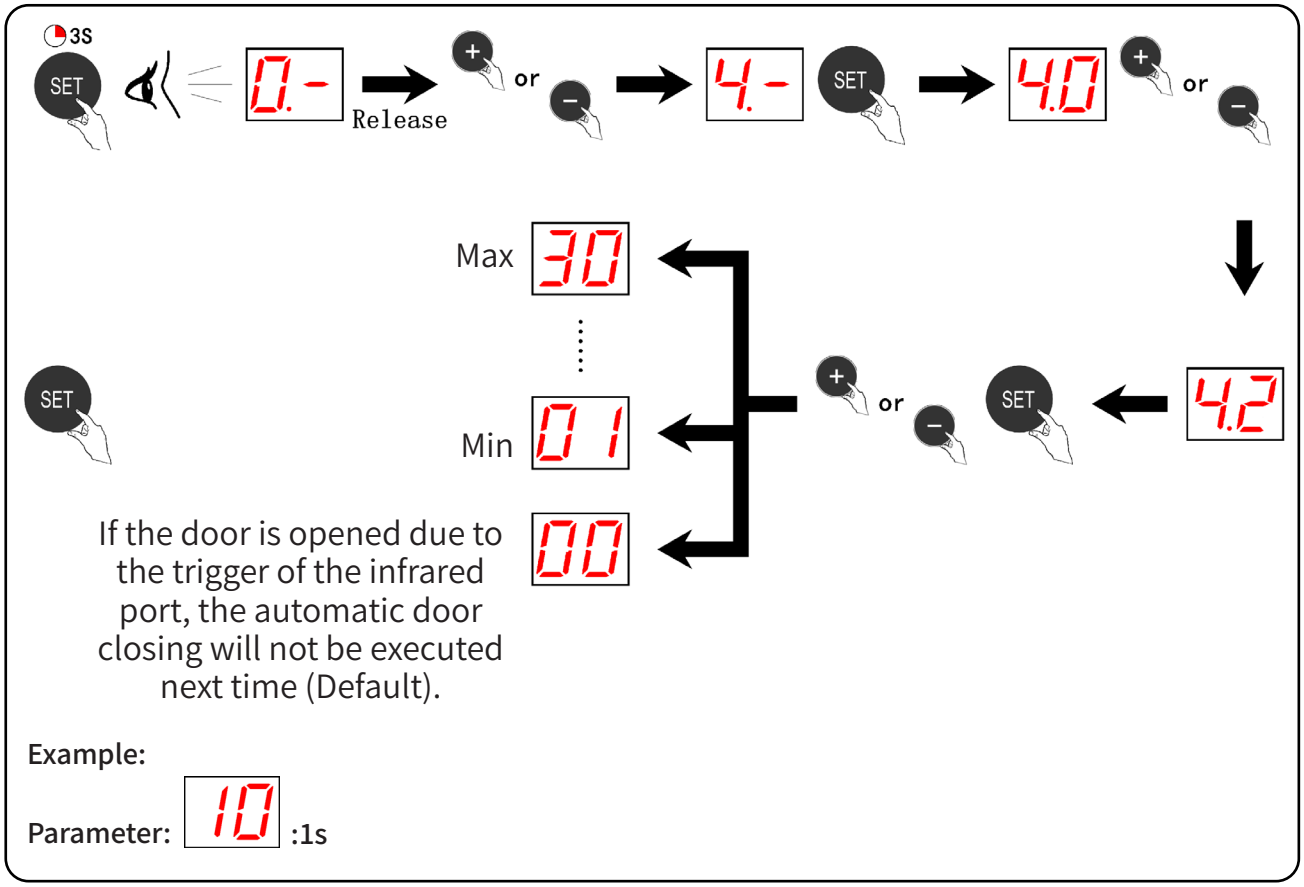


4.2 Association setting of automatic door closing and infrared function

ⓘ The association setting of automatic door closing and PE function can only be used with the infrared function of menu 5.

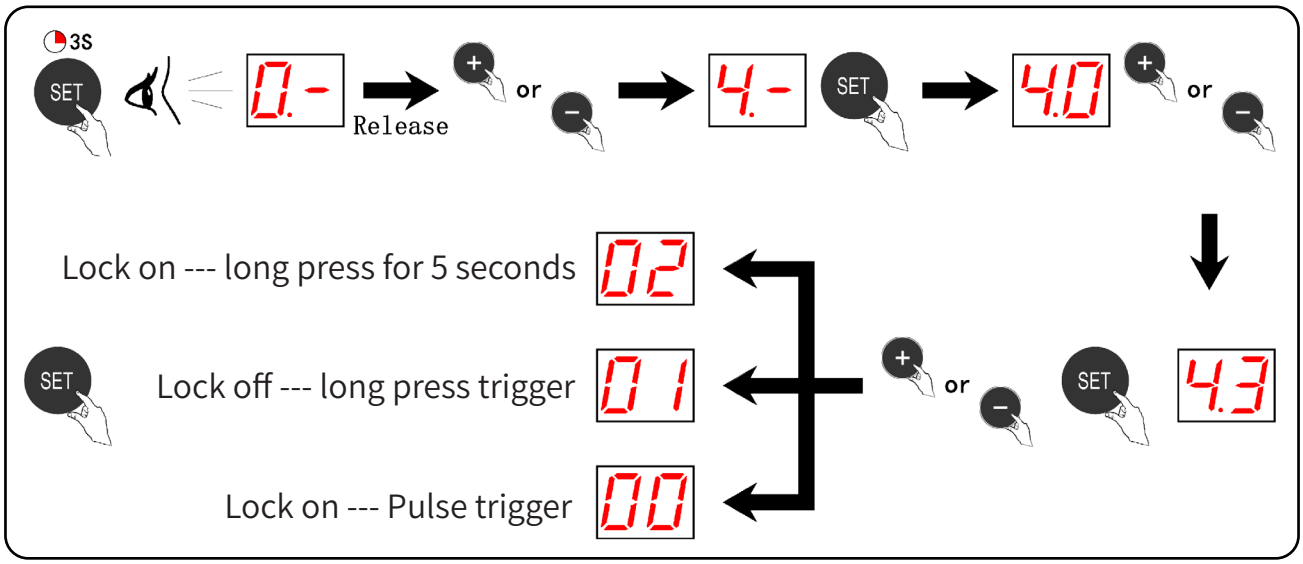
ⓘ Default parameters 00: The door opening triggered by the infrared port does not perform automatic door closing this time, and the door will resume automatic closing after the door is opened normally in the next cycle (the door opening triggered by the infrared port does not perform automatic door closing)

ⓘ After the timing is set, the door body can still close the door automatically when the infrared triggers the opening. After the infrared port is triggered, the automatic closing timing will resume. The setting range is: 0.1 seconds to 3 seconds.



4.3 Association setting of automatic door closing and STOP&STP port (S3 and (X2.4-X2.3)) function

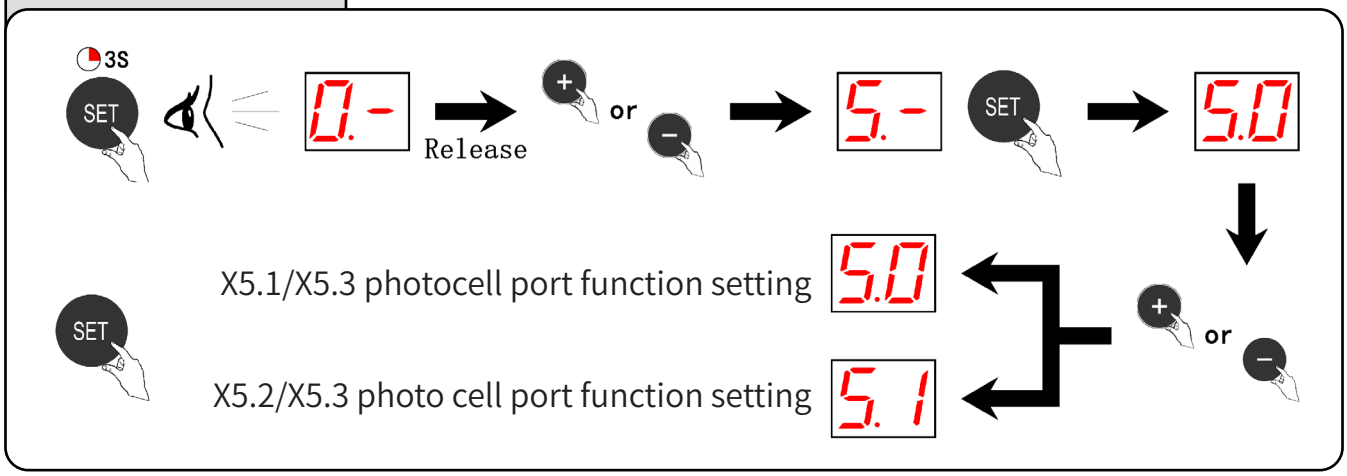
ⓘ S3 and STP (X2.4-X2.3) ports can only be executed on one port at the same time.



00	Lock on --- Pulse trigger
	The motor stops during the automatic door closing timing. After STOP or STP is triggered, the automatic door closing will stop this time, and the automatic door closing function will resume in the next cycle.
01	Lock off --- long press trigger
	The motor stops during the automatic door closing timing. After STOP or STP is triggered, the automatic door closing timing will stop this time. When the STOP button is restored, the automatic door closing will start timing again.
02	Lock on --- long press for 5 seconds
	During the automatic door closing counting period after the motor stops, press the STOP or STP key for more than 5 seconds, this automatic door closing will be stopped, and the automatic door closing function needs to be resumed in the next cycle. If the STOP or STP key restores the automatic door closing within 5 seconds and restarts timing.

Menu 5： Photocell function

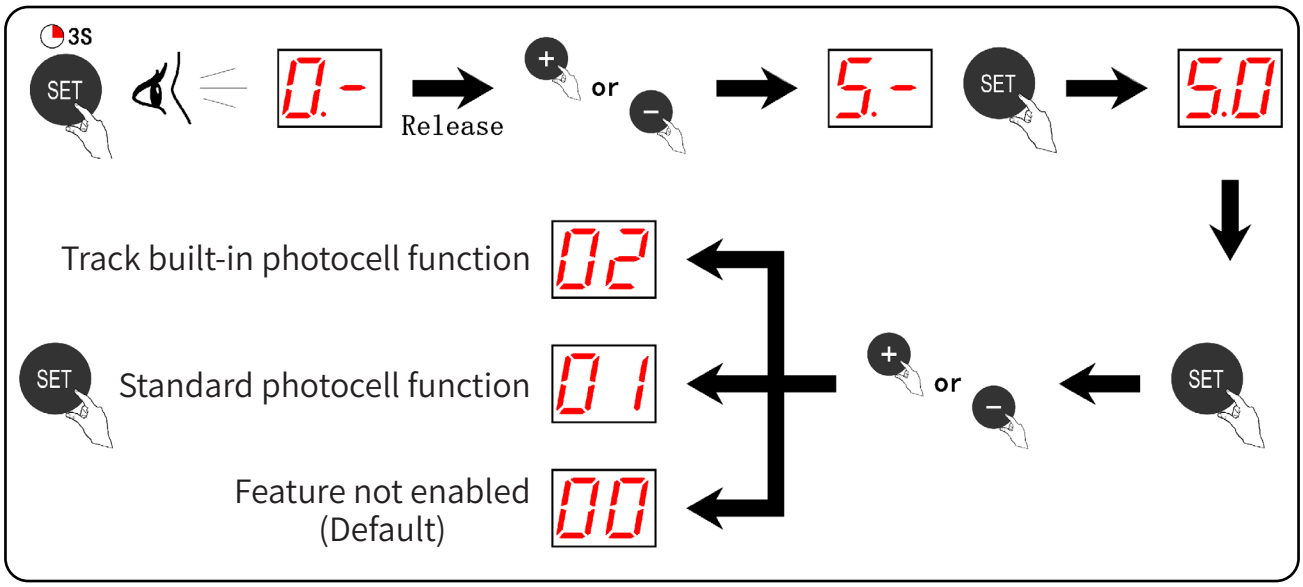
Function Guide



X5.1/X5.3 photocell port function setting

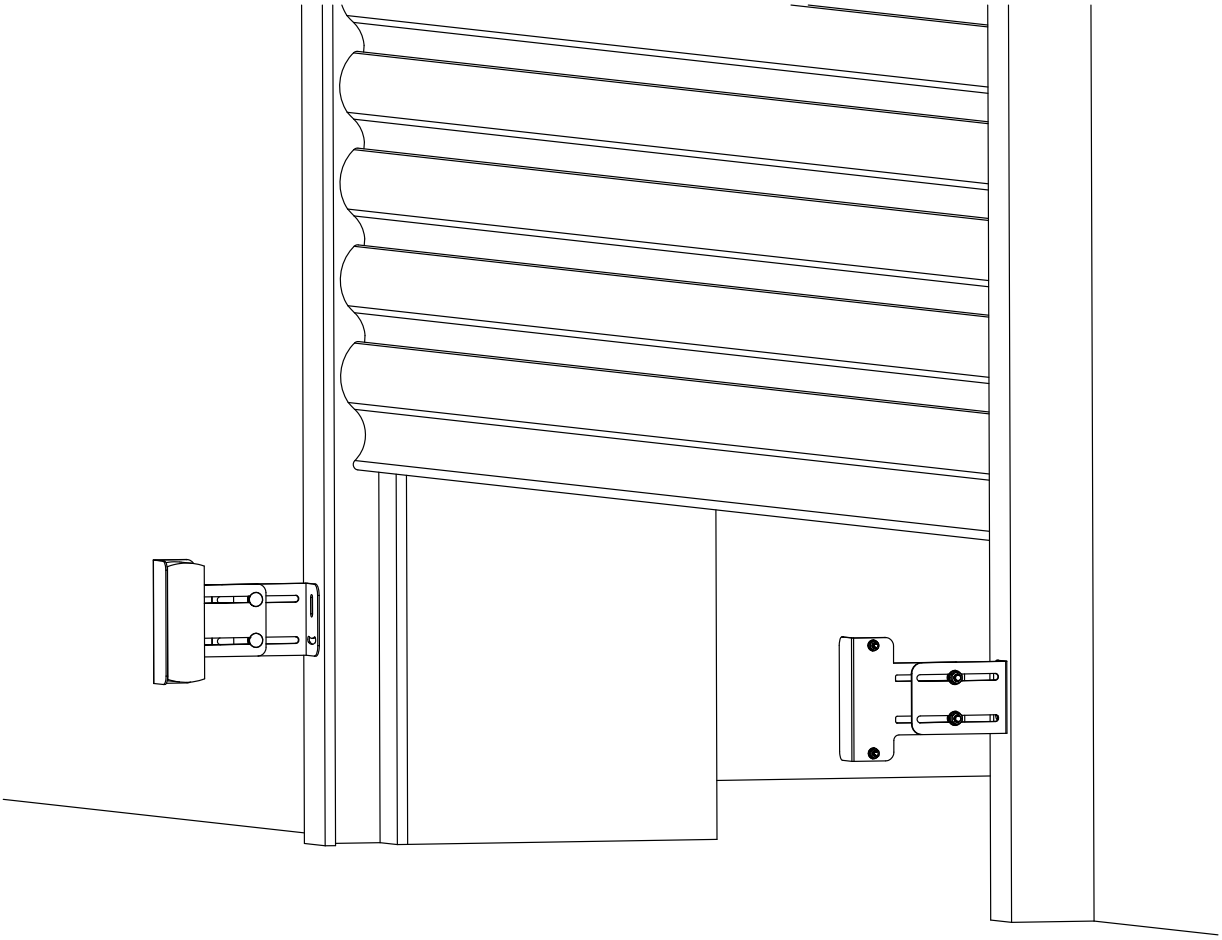
ⓘ Connection Description： Port X5.1/5.3

ⓘ Only one track can be set in menu 5.0 and menu 5.1 Built-in photocell.



Standard photocell function

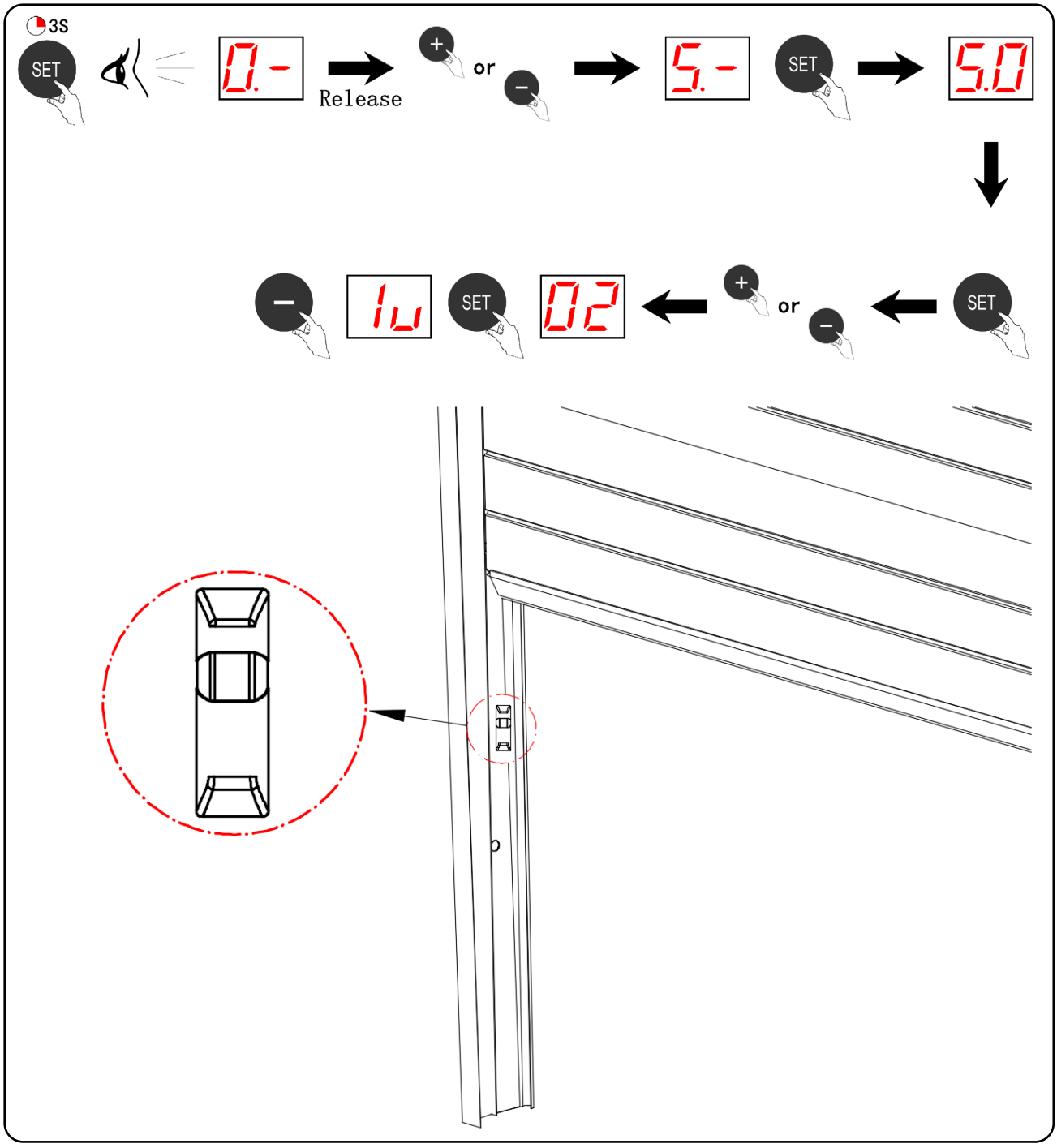
ⓘ Before using this function, the infrared device needs to be installed on both sides of the door.



02 Track built-in photocell function

ⓘ Before using this function, the infrared device needs to be installed in the door track.

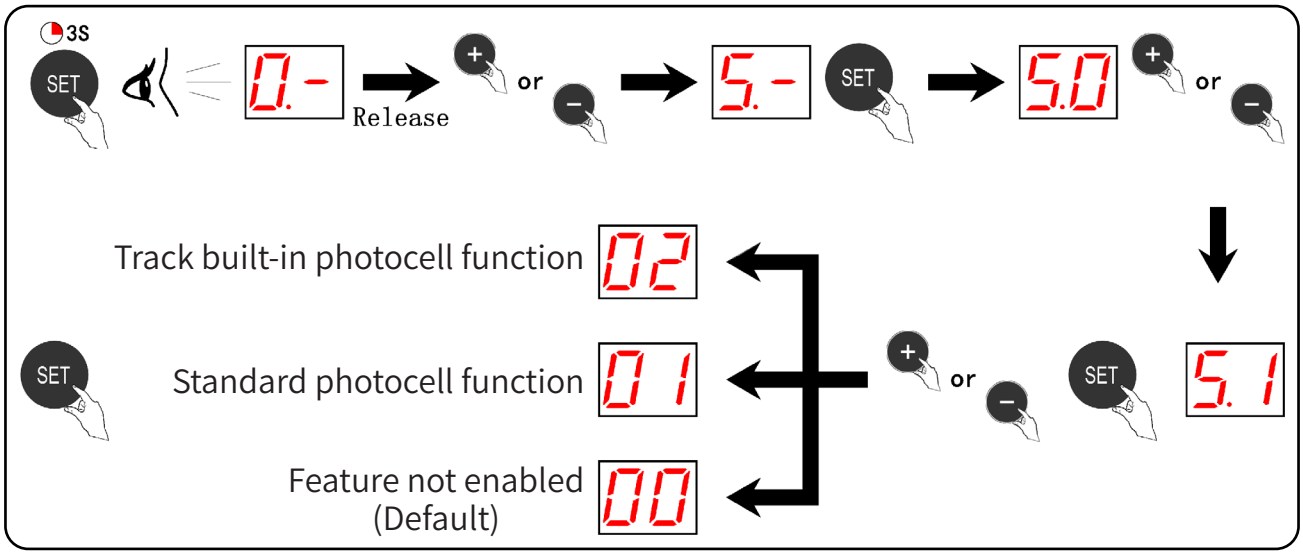
ⓘ Function description: Before using the built-in infrared function of the track, you need to open the door to the upper limit. If it is not set at the upper limit, an error will appear E9 ,If the infrared sensor has not been detected from closing the door to the lower limit, it will prompt an error E9 .



5.1 x5.2/x5.3 port function setting

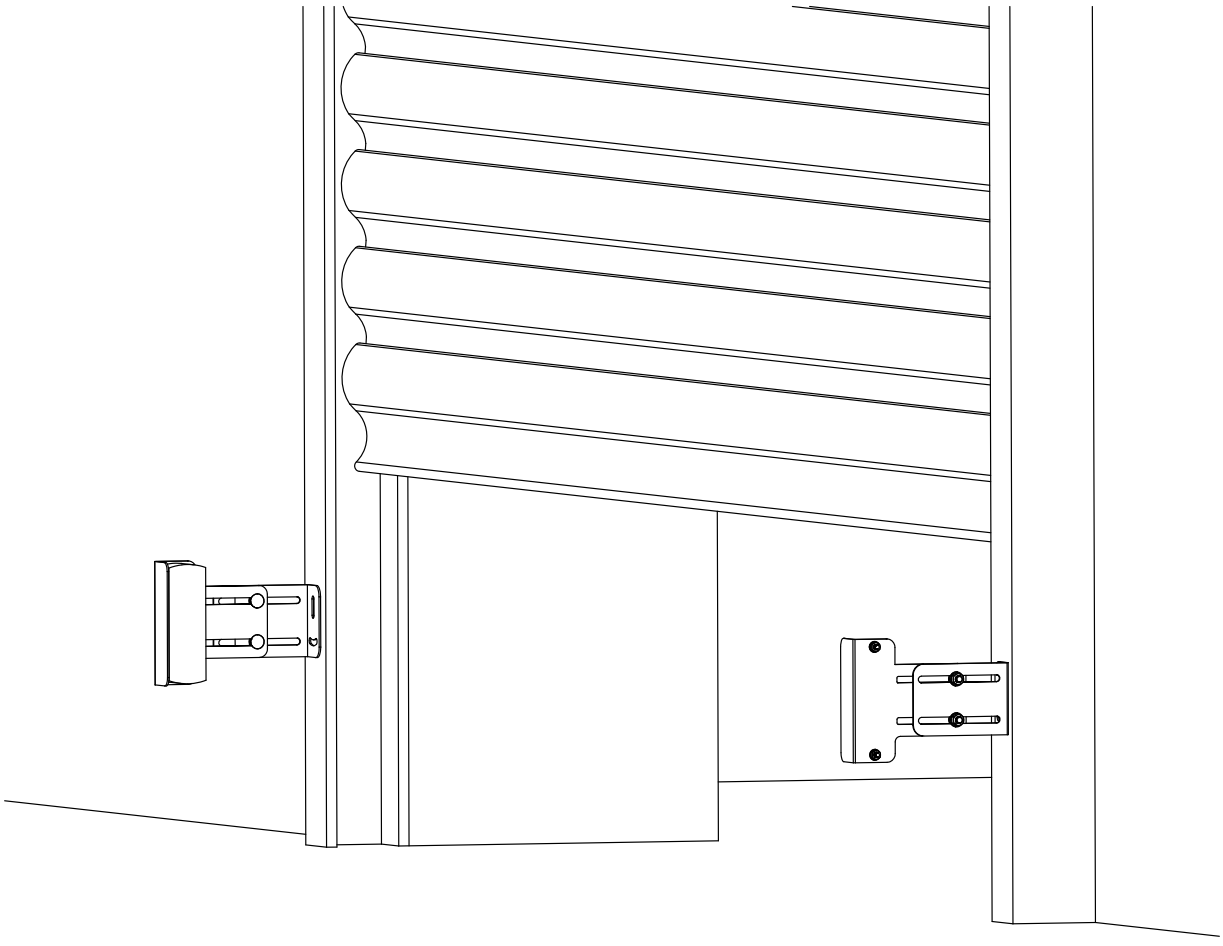
ⓘ Connection Description: Port X5.2/5.3.

ⓘ In menu 5.0 and menu 5.1, only one track built-in IR can be set.



5.1 Standard photocell function

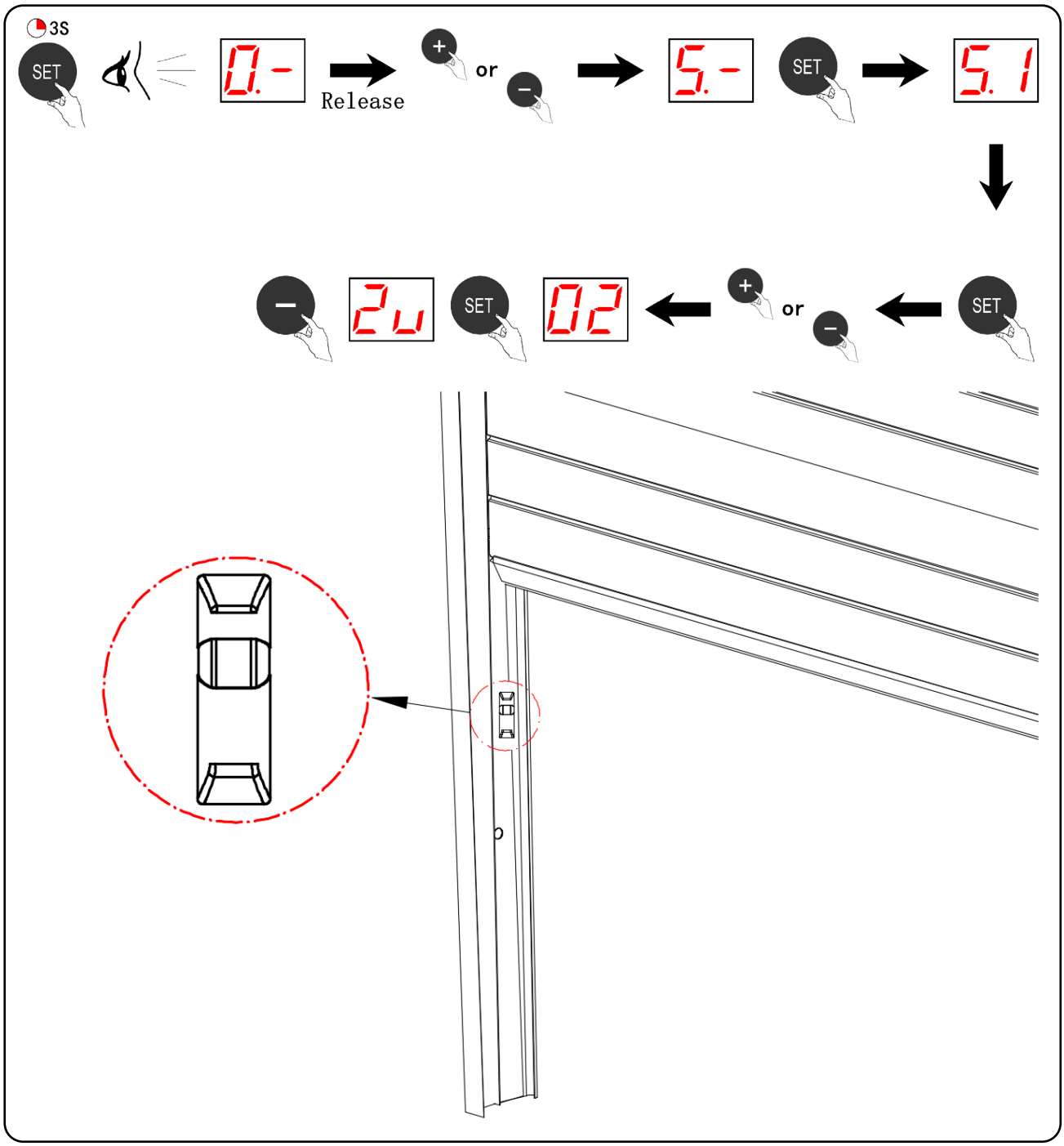
ⓘ Before using this function, the infrared device needs to be installed on both sides of the door.



02 Track built-in photocell function

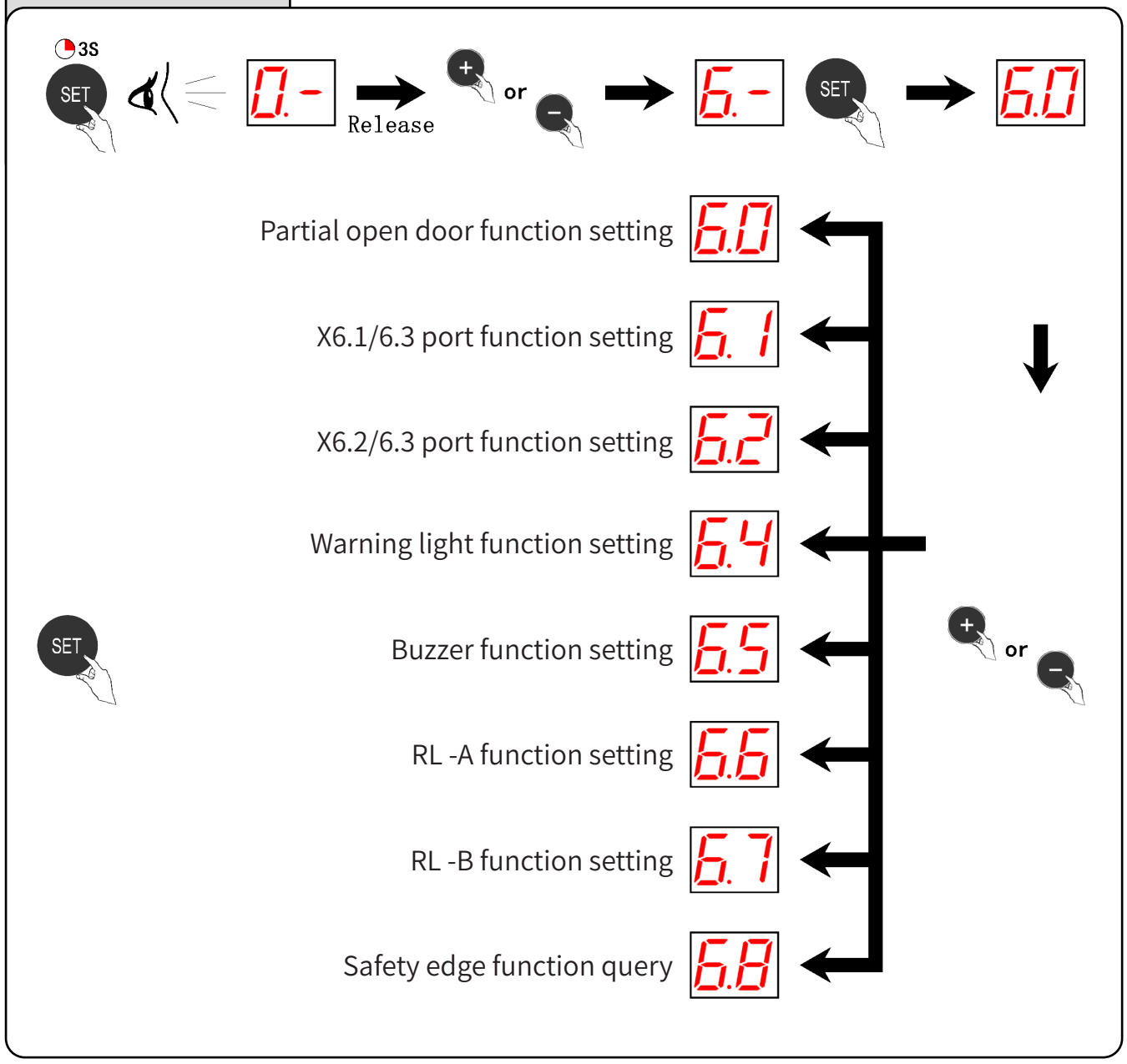
ⓘ Before using this function, the infrared device needs to be installed in the door track.

ⓘ Function description： Before using the built-in infrared function of the track, you need to open the door to the upper limit. If it is not set at the upper limit, an error will appear E9 ,If the infrared sensor has not been detected from closing the door to the lower limit, it will prompt an error E9.



Menu 6： External port function setting

Function Guide



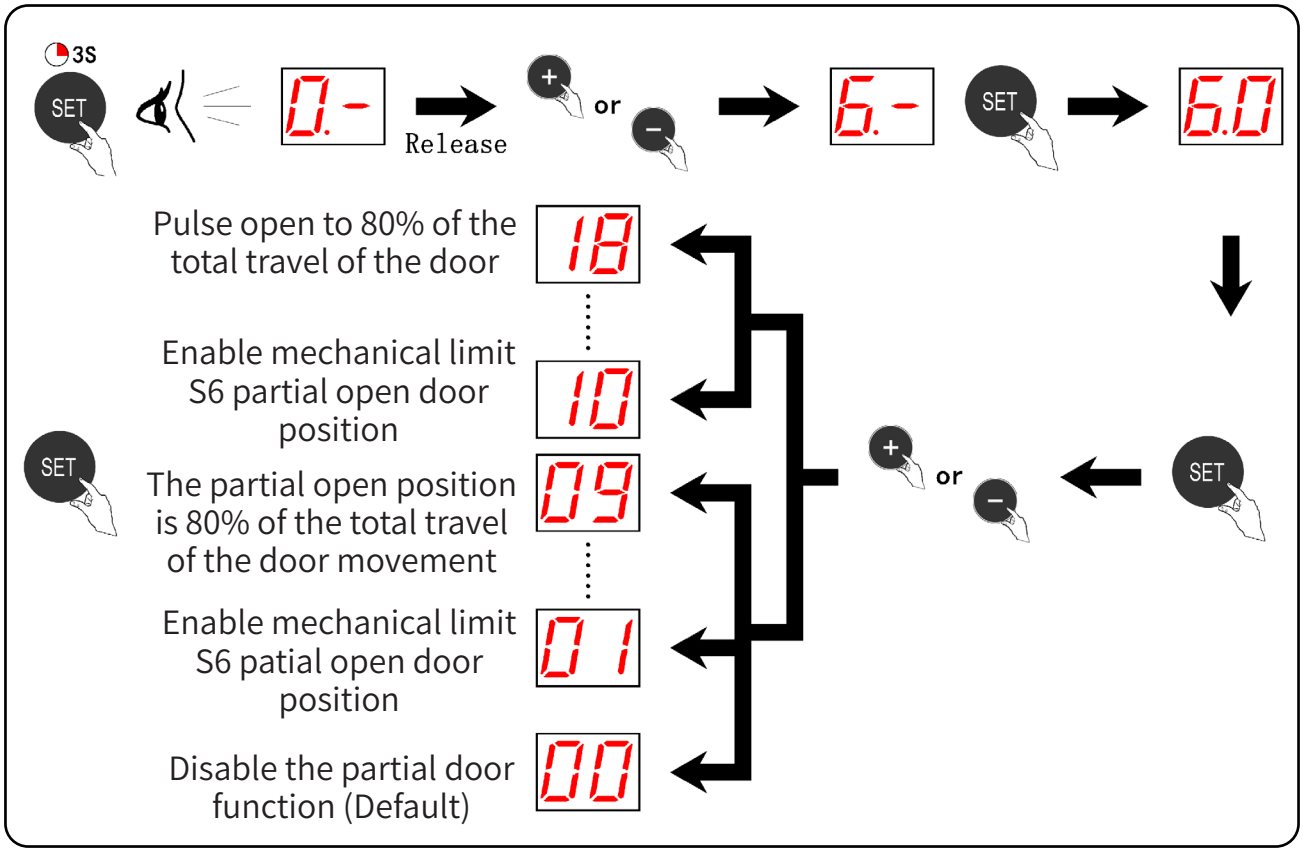
6.0 Partial open function setting

Parameter 01—09:

ⓘ Connection instructions: X6.0/6.3 in X6 port.

ⓘ The partial open door position is set, and the normally open contact of X6.0/6.3 in the X6 port performs a long press to activate the global partial open door state.

ⓘ Parameter 01—09 Partial open door function: When the X6.0/6.3 port is closed, the door opening position will not exceed the set value of the partial open door, and display hh.



00	Disable the partial door function (Default)
01	Enable mechanical limit S6 partial open door position (NES-2.4 option 2) X6.0/6.3 port executes the global function partial-open door after closing (enable the mechanical limit motor, the menu is visible)
02	The partial open position is 5% of the total travel of the door movement

03	The partial open position is 10% of the total travel of the door movement
04	The partial open position is 20% of the total travel of the door movement
05	The partial open position is 40% of the total travel of the door movement
06	The partial open position is 50% of the total travel of the door movement
07	The partial open position is 55% of the total travel of the door movement
08	The partial open position is 60% of the total travel of the door movement
09	The partial open position is 80% of the total travel of the door movement

Parameter 10 – 18:

ⓘ Connection Description: X6.0/6.3 (Normal Open) in X6 port.

ⓘ After setting the partial open door position, the normally open contact of X6.0/6.3 in the X6 port executes the jog to execute the partial open door command.

ⓘ Parameter 10 – 18 Partial open door function: When the X6.0/6.3 port pulse triggers, the door will open to the set partial open door set value position, and display hh.

10	Enable mechanical limit S6 partial open door position (NES-2.4 option 3) X6.0/6.3 port executes partial open door pulse trigger switch (enable the mechanical limit motor, the menu is visible)
11	Pulse open to the partial open position of 5% of the total travel of the door movement
12	Pulse open to the partial open position of 10% of the total travel of the door movement
13	Pulse open to the partial open position of 20% of the total travel of the door movement

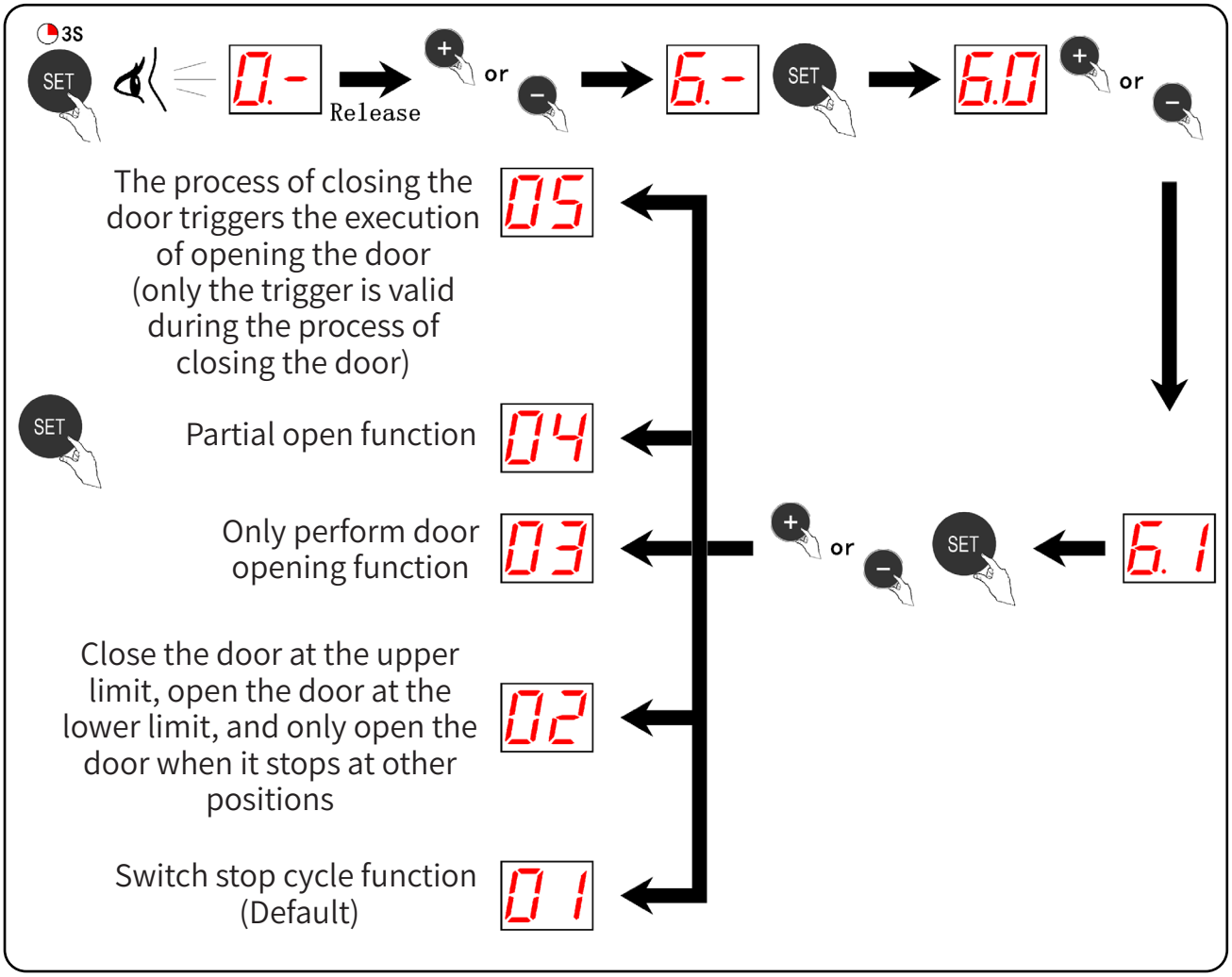
14	Pulse open to the partial open position of 40% of the total travel of the door movement
15	Pulse open to the partial open position of 50% of the total travel of the door movement
16	Pulse open to the partial open position of 55% of the total travel of the door movement
17	Pulse open to the partial open position of 60% of the total travel of the door movement
18	Pulse open to the partial open position of 80% of the total travel of the door movement

6.1 X6.1/6.3 port function setting

ⓘ **Connection Description: Port X6.1/6.3.**

ⓘ **The PB2 port performs the pulse trigger function.**

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

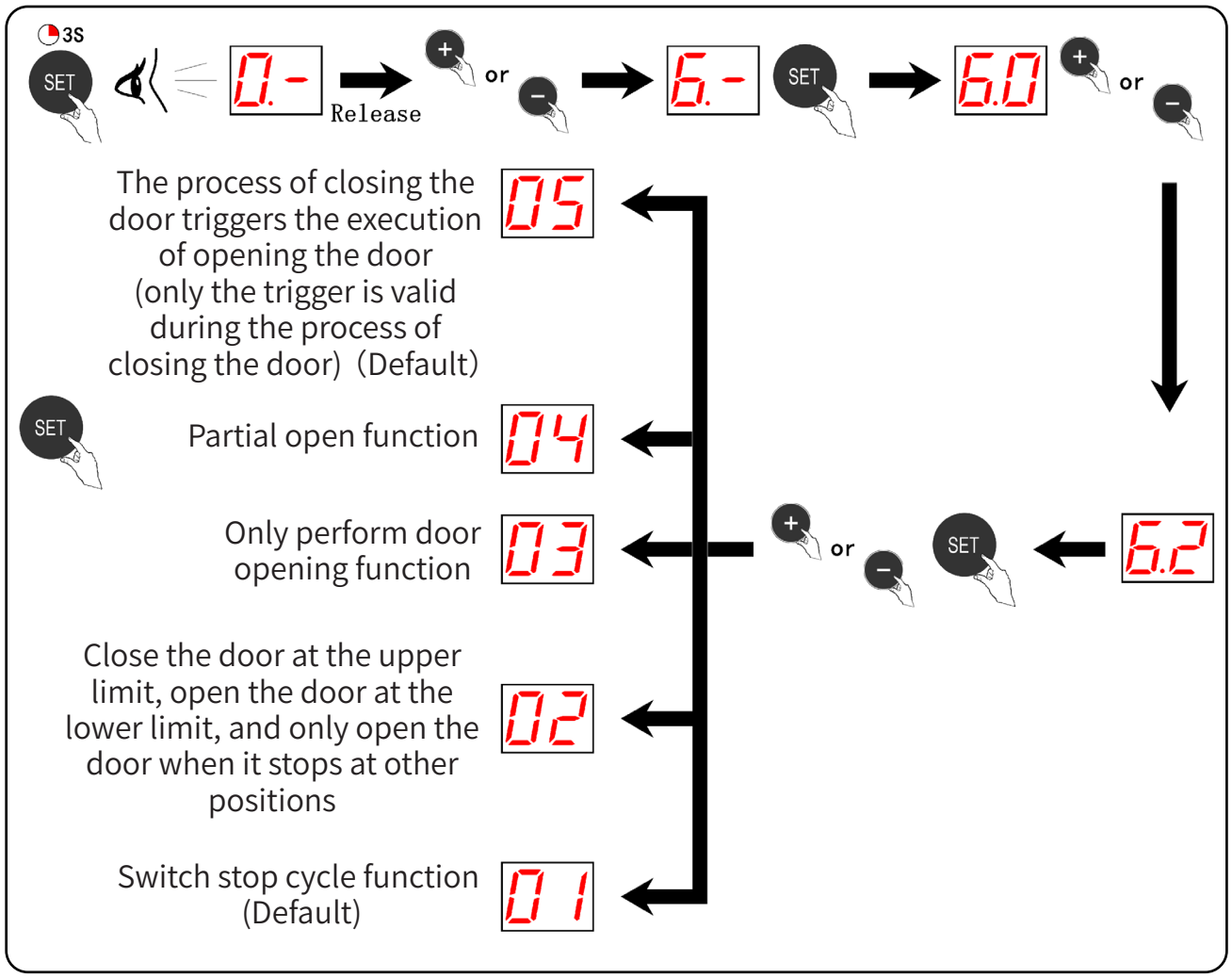


X6.2/6.3 port function setting

ⓘ Connection Description: Port X6.2/6.3.

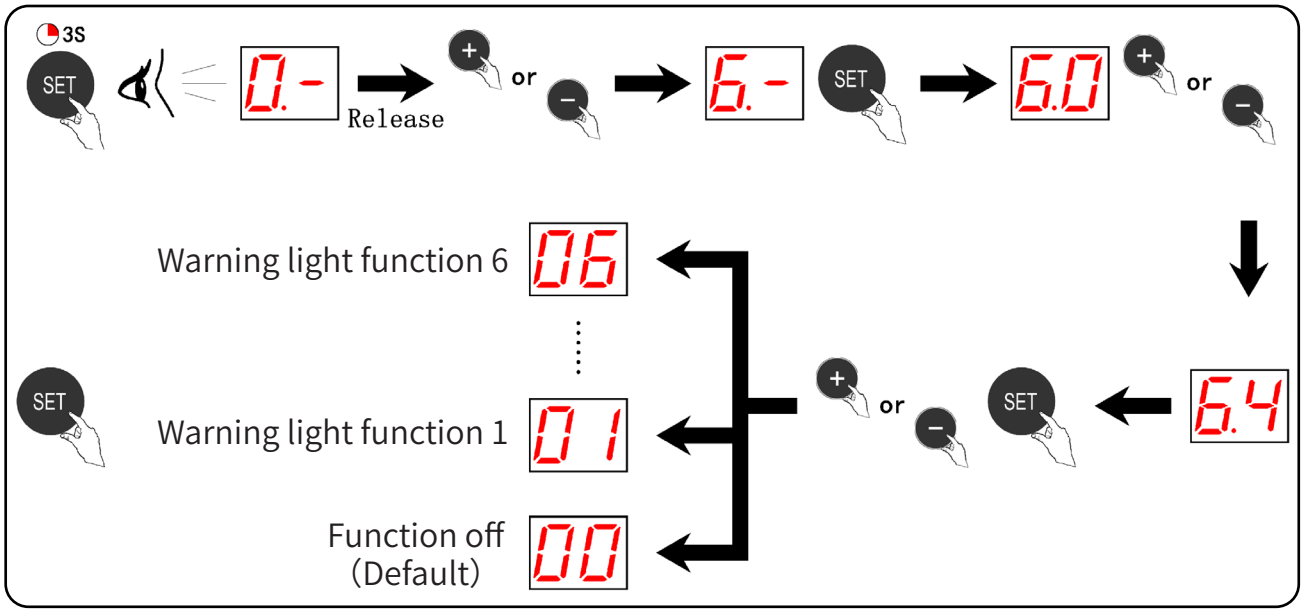
ⓘ The X6.1/6.3 port performs the pulse trigger function.

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



6.4 Warning light function setting

ⓘ Connection Description: Port X64.1/64.2.



Standard warning light features

ⓘ Standard warning light: no warning function, flashes when running, and turns off when stopped.

ⓘ 2.The flashing frequency of the warning light depends on parameter 9.5 Flashing frequency of the warning light.

CODE	Function	Lower limit state	upper limit state	Alert status	Operating status
	standard application (Default)	OFF	OFF	OFF (without warning)	Flashing[2]

Other warning light functions

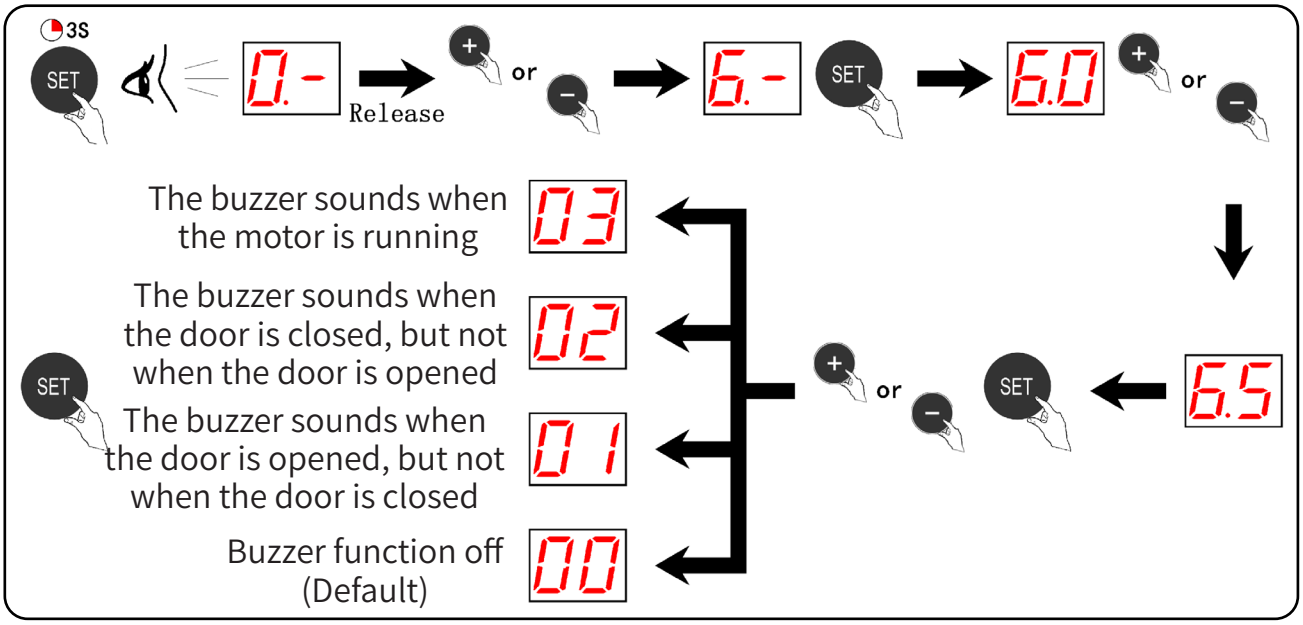
ⓘ 1.The warning light warning time depends on the setting of parameter 9.3 warning light closing operation warning time function.

ⓘ 2.The flashing frequency of the warning light depends on the function setting of parameter 9.5 Flashing frequency of the warning light.

ⓘ 3.The state of the warning light at the lower limit depends on the setting of parameter 9.6 Warning light delay off.

CODE	Function	Lower limit state[3]	Upper limit state	Alert status[1]	Operating status
	Warning light function 1	OFF	OFF	Flashing[2]	ON
	Warning light function 2	OFF	OFF	Flashing	Flashing
	Warning light function 3	OFF	OFF	ON	ON
	Warning light function 4	OFF	OFF	Flashing	OFF
	Warning light function 5	OFF	ON	Flashing	OFF
	Warning light function 6	OFF	ON	OFF	OFF

6.5 Buzzer function setting



6.6 RL - A Function settings

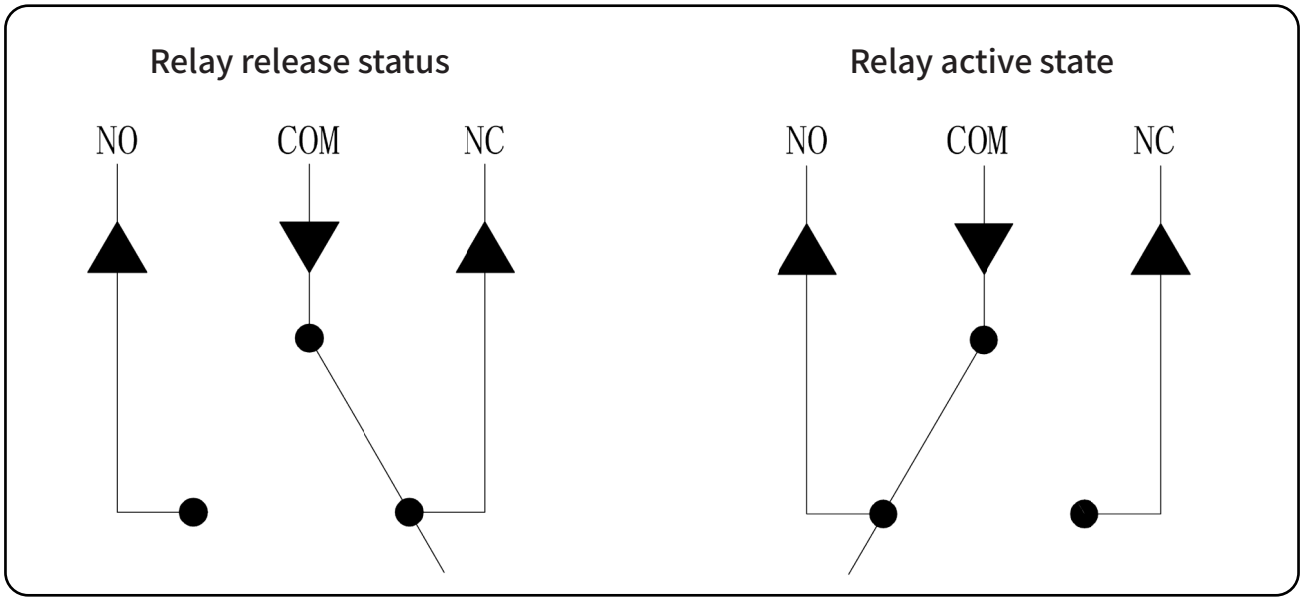
ⓘ Connection instructions： X66 port X66.1(NO)/66.3(COM)/66.2(NC).

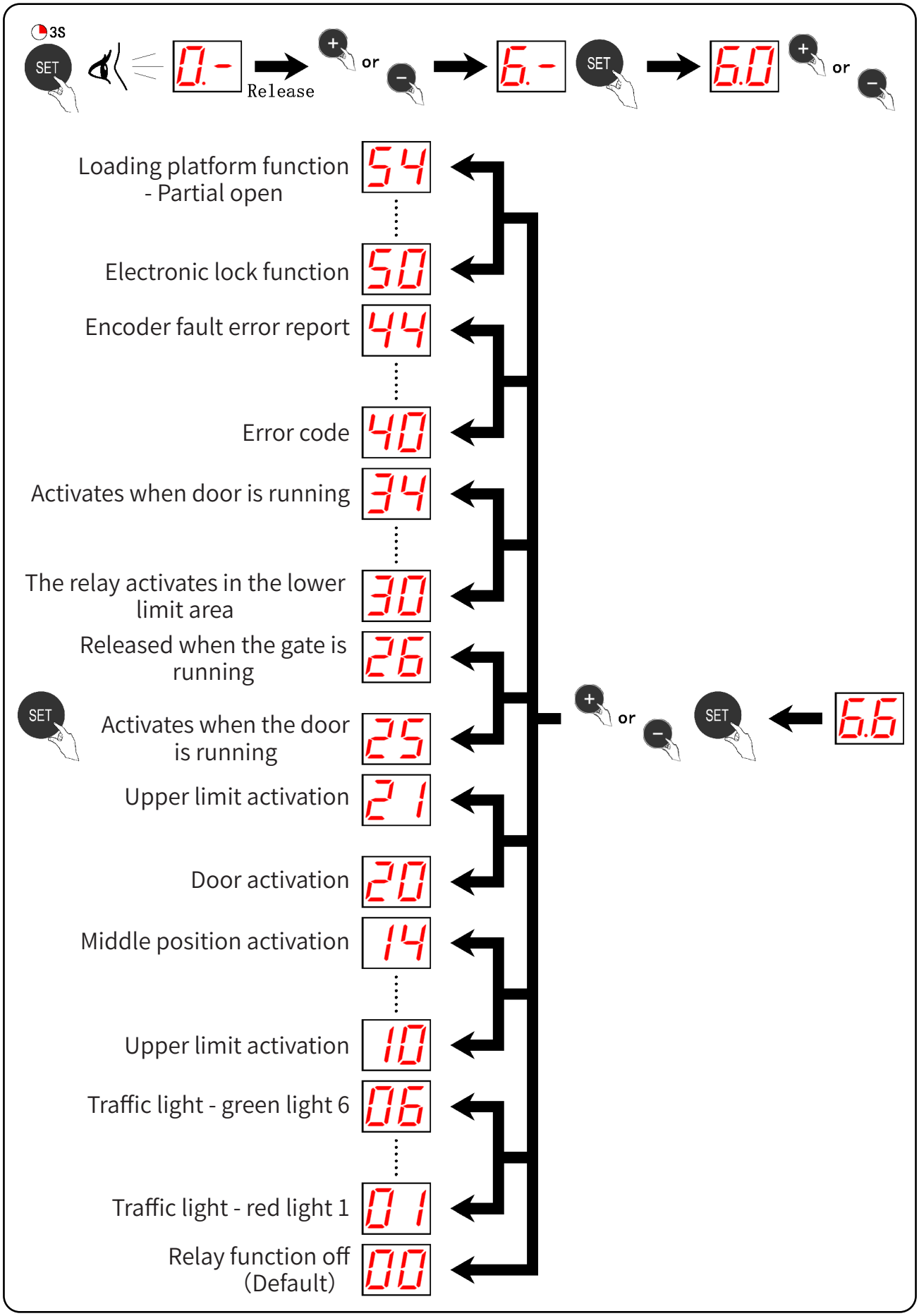
ⓘ Menu A.0/A.1/A.2/A.3 is visible when using relay RL - A traffic light function group.

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

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

ⓘ Relay status description：




3S
SET
0.-
Release
or
6.-
SET
6.0
or
Loading platform function - Partial open
54
Electronic lock function
50
Encoder fault error report
44
Error code
40
Activates when door is running
34
The relay activates in the lower limit area
30
Released when the gate is running
26
SET
Activates when the door is running
25
Upper limit activation
21
Door activation
20
Middle position activation
14
Upper limit activation
10
Traffic light - green light 6
06
Traffic light - red light 1
01
Relay function off (Default)
00
or
SET
6.6

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

Traffic light function group:

ⓘ 1: The pre-warning state depends on the setting of the pre-warning time for closing the door of the traffic light function of the parameter A.0 relay A.

ⓘ 2: The flashing frequency depends on the flashing frequency setting of parameter A.2 relay A traffic light function.

ⓘ 3: The state of the lower limit depends on the parameter A.3 relay A traffic light function delay off setting.

Code	Traffic light function	Lower limit state[3]	Upper limit state	Alert status[1]	Operating status
	Traffic light - red light1	OFF	OFF	Flashing[2]	ON
	Traffic light - red light2	OFF	OFF	Flashing	Flashing
	Traffic light - red light3	OFF	OFF	ON	ON
	Traffic light - red light4	OFF	OFF	Flashing	OFF
	Traffic light - green light5	OFF	ON	Flashing	OFF
	Traffic light - green light6	OFF	ON	OFF	OFF

Door Position Function Group

ⓘ **Relay triggering based on door position.**

Code	Function	Lower imit state	Upper limit state	Centre position	Operating status
	Upper limit activation	OFF	ON	ON	OFF
	Lower limit activation	ON	OFF	OFF	OFF
	Upper limit closed	ON	OFF	OFF	ON
	Lower limit closed	OFF	ON	ON	ON
	Middle position activation	OFF	OFF	ON	OFF

Pulse function group

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

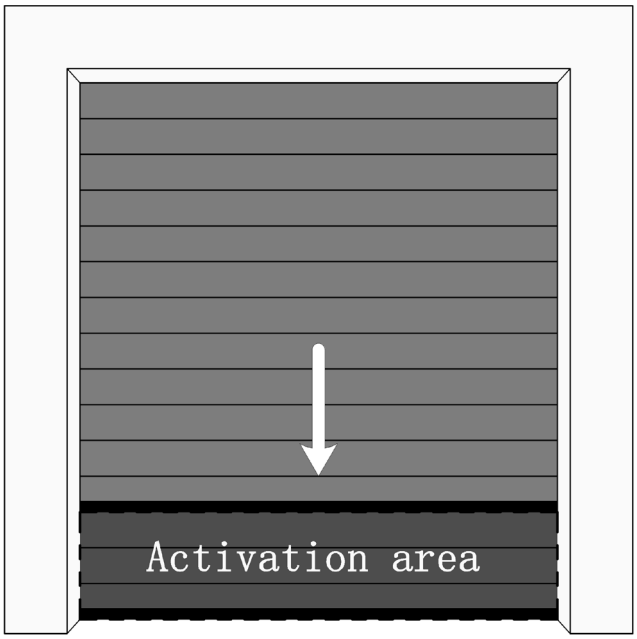
Brake function group

ⓘ **Please select 25 or 26 function options according to the actual brake device function description.**

Code	Function	Function Description
	Activates when the door is running	Brake function - relay activates while motor is running
	Released when the door is running	Brake function - relay activates when motor is stopped

Gate Runtime Function Group

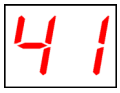
ⓘ Relay triggering based on the door movement state

Code	Function	Function Description
30	The relay activates in the lower limit area	When the door travels below the set position, the relay activates. The position at which the relay activates can be set using parameter A.4. 
31	The relay activates in the upper limit area	When the door travels above the set position, the relay activates. The position at which the relay activates is programmable using parameter A.5. 

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

Fault code function group

ⓘ Relay triggering based on fault code

Code	Function	Function Description
	Error code	When the motor reports errors EA, Ed, EF, E7, the relay activates
	Safety edge	When the safety edge is triggered, the relay activates
	Maintenance alarm times	When the number of maintenance alarms reaches (8.0 menu setting), the relay will activate
	Photocells and Light Curtains	When the photocell and light curtain (x5.1/5.3,x5.2/5.3) are triggered, the relay is activated
	Encoder failure error	When the encoder fault E0 reports an error, the relay activates

Add-on function group

ⓘ Relay triggering based on the door movement state

Code	Function	Function Description
	The function of the electronic lock	The relay is inactive in the lower limit position; the relay is active during door operation and in any position except the lower limit position. The switching delay time of the relay switch is 0.4 seconds.
	Start capacitor function	The relay activates a 1 second pulse every time the motor starts.

52	Lighting (outdoor) function	The relay activates when there is a door open command and remains active for 2 minutes at the upper 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.

6.7 RL - b Function settings

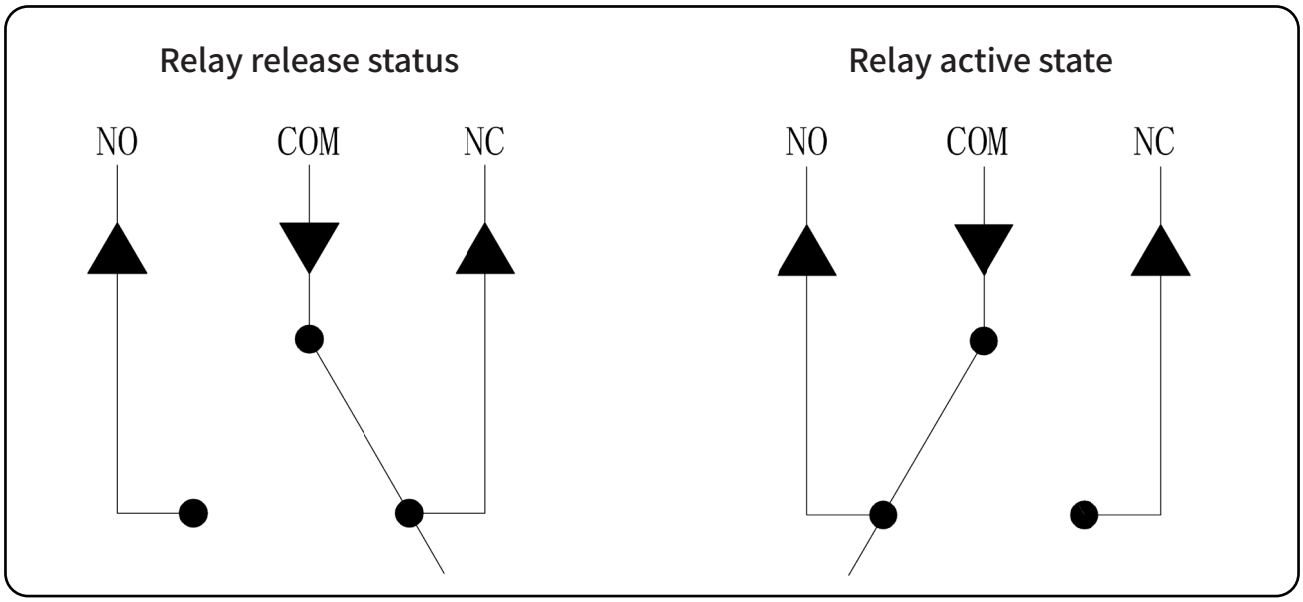
ⓘ Connection instructions: X67 port X67.1(NO)/67.3(COM)/67.2(NC)

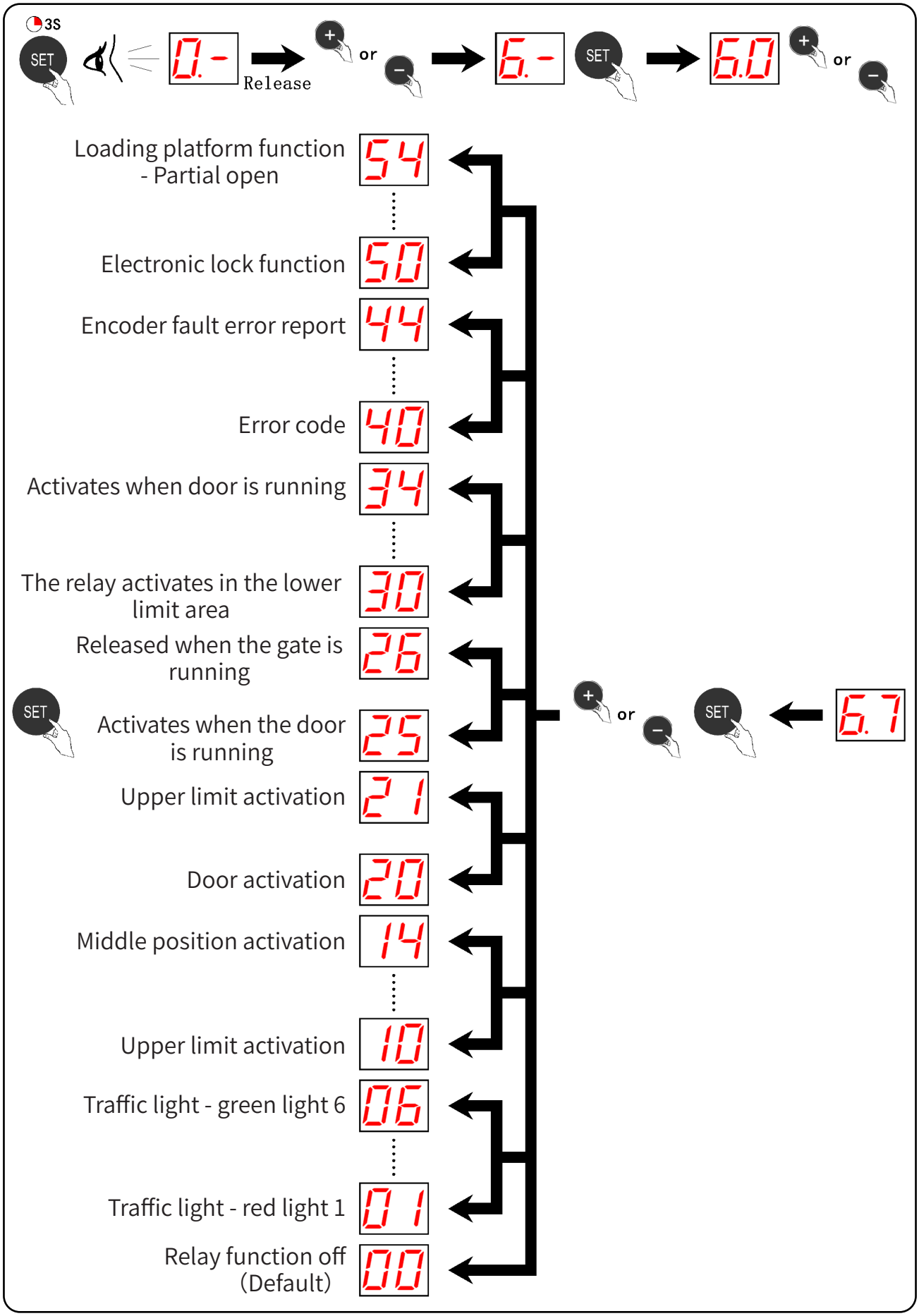
ⓘ When using the relay RL -b traffic light function group 01-06, see the menu b.0/b.1/b.2/ b.3 for related settings.

ⓘ Menu b.4 is visible when using function 30 in relay RL - b (relay activated in the area above the lower limit).

ⓘ Menu b.5 is visible when using function 31 in relay RL - b (relay active in the area below the upper limit).

ⓘ Relay status description:




3S
SET
0.-
Release
or
6.-
SET
6.0
or
Loading platform function - Partial open
54
Electronic lock function
50
Encoder fault error report
44
Error code
40
Activates when door is running
34
The relay activates in the lower limit area
30
Released when the gate is running
26
SET
Activates when the door is running
25
Upper limit activation
21
Door activation
20
Middle position activation
14
Upper limit activation
10
Traffic light - green light 6
06
Traffic light - red light 1
01
Relay function off (Default)
00
or
SET
6.7

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

Traffic light function group

ⓘ1: The pre-warning status depends on the pre-warning time setting of parameter b.0 relay b traffic light function.

ⓘ2: The flashing frequency depends on the flashing frequency setting of parameter b.2 relay b traffic light function.

ⓘ 3: The state of the lower limit depends on the setting of parameter b.3 relay b traffic light function delay off.

Code	Traffic light function	Lower limit state[3]	Upper limit state	Alert status[1]	Alert status
	Traffic light - red light	OFF	OFF	Flashing[2]	ON
	Traffic light - red light	OFF	OFF	Flashing	Flashing
	Traffic light - red light	OFF	OFF	ON	ON
	Traffic light - red light	OFF	OFF	Flashing	OFF
	Traffic light - green light	OFF	ON	Flashing	OFF
	Traffic light - green light	OFF	ON	OFF	OFF

Door Position Function Group

ⓘ Relay triggering based on door position.

Code	Function	Lower limit state	Upper limit state	Centre position	Operating status
	Upper limit activation	OFF	ON	ON	OFF
	Lower limit activation	ON	OFF	OFF	OFF
	Upper limit closed	ON	OFF	OFF	ON
	Lower limit closed	OFF	ON	ON	ON
	Middle position activation	OFF	OFF	ON	OFF

Pulse function group

Code	Function	Function description
	Door activation	Each time the motor executes a door open, the relay activates for one second
	Upper limit activation	After the motor opens the door and reaches the upper limit, the relay is activated for two seconds

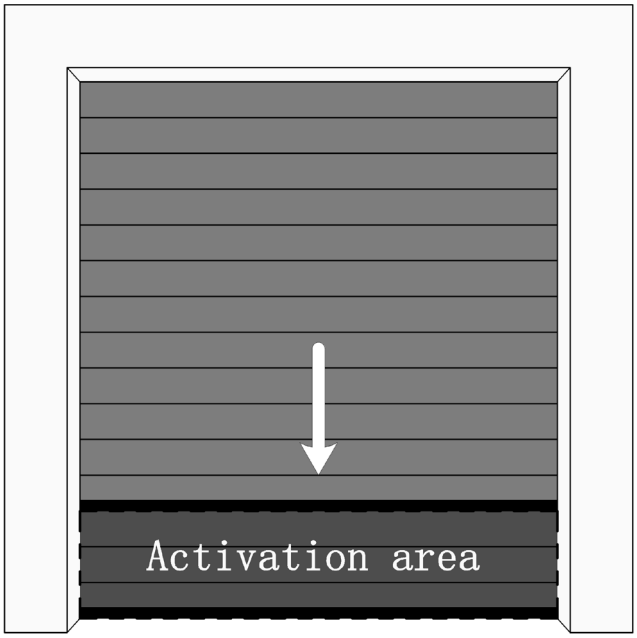
Brake function group

ⓘ 1：Please choose 25 or 26 function options according to the actual brake device function description.

Code	Function	Function Description
	Activates when the door is running	Brake function - relay activates while motor is running
	Released when the door is running	Brake function - relay activates when motor is stopped

Gate Runtime Function Group

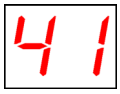
ⓘ **Relay triggering based on the door movement state.**

Code	Function	Function Description
30	The relay activates in the lower limit area	When the door travels below the set position, the relay activates. The position at which the relay activates can be set using parameter b.4. 
31	The relay activates in the upper limit area	When the door travels above the set position, the relay activates. The position at which the relay activates is programmable using parameter b.5. 

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

Fault code function group

ⓘ **Relay triggering based on fault code.**

Code	Function	Function Description
	Error code	When the motor reports errors EA, Ed, EF, E7, the relay activates
	Safety edge	When the safety edge is triggered, the relay activates
	Maintenance alarm times	When the number of maintenance alarms reaches (8.0 menu setting), the relay will activate
	Photocells and Light Curtains	When the photocell and light curtain (x5.1/5.3,x5.2/5.3) are triggered, the relay is activated
	Encoder failure error	When the encoder fault E0 reports an error, the relay activates

Add-on function group

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

Code	Function	Function Description
	The function of the electronic lock	The relay is inactive in the lower limit position; the relay is active during door operation and in any position except the lower limit position. The switching delay time of the relay switch is 0.4 seconds.
	Start capacitor function	The relay activates a 1 second pulse every time the motor starts.

52	Lighting (outdoor) function	The relay activates when there is a door open command and remains active for 2 minutes at the upper 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.

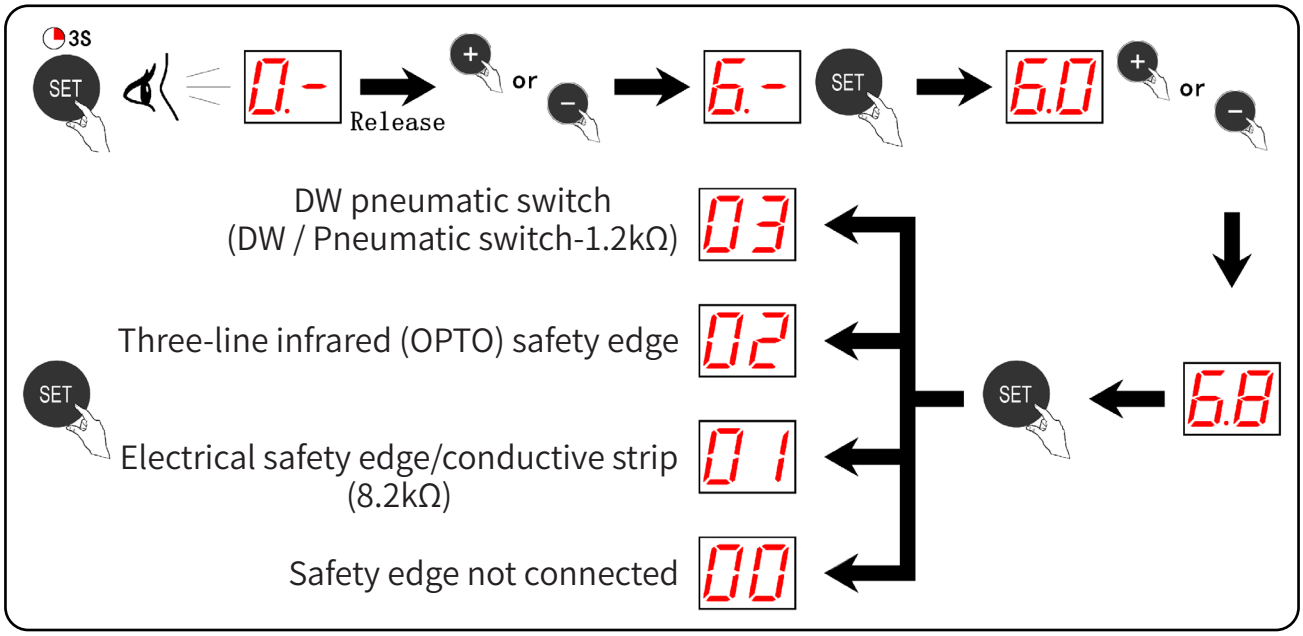
6.8 Safety edge function query（safety edge）

! The following types of safety edge devices are automatically recognized by the devices connected to the control box. Remember to properly connect the corresponding safety side before starting.

! The safety side must be connected, otherwise the motor will run in long press mode when closing the door.

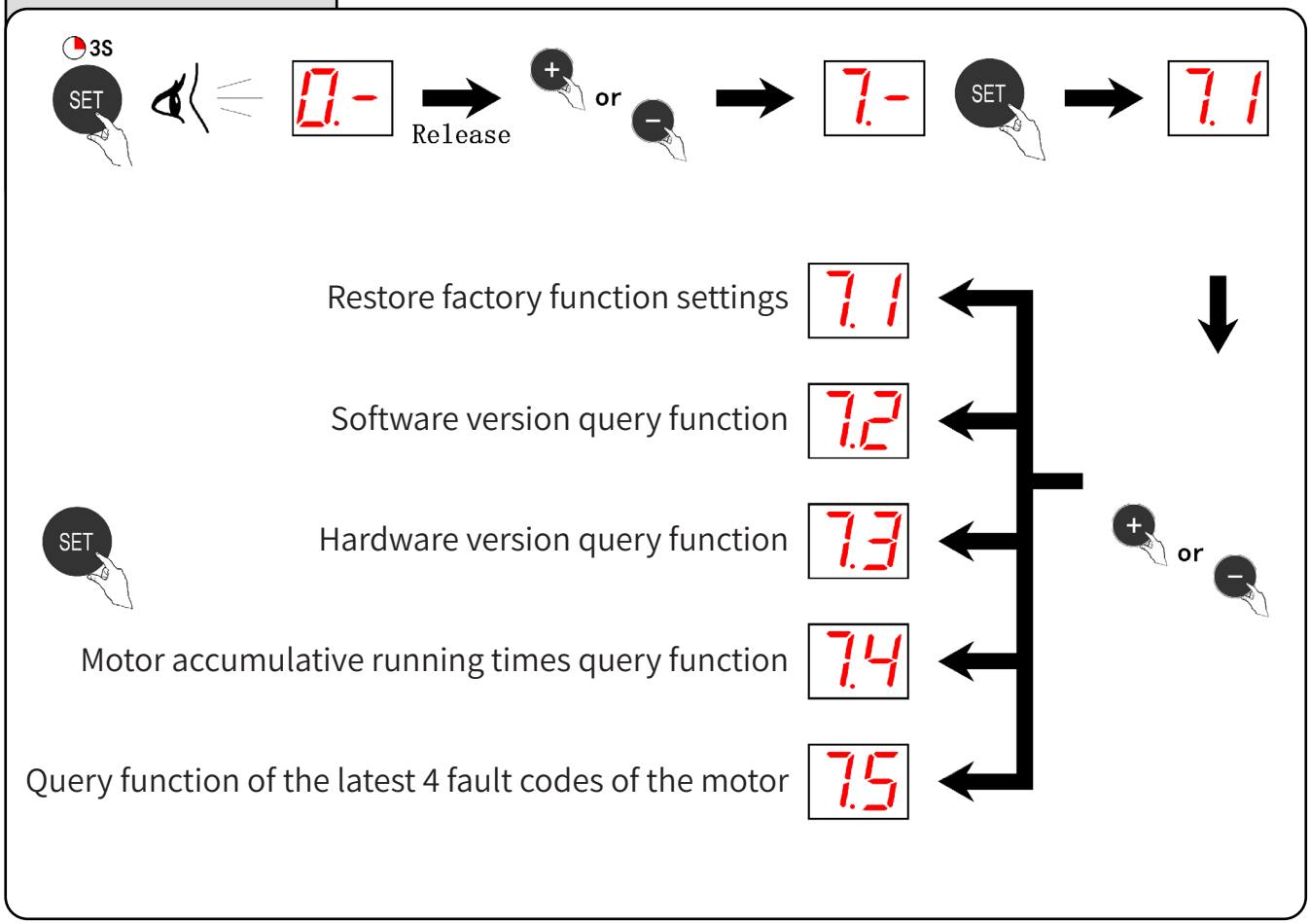
ⓘ This function can only query the current safety edge type.

ⓘ When the door is closed, the trigger on the safety side will perform reverse, and the reverse running time is set by parameter 3.6 Rebound time when encountering resistance; the reverse sensitivity is set by parameter 3.4 Reaction time when encountering resistance when the safety side is encountered.



Menu 7： Motor query function setting

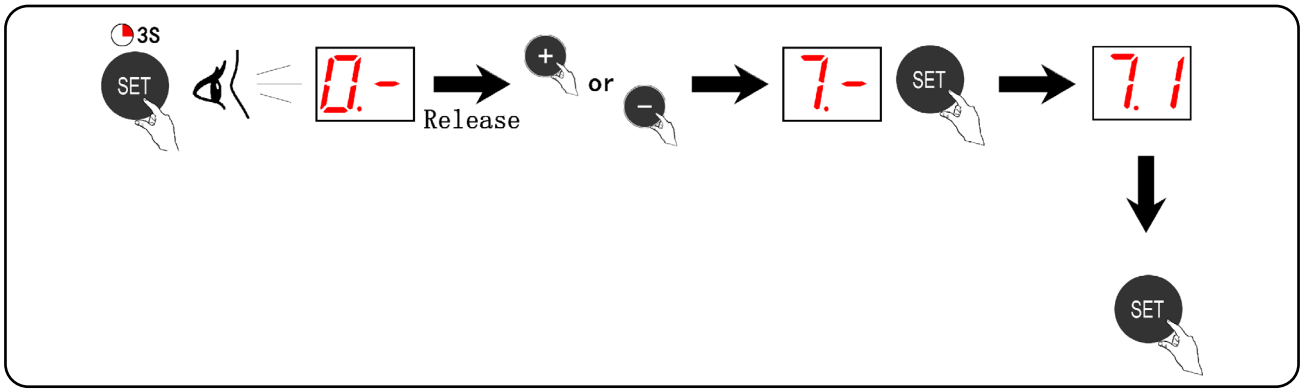
Function Guide



Restore factory function settings

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

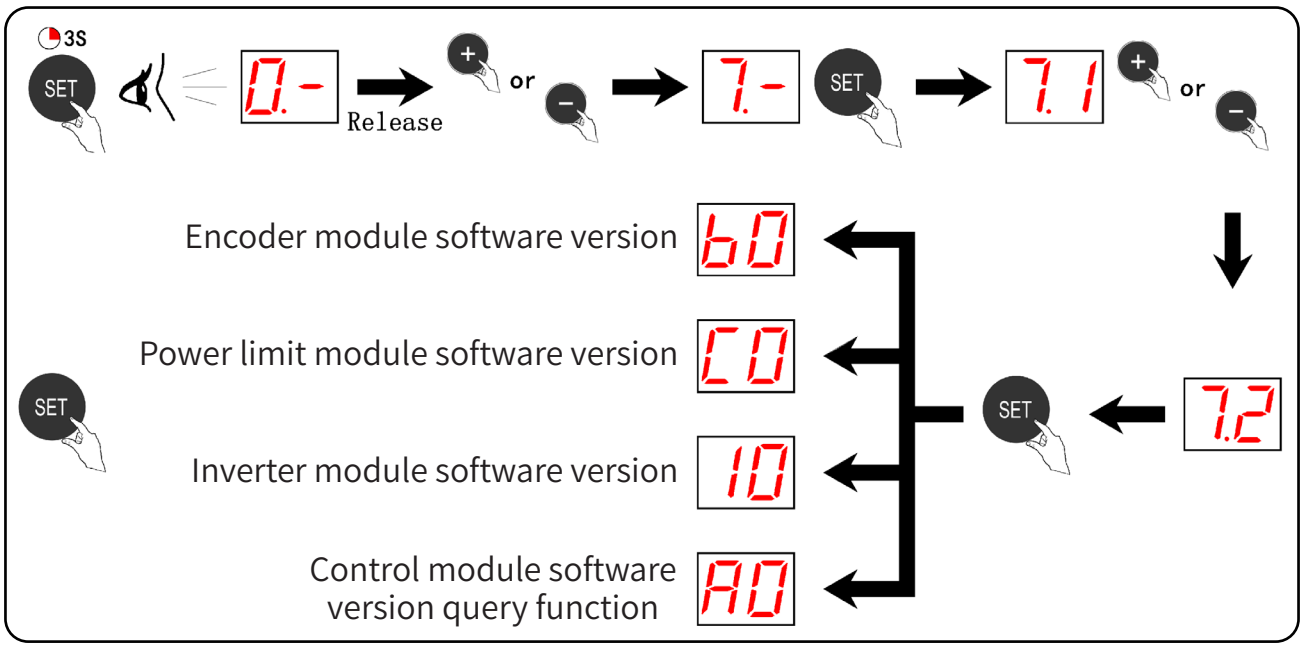
ⓘ After restoring the factory settings, power off the system for 1 minute and then power on again.



7.2 Software version query function

ⓘ This function can query the software versions of the control module, encoder module, power limit module, and inverter module.

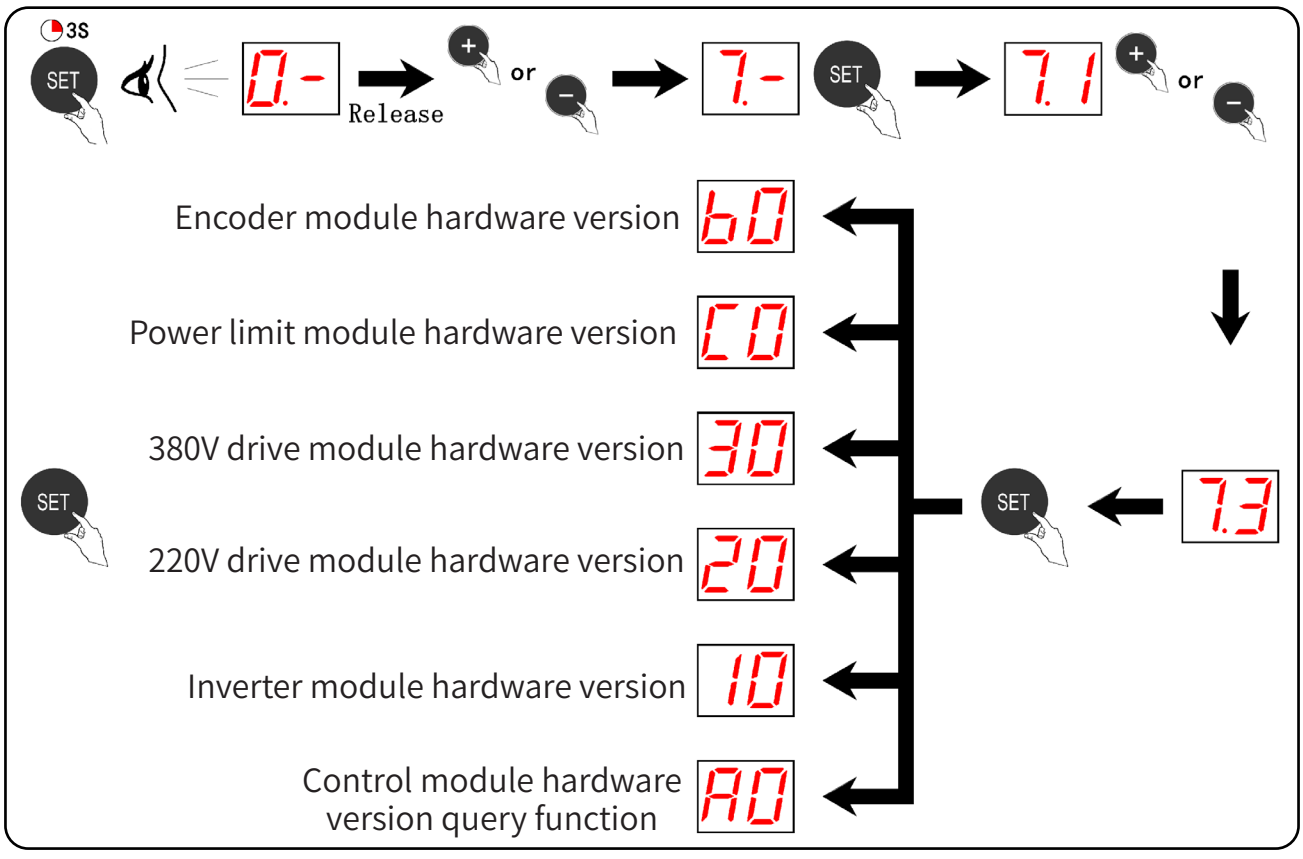
ⓘ Example： Display in the order of A0-10-C0-b0.



7.3 Hardware version query function

ⓘ This function can query the hardware versions of the control module, encoder module, power limit module and inverter module.

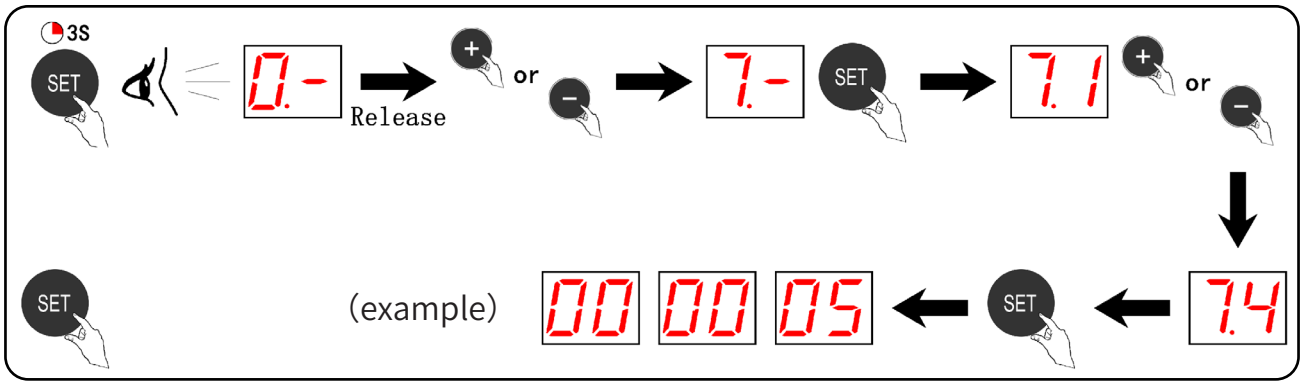
ⓘ Example： Display in the order of A0-10-C0-b0.



7.4 Motor accumulative running times query function

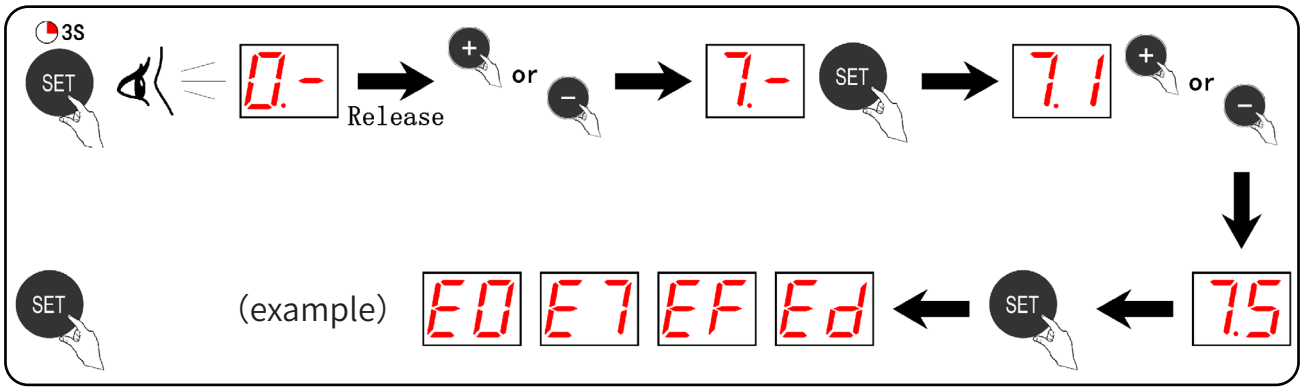
ⓘ This function can query the accumulative running times of the motor.

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



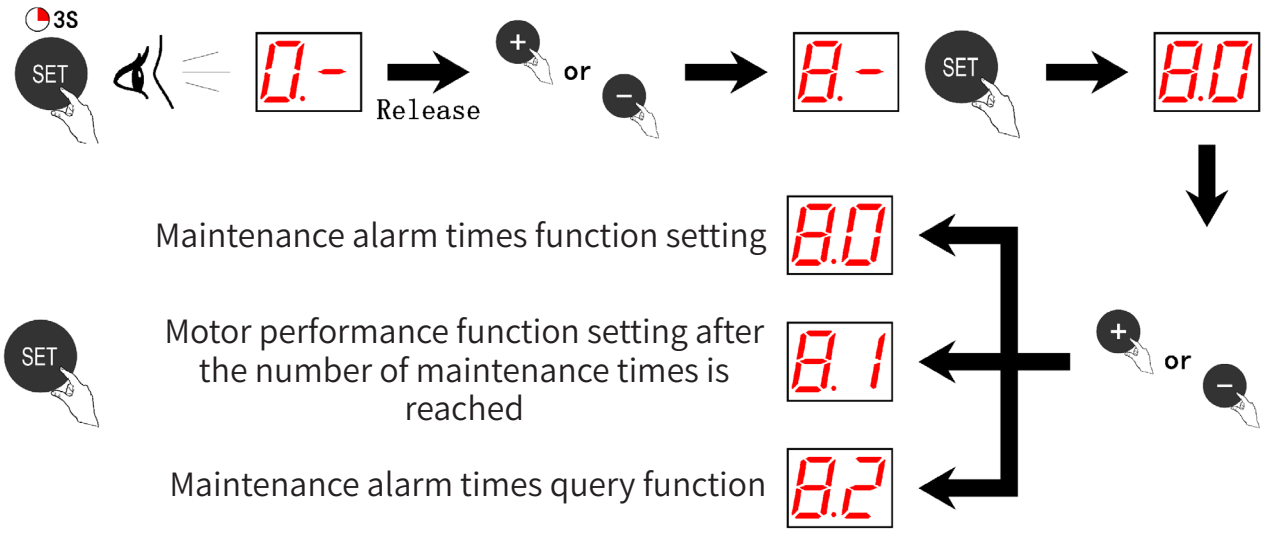
7.5 Query function of the latest 4 fault codes of the motor

ⓘ This function can query the last four fault codes of the motor.



Menu 8: Maintenance alarm function setting

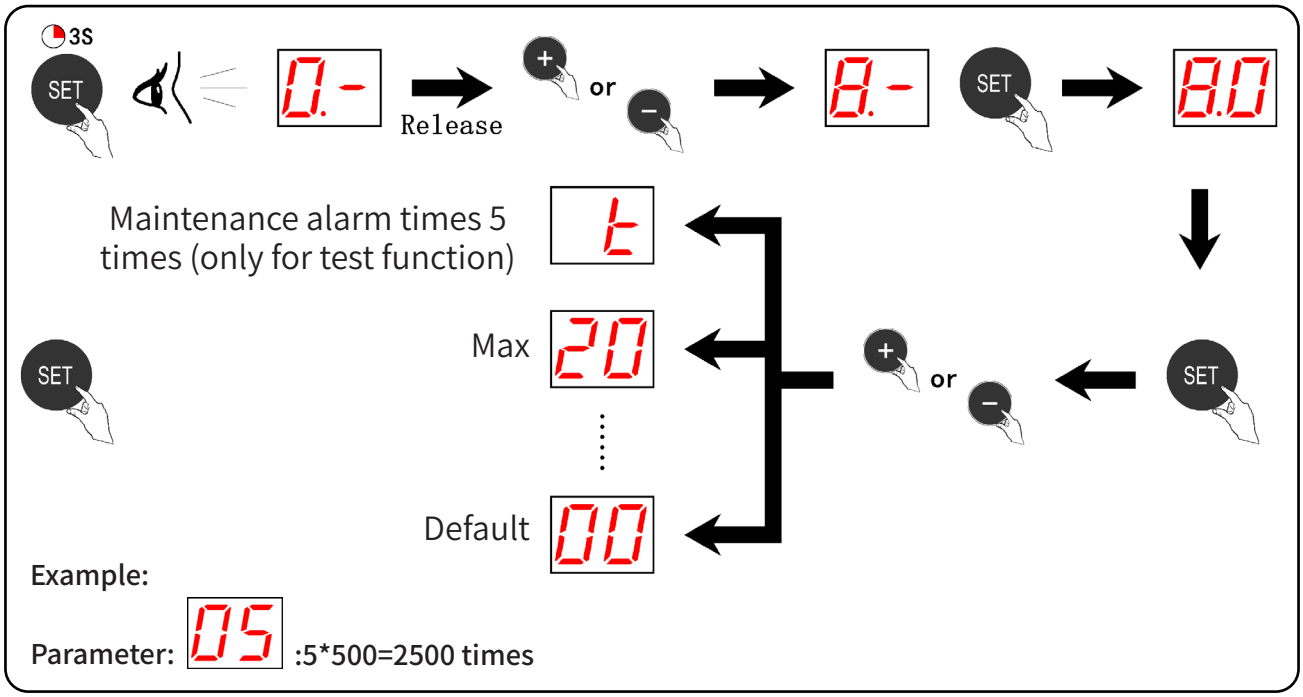
Function Guide



Maintenance alarm times function setting

ⓘ After the number of maintenance alarm cycles is reached, the digital tube of the motor switch door will display a prompt code CA ,And the motor executes the long press operation mode of opening and closing the door.

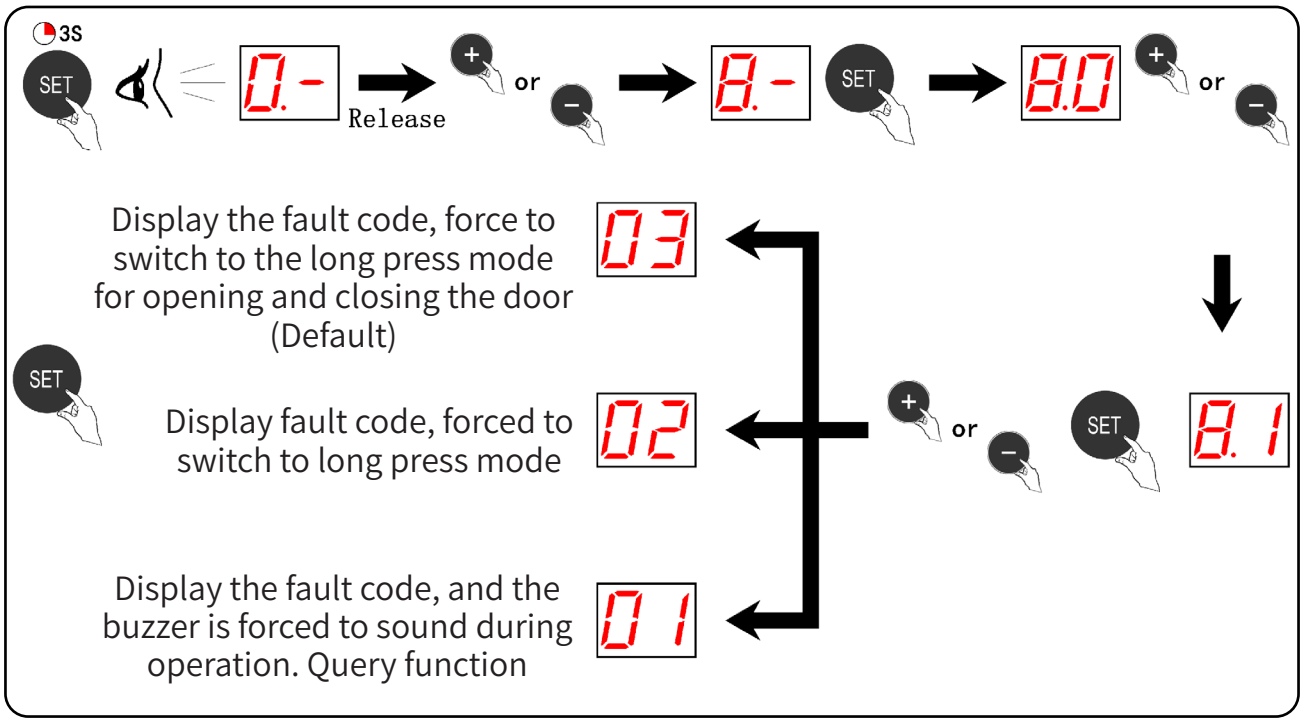
ⓘ The behavior of the motor after the number of maintenance alarm cycles is reached is determined by the parameter 8.1 The behavior of the motor after the number of maintenance alarm cycles is reached is determined by the parameter.



Motor performance function setting after the number of maintenance times is reached

ⓘ Motor behavior after the number of maintenance alarm cycles is reached and display fault codes .

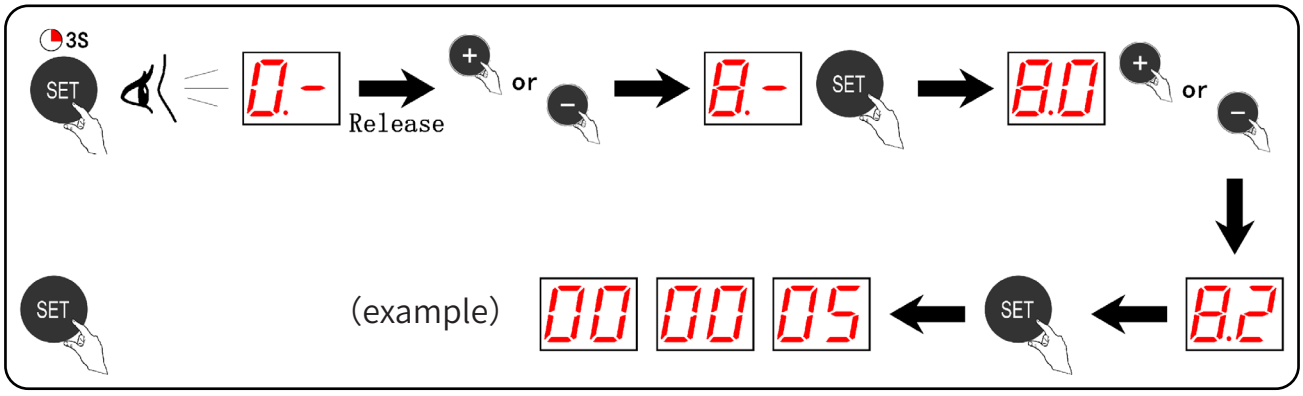
ⓘ Function Details： display the fault code, force to switch to the long press mode of opening and closing the door, and press the STOP button for 3 seconds to set the number of maintenance alarms to 500 times, and display (Default).



Maintenance alarm times query function

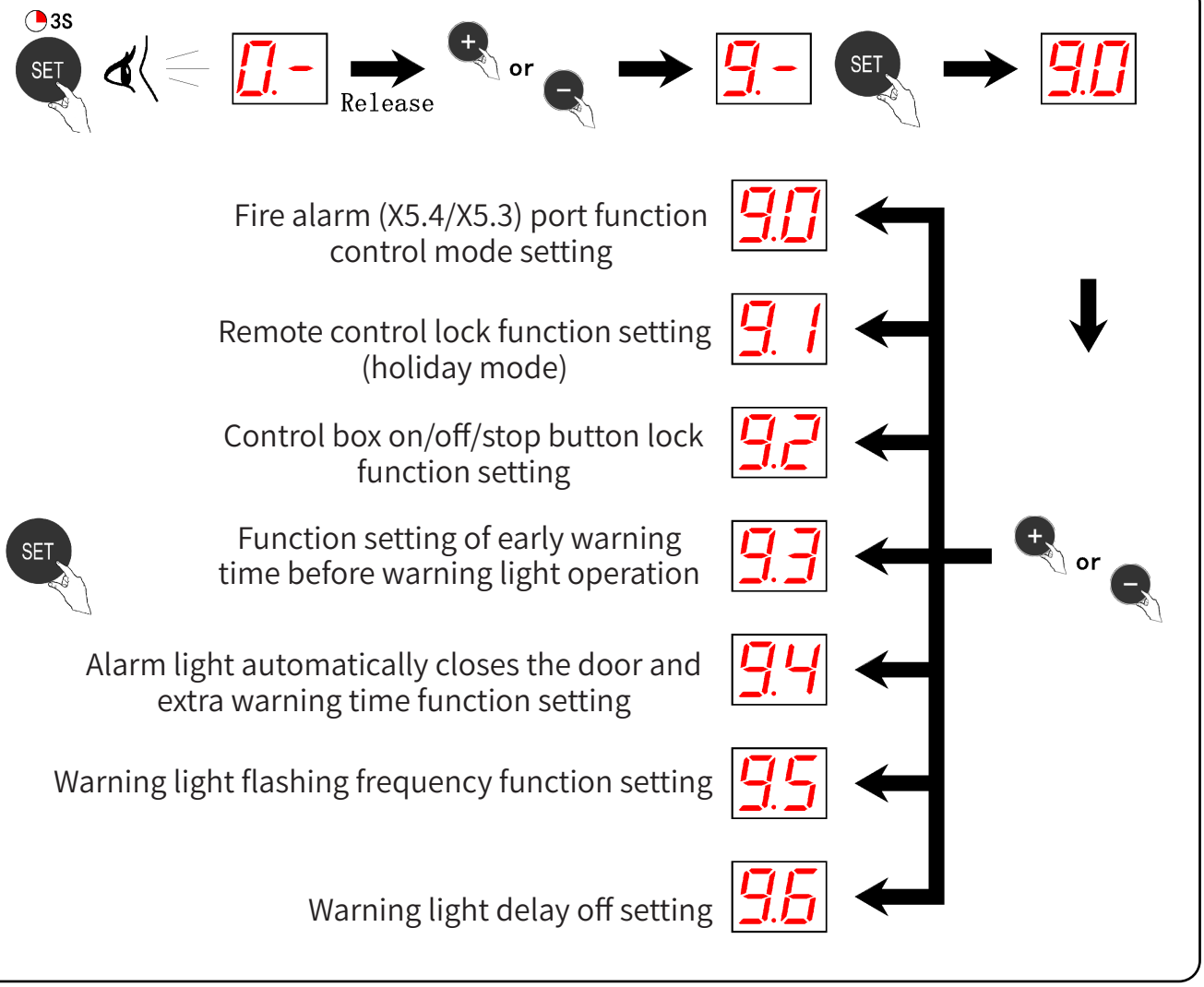
ⓘ The number of maintenance alarms will not be cleared after the motor is restored to factory settings.

ⓘ 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.



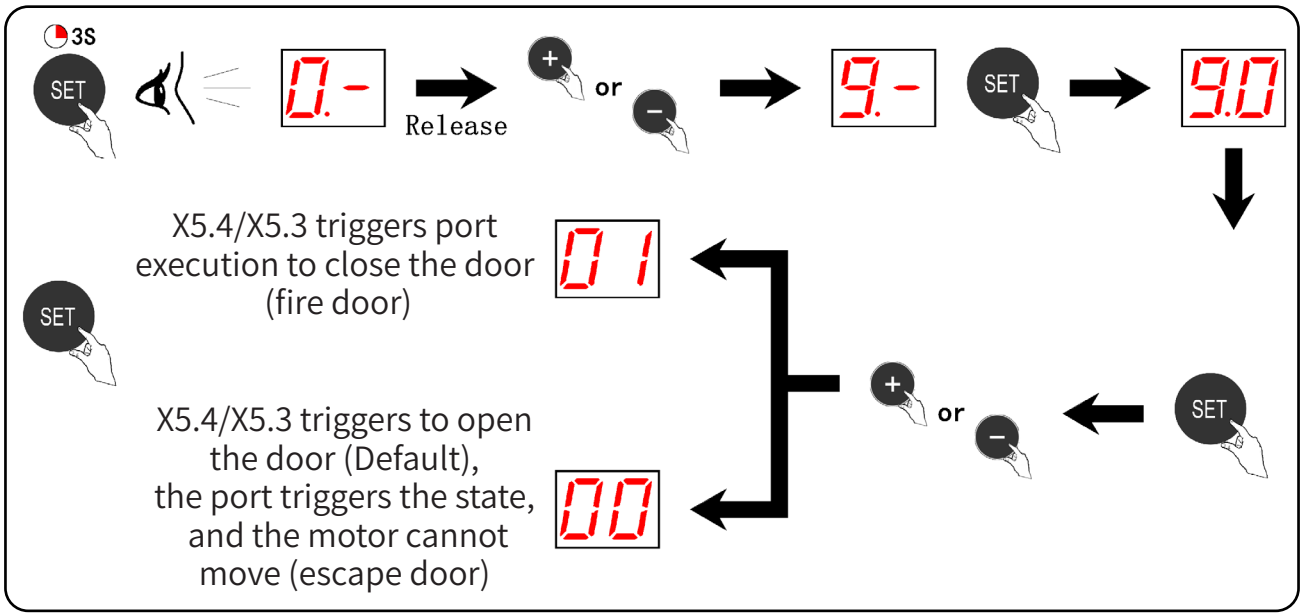
Menu 9： Other function settings of the motor

Function Guide



9.0 Fire alarm (X5.4/X5.3) port function control mode setting

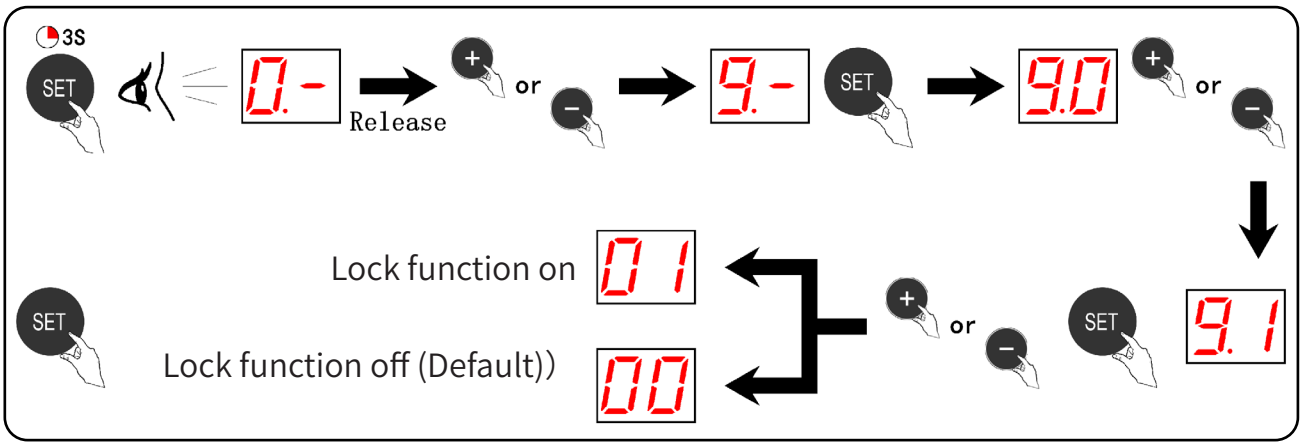
ⓘ This function is used to change the door body operation after the fire alarm function is triggered. After the fire alarm triggers the door body action, only X7/X4/(X3.1/X3.2) can control the motor to stop, and other stop operation commands cannot stop the door body run.



9.1 Remote control lock function setting (holiday mode)

ⓘ 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

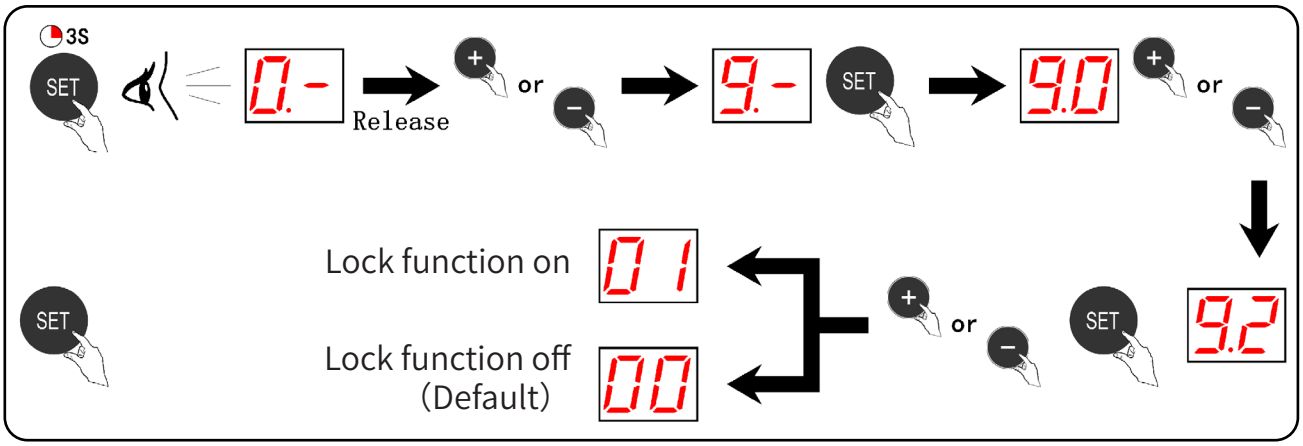
ⓘ Displayed when the remote lock is locked LC ,Show when unlocked CL.



9.2 Control box on/stop/close (S1/S2/S3) key lock function setting

ⓘ After the function is turned on, the on/stop/close (S1/S2/S3) buttons of the control box will be locked. It can be set directly in the menu, or use quick operation settings (see general function quick setting instructions for details)

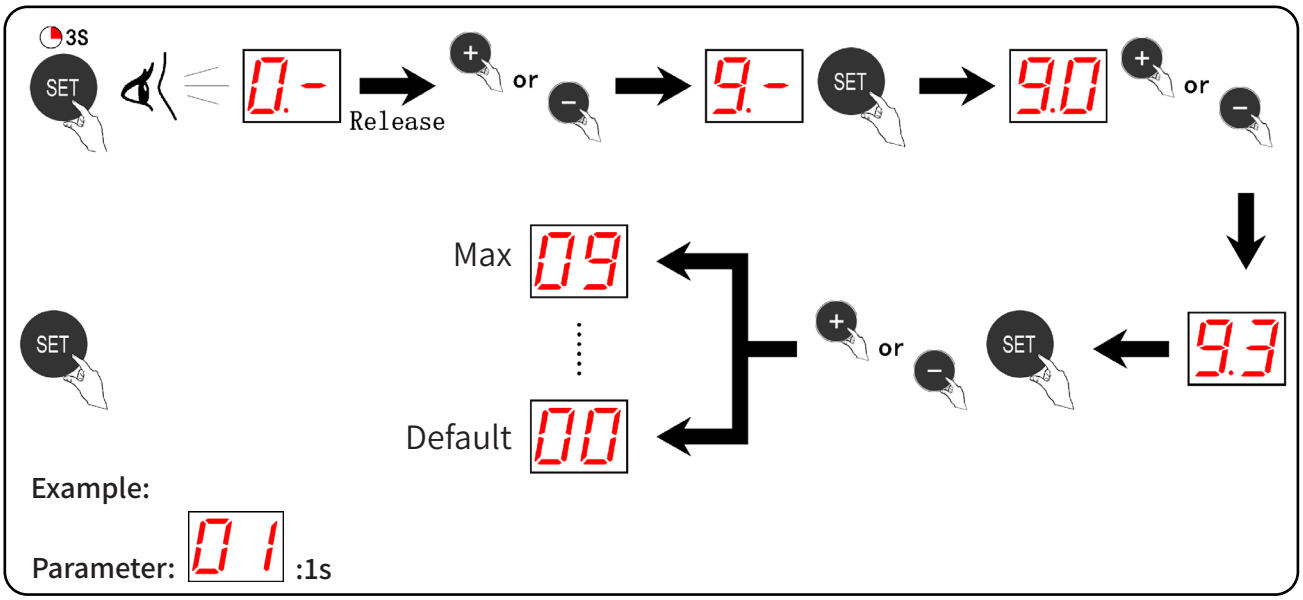
ⓘ Displayed when the control box keys are locked LC ,Show when unlocked UL.



9.3 Function setting of early warning time before warning light operation

ⓘ 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 6.4.

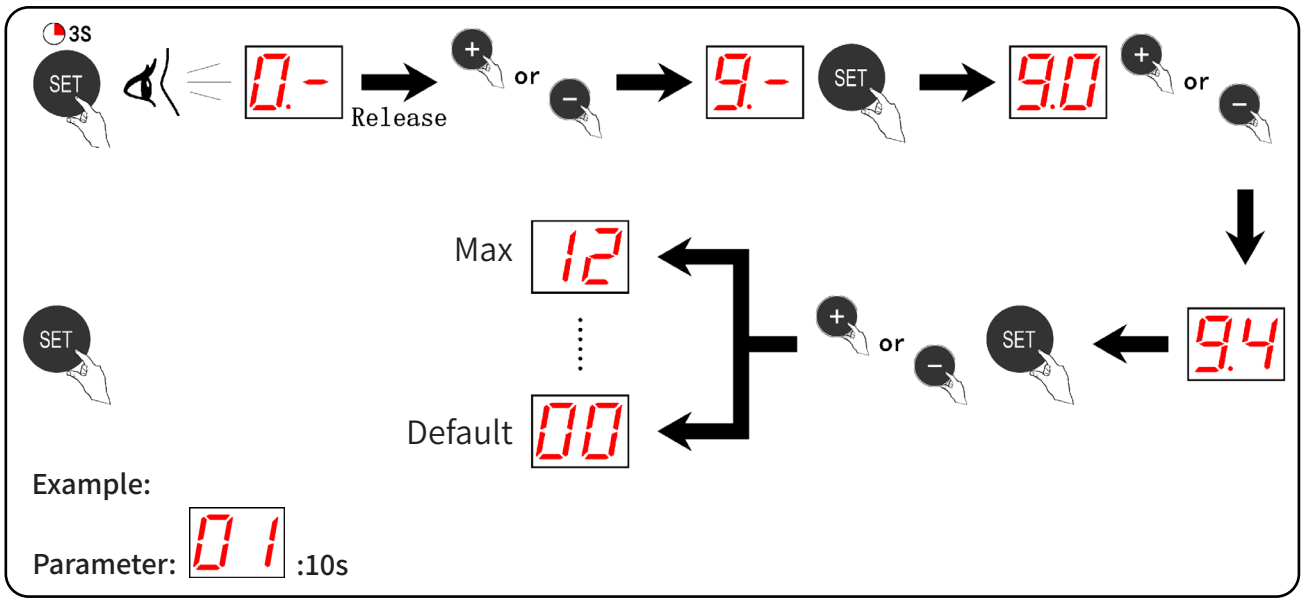


9.4 Alarm light automatically closes the door and extra warning time function setting

ⓘ The time setting range of this parameter is: 0 seconds-120 seconds (X=n*10 seconds).

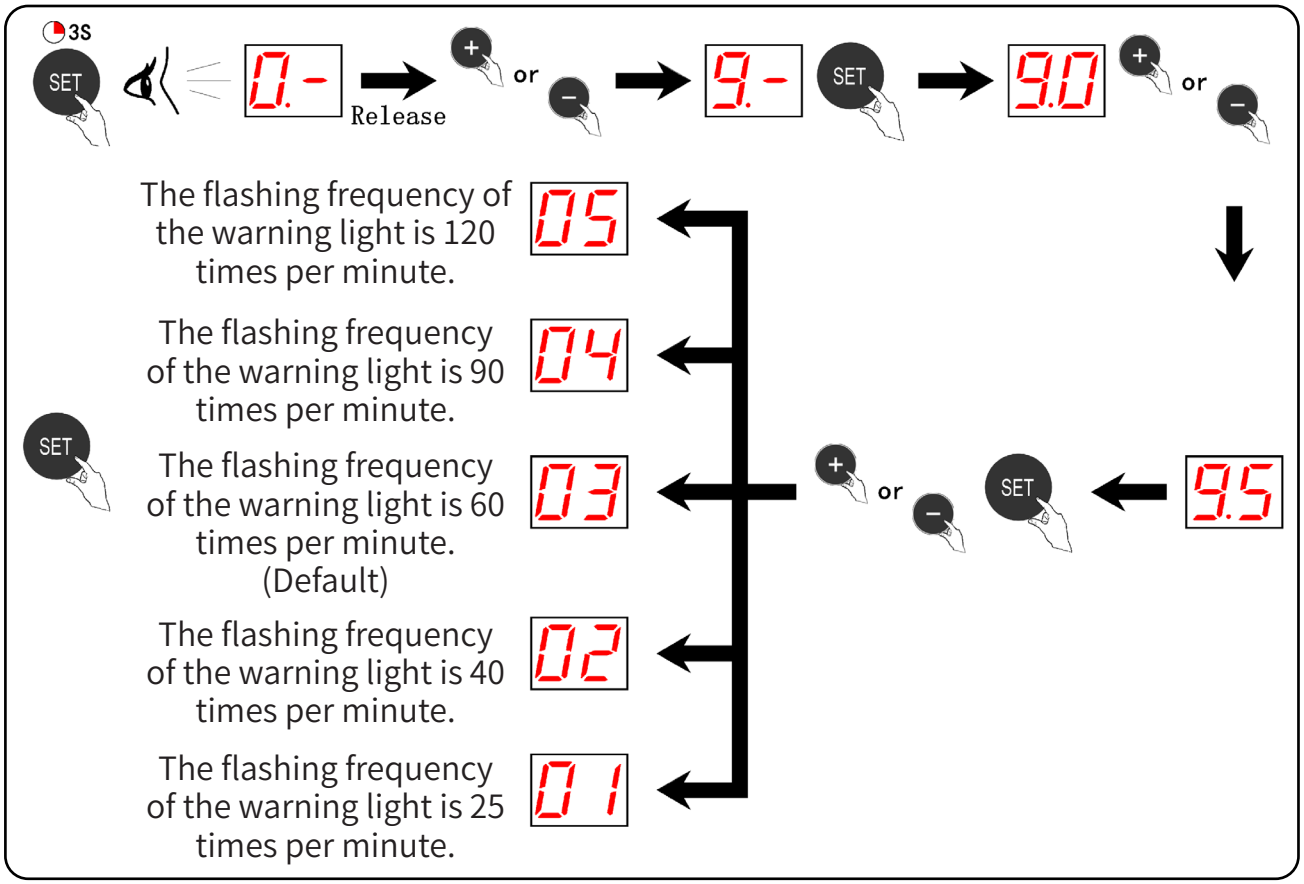
ⓘ Before using this function, you need to turn on the 01-06 traffic light function in menu 6.4.

ⓘ To use this function, you need to enable the automatic door closing function in menu 4.0.



9.5 Warning light flashing frequency function setting

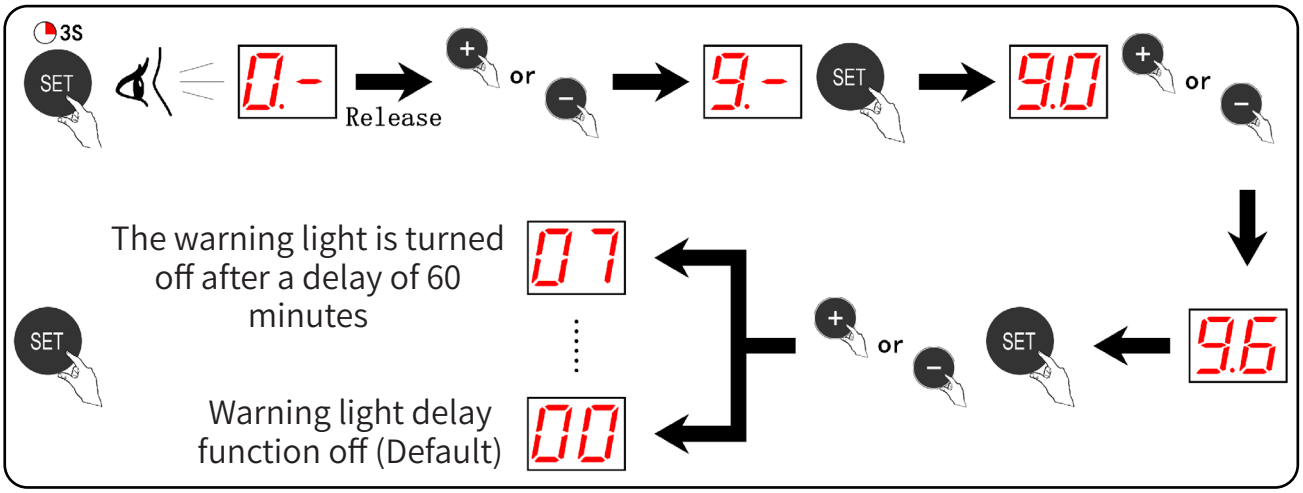
ⓘ This function is used to adjust the flashing frequency of the warning light.



9.6 Warning light delay off setting

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

ⓘ Before using this function, you need to turn on the 01-06 traffic light function in menu 6.4.

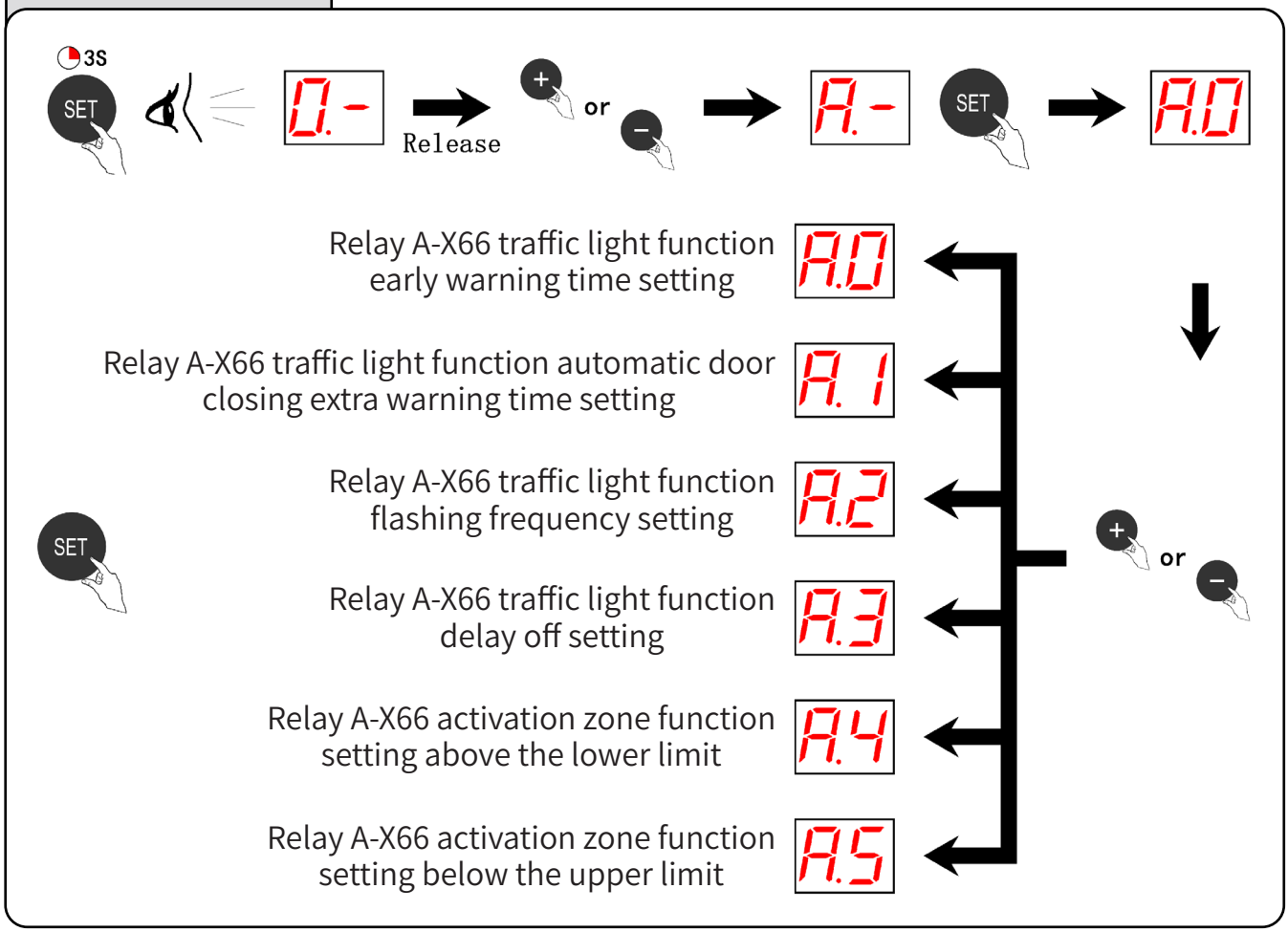


00	The warning light delay function is turned off. (Default)
01	The warning light delay function is on.
02	The warning light turns off after a delay of 1 minute.
03	The warning light will be turned off after a 3-minute delay.
04	The warning light will be turned off after a 5-minute delay.
05	The warning 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 A function setting

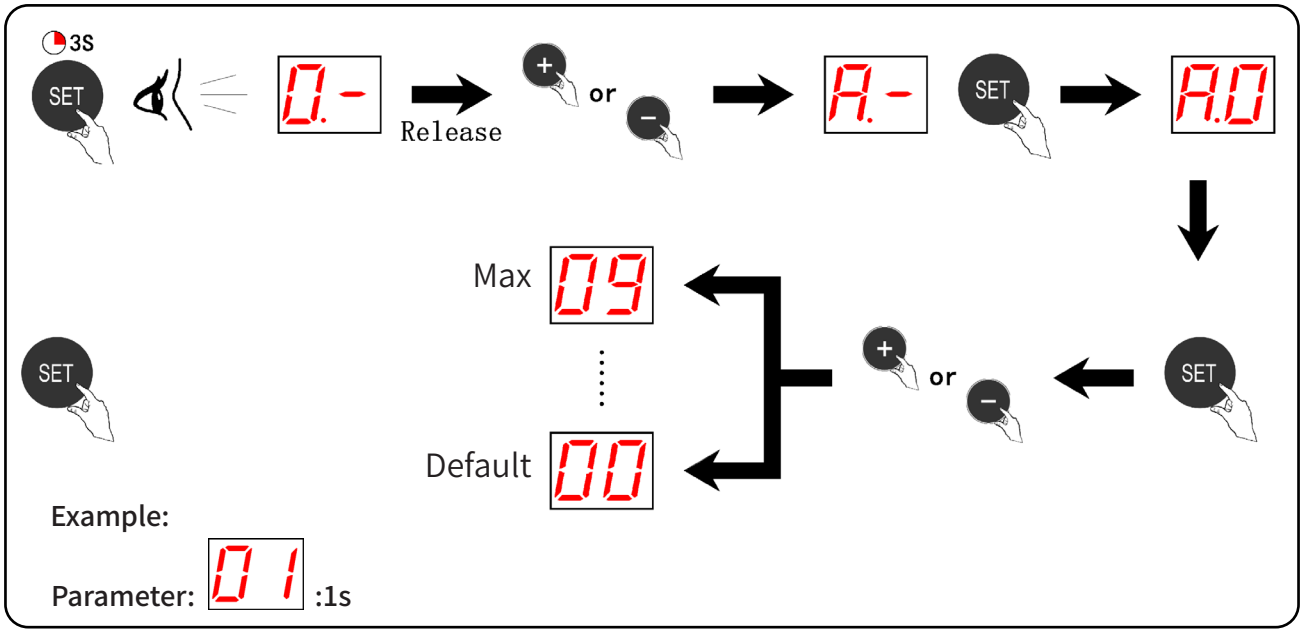
ⓘ This menu is only visible if Relay A-X66 has enabled the Relay A-X66 function in menu 6.6.

Function Guide



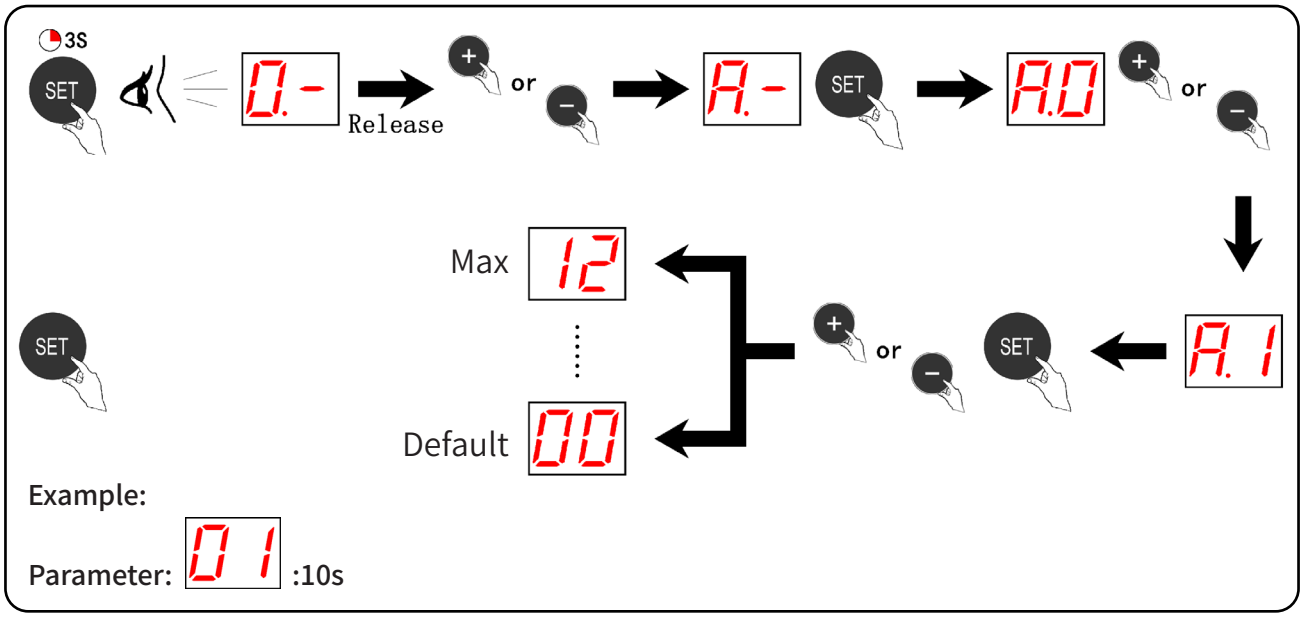
Relay A-X66 traffic light function early warning time setting

ⓘ The time setting range of this parameter is: 0 seconds - 9 seconds.
ⓘ This menu is only visible when the relay A-X66 is turned on in menu 6.6 and the 01-06 traffic light function is turned on.



Relay A-X66 traffic light function automatic door closing extra warning time setting

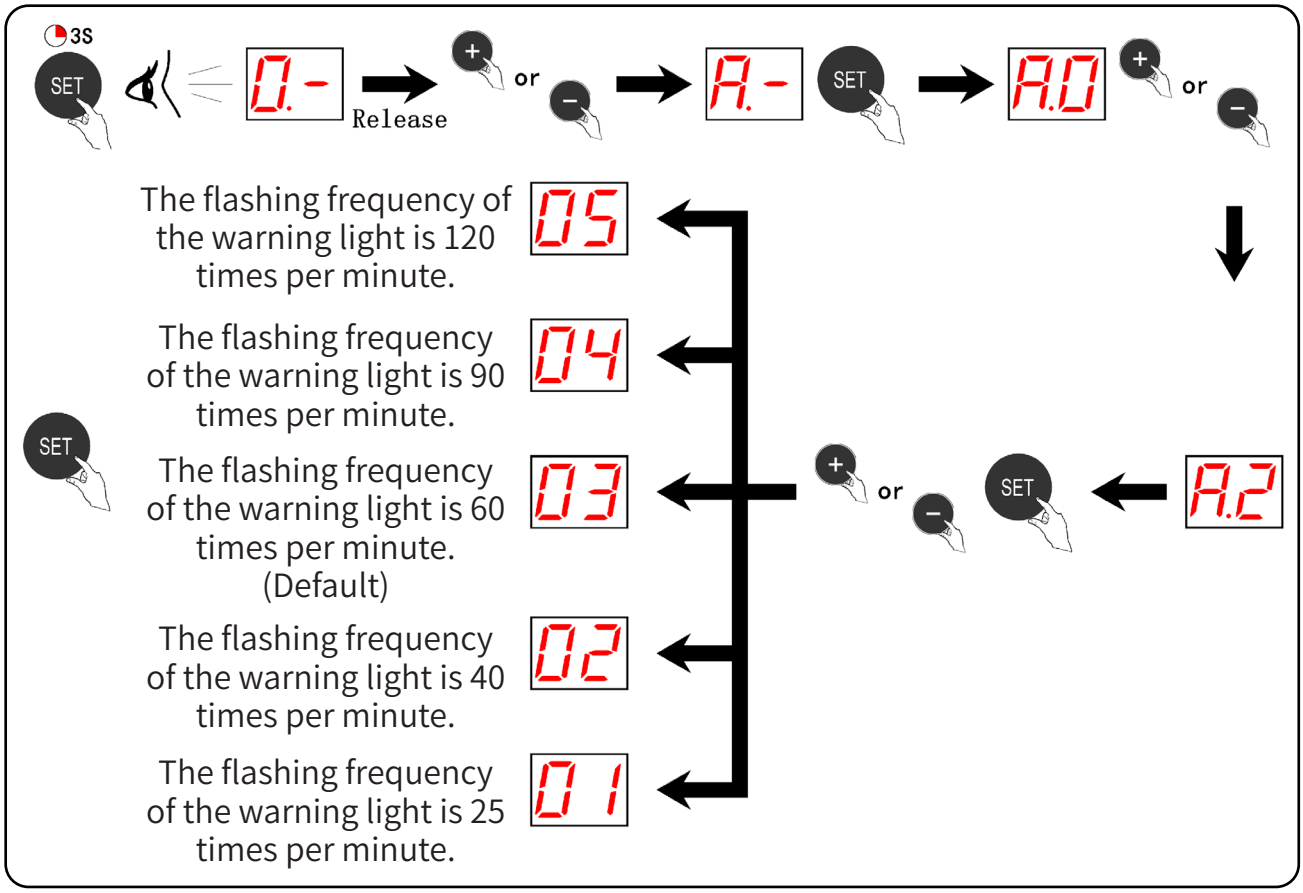
ⓘ The time setting range of this parameter is： 0 seconds-120 seconds (x=n*10).
ⓘ This menu is only visible when the relay A-X66 is turned on in menu 6.6 and the 01-06 traffic light function is turned on.
ⓘ To use this function, you need to enable the automatic door closing function in menu 4.0.



A.2 Relay A-X66 traffic light function flashing frequency setting

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

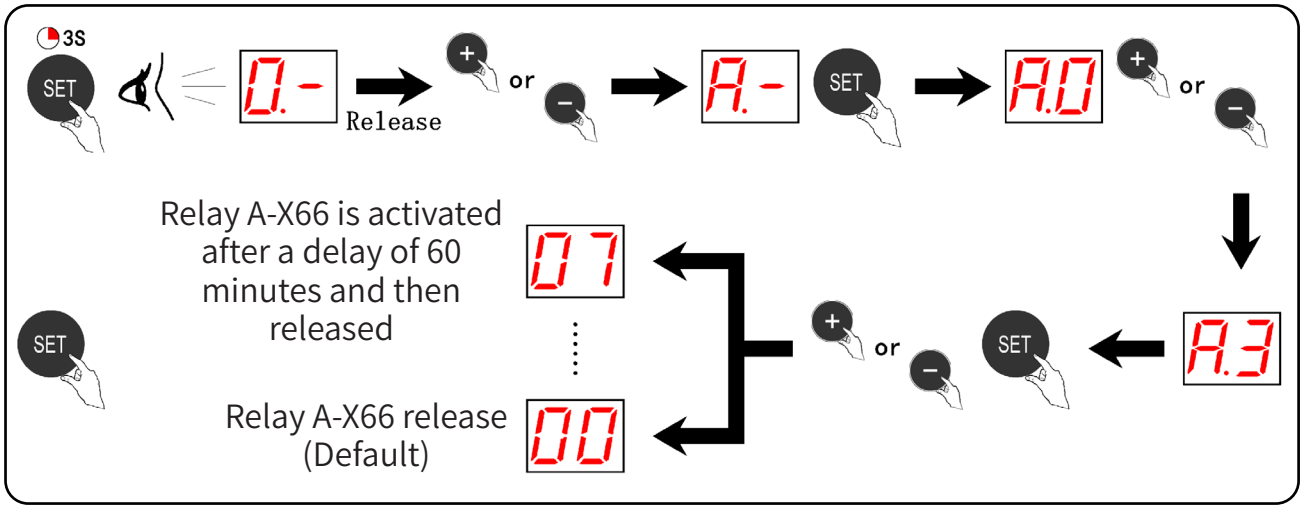
ⓘ This menu is only visible when the relay A-X66 is turned on in menu 6.6 and the 01-06 traffic light function is turned on.



Relay A-X66 traffic light function delay off setting

ⓘ This function is used to adjust the delay release time after the relay A-X66 reaches the lower limit.

ⓘ This menu is only visible when the relay A-X66 is turned on in menu 6.6 and the 01-06 traffic light function is turned on.

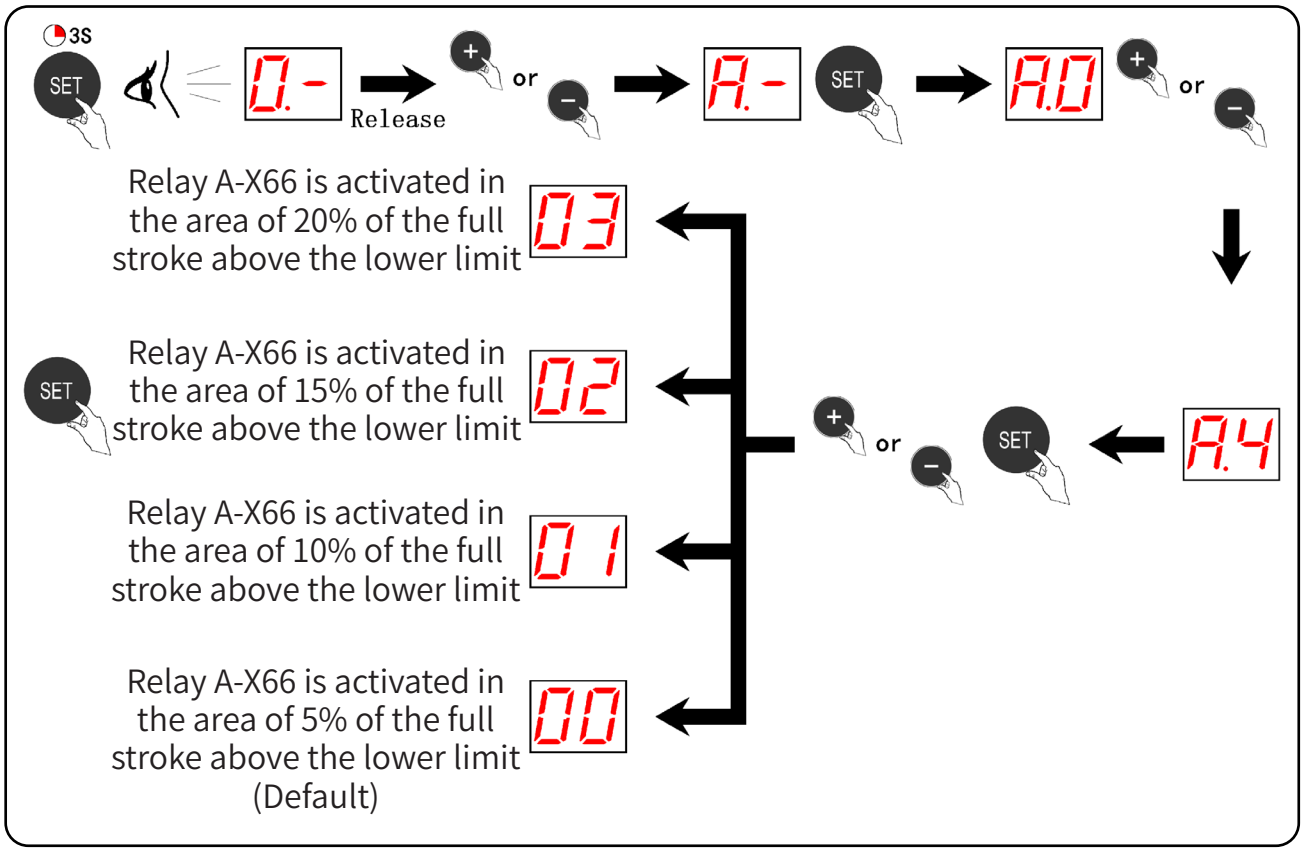


	Relay -X66 released. (Default)
	Relay -X66 is activated.
	Relay -X66 is released after 1 minute delay activation.
	Relay -X66 is released after 3 minutes of delayed activation.
	Relay -X66 is released after 5 minutes of delayed activation.
	Relay -X66 is activated after a delay of 20 minutes and released.
	Relay -X66 is released after 30 minutes of delayed activation.
	Relay -X66 releases after 60 minutes of delayed activation.

Relay A-X66 activation zone function setting above the lower limit

ⓘ This function is used to adjust the activation in the area above the lower limit of relay A-X66.

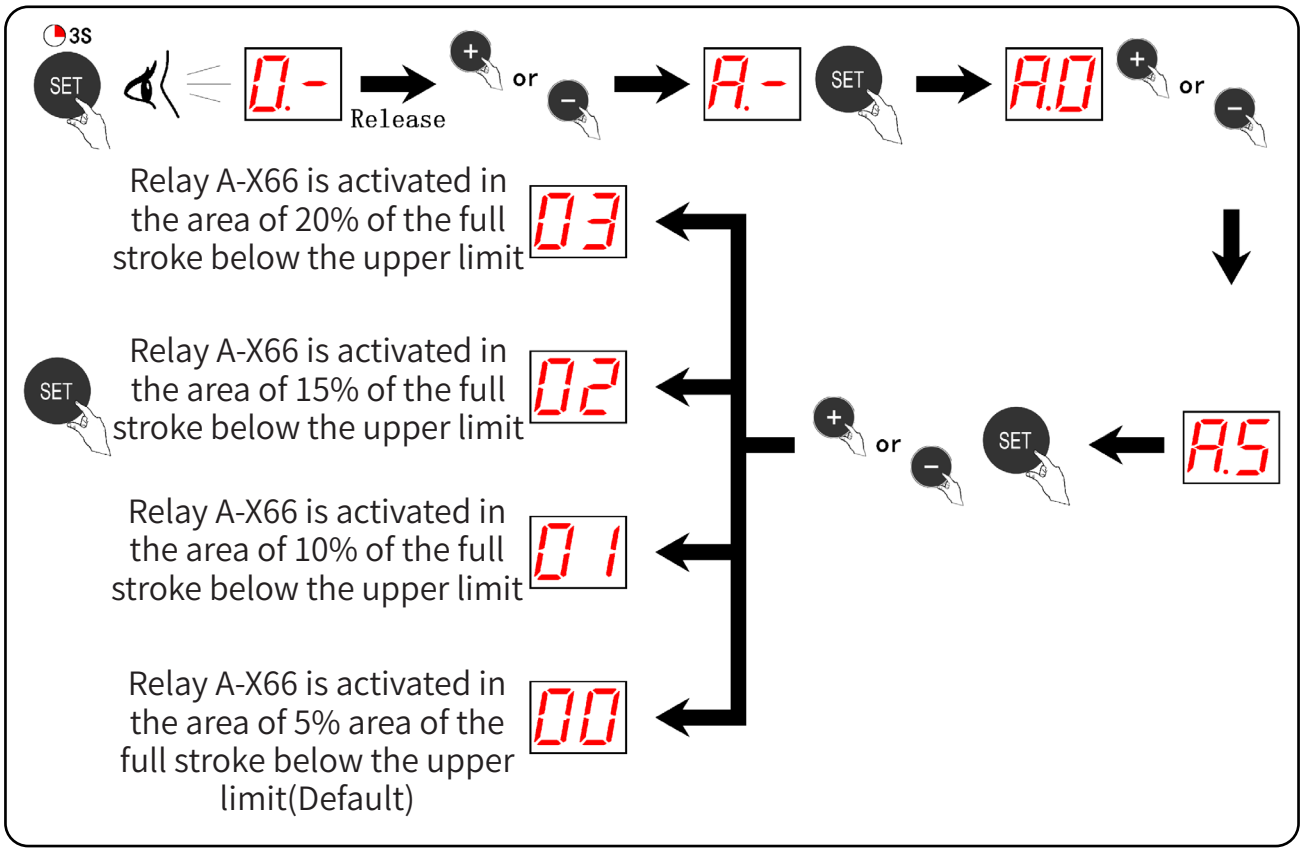
ⓘ This menu is only visible after the relay A-X66 is turned on in menu 6.6 and the 30 function is turned on.



Relay A-X66 activation zone function setting below the upper limit

ⓘ This function is used to adjust the activation in the area below the upper limit of relay A-X66.

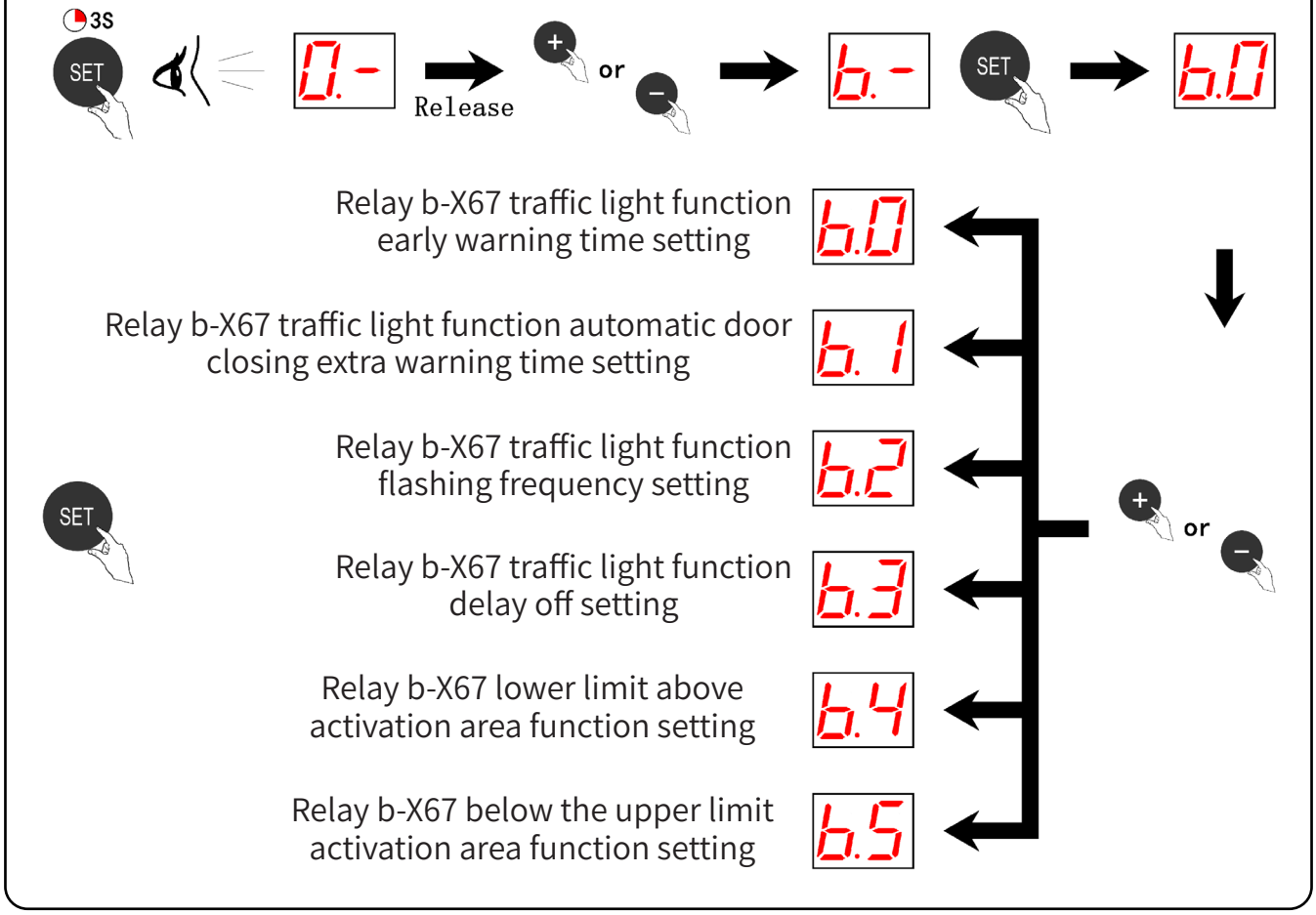
ⓘ This menu is only visible when the relay A-X66 is turned on in menu 6.6 and the 31 function is turned on.



Menu b： Relay b-X67 function setting

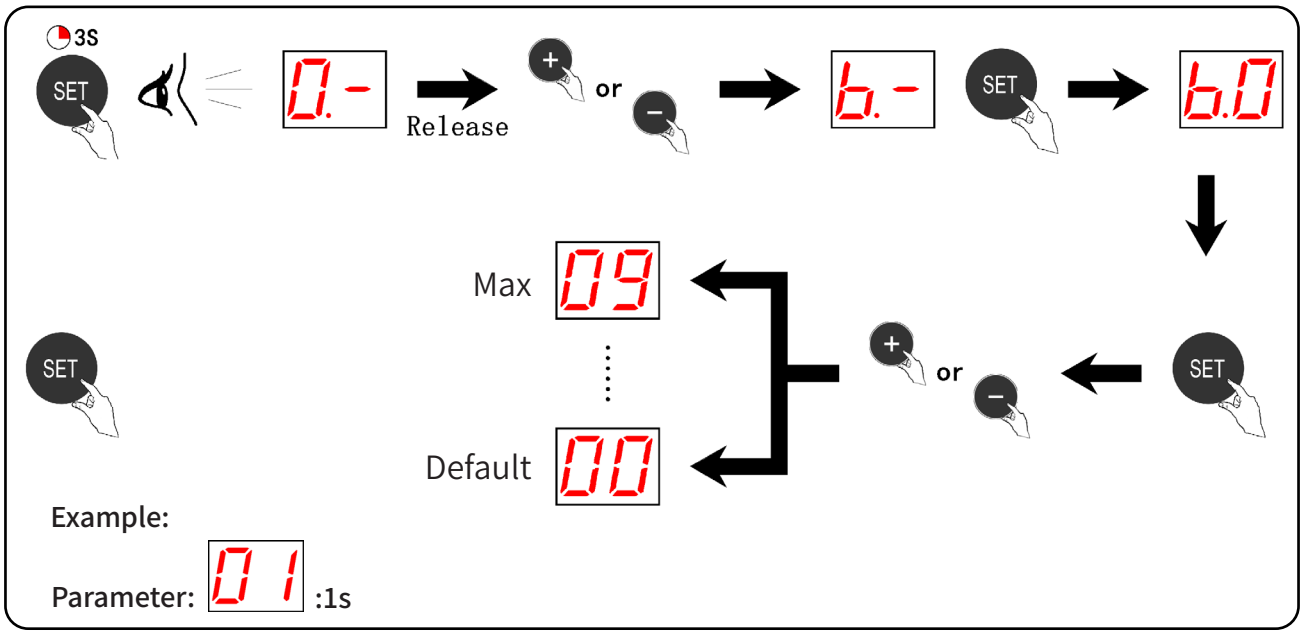
ⓘ This menu is only visible if relay b-X67 has enabled the relay b-X67 function in menu 6.7 .

Function Guide



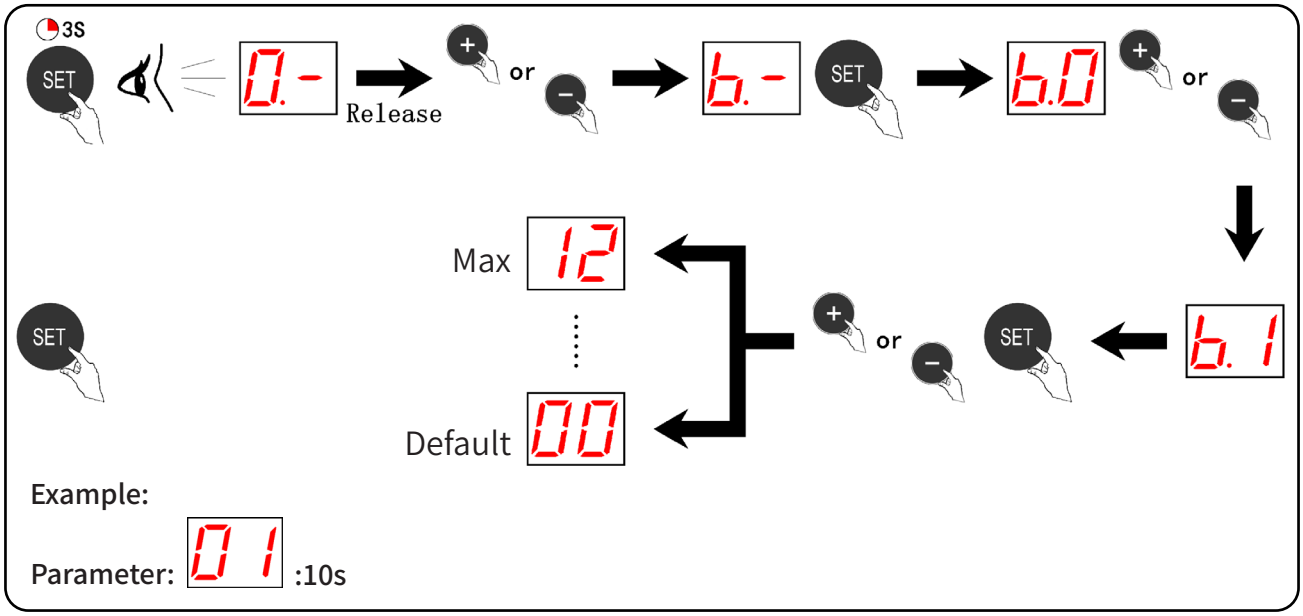
Relay b-X67 traffic light function warning time setting

ⓘ The time setting range of this parameter is: 0 seconds-9 seconds.
ⓘ This menu is only visible after the relay b-X67 is turned on in menu 6.7 and the 01-06 traffic light function is turned on.



Relay b-X67 traffic light function automatic door closing extra warning time setting

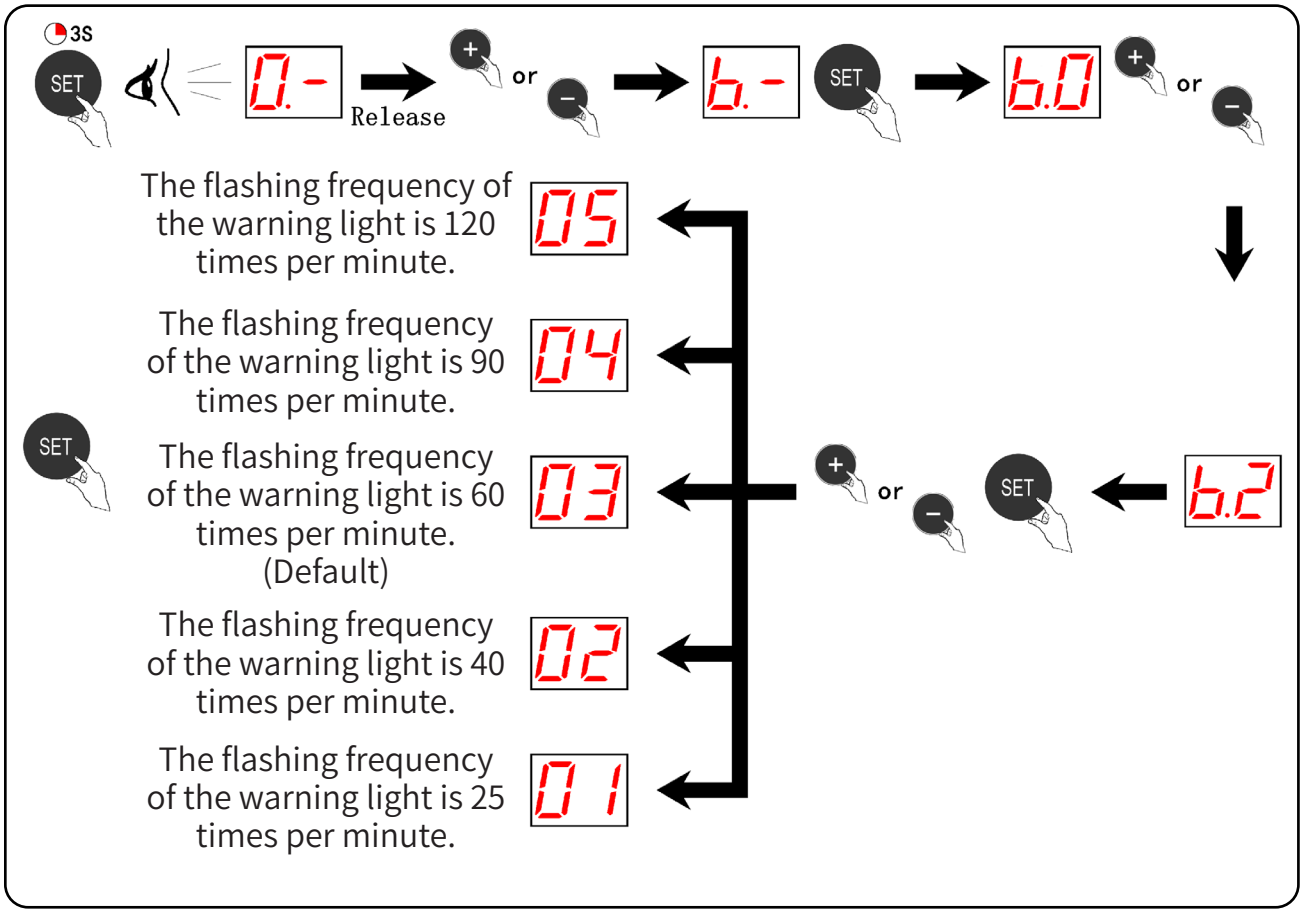
ⓘ The time setting range of this parameter is: 0 seconds-120 seconds (x=n*10).
ⓘ This menu is only visible when the relay b-X67 is turned on in menu 6.7 and the 01-06 traffic light function is turned on.
ⓘ To use this function, you need to enable the automatic door closing function in menu 4.0.



Relay b-X67 traffic light function flashing frequency setting

ⓘ This function is used to adjust the blinking frequency of the relay b-X67.

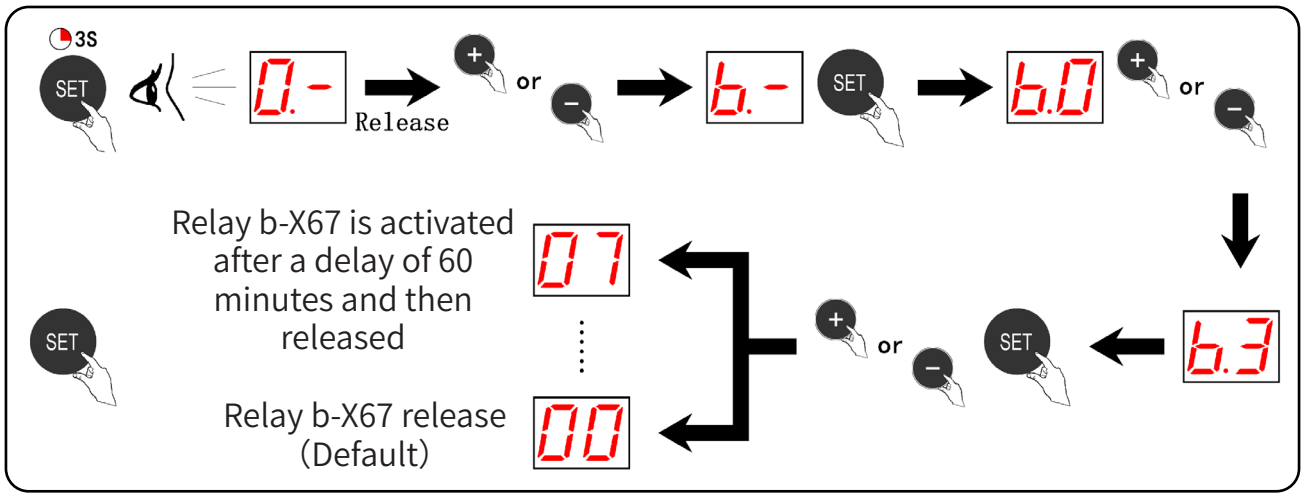
ⓘ This menu is only visible when the relay b-X67 is turned on in menu 6.7 and the 01-06 traffic light function is turned on.



b.3 Relay b-X67 traffic light function delay off setting

ⓘ This function is used to adjust the delay closing of relay b-X67.

ⓘ This menu is only visible when the relay b-X67 is turned on in menu 6.7 and the 01-06 traffic light function is turned on

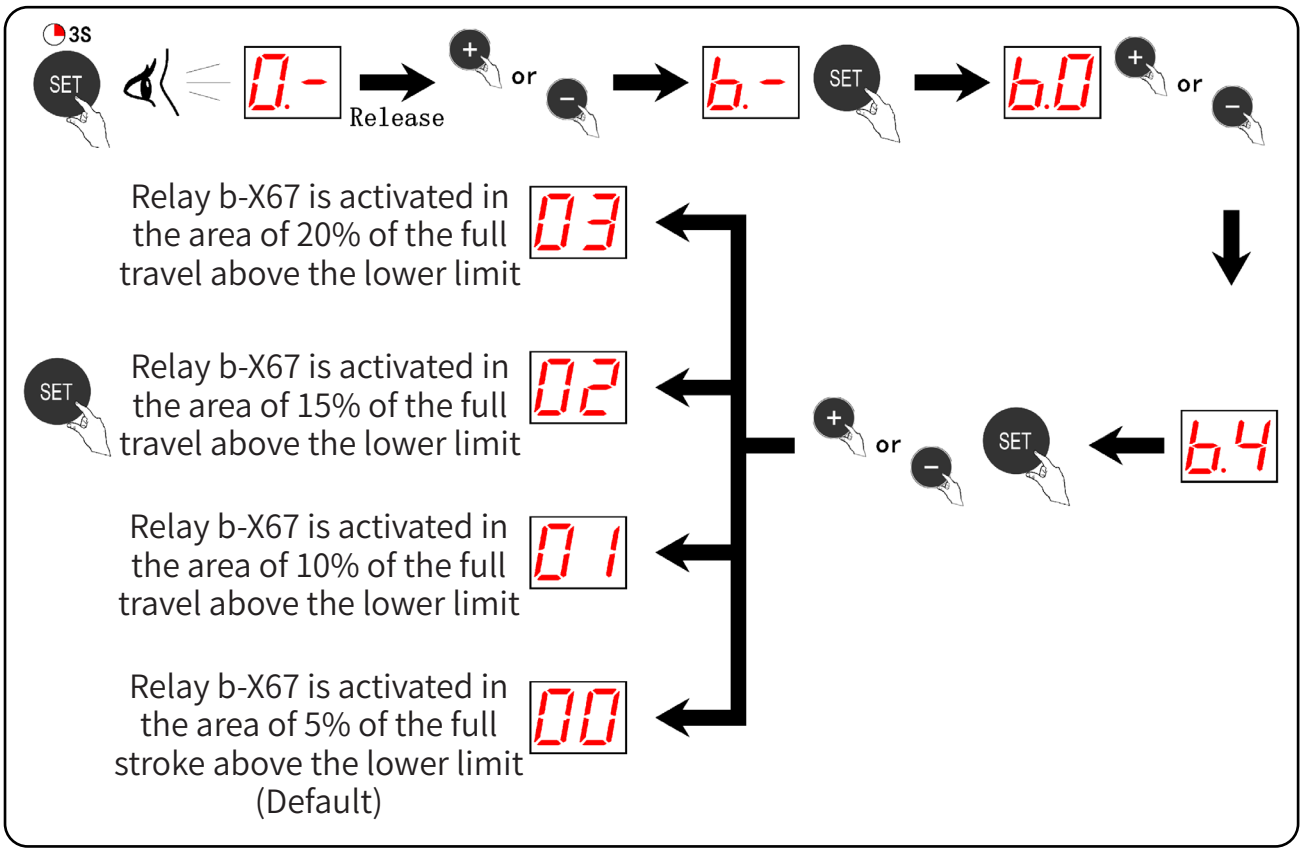


00	Relay b-X67 released. (Default)
01	Relay b-X67 is activated.
02	Relay b-X67 delays activation for 1 minute and then releases.
03	Relay b-X67 is released after 3 minutes of delayed activation.
04	Relay b-X67 is released after 5 minutes of delayed activation.
05	Relay b-X67 is released after 20 minutes of delayed activation.
06	Relay b-X67 is released after 30 minutes of delayed activation.
07	Relay b-X67 is released after 60 minutes of delayed activation.

b.4 Function setting of activation area above the lower limit of relay b

ⓘ This function is used to adjust the activation of the area above the lower limit of the relay b-X67.

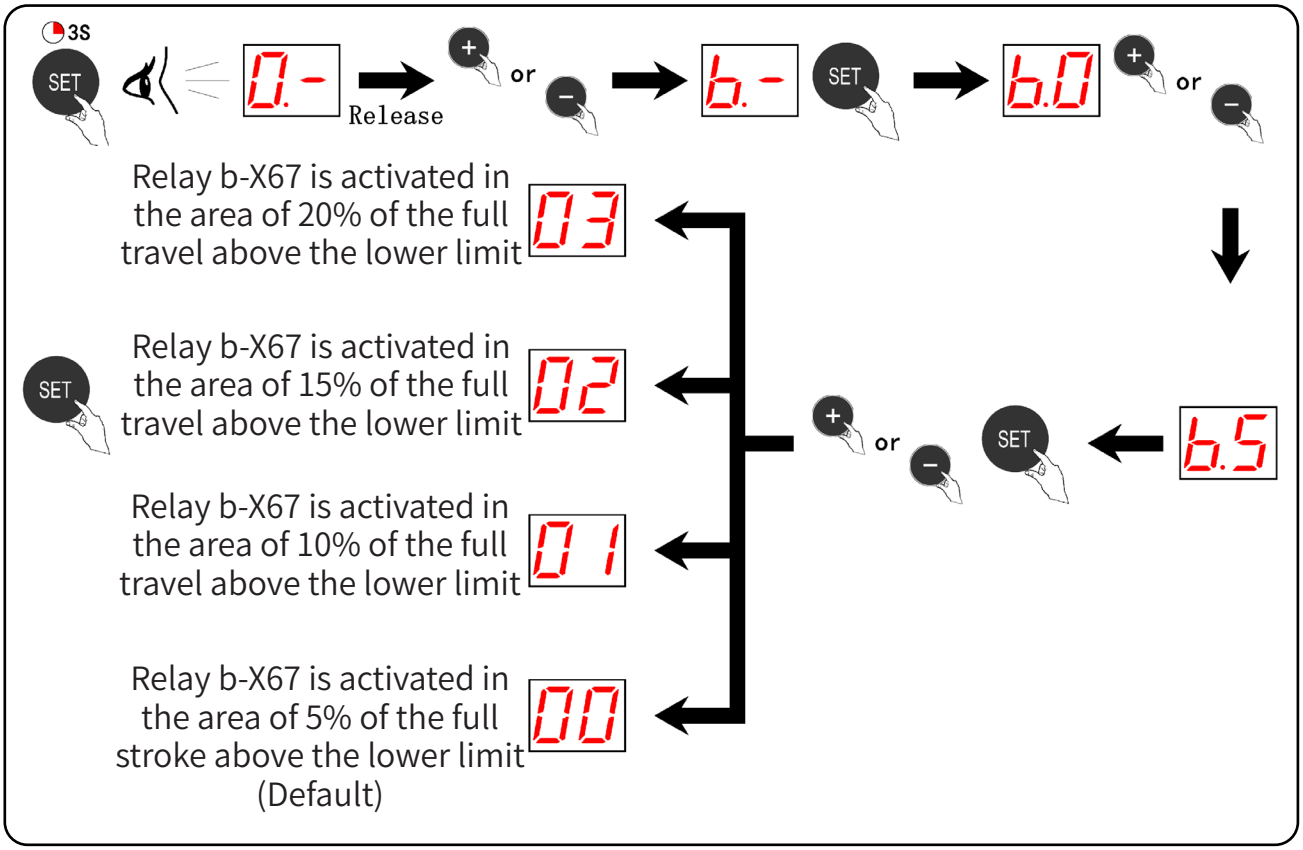
ⓘ This menu is only visible after the relay b-X67 is turned on in menu 6.7 and the 30 function is turned on



b.5 Relay b below the upper limit activates the area function setting

ⓘ This function is used to adjust the activation area below the upper limit of relay b.

ⓘ This menu is only visible after the relay b-X67 is turned on in menu 6.7 and the 31 function is turned on.



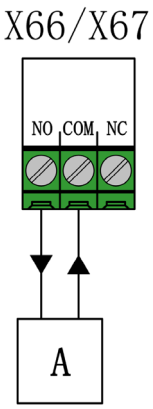
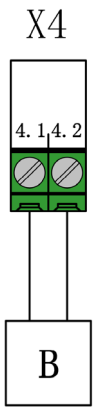
15. Advanced Features

Loading and dock leveller function--53 functions in relay A-X66/b-X67

! For use with dock levelers only.

ⓘ Parameter 53 is used in conjunction with the dock leveler, which can only be operated with the door fully open.

53	Loading platform function - fully open	The relay establishes communication with the dock leveler. Doors are fully open during dock leveler operations.

Connecting Leveler Controls - Door Controls	Connection instructions
Relay output (X66/67 port) 	1. The relay output of the door control device is connected to the stop port of the dock leveller controller (A). When the door is at the upper limit, the control device will release the loading and unloading platform to stop. Other states active dock leveler stopped.
Dock leveler stop input 	2. The dock leveler's external relay (B) is connected to the stop port of the door control. For example X4-4.1/4.2 ! Emergency stop devices such as door controls must be locked when the dock leveller is not in the idle position.

Parameter 53 - Working principle of dock leveler
1. When the door is closed (The dock leveler cannot be locked by releasing the relay A-X66/b-X67 of the door control device).
2. The door is opened to the upper limit position (when the door is fully opened, the relay A-X66/b-X67 is activated, and the dock leveler is unlocked and can be operated).
3. The dock leveler moves to the operating position (the door control device will be locked by the loading and unloading platform controller B, and the door cannot operate).

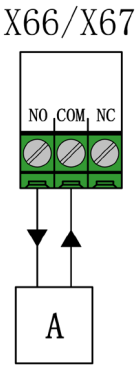
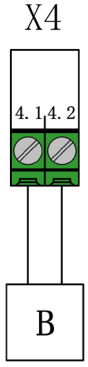
4. The dock leveler moves to the idle position (the door control device will be released by the loading and unloading platform controller B, and the door can be closed). 5. When the dock leveler stops at the idle position, the door control device will not be locked by the loading and unloading platform controller B at this time, and the door can be operated. 6. The door is closed, and the loading and unloading platform cannot be operated by locking the loading and unloading platform through the relay X17.

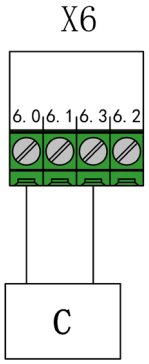
Dock leveler function--54 functions in relay A-X66/b-X67

! For use with dock levelers only.

ⓘ Use parameter 54 in conjunction with a leveler that can only be operated with the doors fully open.

54	Dock leveler function - partial door	The relay establishes communication with the dock leveler. Doors are in the partial open position when the leveler is in operation.

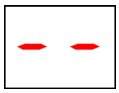
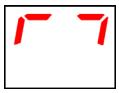
Connecting Leveler Controls - Door Controls	Connection instructions
Relay output (X66/67 port) 	1. Connect the relay output of the door control unit to the stop port of the dock leveler controller (A), the control unit will release the dock leveler when the door is in the partial open position.
Leveler stop input 	2. Connect the dock leveler's external relay (B) to the stop port on the door control. For example X4-4.1/4.2 ! Door controls must be locked when the dock leveler is not in the idle position.

Middle position output 	3. The external relay (C) of the dock leveler is connected to the terminal X6-6.0/6.3 of the door control device. ! Relay C must remain active when the dock leveler is not in the idle position.

Parameter 54 - Working principle of dock leveler

1. When the door is closed (the dock leveler cannot be locked by releasing the relay A-X66/b-X67 of the door control device).
2. Open the door to the partial open position (when the door is in the partial open position, the relay A-X66/b-X67 is activated, and the dock leveler can be released to run).
3. The dock leveler moves to the operating position (the loading and unloading platform is in the operating position, and the door control device will be locked by the dock leveler relay B).
4. The dock leveler moves to the working position, the dock leveler relay C is released, the global partial opening function is canceled, and the door can be opened to the upper limit.
5. When the door is opened to the upper limit, the relay A-X66/b-X67 of the door control device is released to lock the dock leveler and cannot move.
6. Close the door to the partial open position.
7. The dock leveler moves to the idle position (the door control device will be locked by the dock leveler controller B, and the door cannot operate)
8. When the door is closed to the lower limit, the door control device relay A-X66/b-X67 is released to lock the dock leveler and cannot move

16.Control System Running Display Code

Display information	
	No travel state, can run in long press mode
	With travel status display
	Upper limit learning status display
	Lower limit learning status display
	Door open display
	Closed door operation display
	Partial open door trigger/global partial open door trigger standby display
	Built-in track infrared learning display in menu 5.0
	Built-in track infrared learning display in menu 5.1
	X5.1/X5.3 ports are triggered
	X5.2/X5.3 ports are triggered
	X2.1/X2.3 ports are triggered
	X2.2/X2.3 ports are triggered
	X2.4/X2.3 ports are triggered
	X3.3/3.4 safety edge conductive strip is triggered
	X3.3/3.4 safety edge DW is triggered by the port

Display information	
	X3.3/3.4 safety edge three-line infrared is triggered
	X3.3/3.4 safety edge DW self-test failure fault
	X5.4/X5.3 ports are triggered
	ST port is triggered
	FC motor： prompt when the motor current is overloaded and stops during door opening, and prompts when the door is overloaded and reversed when closing the door; check the locked-rotor point of the door, or replace a high-power motor or adjust the overload capacity of the motor through FORCE MARGIN AC380V motor： it means that the motor is out of phase
	After the number of maintenance alarms in menu 8.0 is reached, it will be displayed every time
	Maintenance alarm recovery, long press 3 seconds recovery 500 maintenance times clear CA display
	Remote control function lock display
	Remote control function unlock display
	Control box key function lock display
	Control box button function unlock display
	Wireless photo cell is triggered
	Slack rope switch is triggered
	Wireless door-in-door is triggered
	Wireless electronic lock is triggered

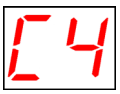
Display information	
	The wireless safety edge is triggered
	Wireless electronic lock device communication failure
	Wireless safety edge junction box device communication failure
	Wireless infrared device communication failure
	Wireless infrared device battery is low
	Wireless electronic lock device battery is low
	Wireless security edge device battery is low
	Wireless door-in-door device battery is low

17.Control System Fault Codes

Fault display code	Problem Description	Solution
	There is no change in position data during operation	The door body is blocked, check the blocked point The running speed of the door body is too slow, adjust the running speed of the door opening and closing Motor limit structure failure, replace the motor
	Encoder chip data failure	Replace the encoder
	Limit and encoder communication failed	There is some interference in the operation site. Eliminate the source of interference on site and execute the control operation again The communication line is broken, replace the communication line Encoder failure Control system failure replacement control system accessories
	Limit module not detected	Encoder failure and replacement of encoder accessories Encoder wire connection, replace the 10-core wire The limit system is faulty, replace the control module
	Inverter communication failure/ control system failure	The motor control operation is triggered too quickly, and there is some interference on site, press stop to restart the operation. Restart after 1 minute of power failure, or replace the control module
	Inverter parameter writing failure	There is some interference in the operation site. Eliminate the source of interference on the site, re-execute the control operation, or replace the FC drive module
	Inverter parameter reading failure	There is some interference in the operation site. Eliminate the source of interference on the site, re-execute the control operation or replace the FC drive module
	The slack port is triggered	Check the status of the steel wire rope on the door body, and then run it after repairing

Fault display code	Problem Description	Solution
	Safety edge port not connected	Without the safety edge device installed, the door operator can only execute the dead man mode, and it must be connected to the safety side device correctly
	1. Appears when the stroke is set, and the motor does not operate, press SET to appear 2. Over-limit coordinates appear during standby operation 3. Appears when the built-in infrared coordinate setting condition is not at the upper limit, or appears when both are built-in infrared 4. When the automatic door is closed this time, the door closing prompt cannot be performed due to related failures or dead man mode DW.	According to the operation instructions, after the relevant conditions are met, perform the operation setting
	Clutch port, or motor temperature is too high	Check whether the clutch device is triggered, check whether the temperature of the motor is too high, AC drive the motor, and check whether the MOT port of the motor is connected to the motor
	Communication failure between the control system and the limit and limit system	Occasional failure of communication interference, re-execute the operation, failure of the connection line between the control system and the limit system, replace the connection line again, or replace the control system
	The stroke setting failed, the distance is too short, or the limit is exceeded	Reset itinerary
	Door-in-door port triggers emergency stop	Check the door-in-door switch
	The motor wiring sequence is reversed	Adjust the UVW line sequence of the MOT port
	Emergency stop port 5.1k is triggered	Emergency stop button is pressed

18. Drive System Fault Codes

	AC drive failure	1. Check the fault indicator light of the AC drive board and check whether the AC drive fuse is burnt out
	Inverter short circuit protection	1. Check the wiring for short circuits. 2. Properly prolong the acceleration and deceleration time (menu 2.1). 3. Investigate the cause, implement the corresponding countermeasures and reset 4. Seek technical support and replace the drive module
	Frequency converter instantaneous overcurrent frequency converter Frequency converter overload	1. Extend the acceleration and deceleration time. 2. Reasonably set the V/F curve. 3. Set the speed tracking start to be valid or start DC braking. 4. Replace the matching motor or inverter. 6. Check the wiring for short circuits. 3. Replace the inverter with the one that matches the load. 7. Seek technical support to replace the drive module.
	Short to ground	1. Check whether the output cable is broken or whether the motor penetrates the shell. 2. Investigate the cause, implement the corresponding countermeasures, and reset. 3. Seek technical support to replace the drive module.
	Inverter temperature sensor is abnormal	1. Check whether the wiring of the inverter temperature sensor is properly connected. 2. Seek technical support to replace the drive module.
	Inverter over voltage	1. Extend the deceleration time. 2. Check wiring of braking unit and braking resistor 3. Match the appropriate braking unit/braking resistor. 4. Reduce the power supply voltage to within the specified range. 5. Replace the drive module for the braking function.
	Inverter under voltage	1. Check the input power and wiring. 2. Tighten the input terminal screws. 3. Check the air switch and contactor.
	Inverter input phase loss	1. Check the input power. 2. Check the input power wiring. 3. Check for loose terminals. 4. Add a voltage regulator on the input side

	Inverter output phase loss	1. Check the connection between the inverter and the motor. 2. Check whether the output MOT terminal is loose. 3. Check whether the motor winding is broken.
	Inverter Inverter Overheating	1. The operating environment of the inverter should meet the specificationsbeg. 2. Improve the ventilation environment and check whether the air duct is blockedstuffed. 3. Power off for 20 minutes and start running again