



Electrical Wiring Guide

Switches, remote transmitters and rain sensors



LK-MR53X SERIES ACTUATOR CONTROLLER



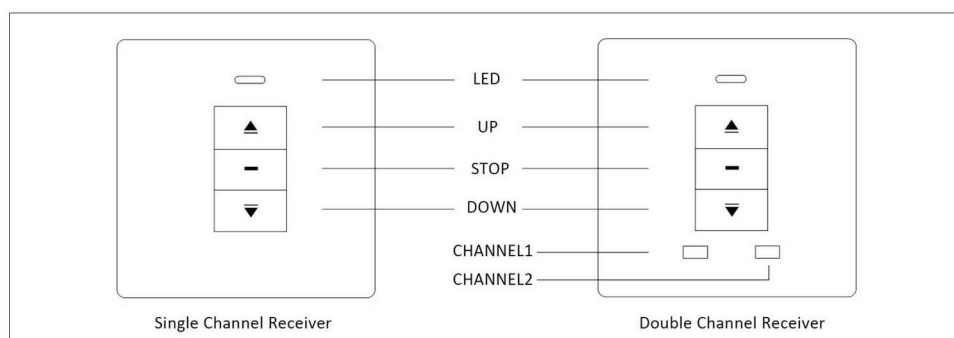
Feature

- Made by low-power and high-speed CMOS technology.
- Strong anti-interference ability.
- Manual control and remote control.
- Can connect with wind/rain sensor.
- Can store 16 transmitter signals.
- Motor protection, cutting power off automatically in 5 minutes.
- Installation size: 86x86x35mm.

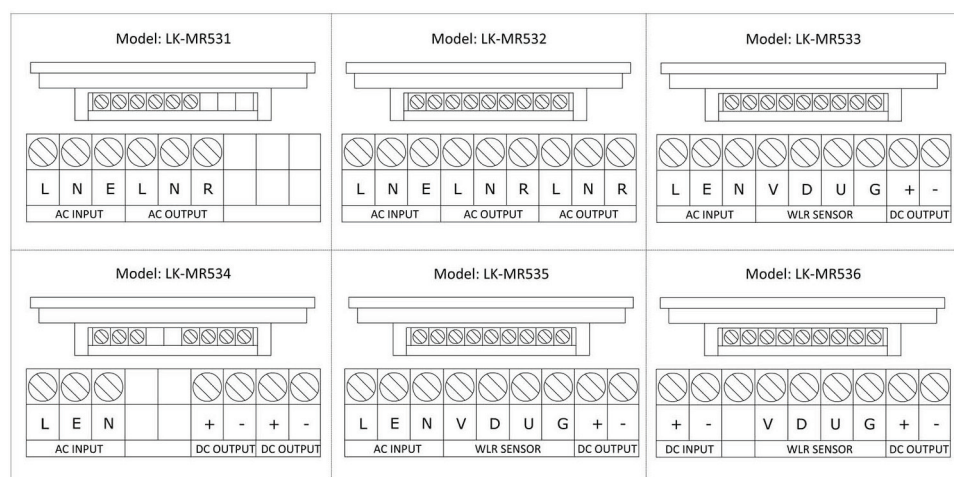
Specification

Model	Input Voltage	Output Voltage	Max. Current	Working Frequency	Receiving Sensitivity	Working Temp
LK-MR531	AC120V/AC230V	AC120V/AC230V	0.2A	433.92MHz	-100dBm	-20 ~ +65℃
LK-MR532	AC120V/AC230V	AC120V/AC230V	0.1A*2	433.92MHz	-100dBm	-20 ~ +65℃
LK-MR533	AC100~240V	DC24V	3A	433.92MHz	-100dBm	-20 ~ +65℃
LK-MR534	AC100~240V	DC24V	1.0A*2	433.92MHz	-100dBm	-20 ~ +65℃
LK-MR535	AC100~240V	DC24V	1.5A	433.92MHz	-100dBm	-20 ~ +65℃
LK-MR536	DC24V	DC24V	10A	433.92MHz	-100dBm	-20 ~ +65℃

Button Description



Wiring Diagram



Sym.	Description	Sym.	Description	Sym.	Description
L	Live Wire(Input)	E	Earth Wire	N	Null line(Input)
L	Forward(Output)	R	Reverse	N	Neutral(Output)
+	DC24V+	-	DC24V-	V	DC12V+
D	DOWN	U	UP	G	DC12V-

Operation Description

- Setting method of single channel receiver is as same as double channel receiver.
- Before setting multi channel transmitter, please choose the right channel which you want to program.
- Maximum running time of motor is 5 minutes.
- UP/DOWN delay time of switch is 500ms.
- Matching Code
 - Power the controller on.
 - Keep pressing [STOP] on the controller for 5 seconds.
 - Press [UP] on the remote within 15 seconds
 - LED flashes 3 times and turns off.
 - Codes are matched successfully.
- Clearing Single Code
 - Power the controller on.
 - Keep pressing [STOP] on the controller for 5 seconds.
 - Press [DOWN] on the remote within 15 seconds
 - LED flashes 3 times and turns off.
 - Code is cleared successfully.
- Clearing All Codes
 - Power the controller on.
 - Keep pressing both of [STOP] and [DOWN] on the controller for 5 seconds.
 - LED flashes 3 times and turns off.
 - All the codes matching the channel will be deleted after this operation.
- Changing direction
 - Power the controller on.
 - Keep pressing both of [UP] and [DOWN] on the controller for 5 seconds.
 - LED flashes 3 times and turns off.
 - Directions changed successfully.

- Inching mode
 - Power the controller on.
 - Keep pressing both of [UP] and [STOP] on the controller for 5S.
 - LED flashes 3 times and turns off. Setting is ok.
 - Repeat the action, it turns to normal mode.
 - It can work continuously when pressing the [UP] or [DOWN] for more than 1.5 seconds.

Installation Notes

- Please observe the following provisions in accord with standard of effective power.
- Do not use metal objects to touch or shade the receiver, avoid the interference of receiving signals.
- Transmit distance: 50 meters without obstacle, 20 meters through wall.
- The installation distance between the receiver and ground, between the receiver and the ceiling is more than 1.5 m, between two receivers is more than 0.2 m.
- The main power supply must be cut off before installing wiring.
- In order to prevent electrostatic interference, must ensure that the receiver is effectively grounded.
- After the installation, ensure that the receiver and cable are not affected by tension.

Troubleshooting

No.	Symptom	Solution
1	LED flashes, receiver shut down.	1. Check the connection of wires. 2. Check the receiver setting.
2	LED on the transmitter is off or weak.	1. Make sure the right installation of the battery. 2. Change the battery.
3	The transmitter and the receiver work well, the motor does not work.	1. Check the wiring of motor. 2. Make sure the motor no failure.

LK-RT11X SERIES REMOTE TRANSMITTER



LK-RT111

LK-RT112

LK-RT115

LK-RT1116

Feature

- Made by low-power and high-speed CMOS technology.
- Strong anti-interference ability.
- Wireless signal can pass through walls, floors and doors, be transmitted farther without obstacles.
- Paired with LK-MR53X / LK-MR52XT / LK-MR551 receiver.
- Unit size: 125mm x 45mm x 11mm.

Specification

Model	Channel	Working Frequency	Transmission distance	Button Battery	Operating Current	Receiving sensitivity
LK-RT111	1	433.92MHz	<50m	3V CR2430	≤10mA	-100dBm
LK-RT112	2	433.92MHz	<50m	3V CR2430	≤10mA	-100dBm
LK-RT115	5	433.92MHz	<50m	3V CR2430	≤10mA	-100dBm
LK-RT1116	16	433.92MHz	<50m	3V CR2430	≤10mA	-100dBm

Operation Description

- Before setting multi channel transmitter, please choose the right channel which you want to program.
- Setting method of multichannel remote is as same as single channel one.
- It states group control that RT1116 displays “CC”.

Matching Code

- Power the controller on. Keep pressing [STOP] on the receiver for 5 seconds.
- Press [UP] on the remote in 15 seconds. LED flashes 3 times and turns off.
- Codes are matched successfully.

Clearing Single Code

- Power the controller on. Keep pressing [STOP] on the controller for 5 seconds.
- Press [DOWN] on the remote in 15 seconds. LED flashes 3 times and turns off.
- Code is cleared successfully.

Locking Channel

- Only RT1116 can lock the channel. It will unlock after poweroff or reset.
- Choose the channel you need. Press the key in the hole of the back of remote three times quickly, it locked. Press three times again, it will unlock.

Replacing battery

- Open the back board of the transmitter and push the cover forward.
- Take out the used battery and place the new one. Close the back board.
- Please put the used battery in the appointed place.

Troubleshooting

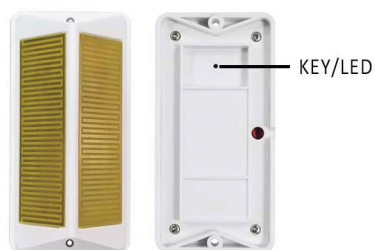
No.	Symptom	Solution
1	LED on the transmitter is off or weak.	1. Make sure the right installation of the battery. 2. Change the battery.
2	The transmitter and the receiver work well, the motor does not work.	1. Check the wiring of motor. 2. Make sure the motor no failure.

LK-RS001 WIRED RAIN SENSOR

LK-RS002 WIRELESS RAIN SENSOR



LK-RS001



LK-RS002

Feature

- The casing is resistant to ultraviolet radiation and is suitable for outdoor use
- The induction panel is gold-plated and has strong oxidation resistance, is with 45 degree design for being drying easily
- Made by low-power and high-speed CMOS technology
- Strong anti-interference ability
- Wireless signal can pass through walls, floors and doors
- Paired with Linkayl receiver

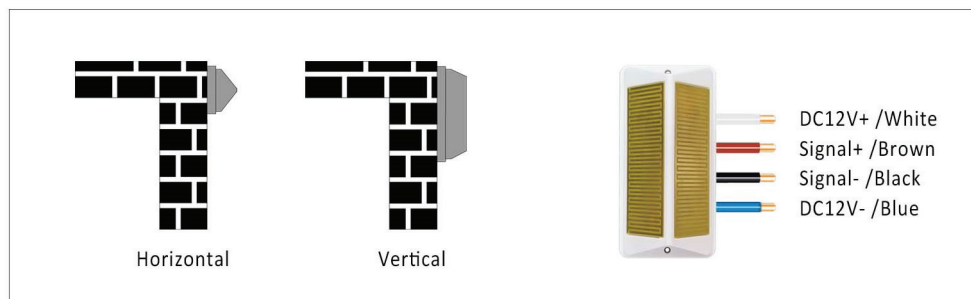
Specification

Model	Working Voltage	Working Current	Frequency	Remote Distance	Battery	Size
LK-RS001	DC12V	$\leq 10\text{mA}$	-	-	-	100*50*33mm
LK-RS002	DC9V	$\leq 10\text{mA}$	433.92MHz	$\leq 50\text{m}$	6F22 9V	100*50*33mm

Operation Description

- Matching code: Power controller on, press [STOP] on the controller for 5 seconds, press [KEY] on the sensor in 15 seconds, LED flashes 3 times, codes are matched
- Clearing code: Power controller on, press [STOP] on the controller for 5 seconds, touch the sensor panel in 15 seconds, LED flashes 3 times, code is cleared

Installation



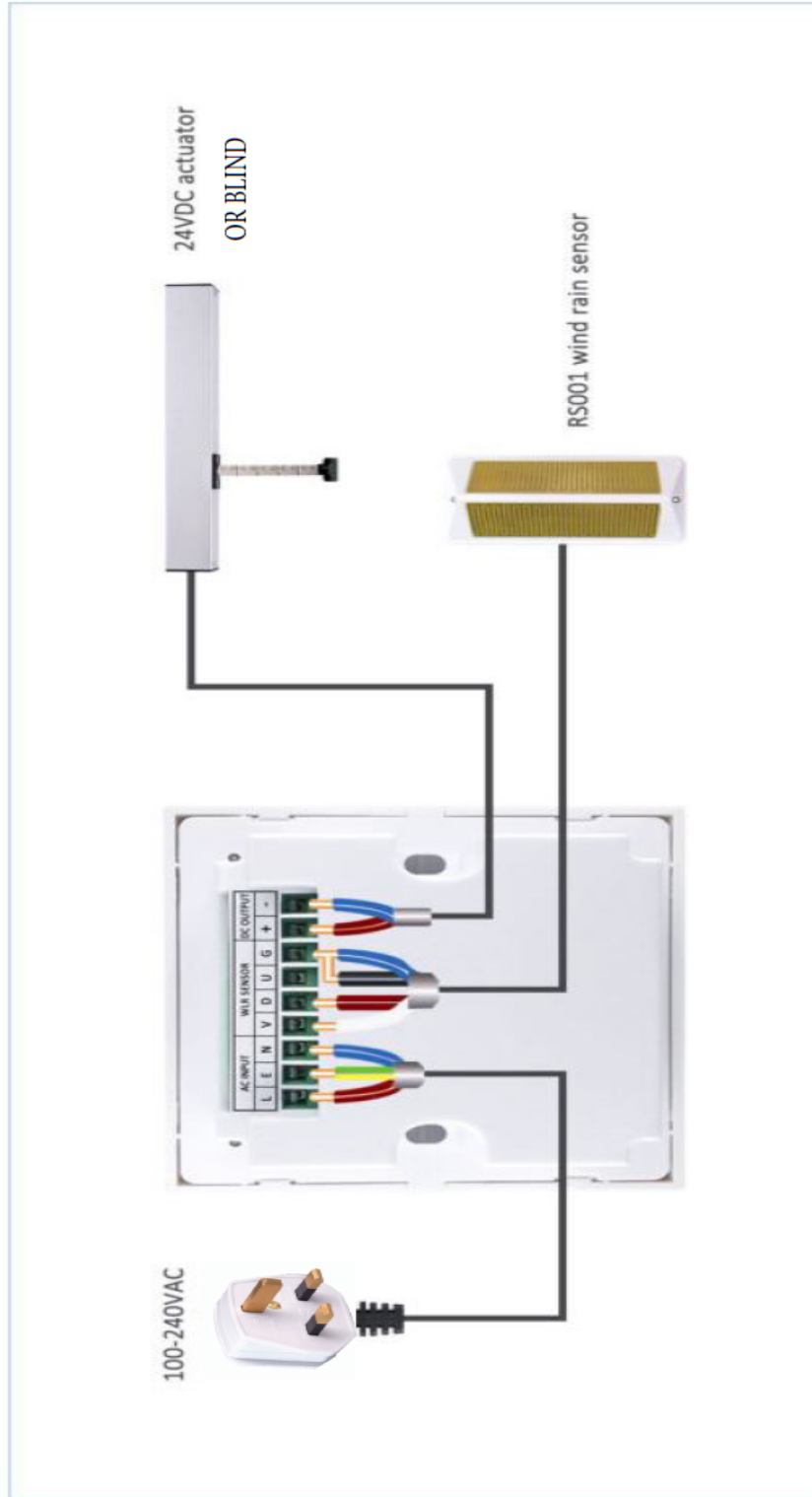
Solution



Replacing Battery

- Use a screwdriver to open the bottom cover, remove the old battery, install a new one, and re-tighten the cover
- Please put the used battery in the appointed place

LK-MR513/533/523



LK-MR52X Wi-Fi Actuator Controller



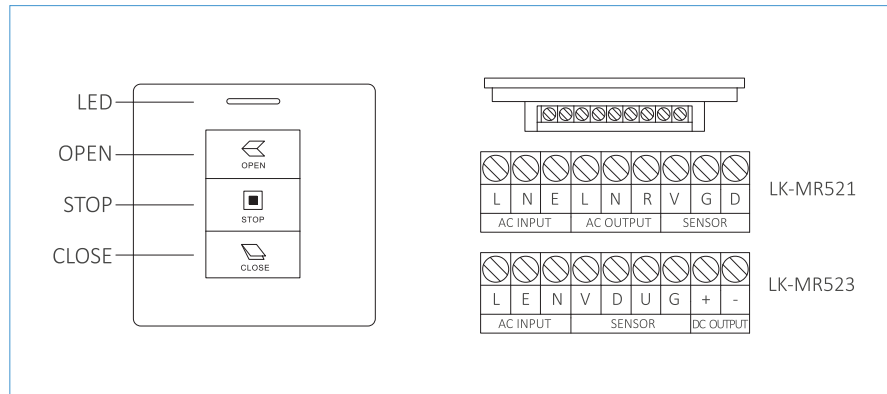
■ Feature

- Wi-Fi APP available for IOS and Android
- Touch screen manual control
- 433MHz RF remote control, can pair with all LinkAYL remote
- Can be controlled by external sensor, such as rain sensor or smoke sensor
- Can store 8 transmitter signals
- Motor protection, cutting power off automatically in 5 minutes
- Standard 86 type, easy to install
- Working temperature is -10~+65°C

■ Ordering code

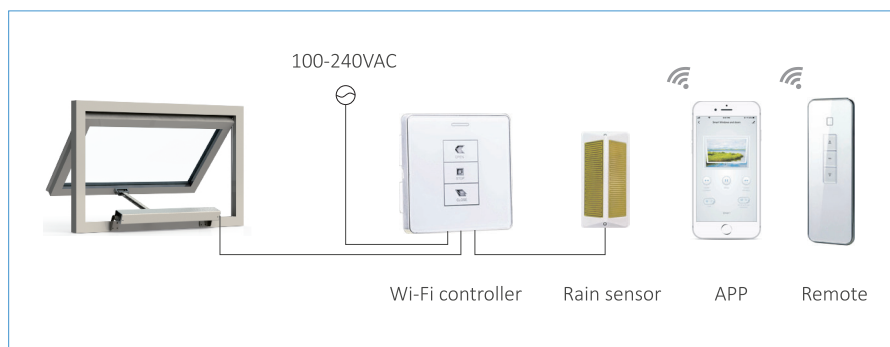
Model	Vin	Vout	Iout	Frequency	Sensitivity	Size
LK-MR521	100-240VAC	100-240VAC	0.2A	433.92MHz	-100dBm	86*86*35mm
LK-MR523	100-240VAC	24VDC	3A	433.92MHz	-100dBm	86*86*35mm

- Button & terminal



AC Input		AC Output		DC Output		Sensor	
L	Live Wire	L	Forward	+	24VDC Positive	V	12VDC+
N	Null Wire	R	Reverse	-	24VDC Negative	D	Down
E	Earth Wire	N	Neutral			U	Up
						G	Com

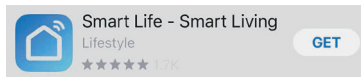
■ Solution



LK-MR52X Wi-Fi Actuator Controller

■ WiFi APP control

- ☐ Download APP Smart Life on Google Play (Android Market) or Apple App Store



- ☐ Pair the controller with mobile phone
 - Power the controller on, please place your router, mobile phone, and controller as close as possible
 - Open APP Smart Life on your phone
 - Register an account with a mobile number, set a login password. if you have registered an account, please enter your account and password to log in directly
 - Enter the main interface of APP, click Add Device, Small Home Appliances, Door/Window
 - Click Confirm indicator rapidly blink
 - Enter Wi-Fi Password
 - Keep pressing STOP on the controller for 8 seconds, red LEDs rapidly blink
 - Click Confirm to register controller to smart cloud and initialize controller
 - Controller added successfully click Done
- ☐ Control the window via APP
 - Press Open Stop Close to control window
 - User-defined time to Open Close window
 - Third party control by Alexa, IFTTT, Tmall Genie, DuerOS, Rokid in some countries or regions

■ RF remote control

- ☐ Matching code
 - Power the controller on, press STOP on the controller for 5 seconds
 - Press UP on the remote within 15 seconds
 - Codes are matched after LED flashes 3 times
- ☐ Clearing single code
 - Power the controller on, press STOP on the controller for 5 seconds
 - Press DOWN on the remote within 15 seconds
 - Code is cleared after LED flashes 3 times

□ Clearing all codes

- Power the controller on, press STOP and CLOSE on the controller for 5 seconds
- All the codes are deleted after LED flashes 3 times

□ Changing direction

- Power the controller on, press OPEN and CLOSE on the controller for 5 seconds
- Directions are changed after LED flashes 3 times

□ Inching mode

- Power the controller on, press OPEN and STOP on the controller for 5 seconds
- Setting is ok after LED flashes 3 times
- Repeat the action, it turns to normal mode
- It can work continuously when pressing the OPEN or CLOSE for more than 1.5 seconds

■ Installation note

- Please observe the following provisions in accord with standard of effective power
- Do not use metal objects to touch or shade the receiver, avoid the interference of receiving signals
- Transmit distance: 50 meters without obstacle, 20 meters through wall
- The installation distance between the receiver and ground, between the receiver and the ceiling is more than 1.5 m, between two receivers is more than 0.2 m
- The main power supply must be cut off before installing wiring
- In order to prevent electrostatic interference, must ensure that the receiver is effectively grounded
- After the installation, ensure that the receiver and cable are not affected by tension

■ Troubleshooting

No.	Symptom	Solution
1	LED flashes, receiver shut down	1. Check the connection of wires 2. Check the receiver setting
2	LED on the transmitter is off or weak	1. Make sure the right installation of the battery 2. Change the battery
3	The transmitter and the receiver work well, the motor does not work	1. Check the wiring of motor 2. Make sure the motor no failure



LK-CP64X CONTROL PANEL (6A)



Feature

- Used in window opener, curtain motor and door opener 24V DC motor control
- Power indicator/reset, Open/Stop/Close & channel selection buttons
- Built-in DC24V/6A switching power supply
- AC100V-240V international wide voltage input
- Single Channel, dual Channel and 4 channel outputs
- Cascade with LK-FP3, LK-CP6/CP7/CP8 control panel that achieves windows of zone control and group control
- Can handle external input signal of Manual Switch, Remote Control, Timer Smoke/Gas/ Rain /Temperature & Humidity Sensors
- Output fire feedback signal to fire centre
- Compatible with all Linkayl remote
- Inching mode and continued-run mode settable
- With stroke memory function

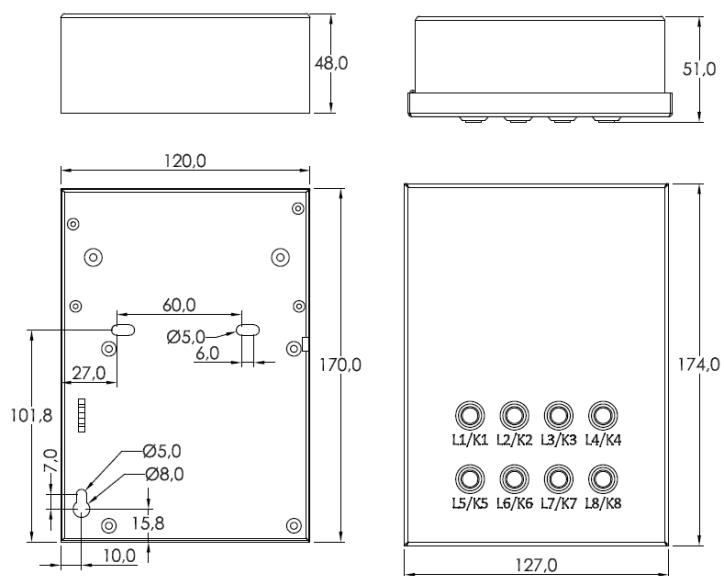
Ordering Code

Model	Power (W)	Control Method	Input Volt (V)	Output Volt (V)	Temp (°C)	Size (mm)
LK-CP641	144	1 way single	AC100-240	DC24	-10 ~ +45	174(L) 127(W) 51(H)
LK-CP642	144	2 way single/group				
LK-CP644	144	4 way single/group				

Application

Model	LK-SCE-D	LK-LCD	LK-TC	LK-L	LK-L-S	LK-L38A 1000N	LK-L38A 1500N
LK-CP641	6	4	2	4	4	4	2
LK-CP642	6	4	2	4	4	4	2
LK-CP644	6	4	2	4	4	4	2

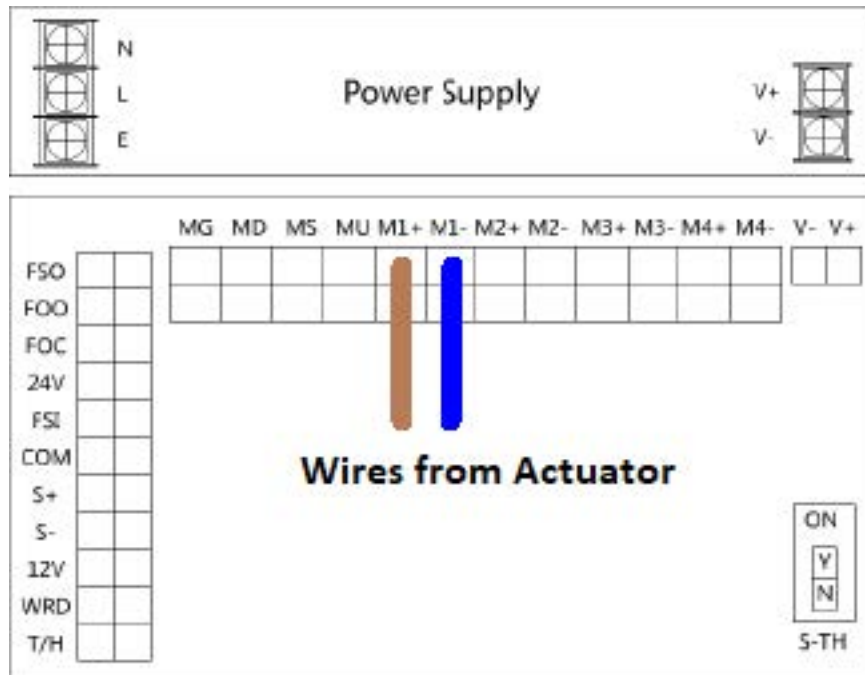
Dimension



LED/KEY

LED/KEY	Color	Status	Function
L1 / K1	Blue	On / Off	AC power indicator, Reset
L2 / K2	Green	On / Off / Flash	Open
L3 / K3	Red	On / Off	Stop
L4 / K4	Yellow	On / Off	Close
L5 / K5	Blue	On / Off	Channel 1
L6 / K6	Blue	On / Off	Channel 2
L7 / K7	Blue	On / Off	Channel 3
L8 / K8	Blue	On / Off	Channel 4

Wiring



Symbol	Description	Symbol	Description
L	AC live wire	FSO	Fire signal output
N	AC null wire	FOO	Fire output NO
E	AC earth wire	FOC	Fire output NC
V+	DC24V positive	24V	DC24V output
V-	DC24V negative	FSI	Fire signal input
MX+	DC24V motor positive	COM	Sensor COM
MX--	DC24V motor negative	S+	Slave control up
MU	Manual switch up	S-	Slave control down
MS	Manual switch stop	12V	DC12V+
MD	Manual switch down	WRD	Rain sensor down
MG	Manual switch GND	T /H	T/H signal

Control Mode

- Controller has inching mode and continued-run mode which is default
- In the continued-run mode, press the up / down key less than 1.5 seconds, the motor will run continuously, press the up / down key more than 1.5 seconds, the motor will stop after running a very short moment
- In the inching mode, press the up / down key less than 1.5 seconds, the motor will stop after running a very short moment, press the up / down key more than 1.5 seconds, the motor will run continuously
- Only the manual buttons on the panel, manual switch, remote control and cascade signal have inching mode
- Keep pressing both of UP and STOP button on the controller for 5 seconds, LEDs flash 3 times and turn off it's inching mode for the controller, repeat the operation the controller turns to continued-run mode

Manual control

- After power on all the LEDs light for 1 second and turn off, the power indicator LED normally on
- Press reset button, all the LEDs light for 1 second and turn off, reset successfully
- L2 will be explosion-flashing after controller receives fire signal
- External manual switch is equivalent to controller panel switch
- The maximum running time of the motor is 5 minutes
- The motor up / down switching time is 500ms

Group Control

- By default, L1 is normally on, the rest LEDs are off as group control status
- Press UP button, the windows open, LED turns on, turns off after 5 seconds
- Press DOWN button, the windows close, LED turns on, turns off after 5 seconds
- Press STOP button, the motors stop, LED turns on, LED turns off after 1 second

Single Channel Control

- Press channel selection keys the corresponding LED lights, channel selected
- Press the channel selection button again or no operation on controller thin 10 seconds, LED turns off, channel unselected
- In the process of opening/closing the current window, you can select another channel(s) to drive the window

Remote control

- The controller encodes by 433MHz learning code, can store 10 sets of transmission codes
- The controller defaults to multiple channel, single channel controller has the same way as multiple channel one

Matching Code

- Power the controller on, choose the channel(s) you want to set, can be set to any combination of channel 1-4
- Pressing STOP button on controller for 5 seconds, LED flashes 3 times and turns off
- Choose the channel you want to set on the remote, press [UP] within 15 seconds
- LED flashes 3 times and turns off, code matched successfully

Clearing Single Code

- Power the controller on
- Keep pressing STOP key on the controller for 5S, LED flashes 3 times and turns off
- Press DOWN button on the remote within 15 seconds
- LED flashes 3 times and turns off, code cleared successfully

Clearing All Codes

- Power controller on, pressing STOP & DOWN button on the controller for 5 seconds
- LEDs flash 3 times and turn off, all the codes will be deleted after this operation

Signal Control

- Manual signal. Control the window by the buttons on itself, external dry contact manual switch and RF remote
- Cascaded signal. As a master controller sends signal to the slave controller, can also be used as slave controller to receive the signal from the master controller to drive the window
- Fire signal. Capable of receiving a signal from fire center, smoke sensor, gas detector open the window automatically, send feedback signal to fire centre
- Rain signal. After receiving the signal of rain sensor close the window
- Temperature/humidity signal. Control the window by processing external temperature/humidity sensor

Signal and Priority

Priority	1	2	3	4
Signal	Manual Signal	Fire Signal	W/R Signal	T/H Signal
Device	Panel buttons Manual switch Remote Master controller	Smoke sensor Gas detector	Wired rain sensor	temperature sensor humidity sensor

Reset and Shielding

- After manual signal processed controller resets & receives input signal in real time
- After processing the signal from fire centre, smoke sensor or gas detector, the controller immediately shields all the input signals, the controller must be reset by pressing K1 manually.
- After wired rain sensor signal processed, the controller shields lower priority signal, only receives the higher priority signal until reset or manual signal processed
- After T&H sensor signal processed, the controller is in the reset state
- **If the controller is not connected to a temperature and humidity sensor, the T/H port must be shielded (put option switch option 3 to “Y” position), otherwise it will affect the control of other input signal**

Cascaded Control

- Can be used as a master controller, a slave controller or play a dual role of master & slave controller at the same time.
- As a master controller, connects to the motors or slave controllers to drive them
- As a slave controller, input terminals S+ and S- are connected to the output terminals M+ and M- of the master controller to receive the instructions to drive motors, or drive the motors independently
- Play a dual role of master & slave controller, not only controlled by higher-level controller, but also drive motors or lower-level controllers independently
- No matter master, slave or both, it can process all the external signals such as manual switch, remote and sensors
- **Cascade use of the controller, if the master controller connected to an external sensor (such as smoke sensor, wind and rain sensor, etc.), the slave controller MUST NOT use inching mode, in case the master controller received the smoke signal to open the window, the slave controller will open the window for a very short moment and stop**

Stroke Memory

- The controller can set and memorize the opening stroke. Upon the stroke set, the window opening signal is triggered once, the motor will run the memorized stroke one time
- The default memorized stroke runs for 5 minutes
- Press the up and down keys on the controller for 3 seconds, LEDs flash 3 times and off, successfully entered the stroke memory setting state
- In the stroke memory setting state, the manual keys are forced to the continued-run mode, the remote control keys are forced to the inching mode
- Select the channel(S) to be set, the default is all selected, all the channel indicators light. Press the channel selection key(S), the indicators light, press the channel selection key(S) again the indicator is off, it is deselected. The setting is invalid without operation in 15 seconds
- After the channel selected, determine the stroke that needs to be memorized by pressing the manual key or the remote control key by moving or jogging

- The memorized stroke can be set to one channel or any combination of channel
- After the memorized strokes determined, turn on all the channel indicators for setting the memorized stroke. Press the up and down keys on the controller for 3 seconds, LEDs flash 5 times and off, the memorized strokes of all channels set successfully and exit the stroke memory setting state, manual buttons and remote control buttons restored to the original mode
- In stroke memory setting state, no operation is performed within 15 seconds, LEDs flash 3 times slowly and off, the stroke memory setting state is automatically exited, and the last memorized stroke is retained
- Stroke memory can be set repeatedly. The controller only retains the last successful stroke value and automatically clears the previous one
- In stroke memory setting state, press up and down buttons on the controller for 3 seconds LEDs flash 3 times the memorized stroke is deleted and restored to the default output for 5 minutes
- When the memorized strokes of master controller and slave controller are not the same, the master controller will run its own memorized stroke. The slave controller will run the shorter stroke when it receives the cascade signal from the master controller
- The memorized stroke set for each channel is retained in case the controller is powered down or reset
- When closing the window, the output time is 5 minutes

Installation instruction

- Please read the following instructions carefully before installing this product
- The control system must be installed by the professional
- The main power must be cut off before wiring to ensure safe operation
- Control panel cannot be installed outdoors
- Maximum output power MUST NOT exceed the total rated power of the controller
- Do not use metal objects to touch or cover the controller, otherwise it will affect the remote control signal reception
- The maximum transmission distance of the wireless signal can reach 50 meters or more in the open condition

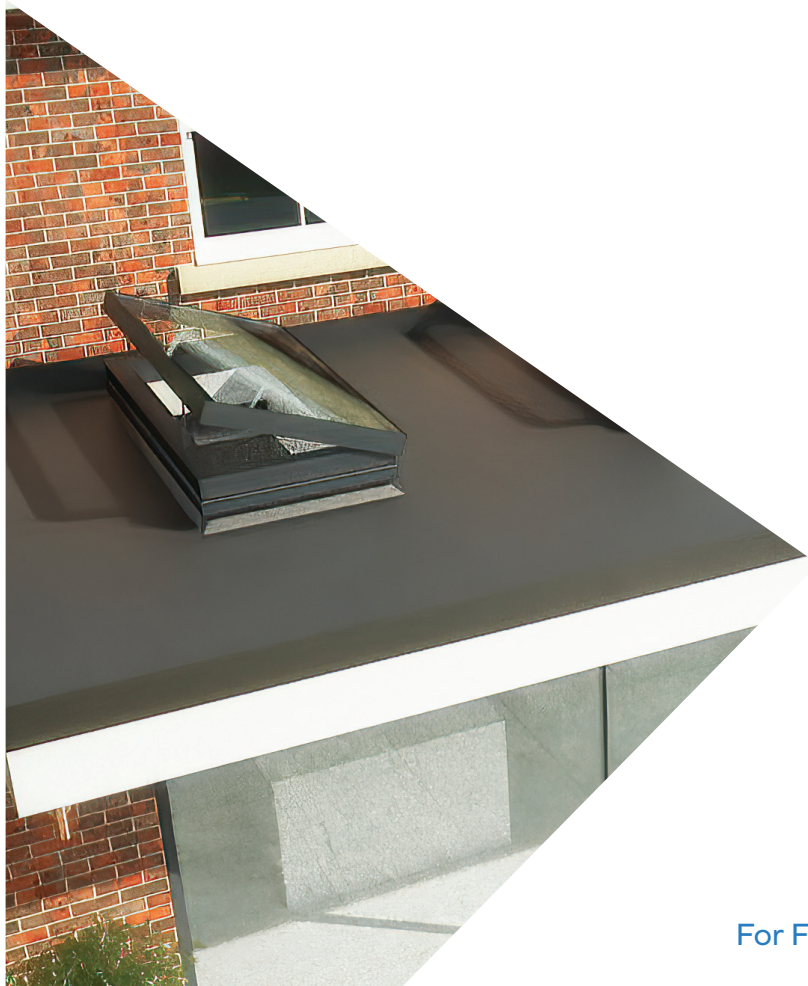
- The distance between the controller and ground should be more than 1.5 meters
- The distance between the controller and ceiling should be more than 0.3 meters
- The distance between the controller and motor should be more than 1.5 meters
- Avoid static interference and prevent static damage to electronic components
- Please use the soft wire and cable, after installation ensure that the cable carrier is not affected by the longitudinal tension
- An external sensor must use a product that is compatible with this controller
- Non-professionals is not allowed to disassemble the controller. If any function is abnormal, please contact your local dealer

Troubleshooting

No.	Symptom	Solution
1	LED flashes, receiver shut down	1. Check the connection of wires 2. Check the receiver setting
2	LED on the transmitter is off or weak	1. Make sure the right installation of the battery. 2. Change the battery
3	The transmitter and the receiver work well, the motor does not work	1. Check the wiring of motor 2. Make sure the motor no failure

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For Flatglass Rooflights
& Glazing Systems



v3 December 2021