SAFETY NOTE

1. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
2. Children shall not play with the appliance.
3. Cleaning and user maintenance shall not be made by children without supervision.
4. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
5. WARNING: the drive shall be disconnected from its power source during cleaning, maintenance and when replacing parts.
6. The instructions shall state that the A-weighted emis sion sound pressure level of the drive is equal to or less than 70 dB(A), e.g. by writing LpA ≤ 70 dB(A).
7. The mass and the dimension of the driven part shall be compatible with the rated torque and rated operating time.
8. The type of driven part the drive is intended for.
9. WARNING: Important safety instructions. It is important for the safety of persons to follow these instructions. Save these instructions.
10. Do not allow children to play with fixed controls. Keep remote controls away from children.
11. Frequently examine the installation for imbalance and signs of wear or damage to cables and springs. Do not use if repair or adjustment is necessary.
12. Watch the moving shutter and keep people away until the shutter is completely closed.
13. WARNING: Important safety instructions. Follow all instructions, since incorrect installation can lead to severe injury.
14. Before installing the drive, remove any unnecessary cords and disable any equipment not needed for powered operation.

Li-ion

Do not dispose of in general waste.
Please recycle batteries and damaged electrical products appropriately.

Features

- Built-in Receiver
- Jog & Tilt
- Adjust Limits
- DC Power Supply
- Reset to Factory Mode
- Switch Direction
- Stall Protection
- Program Button
- Built-in Lithium Battery
- Electronic Limit
- Preferred Stop Position
- Speed Regulation
- Radio Lock

Fields of Application

The motor is suitable for motorized roller blinds.

Specifications

Working temperature (charging): 0℃ ~ +45℃	Working temperature (discharge): 0℃ ~ +50℃
Working Voltage: DC 7.0V~8.4V	Radio Frequency: 433.92MHz
Input Voltage: USB 5V 1A / USB 5V 2A	Maximum Running Time: 6 minutes

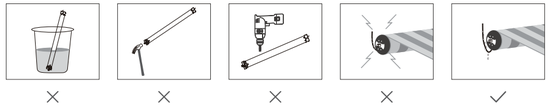
Following data for reference

Model	Rated Torque (N.m)	Rated Speed (rpm)
DM20LEU/S-0.5/28	0.5	28

* For reference only.

Attention

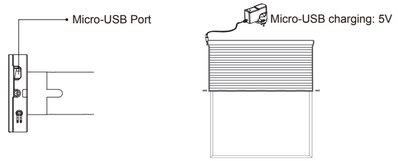
Never drop, knock, drill or submerge the motor. Keep the power cable in right position as following.
Important safety instructions to be read before installation.
Incorrect installation can lead to serious injury and will void manufacturer's liability and warranty.



Description Of LED

Green LED	When the battery voltage is less than 8.2V, the green LED will flash for 0.5s
	When the battery voltage is higher than 8.2V, green LED is always ON
Red LED	When the battery voltage is less than 7.0V, the motor will alarm when the motor run continuously, the buzzer will beep 10 times and red LED will flash 10 times
	Press P1 shortly, if red LED flashes twice, the motor is in the deep sleep status

Charging Instructions



This motor has a 8V built in Li-ion battery pack with integrated charge management.
Max power input for recharging: 5V 2A.
Before first use please charge motor for 6 hours. Using 5V charger (most phones charger is 5V) .
During operation, motor will stop running when the voltage is lower than 6.5V and it will resume again when the voltage is higher than 7.0V.
When the battery voltage is lower than 7.0V, the motor will alarm when the motor is running continuously, the buzzer will beep 10 times, and Red LED will flash 10 times

Rechargeable Battery

During operation, if the red LED flashes, pls charge the battery

When the battery is charging, the green LED flashes

If the LED is always green, the battery has been fully charged

Caution

1. Do not expose motor to humid or extreme temperature conditions.
2. Do not drill into motor.
3. Do not cut the antenna and keep it clear from metal objects.
4. Do not allow children to play with this device.
5. If power cable or connector is damaged, do not use.
6. Ensure correct crown and drive adaptor are used.
7. Ensure power cable and aerial is clear and protected from moving parts.
8. Cable routed through walls shall be properly isolated.
9. Motor is to be mounted in horizontal position only.
10. Before installation, remove unnecessary cords and disable equipment not needed for powered operation.
11. Installation and programming to be performed by a qualified professional, use or modification outside the scope of this instruction may void warranty.

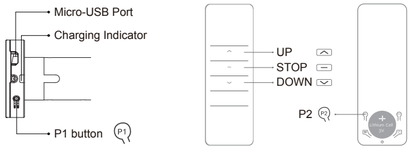
Important Safety Instructions To Be Read Prior To Operation.

Setting Notice

Please read following points of attention carefully before setting.

1. Don't operate motors when low voltage alarm.
   When the motor stops, when voltage is lower than 6.8V, it is prohibited to start, and can only start again when the voltage is higher than 7.0V.
   When the motor is running, when voltage is lower than 6.5V, the motor stops, and can only start again when the voltage is greater than 7.0V.
   When voltage is lower than 7.0V, the motor will alarm when the motor is running continuously, the buzzer will beep 10 times, and Red LED will flash 10 times.
   When voltage is lower than 6.0V, the motor stops beeping, and starts again when the voltage is higher than 6.1V.
2. Operating:
   ①The valid interval of the emitter button is 10S, the emitter will quit the set after 10S.
   ②The motor will jog and flash for hint, please do the next step after the hint.
3. Set the limit position:
   ①After the upper / lower limit setting, and the upper / lower limit positin can't at the same position.
   ②After the limit setting, with power off and memory function.
   ③Limit delete will clear all limit memory.
   ④It will exit limit setting when program there is no operation for 2 minutes.
4. If the emitter lost, please set up again with the new emitter.
5. One motor can store maximum 10 channels; after fully stored, if pair new channels, only the last one will be covered circularly.

Button Instructions



Functions of P1 button

1. Cycle Operation: Press P1 button once and every press the motor will run upward → stop → downward → stop, cycle in turn.
2. Pairing or Pair/Unpair Additional Emitter: Press and hold P1 button for 2S, the motor will jog once, release button and beep once, motor is ready for pairing or pair/unpair additional emitter.
3. Radio Lock: Press and hold P1 button for 6S, the motor will jog twice, release button and beep twice, the motor enters radio lock status, the motor won't receive any signal; press P1 button once to disable Radio Lock.
4. Switch Direction: Press and hold P1 button for 10S, the motor will jog 3 times, release button and beep 3 times, the running direction of the motor has been changed.
5. Reset to Factory Mode: Press and hold P1 button for 14S, the motor will jog 4 times, release button and beep 4 times, the motor has been reset to factory mode. At this point the motor will go into deep sleep. After entering deep sleep, the motor can't be controlled. At this time, you need to press P1 button for 2S and then the motor jogs to prompt to exit deep sleep; Red LED of limit head will flash twice if Short press P1 button after the motor is in the sleeping status.

Essential Settings
The steps in factory mode must be completed to ensure proper operation.

Factory mode

1 Pairing

P1 STOP

Press P1 button for 2S (1 jog), release button and beep once, or re-power (1 jog and 1 beep), within 10 seconds, press STOP for 2S (2 jogs and 3 beeps), the motor has been paired successfully.

* If the STOP button is not pressed within 10S, the motor will automatically exit the paring mode.

2 Switch Rotating Direction (Optional)

If press UP, the motor runs downward, try below to switch direction

UP + DOWN

Press and hold UP and DOWN buttons simultaneously for 2S, motor jog once, the direction has been switched successfully.

* The operation is only valid when there is no limits. If the motor has already set the upper and lower limit, then you can only switch direction by P1 button.

3 Upper and Lower Limits Setting

1 Set upper limit

UP → UP + STOP

Press UP for 2S, operate the motor to desired upper limit position, press and hold UP and STOP buttons simultaneously for 2S (2 jogs and 3 beeps), upper limit is set.

2 Set lower limit

DOWN → DOWN + STOP

Press DOWN for 2S, operate the motor to desired lower limit position, press and hold DOWN and STOP buttons simultaneously for 2S (2 jogs and 3 beeps), lower limit is set.

* Upper and lower limit position cannot be set at the same position. If exit the limits setting status before you finish the limit setting, then the motor will take the previous limits if has. After the limits have been set successfully, the motor will enter the user mode.

User mode

1 The Preferred Position

1 Set preferred position

P2 → STOP → STOP

Check both upper and lower limits are set. Operate the product to desired preferred position. Press P2 (1 jog and 1 beep), press STOP(1 jog and 1 beep), STOP again (2 jogs and 3 beeps), the preferred position is set.

* After the preferred position is set, if the motor is not at the preferred position, press STOP button for 2S, the motor will automatically run to the preferred position.
Roller systems: When the motor is in continuous operation mode, long press STOP button, the motor will run directly from the current position to the preferred position.
Venetian blind system: When the motor is in the jog mode, long press STOP button, the motor will first run from the current position to the lower limit position, and then from the lower limit position to the preferred position.

2 Delete preferred position

P2 → STOP → STOP

Press P2 (1 jog and 1 beep), press STOP (1 jog and 1 beep), STOP again (1 jog and make a long noise), the preferred position is deleted.

2 Jog Mode & Running Mode Switch

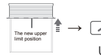
UP + DOWN → STOP

Press and hold UP and DOWN buttons simultaneously for 5S (1 jog), press STOP (1 jog and make a long noise), switch to jog mode. If motor jog twice and beep 3 times, switch to running mode.

* When in jog mode, press UP or DOWN once, the motor will be jog running, if press more than 2S, the motor will be continously running.

3 Adjust Limits

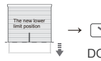
1 Adjusting the upper limit

UP + STOP → UP or DOWN → 

→ UP + STOP

Press and hold UP and STOP buttons for 5S (1 jog and make a long noise), operate the product to desired new upper limit position, press and hold UP and STOP buttons for 2S (2 jogs and 3 beeps), the new upper limit is programmed successfully.

2 Adjusting the lower limit

DOWN + STOP → UP or DOWN → 

→ DOWN + STOP

Press and hold DOWN and STOP buttons for 5S (1 jog and make a long noise), operate the product to desired new lower limit position, press and hold DOWN and STOP buttons for 2S (2 jogs and 3 beeps), the new lower limit is programmed successfully.

* After entering the limits fine tuning mode, the original preferred position will not be deleted. If there is no button operation within 2 minutes, it will arrive within 2 minutes, and the motor will jog to prompt, and automatically exit the limit adjustment mode. Hold P1 over 2S to exit limit adjustment mode. After adjusting, the upper and lower limit position cannot be in the same position.

4 Pair / Unpair Additional Emitter

Method one

P2(a) → P2(a) → P2(b)

Press P2 (1 jog and 1 beep) and P2 (1 jog and 1 beep) on existing emitter, press P2 on new emitter to add (2 jogs and 3 beeps), new emitter is paired to the motor.

• *Repeat same procedure will unpair additional emitter.*

Method two

P2(a) → P2(a) → STOP(b)

Press P2 (1 jog and 1 beep) and P2 (1 jog and 1 beep) on existing emitter, press STOP on new emitter for 2S to add (2 jogs and 3 beeps), new emitter is paired to the motor.

Method three

P1 → STOP(b)

Press P1 button for 2S (1 jog), release button and beep once, press STOP on new emitter for 2S to add (2 jogs and 3 beeps), new emitter is paired to the motor.

• *Repeat same procedure will unpair additional emitter.*

* (a) as existing emitter, (b) as new emitter to pair/unpair.
All the setting of the motor will be kept after addiing the new emitter.

5 Speed Regulation / Setting Motor Slow Stop Operation Mode

1 Acceleration setting / Activate the motor slow stop operation mode

P2 → UP → UP

Press P2 (1 jog and 1 beep), UP (1 jog and 1 beep), UP again (2 jogs and 1 beep), the motor running speed is accelerated. When the motor is at the Max. speed, the motor will jog once and make a long noise after the last operation, and the motor slow stop operation mode is activated.

2 Deceleration setting / Deactivate the motor slow stop operation mode

P2 → DOWN → DOWN

Press P2 (1 jog and 1 beep), DOWN (1 jog and 1 beep), DOWN again (2 jogs and 1 beep), the motor running speed is decelerated. When the motor is at the Min. speed, the motor will jog once and beep once after the last operation, and the motor slow stop operation mode is deactivated.

* The motor has 3 speed levels, the Max. speed: 36RPM; the Med. speed: 28RPM; the Min. speed: 20RPM.
the factory default is 20RPM, slow stop mode (only works after the limits setting).

Quick Index

	Settings	Steps	
1	Pairing	P1 (hold down 2s) → Stop (hold down 2s)	
2	Switch Rotating Direction	Up + Down (hold down 2s)	
3	Upper and Lower Limits Setting	1 Set upper limit	Up (hold down 2s) → Up + Stop (hold down 2s)
		2 Set lower limit	Down (hold down 2s) → Down + Stop (hold down 2s)
4	Add / Delete Preferred Position	P2 → Stop → Stop	
5	Jog Mode & Running Mode Switch	Up + Down (hold down 5s) → Stop	
6	Adjust Limits	1 Adjusting the upper limit	Up + Stop (hold down 5s) → Up or Down → Up + Stop (hold down 2s)
		2 Adjusting the lower limit	Down + Stop (hold down 5s) → Up or Down→ Down + Stop (hold down 2s)
7	Pair / Unpair Additional Emitter	1 Pair / Unpair one Additional Emitter	P2(a) → P2 (a) → P2(b)
		2 Pair one Additional Emitter	P2(a) → P2 (a) → Stop (b) (hold down 2s)
		3 Pair / Unpair one Additional Emitter	P1 (hold down 2s) → Stop (b) (hold down 2s)
8	Speed Regulation / Setting Motor Slow Stop Operation Mode	1 Acceleration setting / Activate the motor slow stop operation mode	P2 → Up → Up
		2 Deceleration setting / Deactivate the motor slow stop operation mode	P2 → Down → Down

Troubleshooting

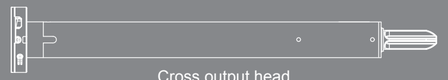
Issues	Possible causes	Solution
The motor has no response	Power Failure Or Incorrect Connection	Double check power and cable connections, follow wiring instructions.
	Emitter battery is low capacity	Replace battery
	Radio interference / shielding	Check antenna on motor is intact and exposed. Check for possible source of radio interference.
	Out of radio control range	Try control within closer range
The emitter cann't control single motor	Multiple motors are paired to the same channel.	Pair single motor with emitter correctly
		Try to use multi-channel emitters to control multi-motor projects, ensure each channel to control one single motor
The motor doesn't run or starts too slowly or make loud noise	Connections are incorrect.	Check connections
	Installation is improper or overload	Check installation or overload
The motor stops during the up and down running	The motor has reached the lower limit	Adjust the new lower limit
	The running time more than 6min	Let the motor cool down for about 20 minutes

Caution
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.
Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

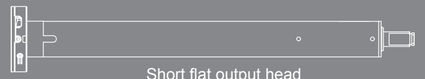
Radio+

DM20LEU/S

Instruction | A-01



Cross output head



Short flat output head