Manuals+ — User Manuals Simplified.

merrytek MC054V- RC- 2A Lighting Control Switch User Manual

Contents

merrytek MC054V- RC- 2A Lighting Control Switch

Features

- Operating vol tage 120~277V AC, suit able to Euro & North American market.
- Patented microwave antenna, mounting height is 15m Max, suitable to install in most of the warehouses.
- Supports high-sensitivity and low-sensitivity modes (for metal ceilings, metal reflector mounting environments)
- Work with 1-10V dimmable LED driver, easy to achieve 2-step or 3-step dimming function.
- New patented remote control to adjust the transmitting angle to avoid misuse.
- 5 years warranty

MC054V RC2 A

MC054V RC2 B

MC054V RC2 C

MC054V RC2 D

Parameter

Input	Operating Voltage Rage	108-305V AC, 50Hz/60Hz
	DC Input Voltage	N/A
	Rated Voltage	120/277Vac,60Hz
	No-load Power	N/A
	Stand-by Power	<1W
	Surge Test	L–N: 1kV
Output	Working Mode	ON/OFF function, 1-10V step dimming
	Type of Load	Inductive or resistive Load
	Load Capacity	120VAC: 4A; 277VAC: 3A
	Current of Load	N/A
	Max. Surge Capacity	50A (50% Ipeak, twidth =500uS, 230Vac full load, cold start); 80A (50% Ipeak, twidth =200uS, 230Vac, full load, cold start)
Dim Interface	1-10V Dimming	< 50mA Non-constant source 10%(1.4-1.6V), 20%(1.9-2.1V), 30%(2.9-3.1V), 50% (4.9-5.1V)
	Synchronous Control	N/A
	High Low-level	N/A
	PWM Control	N/A
Sensor Parameters	Operating Frequency	5.8 GHz ±75 MHz, ISM Band.
	Transmitting power	0.5mW Max.

	Hold time	5s/30s/1min/3min/5min/10min/20min/30min
	Stand-by DIM Level	10%/20%/30%/50%
	Stand-by Period	0s/10s/1min/3min/5min/10min/30min/+∞
	Detection Area	25%/50%/75%/100%
		5lux/15lux/30lux/50lux/100lux/150lux/Disable (Ambient light diffusion)
	Detecting Radius	See note 2
	Mounting Height	15m Max
	Detecting Angle	150°(wall mounting), 360°(ceiling mounting)
	Operating Frequency	N/A
	Transmitting power	N/A

| Wireless Module	Transmitting distance	N/A
	Modulation mode	N/A
	Number of coding	N/A
Operating Environment	Operating Temperature	-35℃…+55℃
	Storage Temperature	Temperature:-40℃…+80℃;Humidity:10%-95% (non-condensing)
Certificate Standards	Safety standards	IEC60669-2-1, IEC60669-1 AS/NZS 60669.1, AS/NZS 60669.2.1 UL60730-1
	EMC standards	EN55015, EN61000-3-2, EN61000-3-3, EN61547 AS/NZS CISPR 15, AS/NZS 4268 FCC Part 15C, Part 15B EN 60950-1, EN301489-1, EN 201489-3, EN300440
	Environmental Requirement	Compliant to RoHS
	Certificate	cULus, CE, SAA, FCC, RED
Others	Wiring	SJTW,5*18AWG (USA); H05RR-F,5*18AWG (Europe,Australia) exposed line length: 810-830mm
	Wiring color	Sheath: Black　　Core: Red,White,Black,Gray,Purple (US); blue, brown, red, purple,Gray (Europe, Australia)
	IP Rating	IP65
	Protection Class	Class II
	Installation	Independent
	Dimension	(ΦxH)72*59mm
	Package	Instruction+ White box+ White box tags+ Clapboard+ Carton(K=A)
	Net Weight	MC054V RC A: 225g, MC054V RC B:246g, MC054V RC C:225g , MC054V RC D:165g
	Lifetime	5 years warranty @Ta 230V full load

Note

1. "N/A" means not available.
2. Detection area is affected on the volume of moving object and motion speed.
3. The detection area is tested by a 165cm height person and the walking speed is 0.5m/s.
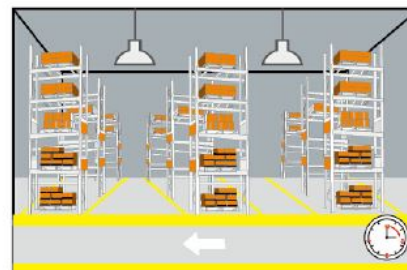
FUNCTION

Func tion1) On/OFF Function (stand-by period be set to "0"s)
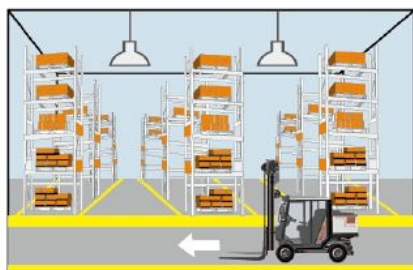
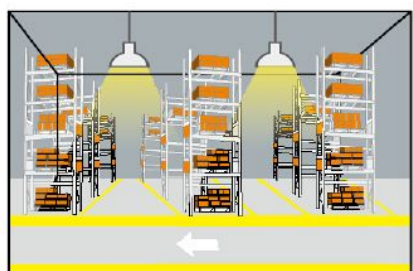① With sufficient ambient light, the light will not be switched on even if with motion signal.
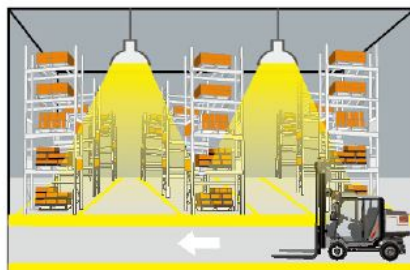
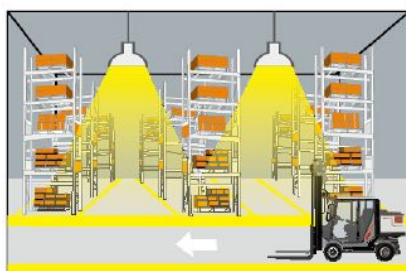② With insufficient ambient light, the sensor switches on the light when motion is detected.

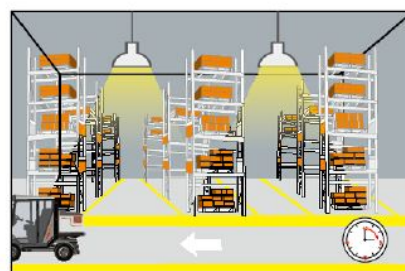③ After elapse of hold time, the sensor switches off the light when no motion is detected.

2-step dimming function (stand-by period be set to "+∞")

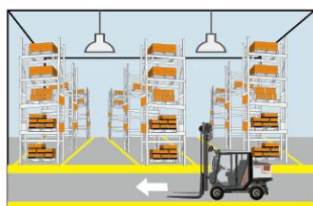① If there is no motion detected, the light will be remained at a low light level all the time.

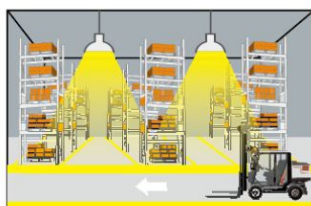② When motion is detected, the sensor will switch on the light to 100% brighteness

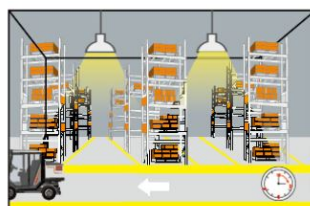③ After elapse of hold time, the sensor dims the light at the present low light level if no motion is detected.

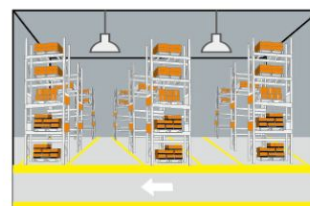3-step dimming function (stand-by period be set to "10s/1min/3min/5min/10min/30min")

① With sufficient ambient light, the light will not be switched on even if with motion signal.

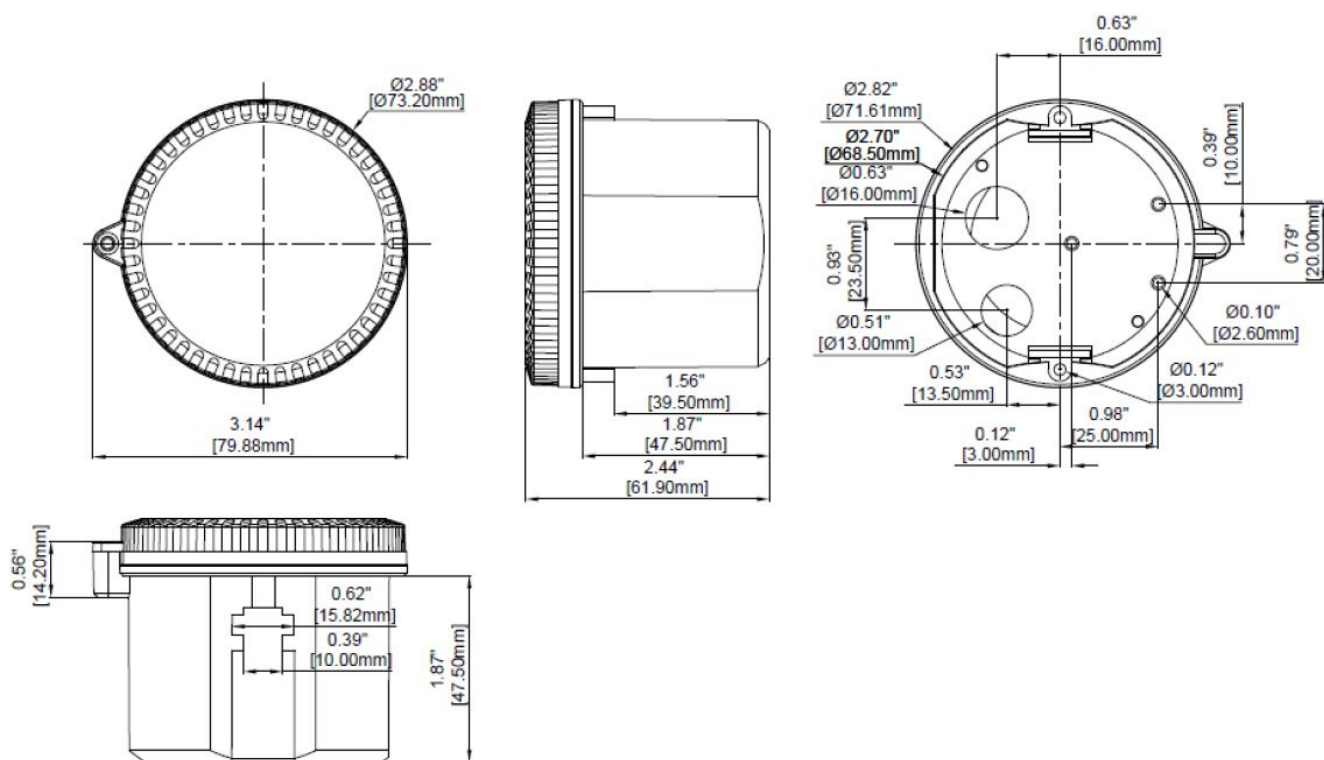② With insufficient ambient light, the sensor switches on the light when motion is detected.

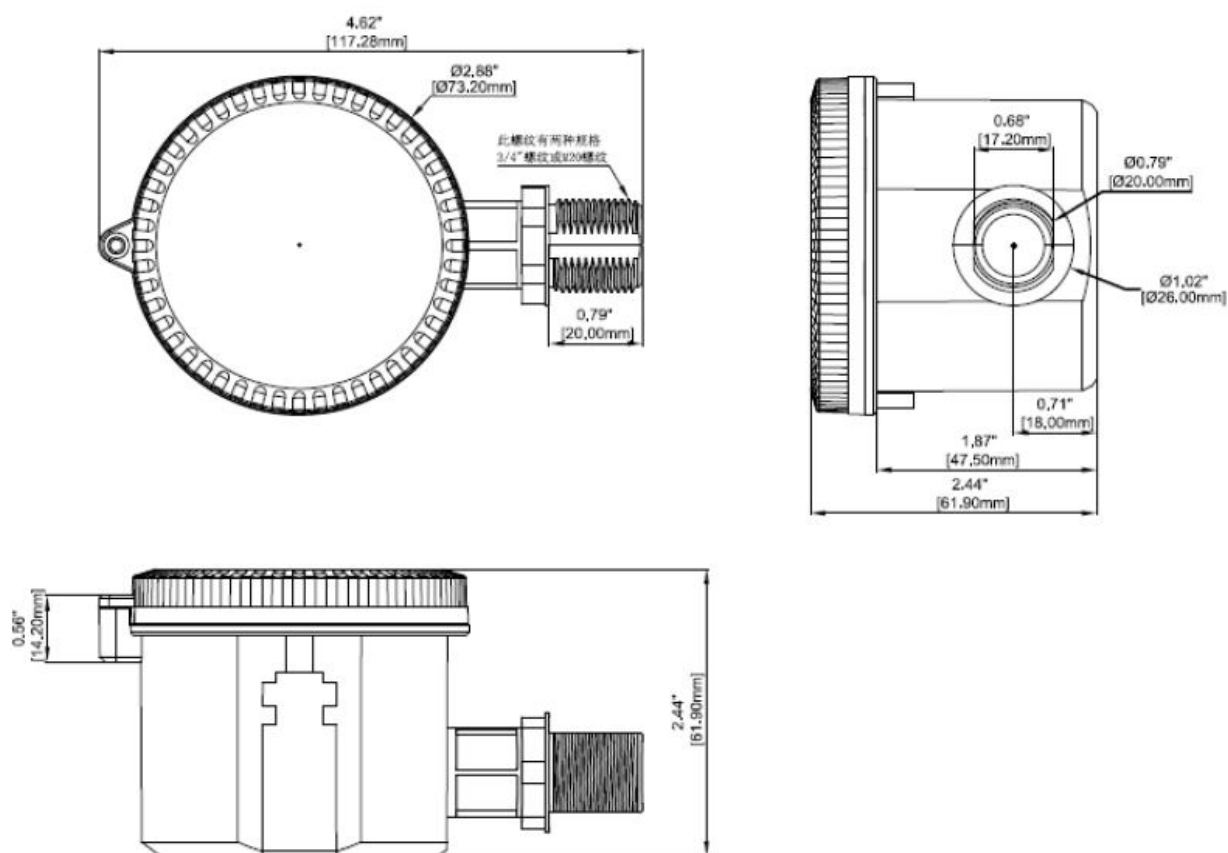③ After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

④ After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.
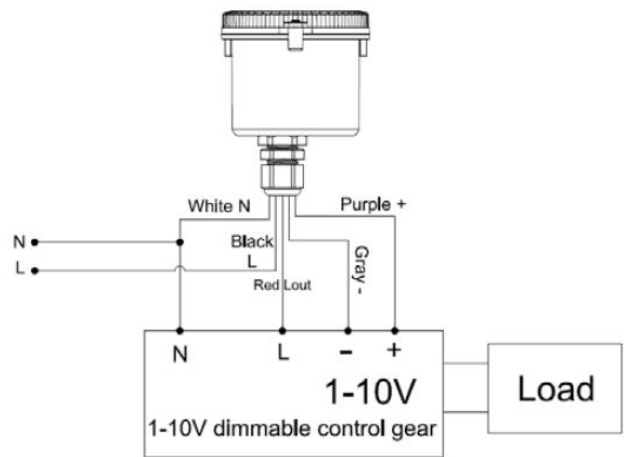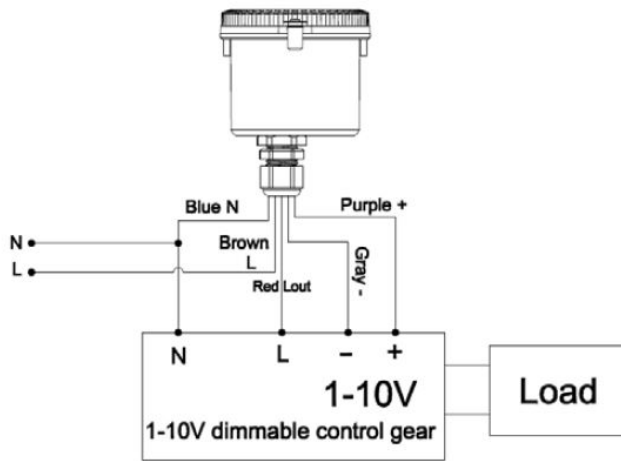
Dimension (mm)

MC054V- RC- 2 A MC054V- RC- 2B, MC054V-RC- 2C

MC054V- RC- 2D

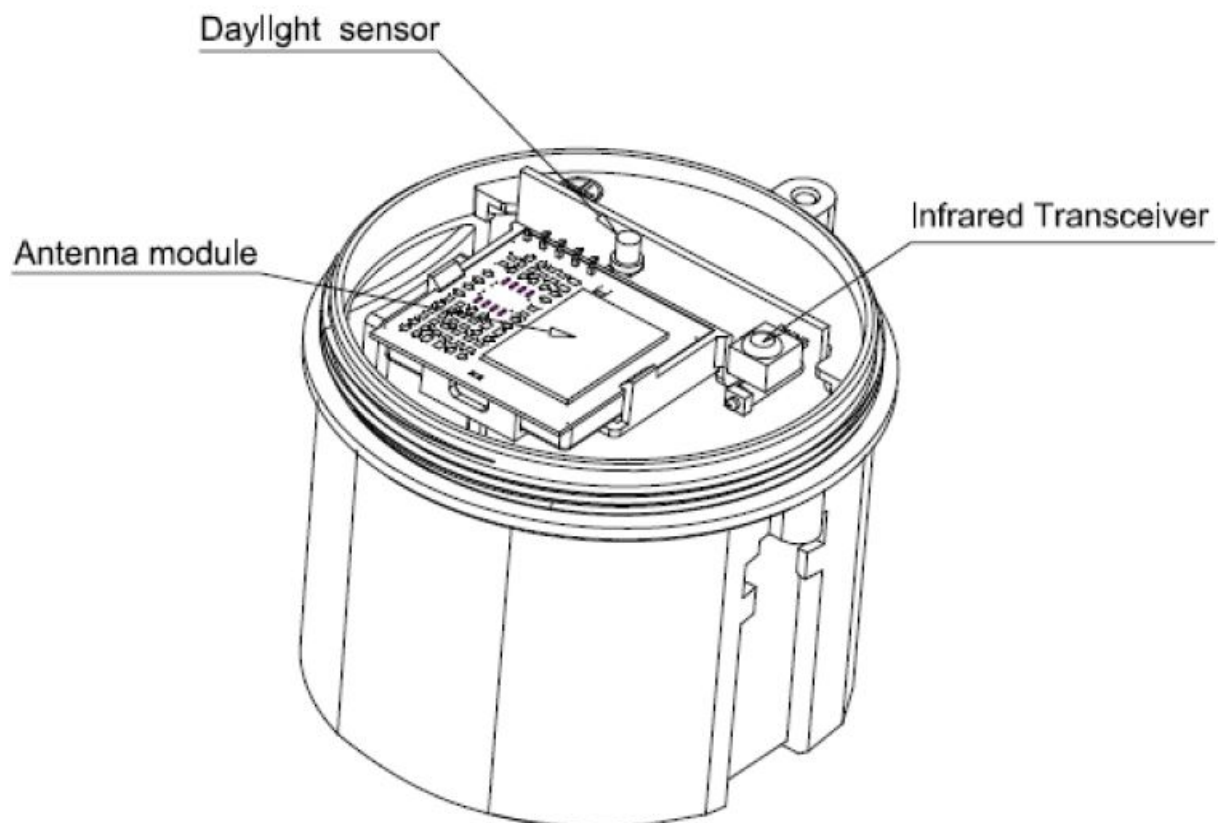**Wiring**

Europe,Australia version
USA version

The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.
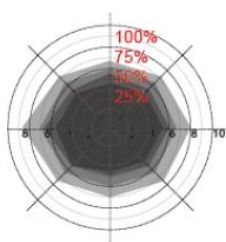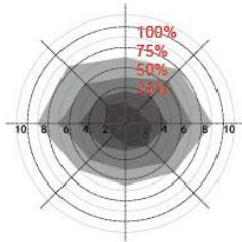
Function Diagram

Radiation Pattern

- Ceiling mounting Ceiling mounted height: 3m Sensitivity: 100%/75%/50%/25%
- Ceiling mounted height: 6m Sensitivity: 100%/75%/50%/25%
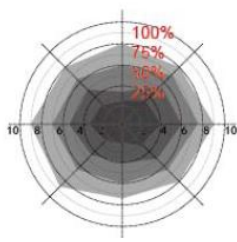- Ceiling mounted height: 9m Sensitivity: 100%/75%/50%/25%

- Ceiling mounted height: 12m Sensitivity: 100%/75%/50%
- Ceiling mounted height: 12m Sensitivity: 100%/75%/50%
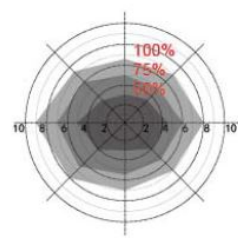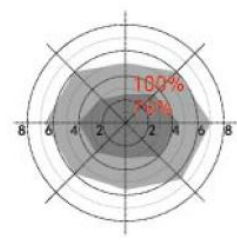
Normal moving (Speed:1m/s)	Normal moving (Speed:1m/s)	Normal moving (Speed:1m/s)	Normal moving (Speed:1m/s)	Normal moving (Speed:1m/s)

Lighting Control Switch
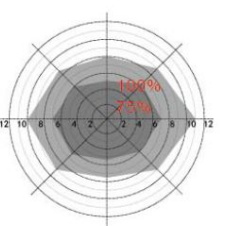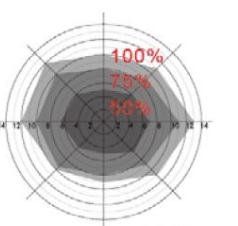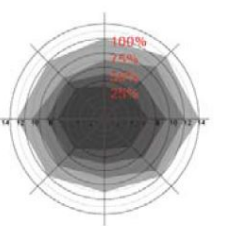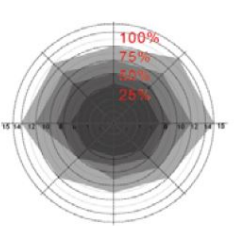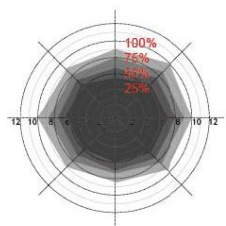
- Slow-moving: (Speed 0.3m/s)
- Slow-moving:Speed: 0.3m/s)
- Slow-moving: (Speed: 0.3m/s)
- Slow-moving: (Speed: 0.3m/s)
- Slow-moving: (Speed: 0.3m/s)

*Only 100%/75%/50% detection sensitivity is workable when installed at 10m & 15m mounting height. 25% sensitivity is not able to detect motion signal.

Wall mounting

Horizon mounted height: 2m Sensitivity: 100%/75%/50%/25%
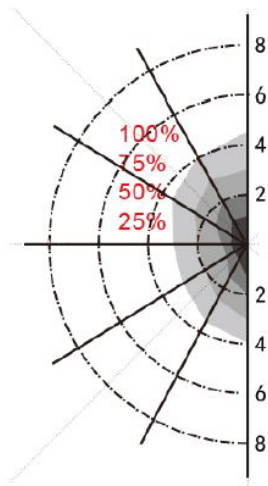
Normal moving (Speed: 1m/s)
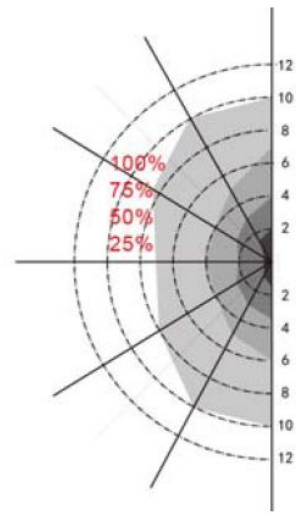
Slow moving (Speed 0.3m/s)

Remote Control
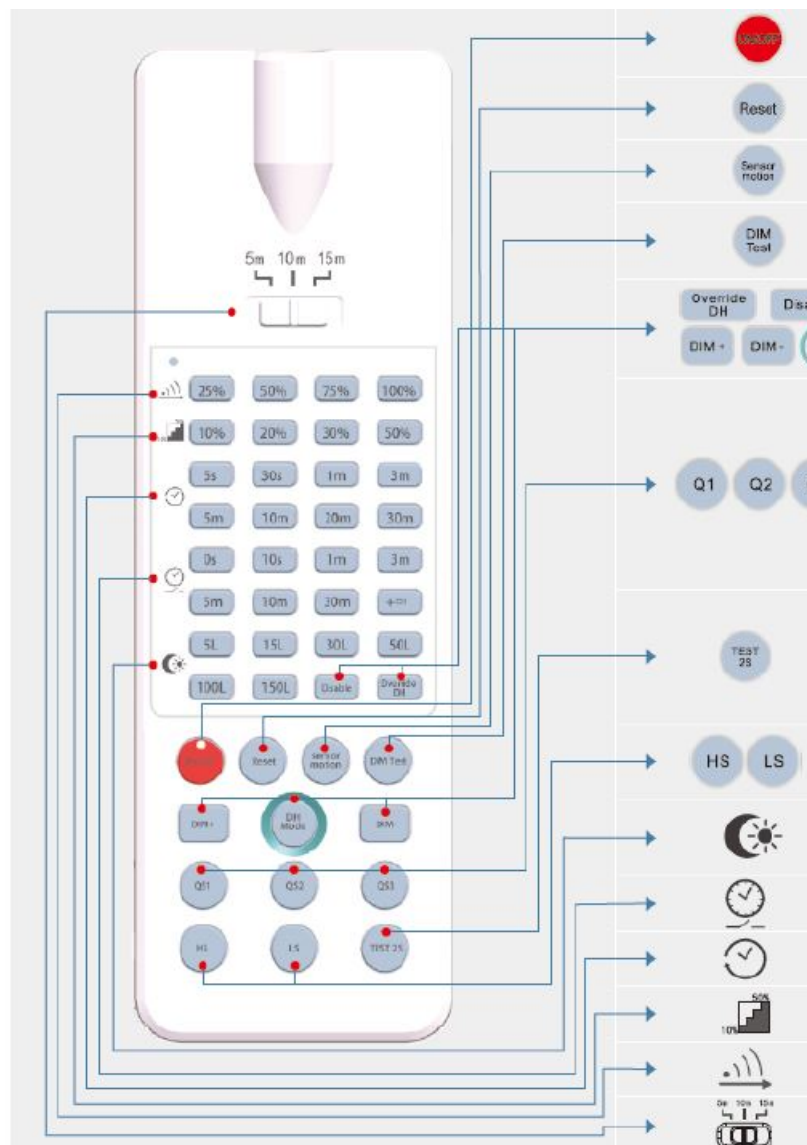
- Press the "ON/OFF" button, the light goes to constant on/off mode, sensor Is= disabled. Press "Reset" "Sensor motion· button to quit from this mode and the sensor starts to work.
- Press • Reset" button, all parameters are the same as setting of factory settings.

- Press the "Sensor motion• button, the light quits from the constant on/ off mode, and the sensor starts to work (The latest sett. ing stays In valid)
- Press• DIM Test" button, the 1-10 V dimming works to test whether the 1-10Vdc dimming ports are connected properly. After 2s, It returns to the latest setting automatically.
- ·override DH", and • DH Mode" that the two functions are not applicable for MC054V RC2.

Scene Options	Detection Area	Hold Time	Stand-by period	Stand-by dim level	Daylight Sensor	Sensitivity model
QS1	100%	5min	10min	10%	30Lux	Hs
QS2	100%	10min	30min	10%	Disable	Hs
QS3	100%	20min	30min	10%	Disable	Hs

Note: Detection area/ Hold t,me /Stand-by period /Stand-by dim level/ The daylight sensor can be adjusted by pressing the corresponding button. The latest setting will stay valid.

- Press the "TEST 2s• Bolton can enter the test mode at any time. At the mode, the sensor parameters as below: Detection Area is 100%, Hold nme is 5s, Stand-by

  The dim level is 10%, Stand-by Period is Os, daylight sensor is disable. This function only for testing. Quit the mode by pressing • RESET" or any other function buttons.
- Press the "HS" button lo set the detection area to be highly sensitive.
- Press the "LS" button to set the detection area to below sensitive.
- The adjustment bases on the • Detection Area• parameter you set.
- **Daylight Sensor**

  Set up daylight threshold:

  5lux/15lux/30Lux/50Lux/100Lux/150Lux/ Disable.
- **Stand-by period**

  Set up stand-by time: OS/10S/1min/3min/5min/10min/30min/+oo
- **Hold time**

  Set up hold time: 5S/30S/1mln/3mln/5mln/10mln/20mln/30mln
- **Stand-by dim level**

  Set up a stand-by dim level: 10%120%/30%/50%
- **Detection Area**

  Set up detection area: 25%/50%/75%/100%
- **Remote Distance**

  The toggle button can set the remote distance of the remote control and sensor.

Initialization

- 1/ On/Off function /3-step dimming function:

  After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it turns off the light. During the initialization, the sensor is not able to detect movement.
- 2/ 2-step dimming function:

  After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it dims the light to a low light level (set by stand-by dim level). During the initialization, the sensor is not able to detect movement.

Factory Setting

Detection area: 100%, Hold Time: 5S, Stand-by Period: 0s, Stand-by dim level: 10%, Daylight Sensor: Disable

Application Notice

1. The sensor should be installed by a professional electrician. Please turn off the power before installing, wiring,changing the setting of the DIP switch.
2. The sensor which installed in the plastic and glass lampshade will reduce the sensitivity.For every 3mm increase in thickness, the sensitivity will be reduced by 20%.
3. The dimming performance could be different from different 1-10v drivers.
4. The light sensitivity threshold is in a sunny environment, no shadow and ambient light diffuse reflection..Ambient lux level could be different in different environments, weather, climate, time-of-day and season.
5. The parameters of the sensor may need to be reconfigured in different installation environments. Please refer to the following instructions or contact the manufacturer.
6. This sensor is for indoor use only. It will affect the waterproof effect for outdoor use. Wind, rain, and moving objects around will cause false triggering.
7. The distance between any inductive sensors should be greater than 3m.
8. Do not place the sensor close to high-density objects such as metal, glass,concrete walls, etc, false triggering could happen. When the sensor is installed in a metal lamp, metal reflective surface, or a narrow enclosed environment, the microwave will be reflected repeatedly and cause false triggering. Please reduce the sensitivity or contact the manufacturer for technical support.
9. Please ensure that there are no moving signals around the sensor, such as fan,DC motor, sewer pipe, air outlet, etc., the sensor may generate false trigger.
10. You are advised to test 5 samples before mass application of sensor in a new lighting project.
11. Due to continuous improvement, the contents of this instruction could be changed without prior notice.

FCC Statement

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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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.

The device has been evaluated to meet general RF exposure requirements. The device can be used in portable exposure conditions without restriction.

Version Change

Version	Date	Description
A0	March 14, 2019	Released new product

Documents / Resources

merrytek MC054V- RC- 2A Lighting Control Switch [pdf] User Manual
MC054V-RC-2D, MC054VRC2D, XZH-MC054V-RC-2D, XZHMC054VRC2D, MC054V- RC- 2A, MC054V- RC- 2B, MC054V- RC- 2C, MC054V- RC- 2D, Lighting Control Switch