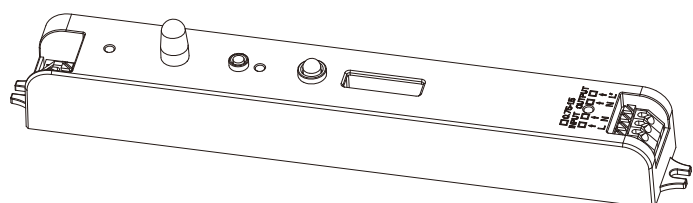




MICROWAVE MOTION SENSOR USER'S MANUAL

Model:MC077V RC



EN

Instruction
MI190523A0

C_{RU}®
E489677



FEATURE

- Automatic switching or dimming when used in combination with 1-10V dimmable LED drivers or ballasts.
- Built-in daylight sensor.
- Compact size makes it suitable to fix within most luminaires.
- Detection area, time delay and daylight threshold can be precisely set via DIP switch.
- Wide detection area, range up to 7m in diameter.
- Support higher mounting height 4m Max.
- Optional surface mounting and base mounting

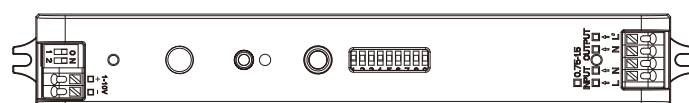
SPECIFICATIONS

Operating voltage	120/277Vac, 50Hz/60Hz
Rated capacitive load	120Vac 50/60Hz 2A Ballast 277Vac 50/60Hz 2A Ballast
HF system	5.8GHz±75MHz, ISM wave band
Transmitting power	0.5mW Max.
Power consumption	≤0.5W(standby), <1W(operation)
Detection zone	Max.(D x H): 7m x 4m
Detection sensitivity	25% / 50% / 75% / 100%
Hold time	5s / 5min / 10min / 20min / 30min
Set by remote	5s/30s/1min/3min/5min/10min/20min/30min
Daylight sensor	5lux / 25lux / 50lux / 100lux / Disable
Set by remote	5lux/15lux/30lux/50lux/100lux/150lux/Disable
Stand-by period	0s / 5min / 15min / +∞
Set by remote	0s/10s/1min/3min/5min/10min/30min/+∞
Stand-by dimming level	25% / 35% / 50%
Mounting height	4m Max.
Motion detection	0.5~3m/s
Detection angle	150°
Operating temperature	-25°C~60°C
IP rating	IP20

GENERAL GUIDELINES FOR INSTALLATION

- 1, The sensor should be installed by a qualified electrician. And ensure that the electricity supply is switched off before installing or servicing the product.
- 2, The sensor should not be modified in any way. Any modifications made for this product will immediately invalidate any warranties issued.
- 3, The company does not accept responsibility for any consequences resulting from unauthorized modification of the product.
- 4, The sensor should be connected to a stable power supply of 120/277Vac 50Hz/60Hz.
- 5, Microwaves cannot pass through metal or brick walls if thicker than 20cm. They will pass through thinner walls but there will be some attenuation.
- 6, Installation inside a glass or plastic housing will result in a reduction of detection sensitivity. Expect a reduction of approximately 20% for every 3mm of thickness.

INSTALLATION & WIRING



Pic1

The sensor has 6-position terminal block as Pic 1:

L(Phase) N(Neutral) L' (Switched phase / control)

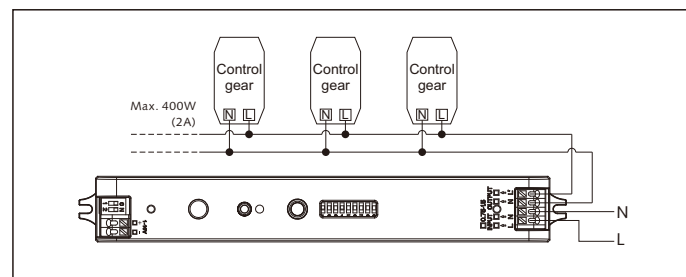
1-10V (Connected to 1-10V interface)

The sensor is designed for installation at 4m Max in height.

WIRING SCHEME

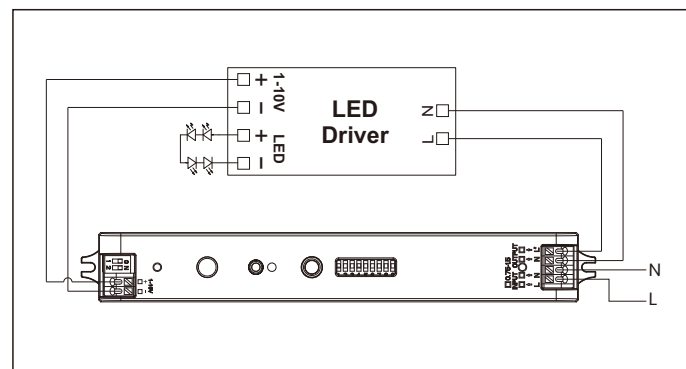
1) FOR ON/OFF FUNCTION :

Connect to normal control gears (normal LED drivers or ballasts), the wiring as following:

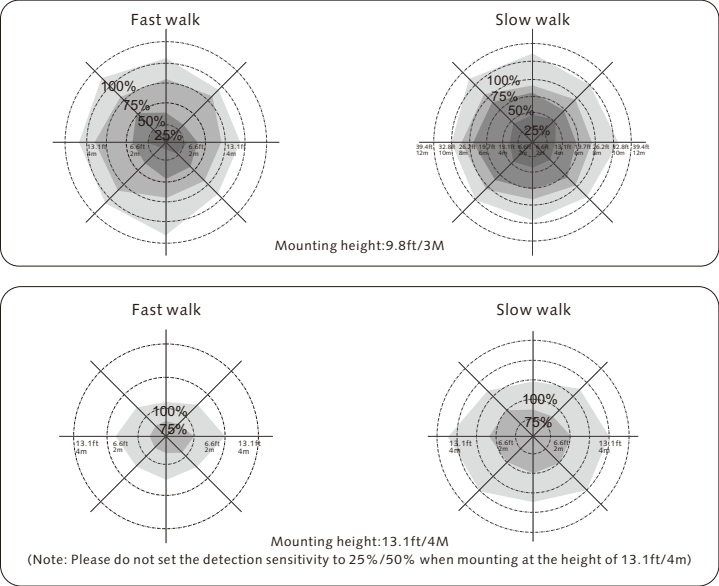


2) FOR DIMMING FUNCTION :

Connect to 1-10V dimmable control gears (1-10V LED drivers or ballasts), the wiring as following:



DETECTION PATTERN



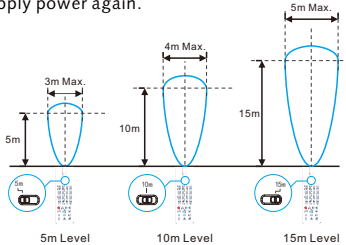
SETTINGS (OPTIONAL REMOTE CONTROL MH10)

Remote Control Setting	Button	Remarks																				
	ON/OFF	Press the "ON/OFF" button, the light goes to constant on/off mode, sensor is disabled. Press any button to quit from this mode and the sensor starts to work.																				
	Reset	Press "Reset" button, all parameters are same as setting of DIP switch or factory settings.																				
	Sensor motion	Press "Sensor motion" button, the light quits from the constant on/off mode, and the sensor starts to work (The latest setting stays in validity)																				
	DIM Test	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	Long press 3s, daylight harvesting mode will be switched to daylight threshold mode, lux value will go back to previous one.																				
	DIM+ / DIM-	Short press "DIM+ / DIM-" button to transmit dimming signal. The brightness of the lamp adjusts at 5% per unit. (not applicable for MC077V RC)																				
	DH Mode	Long press >3s, sensor will take current light level as target lux level, to dim up/down load automatically according to the change of ambient light level. (not applicable for MC077V RC)																				
	Q1 Q2 Q3	<table border="1"><thead><tr><th>Scene Options</th><th>Detection Area</th><th>Hold Time</th><th>Stand-by period</th><th>Daylight Sensor</th></tr></thead><tbody><tr><td>QS1</td><td>100%</td><td>5min</td><td>10min</td><td>30Lux</td></tr><tr><td>QS2</td><td>100%</td><td>10min</td><td>30min</td><td>Disable</td></tr><tr><td>QS3</td><td>100%</td><td>20min</td><td>30min</td><td>Disable</td></tr></tbody></table>	Scene Options	Detection Area	Hold Time	Stand-by period	Daylight Sensor	QS1	100%	5min	10min	30Lux	QS2	100%	10min	30min	Disable	QS3	100%	20min	30min	Disable
	Scene Options	Detection Area	Hold Time	Stand-by period	Daylight Sensor																	
	QS1	100%	5min	10min	30Lux																	
	QS2	100%	10min	30min	Disable																	
	QS3	100%	20min	30min	Disable																	
	TEST 2S		Note: Detection area / Hold time / Stand-by period / Daylight sensor can be adjusted by pressing the corresponding button. The latest setting will stay valid.																			
	HS LS		Press the "TEST 2S" button can enter the test mode anytime. At the mode, the sensor parameters as below: Detection Area is 100%, Hold Time is 2s, Stand-by Dim Level is 10%, Stand-by Period is 0s, daylight sensor disable. This function only for testing. Quit the mode by pressing "RESET" or any other function buttons.																			
	Daylight Sensor		Set up daylight threshold: 5Lux/15Lux/30Lux/50Lux/100Lux/150Lux/ Disable																			
Stand-by period		Set up stand-by time: 0S/10S/1min/3min/5min/10min/30min/+∞																				
Hold time		Set up hold time: 5S/30S/1min/3min/5min/10min/20min/30min																				
N/A																						
Detection Area		Set up detection area: 25%/50%/75%/100%																				
Remote Distance		Toggle bottom can set the remote distance of remote control and sensor.																				

Remote control and code setting conversion

- 1. DIP switch setting convert to remote control Press any bottom except "RESET" on the remote control, and the sensor settings convert to the function currently selected by the remote control. (No function button settings invalid)
- 2 remote control convert to DIP switch setting
 - a. Press the "RESET" button on the remote control, and all settings return to the DIP switch settings of the sensor.
 - b. Turn off the power, toggle any DIP switch, connect to the power, and all settings return to the DIP switch settings when supply power again.

Unique design of infrared transmitting device



SETTINGS

1, Stand-by dimming level
This is the pre-setting dimming level you would like to have after the hold time in the long absence of people.
I: 50%
II: 35%
III: 25%

	1	2	
ON	ON	ON	50%
	ON	-	35%
	-	-	25%

Detection area, hold time and daylight sensor can be set by using DIP switches on the sensor. Note that reducing the detection area will also reduce the sensitivity.

1, Detection area
I: up to 100%
II: up to 75%
III: up to 50%
IV: up to 25%

	1	2	
ON	ON	ON	100%
	-	ON	75%
	ON	-	50%
	-	-	25%

2, Hold time
Refers to the time period the lamp remains at 100% illumination after no motion is detected.
I: 5s
II: 5min
III: 90s
IV: 10min
V: 30min

	3	4	
ON	ON	ON	5S
	-	ON	5min
	ON	-	10min
	-	-	30min

3, Daylight sensor
The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold. The settings are as follows:
I: 5lux, darkness operation only
II: 25lux, darkness operation only
III: 50lux, twilight operation
IV: 25lux, twilight operation
V: 100lux, twilight operation
VI: Disable

	5	6	7	
ON	ON	ON	ON	5Lux
	ON	ON	-	25Lux
	ON	-	ON	50Lux
	-	ON	ON	100Lux
	-	-	-	Disable

- * When set to Disable, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light levels.
- * It should be set to Disable mode if the motion sensor is connected to stand-alone daylight sensors.

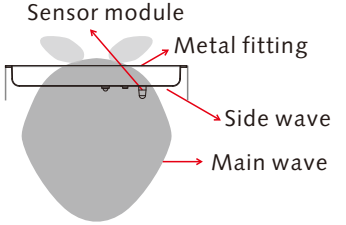
3, Stand-by period
Refers to the time period the lamp remains at a pre-setting dimming level before it completely switches off in the long absence of people.
I: 0s
II: 5min
IV: 15min
VII: +∞

- * when set to 0s, the lamp will work as on/off function
- * When set both daylight sensor and stand-by period to Disable. the lamp will work as 2-step dimming control (Motion detected, 100%lm, no motion, remains at pre-setting level lumens)

	8	9	
ON	ON	ON	0S
	-	ON	5min
	ON	-	15min
	-	-	+∞

NOTE1

Microwave detection includes two parts called main wave and side wave. Main wave normally detects the motion signal. Side wave does not effect motion detection but might disturb main wave if the microwave motion sensor is built-in a sealed metal luminaire as microwave can not pass through metal.



When the microwave module is built into a metal lighting luminaire or installed in a sensor near a wall, the side wave will be reflected by the metal base or the wall. It can disturb the main wave. As the result of this, the microwave motion sensor might not perform optimally. Reducing the detection sensitivity or the side wave will help to solve such problems.

FAQ

Question	Cause	Remedy
The load will not illuminate	Incorrect daylight sensor setting selected.	Adjust setting.
	Load has failed.	Replace load.
	Power is switched off.	Switch on.
The load is permanently illuminated.	Continuous movement in the detection area.	Check detection area setting.
	The lamp (containing sensor) is installed in an area too close to reflective surfaces, i.e. metal, glass or concrete walls.	1, Make sure installation area suitable with at least 30cm space between lamp and surrounding reflective surfaces. 2, Reduce sensitivity (detection area).
The load will not illuminate despite movement.	Speed of moving object is not in the range of 0.5-3m/s or the detection radius is too small.	Check detection area setting.

FCC Statement

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.