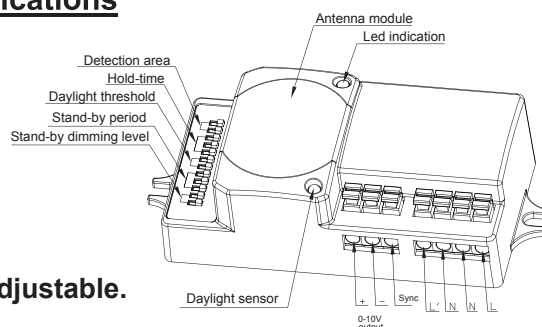


## User Manual of Microwave Motion Sensor New advanced<sup>+</sup> version Model No.:HC019V

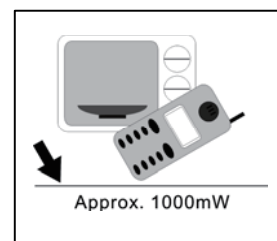
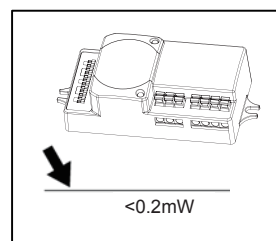
### Technical Specifications

<b>PRODUCT TYPE:</b>	<b>Microwave Motion Sensor</b>
<b>OPERATING VOLTAGE:</b>	<b>220/240V ~ 50Hz / 60Hz</b>
<b>HF SYSTEM:</b>	<b>5.8GHz CW radar</b>
<b>TRANSMISSION POWER:</b>	<b>&lt;0.2mW</b>
<b>RATED LOAD:</b>	<b>800W(capacitive Load)</b>
<b>DETECTION ANGLE:</b>	<b>30~150°</b>
<b>POWER CONSUMPTION:</b>	<b>Approx. 0.8W</b>
<b>DETECTION RANGE:</b>	<b>Max. 12 meters in diameter, adjustable.</b>
<b>TIME SETTING:</b>	<b>5s ~ 30 min.</b>
<b>LIGHT CONTROL:</b>	<b>2~50LUX, disable</b>
<b>STAND-BY PERIOD:</b>	<b>0s, 10s-1h, +∞</b>
<b>STAND-BY DIMMING LEVEL :</b>	<b>10% ~ 50%</b>
<b>MOUNTING:</b>	<b>Indoors, ceiling &amp; walling mounted</b>
<b>WORKING TEMPERATURE:</b>	<b>-35 ~ +70°C</b>



The sensor is an active motion detector; it emits a high-frequency electro-magnetic wave 5.8GHz and receives its echo. The sensor detects the change in echo from movement in its detection zone. A microprocessor then triggers the switch light ON command. Detection is possible through doors, panels of glasses thin walls.

NOTE:the high-frequency output of this sensor is <0.2mW;approximately just 1‰ of the transmission power of a mobile telephone or the output of a microwave oven.

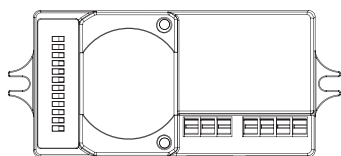


### IMPORTANT

PLEASE READ THESE INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION AND RETAIN THIS LEAFLET IN A KNOWN AND SAFE PLACE FOR FUTURE REFERENCE.

### SECTION 1 INSTALLATION & WIRING

#### 1.0 ENSURE THAT THE ELECTRICITY SUPPLY IS SWITCHED OFF COMPLETELY BEFORE INSTALLING OR SERVICING THIS PRODUCT

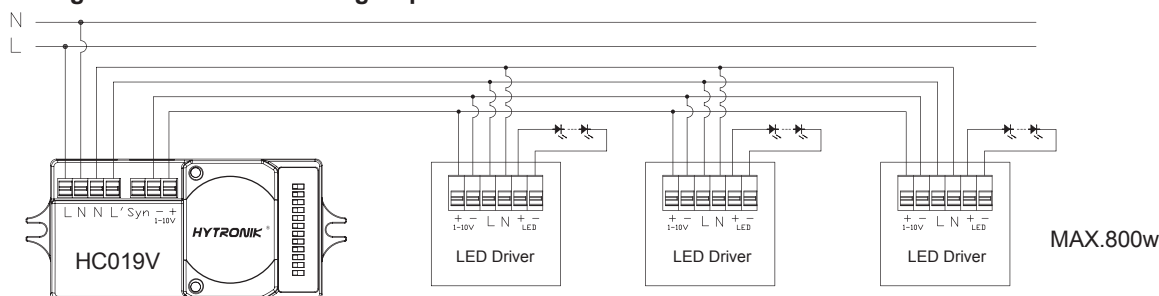


The sensor works with a main voltage of 220-240VAC 50/60 Hz.100-120VAC version is available on request.

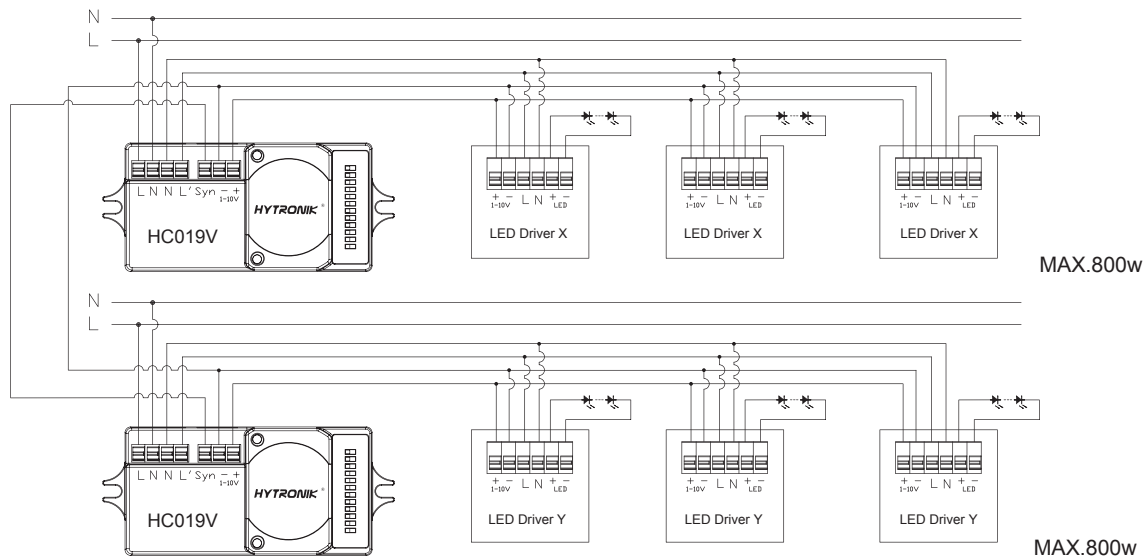
The sensor has a 4-wire electrical interface:

Nx2(neutral / 220-240VAC)	SYNC (synchronization interface)
L (phase / 220-240VAC)	+ (1-10V "+" interface)
L' (switched phase / output)	- (1-10V "-" interface)

#### Wiring of 1 sensor controls a group of ballast /driver.



**Wiring of multiple sensors control the same group of ballast /driver, any sensor is triggered, the luminaries in the group light up.**



\* Do not connect the 1-10v terminals on driver X to Driver Y.

1.1 This sensor is suitable for indoor use, and is also designed for installation Max. 6m in height.

## SECTION 2 SETTINGS

### Detection Area:

This determines the effective range of the motion detector and is set by DIP switches at the sensor itself, refer to figure. Note that reducing the sensitivity will also narrow the detection range.

The following settings are available:

- I – 100%
- II – 75%
- III – 50%
- IV – 10%

	1	2	
I	●	●	100 %
II	●	○	75%
III	○	●	50%
IV	○	○	10%



### Hold time:

This determines the time the fitting remains at 100% level on motion detection and is set with DIP switches at the sensor itself, refer to figure. The walk test setting is useful when installing the fitting to establish correct operation and range.

The following settings are available:

- I – 5S
- II – 30S
- III – 1min
- IV – 5min
- V – 10min
- VI – 20min
- VII – 30min

	1	2	3	
I	●	●	●	5s
II	●	●	○	30s
III	●	○	●	1min
IV	●	○	○	5min
V	○	●	●	10min
VI	○	●	○	20min
VII	○	○	○	30min



### Daylight sensor:

This setting holds off the 100% light output should there sufficient daylight and is set using DIP switches at the sensor, refer to figure. The following settings are available:

- I – Disable
- II – 50Lux
- III – 10Lux
- IV – 2Lux

	1	2	
I	●	●	Disable
II	●	○	50Lux
III	○	●	10Lux
IV	○	○	2 Lux



\*In disable mode the lamp(s) will always be on with motion detected and operate at 100% light output, even in bright daylight.

### Stand-by period (corridor function)

This is the time period you would like to keep at the low light output level before it is completely switched off in the long absence of people.

- I – 0s
- II – 10s
- III – 1min
- IV – 5min
- V – 10min
- VI – 30min
- VII – 1h
- VIII – +∞

	1	2	3	
I	●	●	●	0s
II	●	●	○	10s
III	●	○	●	1min
IV	●	○	○	5min
V	○	●	●	10min
VI	○	●	○	30min
VII	○	○	●	1h
VIII	○	○	○	+∞




Note: "0s" means on/off control; "+∞" means 2 steps of dimming control, fixture never switch off.

### Stand-by dimming level

This is the dimmed low light output level you would like to have after the hold-time in the absence of people.

- I – 10%
- II – 20%
- III – 30%
- IV – 50%

	1	2	
I	●	●	10%
II	●	○	20%
III	○	●	30%
IV	○	○	50%



## SECTION 3 FUNCTIONS

### 3.1 Zero-cross relay operation

Designed in the software, the sensor switches on/off the load right on the zero-cross point, to ensure the min. current passing through the relay contact point, and enable the max. load and life-time of the relay.

### 3.2 Loop-in and loop-out

Double L N terminal makes it easy for wire loop-in and loop-out, saves the cost of terminal block and assembly time.

- \* Motion sensor overwrites daylight sensor, meaning the daylight sensor starts to check the ambient natural light only when the lamp is switch off (motion hold-time elapsed).
- \* This 1-10v output is isolated, SELV output.

## SECTION 4 TROUBLE SHOOTING

MALFUNCTION CAUSE REMEDY	CAUSE	REMEDY
The load will not work	Incorrect light-control setting selected	Adjust setting
	Load faulty	Replace load
	Mains switch OFF	Switch ON
The load is always on	Continuous movement in the detection zone	Check zone setting
The load is on without any identifiable movement	The sensor is not mounted for reliably detecting movement	Securely mount enclosure
	Movement occurred, but not identified by the sensor (movement behind wall, movement of small object in immediate lamp vicinity etc.)	Check zone setting
The load will not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection radius is too small	Check zone setting