

# Microwave Motion Sensor

Model: HC018V

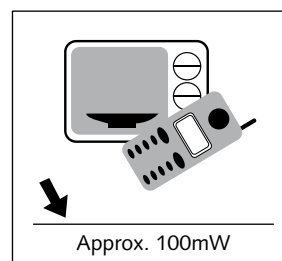
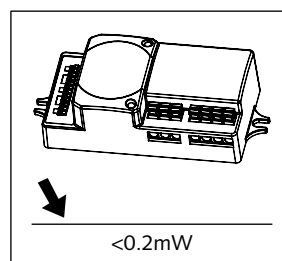
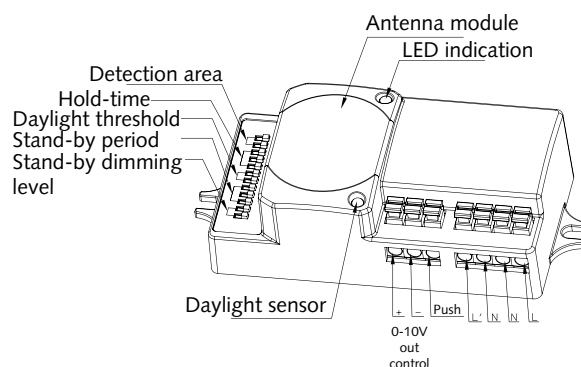
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## TECHNICAL SPECIFICATIONS

Product type:	Microwave Motion Sensor
Operating voltage:	220-240V~ 50/60Hz
HF system:	5.8GHz CW radar
Transmission power:	<0.2mW
Rated load:	800W (capacitive load)
Detection angle:	30-150°
Power consumption:	Approx 0.5W
Detection range:	Max. 12 m in diameter, adjustable
Time setting:	5 s ~ 30 min.
Mounting:	Indoors, ceiling or wall
Light control:	2~50 LUX, disable
Stand-by period:	0s, 10s ~ 1H, +∞
Stand-by dimming level:	10%~50%
Working temperature:	-35~70°C
Standby consumption:	P <sub>sb</sub> <0.5W

The sensor is an active motion detector; it emits a high-frequency electromagnetic 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, glass panels and thin walls.

**NOTE:** the high-frequency output of this sensor is <0.2mW; approximately just 2‰ of the transmission power of a mobile telephone or the output of a microwave oven.



### IMPORTANT

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

## INSTALLATION & WIRING

EN

Ensure that the electricity supply is switched off completely before installation or servicing this product.

The sensor works with a main voltage of 220-240V AC 50/60Hz.

The sensor has a 7-wire electrical interface:

Nx2 (neutral / 220-240V AC)

L (phase / 220-240V AC)

L' (switched phase / output)

Push (push switch interface)

– (1-10V "–") interface)

+ (1-10V "+" interface)

SE

Försäkra dig om att strömmen är helt avstängd innan installation eller underhåll.

Sensorn funkar med spänning 220-240V AC 50/60Hz.

Sensorn har sju plintar:

Nx2 (nolla / 220-240V AC)

L (fas / 220-240V AC)

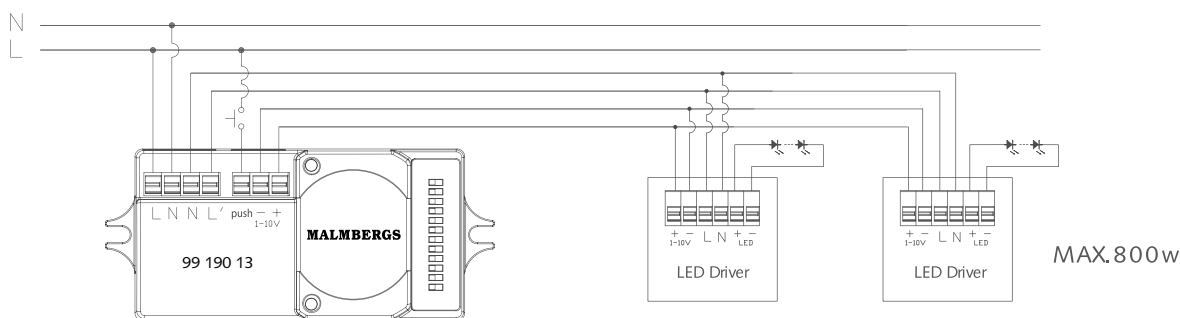
L' (tändtråd)

Push (push switch)

– (1-10V "–")

+ (1-10V "+" )

## Wiring with any 1~10V control gear to achieve dimming function.



This sensor is suitable for indoor use. Max. installation height is 6 meters.

## 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 – Detection range 100%
- II – Detection range 75%
- III – Detection range 50%
- IV – Detection range 10%

### Detection Area

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

on  
●  
+  
off

### 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 following settings are available:

- I – 5s
- II – 30s
- III – 1 minutes
- IV – 5 minutes
- V – 10 minutes
- VI – 20 minutes
- VII – 30 minutes

### Hold time

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

on  
●  
+  
off

### Daylight sensor:

This setting holds off the 100% light output should there be 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

### Daylight Sensor

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

on  
●  
+  
off

\*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	○	○	○	+∞

on  
●  
+  
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%

on  
●  
+  
off

## FUNCTIONS

### 3.1 100H burn-in mode for fluorescent lamp

With simple operation, rapidly turn off/on the fixture 3 cycles within 3 sec. (the green LED on the sensor flashes and the fixture blinks 3 times to indicate the success of setup), lamp will be 100% on for 100 hours, and then automatically goes to sensor mode after 100 hours. This is crucial to secure the lifetime of fluorescent lamp, when new fixture is installed, or old lamp is replaced.

This 100h burn-in feature can be cancelled by turning off/on the fixture 1 cycle within 1 sec.

### 3.2 Ambient daylight threshold

With simple operation, rapidly turn off/on the fixture 2 cycles within 2 sec:

- The green LED on the sensor flashes slowly for 5 seconds, meanwhile the fixture blinks twice.
- The daylight sensor measures and remembers the surrounding lux for 1 sec.
- The fixture and green LED is on for 10s to indicate the success of learning.

This feature enables the fixture to function well in any real application circumstance, where the daylight penetrated into fixture may vary a lot.

The latest surrounding lux value overwrites previous lux value learned.

Both the setting on DIP switch and the learned ambient lux threshold can overwrite each other. The latest action stays in validity.

### 3.3 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.

### 3.4 Loop-in and loop-out

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

### 3.5 Manual override

This sensor reserved the access of manual override function for end-users to switch on/ off, or adjust the stand-by dimming level with the push-switch. which makes the product more user-friendly and more options to fit for some extra-ordinary demands.

- short push (<1s): on/off;  
ON → OFF: the light turns off immediately and can not be lit for a certain time (equals to hold time preset) even movement is detected. After this period, the sensor goes to auto sensor mode.  
OFF → ON: the light turns on 100% and goes to hold time period directly even when movement is detected. As soon as the sensor goes to stand-by period, it can detect movement and turn on the light (100%) again (auto sensor mode).
- long push (>1s): dim up/down the stand-by dimming level from 10% to 50%. Both the setting on DIP switch and manual override can overwrite each other, the latest action stays in validity.
- if you do not want to have this manual override function, just leave this "push" terminal alone , not connected to any wire.

#### Note:

- The motion sensor overrides 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 non-isolated, please make sure the fixture is constructed according to relevant safety standard.

## TROUBLE SHOOTING

Malfunction	Cause	Remedy
The load does not work	Incorrect light-control setting selected	Adjust setting
	Load faulty	Replace load
	Mains switched 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 reliably for 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 does not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection radius is too small	Check zone setting

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