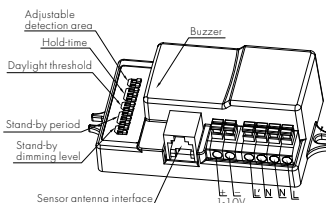


INSTRUCTION MANUAL FOR MICROWAVE MOTION SENSOR
Model No.:HC403VRC-KD

Technical Specifications

PRODUCT TYPE:	Microwave Motion Sensor
OPERATING VOLTAGE:	120-277VAC 50/60Hz
HF SYSTEM:	5.8GHz CW radar
RATED LOAD:	400W / 3.6A / 120V
(capacitive load)	800W / 3.6A / 230V
	1000W / 3.6A / 277V
DETECTION ANGLE:	30° ~ 150°
POWER CONSUMPTION:	<1W
DETECTION RANGE (DxH):	Max. 12 x 6m (SAM5)
	Max. 16 x 15m (SAM6)
TIME SETTING:	5s, 30s~30min.
DAYLIGHT SENSOR:	2~50Lux; disable
STAND-BY PERIOD:	0s, 10s ~ 1h, +∞
STAND-BY DIMMING LEVEL:	10% ~ 50%
MOUNTING:	Indoors, ceiling&wall mounted
WORKING TEMP.:	-20°C ~ +60°C



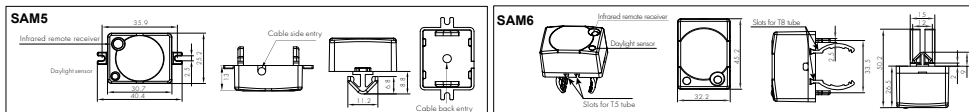
HC403VRC-KD



HRC-05

The sensor is an active motion detector; it emits a high-frequency electro-magnetic wave at 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, panes of glass and thin walls.

Note: the high-frequency output of this sensor is <0.2mW; approximately just 0.2‰ of the transmission power of a mobile telephone.

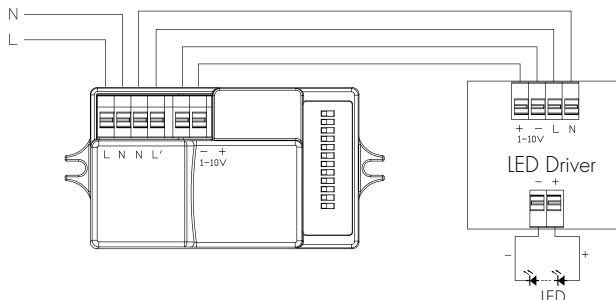


IMPORTANT
PLEASE READ THESE INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION AND RETAIN THIS LEAFLET IN A KNOWN AND SAFE PLACE FOR FUTURE REFERENCE.

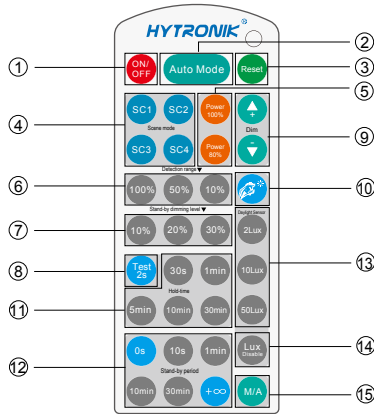
SECTION 1 INSTALLATION AND WIRING

1.1 Ensure that the electricity supply is switched off before installing or servicing this product.

1.2 Wiring diagram



SECTION 2 REMOTE CONTROL



HRC-05

Note: the buzzer beeps one time when RC receives signal successfully

Permanent ON/OFF [button ①]

1. Press button ①, to select permanent ON or permanent OFF mode.
2. Press button ② ③ ④ to resume automatic operation. (Please refer to explanation below)

Auto Mode [button ②]

Press button ② to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched ON/OFF.

RESET [button ③]

Press button ③, all settings go back to the value of DIP switch settings.

Test 2s function [button ⑧]

1. Press button ⑧, the sensor goes into test mode (hold time 2s). N.B. the stand-by period and daylight sensor settings are disabled in test mode.
2. Press button ③ ④ ① to exit from this mode, and the sensor settings are changed accordingly.

Ambient daylight threshold [button ⑤]

Press button ⑤, the latest surrounding lux value overwrites previous lux value learned, and is set as the daylight threshold. This feature enables the fixture to function well in any environment.

Power output [button ⑥]

Press button ⑥, the output shifts between 80% and 100%, for energy saving purposes.

Dim +/- [button ⑨]

Press button ⑨ to adjust the light brightness between 10%~100% during hold-time. "+" increases the light level, "-" will decrease the light level.

Lux disable [button ⑬]

Press button ⑬, the built-in daylight sensor is disabled, the light will always operate upon detection regardless of ambient light level.

M/A [button ⑮]

Note: this button is disabled.

Detection range [zone ⑥]

Press buttons in zone ⑥ to set detection range at 100% / 50% / 10%.

Hold time [zone ⑪]

Press buttons in zone ⑪ to set hold time at 30s / 1min / 5min / 10min / 30min.

Stand-by period [zone ⑫]

Press buttons in zone ⑫ to set the stand-by period at 0s / 10s / 1min / 10min / 30min / +∞.
Note: "0s" means on/off control; "+∞" means bi-level of dimming control, the light will never switch off. (i.e. the light remains at the stand-by dimming level until motion is detected.)

Stand-by dimming level [zone ⑦]

Press buttons in zone ⑦ to set the stand-by dimming level at 10% / 20% / 30% .

Daylight sensor [zone ⑬]

Press buttons in zone ⑬ to set daylight sensor at 2lux / 10lux / 50lux.

Scene mode options [zone ②]

There are 4 scene modes built into the remote control for different applications:

Scene options	Detection range	Hold time	Stand-by period	Stand-by dimming level	Daylight sensor
SC1	100%	1min	10min	10%	2Lux
SC2	100%	5min	10min	10%	2Lux
SC3	100%	10min	30min	10%	10Lux
SC4	100%	10min	+∞	10%	50Lux

Note: the end-user can fine tune the settings by pressing buttons of detection range ⑥ / hold time ⑦ / stand-by period ⑧ / stand-by dimming level ⑨ / daylight sensor ⑩, the last setting will over-write that feature of the pre-set scene.


SECTION 3 SETTINGS

Detection area

Detection range can be tuned by selecting the combination on the DIP switches to fit precisely for each specific application.

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

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




Hold-time

This setting determines the time period the lamp will remain at 100% upon detection.

Note: the timer is reset upon each motion detection.

- 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

The daylight threshold can be set on the DIP switches suit to the particular application.

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

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




Stand-by period (corridor function)

This is the time period setting 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: Note: "0s" means on/off control;

" +∞" means bi-level dimming control, fixture never switches off when daylight sensor is disabled.

Stand-by dimming level

This is the dimmed low light output level setting after the hold-time has expired.

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

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



SECTION 4 FUNCTION

4.1 Zero-cross Relay Operation

Designed in the software, the sensor switches on/off the load right at the zero-cross point, to ensure the in-rush current is minimised, enabling the maximum life-time of the relay.

4.2 Daylight Monitoring Function

Hytronik specially designed this function in software for deep energy-saving purpose. A built-in daylight sensor is designed to provide "smart photocell" function. This function can only be activated when stand-by period is set to "+∞". In this mode the lamp will automatically illuminate at the dim level setting when the natural light goes below the threshold setting. The fixture will also switch off as the natural light returns.

4.3 Loop-in and Loop-out Terminal

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

SECTION5 TROUBLE SHOOTING

MALFUNCTION	CAUSE	REMEDY
The light will not come on	Incorrect light-control setting selected	Adjust daylight threshold setting
	Faulty lamp	Replace lamp
	No power supply	Check power to sensor
The lamp is always on	Continuous movement in the detection zone	Check detection area setting
The lamp 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.)	1. Reduce sensitivity. 2. Check the movement behind walls to avoid facilities such as water pipe, fan, which may mis-trigger the sensor.
The lamp will not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection radius is too small.	Check detection area setting