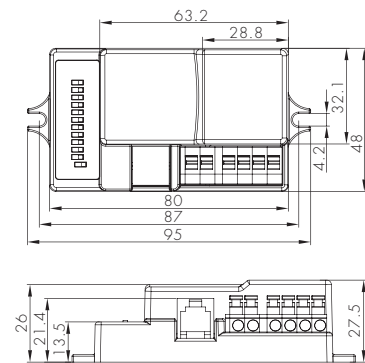
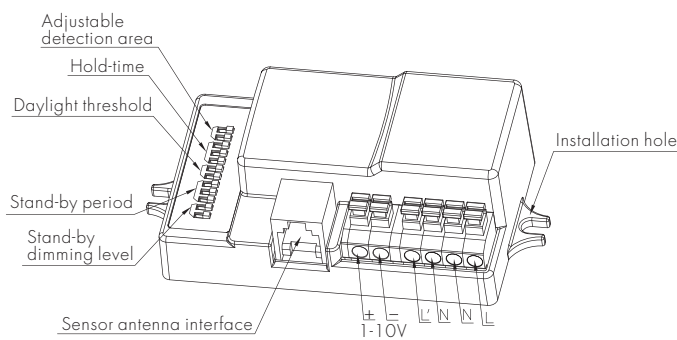


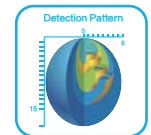
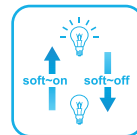
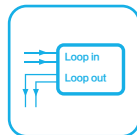
Detached Version Tri-level Dimming Control

Model: HC403VRC-KD
with HRC-05

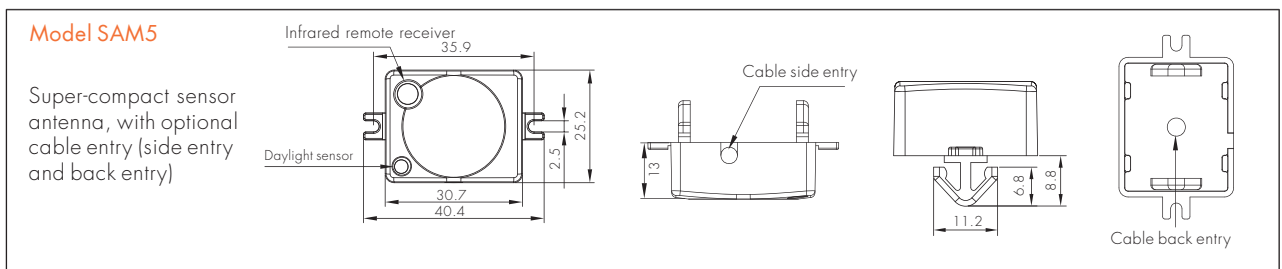


Model: HC403VRC-KD

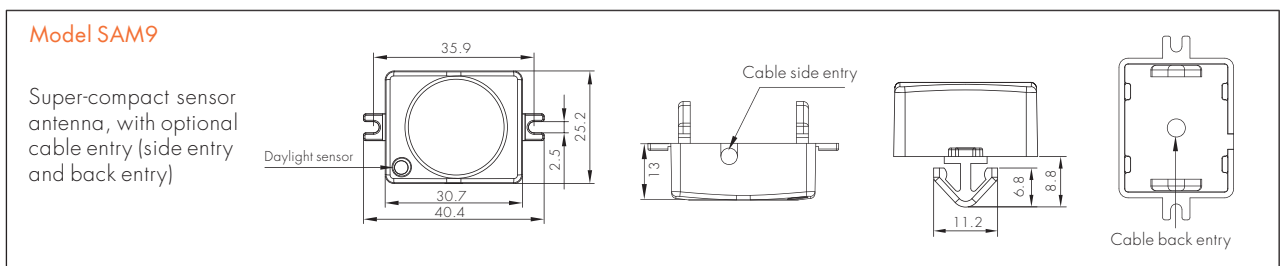
Mechanical structure (mm)



Detached sensor antenna module:

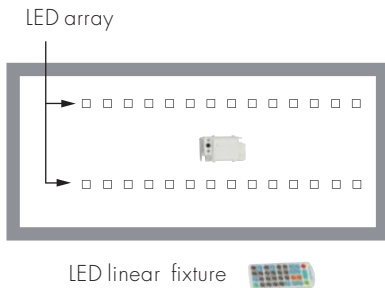


Detached sensor antenna module:

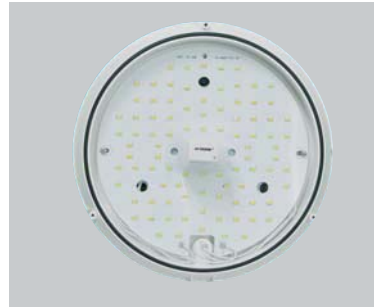


This sensor is particularly designed for below applications:

1. LED panel light, where the space is limited and ordinary sensors are too big and too high, easily cast shadow in the shade.
2. Office light, most of which have narrow space in between the LED array, and too flat to cause visible shadows
3. 2D bulkhead, where the space between the tube is too narrow for the complete sensor.



tiny antenna is placed in between the LED array, while the main body is hidden beneath the metal tray.



For LED bulkhead



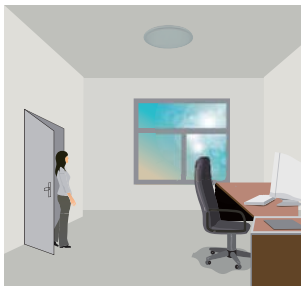
For 2D 28/38W lamps

This sensor is particularly designed for light fittings where the space is very limited for a big sensor, for instance, on the LED panel bulkhead, and 2D lamp. In such applications, only the detached small antenna is needed on the outer surface, while the sensor body and the driver/ballast can be hidden behind the panel.

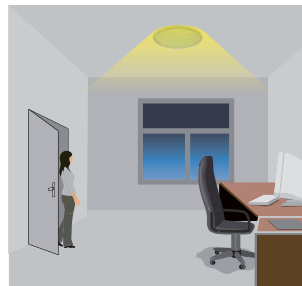
Functions and Options

1 Tri-level Dimming Control (Corridor Function)

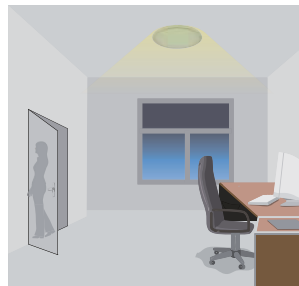
It offers 3 levels of light: 100%-->dimmed light (5%, 10%, 20%, 30% optional)-->off; And 2 periods of selectable waiting time: Motion hold-time and stand-by period; selectable daylight threshold and freedom of detection area.



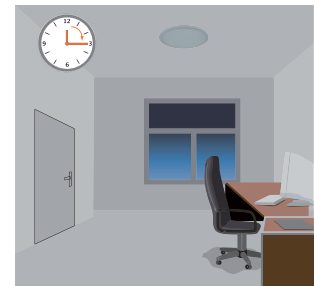
With sufficient natural light, the light does not switch on when presence detected.



With insufficient natural light, the sensor switches on the light automatically when person enters the room.



After hold-time, the light dims to stand-by level or turns off completely if surrounding natural light is above the daylight threshold.



Light switches off automatically after the stand-by period elapsed.

2 8H Manual on Mode for LED Lamp

Rapidly turn off/on the power supply three times within 3 seconds, the light will be 100% on for 8 hours, and then goes to sensor mode automatically after 8 hours. Useful when sensor function is not needed in special occasion.

Note: this 8H manual on mode can be cancelled by turning off/on the power supply one time within 1 second.

3 Zero-cross Relay Operation

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

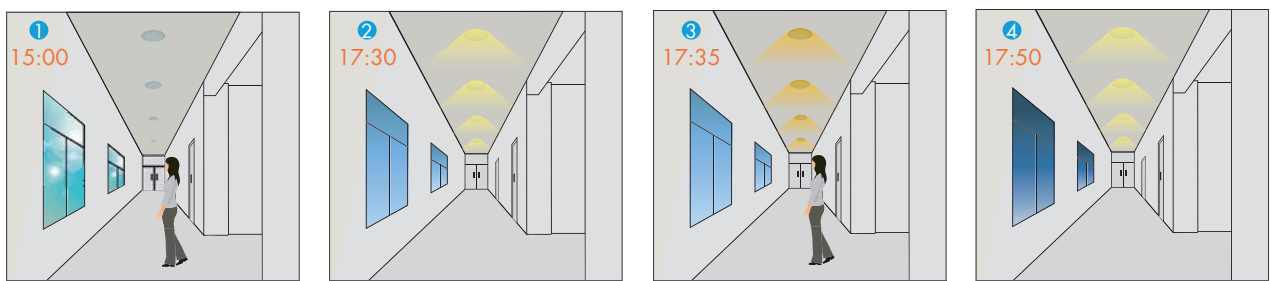
4 Loop-in and Loop-out Terminal

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

5 Daylight Monitoring Function

Hytronik specially designed this function in software for deep energy-saving purpose:

1. With sufficient natural light, the light won't turn on when motion detected.
2. After hold-time, the light turns off completely if surrounding natural light is sufficient.
3. When stand-by period is preset at "+∞", the light will turn off completely when surrounding natural light is sufficient during stand-by period, and turn on at dimming level automatically when natural light is below daylight threshold.



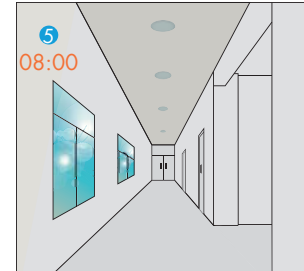
With sufficient natural light, the light does not switch on even there is movement detected.

At dusk, as the natural light drops below threshold value, the sensor turns on the light at the dimmed level.

The light switches on at 100% when there is movement detected.

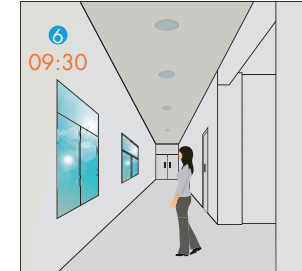
Light dims to stand-by level after the hold-time.

3 ↔ 4 goes in cycle during the night ...



100% on when movement detected, and dims to 10% in long absence.

At dawn, light turns off completely when natural light reaches above daylight threshold.



Light does not switch on even when movement detected during the daytime.

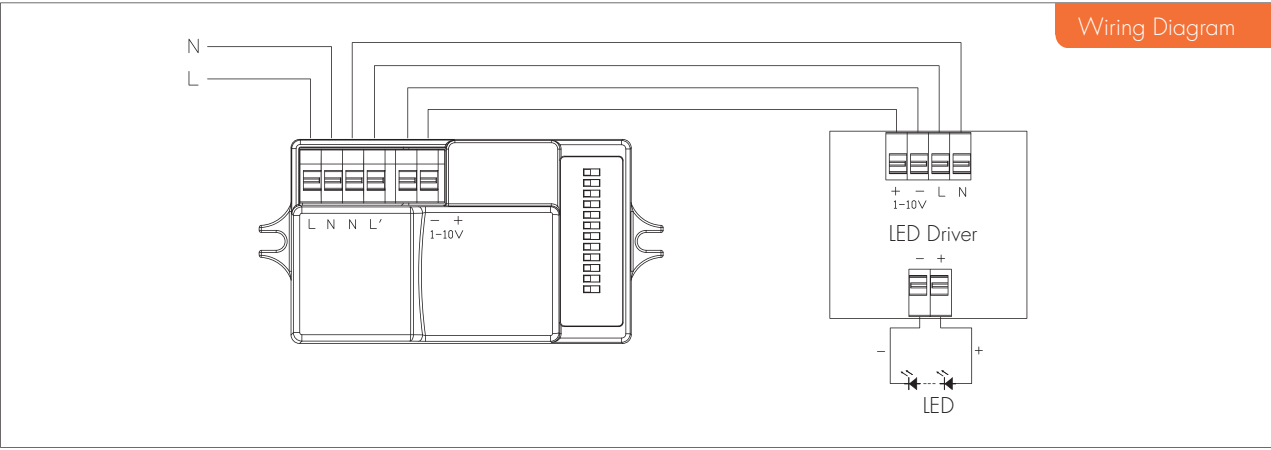
Settings on this demonstration:

Hold-time	10min
Daylight threshold	50lux
Stand-by period	+∞
Stand-by dimming level	10%

6 Ambient Daylight Threshold

Switch the power supply to the sensor two times within 2 seconds, the sensor can set the ambient lux level as the new threshold. Both the settings on DIP switch and the ambient lux threshold learned can overwrite each other.

This feature enables the daylight sensor to be commissioned to the environment in which it is installed. The latest action controls. (More details of the operation procedure please refer to user manual).



Wiring Diagram

Note: this 1-10V is a isolated SELV control signal.

Settings (Remote Control HRC-05)



Permanent ON/OFF function

Press the "ON/OFF" button, the light goes to permanent on or permanent off mode, sensor is disabled.

* Press "Auto Mode", "RESET" or "Scene mode" buttons to quit from this mode.



Sensor mode

Press "Auto Mode" button, the sensor starts to work and all settings remain the same as the latest status before the light was switched on/off.



Reset function

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



Dim +/-

Long press "Dim +" or "Dim -" to adjust the light brightness during hold-time. "+" means dimming up, "-" means dimming down.



Test mode

The button "Test 2s" is for testing purpose only. The sensor goes to test mode (hold-time is 2s) automatically after commissioning, meanwhile the stand-by period and daylight sensor are disabled.

* This mode can be ended by pressing "reset", or any button of "scene mode" and "hold time". The sensor setting is changed accordingly.



Power output

By pressing these two buttons, the output shifts between 80% (at initial 10,000 hours) and 100%, for energy saving purpose.



Ambient daylight threshold

Press this button, 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 real application circumstance.



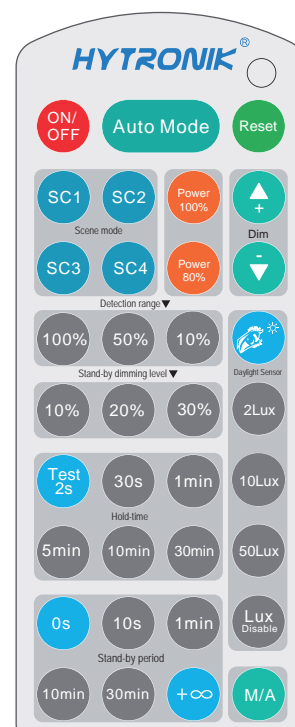
Lux disable

Press this button, the built-in daylight sensor stops working, and all motion detected could turn on the lighting fixture, no matter how bright the natural light is.



Manual override / absence detection

Note: this button is disabled.



HRC-05

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

Scene mode

There are 4 scene modes fixed program built-in the remote control to choose 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: End-user can adjust the settings by pressing buttons of detection range/hold-time/stand-by period/stand-by dimming level/daylight sensor. The latest setting stays in validity.

Detection range

Press the buttons of "detection range" to set detection range at 10% / 50% / 100%.

Hold-time

Press the buttons of "hold-time" to set hold-time at 30s / 1min / 5min / 10min / 30min.

Daylight sensor

Press the buttons of "daylight sensor" to set daylight threshold at 2Lux / 10Lux / 50Lux.

Stand-by period (corridor function)

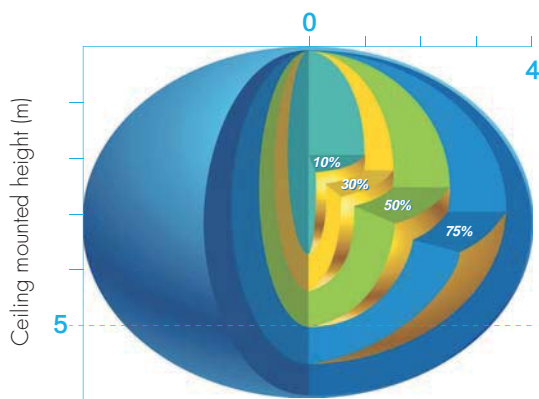
Press the buttons of "stand-by period" to set stand-by period at 0s / 10s / 1min / 10min / 30min / +∞.

Note: "0s" means on/off control; "+∞" means bi-level dimming control, light never switches off when daylight sensor is disabled.

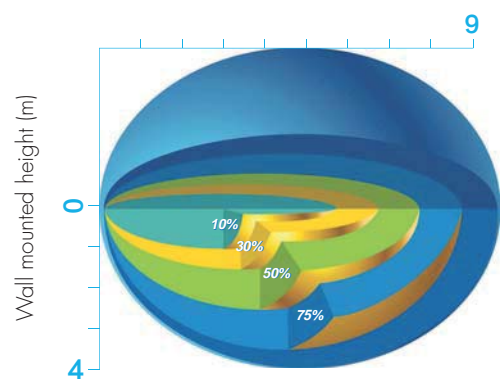
Stand-by dimming level

Press the buttons of "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30%.

Detection Pattern



Ceiling mounted detection pattern (m)



Wall mounted detection pattern (m)

Settings

1 Detection area

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

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



I – 100%
II – 75%
III – 50%
IV – 10%

2 Hold-time

Hold-time means the time period to keep the lamp on 100%, after all motion has ceased (detection area vacated).

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



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

3 Daylight sensor

The daylight threshold can be set on DIP switches, to fit for particular application.

“Daylight” : The lamp works always, even during daylight.

“Twilight” : The lamp works only in twilight and in darkness.

“Darkness” : The lamp works only in darkness.

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



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

4 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.

Note: “0s” means on/off control;

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

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



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

5 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.

	1	2	
I	●	●	5%
II	●	○	10%
III	○	●	20%
IV	○	○	30%



I – 5%
II – 10%
III – 20%
IV – 30%

Technical Data

Operating voltage	120~277VAC
Switched power (capacitive load)	400W@120VAC; 800W@230VAC; 1000W@277VAC
Stand-by power	<1W
Detection area	10%/50%/75%/100% (100%/50%/10% on RC)
Hold-time	5s/30s/1min/5min/10min/20min/30min (TEST 2s/30s/1min/5min/10min/30min on RC)
Stand-by period	0s/10s/1min/5min/10min/30min/1h/+∞ (0s/10s/1min/10min/30min/+∞ on RC)
Stand-by dimming level	5%/10%/20%/30% (10%/20%/30% on RC)
Daylight threshold	2~50Lux/disable (2Lux/10Lux/50Lux/Lux disable on RC)
Sensor principle	High frequency (microwave)
Microwave frequency	5.8GHz+/-75MHz
Microwave power	<0.2mW
Detection range	Max. (∅xH): 8m x 5m
Detection angle	30°~150°
Mounting height	Max. 5m
Operating temperature	-20°C ~ +60°C
IP rating	IP20
Certificate	Semko, CB, EMC, CE, R&TTE, SAA