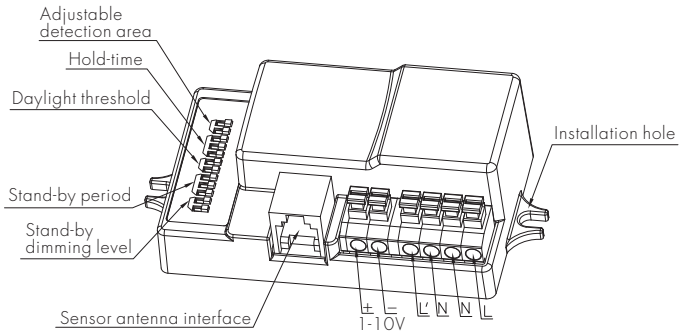
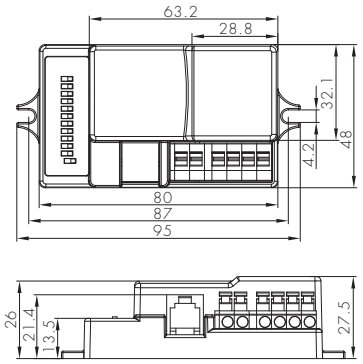
Detached Antenna Version
Tri-level Control

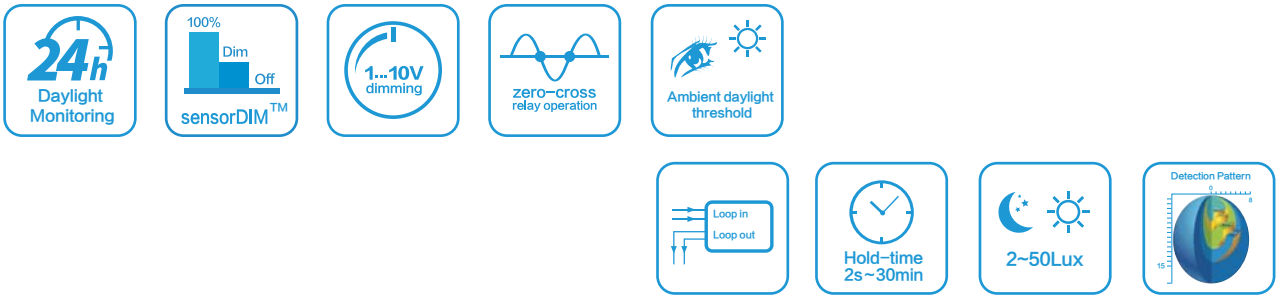
Model: HC403VRC-KD
with HRC-05



Model: HC403VRC-KD



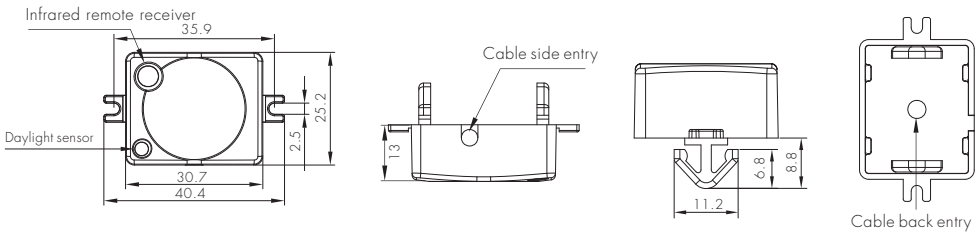
Mechanical structure (mm)



Detached sensor antenna module:

Model SAM5

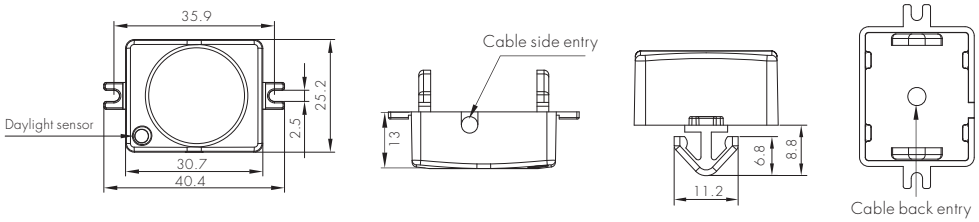
Super-compact sensor antenna, with optional cable entry (side entry and back entry)



Detached sensor antenna module:

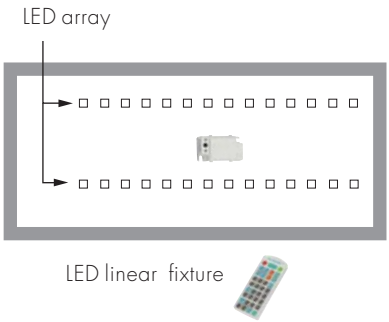
Model SAM9

Super-compact sensor antenna, with optional cable entry (side entry and back entry)



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

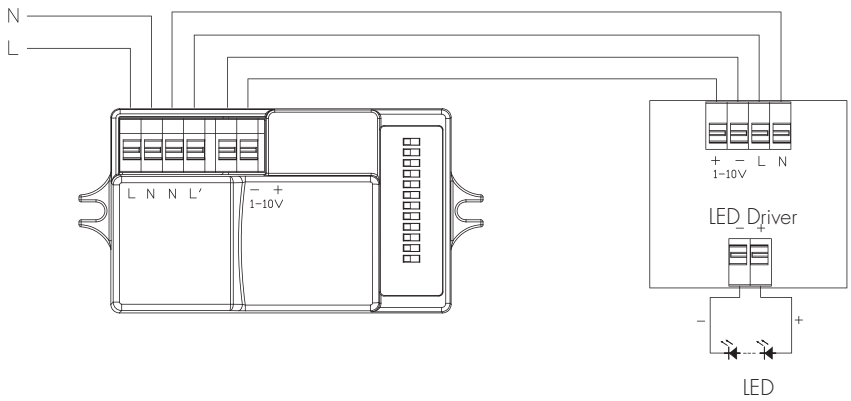
For 2D 28/38W lamps

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.

Product Functions and Features

1. Tri-level control (corridor function)
2. Zero-cross relay operation
3. Wire loop-in and loop-out
4. Daylight monitoring function with threshold control

Wiring Diagram



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

Settings (Remote Control HRC-05)

ON/OFF

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.

Auto 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

Press these buttons to select full output level. 80% button allows for energy saving and reverse dimming to compensate for LED lumen depreciation over time. Supports fluorescent 10,000 hr initial burn-in.

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.

HRC-05

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

Lux disable

Press this button to disable the daylight sensor for threshold control. When motion is detected, the fixture will always turn ON, regardless of ambient light level.

Manual override / absence detection

Note: this button is disabled.

Scene mode

There are four scene modes fixed programs built-into the remote control. Select as appropriate. Each scene can be modified using the remote. The sensor will remember updates even after power outage. The green "RESET" button on remote reverts to original defaults.

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

Select as appropriate to adjust/reduce sensor sensitivity, detection range from 100%.
Typical 100% sensor motion detection range is 9m. Please refer to detection pattern below.

Hold-time

Hold-time is time fixture remains at programmed full power level AFTER no motion is detected.

Daylight sensor

Select daylight sensor threshold level at MIN 2 LUX or MIN 20LUX. Ambient light must below this MIN LUX threshold for sensor to turn fixture ON. Press Blue button to sample ambient light. Press Lux Disable button for fixture to always turn On when motion is detected.

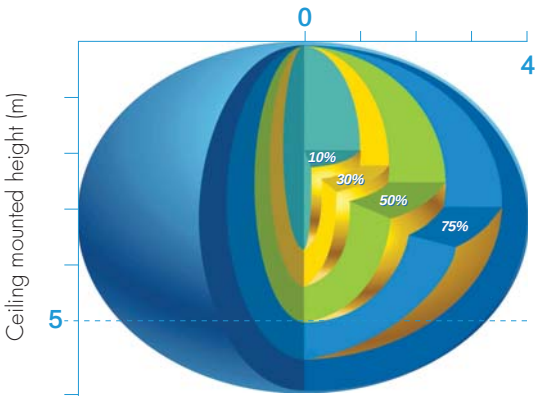
Stand-by period (tri-level control)

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 control, light never switches off when daylight sensor is disabled.

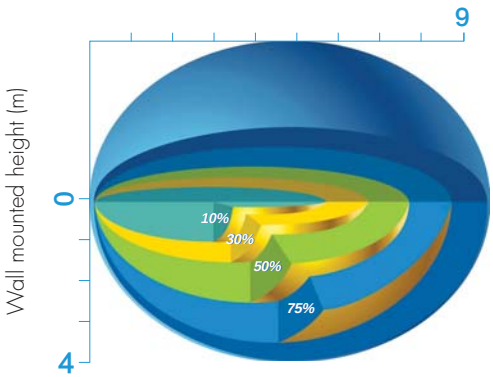
Stand-by dimming level

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

❶ 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%

❷ 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

❸ Daylight sensor

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

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

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

❹ Stand-by period (tri-level control)

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 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 – +∞

❺ 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	●	●	10%
II	●	○	20%
III	○	●	30%
IV	○	○	50%

I – 10%
II – 20%
III – 30%
IV – 50%

Technical Data

Operating voltage	120~277Vac
Switched power (capacitive load)	400W@120Vac; 800W@230Vac; 1000W@277Vac
Stand-by power	<0.5W
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	10%/20%/30%/50% (10%/20%/30% on RC)
Daylight threshold	2~50Lux/disable (2Lux /10Lux / 50Lux /Lux disable on RC)
Sensor principle	High frequency (microwave)
HF (microwave) frequency	5.8GHz+/-75MHz
HF (microwave) power	<0.2mW
Detection range	Max. (ØxH): 8m x 5m
Detection angle	30°~150°
Mounting height	Max. 5m
Operating temperature	-20°C ~ +60°C
Max. case temperature (Tc)	80°C
IP rating	IP20
Certificate	cULus listed