

On/off Control HF Sensor

HC009S-KD
Detached Version

HYTRONIK®

Applications

Occupancy detector with on/off control suitable for indoor use.

Suitable for building into the fixture:

- Office / Commercial Lighting
- Meeting room
- Classroom

Use for new luminaire designs and installations



Features



Zero crossing detection circuit reduces in-rush current and prolongs relay life



Loop-in and loop-out terminal for efficient installation



5-Year Warranty

Technical Data

Input Characteristics

Model No.	HC009S-KD
Mains voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings:	
Capacitive	400VA
Resistive	800W
Warming-up	20s

Safety and EMC

EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669-2-1, AS/NZS60669
Radio Equipment (RED)	EN300440, EN301489, EN301489, EN62479
Certification	Semko, CB, CE, EMC, RED, RCM

Sensor Data

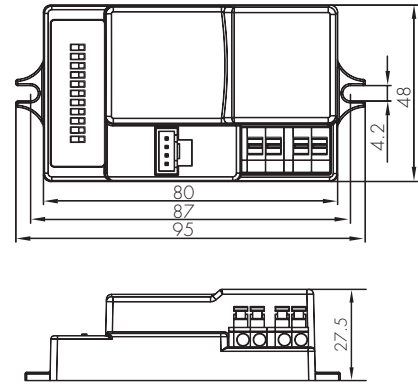
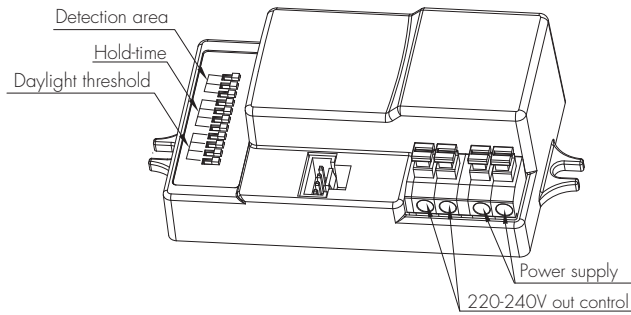
Model No.	HC009S-KD
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range	Max. (Ø x H) 12m x 6m
Detection angle	30° ~ 150°
Setting adjustments:	
Sensitivity	10% / 25% / 50% / 75% / 100%
Hold-time	10s ~ 30min (selectable)
Daylight threshold	5 ~ 50 lux, disabled

Environment

Operation temperature	Ta: -20°C ~ +60°C
Case temperature (Max.)	Tc: +80°C
IP rating	IP20

CE emc RED   CB IP20

Sensor Main body

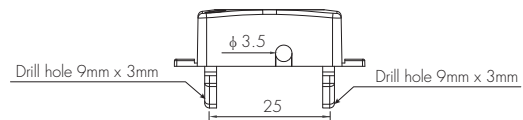
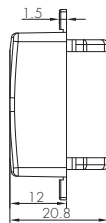
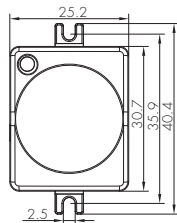
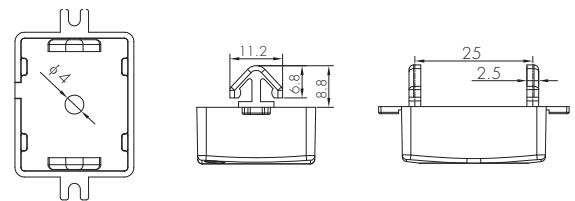
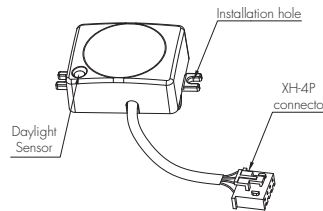


Note: We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

Detached Sensor Antenna Module

Model SAM4

HF sensor head
Tri-level Dimming
The cable length is around 65cm.



Drill hole for cable entry is 10mm x 10mm in square shape or ϕ 12mm in round shape

Typical applications:

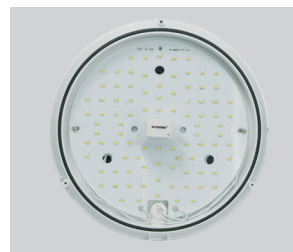
1. Office light, most of which have aluminium louvers and is impossible for microwave sensors to go through.
2. LED bulkhead or low bay, which has limited space and ordinary sensor is too big or too thick to be built in, also easy to cast shadow in the shade.

For linear T5, T8, TC-L lamps



Most of the linear office lights have metal louver, where microwave cannot penetrate through. An easy alternative solution is to use this detached sensor antenna head, grip on the T5 and T8 tube, and put the sensor main body behind the metal louver, together with the ballast or driver.

For LED bulkhead



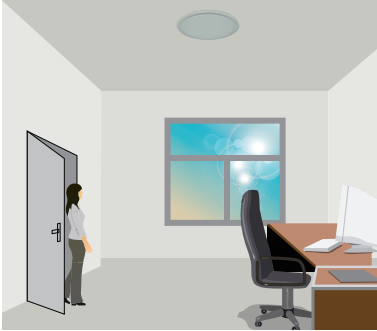
In such applications, only the detached small antenna is needed on the outer surface, while the sensor body and the driver/ballast can be hidden behind the panel. No shadow is cast in the shade.



Functions and Features

1 On/off Control

This sensor is a motion switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold-time when there is no movement. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.



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



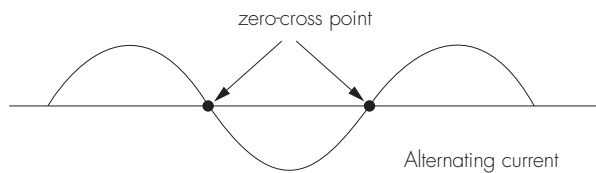
With insufficient natural light, the sensor switches on the light automatically when presence is detected.



The sensor switches off the light automatically after the hold-time when there is no motion detected.

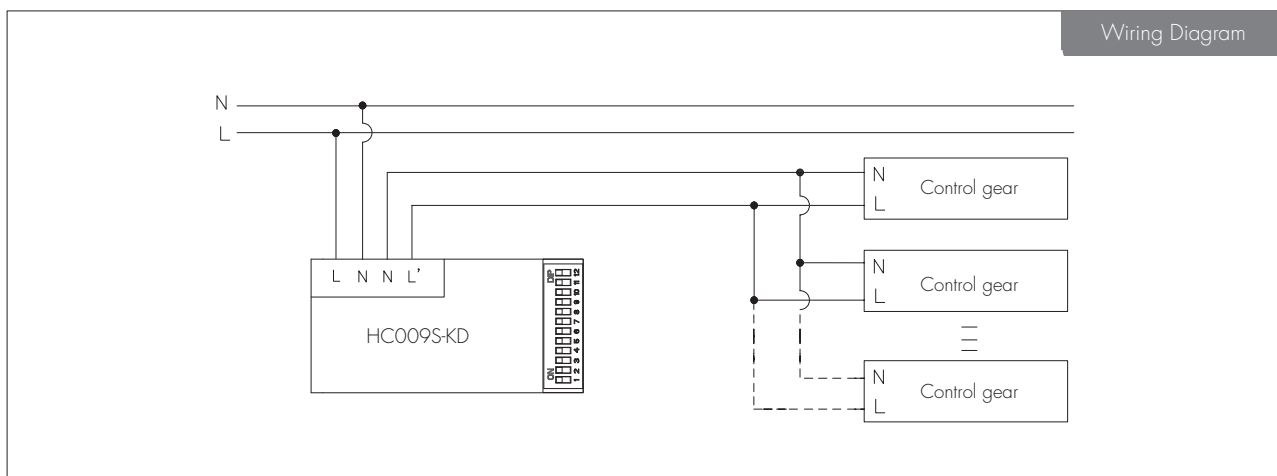
2 Zero-cross Relay Operation

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

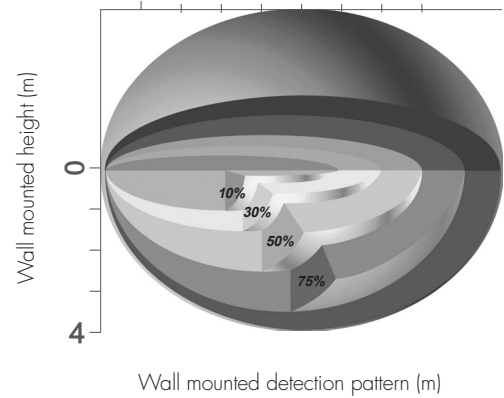
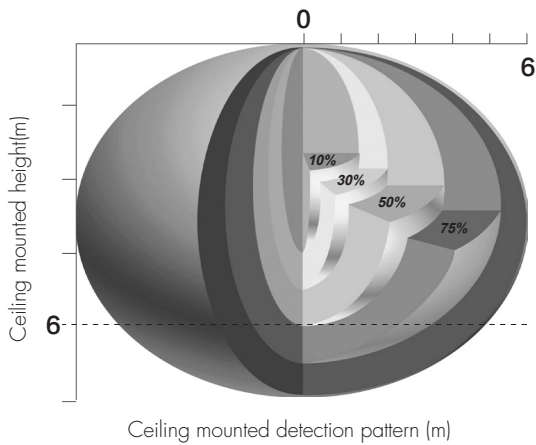


3 Loop-in and Loop-out Terminal

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



Detection Pattern



DIP Switch Settings

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1 Detection Range

Sensor sensitivity can be adjusted by selecting the combination on the DIP switches to fit precisely for each specific application.

	1	2	3	
I	●	●	●	100%
II	●	○	●	75%
III	○	○	●	50%
IV	○	●	○	25%
V	●	○	○	10%

I – 100%
 II – 75%
 III – 50%
 IV – 25%
 V – 10%

2 Hold Time

Select the DIP switch configuration for the light on-time after presence detection. This function is disabled when natural light is sufficient.

	1	2	3	4	
I	●	●	●	●	30min
II	○	○	○	●	20min
III	○	○	●	○	6min
IV	○	●	○	○	90s
V	●	○	○	○	30s
VI	○	○	○	○	10s

I – 30 min
 II – 20 min
 III – 6 min
 IV – 90s
 V – 30s
 VI – 10s

3 Daylight Threshold

Set the level according to the fixture and environment. The light will not turn on if ambient lux level exceeds the daylight threshold preset.

Please note that the ambient lux level refers to internal light reaching the sensor.

Disabling the daylight sensor will put the sensor into occupancy detection only mode.

	1	2	3	4	
I	●	●	●	●	Disabled
II	○	○	●	○	50lux
III	○	●	○	○	30lux
IV	●	○	○	○	10lux
V	○	○	○	○	5lux

I – Disabled
 II – 50 Lux
 III – 30 Lux
 IV – 10 Lux
 V – 5 Lux

Additional Information / Documents

- Regarding precautions for microwave sensor installation and operation, please kindly refer to [www.hytronik.com/download ->knowledge ->Microwave Sensors - Precautions for Product Installation and Operation](http://www.hytronik.com/download->knowledge->Microwave%20Sensors%20-%20Precautions%20for%20Product%20Installation%20and%20Operation)
- Regarding Hytronik standard guarantee policy, please refer to [www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy](http://www.hytronik.com/download->knowledge->Hytronik%20Standard%20Guarantee%20Policy)