

HC009S-KD+SAM4

HF Lowbay | On/off Control | DIP Switch Settings

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Plug&play: Detached Version with on/off control

Autonomous: On/Off occupancy control for up to 800W

Simple: Daylight, detection range and holdtime configuration via Dip-Switch

Applications

For round shape luminaire up to 6m height

Office / Meeting rooms

Schools / Classroom

Check Out the Complete System Solution on the Website:

<https://www.hytronik.com/product/HC009S-KD-SAM4>



CB

CE



RED

UK
CA

Product Description

HC009S-KD is an On/Off control base with a robust design, supporting up to 400VA capacitive or 800W resistive loads. It features microwave (HF) detection for motion sensing and includes a Photodiode (PD) for daylight sensing.

Functions and Features

See additional details at the end of datasheet



Loop-in/Loop-out



ON/OFF Control



Zero-Cross Relay
Operation

HC009S-KD+SAM4

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Specifications

Main Capabilities

Dimming (Output) Interface	Relay On/Off
Connector Type	Standard 2 cables

Sensor Data

Detection angle	30° - 150°
Lux range	5 ~ 50 lux
Max. Detection range (Diameter)	12.0 m
Maximum Mounting Height	6.0 m
Detection area	113 m ²
Sensitivity	10% / 25% / 50% / 75% / 100%

Electrical Data

Operating voltage range	220-240 VAC 50/60 Hz
Stand-by power (Psb)	<0.5W
Warming-up	20 s
In-rush current	80.0 A
In-rush current time	160.0 µs
Max withstandable in-rush current	80A@160µs
HF Transmission power	<0.2mW (HF)
Load capacitive	400.0 VA
Load resistive	800.0 W

HC009S-KD+SAM4

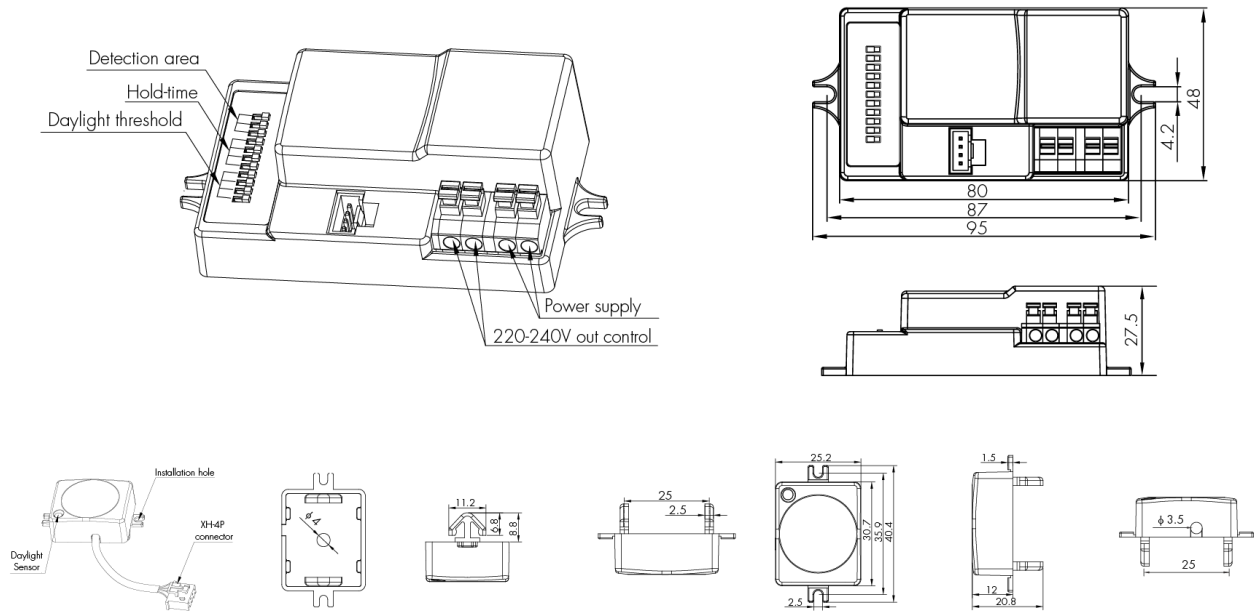
HF Lowdbay | On/off Control | DIP Switch Settings

Specifications

Technical	
Product weight	80.0 g
Product height	27.5 mm
Product length	95.0 mm
Product width	48.0 mm
Mounting hole	4.2 mm
Ambient temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
Case Temp.max	75.0 °C
IP Rate	IP20

Standard	
EMC	EN 55015, EN61000-3-2/-3-3, EN 61547
LVD	EN 60669-1, EN 60669-2-1
RED	EN 300440, EN301489-1, EN301489-3, EN 50663

Technical Drawing

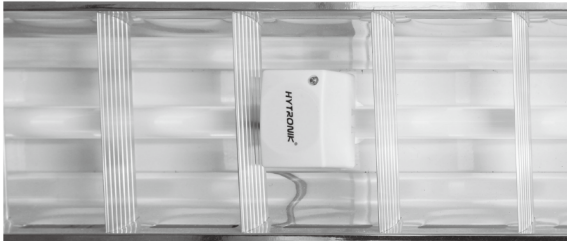


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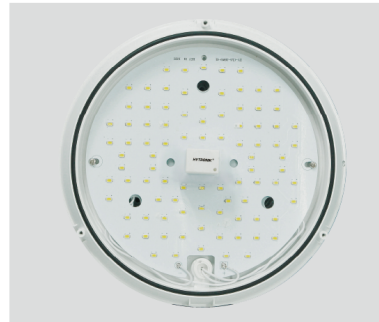
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Installation Process

A.



B.



Detailed Installation Instructions

1. Office light, most of which have aluminium louvres 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.

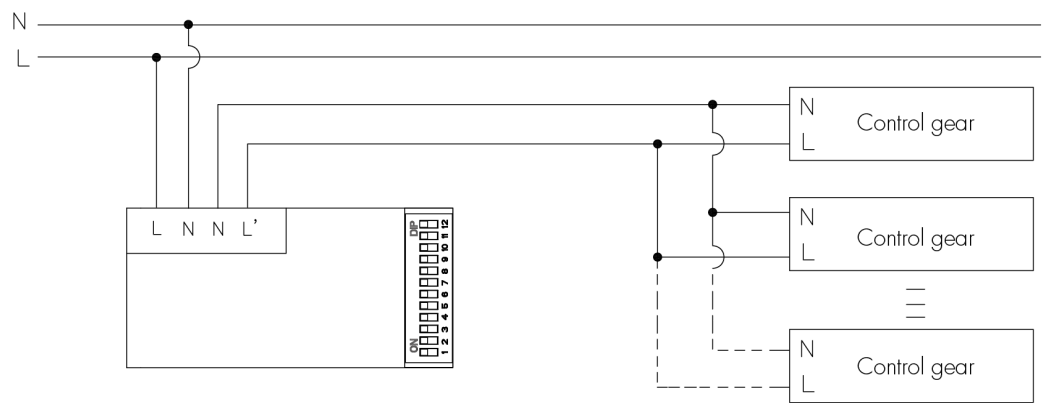
A. For linear T5, T8, TC-L lamps

Most of the linear of ce lights have metal louvre, 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 louvre, together with the ballast or driver.

B. 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.

Wiring Diagram

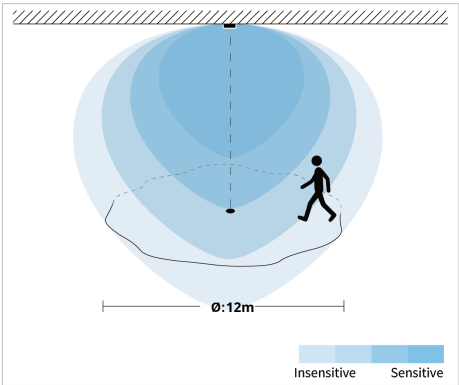


Detection Range

Single Person Walk (Ceiling mount)

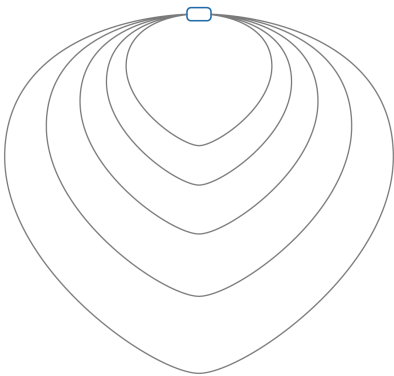
- The data below is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C

Detection example 6m mounting height:



Sensitivity	
H[m]	100%
	Ø[m]
6	12

Detection schematic diagram

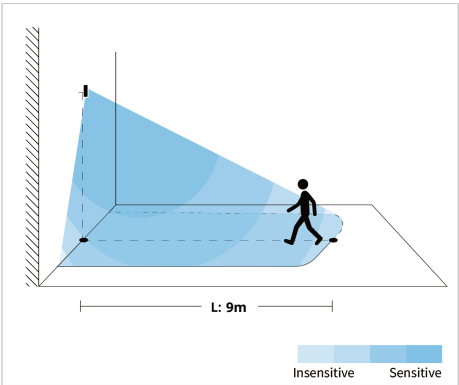


Detection Range

Single Person Walk (Wall mount)

- The data below is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C

Detection example 4m mounting height:



	Sensitivity
H[m]	100%
	L[m]
4	9

Commissioning Instructions and Precautions

A. Installation Notes

1. This product should be installed by a qualified electrician.
2. It is recommended that the mounting distance between sensors to sensors should be more than 2m to prevent sensors from false-triggering.
3. Ensure the proper connection of the sensor main body (HC009S/KD) and sensor head (SAM4), as improper connection may lead the software to continuously detect the sensor head type when powered up. This can result in luminaires flashing to indicate a problem.
4. Verify that the daylight sensor is not covered or hidden within the luminaires. Even if the DIP switch settings disable the daylight sensor, the software will still persistently detect the sensor head type, causing the luminaires to flash and signaling an issue.

B. Detached Sensor Antenna Module

1. The default cable length is around 30cm. (Other cable lengths can be supplied upon request)
2. The drill hole for cable entry is 10mm x 10mm (square shape) or $\phi 12$ mm (round shape).

Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

<https://hytronik.com/service/downloads>

DIP Switch Settings

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



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



Hold Time

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

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



Daylight Threshold

Set the level according to the xture 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.

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Options

Compatible products (for full functionality)



SAM4

HF Lowbay | Tri-level dimming | XH-4P connector

www.hytronik.com/product/SAM4

Functions and Features



Loop-in / Loop-out

The product provides loop-in/loop-out terminals that allow mains wiring to pass through the device for quick and convenient daisy-chain installation. This simplifies on-site wiring, reduces junction box requirements, and enables efficient connection of multiple luminaires or drivers in a single circuit.



ON/OFF Control

The product supports basic ON/OFF control of the connected luminaire, allowing the light to be switched fully on or off through the sensor's detection logic or an external control input. This provides straightforward lighting control for applications that do not require dimming functionality.



Zero-Cross Relay Operation

The product operates its relay at the AC zero-cross point, reducing inrush current through the relay contacts when switching the load. By minimising electrical stress during each switching event, this method supports higher load capability and extends the operational lifetime of the relay in practical lighting applications.

Check out for further explanation of features

<https://hytronik.com/solutions/lighting-control-features>