

## On/off Control HF Sensor

HC009S

Standard 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

-  Synchronised control with multiple sensor circuits
-  Zero crossing detection circuit reduces in-rush current and prolongs relay life
-  Loop-in and loop-out terminal for efficient installation
-  5 Year, 50,000hr Warranty

### Technical Data

#### Input Characteristics

Model No.	HC009S
Mains voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings:	
Capacitive	400W
Resistive	1200W
Warming-up	20s

#### Safety and EMC

EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669-1, AS/NZS 60669
Radio Equipment (RED)	EN300 440, EN301489-1, EN301489-3, EN62479
Certification	Semko, CB, CE, EMC, RED, SAA

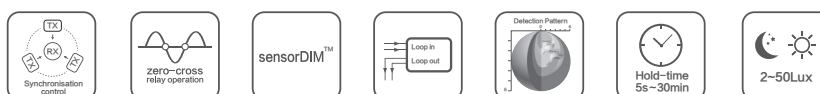
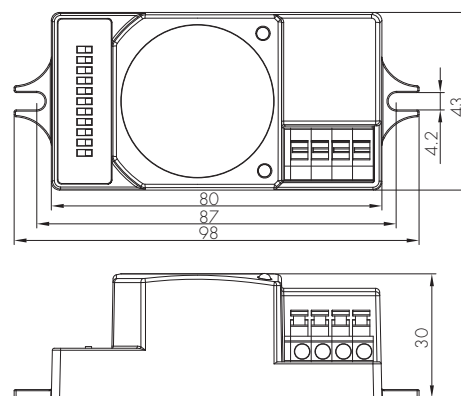
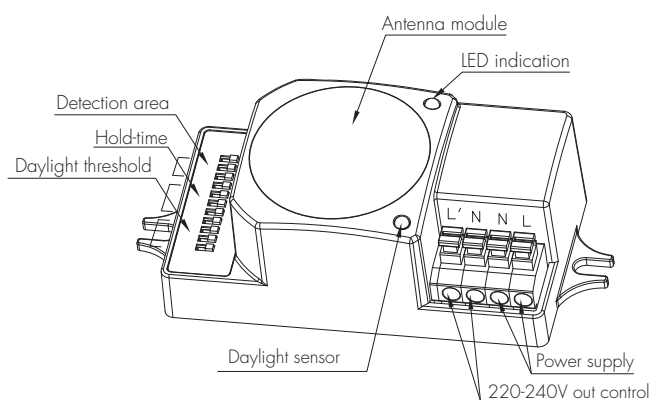
#### Sensor Data

Model No.	HC009S
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	5s ~ 30min (selectable)
Daylight threshold	2 ~ 50 lux, disabled

#### Environment

Operation temperature	Ta: -35°C ~ +70°C
Case temperature (Max.)	Tc: +85°C
IP rating	IP20

CE  RED  SAA CB IP20



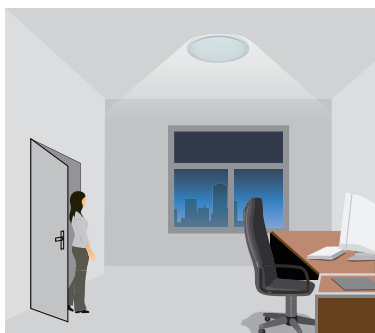
## Functions and Features

### 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.

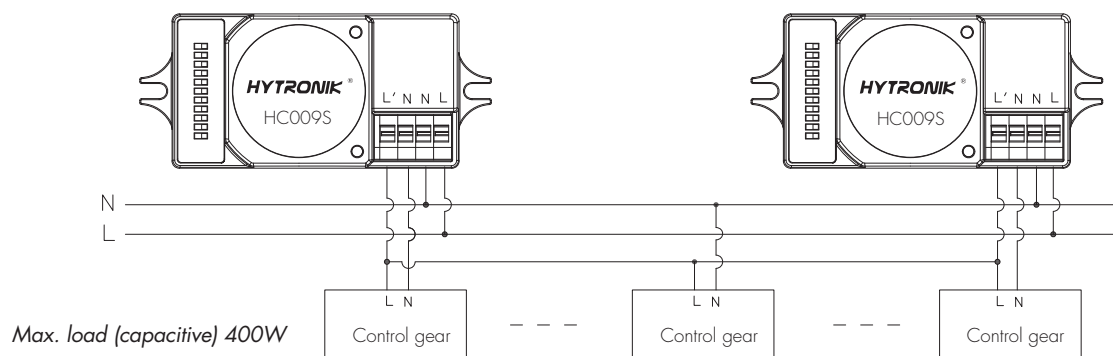


With insufficient natural light, the sensor switches on the light automatically when presence is detected.



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

### Wiring Diagram



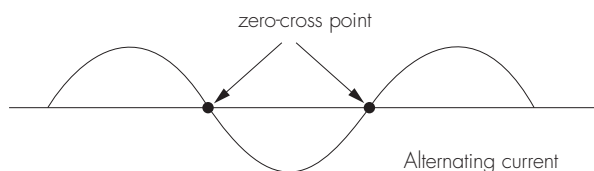
## 2 Synchronisation Control

In many cases, several sensors are connected together to control the same fixture, or to trigger each other, the sudden on/off of the lamp tube or the ballast/driver causes huge magnetic pulse, which may mis-trigger the sensor. This sensor has a very advanced software to ignore that interference.

By connecting L' terminal with L' on another sensor, if any of the master fixture (containing sensor) is triggered, all luminaries (including slaves and other master unit in the group) will also light up.

## 3 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.

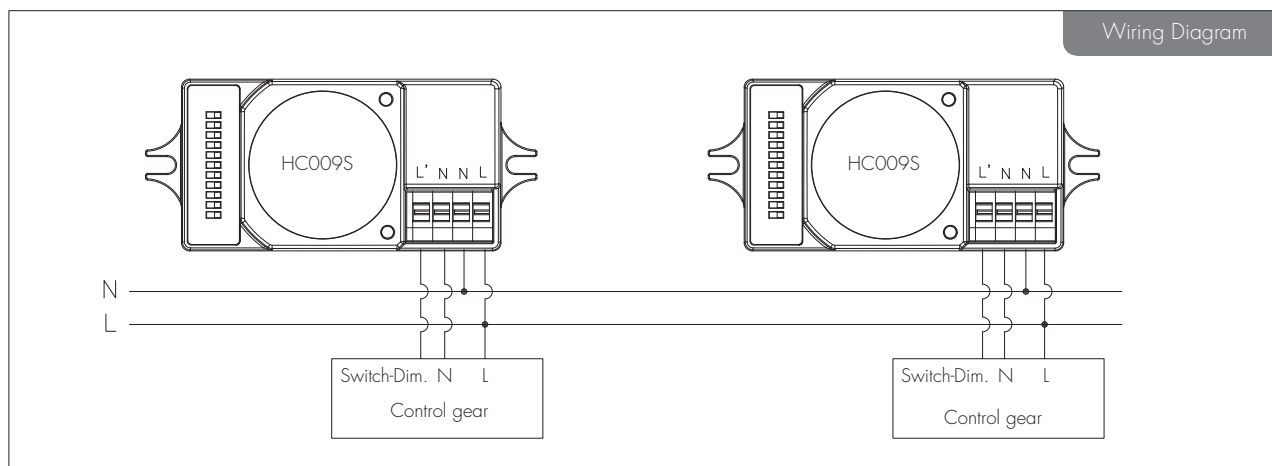


## 4 Loop-in and Loop-out Terminal

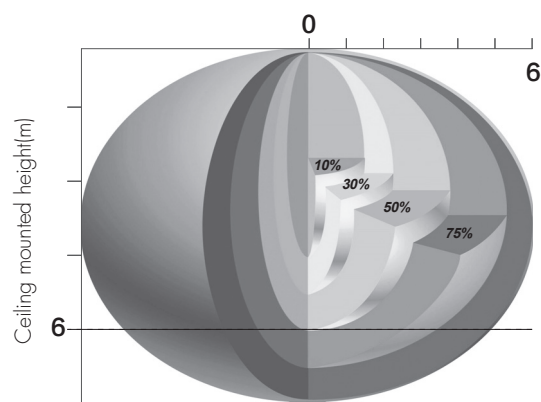
Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.

## 5 SensorDIM™ Function

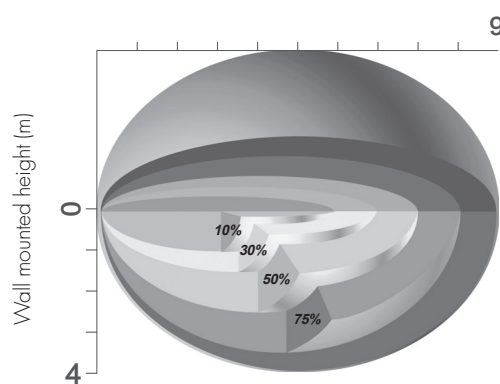
Working with Switch-dim. control gear (Excel ballast/driver, corridor function), this sensor can also achieve tri-level control.



## Detection Pattern



Ceiling mounted detection pattern (m)



Wall mounted detection pattern (m)

## DIP Switch Settings

### 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	●	●	●	●	5s
II	○	●	●	●	30s
III	●	○	●	●	1min
IV	●	●	○	●	5min
V	●	●	●	○	15min
VI	○	○	○	○	30min



I – 5s  
II – 30s  
III – 1min  
IV – 5min  
V – 15min  
VI – 30min

### 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	●	●	●	●	2Lux
II	○	●	●	●	5Lux
III	●	○	●	●	10Lux
IV	●	●	○	●	30Lux
V	●	●	●	○	50Lux
VI	○	○	○	○	Disable



I – 2Lux  
II – 5 Lux  
III – 10 Lux  
IV – 30 Lux  
V – 50 Lux  
VI – Disabled

*Note: end-user can also scan the QR code on the housing for DIP switch settings.*