On/off Control HF Sensor

HC005S

Super-compact Version

HYTRONIK®



Applications

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

Suitable for building into the fixture:

- Office / Commercial Lighting
- Meeting rooms
- 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.	HC005S
Mains voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings:	400VA (Capacitive) 800W (Resistive)
Max withstandable in-rush current	80A@160μs
Warming-up	10s

*The Max withstandable in-rush current tested under 50% Ipeak / 230Vac

Safety and EMC

EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669, AS/NZS 60669
Radio Equipment (RED)	EN300440, EN301489, EN301489, EN62479
Certification	Semko, CB, CE , EMC, RED, RCM

CE emc RED CB IP20

Sensor Data

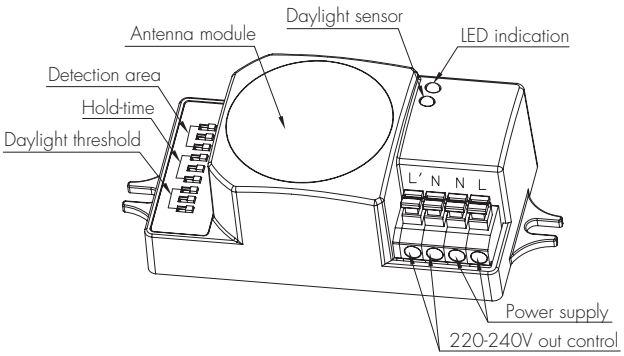
Model No.	HC005S
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range*	Max. (Øx H) 12m x 6m
Detection angle	30° ~ 150°
Setting adjustments:	
Sensitivity	10% / 30% / 50% / 75%/ 100%
Hold-time	5s ~ 30min (selectable)
Daylight threshold	2 ~ 50 lux, disabled

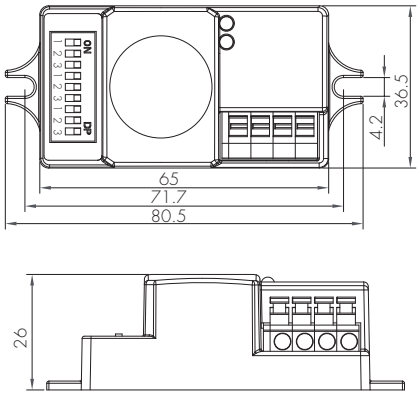
* For more details of detection range, please refer to "detection pattern" section.

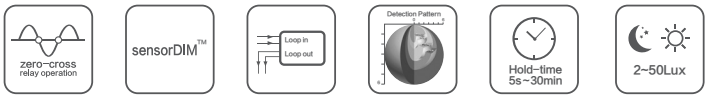
Environment

Operation temperature*	Ta: -35°C*~ +70°C
Case temperature (Max.)	Tc: +80°C
IP rating	IP20

*For usage in -35°C ~ -20°C enviroment, please refer to www.hytronik.com/download ->knowledge ->Microwave Sensors - Precautions for Product Installation and Operation point 4) for more information.





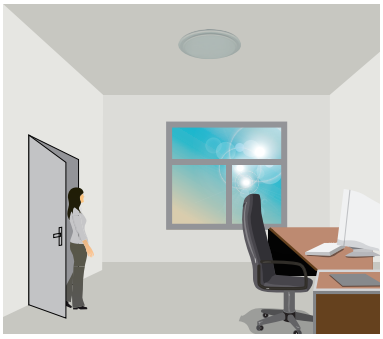


Note:We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

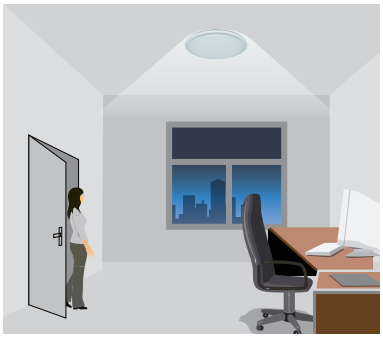
Functions and Features

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.

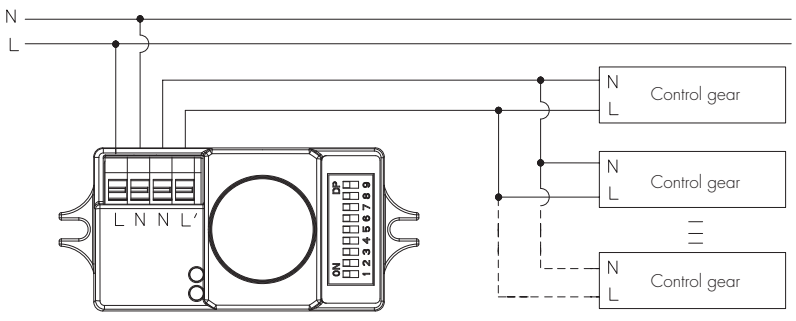


With insufficient natural light, the sensor switches on the light automatically when presence is detected.



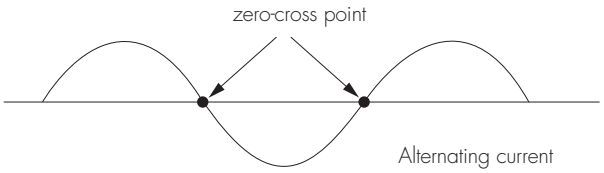
The sensor switches off the light automatically after the hold-time when there is no motion detected.

Wiring Diagram



2 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.



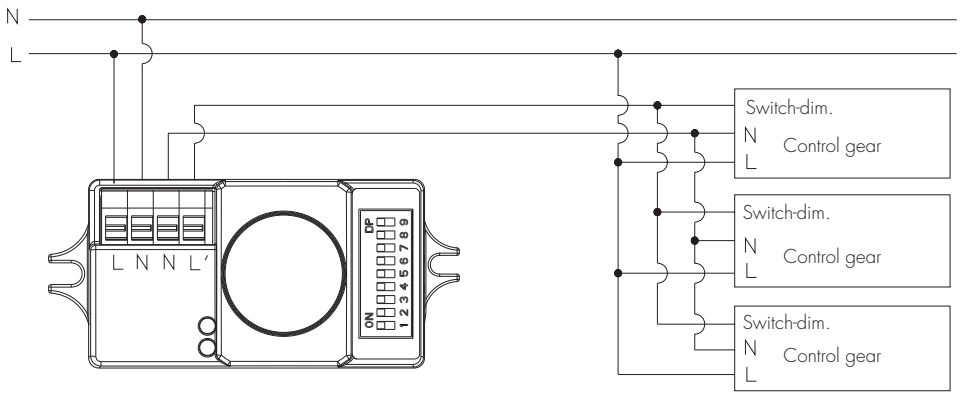
3 Loop-in and Loop-out Terminal

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

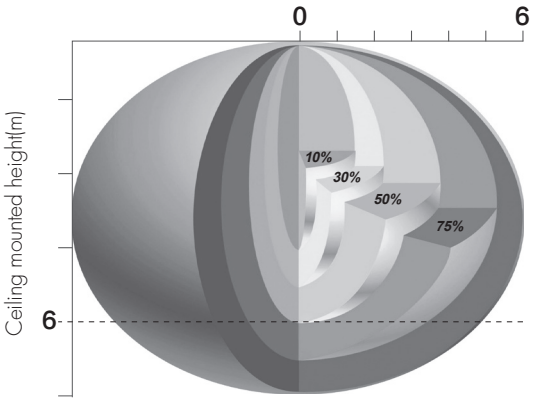
4 SensorDIM™ Function

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

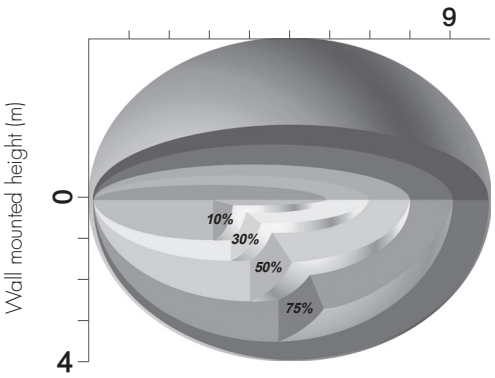
Wiring Diagram



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	○	○	●	30%
V	○	○	○	10%



I – 100%
II – 75%
III – 50%
IV – 30%
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	
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 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	
I	●	●	●	Disable
II	○	●	●	50Lux
III	○	●	○	20Lux
IV	○	○	●	5Lux
V	○	○	○	2ux



I – Disable
II – 50 Lux
III – 20 Lux
IV – 5 Lux
V – 2 Lux

Additional Information / Documents

1. 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

2. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy