On/off Control HF Sensor

HC005S/H

Super-compact Version, High-bay

HYTRONIK®

CE emc RED CB IP20

Applications

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

Suitable for building into the fixture:

- Industrial area
- Warehouse
- Storage room

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
- High bay (up to 12m in height)
- 5-Year warranty

Technical Data

Input Characteristics	
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

Sensor Data	
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range*	Max. (Øx H) 20m x 12m
Detection angle	30° ~ 150°
Setting adjustments:	
Sensitivity	10% / 30% / 50% / 75%/ 100%
Hold-time	5s ~ 30min (selectable)
Daylight threshold	2 ~ 50 lux, disabled

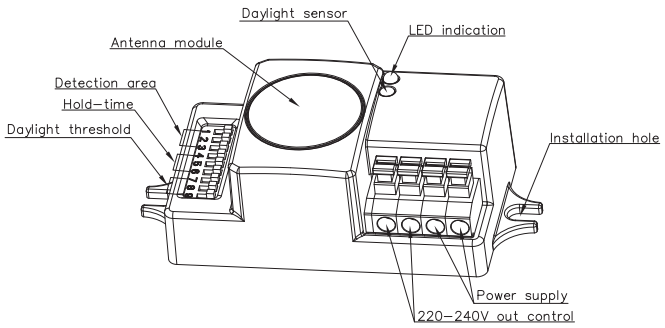
* For more details of detection range, please refer to "detection pattern" section.

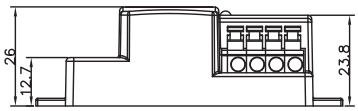
Safety and EMC	
EMC standard (EMC)	EN55015, EN61000-3-2/-3-3
Safety standard (LVD)	EN60669-1/-2-1, AS/NZS 60669.1/-2.1
Radio Equipment (RED)	EN300440，EN301489-1, EN301489-3, EN62479
Certification	Semko, CB, CE , RCM, UKCA

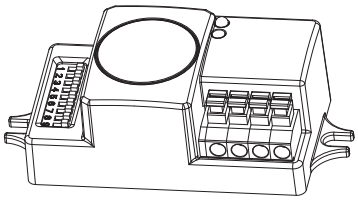
Environment	
Operation temperature*	Ta: -20°C*~ +70°C
Case temperature (Max.)	Tc: +75°C
IP rating	IP20

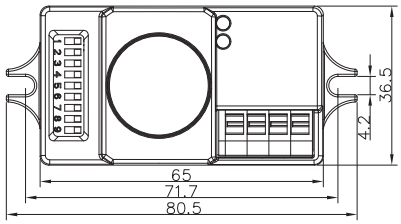
*For usage in -35°C ~ -20°C enviroment, please refer to www.hytronik.com/download ->knowledge ->Microwave Sensors - Precautions for Product Installation and Operation point 4) for more information.

Mechanical Structure & Dimensions





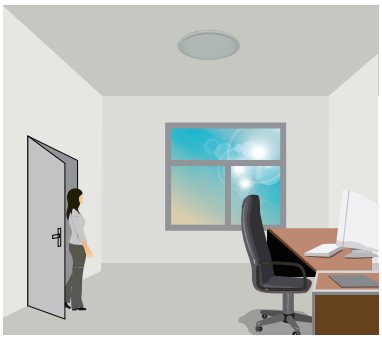




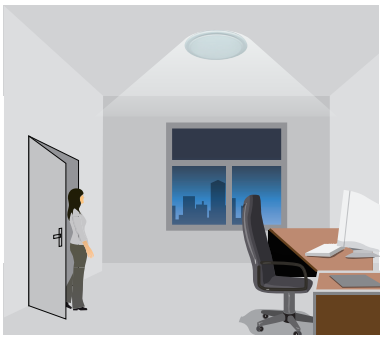
Functions and Features

1 On/off Control

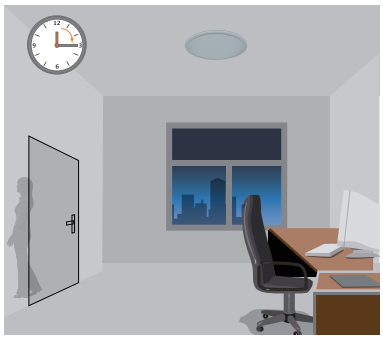
This sensor is a motion switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold-time when there is no movement. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.



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

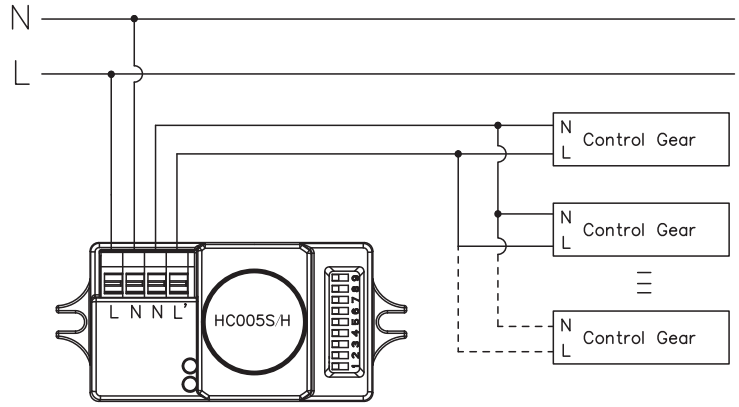


With insufficient natural light, the sensor switches on the light automatically when presence is detected.



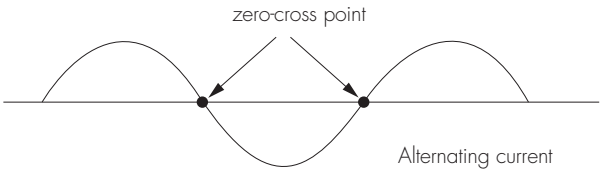
The sensor switches off the light automatically after the hold-time when there is no motion detected.

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.



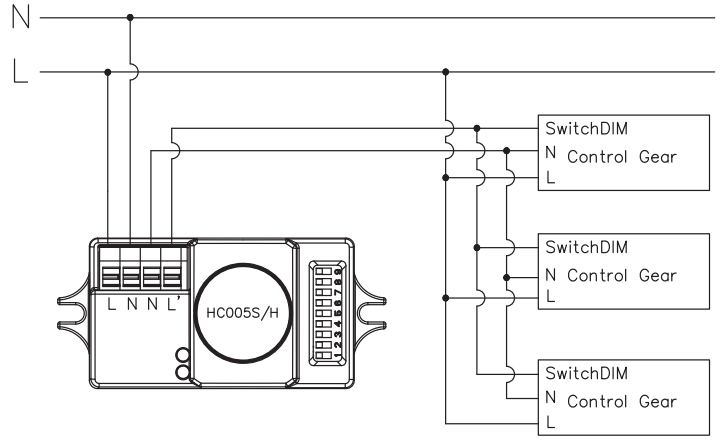
3 Loop-in and Loop-out Terminal

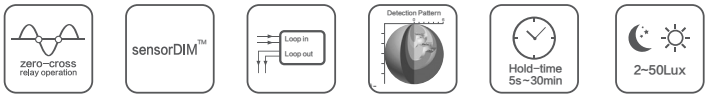
Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.

4 SensorDIM™ Function

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

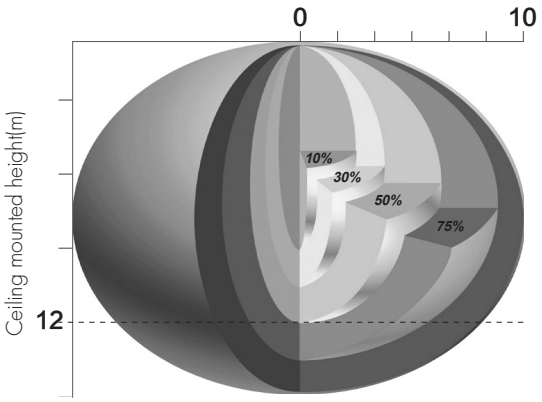
Wiring Diagram





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

Detection Pattern



Ceiling mounted detection pattern (m)

Height (m)	Sensitivity				
	100%	75%	50%	30%	10%
	Diameter (Ø:m)				
12	20	12	8	none	none
8	20	13	9	4	none
5	20	14	10	6	2
3	20	16	14	7	5

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