On/off Control HF Sensor

HC030S   HC430S/R
Attachable Version

HYTRONIK ®

Applications

Occupancy detector with tri-level control suitable for indoor use.

Suitable for building into the fixture:

- Office / Commercial Lighting
- Meeting room
- Classroom
- Warehouse (HC430S/R)

Use for retrofit or new luminaire designs/installations

Features

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

5 Year, 50,000hr Warranty

Technical Data

Input Characteristics

Model No.	HC030S HC430S/R
Mains voltage:	
HC030S	220~240VAC 50/60Hz
HC430S/R	120~277VAC 50/60Hz
Stand-by power	0.5W
Load ratings	800W (capacitive)
Warming-up	20s

Safety and EMC

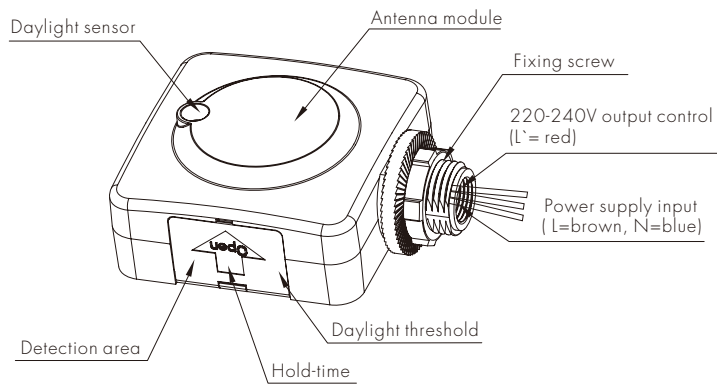|	
EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669-1
Radio Equipment (RED)	EN300440, EN301489, EN62479
Certification	Semko, CB, CE , EMC, RED, RCM

CE emc RED ⓢ Intertek ⚠ RCM CB IP20

Sensor Data

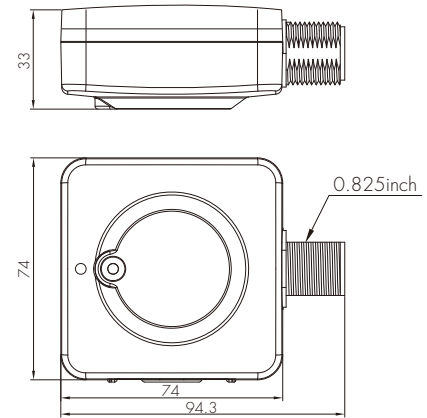| Model No.	HC030S HC430S/R
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<1mW
Detection range:	
HC030S	Max. (Ø x H) 12m x 6m
HC430S/R	Max. (Ø x H) 16m x 15m
Detection angle	$30° \sim 150°$
Setting adjustments:	
Sensitivity	10% / 25% / 50% / 75%/ 100%
Hold-time	5s ~ 30min (selectable)
Daylight threshold	2 ~ 50 lux, disabled

Environment

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

Daylight sensor

Antenna module

Fixing screw

220-240V output control
(L`= red)

Power supply input
(L=brown, N=blue)

Detection area

Hold-time

Daylight threshold

33

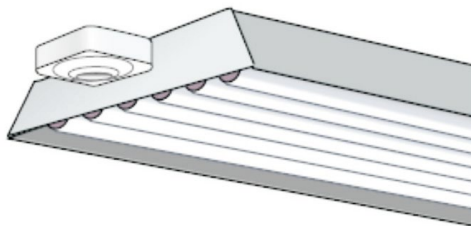74

94.3

74

0.825inch

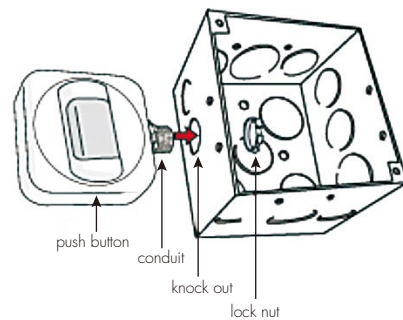HC030S: L=brown, N=blue, L'=red   HC430S/R: L=black, N=white, L'=red

This sensor is particularly designed for installation on the outside of a fixture, where a metallic body or louvre would block and interfere with the microwave detection.

Attach to metal fixture

Attach to junction box

push button

conduit

knock out

lock nut

An optional external metal conduit is available to be added on the plastic conduit to increase the length, in case the conduit is not long enough to go through the metal wall, where this is a thick recessed area for IP 65 protection.
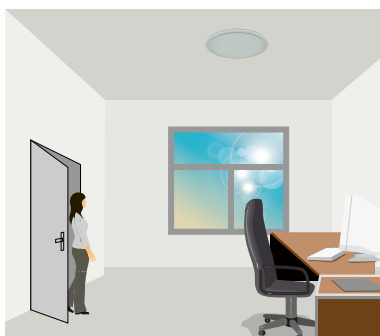
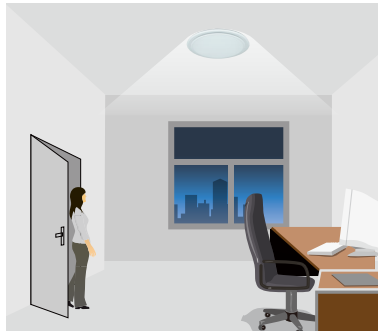Double insulation cable is also available for easy retrofit.

zero-cross
relay operation

Detection Pattern

Hold-time
5s~30min

2~50Lux

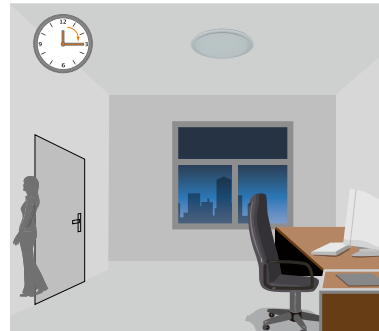## Functions and Features

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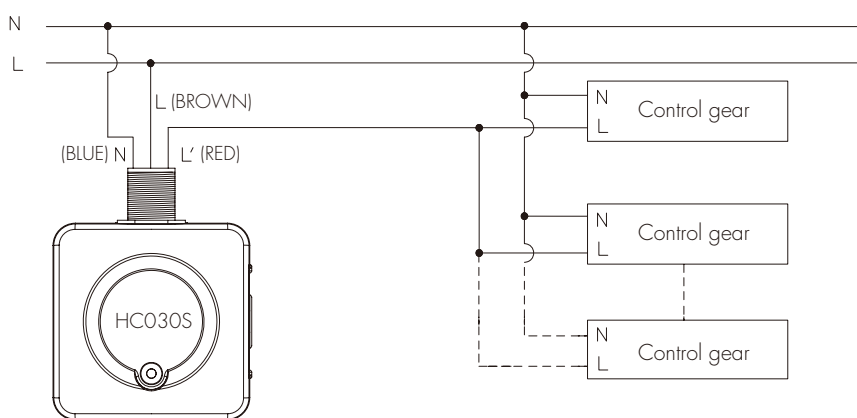
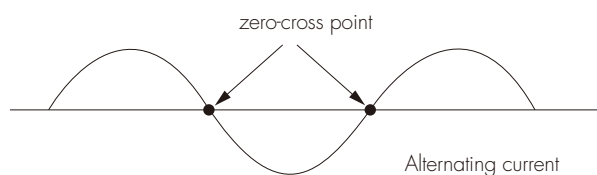With insufficient natural light, the sensor switches on the light automatically when presence is detected.

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

N

L

L (BROWN)

(BLUE) N   L' (RED)

HC030S

N
L   Control gear
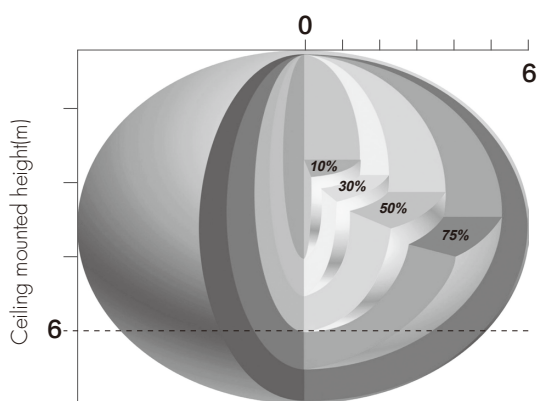
N
L   Control gear

N
L   Control gear

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.
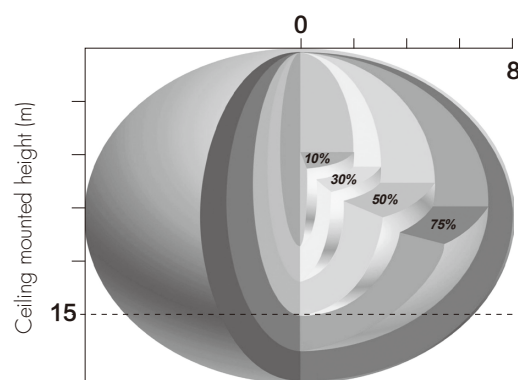
zero-cross point

Alternating current

Model HC030S

Ceiling mounted detection pattern (m)

Model HC430S/R

Ceiling 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	
I	●	●	●	5s
II	○	●	●	30s
III	●	○	●	1min
IV	●	○	○	5min
V	●	●	○	10 min
VI	○	○	○	30 min

I – 5s
II – 30s
III – 1min
IV – 5min
V – 10 min
VI – 30 min

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

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