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:	
Capacitive	400VA
Resistive	800W
Warming-up	20s

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

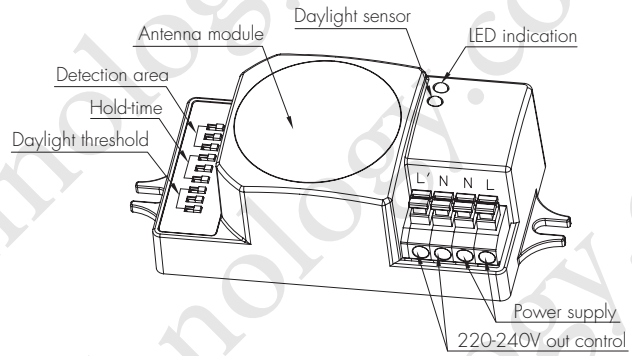
Sensor Data

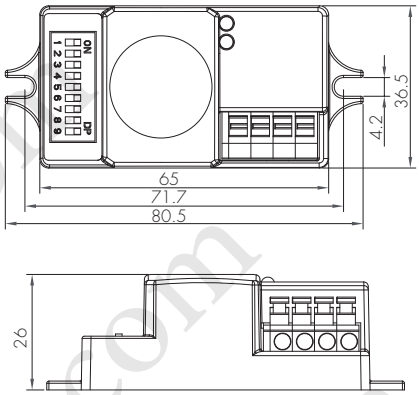
Model No.	HC005S
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.2mW
Detection range	Max. (Øx H) 12m x 6m
Detection angle	30° ~ 150°
Setting adjustments:	
Sensitivity	10% / 30% / 50% / 75%/ 100%
Hold-time	5s ~ 30min (selectable)
Daylight threshold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

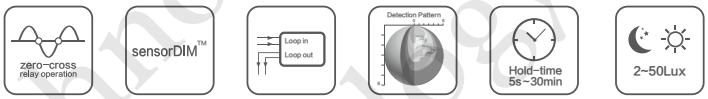
Environment

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

CE emc RED CB IP20





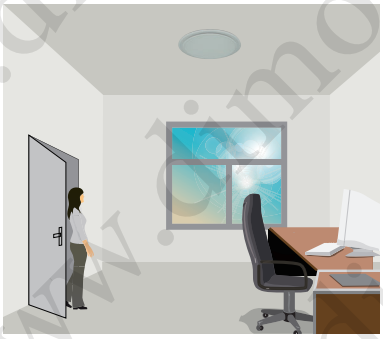


Note:We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

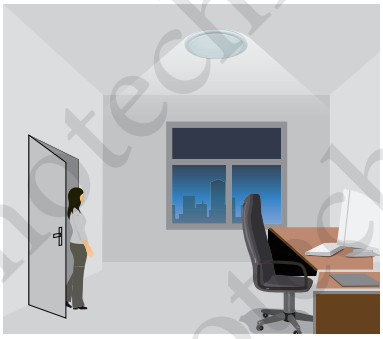
Functions and Features

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.



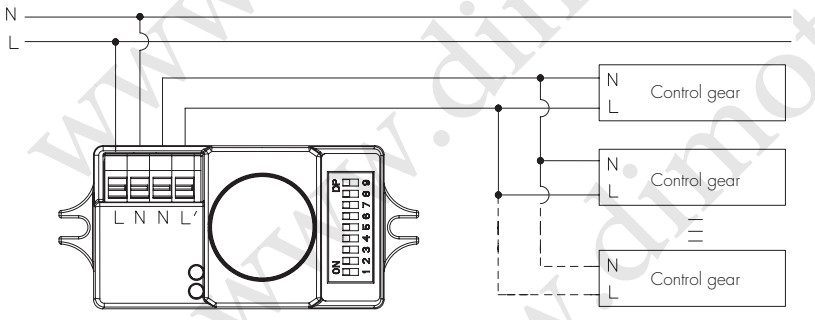
With sufficient natural light, the light does not switch on when presence is detected.



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

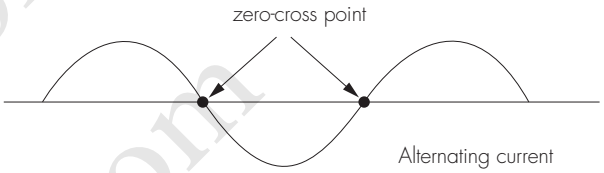
The sensor switches off the light automatically after the hold-time when there is no motion detected.

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.



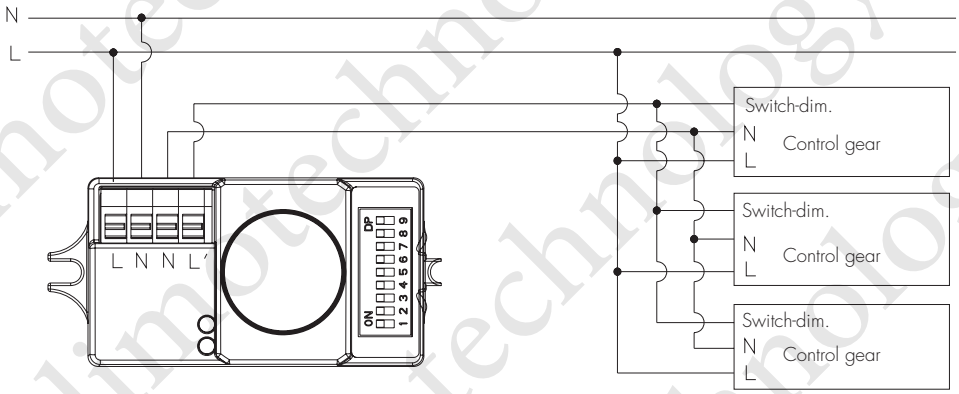
3 Loop-in and Loop-out Terminal

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

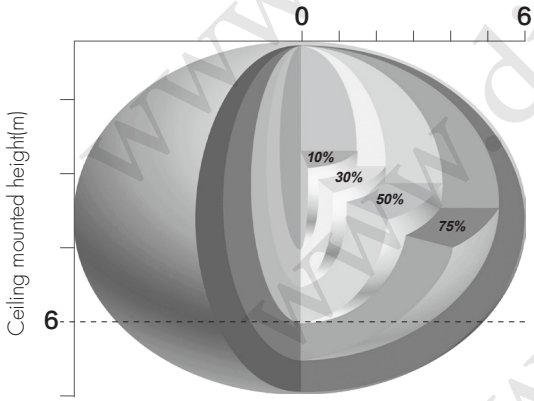
4 SensorDIM™ Function

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

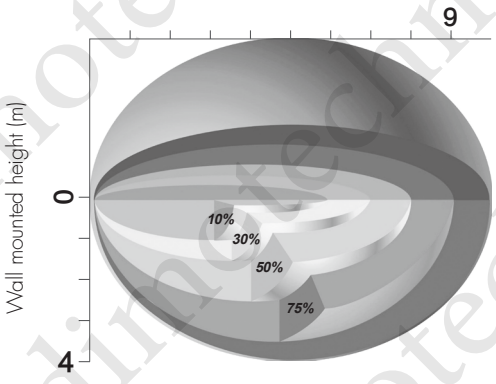
Wiring Diagram



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.

	4	5	6	
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.

	7	8	9	
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

Test Verification of Conformity

Verification Number: 190925152GZU-VOC001

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <them>. This verification replaces previous verification dated: 16-08-2018: 140625045GZU-001

Once compliance with all product relevant CE mark directives are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address:	Hytronik Electronics Co., Ltd. 3rd Floor, block C, Complex building 155#, Bai'gang Road South Bai'gang Village, Xiao Jin Kou Town Huicheng District, Huizhou, Guangdong, China
Product Description:	Lighting control switch (Motion sensor)
Ratings & Principle Characteristics:	See appendix
Models/Type References:	See appendix
Brand Name:	HYTRONIK
Relevant Standards:	EN 60669-2-1: 2004 +A1: 2009+ A12: 2010; EN 60669-1: 2018; EN 62493: 2015
Verification Issuing Office Name & Address:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Date of Tests:	25 September 2019 to 31 October 2019
Test Report Number(s):	190925152GZU-001

Additional information in Appendix.

Signature

Name: Shelley Ying
Position: Technical Manager
Date: 19 November 2019

APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 190925152GZU-VOC001

Manufacturer:	Hytronik Electronics Co., Ltd. 3rd Floor, block C, Complex building, 155#, Bai'gang road south, Bai'gang village, Xiao Jin Kou town, Huicheng district, Huizhou, Guangdong, China
Ratings & Principle Characteristics:	220-240 VAC; 50/60 Hz; Micro-gap; IP20; Integral type; HC005S; DS05; HC005S/I: Max. 800 W for incandescent Lamp and Max. 400 W for fluorescent Lamp; HC017V; HC018V; HC019V; HC019V/I; HC019V/DH: Max. 800 W for fluorescent Lamp; HC018V /RF; HC023RF; HC024RF: Max. 1200 W for incandescent Lamp and Max. 400 W for fluorescent Lamp
Models/Type References:	HC005S; DS05; HC017V; HC018V; HC019V; HC018V /RF; HC023RF; HC024RF; HC005S/I; HC019V/I; HC019V/DH (total 11 models)

Signature

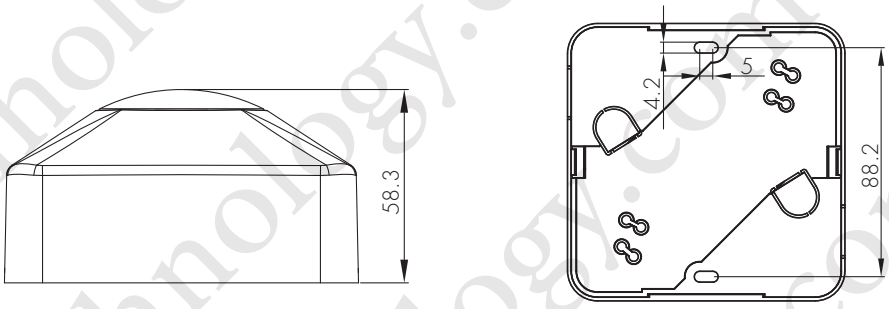
Name: Shelley Ying
Position: Technical Manager
Date: 19 November 2019

IP20 Housing for HF Motion Sensor

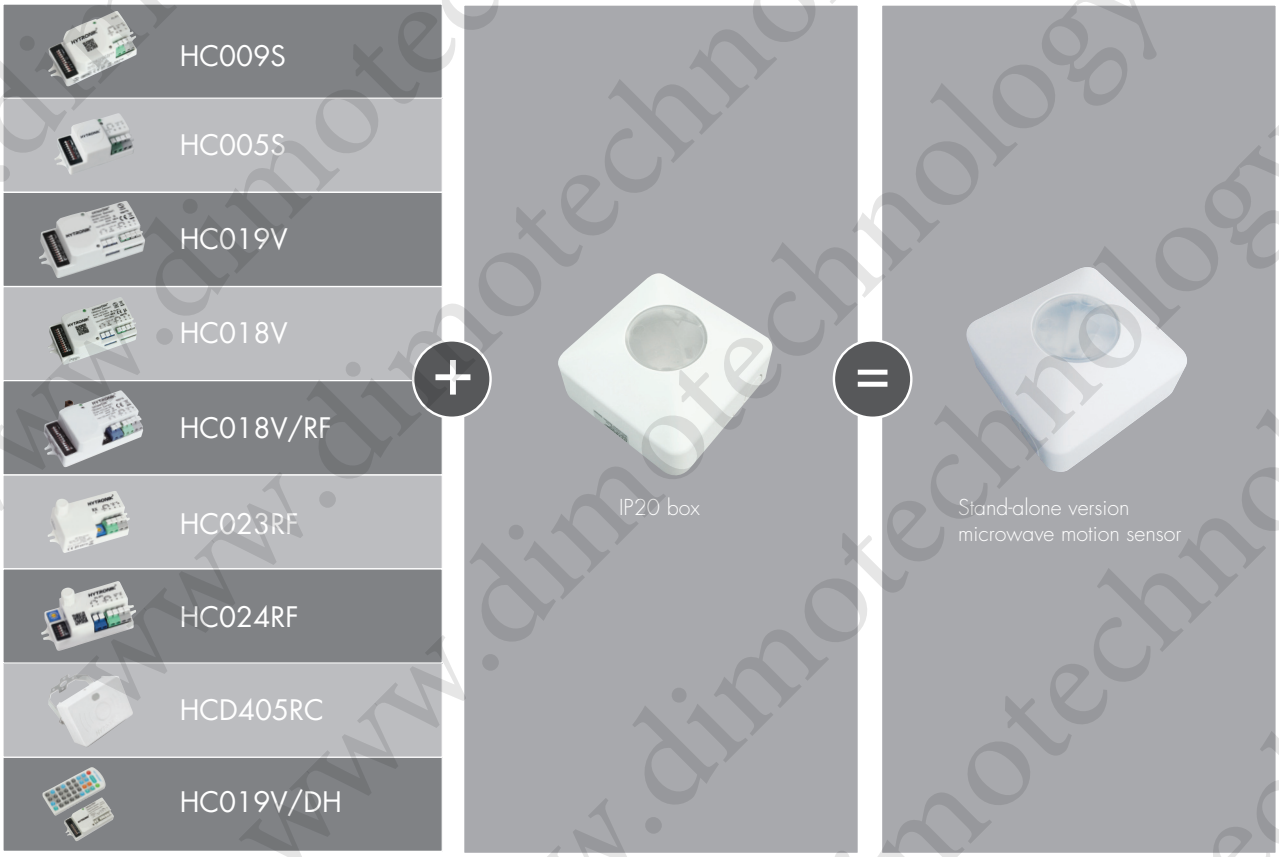
HC-IP20

HYTRONIK®

Mechanical structure



Below sensors can be mounted inside the IP20 box, for stand alone independent electrical installation.
(the milky lens allows natural light come through)



Installation Instructions

step1

Choose your wiring

Break here

Fig. 1

Option 1: For cables buried in the walls

Break here

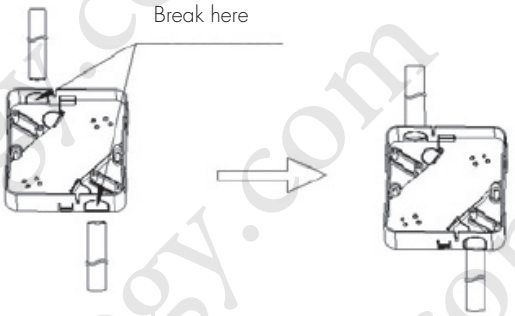
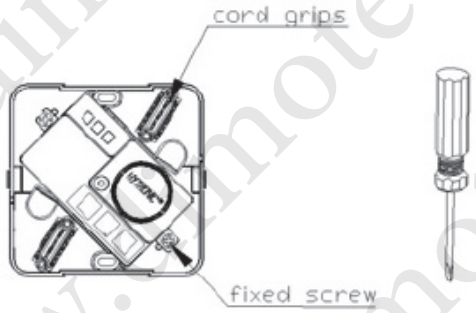


Fig. 2

Option 2: For cables go from cable pipe

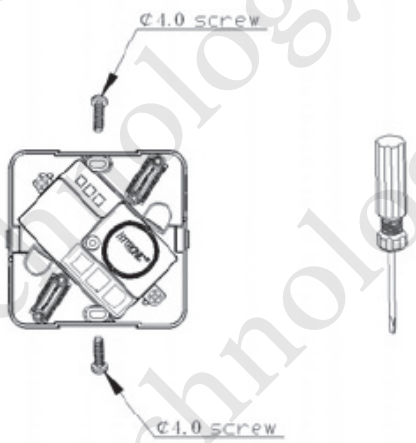
step2

Install the sensor on the box base



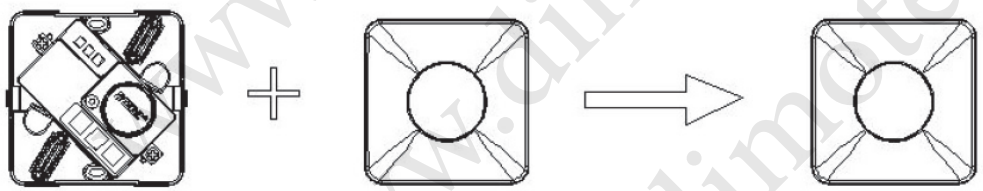
step3

Fixing the base to the ceiling or flat surface with screws



step4

Mount the cover to the base

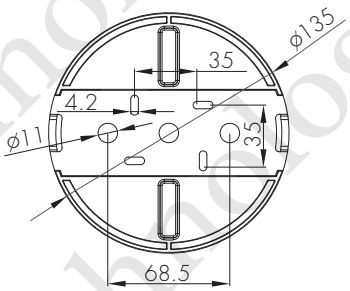


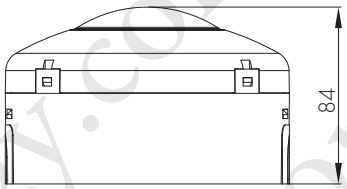
IP65 Housing for HF Motion Sensor

HC-IP65

HYTRONIK®

Mechanical structure





Putting the sensors inside the IP65 box, they are then safe and ready for independent installation.
They are 2 colors of the box: transparent PC for daylight, and white PC when the daylight sensor is not intended to use.

Installation Instructions

step1

Put motion sensor into the IP housing and click the cover on

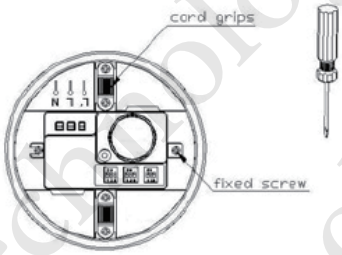


Fig 1.1

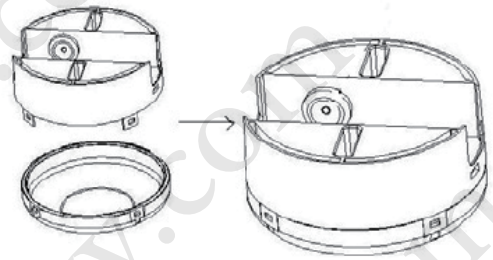


Fig 1.2

step2

Mounting bracket (three options):

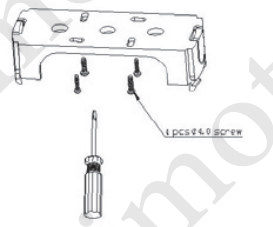


Fig 2.1

Option 1: Mount bracket to flat surface with screws

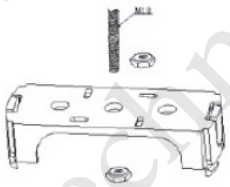


Fig 2.2

Option 2: Mount bracket to ceiling pole with nut

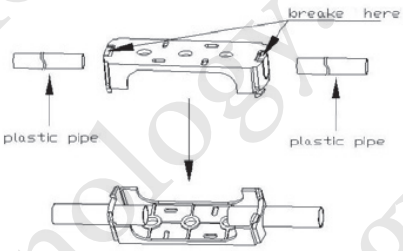


Fig 2.3

Option 3: Put pipe through the bracket hole

step3

Mount the bracket to the cover

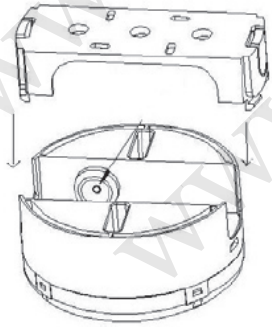


Fig 3.1

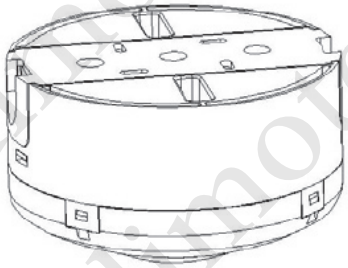


Fig 3.2