HYTRONIK HIR28DCVFC Flush Mount PIR Motion Sensor Instruction Manual

HYTRONIK®

HIR28DCVFC Flush Mount PIR Motion Sensor Instruction Manual

Contents

HIR28DCVFC Flush Mount PIR Motion Sensor

Flush Mount PIR Motion Sensor PIR
HIR28DCVFC HIR28DCVFC/R HIR28DCVFC/W HIR28DCVFC/H Low-bay Reinforced Low-bay Wide range Low-bay High-bay

Applications
Office, classroom and commercial interior spaces where on/off control is required.

- Office / Commercial Lighting
- Classrooms
- Stairwells / Corridors

HIR28DCVFC with on/off relay control
HIR28DCVFC is a PIR standalone motion sensor, On/Off control with relay output.It's voltage-free contact which is NO relay (normally on). Designed with a low profile or aesthetically demanding architectural projects providing a high quality sensor for simple on/off occupancy control or providing semi-automatic (absence detection) control.
An intelligent photocell is also included to prevent switching of the lights when natural daylight is availible.
Set-up of the sensor is carried out using a remote control handset with program memory allowing one-key commissioning where common settings are used for multiple devices.

Features

	On/Off control with ralay output
	VFC: Volt-free Contact/Dry Contact with NO relay – 24VDC@5A – 250VAC@5A
	Ceiling/Surface mount box available as accessory
	Various PIR lens and blind inserts options
	User-friendly design for installation
	High bay version available (up to 15m in height)
	Store settings in the remote for easy commissioning when programming multiple sensors.
	Intelligent photocell – lights and sensors only operate when needed, natural light has proirity.
	5-year warranty

Technical Data

Input Characteristics

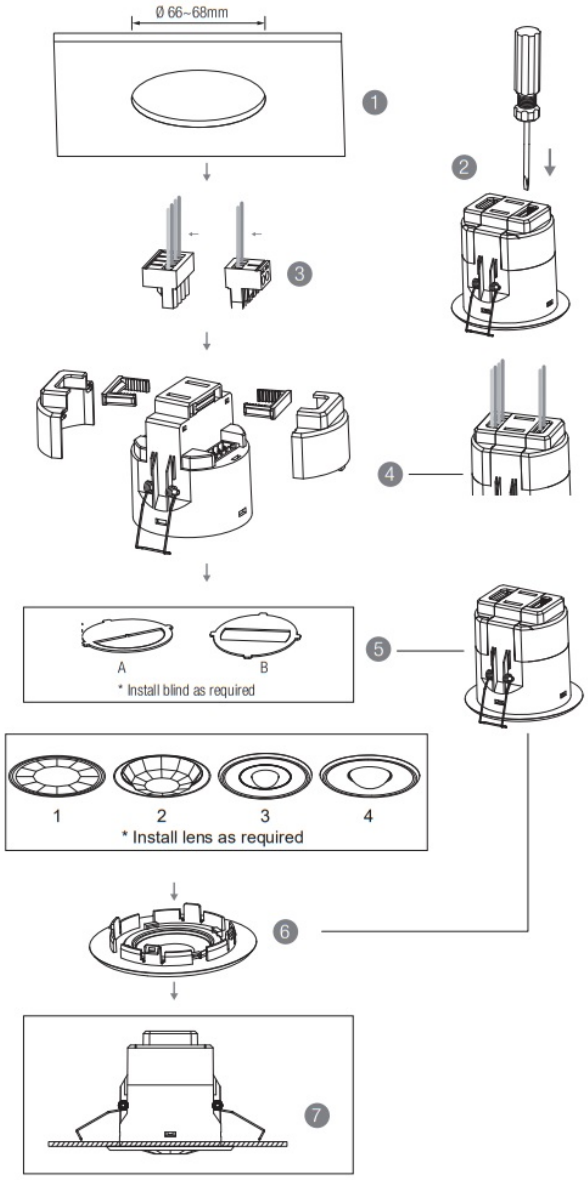
Model No.	HIR28DCVFC
Input	12-48VDC
Stand-by power	<0.5W
Output (Loading)	24VDC≤5A 250VAC≤5A
Warming-up	10s
Safety and EMC	
EMC standard (EMC)	EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1
Certication	CB, CE , LVD, RCM
Environment	
Operation temperature	Ta: -20O C ~ +50ºC
IP rating	IP20

Sensor Data

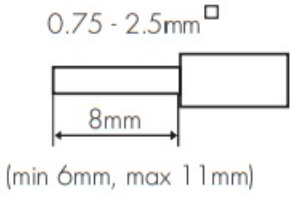
Model No.	HIR28DCVFC
Sensor Model	PIR detection
Detection range (Max.)* HIR28DCVFC	Installation Height : 6m Detection Range(Ø) :9m
Detection range (Max.)* HIR28DCVFC/R	Installation Height : 6m Detection Range(Ø) :10m
Detection range (Max.)* HIR28DCVFC/W	Installation Height : 6m Detection Range(Ø) :18m
Detection range (Max.)* HIR28DCVFC/H	Installation height 15m (forklift) 12m (person) Detection range (Ø) 24m
Detection angle	360º

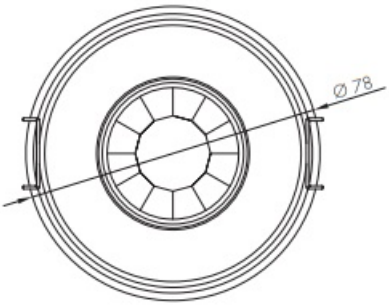
* For more details of detection range, please refer to “detection pattern” section.

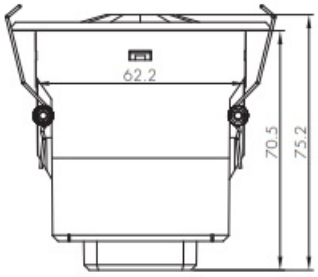
Mechanical Structure & Dimensions



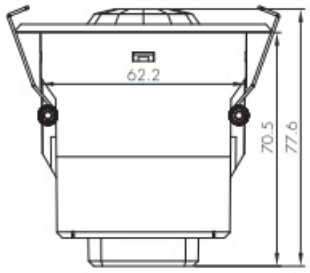
Wire Preparation



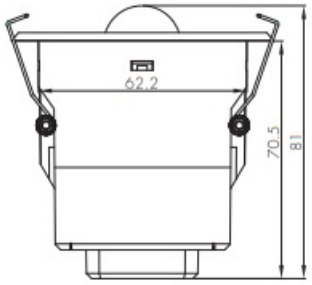




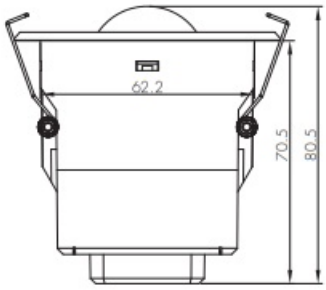
HIR28DCVFC



HIR28DCVFC/R



HIR28DCVFC/W



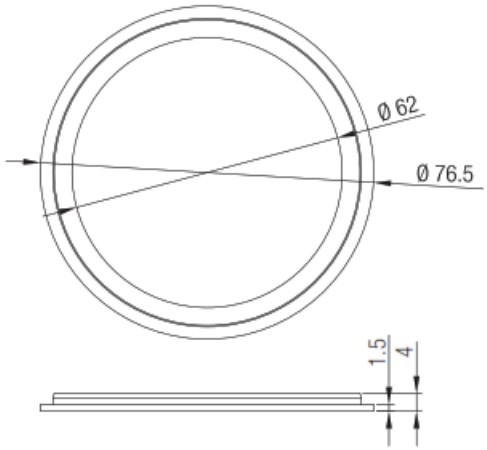
HIR28DCVFC/H

1. Ceiling (drill hole Ø 66~68mm)
2. Carefully prise off the cable clamps.
3. Make connections to the pluggable terminal blocks.
4. Insert plug connectors and secure using the provided cable clamps, then clip terminal covers to the base.
5. Fit detection blind (if required) and desired lens.
6. Clip fascia to body.
7. Bend back springs and insert into ceiling.

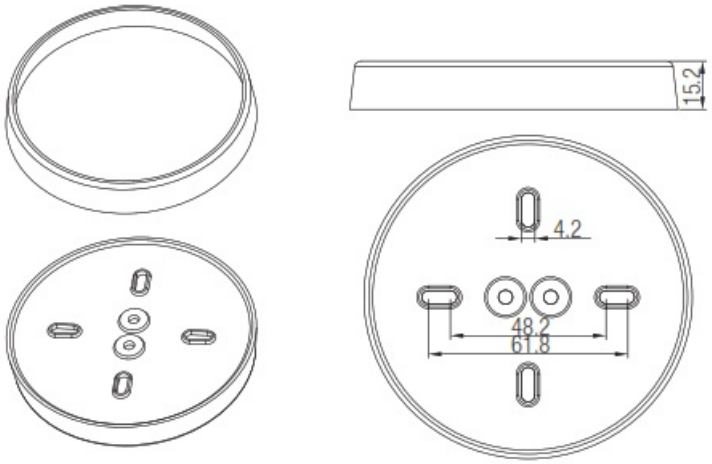
Pluggable screw terminal. It is recommended to make connections to the terminal before fitting to the sensor.

Big and small silicon gasket used to make IP54 degree protection when HIR28DCVFC series device mounted into HA03 housing for ceiling mount

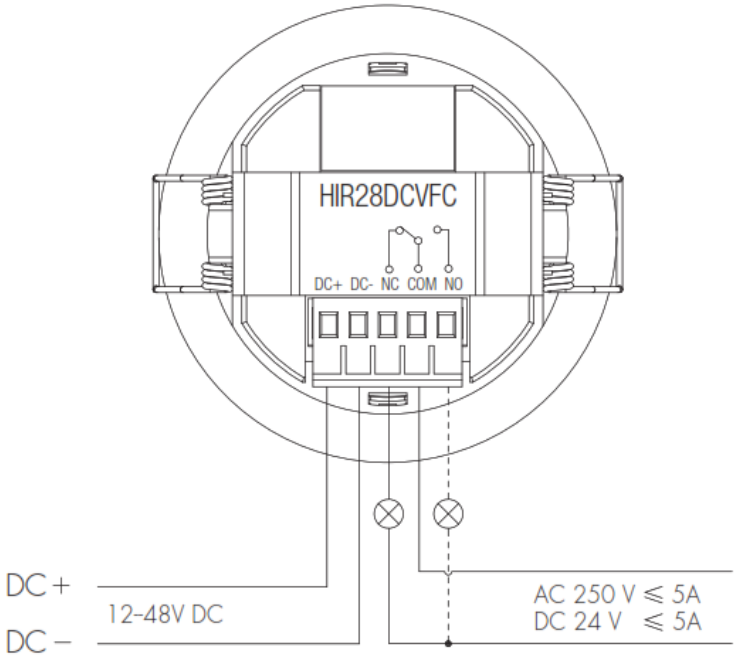
Small silicon water-proof gasket dimension(size:mm)



Big silicon water-proof gasket dimension(size:mm)



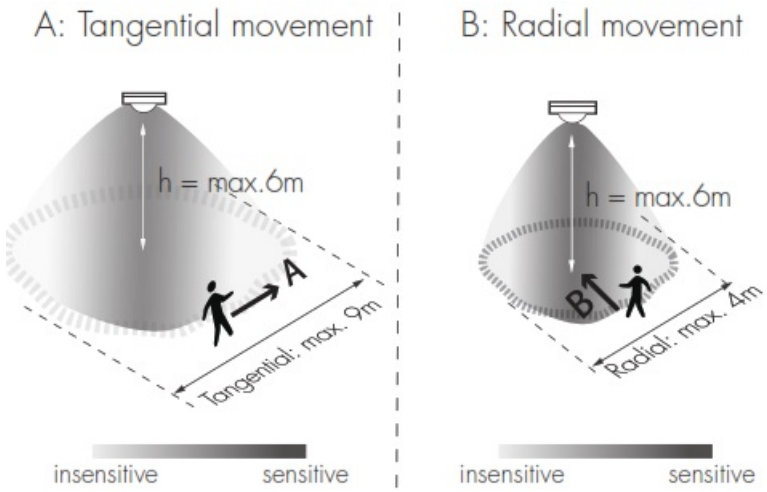
Wiring Diagram



Detection Pattern & Optional Accessories

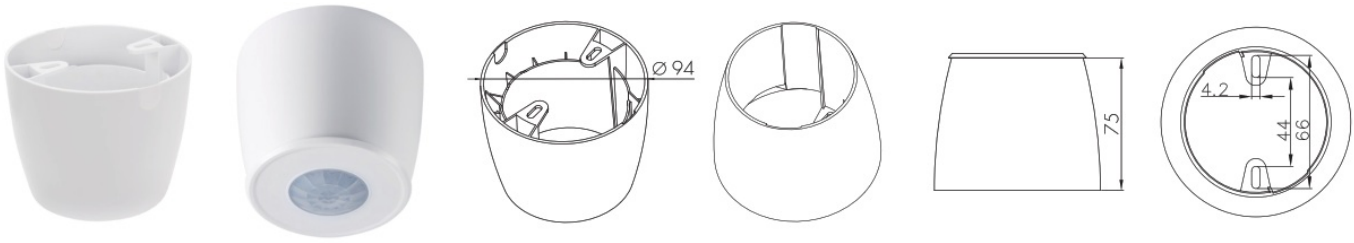
1. HIR28DCVFC (Low-bay)

HIR28DCVFC: Low-bay flat lens detection pattern for **single person** @ Ta = 20º C
(Recommended ceiling mount installation height **2.5m-6m)**



Mount height	Tangential (A)	Radial (B)
2.5m	max 50m2(Ø = 8m)	max 13m2 (Ø = 4m)
3m	max 64m2 (Ø = 9m)	max 13m 2 (Ø = 4m)
4m	max 38m2 (Ø = 7m)	max 13m2 (Ø = 4m)
5m	max 38m2 (Ø = 7m)	max 13m2 (Ø = 4m)
6m	max 38m2(Ø = 7m)	max 13m2 (Ø = 4m)

Optional Accessory — Ceiling/Surface Mount Box: HA03



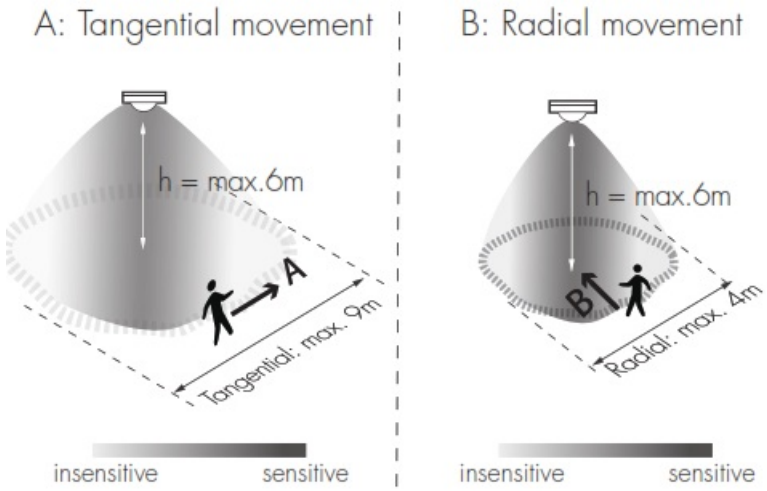
Optional Accessory — Blind Insert for Blocking Certain Detection Angles

Blind Option 1 --- Aisle Detection

Blind Option 2 --- 180° Detection

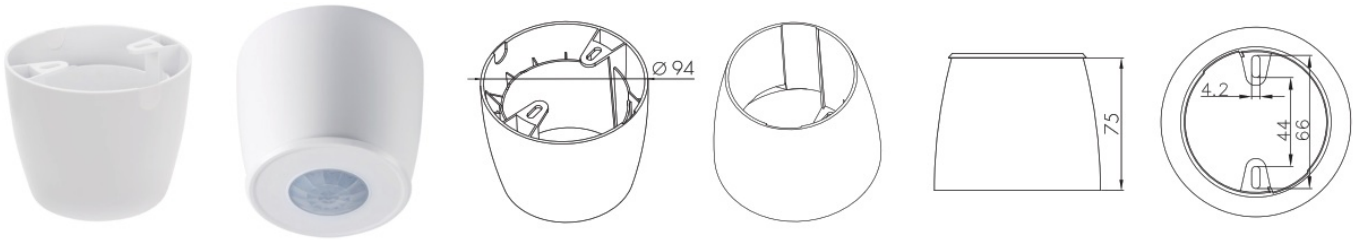
HIR28DCVFC/R (Reinforced Low-bay)

HIR28DCVFC/W: Low-bay convex lens detection pattern for single person @ Ta = 20ºC
(Recommended ceiling mount installation height 2.5m-6m)



Mount height	Tangential (A)	Radial (B)
2.5m	max 79m2(Ø = 8m)	max 20m2 (Ø = 5m)
3m	max 79m2 (Ø = 9m)	max 20m 2 (Ø = 5m)
4m	max 64m2 (Ø = 7m)	max 20m2 (Ø = 5m)
5m	max 50m2 (Ø = 7m)	max 20m2 (Ø = 5m)
6m	max 50m2(Ø = 7m)	max 20m2 (Ø = 5m)

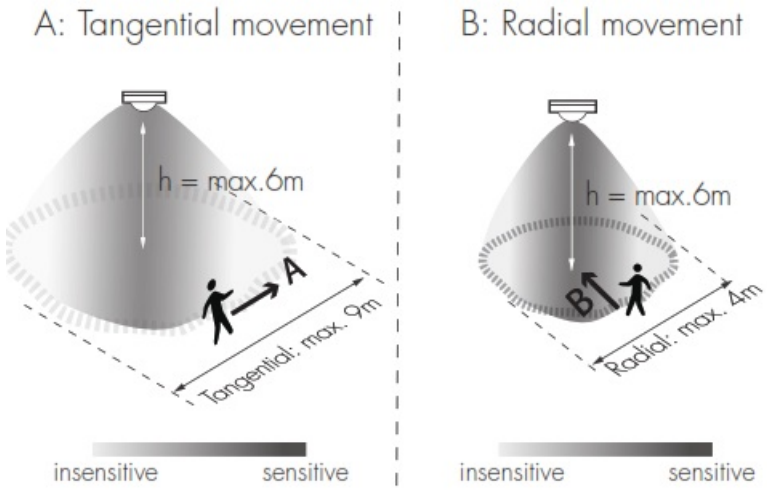
Optional Accessory — Ceiling/Surface Mount Box: HA03



Optional Accessory — Blind Insert for Blocking Certain Detection Angles

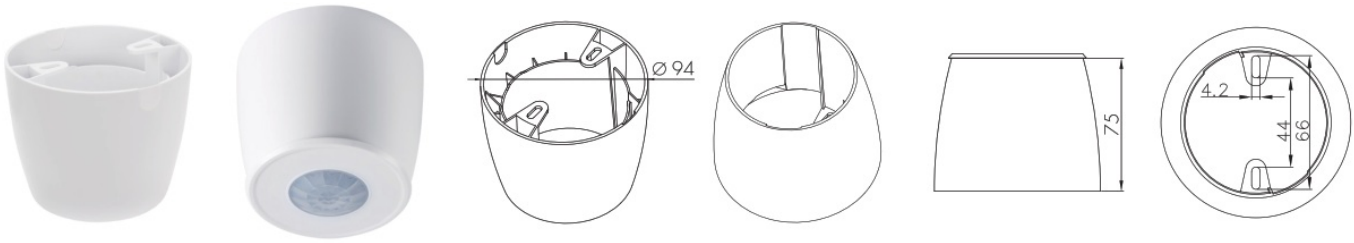
HIR28DCVFC/W (Wide range Low-bay)

HIR28DCVFC/W: Low-bay convex lens detection pattern for single person @ Ta = 20ºC
(Recommended ceiling mount installation **height 2.5m-6m)**



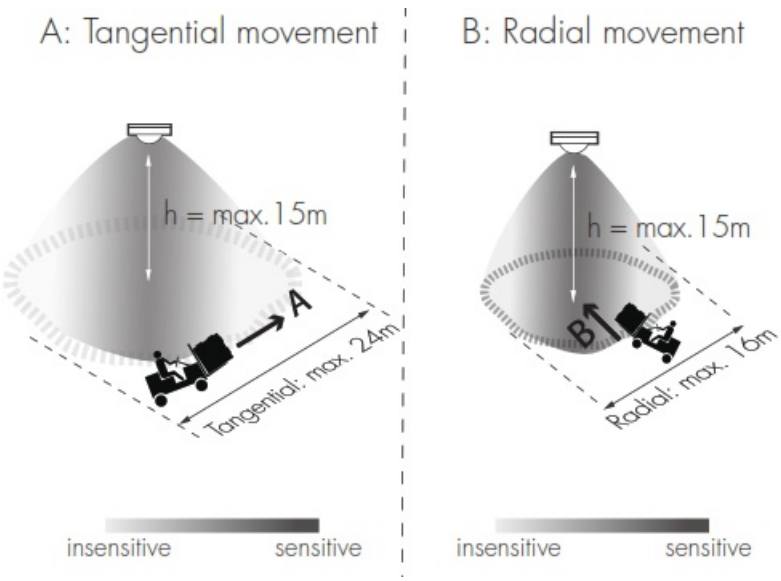
Mount height	Tangential (A)	Radial (B)
2.5m	max 254m2(0 = 18m)	max 28m2(0 = 6m)
3m	max 254m2 (0 = 18m)	max 28m2 (0 = 6m)
4m	max 154m2 (0 = 14m)	max 28m2 (0 = 6m)
5m	max 113m2(0 = 12m)	max 28m2(0 = 6m)
6m	max 79m2(0 = 10m)	max 13m2 (0 = 4m)

Optional Accessory — Ceiling/Surface Mount Box: HA03



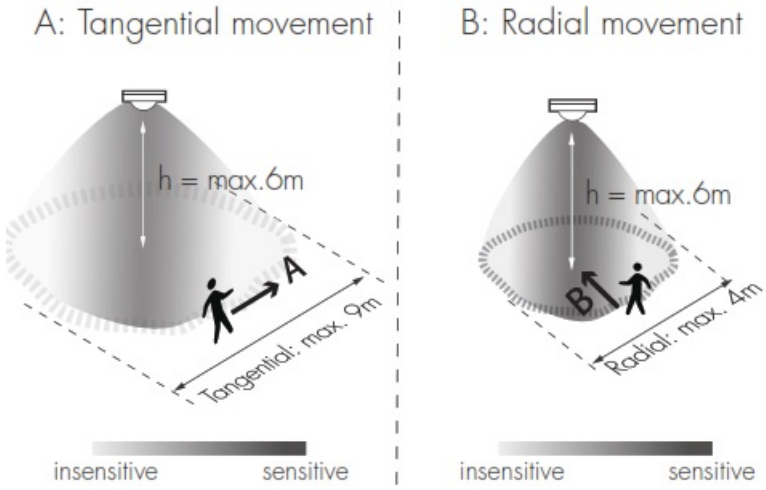
HIR28DCVFC/H (High-bay)

HIR28DCVFC/H: High-bay lens detection pattern for **forklift** @ Ta = 20ºC
(Recommended ceiling mount installation **height 10m-15m)**



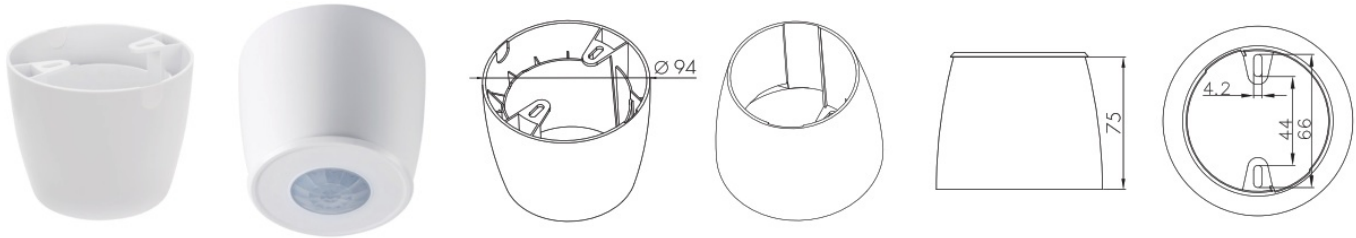
Mount height	Tangential (A)	Radial (B)
10m	max 380m 2 (Ø = 22m)	max 201m2 (Ø = 16m)
11m	max 452m 2 (Ø = 24m)	max 201m 2 (Ø = 16m)
12m	max 452m 2 (Ø = 24m)	max 201m 2 (Ø = 16m)
13m	max 452m 2 (Ø = 24m)	max 177m 2 (Ø = 15m)
14m	max 452m 2 (Ø = 24m)	max 133m 2 (Ø = 13m)
15m	max 452m 2 (Ø = 24m)	max 113m 2 (Ø = 12m)

HIR28DCVFC/H: High-bay lens detection pattern for **single person** @ Ta = 20ºC
(Recommended ceiling mount installation **height 2.5m-12m**)



Mount height	Tangential (A)	Radial (B)
2.5m	max 50m2 (0 = 8m)	max 7m2 (0 = 3m)
6m	max 104m2 (0 = 11.5m)	max 7m2(0 = 3m)
8m	max 154m2 (0 = 14m)	max 7m2 (0 = 3m)
10m	max 227m2 (0 = 1 7m)	max 7m2(O = 3m)
llm	max 269m2 (0 = 18.5m)	max 7m2(0 = 3m)
12m	max 314m2 (0 = 20m)	max 7m2(0 = 3m)

Optional Accessory — Ceiling/Surface Mount Box: HA03



Optional Accessory — Blind Insert for Blocking Certain Detection Angles

Blind Option 1 --- Aisle Detection

Blind Option 2 --- 180° Detection

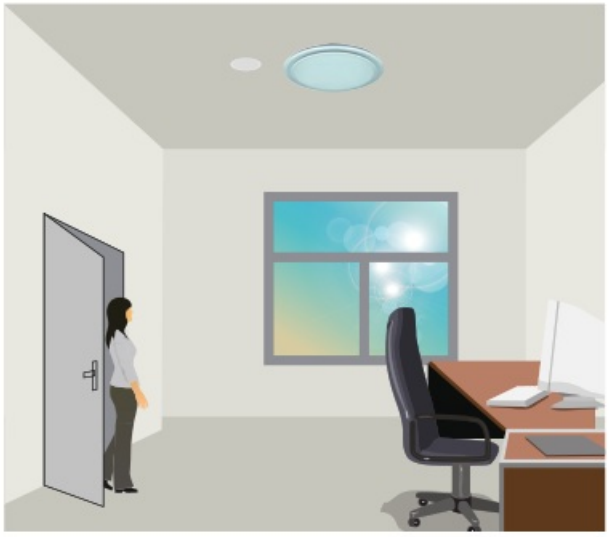
Functions and Features

1. **On/ off Control**

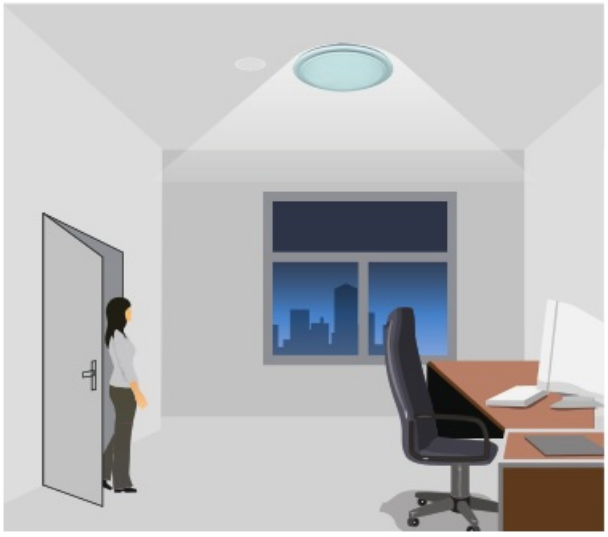
   This sensor is a motion switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold-time when there is no movement. A daylight sensor is also built in to prevent the light from switching on when there is sufficient natural light.

2. **Intelligent Photocell (daylight detection prior to motion detection)**

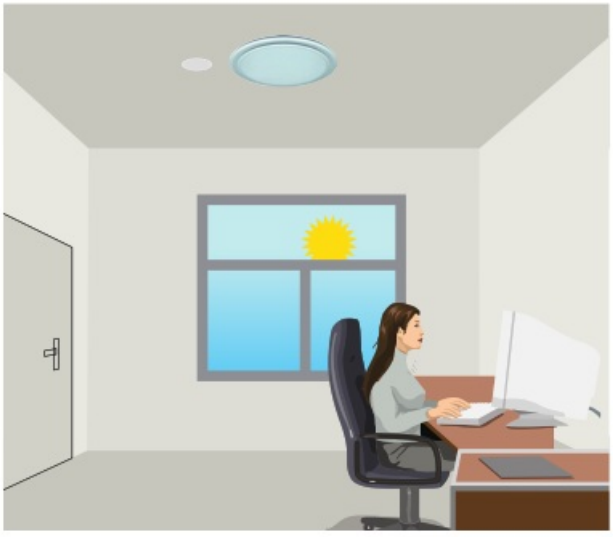
   The built-in photocell will also automatically turn off the light when the ambient natural light exceeds the programmed lux level for more than 5min, regardless of whether motion is detected or not.



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.

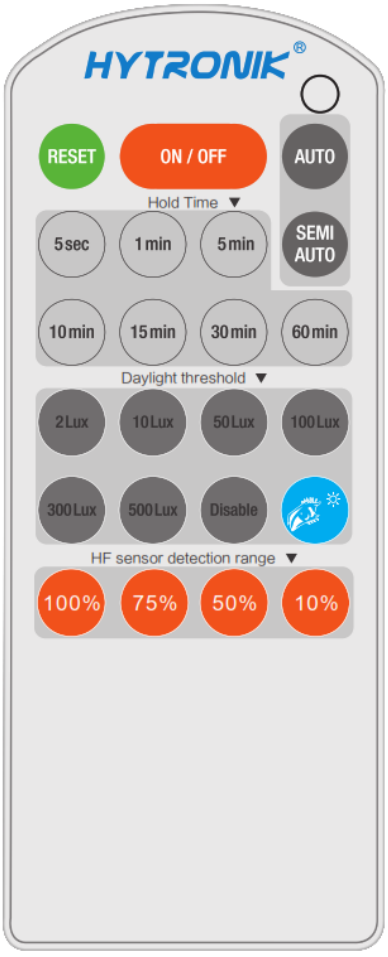


The sensor switches off the light when natural light is sufficient, even with presence.

Settings (Remote Control HRC-12)

Permanent ON/OFF function

Press button “ON/OFF” to select permanent ON or permanent OFF mode.
* Press button “AUTO”, “RESET” or “Ambient” to quit this mode.
The mode will change to AUTO Mode after power failure.



HRC-12

Reset Settings

Press button “RESET”, all settings go back to default values as below:
Detection range: 100%; Hold-time: 5min; Lux disabled

Sensor mode

Press “Auto Mode” button, the sensor starts to function and all settings remain the same as the latest status before the light is switched on/off.

SEMI-AUTO mode

This button is disabled.

Daylight threshold

Press buttons in zone “ Daylight threshold” to set daylight sensor at 2Lux/ 10Lux / 50Lux / 100Lux / 300Lux / 500Lux / Disable.

Ambient daylight threshold

Press button “Ambient”, the surrounding lux level is sampled and set as the new daylight threshold.

Hold-time

Press buttons in zone “hold-time” to set the hold-time at 5sec / 1min / 5min / 10min / 15min / 30min / 60min.

Additional Information / Documents

1. Regarding precautions for PIR sensor installation and operation, please kindly refer to **www.hytronik.com/download->knowledge->PIRSensors-Precautions** for Product Installation and Operation
2. Regarding Hytronik standard guarantee policy, please refer to **www.hytronik.com/download->knowledge->Hytronik** Standard Guarantee Policy

Subject to change without notice.
Edition: 19 Sep. 2022 Ver. A0

HYTRONIK®

Documents / Resources

	HYTRONIK HIR28DCVFC Flush Mount PIR Motion Sensor [pdf] Instruction Manual HIR28DCVFC, HIR28DCVFC-R, HIR28DCVFC-W, HIR28DCVFC-H, HIR28DCVFC Flush Mount PIR Motion Sensor, HIR28DCVFC, Flush Mount PIR Motion Sensor, Mount PIR Motion Sensor, Motion Sensor, Sensor

References

- Catalogue_Hytronik