Multi-Directional HF Sensor

HMW28/AA
On/Off Control

HYTRONIK ®

CE UK CA

Product Description

HMW28/AA is a HF standalone motion sensor, with on/off relary control. It is designed with a metal surface mount box and the detection angle is adjustable by needs. HMW28/AA is ideal for typical indoor applications such as offices, classrooms, healthcare, and other commercial areas (corridors and warehouses).

*RAL9016   *RAL9005

Around 70°

Features

- On/Off control with ralay output

- Store settings in the remote for easy commissioning when programming multiple sensors.

- 1 Push inputs for flexible manual control

- Black & White & Gray metal surface mount box option

- User-friendly design for installation

- 5-year warranty

Technical Specifications

Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.8W
Output (Max.Loading)	400VA capacitive 800W resitive

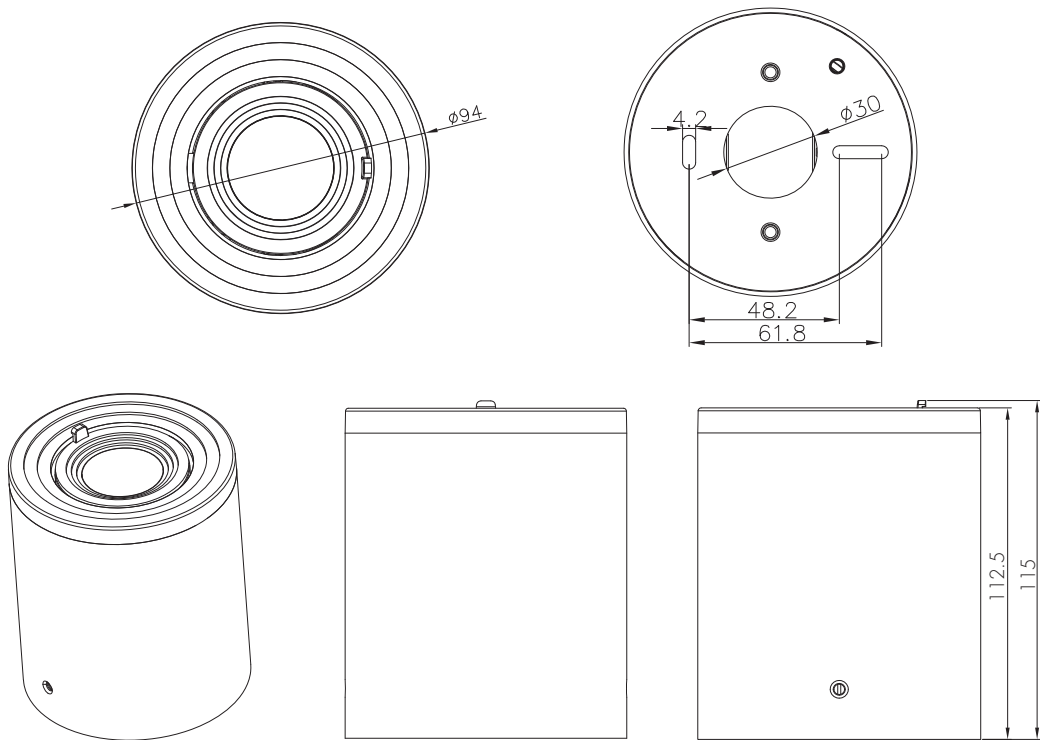| Sensor Data	
Sensor Principle	High Frequency (microwave)
Ceiling-mounted Detection Range	Installation Height : 3m Max. Detection Range (Ø) :13m *Sensor head angle set to 70°
Wall-mounted Detection Range	Installation Height : 2.5m Max. Detection Range (Ø) :22m
Detection angle	360°

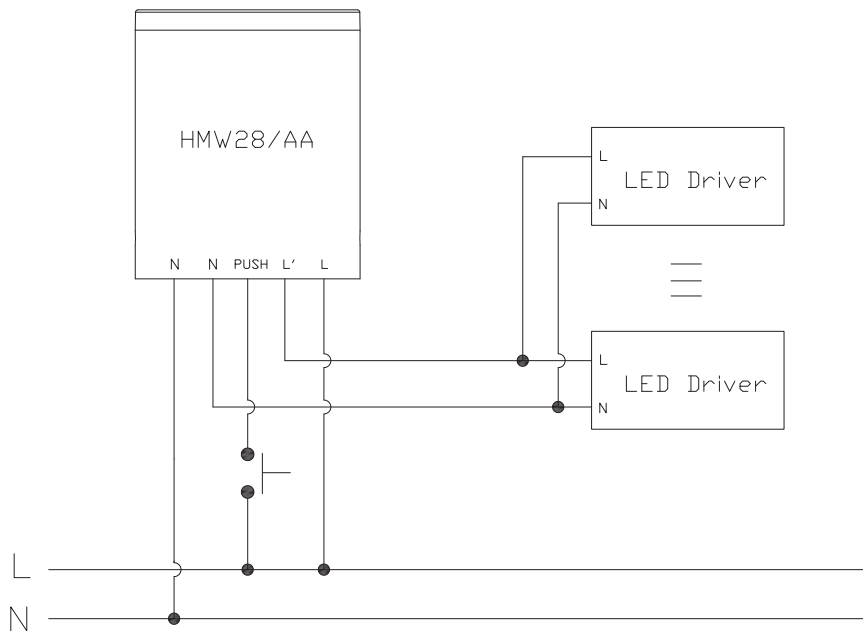* For more details of detection range, please refer to "detection pattern" section.

Environment	
Operation temperature	Ta: -20°C ~ +55°C
Storage temperature	-35°C ~ +55°C
Relative humidity	20~90%
IP rating	IP20

Safety & EMC	
EMC standard (EMC)	EN55015, EN61000-3-2/-3-3, EN61547
Safety standard (LVD)	EN60669-1, EN60669-2-1
Certification	CE, UKCA, RCM

Mechanical Structure & Dimensions

Wiring Diagram

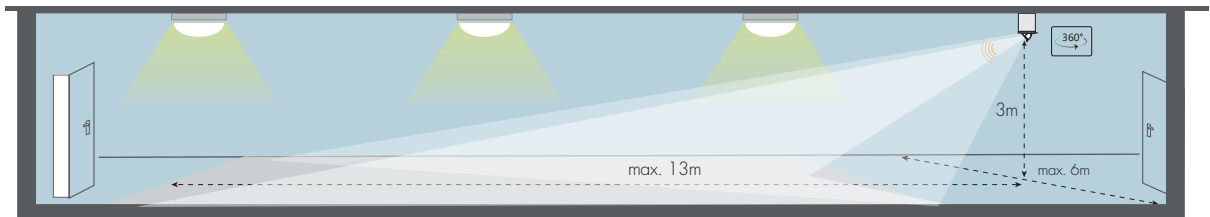# Detection Pattern

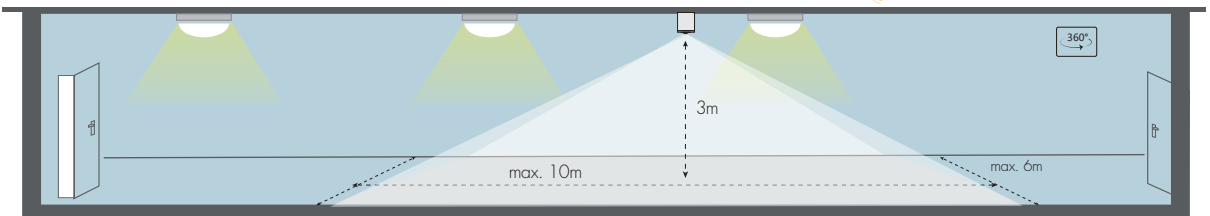*Sensitivity set to maximum

Ceiling-mounted application
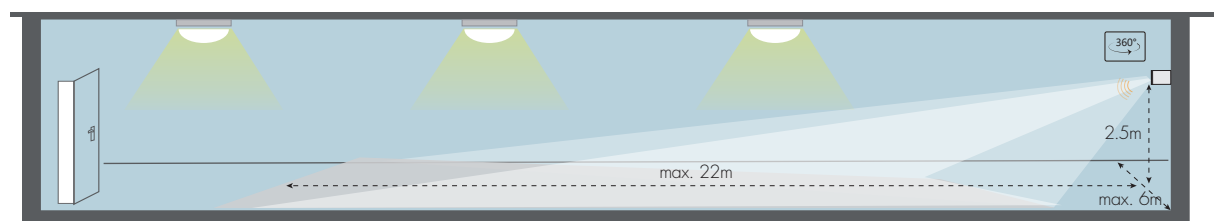
Installation height: 3m
*Sensor head angle set to 70°

360°
3m
max. 13m
max. 6m

Installation height: 3m
*Sensor head angle set to 90°

360°
3m
max. 10m
max. 6m

Wall-mounted application
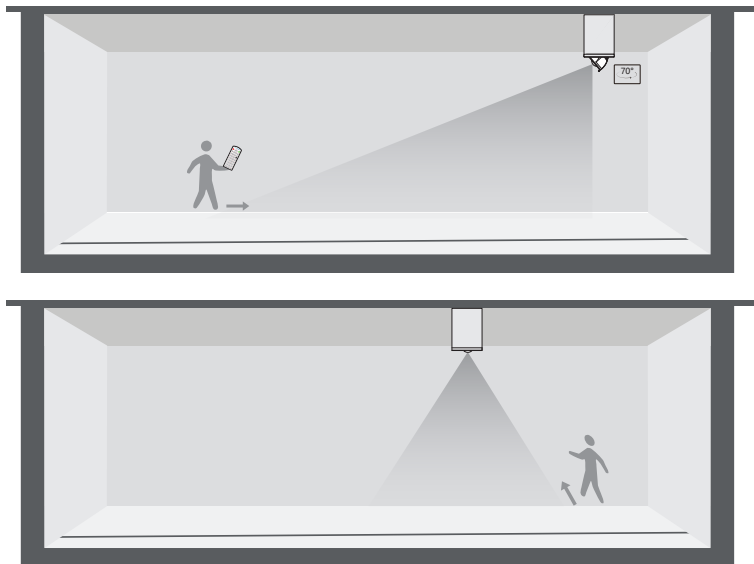

360°
2.5m
max. 22m
max. 6m

The installation data conduct by following testing conditions:
1. Environmental humidity: 80.5%;
2. Single person walking;
3. Sensor not connected to any driver that may have soft-on period;
4. Testing temperature Ta = 31.5°C;

Application	Angle	Height	Sensitivity			
			100%	75%	50%	10%
Ceiling-mounted	90 °	3m	10m	8m	6m	4m
		8m	14m	5m	none	none
	70°	3m	13m	14m	12m	10m
		8m	15m	7m	4m	none
Wall-mounted	90 °	2.5m	22m	20m	16m	11m

Note: The unit of 90 degree detection data is diameter.

Ceiling-mounted application

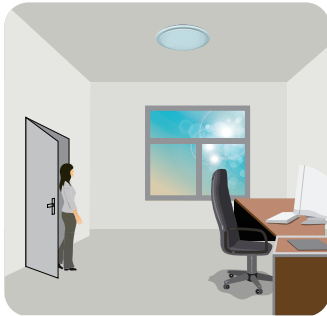

Wall-mounted application

Functions and Features

1 On/Off Control

These sensors provide simple switching of the light based upon occupancy. A daylight sensor is also built-in to prevent the light switching on when there is sufficient natural light.

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

With insufficient natural light, the sensor switches on the light automatically when person enters the room.
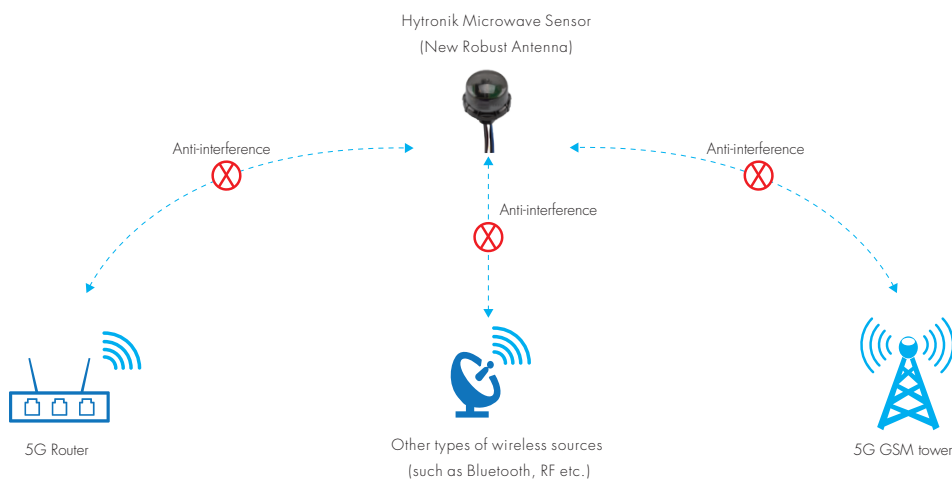

The sensor switches off the light automatically after the hold-time when there is no motion detected.

2 Robust HF Sensors Design — Anti-interference Technology

Robust HF Antenna

Hytronik's microwave motion sensor uses 5.8GHz high frequency (HF) antenna in the product design. With the increasing density of wireless environments such as 5G GSM tower and 5G Wi-Fi coverage, this has created extra challenges for sensor's operation because the air is shared by all kinds of wireless signals, and transmissions from any device at the similar frequency could potentially cause interference. The effects of interference which can be noticed by users are usually false triggering of sensors (turning on/off erratically), or lights staying on even after hold time etc.

To get around such tough environment, Hytronik has developed a new series of robust HF modules, designed to be loaded with our own special sophiscated software algorithms. These robust HF modules can withstand different types of wireless interferences in the real application. We believe this is the ultimate solution towards demanding installation environments in the future.

Hytronik Microwave Sensor
(New Robust Antenna)

Anti-interference

Anti-interference

Anti-interference

5G Router

Other types of wireless sources
(such as Bluetooth, RF etc.)

5G GSM tower

ON / OFF   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.

RESET   Reset Settings

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

AUTO   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   SEMI-AUTO mode

Press "SEMI-AUTO"button, to enter semi-auto mode. The fixture is manually on by
push-switch and automatically off in this mode.

HRC-12

Detection range

Press buttons in zone "HF sensor Detection range" to set detection range at 100% / 75% / 50% / 10%.

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.
Note: 5sec is test mode.

Dimming Interface Operation Notes

Switch-Dim

The provided Switch-Dim interface allows for a simple dimming method using commercially available non-latching (momentary) wall switches.

Switch Function	Action	Descriptions
Push switch	Short press (<1 second) * Short press has to be longer than 0.1s, or it will be invalid.	- Turn on/off - Turn on only - Quit manual mode - Turn off only - Do nothing
	Long press (≥1 second)	

Additional Information / Documents

1. Regarding precautions for HF 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