Manuals+ — User Manuals Simplified.

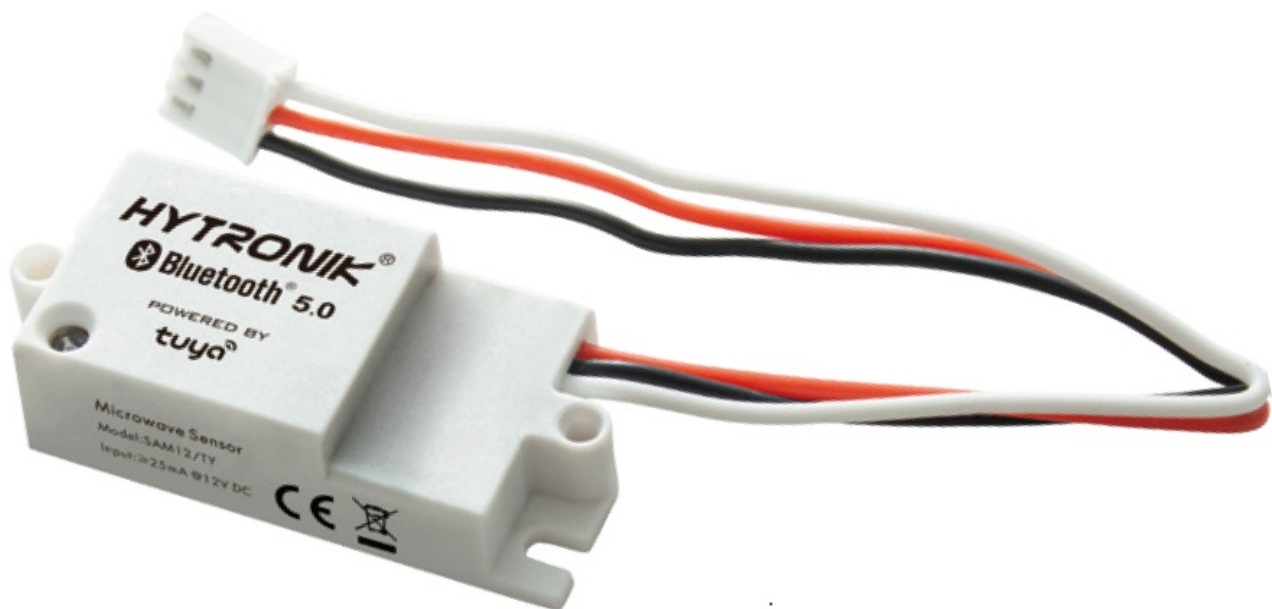# HYTRONIK SAM12-TY-2 Tuya Enabled HF Motion Sensor Instruction Manual

Contents

HYTRONIK SAM12-TY-2 Tuya Enabled HF Motion Sensor

Product Description

SAM12/TY is a Bluetooth sensor head only with 12VDC input and 5V 1kHz PWM / 0-10V output, it â€˜s ready to be integrated into a third-party LED driver, no control base needed. It is suitable for bulkhead, tri-proof, LED panel, linear, pendant. Meanwhile, all commissioning and settings can be done via smart.

Features

- Use Tuya smart for commissioning
- Grouping luminaires via mesh network (with Tuya gateway)
- 5V 1kHz PWM / 0-10V output
- Tri-level dimming control based upon occupancy (also known as corridor function)
- Robust HF antenna design wireless interference
- Device firmware update over-the-air
- 5-year warranty
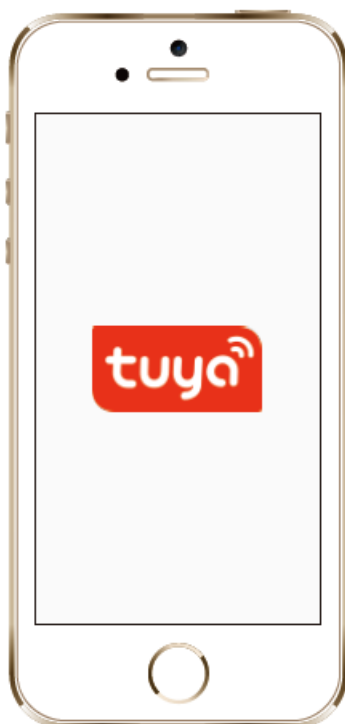
Free smartphone App for
set-up and commissioning

Technical Specifications

Sensor Data	
Operation frequency	5.8 GHz +/- 75MHz
Transmitting power	<0.2mW
Detection range*	Max installation height 6m Max detection range (Ø) 12m
Detection angle	30° ~ 150°

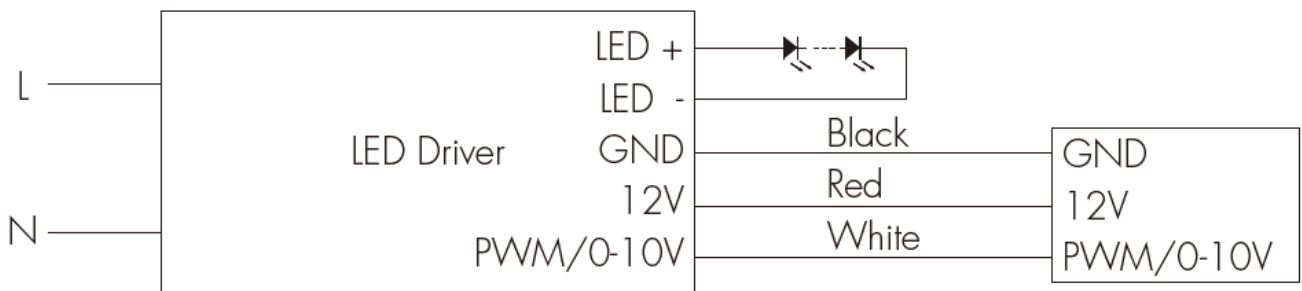| Input & Output Characteristics	
Input	12VDC
Output	5V 1kHz PWM / 0-10V output
Stand-by power	<0.3W

Environment	
Operation temperature	Ta: -20°C ~ +60°C
IP rating	IP20

* The detection range is heavily influenced by sensor placement (angle) and different walking paces. It may be reduced under certain conditions.

Mechanical Structure & Dimensions
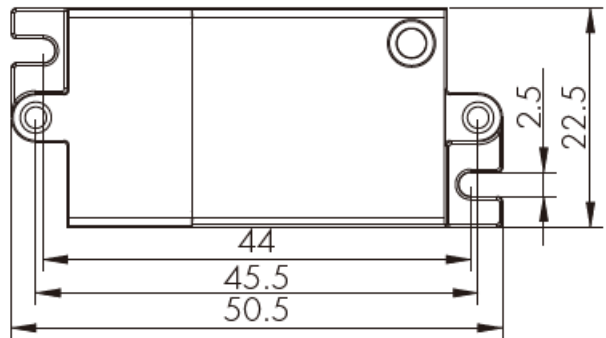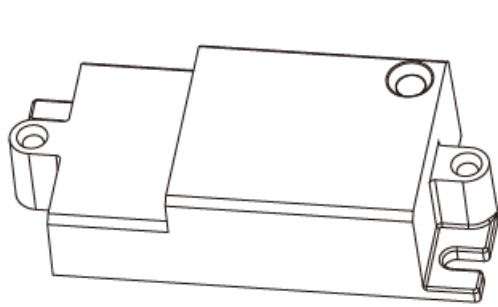
Wiring Diagram

Functions and Features

1. **Tri-level Control (Corridor Function)**

   Hytronik builds this function inside the motion sensor to achieve tri-level control, for some areas which require a light change notice before switch-off. The sensor offers 3 levels of light: 100%–>dimmed light (natural light is insufficient) –>off; and 2 periods of selectable waiting time: full light duration and microlight duration; Selectable daylight threshold and freedom of detection area.

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.

After full light duration, the light dims to micro brightness if the surrounding natural light is below the daylight threshold.
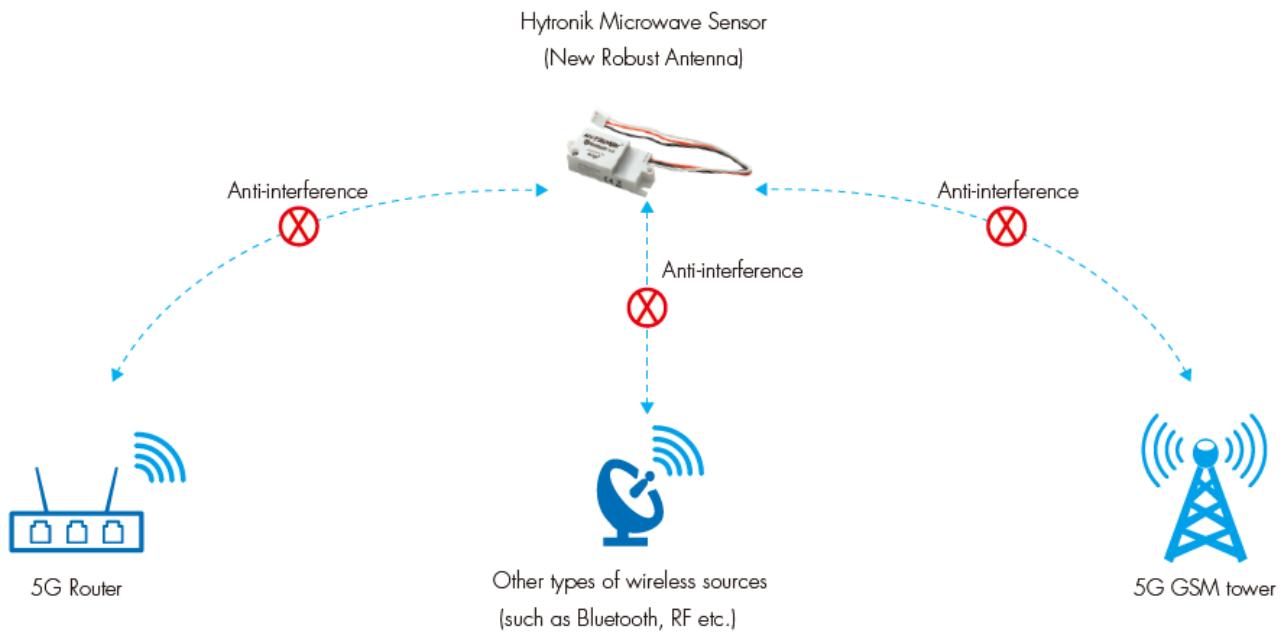
Light switches off automatically after the microlight duration elapses.

Highlight

### Robust HF Sensors Design — Anti-interference Technology

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

**Grouping luminaires via mesh network**

1. Grouping the primary tri-proof light with the secondary tri-proof light with APP setting.
2. When the primary tri-proof light receives Bluetooth signal, it tranmits to the the secondary tri-proof light so the tri-proof lights switch on at the same time.
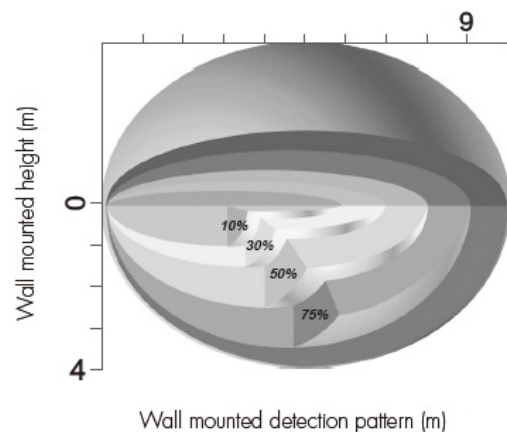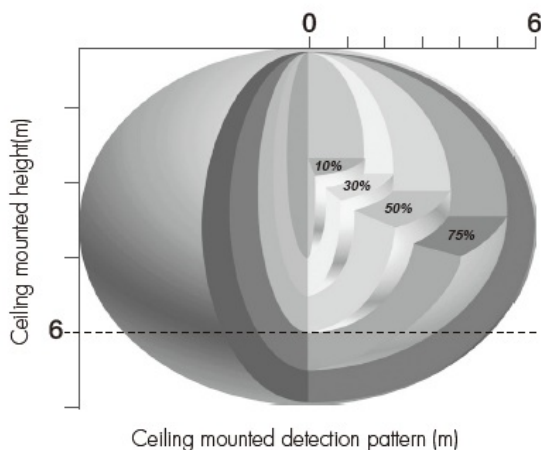
*All the settings can be finished on the APP.
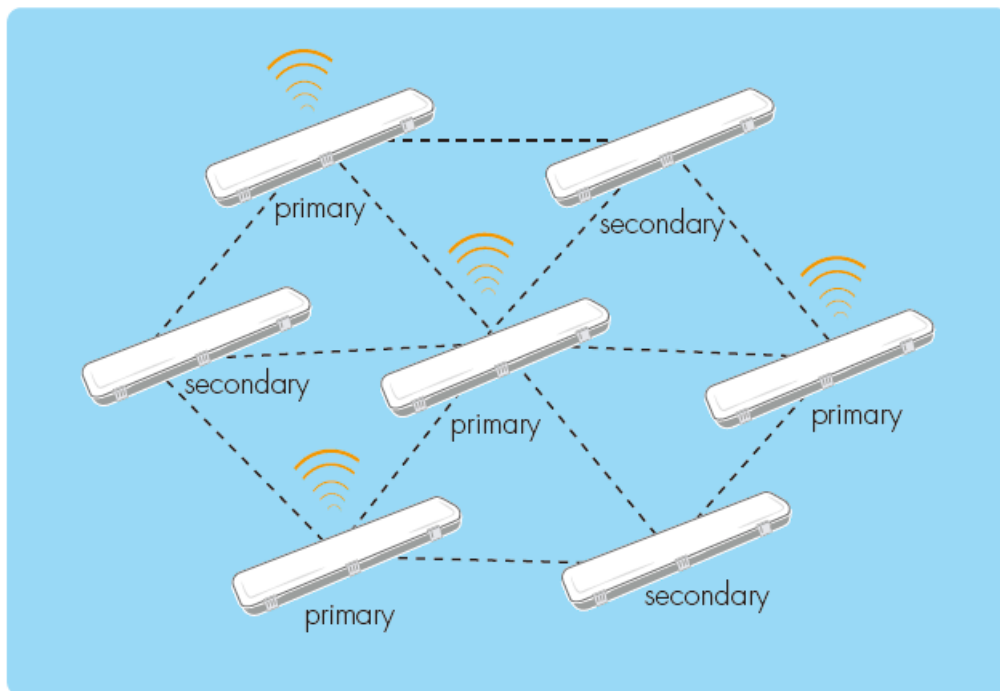
Placement Guide and Typical Range

Smart Phone to Device Range

6-10m　　　>10m
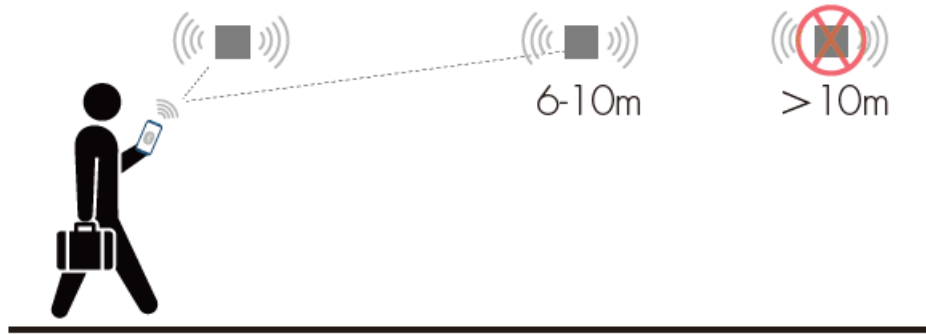
The smart device with the App installed will have a typical range of 10m, but varies from device to device. During commissioning, the installer will need to be in range of the devices when searching for devices to add to the network. Once the devices have been added to the network via the App, the devices will start communicating within the wireless mesh. This means that once the network is complete, all devices are accessible from the smart device when in a 20m range of a single point.

Detection Pattern

Ceiling mounted height(m)

0　　　　　6

10%
30%
50%
75%

6

Ceiling mounted detection pattern (m)

Wall mounted height (m)

9

0

10%
30%
50%
75%

4

Wall mounted detection pattern (m)

Additional Information / Documents

1. Regarding precautions for Bluetooth product installation and operation, please kindly refer to **www.hytronik.com/download/knowledge** ->Bluetooth Products – Precautions for Product Installation and Operation
2. Datasheet is subject to change without notice. Please always refer to the most recent release on **www.hytronik.com/products/Bluetooth** 5.0 SIG mesh system ->Partnership
3. Regarding Hytronik standard guarantee policy, please refer to **www.hytronik.com/download** ->knowledge ->Hytronik Standard Guarantee Policy

Documents / Resources

HYTRONIK SAM12-TY-2 Tuya Enabled HF Motion Sensor [pdf] Instruction Manual
SAM12-TY-2 Tuya Enabled HF Motion Sensor, SAM12-TY-2, Tuya Enabled HF Motion Sensor,
Enabled HF Motion Sensor, HF Motion Sensor, Motion Sensor, Sensor

References

- Ⓦ **Catalogue_Hytronik**