HYTRONIK HIM84 IP65 Dual Sense Sensor with Bluetooth 5.0 SIG Mesh Owner's Manual

Contents

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HYTRONIK HIM84 IP65 Dual Sense Sensor with Bluetooth 5.0 SIG Mesh

Product Information

- Product Name: HIM84 (High Bay)
- Product Type: Bluetooth DALI / DALI2 high-bay Dual-senseTM motion sensor
- Compatibility: iOS and Android smartphones
- Installation Height: Up to 15m
- IP Rating: IP65 (dust-tight and protected against water jets)
- Wireless Communication: Bluetooth SIG Mesh
- Installation Methods: Ceiling mount, conduit, clamp
- Lens Options: 3 different lens options
- Features: Tri-level control, Daylight Harvest (Circadian rhythm), Dusk/Dawn photocell, Astro timer, Staircase function, Power-on status memory, Offline commissioning, Dynamic daylight harvest auto-adaptation, Bulk commissioning, Continuous development in progress
- Warranty: 5 years

Product Usage Instructions

1. Choose the appropriate installation method for your application (ceiling mount, conduit, or clamp).
2. Select the desired lens option for the motion sensor.
3. Ensure the mains voltage is within the range of 220-240VAC and the frequency is 50/60Hz.
4. If using a smartphone, download the HIM84 app from the respective app store (iOS or Android).
5. Follow the quick setup mode or advanced setup mode in the app to configure the motion sensor.
6. Set up tri-level control, daylight harvest, dusk/dawn photocell, astro timer, staircase function, and other desired features according to your requirements.
7. Utilize the floorplan feature in the app to simplify project planning.
8. Use the web app/platform (**www.iot.koolmesh.com**) for dedicated project management, network sharing, and different permission levels via authority management.
9. For on-site configuration using an iPad, download the Koolmesh Pro app for iPad.
10. Ensure interoperability with Hytronik Bluetooth product portfolio and compatibility with EnOcean BLE switches.

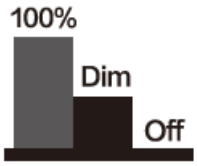
11. Perform device firmware updates over-the-air (OTA) for the latest features and improvements.
12. If needed, refer to the detailed motion sensor settings in the user manual for advanced customization.
13. In case of power loss, the motion sensor will retain its power-on status due to memory function.
14. For bulk commissioning, copy and paste settings from one motion sensor to others for efficient setup.

IP65 Dual Sense Sensor with 5.0 SIG Mesh
HIM84 (High Bay)
HF and PIR, Tri-level control & Daylight Harvest for Independent DALI/DALI2

Product Description

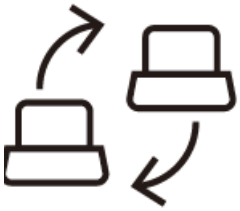
HIM84 is a Bluetooth DALI / DALI2 high-bay Dual-senseTM (Microwave + PIR) motion sensor, with capability of up to 15m installation height. It is designed with robust IP65 structure, and offers 3 different installation methods and 3 different lens options. With Bluetooth wireless mesh networking, it makes communication much easier without any hardwiring, which eventually adds values to luminaires and saves costs for projects. Meanwhile, simple device setup and commissioning can be done via app.

App Features

-  Quick setup mode & advanced setup mode
- 

Tri-level control
-  Daylight harvest
-  Circadian rhythm (Human centric lighting)
-  Floorplan feature to simplify project planning
-  Web app/platform for project deployment & data analysis

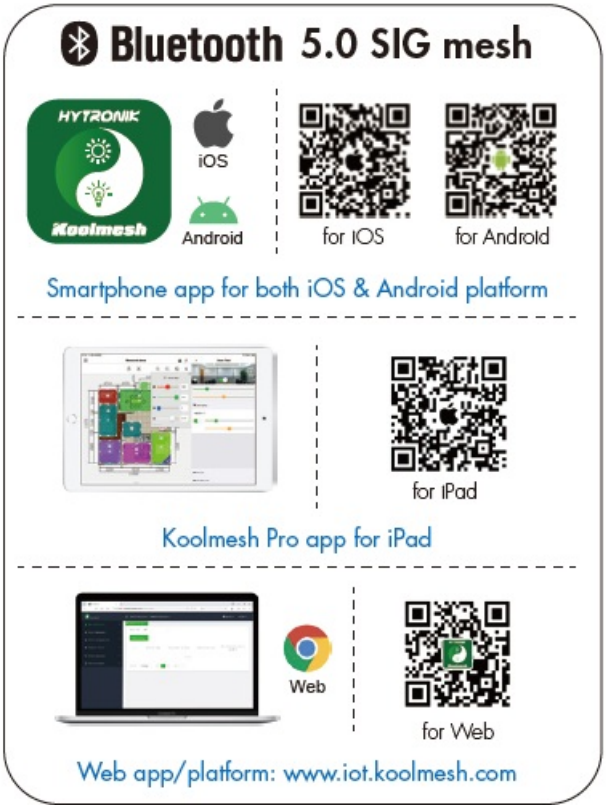
-  Koolmesh Pro app on iPad for on-site configuration
-  Grouping luminaires via mesh network
-  Scenes
-  Detailed motion sensor settings
-  Dusk/Dawn photocell (Twilight function)
-  Schedule to run scenes based on time and date
-  Astro timer (sunrise and sunset)
-  Staircase function for quick master & slave setup
-  Internet-of-Things (IoT) featured
-  Device firmware update over-the-air (OTA)

-  Device social relations check
-  Bulk commissioning (copy and paste settings)
-  Dynamic daylight harvest auto-adaptation
-  Power-on status (memory against power loss)
-  Offline commissioning
-  Different permission levels via authority management
-  Network sharing via QR code or keycode
-  Remote control via gateway support HBGW01
-  Interoperability with Hytronik Bluetooth product portfolio
-  Interoperability with Hytronik Bluetooth product portfolio

-  Continuous development in progress…

Hardware Features

-  40mA DALI/DALI2 Broadcast output
-  4 work modes:
  - HF only
  - PIR only
  - HF + PIR
  - HF / PIR
-  3 installation methods
-  3 lens options
-  IP65
-  High-bay (up to 15m height)
-  5-year warranty, designed for long lifetime up to 50,000 hours



Web app/platform: www.iot.koolmesh.com

Fully support EnOcean self-powered switch module PTM215B (HBES01/W & HBES01/B)

Technical Data

Input Characteristics

Model No.	HIM84
Mains voltage	220~240VAC 50/60Hz
Stand-by power	<1W
Switched power	Max. 20pcs devices, 40mA
Warming-up	30s

Safety and EMC

EMC standard (EMC)	EN55015, EN61000-3-2/-3-3
Safety standard (LVD)	EN60669-1, EN60669-2-1
Radio Equipment (RED)	EN300440, EN301489-1/-17/-3, EN62479,EN300328
Certifcation	CB, CE , EMC, RED, RCM

Sensor Data

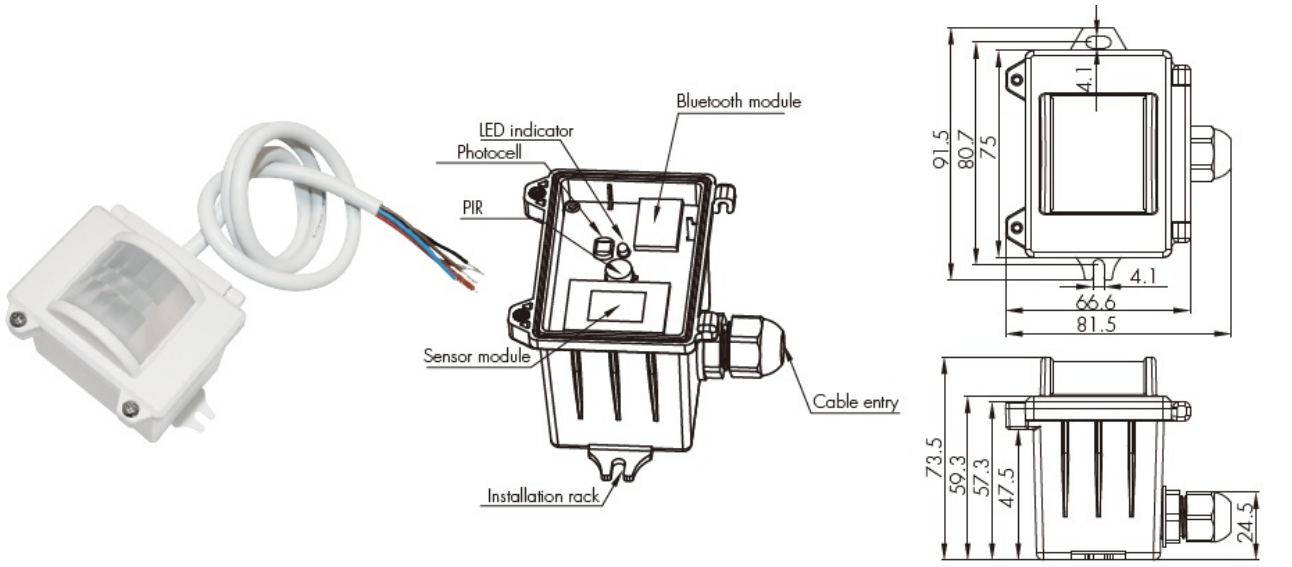
Model No.	HIM84
Sensor principle	High Frequency (microwave), PIR
Operation frequency	5.8GHz +/- 75MHz (HF)
Transmission power	<0.2mW (HF)
Sensor mode	4 modes: PIR, HF, PIR+HF, PIR/HF
Detection range	Max installation height 15m (forklift)/12m (human) Max detection range HF: Ø = 24m (forklift)/14m (human) PIR: Ø = 24m (forklift)/20m (human)
Detection angle	360O

Environment

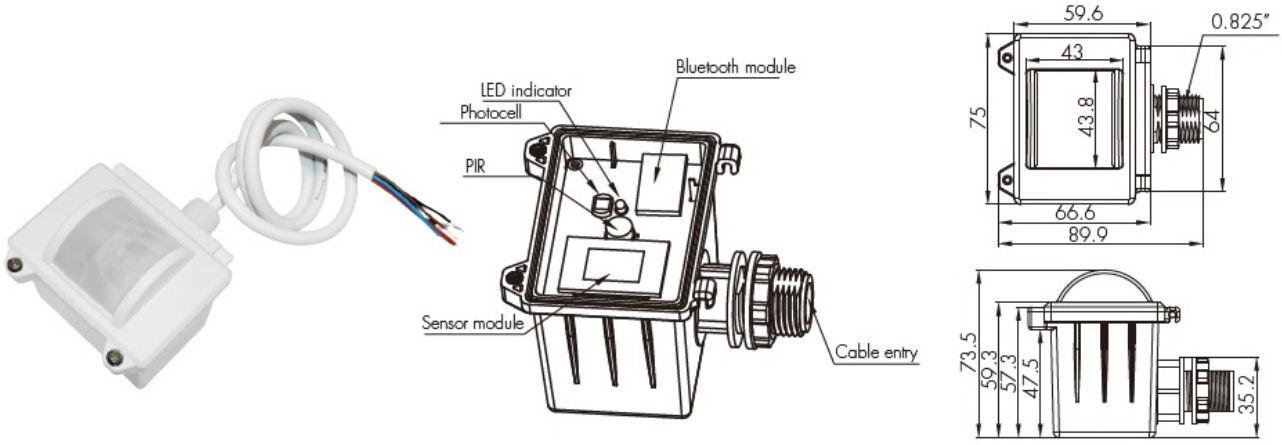
Operation temperature	Ta: -20OC ~ +50OC
IP rating	IP65

Mechanical Structures and Installations
For more details, please refer to user manual.

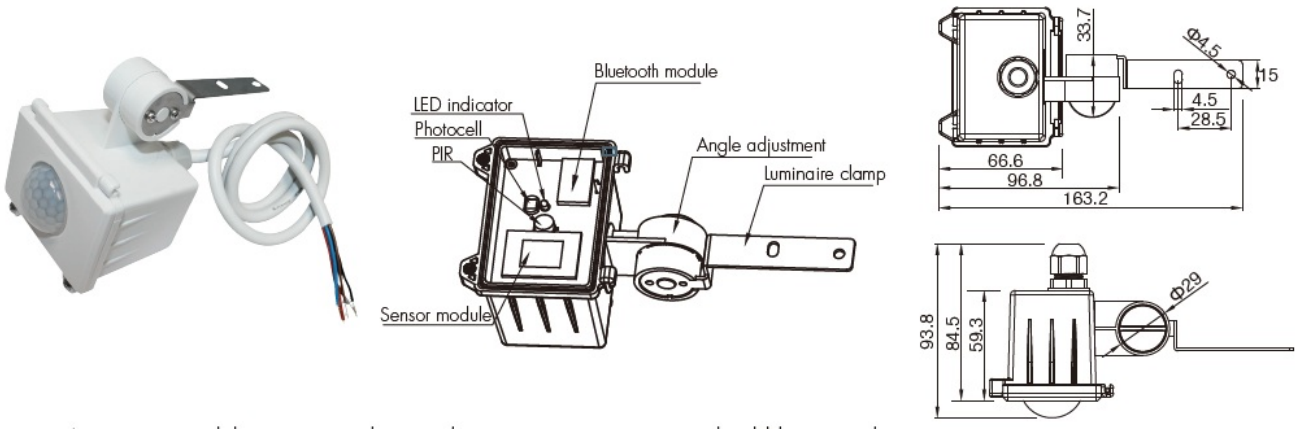
A. Ceiling mount (All 3 lens options included in the package)



B. Screw to the Luminaire by conduit (All 3 lens options included in the package)



C. Attach to the shade by clamp (All 3 lens options included in the package)



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

Dual Sense Introduction

It’s commonly known Microwave and Infrared are main detecting technologies in lighting controls. Both have the

advantage and disadvantage for industrial applications.

Advantage

- sensitive to minor motion.
- sensitive to radial movement.
- can be reflected by objects hence covering big detection area
- resilient to heat source, smoke and and air conditioner.

Disadvantage

- penetrates walls, picks up motions outside of the office area;
- back wave detection, false trigger by motions at the back.
- can be false triggered by ventilation fans, water pipe, elevators etc. in industrial application.

Advantage

- no penetration, confined detection area.
- sensitive to tangential movement.
- resilient to motion object which has no heat radiation.

Disadvantage

- * can be false triggered by air conditioner, smoke and other heat sources.

The remedy is to create Dual Sense by combining both technologies to make use of the advantage and bypass the disadvantage.

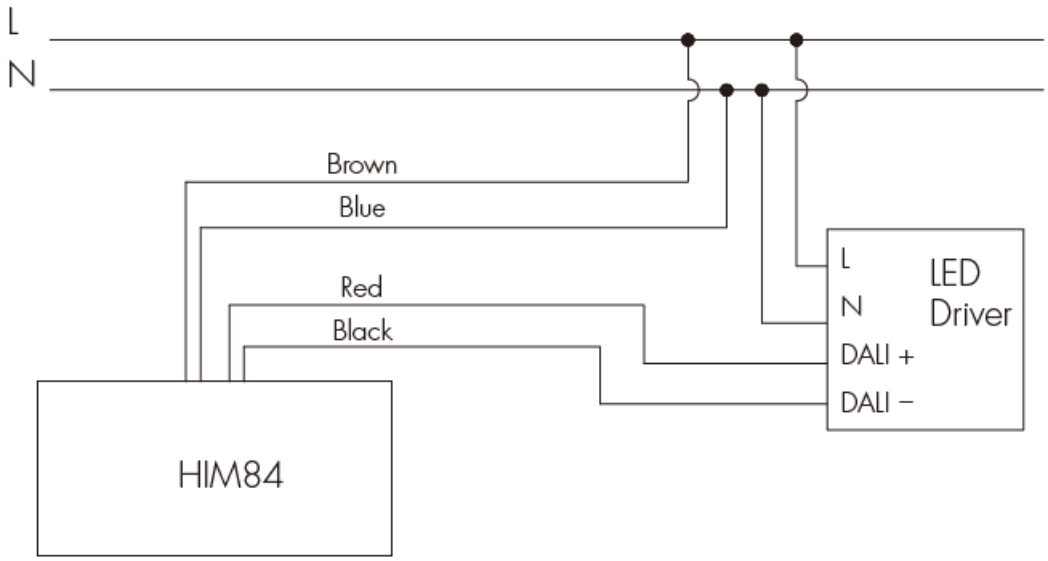
4 optional detection modes selectable:

- HF: Microwave only
- PIR: PIR mode only
- HF+PIR: both PIR and microwave mode, to decrease the detection capability and detection area. Only when both detections are activated, the motion is considered valid. This is to prevent the sensor from false trigger by

heat source, air conditioner, ventilation fans, water pipe and elevators etc…

- HF/PIR: either PIR or microwave mode, to increase the detection capability and detection area;

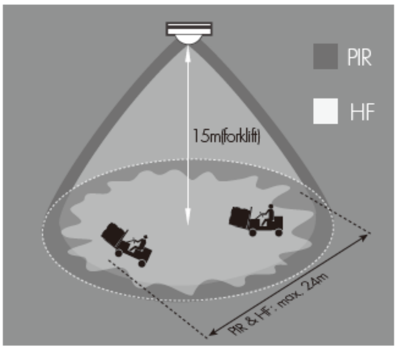
Wiring Diagram



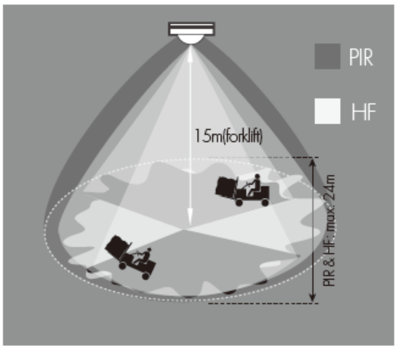
Detection Pattern

End user can choose the suitable PIR lens in real application to fulfill various requirements. Three options are offered for selection:

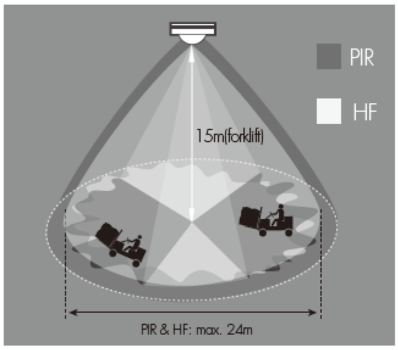
Detection pattern for forklift



PIR detection: Ø = 24m (max.)
HF detection: Ø = 24m (max.)

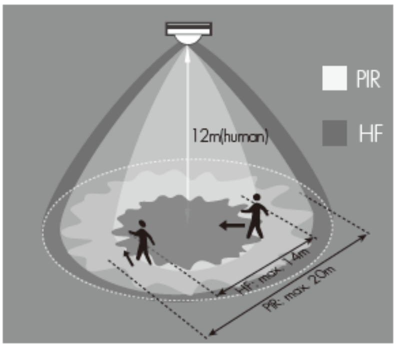


PIR detection: Ø = 24m (max.)
HF detection: Ø = 24m (max.)

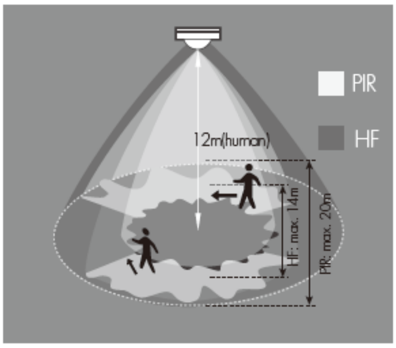


PIR detection: Ø = 24m (max.)
HF detection: Ø = 24m (max.)

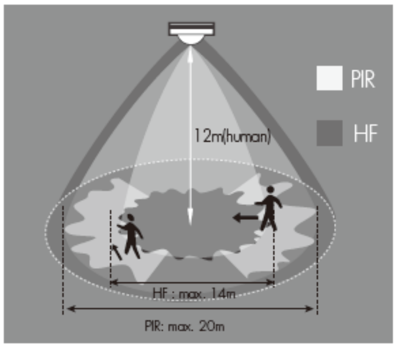
Detection pattern for human



HF detection: Ø = 14m (max.)
PIR detection: Ø = 20m (max.)

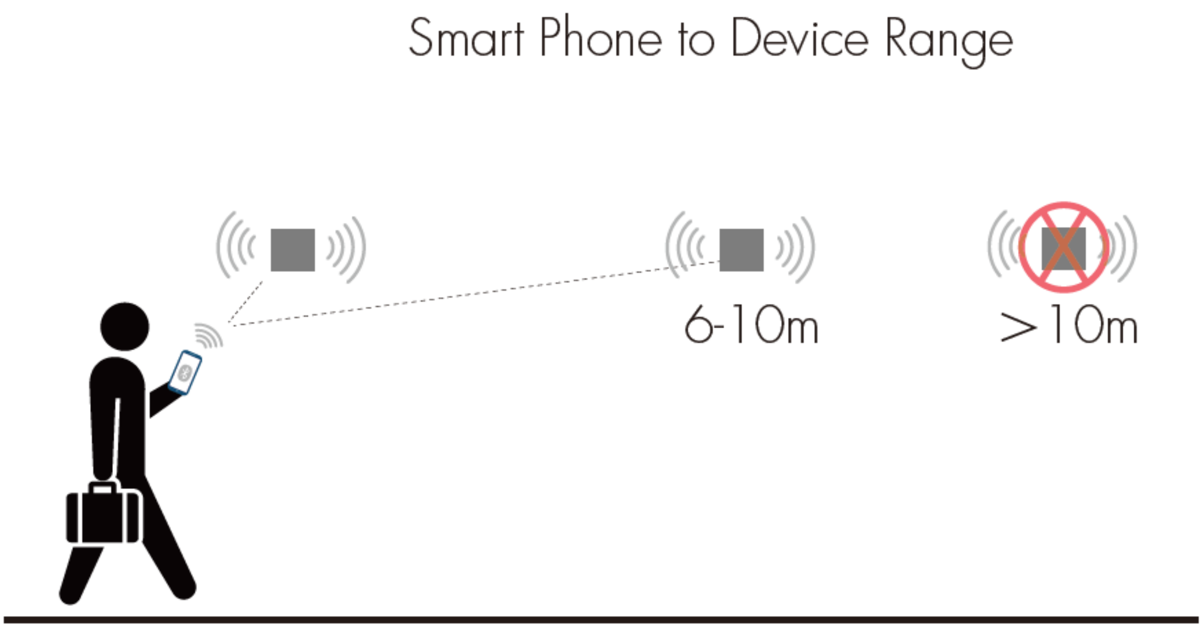


HF detection: Ø = 14m (max.)
PIR detection: Ø = 20m (max.)



HF detection: Ø = 14m (max.)
PIR detection: Ø = 20m (max.)

Placement Guide and Typical Range



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

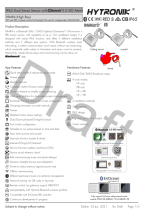
wireless mesh. This means that once the network is complete, all devices are accessible from the smart device when in a 20m range of a single point.

Additional Information / Documents

1. To learn more about detailed product features/functions, please refer to **www.hytronik.com/download->knowledge->Introduction** of App Scenes and Product Functions
2. Regarding precautions for Bluetooth product installation and operation, please kindly refer to **www.hytronik.com/download->knowledge->BluetoothProducts-Precautions** for Product Installation and Operation
3. Regarding precautions for microwave sensor installation and operation, please kindly refer to **www.hytronik.com/download->knowledge->MicrowaveSensors-Precaution**s for Product Installation and Operation
4. Regarding precautions for PIR sensor installation and operation, please kindly refer to **www.hytronik.com/download->knowledge->PIRSensors-Precautions** for Product Installation and Operation
5. Data sheet is subject to change without notice. Please always refer to the most recent release on **www.hytronik.com/products/bluetoothtechnology->BluetoothSensors**
6. Regarding Hytronik standard guarantee policy, please refer to **www.hytronik.com/download->knowledge->HytronikStandardGuaranteePolicy**

Subject to change without notice.
Edition: 25 Jun. 2021

Documents / Resources

	**HYTRONIK HIM84 IP65 Dual Sense Sensor with Bluetooth 5.0 SIG Mesh** [pdf] Owner's Manual HIM84-5, HIM84 IP65 Dual Sense Sensor with Bluetooth 5.0 SIG Mesh, HIM84, IP65 Dual Sense Sensor with Bluetooth 5.0 SIG Mesh

References

- **Catalogue_Hytronik**
- **iot.koolmesh.com**