



Smart Occupancy Sensor & Gateway IoT Sensors Product Catalog

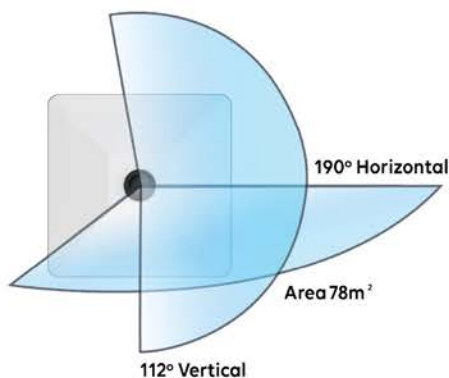




Description

The VS121 is an AI-powered occupancy sensor designed to monitor and analyze space utilization in modern workplaces. Utilizing advanced AI algorithms, it achieves up to a 98% recognition rate, providing accurate and anonymous people counting. The sensor supports both LoRaWAN® & Ethernet (VS121-P) for flexible data transmission and integrates seamlessly with Milesight's DeviceHub & Development Platform for remote management.

Feel free to quote for bulk order prices.



Features

People Count & Occupancy Analysis

- Up to 98% recognition rate based on advanced AI analysis technologies
- Bi-directional Line-crossing People Count & People Flow Analysis
- Smart U-turn Filtering sorts out redundant entries & exits
- Dwell Time Detection monitors how long people stay in specific areas
- Up to 16 areas for Regional People Counting & Dwell Time Detection
- People Flow Analysis calculates traffic of up to 4 edges within a region
- Up to 8 Privacy Masks to cover specific areas
- Data Retransmission supports 3000 data packets

Wireless Transmission

- Protocol: LoRaWAN®, Milesight D2D
- Frequency: CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
- Tx Power: 16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
- Sensitivity: -137 dBm @300bps
- Mode: OTAA/ABP Class C

Other Interfaces

- WiFi: IEEE 802.11 b/g/n, 2.4GHZ (AP Mode for Configuration)
- 1x Reset Button, 1x WiFi Button
- 1x LED Indicator for WiFi

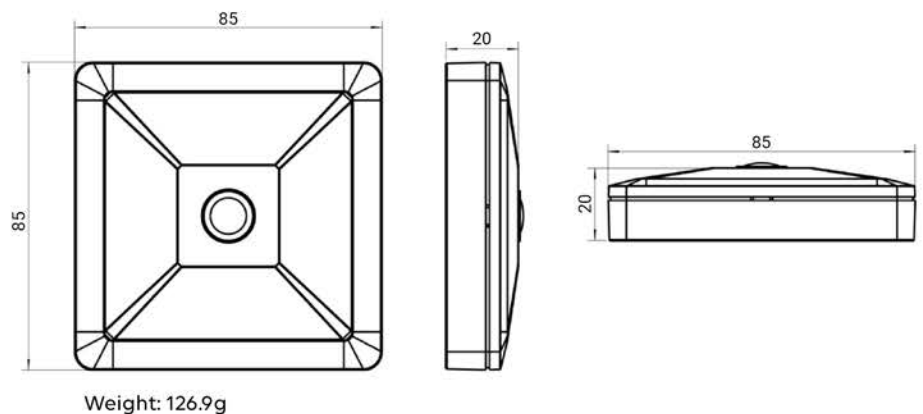
Physical Characteristics

- Power Supply: DC 5V/ 1.5A by Type-C Port
- Power Consumption: 3.5W
- Operating Temperature: -5°C ~ +55°C
- Storage Temperature: -20°C ~ +60°C
- Relative Humidity: 0 ~ +95% (Non-condensing)
- Color: White/Black (Optional)
- Installation: Ceiling Mounting

Regulatory Approvals

- CE, FCC, RoHS

Dimensions



Workplace Occupancy Sensor VS121

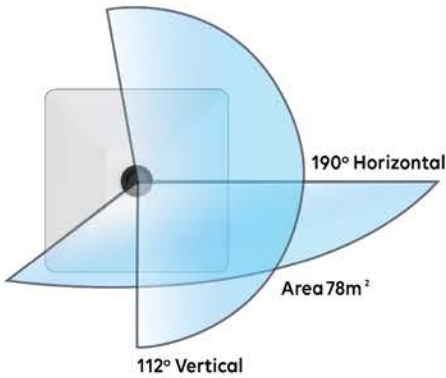




Description

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Recommended Installation Height

Object	Height	Note
Sitting	>2.5 m (8.2 ft)	Commonly used for region people counting
Standing	> 3 m (9.8 ft) (Optimum = 3 m)	Commonly used for line-cross counting

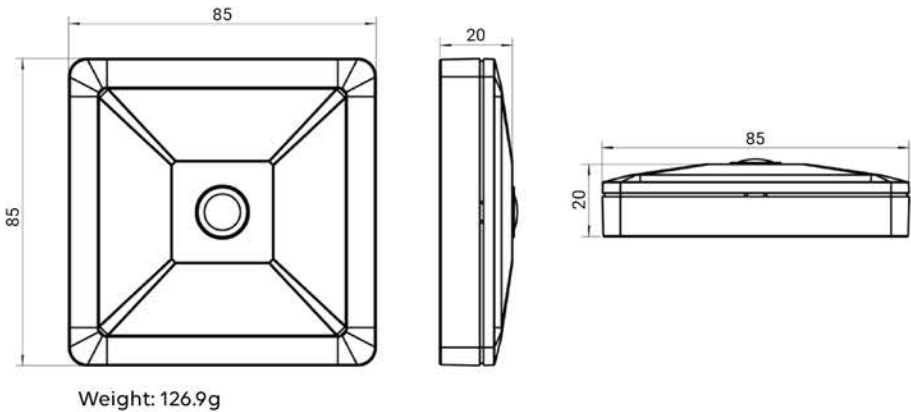
Installation For People Counting At Different Heights

Height	Detection Range
2.3 m	2.6 x 8.6 m²
2.5 m	3.2 x 9.8 m²
2.7 m	4.2 x 13.6 m²
3.0 m	4.8 x 14 m²
3.2 m	5.2 x 15.4 m²
3.5 m	6 x 17 m²
4.0 m	6.8 x 18.8 m²

Installation For High Ceiling Mount Version

Height	Detection Range
2.3 m	2.6 x 8.6 m²
2.5 m	3.2 x 9.8 m²
2.7 m	4.2 x 13.6 m²

Dimensions



Workplace Occupancy Sensor VS121

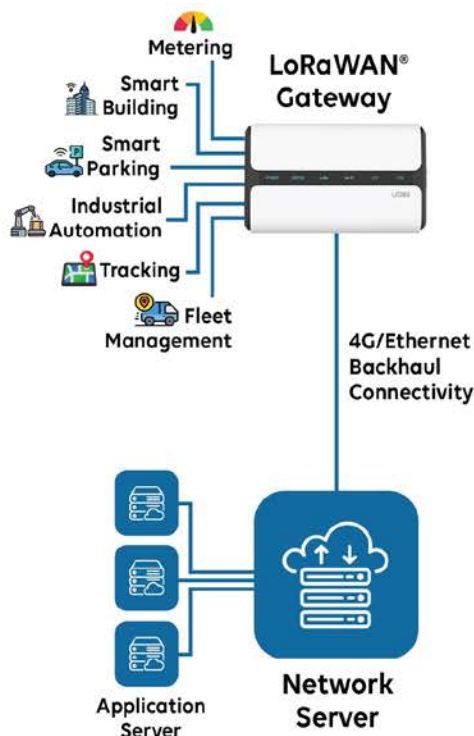




Description

The UG65 is a powerful 8-channel indoor LoRaWAN® gateway designed for large-scale, smart IoT deployments. With the SX1302 LoRa chip, a robust quad-core 1.5 GHz CPU, and memory of 512 MB DDR4 RAM, it supports over 2,000 end devices and features multiple backhaul options including Ethernet, Wi-Fi, and cellular. Ideal for smart buildings, offices, and semi-outdoor environments (like under eaves), the UG65 ensures reliable long-range communication with extensive protocol support and industrial-grade protection.

Feel free to quote for bulk order prices.



Features

High-Capacity, Robust, Flexible System

- Supports 8 full/half-duplex LoRaWAN® channels
- Connects 2000+ devices, with up to 15km LoS range
- Quad-core CPU, 512 MB RAM, IP65-rated enclosure
- Ethernet (with PoE), Wi-Fi (2.4GHz), and optional 4G
- Auto failover between backhaul types
- Compatible with The Things Stack, ChirpStack, Actility, Everynet, etc.
- Supports MQTT(S), HTTP(S), BACnet/IP, Modbus
- Multiple security communications (OpenVPN/IPsec/L2TP/PPTP/DMVPN)

LoRaWAN®

- 2x Internal Antennas + 1 x 50 Ω N-Female External Connector
- Channel: 8 (Half/Full-duplex)
- Frequency: CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
- Sensitivity: -140dBm Sensitivity @292bps
- Output Power: 27dBm Max
- Protocol: V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C

Ethernet Interface

- 1 x RJ45 WAN Port (PoE PD supported)
- Physical Layer: 10/100/1000 Base-T (IEEE 802.3)
- Data Rate: 10/100/1000 Mbps (Auto-Sensing)
- Interface: Auto MDI/MDIX
- Mode: Full or Half Duplex (Auto-Sensing)

Wi-Fi Interface

- Internal Antenna
- Standards: IEEE 802.11 b/g/n, 2.4GHz
- AP or Client Mode
- Security: WPA/WPA2 authentication, WEP/TKIP/AES encryption
- Tx Power: 802.11b: 18 dBm +/-2.0 dBm (11 Mbps)
802.11g: 15 dBm +/-2.0 dBm (6 Mbps)
802.11g: 15 dBm +/-2.0 dBm (54 Mbps)
802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS0_HT20)
802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS7_HT20)
802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS0_HT40)
802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS7_HT40)

Cellular Interface (Optional)

- Internal Antenna
- 1x SIM Slot (mini SIM-2FF)

Other Interfaces

- 1x Reset Button
- 1x Type-C Console Port
- LED Indicators: 1x Power, 1x Status, 1x LoRa, 1x Wi-Fi, 1x LTE, 1x ETH
- Built-in Watchdog, RTC, Timer

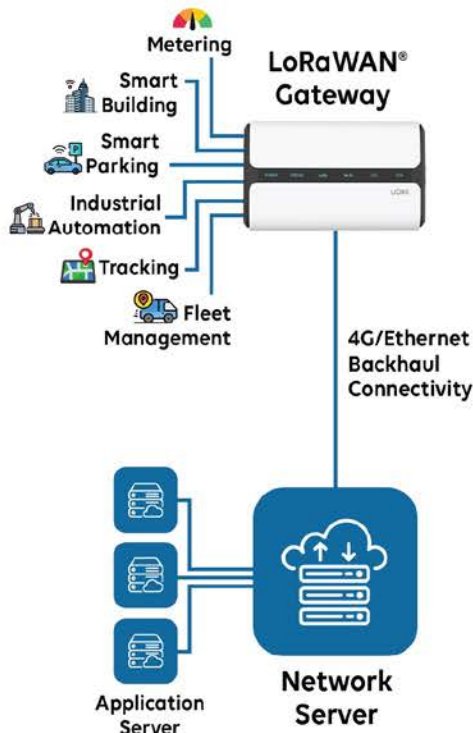




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Feel free to quote for bulk order prices.



Features

Software

- Network Protocols: PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, MQTT, MQTTS, BACnet/IP, Modbus RTUover TCP, Modbus TCP, etc.
- VPN Tunnel: OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN/WireGuard
- Firewall: ACL/DMZ/Port Mapping/MAC Binding/URL Filter
- Management: Web, CLI, SMS, On-demand dial up, DeviceHub, Milesight IoT Cloud, Yeastar Workplace Platform, Milesight Development Platform
- Reliability: WAN Failover
- APP: Python SDK, Node-RED

Power Supply & Consumption

- Power Input: 1. 9-24 VDC by DC Male Jack Connector
2. 802.3 af PoE
- Power Consumption: Typical 2.9 W, Max 4.2 W

Physical Characteristics

- Ingress Protection: IP65
- Material & Color: PC+ABS (UL94 V0), White & Black
- Installation: Desktop, Wall or Pole Mounting

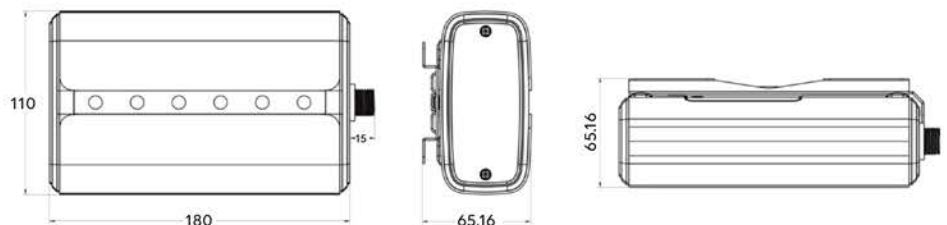
Environmental

- Operating: -40°C to +70°C (-40°F to +158°F)
- Temperature: Reduced Cellular Performance Above 60°C
- Storage Temperature: -40°C to +85°C (-40°F to +185°F)
- Ethernet Isolation: 1.5 kV RMS
- Relative Humidity: 0% to 95% (non-condensing) at 25°C/77°F

Regulatory Approvals

- CE, FCC, IC, Telec, JATE, RCM
- Environmental: RoHS, REACH

Dimensions



Weight: 548g

IoT LoRaWAN® Gateway UG65



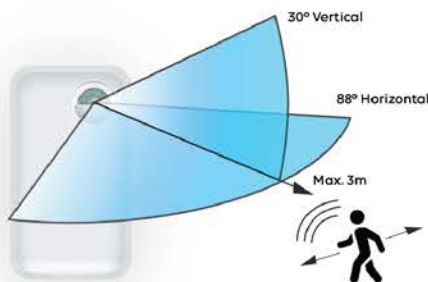


Description

The KOS-01 Smart PIR (Passive Infrared Radiation) Occupancy Sensor KOS-01 detects physical motion by measuring changes in infrared radiation. When a person goes through the coverage area, the IoT PIR Occupancy Sensor is triggered and automatically reports the event to a Smart 4G Gateway KOS-01.

The KOS-01 can also be controlled by the BOOQED App. IoT developers can easily build and integrate communication between IoT devices within the BOOQED ecosystem.

Feel free to quote for bulk order prices.



Features

Low Power Management

- Power supply: 2*AA type(5#)Alkaline batteries, 3V
- Average power consumption: 40 μ A
- Average current in sleep mode: <20 μ A
- Battery life: 3 years (under the condition of 60-minute reporting interval and 25°C indoor temperature)
- Low battery alert triggers when the battery level falls below 20%

Sensor Performance

- Transmission power: <14 dBm
- Receiving sensitivity: -104dBm
- Performance distance: >100m in open space, (used with IoT gateways)
- Frequency deviation: +/-20KHZ
- Frequency range (MHz): 2401.0~2483.5

Detection Precision

- Horizontal detection angle: 88°
- Vertical detection angle: 30°
- Human body sensing distance: <3m (moving at a speed of 1m/s)

Hardware Specifications

- CPU: BL706
- Electrostatic protection level: Contact: +/-6KV; Air discharge: +/-12KV
- One pairing button
- One red indicator light

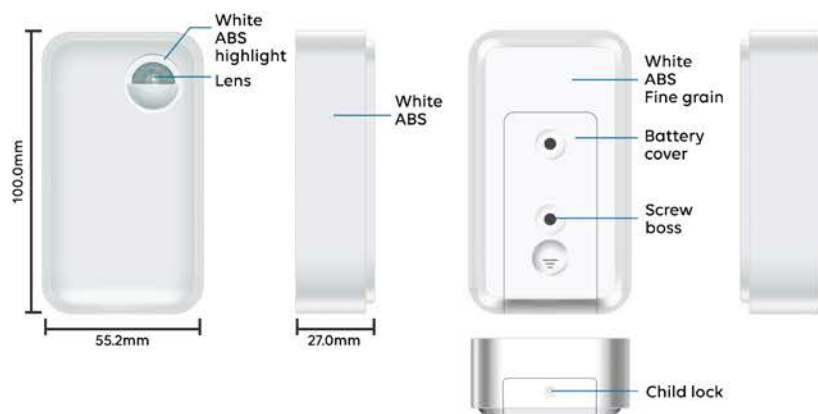
Operating Temperature & Humidity

- Temperature: -10~65°
- Humidity: ≤95%RH, non-ccondensing

System Certifications

- CE RoHS, FCC

Dimensions



PIR Occupancy Sensor KOS-01



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Description

The VS133 is an advanced AI-powered people counting sensor that leverages second-generation Time-of-Flight (ToF) technology combined with embedded AI algorithms. Designed for high-traffic environments and complex scenes, it delivers precise, anonymous people counting with an industry-leading accuracy of up to 99.8%. The sensor supports both LoRaWAN® & Ethernet (VS133-P) connectivity options, ensuring seamless integration into various infrastructures.

Feel free to quote for bulk order prices.

Features

People Counting

- Up to 99.8% accuracy by 2nd generation ToF technology & AI algorithm
- Up to 4 counting lines for bi-directional line-crossing people counting
- Smart U-turn Filtering sorts out redundant entries & exits
- Operates effectively in varying low-light & completely dark environments
- ToF Invisible Light Beam of 940nm
- Measuring Accuracy of < 3.5cm
- Wide FoV (98° horizontal, 80° vertical) and a detection range of 0.5 to 3.5m
- Differentiates between adults & children, staff and visitors
- Detects groups based on patterns of distance, moving direction and speed
- Generates heat maps to visualize foot traffic intensity and distribution

Wireless Transmission

- Protocol: LoRaWAN®
- Frequency: CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
- Tx Power: 16 dBm (868 MHz)/20 dBm (915 MHz)/19 dBm (470 MHz)
- Sensitivity: -137 dBm @300bps
- Mode: OTAA/ABP Class C

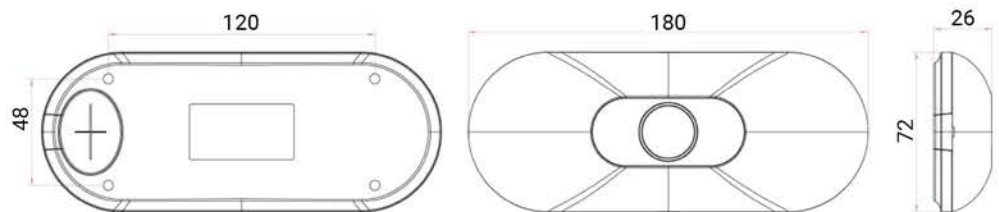
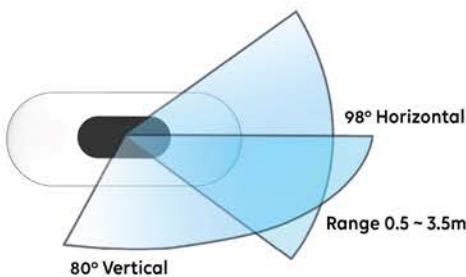
Other Interfaces

- WiFi: IEEE 802.11 b/g/n, 2.4GHz (AP Mode for Configuration)
- 1x WiFi/Reset Button
- 1x RGB LED Indicator
- 1x DC Jack Connector for Power Input

Physical Characteristics

- Local Storage: Up to 1 million data records and supports csv file exports
- Power Supply: 12VDC / 2A
- Power Consumption: Typical 7.8W, Max. 22.2W
- Operating Temperature: -20°C ~ +50°C
- Relative Humidity: 0 ~ +95% (Non-condensing)
- Ingress Protection: IP40
- Installation: Ceiling Mounting, Extended Ceiling Mounting & Lintel Mounting (with Optional Multifunctional Bracket)

Dimensions



Weight: 226g

People Count Sensor VS133



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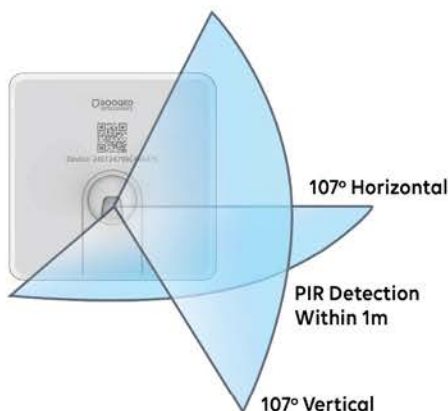
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Description

The VS341 is a premium, battery-powered desk and seat occupancy sensor that combines Passive Infrared (PIR) detection with Thermopile IR technology for superior accuracy & responsiveness. Designed for dynamic spaces like hot-desking environments, libraries, and meeting areas, the VS341 delivers up to 98% recognition accuracy, rapid detection, and ensures complete privacy with motion-based sensing. Its ultra-low power design enables 5 years of battery life, while LoRaWAN® and Mulesight D2D protocols offer seamless wireless connectivity. With adjustable PIR covers & one-touch NFC configuration, the VS341 is a flexible, non-invasive solution for smart space utilization.

Feel free to quote for bulk order prices.



Features

Occupancy Detection

- Up to 98% accuracy using dual sensing with PIR + Thermopile IR technology
- Detects occupancy in ~13 seconds; vacant occupancy in ~60 seconds
- Flexible detection field angles & ranges with interchangeable PIR covers
- Enables ultra-low latency and direct control without gateways via Mulesight D2D protocol
- NFC-equipped for one-touch configuration; supports card emulation mode
- Safe & reliable; made with V0 grade flame-retardant material
- Compatible with Mulesight IoT Cloud & Mulesight Development Platform

Wireless Transmission

- Protocol: LoRaWAN®, Mulesight D2D
- Frequency: CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923-1&2&3&4
- Sensitivity: -137dBm
- Mode: OTAA/ABP Class A

Other Interfaces

- 1x Power/Reset Button (Internal); 1x Status Indicator
- Power On/Off via Mobile App or Power Button
- Advanced Feature: Mulesight D2D Controller

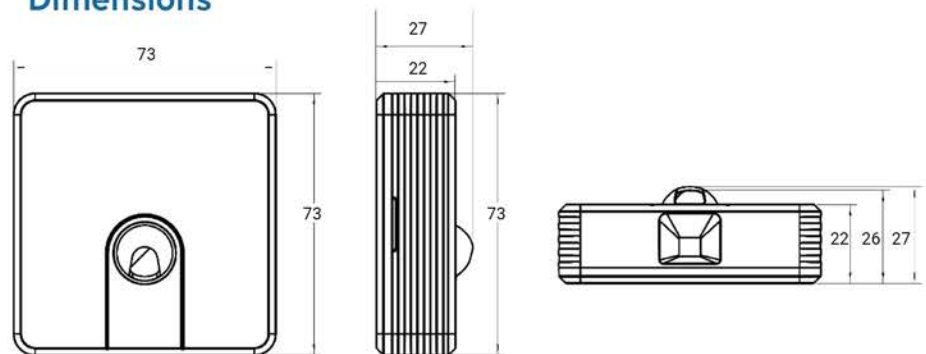
Physical Characteristics

- Power Supply: 1x 4000 mAh ER18505 Li-SOCL₂ Battery
- Battery Life²: Around 5.2 Years (100 Triggers per Day, LED Disabled, 25°C)
- Operating Temperature: -20°C ~ +60°C
- Relative Humidity: 0 ~ 95% (Non-condensing)
- Ingress Protection: IP30
- Color & Material: White + Grey, PC + ABS (Flame Retardant)
- Installation: 3M Tape Mounting, Wall Screw Mounting

PIR Cover Detection Area & Usage Scenario

	70° Horizontal, 60° Vertical, 1 m × 0.9 m	Single Person Desk
	70° Horizontal, 107° Vertical, 1 m × 1.8 m	Face-to-face Desk
	107° Horizontal, 53.5° Vertical, 1.8 m × 0.9 m	Bar Table
	107° Horizontal, 107° Vertical, 1.8 m × 1.8 m	Round Table
	N/A	To be tailored as required

Dimensions



Weight: 90g

Occupancy Sensor VS341



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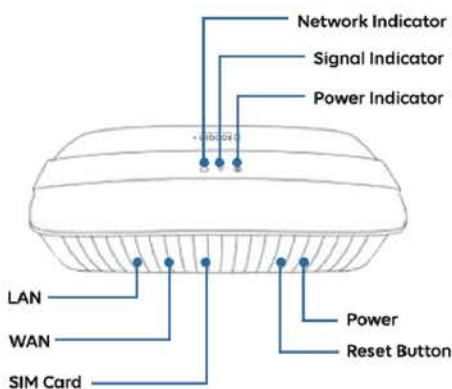


Description

The KOG-01 is a Smart 4G Gateway with multi-routing modes, including LAN / Wi-Fi / 4G LTE and multiple wireless protocol options (WIFI / BLE / Zigbee / Z-Wave) for connecting various IoT devices. It supports 4G LTE CAT1, LTE CAT M1, and allows for network connection via LTE CAT SIM Card in Europe, North America, etc. A 4,100mAh lithium battery is optional as a backup power source.

- Supports 4G LTE CAT1, LTE CAT M1
- Supports Bluetooth 5.2, ZigBee3.0, Z-Wave
- Support Lithium back-up battery (4,100mAh)

Feel free to quote for bulk order prices.



Features

System Specification

- CPU: MT7620
- RAM: 128 MB (Free space: 80 MB), Flash: 16 MB (Free space: 8 MB)
- Network Interface: 1*10/100Mbps LAN port, 1*10/100 Mbps WAN port
- Wi-Fi 2.4G, BLE 5.2, Z-Wave and LTE (CAT M1/ CAT1)

Battery Backup

- Comes with a built-in battery power option; the system will continue to run in the event of a power failure.

High Programmability

- Develop custom firmware with a comprehensive set of resources and services to help developers create successful IoT Gateway projects

Power Supply

- DC Input, input voltage range is 4.5V to 5V. The power seat aperture is 3.5mm. The needle diameter is 1.35mm and is positive. The power adapter: 100-240V 50/60HZ. Output is 5V/2A.

LED Indicators

- Zigbee/BLE LED FLASHES when a signal has been received
- Network LED indicates RED when no network connection is detected
- Network LED indicates GREEN when connected to a network

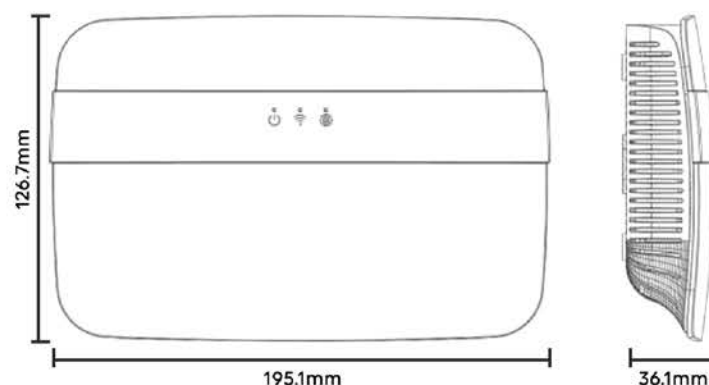
Operating Temperature & Humidity

- Temperature: -10°C~55°C
- Humidity: 10%~90%
- Storage: -40°C~65°C

System Certifications

- FCC, CE, Zigbee Certification, BQB, RoHS

Dimensions



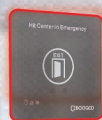
IoT 4G Gateway KOG-01



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Access Control



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Description

The **BOOQED MINI 3** Access Reader is a compact and versatile device designed for seamless integration into modern access control systems. The BOOQED Mini 3 supports multiple card technologies, static and dynamic QR codes, and various controller interfaces. Its robust features, including AES128 encryption, tamper protection, and power reverse protection, ensure secure and reliable operation in any environment.



Features

 Supported Multiple Card Technologies

- Compatible with a wide range of card technologies for maximum flexibility 125 KHz and 13.56 MHz: Mifare, Mifare+, DesFire, Legic, iCLASS, Felica, and CPU.
- Supports Static and Dynamic QR codes. Dynamic QR codes change every 3 seconds for high security, and Static QR codes are ideal for paper-based or photo distribution within a defined validity period.

 Compatible Interfaces

- Compatibility with Wiegand, RS485 (OSDP-compatible) interfaces provide seamless integration with various controllers and enhanced security through encrypted communication.

 LED Indicator

- Ring-shaped design encircles the outer frame for a sleek, modern look.
- Multi-functional color changes for card reads, tamper alerts, and serves as an exit indicator.

 Advanced Security Features

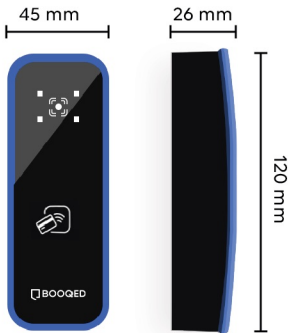
- Ensures secure data transmission with AES128 encryption, detects unauthorized interference with tamper protection, prevents accidental wiring errors with power reverse protection, and safeguards signals with 12Vdc static charge protection.

 Easy Installation and Maintenance

- Features non-drop screws for easy servicing and supports on-site Reader Configuration Cards for quick parameter adjustments.

Product Specifications

Supported Technologies:	Mifare, Mifare+, DesFire, Legic, iCLASS, Felica, and CPU
Compatible Interfaces:	Wiegand, RS485 (OSDP Compatible)
QR Code Reader:	Supports Static & Dynamic QR Codes
Encryption:	AES-128
Input Voltage:	12VDC
Dimensions: Length:	120 mm
Width:	45 mm
Depth:	26 mm
Weight:	120g



BOOQED MINI 3 ACCESS READER



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Description

The **BOOQED ACS-Edge Controller** is a versatile and compact single-door access controller, combining a controller, dual-technology contactless exit button, Break Glass, and audible/visible siren into a single, **all-in-one** solution. With a design focused on simplicity and scalability, the BOOQED ACS-Edge Controller requires only a power point and TCP/IP connection for installation, significantly **reducing costs and setup time**. Its advanced features make it ideal for a variety of access control applications.

Small to Large Facilities:

Scalable to thousands of doors for growing needs.

Commercial Buildings:

Compact and secure for single-point access control.

Critical Areas:

Integrated siren and alarm features for enhanced security.

Specialized Environments:

Elevator control and locker management with RS485 I/O boards.

Features

All-in-one Compact Design

- Combines a Single-Door Controller, Exit Button, Break Glass, and audible/visible siren, simplifying installation and enhancing functionality.

Flexible System Modes

- Standalone Mode: Configure via web browser and Function Cards.
- Network Mode: Fixed IP assigned for Studio centralized control.

Simplified Installation

- Requires only a power point + TCP/IP connection for each access point.
- Optional Bluetooth module eliminates the need for external readers, further reducing costs.

Advanced Access Control

- Up to 20,000 cardholders, 256 access levels, and 500k offline events.
- Modes: Card only, PIN only, Card + PIN, Escort Mode, and Dual Custody.
- Configurable interlocks and first-access unlock schedules for flexibility.

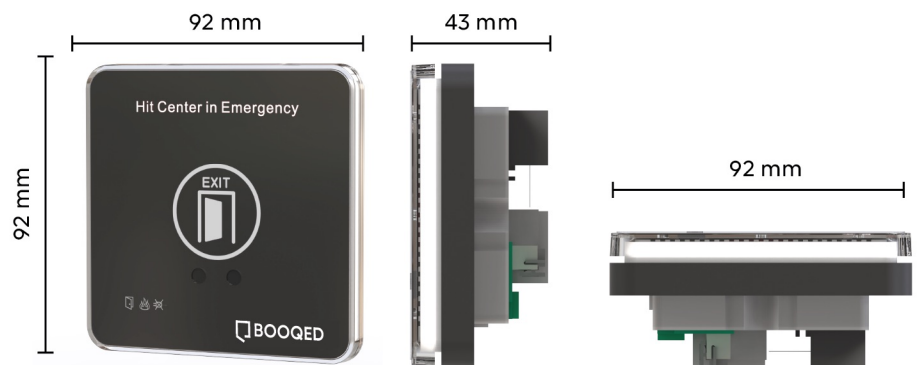
Highly Scalable

- Supports up to 1024 doors in a networked environment.
- Expand functionality with RS485-connected I/O boards for elevator and locker control.

Enhanced Security

- Door Closure Mechanism: Prevents unintended door rebound caused by external forces or mechanical issues.
- Supports IN/OUT anti-passback for a single door.
- Card + PIN configuration follows users rather than doors for added flexibility.

Dimensions



Weight: $\pm 150\text{g}$

BOOQED ACS-Edge Controller



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