

Bluetooth Gateway (4G+WiFi+Ethernet)

WE-HCBG01



PA+LNA has a wider coverage of 150m



Connectable and scannable



System auto reset function (power off/on)



UPD/TCP, JASON, HEX 16



Remote program upgrade and settings

Overview

HCBG01 is a IoT Bluetooth gateway that supports Bluetooth 4.2/5.0. The main processor uses a 580MHz MIPS24KEc processor, and the DRAM is DDR2 64 MB and 16MB FLASH. HCBG01 Bluetooth gateway integrates PA and LNA, and the Bluetooth scanning and connection distance can reach more than 100 meters, which greatly increases the coverage and reduces the user cost.

HCBG01 can support POE power supply (according to IEEE 802.3at (Type 1) requirements) or power adapter power supply (wide voltage range: 6V-24 V).

HCBG01 can be compatible with different Bluetooth terminal devices, which is convenient for users to collect data and remote control of Bluetooth terminal devices (such as Bluetooth bracelets, Bluetooth skipping ropes, Bluetooth door locks, various Bluetooth sensors, etc.). Two-way transmission of data.

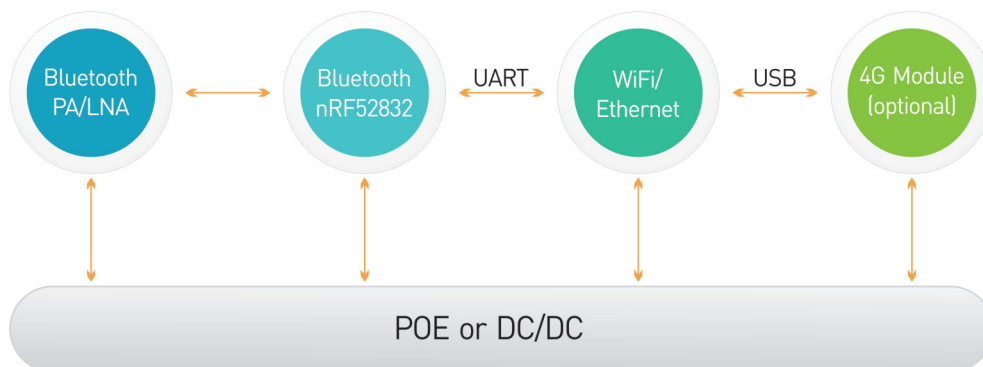
HCBG01 and background communication support: UDP, TCP and MQTT. Supported Bluetooth filtering methods include Bluetooth name filtering, signal strength filtering, MAC address filtering, etc.

HCBG01 supports software remote upgrade function.

Through the signal strength (RSSI value) of the Bluetooth signal of the Bluetooth terminal received by the Bluetooth gateway, the distance from the Bluetooth terminal to multiple Bluetooth gateways can be calculated, and then triangulation can be realized.

HCBG01 is widely used in medical care, elderly care, sports, fitness, school, smart home, asset tracking and other various industrial application scenarios.

System Block Diagram



Features

- ▶ Support PoE power supply or power adapter power supply;
- ▶ Support IEEE 802.11n, IEEE 802.11g, IEEE 802.11b protocols;
- ▶ Support two-way data transmission;
- ▶ Support LTE-TDD/LTE-FDD/TD-SCDMA/UMTS / EVDO/EDGE/GPRS/GSM/CDMA ;
- ▶ Support Bluetooth® 4.2/ 5.0 ;
- ▶ Integrated Bluetooth PA /LNA ;
- ▶ One WAN/LAN adaptive port

Market Application



Smart Building



Smart Healthcare



Smart Warehouse



Smart Retailing

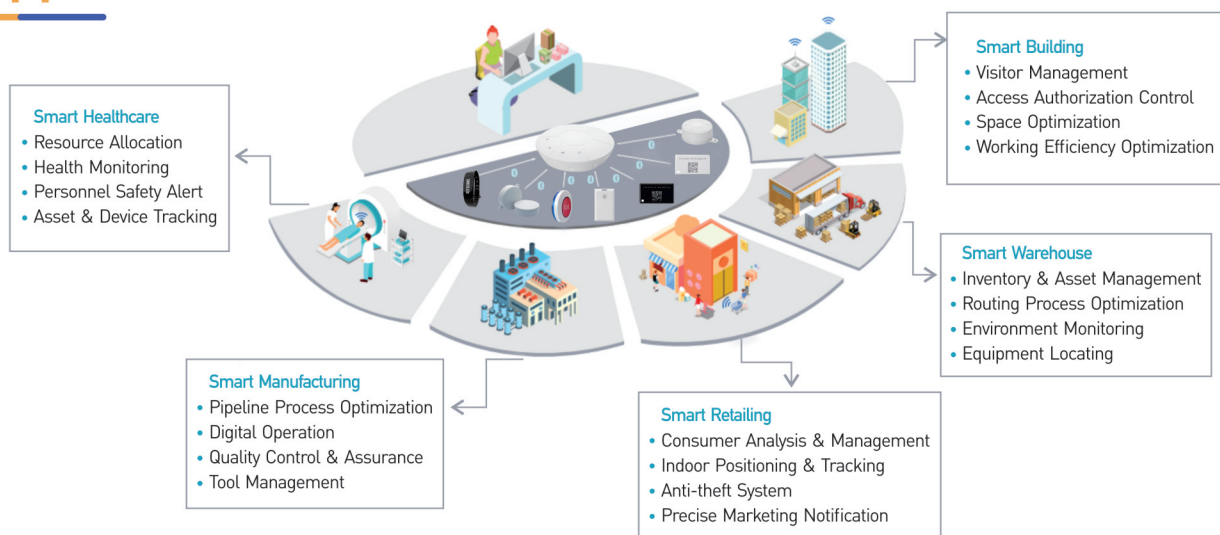


Smart Venue

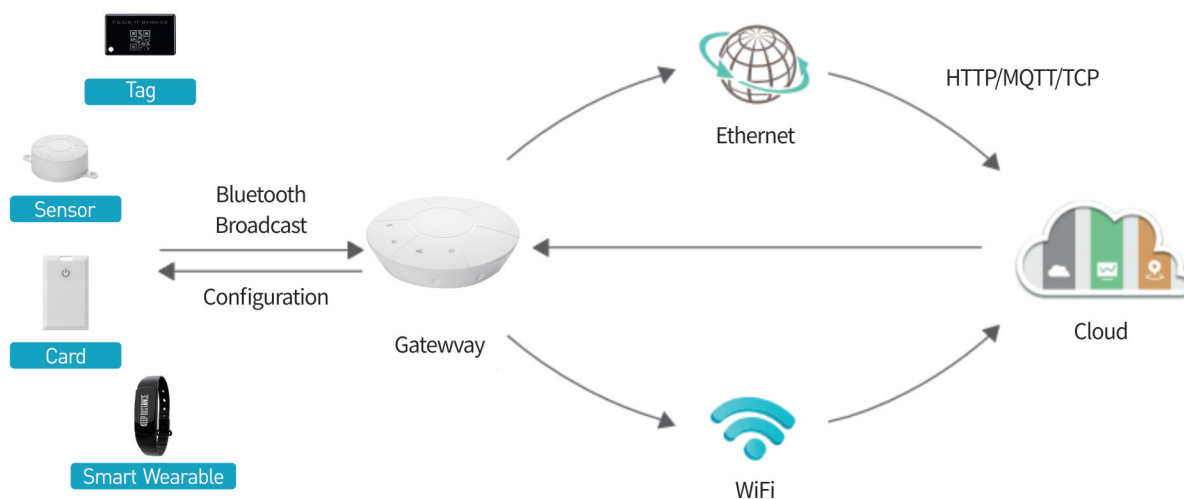


Industry 4.0

Application Cases



Working Principle



①Deploy the HCBG01_P gateway by adjusting to the on-site environment. Choose the best installation method according to your scenario.

②Bundle the Bluetooth beacon device with the asset, person, tool, or mobile device that needs to be located.

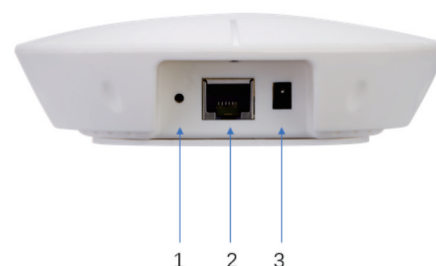
③Within the scanning range, the HCBG01_P gateway will receive the Bluetooth signal broadcast from the Bluetooth beacon and upload it to the corresponding server through different network protocols.

④The user parses the data and can also control the terminal after giving command to accomplish objectives such as position and asset management.

Interface

Indoor Bluetooth Gateway (HCBG01-P/PC)

1. Reset button, press and hold for more than 5 seconds to restore factory settings;
2. Network port/POE power supply;
3. Power supply, power adapter adopts AC 100-240V (50/60Hz) input, 12 V 2A output power adapter.



1.Power Indicator;

Serial Number	State	Lamp
1	plugged in	Long bright
2	not plugged in	off

2.WIFI Indicator

Serial Number	State	Lamp
1	Wireless is starting	Long bright
2	After wireless start	Flashing
3	Wireless off	off

3.Network Port Indicator

Serial Number	State	Lamp
1	The network cable is plugged in	Flashing
2	The network cable is not plugged in	off

4.Bluetooth Light

Serial Number	Model	Lamp
1	Scan device broadcast mode	Periodic 5000ms off 200ms on
2	Scan Forwarding Information Mode	Periodic 8000ms off 200ms on
3	Long connection mode is connecting	Periodic 2000ms off 2000ms on
4	Short connection mode is connecting	Periodic 1000ms off 300ms on
5	Connected to the device (the number of connections is greater than 0)	Periodic 300ms off 300ms on

Outdoor Bluetooth Gateway (HCBG01-M/MC)



Performance Parameters

	Product Size	Indoor type HCBG01-P/PC: diameter: 124mm; height: 40mm Outdoor type HCBG01-M/MC: length 153 mm* width 137 mm *height 97 mm
	Power Supply	Supply voltage range: DC 6 - 28 V HCBG01-P/PC factory standard power adapter: DC12V/ 1 A HCBG01-M/MC factory standard power adapter: DC12V/2A POE switch: Standard P O E , output 48V , follow IEEE 802.3at standard
	Working Current	280 mA@ 12 V (with 4 G module) 180mA @12V (without 4G module)
	Operating Temperature	-20°C~70°C
	Interface	Network port, power port, reset button
WiFi	WiFi Protocol	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
	Data Rate	IEEE 802.11b Standard Mode: 1,2,5.5,11Mbps IEEE 802.11 g Standard Mode: 6,9,12,18,24,36,48,54Mbps IEEE 802.11n : 72Mbps @ HT20; 150Mbps @ HT40
	Receiver Sensitivity	HT40 MCS7 : -67dBm@10% PER(MCS7) HT20 MCS7 : -73dBm@10% PER(MCS7) 54M: -76dBm@10%PER 11M: -91dBm@ 8% PER
	Transmit Power	IEEE 802.11n: 15dBm @HT40 MCS7; 15dBm@HT20 MCS7 IEEE 802.11g: 16dBm IEEE 802.11b: 18dBm
	Wireless Security	WPA/WPA2, WEP, TKIP, and AES
	Operating Mode	Bridge, Gateway, AP Client
Bluetooth	Bluetooth Protocol	Bluetooth® 4.2/Bluetooth® 5.0
	Data Rate	Uncoded: 1Mbps/2Mbps
	Wireless Security	AES HW Encryption
	Scanning Distance	> 100m
	Transmit Power	0~ + 18dBm
	Receiver Sensitivity	-104dBm
	Connection Distance	30-50m
4G LTE	Protocol	LTE-TDD/LTE-FDD/TD-SCDMA/UMTS/EVDO/EDGE/GPRS/GSM/CDMA

Performance Parameters

Power Light	Wifi Light	Network Port Light	Bluetooth Light	Corresponding State
always on	flashing	Blinks when a network cable is plugged in	Flash once every 5 seconds	Normal, the gateway has no connected device tasks
always on	flashing	Blinks when a network cable is plugged in	Flash once every 2 seconds	Normal, the gateway executes the command to connect the device
always on	turn off	Blinks when a network cable is plugged in	2/5 second flashing	Normal, the gateway has turned off the wifi signal
always on	turn off	Does not light up when the network cable is plugged in	2/5 second flashing	The gateway wifi program is abnormal
always on	always on	Does not light up when the network cable is plugged in	2/5 second flashing	The gateway wifi program is abnormal
always on	flashing	Blinks when a network cable is plugged in	no lights	The gateway bluetooth program is abnormal
always on	flashing	Blinks when a network cable is plugged in	long light	The gateway bluetooth program is abnormal

Software Support

- Offer visual-ized demonstration and the API.
- Functions are user-customizable.
- Gateway Bluetooth Json Format Protocol.
- Gateway Reported Data Packet Type Setting Instructions and Data Packet Analysis.
- Gateway Debugging Assistant Test Connected Device Communication.
- The gateway firmware's SDK is available.
- Gateway Bluetooth Hex Format Protocol.
- Gateway Debugging Assistant.

Order Model

Indoor Gateway HCBG01 -P : BLE to WiFi version, ABS+PC Case

Indoor Gateway HCBG01 -PC : BLE to 4G version, ABS+PC Case

Outdoor Gateway HCBG01 -M : BLE to WiFi version, Metal Case

Outdoor Gateway HCBG01 -MC : BLE to 4G version, Metal case

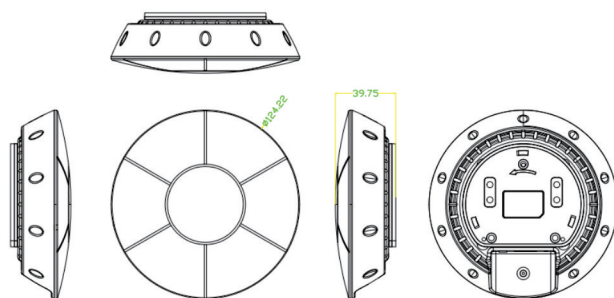


HCBG01-P/ HCBG01-PC
Diameter: 124mm Height: 40mm

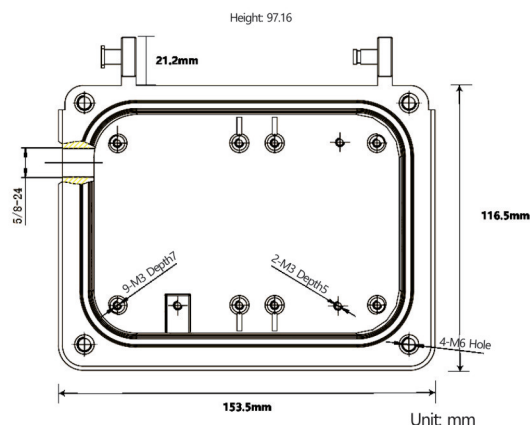


HCBG01-M/ HCBG01 -MC
153mm(L)*137mm(W)*97mm(H)

Size



HCBG01-P/ HCBG01-PC



HCBG01-M/ HCBG01 -MC

Packaging Information

HCBG01-P/ HCBG01-PC	Inner Box (Including power adapter)	Outer Carton (Including power adapter)
Picture		
Qty(pcs)	10	20
N.W(g)	2034	4068
G.W(Kg)	2.5	4.8
Size(mm)	390*310*145mm	390*310*295mm

HCBG01-M/ HCBG01-MC	Inner Box (Including power adapter)	Outer Carton (Including power adapter)
Picture		
Qty(pcs)	1	6
N.W(g)	980	5880
G.W(Kg)	1.3	7.8
Size(mm)	250*180*200mm	390*310*310mm

Part Number	N.G(kg)	Remark
HCBG01-M	1.2	Holder accessories included
HCBG01-MC	1.21	Holder accessories included

Contact us

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