MINEW

G1 IoT Bluetooth® Gateway

Model:G1-E (Standard) / G1-E (Connection)

Connection anywhere

PRODUCT OVERVIEW

G1-E is an in-house Bluetooth ® IoT gateway developed by Minew for Bluetooth device data collection and upload with WPA2-EAP enterprise-level encryption, hence assisting users to connect to cloud servers quickly, ensuring data security and privacy. With the MINEW CONTROL PLATFORM, its connection version can communicate bidirectionally with asset tags, and environmental sensors by downlink configuration operation. Its embedded colorful circle light strip serves as an indicator to remind users of its status. The G1-E gateway is designed to help users quickly implement high-value location-based services and help users boost their efficiency while lowering variable costs. It has a wide range of applications, including warehouses, healthcare, retailing, and manufacturing.

KEY FEATURES

- Bidirectional Communication & Wide-Range Detection

The connection version has a bidirectional communication function. It can make the terminal light up, ring, upgrade, and change parameters in bulk and remotely through the MINEW CONTROL PLATFORM. And with a high level of Bluetooth sensitivity, a superior antenna design, and special electrical treatment, G1-E can cover up to 300 meters of radius in an open area, helping users to lower the deployment cost and achieving high economic efficiency.

- Self-repairing Fault & High Stability

G1-E gateway has WiFi recovery function and can add multiple WiFi access points. To prevent data loss, it can store data locally in case of disconnecting. Through compelling troubleshooting and recovery capabilities, it is guaranteed that the gateway works flawlessly and is maintenance-free.

- High Throughput & Data can be Filtered

G1-E can collect and process 400~800 data packets per second, collecting and monitoring data from massive Bluetooth devices with a large coverage. The scanning interval and uploading interval can be adjusted to better fit each individual scenario. It has multiple data filtering options, not only controls the data flow but also filters out the duplicates, to reduce redundant data.

- Remote Access and Manage by Batch

Other than connecting by WiFi, users can access it remotely. And use a tool kit to change settings or update firmware by batch. Users can also subscribe to related subjects and receive status reports instantaneously, making the process as easy as a breeze.

- High Security & Strong Compatibility

G1-E supports WPA/WPA2-EAP enterprise-level encryption, to keep unauthorized people from accessing or changing settings. When data is transferred by MQTT protocol, SSL/TLS security protocol, and CA certificates are optional for ensuring data security. G1-E is compatible with different Bluetooth devices, supporting various data formats to meet the requirements of different development platforms.

- Flexible Installation & Fast Upgrade

G1-E supports PoE and 5V power adapters. It can be installed with screws, magnets, or brackets to fit different scenarios. Users can upgrade its firmware via OTA upgrades with a special lighting effect as an indicator during the upgrade process. It also supports upgrading by USB, FILE, LAN, etc., which makes maintenance fast and easy.

MARKET APPLICATIONS

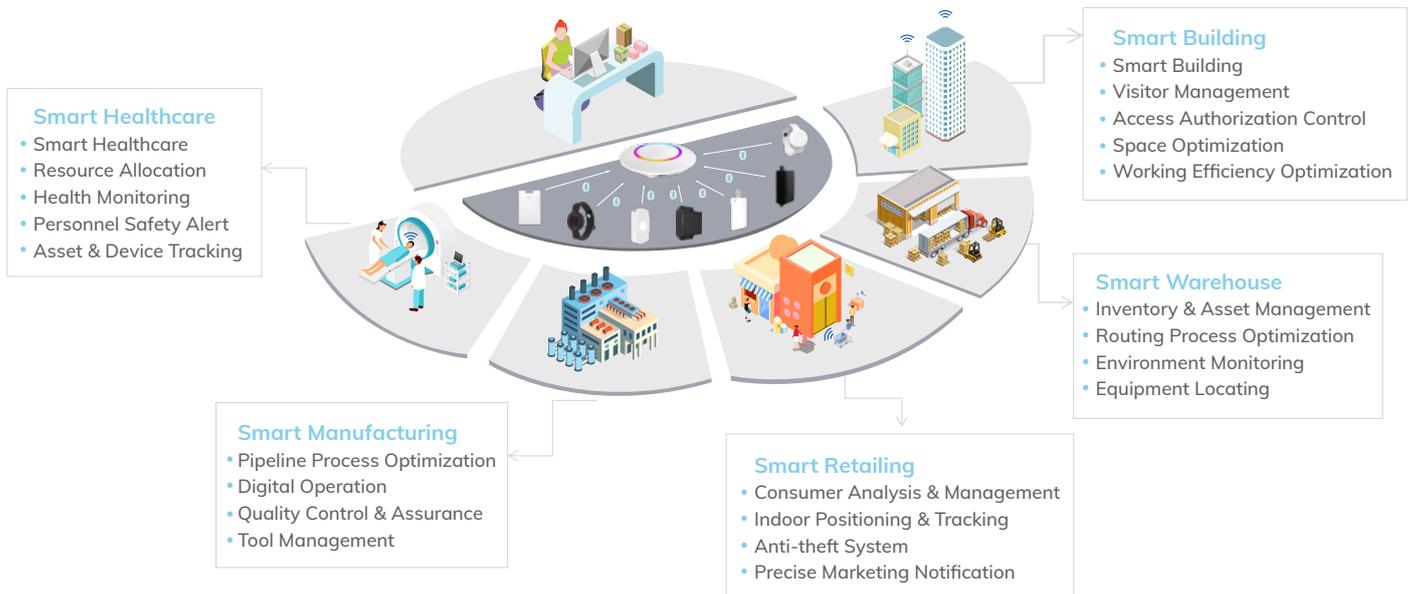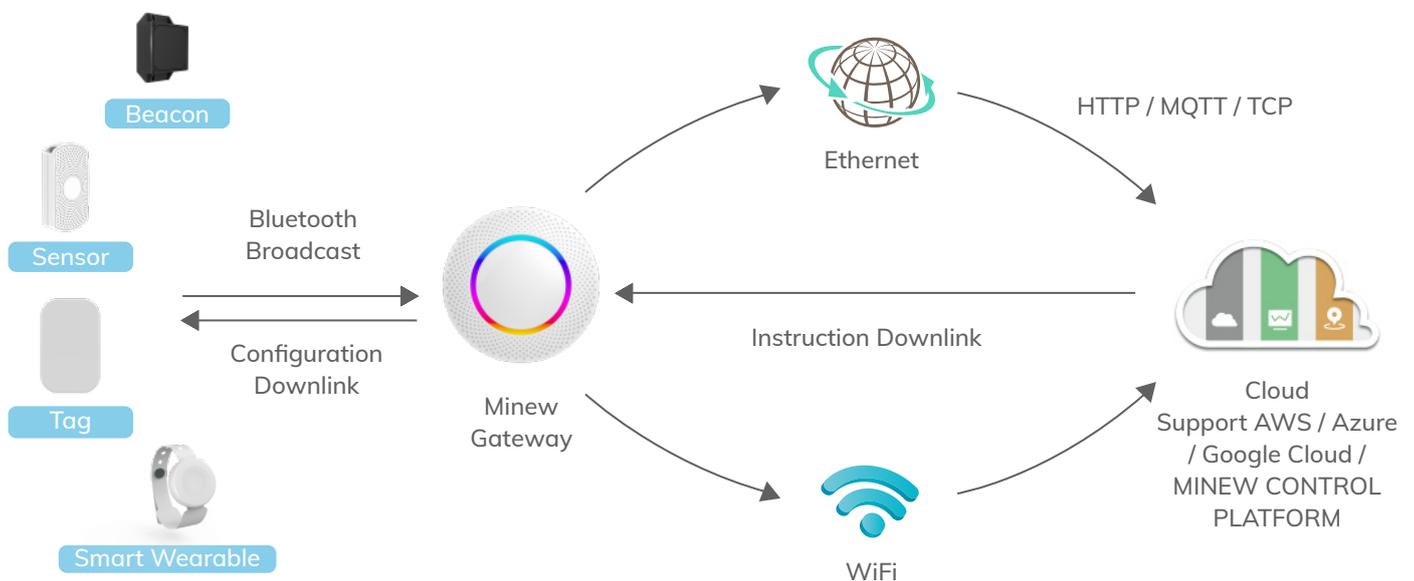Smart Building   Smart Healthcare   Smart Warehouse   Smart Retailing   Smart Venue   Industry 4.0

APPLICATION CASES

Smart Healthcare
• Smart Healthcare
• Resource Allocation
• Health Monitoring
• Personnel Safety Alert
• Asset & Device Tracking

Smart Building
• Smart Building
• Visitor Management
• Access Authorization Control
• Space Optimization
• Working Efficiency Optimization

Smart Warehouse
• Inventory & Asset Management
• Routing Process Optimization
• Environment Monitoring
• Equipment Locating

Smart Manufacturing
• Pipeline Process Optimization
• Digital Operation
• Quality Control & Assurance
• Tool Management

Smart Retailing
• Consumer Analysis & Management
• Indoor Positioning & Tracking
• Anti-theft System
• Precise Marketing Notification

Note: Application Cases above are only as a reference, more applications realized are based on users'software algorithm ability.

WORKING PRINCIPLE

Beacon

Sensor

Tag

Smart Wearable

Bluetooth Broadcast

Configuration Downlink

Minew Gateway

Ethernet

HTTP / MQTT / TCP

Instruction Downlink

WiFi

Cloud
Support AWS / Azure / Google Cloud / MINEW CONTROL PLATFORM

① Deploy the G1-E gateway by adjusting to the on-site environment. Choose the best installation method according to your scenario.

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

③ Within the scanning range, the G1-E gateway will receive the Bluetooth signal broadcast signal from the Bluetooth beacon and upload it to the corresponding server through different network protocols.

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

150mm

36mm

PRODUCT SPECIFICATIONS

BASIC SPECIFICATIONS

Model	G1-E
Material	ABS
Color	White
Size (D*H)	Ø150*36 mm
Weight	155g
Power Supply	DC 5V/1A, 802.3af PoE
Network Connection	WiFi/ Ethernet
Interface	1*10/100M RJ45 port, 1*USB port
LED	Power supply server connection status indicators
Working Environment	Indoor
Working Temperature	-10~50℃
Working Humidity	5%~95%RH, no condensation
Installation Methods	Sucked, pinned, placed horizontally
Firmware Update	OTA, USB, FILE, LAN

BLUETOOTH SPECIFICATIONS

Bluetooth Frequency	2.4-2.4835 GHz
Bluetooth Modulation	GFSK
Emitting Power	18dBm（max） **Note:** The actual emitting power may vary from country and location depending on its laws and regulations.
Receiving Sensitivity	-108 dBm @1Mbps, 0.1 %BER
Throughput	About 400~800 packets per second, which depends on the number of Bluetooth modules.
Scan Coverage	About 300 meters of covered radius (open area)

WIFI SPECIFICATIONS

WiFi Protocols	IEEE 802.11 b/g/n
WiFi Frequencies	2.4-2.4835GHz
Emitting Power	17dBm (typical)@ 802.11b 11.3dBm (typical)@ 802.11g 8.2dBm (typical)@ 802.11n
Data Transfer Speed	802.11n: Up to 300Mbps 802.11g: Up to 54Mbps 802.11n: Up to 11Mbps
Transfer Speed	2T2R 300Mbps
Receiving Sensitivity	270M:-61dBm@10%PER 135M:-65dBm@10%PER 108M:-68dBm@10%PER 54M:-68dBm@10%PER 11M:-85dBm@10%PER 6M:-88dBm@10%PER 1M:-61dBm@10%PER
Modulate Mode	DBPSK, DQPSK, CCK and OFDM (BPSK/QPSK/16-QAM/64-QAM)
Network Protocol	HTTP(SSL/ TLS) / MQTT(SSL / TLS & Proxy) / TCP
Wireless Encryption	WPA-PSK / WPA2-PSK, WPA-EAP / WPA2-EAP and TKIP

SOFTWARE SUPPORT

- TagCloud and MINEW CONTROL PLATFORM are for visualized demonstration and the API is provided.
- The gateway firmware's SDK is provided, and functions are user-customizable.

PRECAUTIONS

- Standard and connection versions are available for selection. The connection efficiency of the gateway is proportional to the number of Bluetooth modules. If you need multiple Bluetooth modules (up to 6), you can place a customized order.
- G1-E can be powered by 5V/1A DC or PoE. The unified adapter is not provided due to incompatibility in different countries.
- To ensure normal scanning and accuracy, try to install as far away as possible from corners, metal, glass shields, and other obstructions.
- Try not to use the gateway in a humid environment or outdoors. The product could be damaged if exceeds the normal operating temperature range.
- If you need to configure the gateway, please contact our sales team to get more information about G1-E configuration instructions and data interface documents.

QUALITY ASSURANCE

The factory has already obtained the certification of ISO9001 Quality System. Each product has been strictly tested (tests include transmission power, sensitivity, power consumption, stability, aging, etc.).
Warranty Period: 12 months from the date of shipping (Battery and other accessories excluded).

DECLARATION

Statement of Rights:

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Disclaimer：

Minew team reserves the right to the final explanation of the document and product differences. The Minew group is not responsible for liability of property or personal injury with the wrong operation if users develop related products without checking the technical specifications of this manual.

SHENZHEN MINEW TECHNOLOGIES CO., LTD.

📞 +86 (755) 2103 8160

🌐 www.minew.com

✉ info@minew.com

🛒 www.minewstore.com

📍 No.8, Qinglong Road, Longhua District, Shenzhen, China