MWL01

Digital Broadcasting Device

Datasheet

PRODUCT OVERVIEW

MWL01 is a wearable beacon created by Minew for personnel management. Equipped with a lanyard, its compact and lightweight design can be used for scenarios such as attendance check-in, and crowd monitoring. Multiple triggering by button modes can be set to achieve functions such as arrival confirmation or panic call. Its acceleration sensor can automatically identify its movement and it can send an alert to ensure wearers' safety.

KEY FEATURES

Triggering by accelerometer or button

Light and small wearable design

Replaceable battery for extended life

Broadcast distance up to 140 meters

IP65 water and dust-resistant

APPLICATION SCENARIOS

Personnel Management

MWL01 has a broadcast distance that is up to 140 meters. When used with Minew gateways, a personnel positioning system can be built with it in large indoor places such as warehouses or museums. Multiple button triggering methods can be customized in events such as emergency calls and task completion reports in areas such as offices or hospitals.

Smart Manufacturing

MWL01 can quickly determine the position of its wearer. With a developed system, it can post updates of employees' status and show their trajectories to optimize workforce deployment and layout setup, therefore improving efficiency. When being developed with the Geo-fence function, upon entering a dangerous or restricted area, it can send an alarm as a reminder to ensure safety.

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

PRODUCT SPECIFICATIONS

BASIC SPECIFICATIONS	
Material	ABS
Colors	Black, white
Size (L * W * H)	55.3 * 38.6 * 8.4 mm
Weight	12 g (lanyard not included)
Protection level	IP65
Battery type	1 CR battery
Battery capacity	220 mAh
Battery life	8 months (0 dBm, ACC frame off)
Sensor	Accelerometer
Button	1
LED	1 red light，1 blue light
NFC	Not supported
OTA	Not supported
Configure APP	BeaconSET+ [1]

* [1] Bluetooth related SDKs are available, please contact our sales team for details.

TECHNICAL SPECIFICATIONS	
Chip	nRF52 Series
Bluetooth version	Bluetooth® LE 5.0
Broadcast power	-40 dBm ~ +0dBm
Broadcast frequency	100 ms ~ 5 s
Broadcast distance	Up to 140 m (open area)
Working temperature	-20 ~ 60℃
Security	Password verification to change settings, restart, non-connectable mode, malicious connecting proof supported

BROADCAST SPECIFICATIONS

Type (channel)	Items	Default settings
iBeacon (on)	UUID (16 bytes)	E2C56DB5-DFFB-48D2-B060-D0F5A71096E0 (configurable)
	Major (2 bytes)	0 (0 – 65535, configurable)
	Minor (2 bytes)	0 (0 - 65535, configurable)
	Measured power	-59 dBm (0xC5) @1 m
	Tx power	0 dBm
	Interval	900 ms
UID (on)	Instance ID	00112233445566778899 (configurable)
	Namespace ID	Random
	Measured power	-24 dBm (0xE8) @0 m
	Tx power	0 dBm
	Interval	2000 ms
URL (on)	URL	https://www.minew.com/ (configurable)
	Measured power	-24 dBm (0xE8) @0 m
	Tx power	0 dBm
	Interval	2000 ms
TLM (on)	Electricity mV	System built-in
	Boot up time	System built-in
	PDU packets	System built-in
	Tx power	0 dBm
	Interval	4000 ms
INFO (on)	Device name	MWL01
	Battery level	System built-in
	MAC address	Assigned at factory
	Tx power	-8 dBm
	Interval	4000 ms
ACC (on)	Tx power	0 dBm
	Interval	1000 ms
Password	Password	minew123 (default)
Connectable mode	Connectable or not	Connectable

COMPATIBILITIES

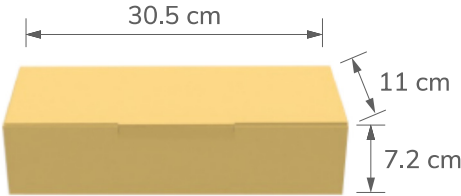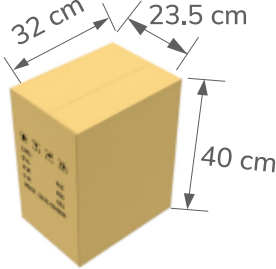| SUPPORTED SYSTEMS	SUPPORTED MODELS
iOS 10.0 and above	iPhone6 /6 Plus /6S/ 6S Plus /7 /7 Plus /8 /8 Plus / x /xr /xs /xs max /SE /SE2 / 11 /11 pro /11 pro max
Android 4.3 and above	LG, Samsung, Xiaomi, Huawei, Honor, OnePlus, Google Pixel, OPPO, VIVO, etc

INSTALLATIONS

Power on: The product is turned off by default when shipped. Hold the button for 3 seconds, when the blue light stays on for 3 seconds, it means that it has been successfully powered on.

Power off: When on, you can turn it off by the BeaconSET+ App. The blue light flashes 5 times means that it has been successfully powered off.

Battery: When the battery is low, the red light flashes every 8 s.

Broadcast: You can set click the button twice or three times to trigger a broadcast.

APP connection and disconnection: The connectable mode comes default. Once chose the non-connectable mode, reconnect only by clicking the button to activate the configurable mode. When connected the blue light will flash twice. When disconnected, the blue light will flash 3 times.

PRECAUTIONS

- When the power is low, please replace the battery in time. When replacing the battery, watch the polarity of the battery to avoid short-circuiting.
- When the product is used, it is recommended to use low-power broadcast mode to achieve a longer service life if required.
- The product is only splash-resistant and not meant to be submerged under water.
- Do not use the product above the designed working temperature to avoid damage. It is recommended that to store the product in a normal temperature environment (23℃ ~ 26℃) when not in use.
- Avoid being exposed to direct sunlight for an extended period to mitigate shell aging.
- Please do not disassemble the main casing without permission and we are not responsible for any damages.

PACKAGING INFORMATION

Details	Inner carton（Battery included）	External box (battery included)
Picture	30.5 cm / 11 cm / 7.2 cm	32 cm / 23.5 cm / 40 cm
Quantities	20 units	200 units
Sizes	30.5 x 11 x 7.2 cm	32 x 23.5 x 40 cm
Gross weight	472 g	5.1 kg

CERTIFICATIONS

Note: CE and FCC certification numbers can be provided upon request. If other certifications are needed,

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:

The contents of this manual belong to the Manufacturer of Minew Technologies Co., LTD, Shenzhen, and are protected by Chinese laws and applicable international conventions related to copyright laws. The contents can be revised by the company according to the technological development without prior notice. Anyone, companies, or organizations cannot modify the contents and cite the contents of this manual without Minew's permission, otherwise, Violators will be held accountable according to law.

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.

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Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

This device complies with Innovation, Science, and Economic Development Canad licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil nedoit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

L'appareil est conforme aux limites d'exposition aux rayonnements spécifiées par la FCC/ISED

pour les environnements non contrôlés. Cet émetteur ne doit pas coexister ou fonctionner conjointement avec toute autre antenne ou émetteur.