



# MARK 2

USER MANUAL



Technical document





# MARK 2 USER MANUAL

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# ABOUT THESE OPERATING INSTRUCTIONS

## FUNCTION OF THIS DOCUMENT

This user manual contains a system overview, technical data about the Hardware and Wearables, detailed step-by-step instructions for using MARK 2 system and information about configuration settings and troubleshooting.

It is intended for process planners, configurators and maintenance technicians who are using MARK 2 system for the first time. It is designed so that MARK 2 system can be used safely without prior knowledge.

→ Read carefully before use and keep for future reference.

### ADDRESS:

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### DOCUMENT TITLE:

MARK 2 User Manual

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3.0

# EXPLANATION OF SYMBOLS

A warning notice is used in these instructions. Always read and observe this warning notice. The warning notice is introduced with the word **CAUTION** and means the following:



### CAUTION

Slight bodily injury or danger of physical damage to MARK 2 system is possible.

In addition, other symbols are used that mean the following:



### NOTE

Additional notices provide more information about the respective chapter.



### TIP

Additional tips facilitate the implementation of a certain procedure.



### RESULT

The result will show the outcome of the prior action.

# SAFETY INSTRUCTIONS

## HARDWARE



### CAUTION

Keep all cables and wires away from high voltage sources!  
This may otherwise lead to damage or faults due to overvoltage, line noise, electrostatic discharge or other irregularities.



### CAUTION

Do not use damaged cables!  
Otherwise the safe functioning of MARK 2 system cannot be ensured.



### CAUTION

Do not unscrew the Hardware housing!  
This may otherwise lead to MARK 2 system not functioning properly.



### CAUTION

Do not replace the battery of MARK 2!  
This may otherwise lead to MARK 2 not functioning properly.



### CAUTION

Do not modify MARK 2 System!  
This may otherwise lead to MARK 2 System not functioning properly.



### CAUTION

Do not stare directly into beam!  
Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure. Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.

## WEARABLES



### CAUTION

Keep Wearables away from moving machine parts and do not use without MARK 2!  
Otherwise the Wearables may get stuck on objects.



### CAUTION

Use Wearables in the right size!  
Otherwise this may cause pain or pressure points on your hand.



## SCOPE OF DELIVERY



### CAUTION

Do not use any damaged Hardware or Wearables!

→ Check whether Hardware and Wearables are properly packaged and undamaged.

### MARK 2



MARK 2  
..... standard or mid range

### CHARGING STATION S



Charging Station S  
with power cable  
(USB-C) and power  
supply

### WEARABLES



..... Standard Glove



..... Longlife/Palm Trigger



..... Index Trigger



### NOTE

The Access Point One S is only delivered if connected via 868/915 MHz.

### ACCESS POINT ONE S - USB CONNECTION



Access Point One S  
with USB cable

### ACCESS POINT ONE S - RS232 CONNECTION



Access Point One S  
with RS232 cable



Power supply  
with power cable

# MARK 2 SYSTEM

## VIA 868/915 MHz OR BLE HID

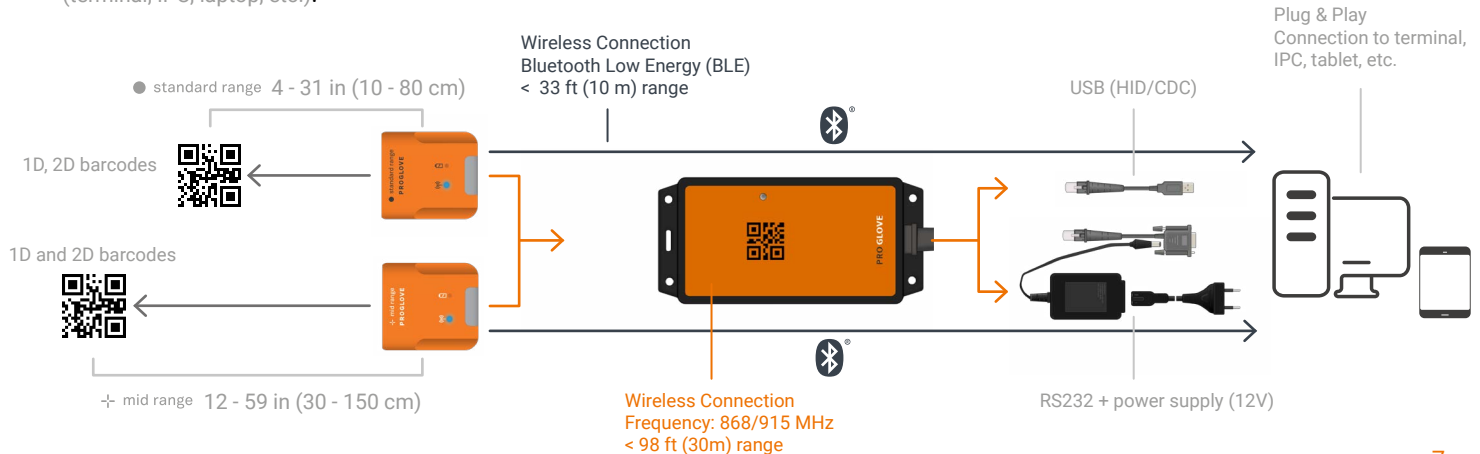
MARK 2 is a barcode scanner that can read the 1D and 2D barcode types. The scanning range is between 4 - 31 in (10 - 80 cm) (standard range) or 12 - 59 in (30 - 150 cm) (mid range). There are two types of transmission:

### VIA 868/915 MHz

MARK 2 transmits the barcode types via 868 MHz (US frequency: 915 MHz) to the Access Point One S. This is either connected via a USB cable (USB HID mode or USB CDC mode) or a RS232 cable (serial connection) to the end device (terminal, IPC, laptop, etc.).

### VIA BLE HID

MARK 2 transmits the barcode data to the end device via Bluetooth Low Energy Human Interface Device (BLE HID) without Access Point One S.





# MARK 2

## OVERVIEW

After scanning a barcode, MARK 2 provides feedback signals haptically by vibrations, acoustically by audio signals and visually by LEDs. The serial number on the label attached on the back of the device specifies whether it is a standard or mid range device.

Standard range serial number: M2SR ...

Mid range serial number: M2MR ...

Connection  
symbol



LEDs

Battery  
symbol



Fastening rail



standard range   mid range

## TECHNICAL DATA

### MECHANICAL PROPERTIES:

Dimensions:..... 1.9 x 1.7 x 0.6 in (50 x 45 x 16 mm)

Weight:..... 14 oz (40g)

### ELECTRICAL PROPERTIES:

Battery type: ..... Lithium polymer (rechargeable)

Charge duration:..... approx. 2 hours

Number of scans:..... up to 6000 scans (depending on application and environmental conditions)



## RADIO TRANSMISSION SUB-1-GHz:

EU frequency range: ..... 863 to 870 MHz on 70 channels  
(100 kHz channel spacing)

NA frequency range: ..... 902 to 928 MHz on 30 channels  
(752 kHz channel spacing)

Transmission power: .....  $\leq 9\text{dBm}$

Transmission range: ..... Free field:  $> 197\text{ ft (60m)}$  \*\*  
Indoor:  $49\text{--}98\text{ ft (15--30m)}$  \*\*  
\*\*may decrease in industrial environments (e.g. due to walls, metal shelving, machines)

Encryption: ..... AES-128

## BLE RADIO TRANSMISSION:

Supported Bluetooth versions: ..... Bluetooth Low Energy  
4.0, 4.1, 4.2, 5.0, 5.1

Transmission power: .....  $\leq 5\text{ dBm}$

Transmission range: ..... Line-of-sight:  $33\text{ft (10m)}$  \*\*  
may decrease in industrial environments (e.g. due to walls, metal shelving, machines)

Protocol: ..... BLE HID over GATT

Encryption: ..... AES-128

## SCAN ENGINE PROPERTIES:

LED Classification: ..... CDRH Class 2/IEC 825 Laser Class 2  
Device (mid range)  
Excluded risk group LED product  
according to IEC/EN 62471 (standard range)

Reading range: ..... horizontal,  $31^\circ$ , vertical:  $23^\circ$   
(mid range)  
horizontal:  $48^\circ$ , vertical  $36.7^\circ$   
(standard range)

Rotation tolerance: .....  $+ - 60^\circ$

Tilt tolerance: .....  $+ - 60^\circ$

Roll tolerance: .....  $360^\circ$

Ambient light: ..... Maximum of 96,900 lux  
(direct sunlight)

## ENVIRONMENTAL CONDITIONS:

Drop test: ..... resists  $>100$  drops from 6 ft (2m)  
(onto concrete)

Protection against dust and water: ..... IP54

Ambient temperature: .....  $23^\circ\text{F} (-5^\circ\text{C}) - 104^\circ\text{F} (40^\circ\text{C})$  (Operation)  
 $-4^\circ\text{F} (-20^\circ\text{C}) - 140^\circ\text{F} (60^\circ\text{C})$  (Storage)  
95% non-condensing  
(Rel. air humidity)



## BARCODE TYPES

### 1D:

Code 128, GS1-128, EAN-128, EAN-13, GTIN-13, EAN-8, GTIN-8, ISBN-13, ISSN, ISMN, EAN-14, GTIN-14, DUN-14, SCC-14, ITF-14, EAN-18/NVE, SSCC-18, UPC-A, GTIN-12, UPC-E, Code 39, Code 39 Extended, Code 25, Code 25 Interleaved, EAN-5, EAN-2, JAN, EAN-99, EAN-Velocity, ISBN-13 Dual, ISBN-10, Codabar, Code 93, Code 93 Extended, PZN7, PZN8, guiding code, Ident code, Code 128A, Code 128B, Code 128C, MSI Plessey

### 2D:

PDF417, MicroPDF417, Data matrix, QR Code, Micro QR Code, Aztec, RSS, Composite, TLC-39, MaxiCode

### POSTAL:

US PostNet, US Planet, UK Postal, Australia Postal, Japan, Postal, Dutch Postal (KIX)

## DECODER READING RANGE (MID RANGE)

### SMALLEST SYMBOL IN THE BARCODE:

the mil inch [thousandths of an inch]  
(mm) number indicates the size of the  
smallest function in the  
barcode

### POSSIBLE DISTANCE:

between MARK 2 (mid range)  
and barcode

5 mil (0.127 mm)	7.4 in. (18.8 cm)
Code 128.....	to 16.0 in.(40.6 cm)
5 mil (0.127 mm)	8.1 in. (20.6 cm)
PDF417 .....	to 13.1 in.(33.3 cm)
10 mil (0.254 mm)	7.0 in. (17.8 cm)
Data Matrix.....	to 17.0 in.(43.2 cm)
	2.3 in. (5.8 cm)
100% UPCA .....	to 38.0 in.(96.5 cm)
20 mil (0.508 mm)	2.1 in. (5.3 cm)
Code 39 .....	to 54.0 in.(137.2 cm)
100 mil (2.54 mm)	11.0 in. (27.9 cm)
Code 39 .....	to 172.0 in.(436.9 cm)

## DECODER READING RANGE (STANDARD RANGE)

### SMALLEST SYMBOL IN THE BARCODE:

the mil inch [thousandths of an inch]  
(mm) number indicates the size of the  
smallest function in the  
barcode

### POSSIBLE DISTANCE:

between MARK 2  
(standard range) and bar-  
code

3 mil (0.127 mm)	2.8 in. (7.1 cm)
Code 39 .....	to 6.2 in. (15.8 cm)
5 mil (0.127 mm)	2.3 in. (5.8 cm)
Code 128.....	to 8.7 in. (22.1 cm)
5 mil (0.127 mm)	3.0 in. (7.6 cm)
PDF417 .....	to 8.1 in.(20.6 cm)
10 mil (0.254 mm)	2.4 in. (6.1 cm)
Data Matrix.....	to 10.6 in.(26.9 cm)
	1.6 in. (4.1 cm)
100% UPCA .....	to 23.0 in.(58.4 cm)
20 mil (0.508 mm)	1.6 in. (4.1 cm)
Code 39 .....	to 36.3 in.(92.2 cm)

### BLE HID - KEYBOARD LAYOUT

Croatian, Czech, English (GB), English (US), French (Bel-  
gium), French (Canada), French (France), German (Ger-  
many), German (Switzerland), Italian, Portuguese (Brazil),  
Portuguese (Portugal), Slovakian, Slovenian, Spanish



# ACCESS POINT ONE S

## OVERVIEW

The Access Point One S receives the scanned barcode data from MARK 2 via 868/915 MHz. This barcode data is transmitted to the end device via USB cable or RS232 cable. In the USB HID mode, the Access Point One S simulates a computer keyboard. A serial connection is emulated in the USB CDC mode. In order to use the USB CC mode, the device must be set to "USB CDC" in the configuration tool ([config.proglove.de](http://config.proglove.de)) under "Device settings - Output mode". More detailed information about the conversion can be found in chapter 5 "Configuration tool."

A RS232 cable establishes a serial connection between Access Point One S and the end device.

## TECHNICAL DATA

### MECHANICAL PROPERTIES:

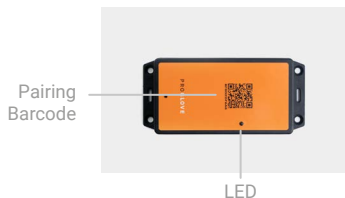
Dimensions:.....	5.4 x 2.5 x 1.3 in (138 x 64 x 33mm)
Weight:.....	3.5 oz (100g)

### ELECTRONIC PROPERTIES:

Power supply of Access Point One S via USB cable:.....	5 VDC (0.5A) via host computer
Power supply of Access Point One S via RS232 cable:.....	12 VDC (1A) via power supply PG12-10P55

### ENVIRONMENTAL CONDITIONS:

Protection against dust and water:.....	IP22
Ambient temperature:.....	23°F (-5°C) - 122°F (50°C) (Operation) -4°F (-20°C) - 140°F (60°C) (Storage) 95% non-condensing (Rel. air humidity)



## CONNECTIONS

### USB CDC CONNECTION:

Baud rate: ..... All standard baud rates are supported.  
Standard setting: 115.200

Data bits:..... 8

Stop bits:..... 1

Parity:..... NONE

Data flow:..... OFF

Required Control Signal: ..... DTR

Handshake control:..... OFF

### RS232 CONNECTION:

Baud rate: ..... All standard baud rates are supported.  
Standard setting: 115.200

Data bits:..... 8

Stop bits:..... 1

Parity:..... NONE

Data flow:..... OFF

Handshake control:..... OFF

### USB HID CONNECTION - KEYBOARD LAYOUT:

Croatian, Czech, Danish, English (GB), English (US), French (Belgium), French (Canada), French (France), Finnish, German (Germany), German (Switzerland), Hungarian, Icelandic, Irish, Italian, Norwegian, Polish, Portuguese (Brazil), Portuguese (Portugal), Romanian, Slovakian, Slovenian, Spanish, Swedish, Turkish



# CHARGING STATION S

## OVERVIEW

The Charging Station S consists of two charging trays that charge two MARK 2 devices at the same time. The charging status is indicated by the LEDs of MARK 2. The LEDs pulse red while in charging mode. When the battery is fully charged, the LEDs pulse green constantly. It takes about 2 hours to charge a MARK 2. The Charging Station S can be attached to work stations, for example, through the attachment openings (with M5 screws or cable ties).



Charging tray



Attachment opening for cable ties



Label with serial number

## TECHNICAL DATA

### MECHANICAL PROPERTIES:

Dimensions: ..... 5.5 x 2.2 x 0.7 in  
(140 x 56 x 19mm)

Weight: ..... 3.9 oz (110g)

### ELECTRONIC PROPERTIES:

Power supply: ..... 5 VDC (1.2 A)  
via power supply  
EU: SYS1561-1105  
NA: SAW-06D-050-1200GB

### ENVIRONMENTAL CONDITIONS:

Protection against dust and  
water: ..... IP20

Ambient temperature: ..... 23°F (-5°C) - 122°F (50°C)  
(Operation)  
-4°F (-20°C) - 140°F (60°C)  
(Storage)  
95% non-condensing  
(Rel. air humidity)

# STANDARD GLOVE

## OVERVIEW

The Textile Trigger is located on the index finger and is attached to the right or left glove, depending on the design. The Standard Glove is a consumable which must be changed regularly after use.

→ Send repeat orders to [sales@proglove.com](mailto:sales@proglove.com).

### **i** NOTE

The Standard Glove is available in four different sizes (standard industry sizes 7,8,9,10).



Fastening rail



Nitrile/PU coating



Textile Trigger

Label with size indication

## PROPERTIES

### GENERAL:

Packaging unit:..... 5 gloves per package

Coating:..... Nitrile/PU coating

### SAFETY & CERTIFICATION:

Standards: ..... EN388 (2131)  
EN420

Certification:..... RoHS  
CE mark

according to EN 420 and EN 388: ..... Abrasion resistance 2  
Cut resistance 1  
Tear strength 3  
Penetration force 1



# LONGLIFE/PALM TRIGGER

## OVERVIEW

The Textile Trigger is located on the inside of the hand and is attached to the right or left glove, depending on the design. The Longlife / Palm Trigger can be used in applications where free fingertips are needed or can be worn over other gloves.

The Longlife/Palm Trigger is a consumable which must be changed regularly after use.

→ Send repeat orders to [sales@proglove.com](mailto:sales@proglove.com).

### **i** NOTE

The Longlife/Palm Trigger is available in three different sizes (S,M,L).



## PROPERTIES

### GENERAL:

Packaging unit:..... 3 gloves  
per package

### SAFETY & CERTIFICATION:

Certification:..... RoHS  
CE mark



# INDEX TRIGGER

## OVERVIEW

The Textile Trigger is located on the index finger and is attached to the right or left glove, depending on the design. The Index Trigger can be used in applications where free fingertips and palms are needed or can be worn over other gloves.

The Index Trigger is a consumable which must be changed regularly after use.

➔ Send repeat orders to [sales@proglove.com](mailto:sales@proglove.com).



### NOTE

The Index Trigger is available in three different sizes (S,M,L).



Fastening rail



Variable  
Velcro connection

## PROPERTIES

### GENERAL:

Packaging unit:..... 3 or 10 gloves  
per package

### SAFETY & CERTIFICATION:

Certification: ..... RoHS  
CE mark



# APPLICATION OF MARK 2 SYSTEM

## 1<sup>ST</sup> STEP: CHARGE MARK 2



### CAUTION

Only use MARK 2 in a dry Charging Station S and only touch with dry hands!  
This may otherwise lead to the Charging Station S not functioning properly.



→ The pins face down.  
Insert MARK 2 in the Charging Station S.



### RESULT

MARK 2 pulses red and charges in the Charging Station S.



### NOTE

The LEDs pulse red while in charging mode. When the battery is fully charged, the LEDs pulse green. It takes about 2 hours to charge a MARK 2.

## 2<sup>ND</sup> STEP: CONNECT THE ACCESS POINT ONE S (868/915 MHz)



### CAUTION

Only touch the Access Point One S with dry hands!  
This may otherwise lead to the Access Point One S not functioning properly.

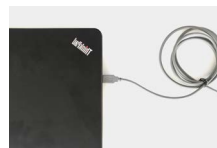


### NOTE

The following steps are only needed when connecting via 868/915 MHz.

For a connection via BLE HID; see p. 21

### CONNECTION WITH USB CABLE IN USB HID MODE:



1. Connect the USB cable with the end device.



2. Plug the other end of the USB cable into the RJ45 socket of the Access Point One S.  
A clear clicking sound confirms the correct fastening.



### RESULT

The LED of the Access Point One S lights up green. The Access Point One S is connected to the end device.

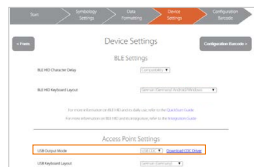
## CONNECTION WITH USB CABLE IN USB CDC MODE:



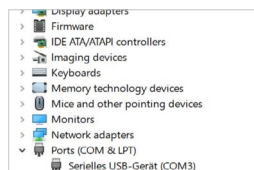
1. Connect the USB cable to the end device.



2. Plug the other end of the USB cable into the RJ50 socket of the Access Point One S. A clear clicking sound confirms the correct fastening.



3. In the configuration tool ([config.proglove.de](http://config.proglove.de)) under "Device settings - USB output mode," select USB CDC. More detailed information about this can be found in chapter 5 "Configuration tool."



4. Connect with the COM port on the end device.



### RESULT

The LED of the Access Point One S lights up green.  
The Access Point One S is connected to the end device.

## CONNECTION WITH RS232 CABLE:



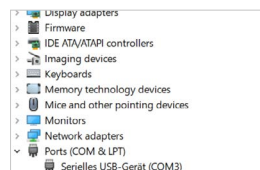
1. Connect the RS232 cable with the end device. Connect the power supply to the RS232 cable and into an external power source.



2. Plug the other end of the RS232 cable into the RJ50 socket of the Access Point One S. A clear clicking sound confirms the correct fastening.



3. Check which baud rate must be set. The baud rate is set to 115,200 as a standard. At a different baud rate, this is to be set in the configuration tool ([config.proglove.de](http://config.proglove.de)). More detailed information about this can be found in chapter 5 "Configuration tool".



4. Select the COM port on the end device and set the appropriate baud rate.



### RESULT

The LED of the Access Point One S lights up green.  
The Access Point One S is connected to the end device.



### 3<sup>RD</sup> STEP: SWITCH ON MARK 2



1. Position MARK 2 on the fastening rail of the glove. The pins face down.



2. Push MARK 2 down. A clear clicking sound confirms the correct fastening.

3. Press the Textile Trigger on the glove for about 2 seconds.



#### RESULT

MARK 2 lights up with all LEDs. You can hear a beeping sound and feel a short vibration.  
MARK 2 is switched on.



#### NOTE

MARK 2 switches off automatically after 15 minutes without being used.

### 4<sup>TH</sup> STEP: CONNECT MARK 2 (868/915 MHz)

#### CONNECT VIA 868/915 MHz:



1. Press the Textile Trigger on the glove in order to activate the red crosshairs.



2. Aim MARK 2 crosshairs on the Access Point One S and scan the pairing barcode.



#### RESULT

MARK 2 lights up twice. You can hear a beeping sound and feel a short vibration.  
MARK 2 is connected to the Access Point One S.

## 4<sup>TH</sup> STEP: CONNECT MARK 2 (BLE HID)

### CONNECT VIA BLE HID:

MARK 2 can be used to establish a connection via Bluetooth Low Energy Human Interface Device (BLE HID) to an end device. Possible operating systems are: Apple iOS, Google Android, Microsoft Windows.

The individual steps for connecting to the respective operating systems for the first time can be found in the following. More detailed information about using MARK 2 system daily can be found in the quickstart guide MARK 2 under [config.proglove.de](http://config.proglove.de).

### PREREQUISITES:

- ✓ The end device supports at least Bluetooth 4.0 standard
- ✓ No interference or physical obstacles (e.g. metal shelves) interfere with the connection between MARK 2 and the end device
- ✓ The range between MARK 2 and the end device is < 33 ft (10m)



#### TIP 1

Visually label the connected devices (MARK 2 with the end device), e.g. using numbering or a color code. This will allow the user to find the right devices faster.

#### TIP 2

Adhere the pairing barcode to the end device. In this way, the user can find it quickly and easily.

On a battery-operated end device, the power-saving mode can lock the end device and MARK 2 simultaneously.

➔ Permanently disable the power-saving mode of the end device.

The last 5 digits of the serial number attached to the back side identify MARK 2 among the available Bluetooth devices.

➔ Read the serial number of MARK 2.



#### RESULT

Example serial number: MARK 2 - 00000.

To make MARK 2 visible for the end device, the MARK 2 must be put into pairing mode.



1. Press the Textile Trigger on the glove in order to activate the red crosshairs.



2. Aim MARK 2 crosshairs at the pairing barcode and scan.



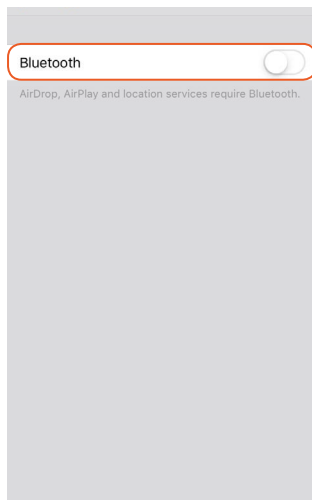
#### RESULT

MARK 2 pulses blue and beeping sounds can be heard. MARK 2 is searching for an end device in pairing mode.



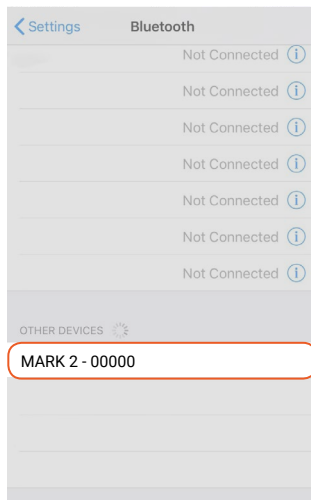
## CONNECT WITH APPLE iOS 11 OR HIGHER:

01



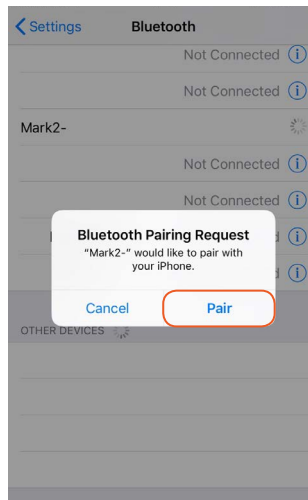
Under "Settings - Bluetooth," activate the Bluetooth option.

02



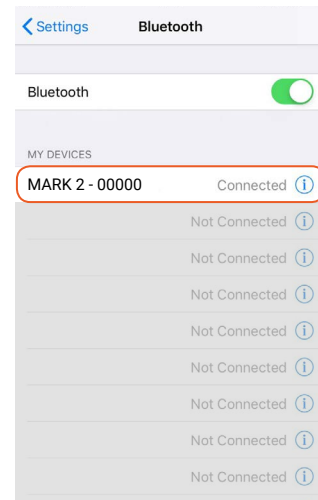
Select "MARK 2 - 00000".

03



Confirm the "Bluetooth Pairing Request".

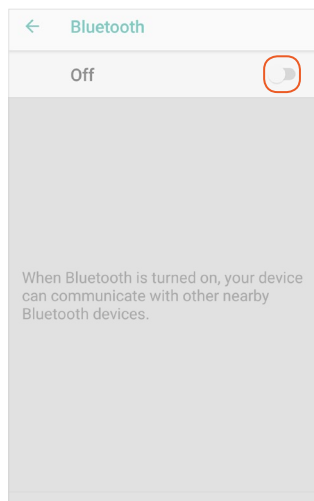
✓ RESULT



The MARK 2 will flash blue twice and you will hear two beeps. The MARK 2 will be shown as connected under "My devices" and is ready for use.

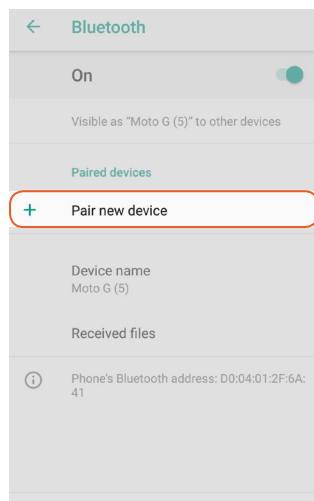
## CONNECT WITH GOOGLE ANDROID 4.4 OR HIGHER:

### 01



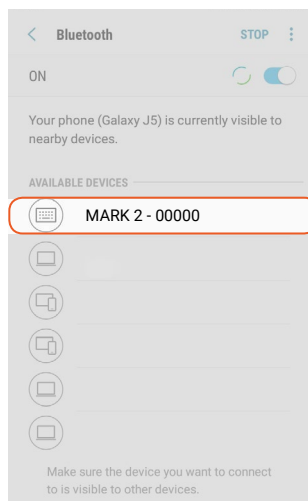
Under "Settings - Connected devices," switch on the Bluetooth option.

### 02



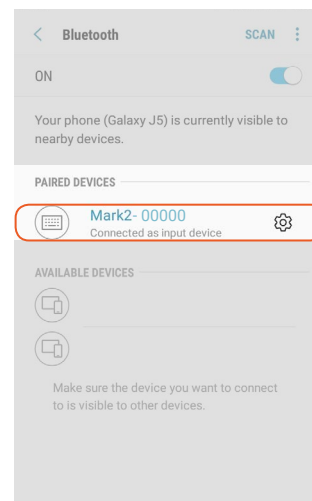
Tap "Bluetooth" and select "Pair new device."

### 03



Select 'MARK 2 - 00000'.

### ✓ RESULT

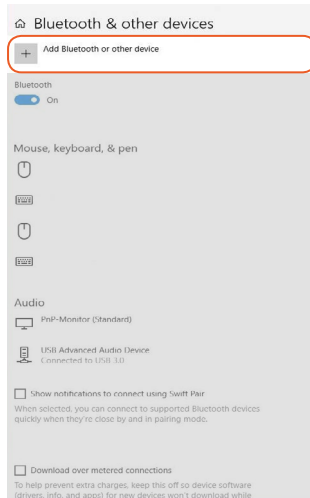


The MARK 2 will flash blue twice and you will hear two beeps. The MARK 2 will be shown as connected under "Paired devices" and is ready for use.



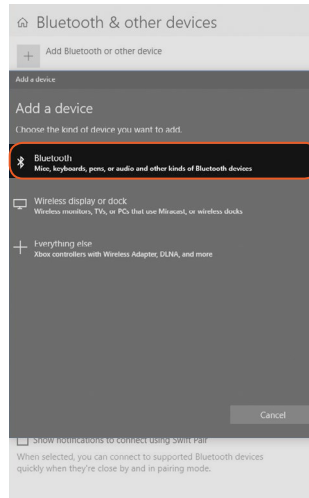
## CONNECT WITH MICROSOFT WINDOWS 10:

01



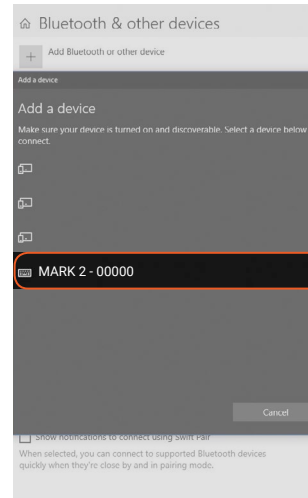
Under “Bluetooth & other devices,” click on “Add Bluetooth and other devices”.

02



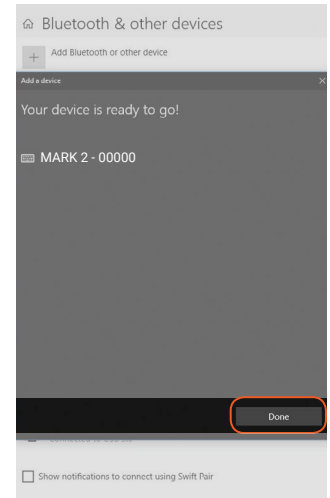
Select the option “Bluetooth: Mouses, keyboards and other types”.

03



Select “MARK 2 - 00000”.

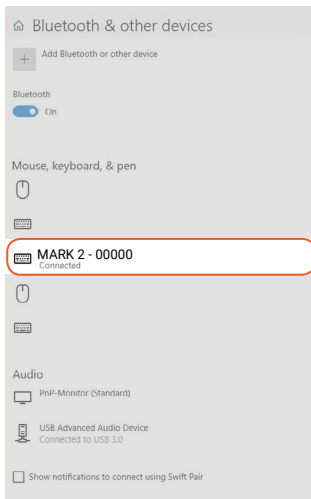
04



Click “Done”.



✓ **RESULT**



The MARK 2 will flash blue twice and you will hear two beeps. The MARK 2 will be shown as connected under “Bluetooth & other devices,” and is ready for use.

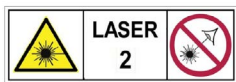


## 5<sup>TH</sup> STEP: SCAN WITH MARK 2



### CAUTION

For mid range scanning range: do not look directly into the crosshairs!  
Otherwise this can lead to temporary blinding effects.



IEC 107014

MARK 2 is an omnidirectional scanner. MARK 2 can thus scan barcodes from different angles.  
For a standard range device (serial number: M2SR...), the scanning range is between 4 - 31 (10-80cm) in per application case and barcode size. For a mid range device (serial number: M2MR...), the scanning range is 12 - 52 (30-150cm) in per application case and barcode size.



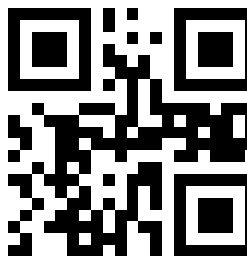
standard range mid range



1. Press the textile Trigger on the glove in order to activate the crosshairs.



2. Aim MARK 2 crosshairs at the barcode and scan.



EXAMPLE BARCODE



### RESULT

MARK 2 lights up green. You can hear a beeping sound and feel a short vibration.

MARK 2 has scanned the example barcode and transmitted it to the end device.

## 6<sup>TH</sup> STEP: DISCONNECT MARK 2 (868/915 MHz)

### DISCONNECT MARK 2 FROM THE ACCESS POINT ONE S:



→ Use MARK 2 to scan the pairing code of a different Access Point One S.



#### RESULT

MARK 2 is disconnected from Access Point One S and is connected to a new Access Point One S.



→ Place MARK 2 in the Charging Station S.



#### RESULT

MARK 2 is disconnected from the Access Point One S and can be connected to a new one.

### DISCONNECT THE CONNECTION CABLE FROM THE ACCESS POINT ONE S:



1. Press an elongated object (e.g. paper clip) into the opening on the top of the Access Point One S to open the safety closure.



2. Once the safety closure has been pressed, disconnect the connection cable out of the RJ50 socket.

#### RESULT

The LED of the Access Point One S no longer lights up green. The connection cable is connected from Access Point One S.

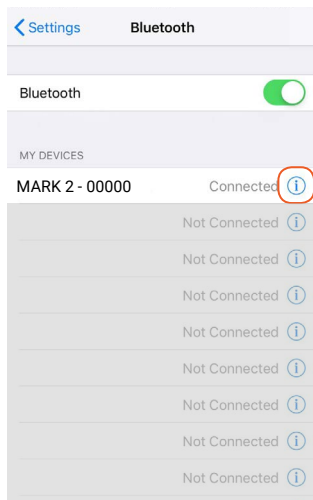


## 6<sup>TH</sup> STEP: DISCONNECT MARK 2 (BLE HID)

### DISCONNECT FROM APPLE iOS:

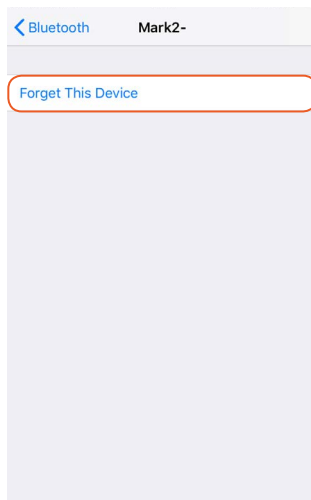
**i NOTE:** Only disconnect MARK 2 if this is to be newly connected to another end device.

01



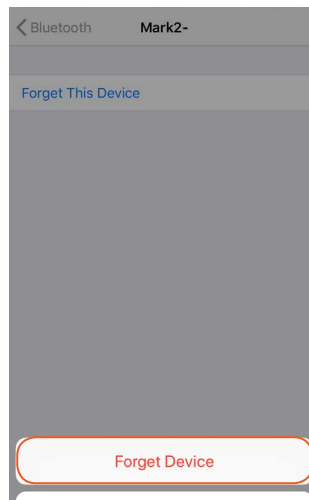
Under: "Settings - Bluetooth," tap on the **i** symbol.

02



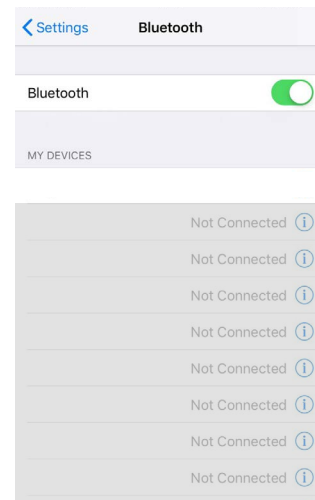
Tap on "Forget this device."

03



Confirm "Forget Device."

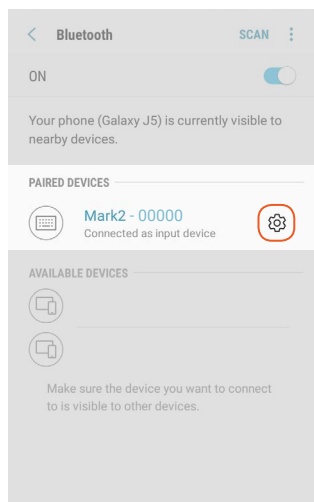
**✓ RESULT**



The MARK 2 will flash red three times and you will hear three beeps. MARK 2 will no longer be shown as connected under "My devices."

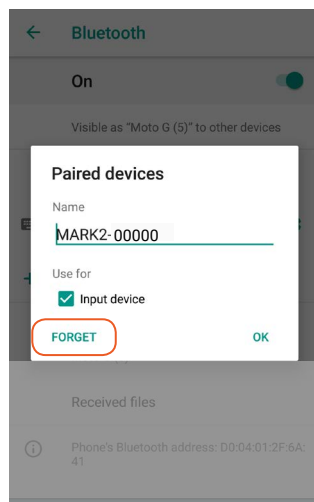
## DISCONNECTING FROM GOOGLE ANDROID:

# 01



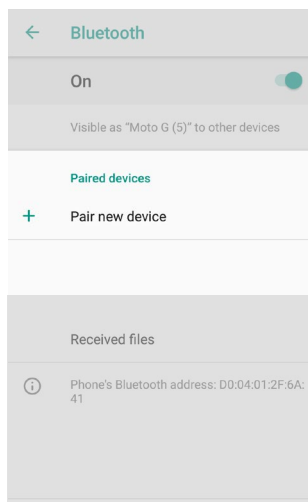
In the Bluetooth option under “Paired devices,” tap on the gear wheel symbol of “MARK 2 - 00000.”

# 02



Select “Forget.”

# ✓ RESULT

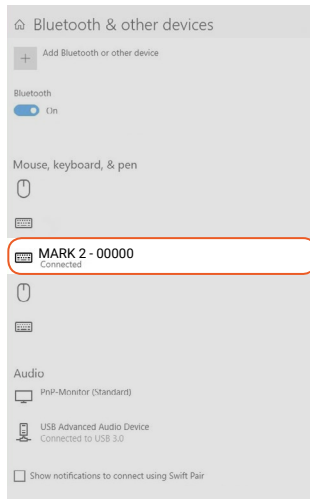


The MARK 2 will flash red three times and you will hear three beeps. MARK 2 will no longer be shown as connected under “Paired devices.”



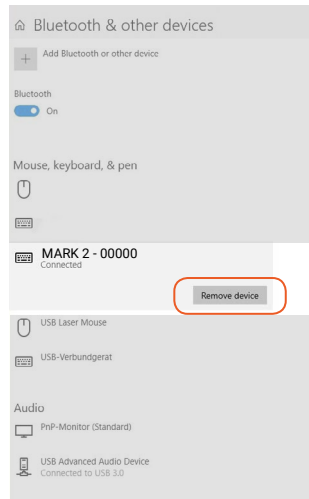
## DISCONNECTING FROM MICROSOFT WINDOWS:

01



Under "Bluetooth & other devices," select "MARK 2 - 00000."

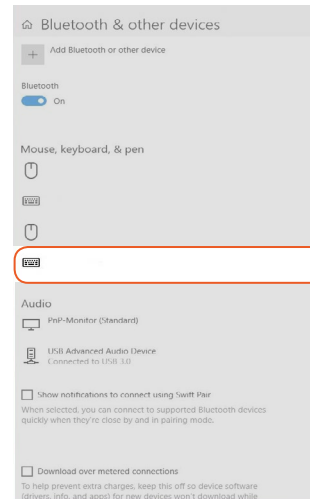
02



Click "Remove device."



RESULT



The MARK 2 will flash red three times and you will hear three beeps. MARK 2 will no longer be shown as connected under "Bluetooth & other devices."

## 7<sup>TH</sup> STEP: RELEASE MARK 2 FROM WEARABLES



1. Use your fingers to press between MARK 2 and the attachment clip of the glove.



2. Press MARK 2 up slightly and push it forward.



# CONFIGURATION TOOL

The configuration tool under [config.proglove.de](https://config.proglove.de) can be used to individually set MARK 2 System and improve scanning processes.

The configuration occurs in 5 steps:

## 1<sup>ST</sup> STEP: BARCODE SETTINGS

The barcode settings can be used to switch the barcode types (including inverse barcodes) on or off and to set barcode lengths, edge tolerances as well as check digits.

### APPLICATION EXAMPLE:

Avoid incorrect scans with different barcode types on one label.

→ Switch off unused barcode types.

## 2<sup>ND</sup> STEP: DATA FORMATTING - PREFIX AND SUFFIX

Prefixes and suffixes can be used to change barcode data with a maximum of 1 character.

### APPLICATION EXAMPLE:

Identify different work stations.

→ Create prefix with a specific character.

## 3<sup>RD</sup> STEP: DATA FORMATTING - ADVANCED FORMATTING

Advanced formatting can be used to change barcode data through rules with conditions and actions. These are then in an **IF-THEN relationship** with each other, which means that:

**IF** a condition is true,

**THEN** an action is executed.

An action is also carried out without a condition. 4 conditions and 4 actions are possible per rule. Overall, up to 16 rules can be defined.

### APPLICATION EXAMPLE:

Insert the suffix "H-TAB" for the barcode type code128

→ Create the condition "Code types: Include code types: Code128: and the action "Insert: Suffix: H-TAB."



## 4<sup>TH</sup> STEP: DEVICE SETTING

The device settings can be used to make the settings for the Access Point One S (e.g. keyboard layout), output mode (USB HID or USB CDC mode) as well as settings about feedback profiles and optimizations of the scan engine.

### APPLICATION EXAMPLE:

Change the baud rate for a connection with a RS232 cable:

1. Click in the field "RS232 baud rate – 115,200"
2. Select the appropriate baud rate.

## 5<sup>TH</sup> STEP: CONFIGURATION BARCODES

Configuration of MARK 2 and Access Point One S with new settings.

➔ Use MARK 2 to scan the configuration barcodes.

### DEFAULT CONFIG BARCODES:












The default config barcodes are defined as follows:

	868/915 MHZ	BLE HID
BARCODE SETTINGS	all barcode types are activated. Inverse barcode types are disabled.	
DATA FORMATTING - PREFIX AND SUFFIX	"ENTER" is activated as a suffix	
DATA FORMATTING - ADVANCED FORMATTING	No rules are activated	Not available
DEVICE SETTINGS	USB-HID output mode Keyboard layout German (DE), all feedback functions are enabled, no engine settings are enabled	Keyboard layout German (DE), all feedback functions are enabled, no engine settings are enabled










# SIGNAL TABLE













## GENERAL:

Description	 <b>LED</b>	 <b>Connection symbol</b>	 <b>Battery symbol</b>	 <b>Audio signal</b>	 <b>Vibration</b>
Barcode data could be transferred	Short green flashing			Short positive beep	Short vibration
Barcode data could not be transferred	Red flashing 3 times briefly 			Long negative beep	Long vibration
Battery charge under 10%			Slow red flashing 		
Battery charge under 7%			Red flashing 3 times briefly 		
Switch on MARK 2 with battery charge under 5%			Red flashing 3 times briefly 		
Battery charge under 95%			Pulsating red 		
Battery charge over 95%			Constantly green 		

## CONNECTION VIA 868/915 MHz:

Description	LED	Connection symbol	Battery symbol	Audio signal	Vibration
MARK 2 is connected to the Access Point One S	Blue flashing 2 times briefly  	 Blue flashing 2 times briefly 		 Short rising positive beep	 Short vibration

## CONNECTION VIA BLE HID:

Description	LED	Connection symbol	Battery symbol	Audio signal	Vibration
MARK 2 searches for an end device	Blue pulsing 			 Continuously rising beep	
MARK 2 is connected to an end device	Blue flashing 2 times briefly 	 Blue flashing 2 times briefly 		Short rising positive beep	Short vibration
MARK 2 cannot connect with the end device	Red flashing 3 times briefly 		Slow red flashing 	Negative beep briefly 3 times	Long vibration
MARK 2 is disconnected from an end device	Red flashing 3 times briefly 		Red flashing 3 times briefly 	Negative beep briefly 3 times	Long vibration



# STORAGE AND CLEANING

## STORAGE

### STORAGE LOCATION:

Store the Hardware (MARK 2, Access Point One S, Charging Station S and cable) as well as Wearables (Standard Glove, Longlife/Palm Trigger, Index Trigger) in a dry and dirt-free environment. In case of transport, MARK 2 System must be transported shockproof in its original packaging.

### TEMPERATURE:

Store the Hardware (MARK 2, Access Point One S, Charging Station S and cable) as well as Wearables (Standard Glove, Longlife/Palm Trigger, Index Trigger) in an environment between - 4°F (-5°C) and 140°F (+50°C).

## CLEANING

### HARDWARE:



#### CAUTION:

Protect Hardware from moisture!  
This may otherwise lead to MARK 2 System not functioning properly.



#### CAUTION:

Do not clean Hardware with chemical agents!  
Otherwise, the material can be damaged.

→ Regularly clean the scanner glass with cotton swabs.

### WEARABLES:



#### CAUTION:

Protect Wearables from moisture!  
This may otherwise lead to the Wearables not functioning properly.

→ Do not wash Wearables.



# SOLUTION TO THE PROBLEM

## MARK 2

### PROBLEM

MARK 2 not responding.

### CAUSE

Battery is not charged.

Glove is defective.

### SOLUTION

→ Charge MARK 2 in the Charging Station S for at least 20 min.

→ Change glove.

MARK 2 is not vibrating or does not beep after successful data transfer.

Feedback signals are disabled.

→ Check whether the feedback signals in the configuration tool ([config.proglove.de](https://config.proglove.de)) are enabled under "Feedback Profiles."

The battery symbol of MARK 2 flashes red.

The battery charge is low.

→ Charge MARK 2 in the Charging Station S for at least 20 min.



## PROBLEM

The crosshairs light up, but no barcodes are scanned.

## CAUSE

The barcode label cannot be read.

The barcode type cannot be read.

The barcode length cannot be read.

Scanner glass is dirty.

The barcode label is difficult to read.

Scanner glass is dirty.

Scanning distance is not optimally used.

## SOLUTION

→ Create new barcode label.

→ Check whether the barcode type in the configuration tool ([config.proglove.de](https://config.proglove.de)) is enabled under "Barcode settings".

→ Check whether the barcode length in the configuration tool ([config.proglove.de](https://config.proglove.de)) is enabled under "Barcode settings".

→ Clean the scanner glass with a cotton swab.

→ To enhance the scanning performance, make the following settings in the configuration tool ([config.proglove.de](https://config.proglove.de)) under "Device settings".  
Fuzzy 1D processing: ON

→ Clean the scanner glass with a cotton swab.

→ Position MARK 2 closer or further away from the barcode label and scan.  
For standard range: 3.9 - 31.5 in (10-80 cm)  
For mid range: 11.8 - 59 in (30-150 cm)

## 868/915 MHZ - DATA TRANSFER

### PROBLEM

Barcode data is not transferred.

### CAUSE

MARK 2 is not connected to the Access Point One S.

MARK 2 is out of range of the Access Point One S.  
(maximum range is < 98 ft. (30m))

Access Point One S is defective.

MARK 2 is defective.

### SOLUTION

➔ Scan the pairing barcode on the Access Point One S.

➔ Bring MARK 2 closer to Access Point One S.

Access Point One S must be replaced.  
➔ More detailed information can be found at [proglove.com/support](http://proglove.com/support).

MARK 2 must be replaced.  
➔ More detailed information can be found at [proglove.com/support](http://proglove.com/support).

Different barcode data is transferred.

The keyboard layout of the end device is set with a different language.

➔ Adjust the keyboard layout of the configuration tool to the keyboard layout of the end device. In the configuration tool ([config.proglove.de](http://config.proglove.de)) under "Device settings - USB keyboard layout," adjust the language.



## BLE HID - DATA TRANSFER

### PROBLEM

### CAUSE

### SOLUTION

Barcode data is not transferred.

MARK 2 is not connected to the end device.

1. Scan the pairing barcode.  
2nd Lights up blue twice briefly while MARK 2 is connecting and after a successful connection.

MARK 2 lights up green after the data transfer, but no barcode data is shown on the end device.

MARK 2 is out of range of the end device.  
(Maximum range is < 33 ft. (10m))

→ Bring MARK 2 closer to the end device and scan the pairing barcode.

Different barcode data is transferred.

The keyboard layout of the end device is set with a different language.

→ Adjust the keyboard layout of the configuration tool to the keyboard layout of the end device. In the configuration tool ([config.proglove.de](http://config.proglove.de)) under "Device settings - BLE-HID keyboard layout," adjust the language.

MARK 2 flashes red 3 times, 3 negative beeps are heard and a long vibration is felt.

MARK 2 cannot connect with the end device.

1. Check whether the range between MARK 2 and end device is < 33 ft. (10m) If not, get closer.  
2. Disconnect the connection between the end device and MARK 2 and reconnect (see p. 21) "Step 6: Disconnect MARK 2" and "Step 4: Connect MARK 2."  
3. Scan the pairing barcode again.  
4. Scan barcode again.



## CHARGING STATION S

### PROBLEM

MARK 2 does not charge in Charging Station S.

### CAUSE

MARK 2 is not correctly inserted in Charging Station S.

Charging Station S is not connected to power source.

MARK 2 is defective.

Charging Station S is defective.

### SOLUTION

➔ Insert MARK 2 in the Charging Station S again.

➔ Connect Charging Station S to power source.

MARK 2 must be replaced.  
➔ More detailed information can be found at [proglow.com/support](https://proglow.com/support).

The Charging Station S must be replaced.  
➔ More detailed information can be found at [proglow.com/support](https://proglow.com/support).

LEDs of MARK 2 do not light up immediately when MARK 2 is placed in the Charging Station S.

MARK 2 charges in the Charging Station S, but the feedback signals are delayed by about 30 seconds.

➔ Wait until the LEDs of MARK 2 signal the charging.



### TIP 1

Problem could not be solved?

➔ Insert MARK 2 into the glove. Press the textile trigger on the glove for about 15 seconds and restart MARK 2.

### TIP 2

Problem could not be solved?

➔ Scan with MARK 2 the Factory Default Barcodes:



MARK 2



ACCESS POINT ONE S

(only needed with connection via 868/915 MHz)  
Factory Default Barcode will reset the keyboard layout to English (US).



## DISPOSAL



MARK 2 system corresponds to the directive 2002/96/EC of the EUROPEAN PARLAMENT AND COUNCIL of 27 January 2003 regarding old electronic and electric devices (WEEE). That is why MARK 2 system cannot be disposed of through the household waste. If you have questions about a return or an environmentally-friendly disposal, please contact ProGlove support (contact data under chapter 10 "Support and Service").

Carry out the following steps to decommission MARK 2 system:

1. Release MARK 2 from Wearables
2. Disconnect the connection cable from the Access Point One S
3. Disconnect the mains plug from the Charging Station S
4. Properly dispose of Hardware and Wearables as old electronic and electric devices

## DIRECTIVES & CERTIFICATION

### EUROPEAN DIRECTIVES:

2014/53/EU Radio Equipment Directive (RED)

2011/65/EU Restriction of Hazardous Substances (RoHS)

### DECLARATION OF CONFORMITY:

Workaround GmbH (ProGlove) hereby declares that the devices are in compliance with all applicable Directives. For the full text of the CE Declaration of Conformity please contact the ProGlove Support (ProGlove Support contact data see p. 45).

### FCC/IC CERTIFICATION COMPLIANCE:

#### ProGlove MARK 2

The ProGlove MARK 2 complies with the following FCC/IC product categories:

- FCC Part 15 Subpart C 247 (intentional radiators = RF transceiver)
- FCC Part 15 Subpart C 249 (intentional radiators = RF transceiver)
- FCC Part 15 Subpart B 107/109 (unintentional radiator)
- ISCED Canada RSS-Gen Category I (radio apparatus)
- ISCED Canada RSS-247
- ISCED Canada RSS-102
- ISCED Canada RSS-210

The ProGlove MARK 2 is a portable device (distance between person's body and the antenna is 20 cm or less) and excluded from SAR (Specific Absorption Rate) requirements.

### FCC/IC Certification Compliance

Under the regulations of the FCC and the IC the user has to be aware of the following when using the ProGlove MARK 2:

1. This equipment complies with FCC/IC radiation expo-

sure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption rate (SAR).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) des lignes directrices de la FCC et les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée comme conforme sans évaluation du débit d'absorption spécifique (DAS).

2. This ProGlove System has been tested and meets the FCC/IC RF exposure rules when used with ProGlove's accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC/IC RF exposure rules.

Le système ProGlove a été testé et est conforme aux règles d'exposition aux fréquences radioélectriques (RF) de l'IC ainsi que de la FCC lorsqu'il est utilisé avec les accessoires ProGlove fournis ou conçus pour ce produit. L'usage

d'autres accessoires ne garantit pas nécessairement la conformité aux règles d'exposition aux RF de l'IC ou de la FCC.

### **FCC Specific Certification Compliance**

Under the regulations of the FCC the user has to be aware of the following when using the ProGlove MARK 2:

#### **1. FCC CAUTION**

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

2. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

3. 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.

4. 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.

### IC Specific Certification Compliance

Under the regulations of the IC the user has to be aware of the following when using the ProGlove MARK 2:

1. This device complies with Industry Canada's licence-exempt RSSs. 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'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- 1) l'appareil ne doit pas produire de brouillage;
- 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### LASER CLASS 2:

Complies with 21CFR1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. Laser safety according to EN60825-1:2014 and IEC 60825-1 (Ed. 3.0).

The laser warning label is located on the bottom of MARK 2.





# SUPPORT


## TECHNICAL SUPPORT CONTACT DATA

If you have questions about integrating or using the ProGlove devices, our customer support department will be happy to help you. They will process your request as soon as possible. You can reach them at:




### SUPPORT WEBSITE:


 [proglove.com/support](https://proglove.com/support)

### E-MAIL ADDRESS:

 [support@proglove.de](mailto:support@proglove.de)  
 [support@proglove.com](mailto:support@proglove.com)

### TELEPHONE NUMBER:

 0800 7762255 (free within Germany)  
 +49 1520 2907017 (outside of Germany)  
 +1 (217) 721-0740 (USA)


 Monday – Friday, 9:00 am to 5:00 pm

## SALES CONTACT DATA

### E-MAIL ADDRESS:

 [sales@proglove.com](mailto:sales@proglove.com)

### TELEPHONE NUMBER:


 +49 89 26203505

### YOUR CONTACT PARTNER:

Enter your contact partner here:

 Name:

 Telephone number:

 E-mail address:

# PROGLOVE

## **Workaround GmbH**

Rupert-Mayer-Str. 44  
81379 München  
Germany

## **ProGlove Inc.**

332 S Michigan Ave 9<sup>th</sup> fl.  
60604 Chicago, IL  
USA

# MARK 2

User Manual 07/2019

## **Configuration at:**

[config.proglove.de](http://config.proglove.de)

## **Support at:**

[proglove.com/support](http://proglove.com/support)  
[support@proglove.de](mailto:support@proglove.de)  
[support@proglove.com](mailto:support@proglove.com)