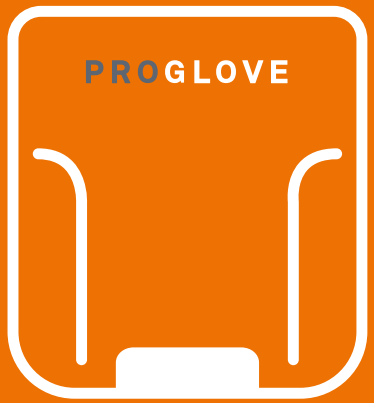
MARK 2

USER MANUAL



Technical document

MARK 2 USER MANUAL

TABLE OF CONTENTS

SAFETY INSTRUCTIONS
Hardware 5
Wearables 5

SCOPE OF DELIVERY & OVERVIEW ... 6

TECHNICAL PROPERTIES
Hardware 8
Wearables 15

SETUP OF MARK 2 SYSTEM
1st step: Charge MARK 2 18
2nd step: Connect Access Point One S..... 18
3rd step: Switch on MARK 2 20
4th step: Connect MARK 2..... 20
Connection via 868/915 MHz
Connection via BLE HID
5th step: Scan with MARK 2 26
6th step: Disconnect MARK 2 System 27
7th step: Release MARK 2 from Wearables 31

CONFIGURATION TOOL
1st step: Barcode settings 32
2nd step: Data formatting - Prefix and suffix 32
3rd step: Data formatting - Advanced formatting..... 32
4th step: Device setting..... 33
5th step: Configuration barcodes 33

SIGNAL TABLE
General 35
Connection via 868/915 MHz 35
Connection via BLE HID 35

STORAGE AND CLEANING
Storage location and temperature 36
Cleaning the Hardware 36
Cleaning Wearables 36

SOLUTION TO THE PROBLEM

MARK 2 37
868/915 MHz - Data transfer 39
BLE HID - Data transfer 40
Charging Station S 41

DISPOSAL

..... 42

DIRECTIVES & CERTIFICATION

..... 42

SUPPORT

Technical support contact data 45
Sales contact data 45

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.

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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

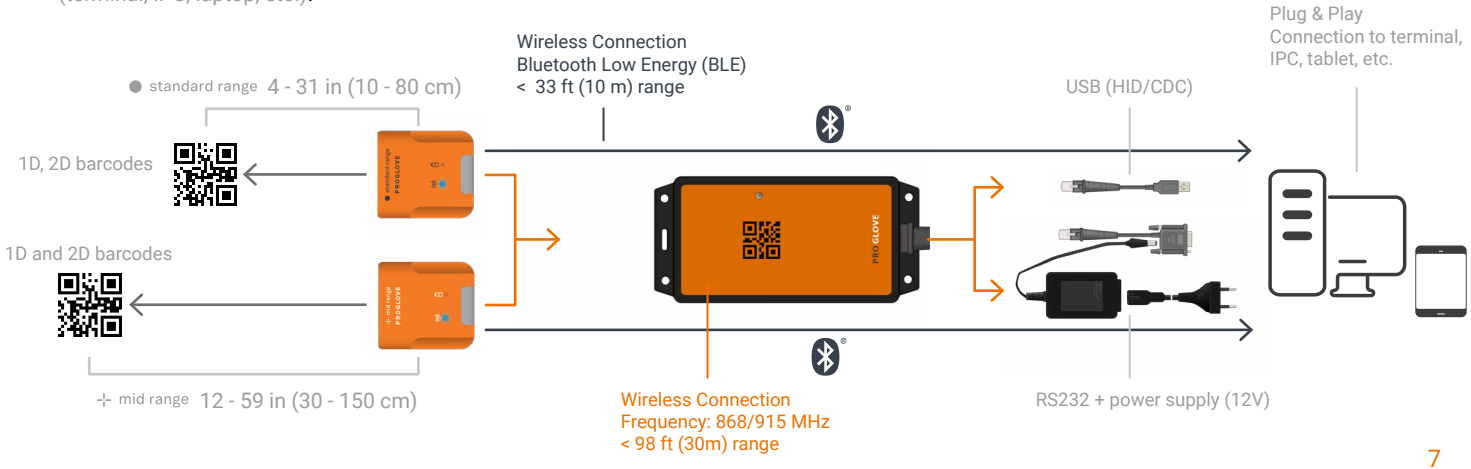
MARK 2 is a barcode scanner that can read the 1D and 2D barcode types. The scanning range is between 4 - 31 in (10 - 80 cm) (standard range) or 12 - 59 in (30 - 150 cm) (mid range). There are two types of transmission:

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 ...

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: ..... ≤ 9dBm

Transmission range: ..... Free field: > 197 ft (60m) **
Indoor: 49-98 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: ..... ≤ 5 dBm

Transmission range: ..... Line-of-sight: 33ft (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°, vertical: 23° (mid range)
horizontal: 48°, vertikal 36.7° (standard range)

Rotation tolerance:..... + - 60°

Tilt tolerance:..... + - 60°

Roll tolerance:..... 360°

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°F (-5°C) - 122°F (50°C)(Operation)
-4°F(-20°C) - 140°F (60°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) Code 128	7.4 in. (18.8 cm) to 16.0 in.(40.6 cm)
5 mil (0.127 mm) PDF417	8.1 in. (20.6 cm) to 13.1 in.(33.3 cm)
10 mil (0.254 mm) Data Matrix	7.0 in. (17.8 cm) to 17.0 in.(43.2 cm)
100% UPCA	2.3 in. (5.8 cm) to 38.0 in.(96.5 cm)
20 mil (0.508 mm) Code 39	2.1 in. (5.3 cm) to 54.0 in.(137.2 cm)
100 mil (2.54 mm) Code 39	11.0 in. (27.9 cm) 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 barcode
3 mil (0.127 mm) Code 39	2.8 in. (7.1 cm) to 6.2 in. (15.8 cm)
5 mil (0.127 mm) Code 128	2.3 in. (5.8 cm) to 8.7 in. (22.1 cm)
5 mil (0.127 mm) PDF417	3.0 in. (7.6 cm) to 8.1 in.(20.6 cm)
10 mil (0.254 mm) Data Matrix	2.4 in. (6.1 cm) to 10.6 in.(26.9 cm)
100% UPCA	1.6 in. (4.1 cm) to 23.0 in.(58.4 cm)
20 mil (0.508 mm) Code 39	1.6 in. (4.1 cm) to 36.3 in.(92.2 cm)

BLE HID - KEYBOARD LAYOUT

Croatian, Czech, English (GB), English (US), French (Belgium), French (Canada), French (France), German (Germany), 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) 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

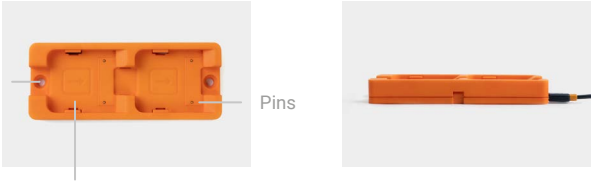
USB HID CONNECTION - KEYBOARD LAYOUT:

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).



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 suppl
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.

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

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.

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

Variable velcro connection
Fastening rail

Textile Trigger

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.

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

Textile Trigger

PROPERTIES

GENERAL:

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

SAFETY & CERTIFICATION:

Certification:..... RoHS
CE mark

APPLICATION OF MARK 2 SYSTEM

1ST 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.

2ND 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.

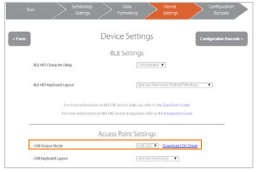
2. Plug the other end of the USB cable into the RJ50 socket of the Access Point One S.
A clear clicking sound confirms the correct fastening.

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

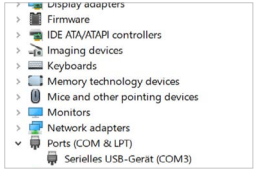
CONNECTION WITH USB CABLE IN USB CDC MODE:

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) 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

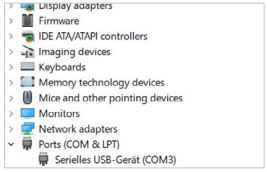
The LED of the Access Point One S lights up green.
The Access Point One S is connected to the end device.

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). 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.

3RD 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.

4TH 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.

4TH 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.

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.

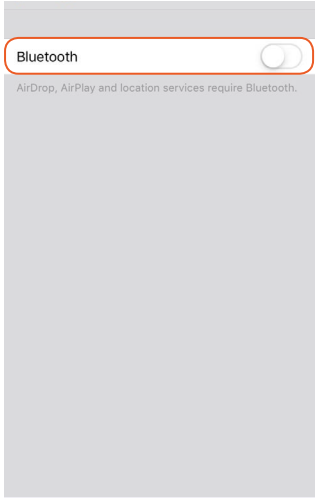
2. Aim MARK 2 crosshairs at the pairing barcode and scan.

RESULT

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

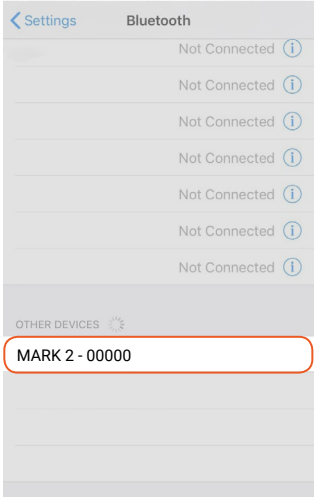
CONNECT WITH APPLE iOS 11 OR HIGHER:

01



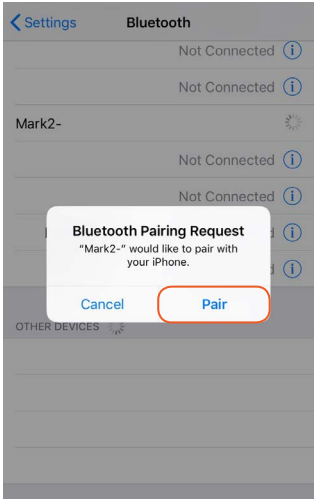
Under “Settings - Bluetooth,” activate the Bluetooth option.

02



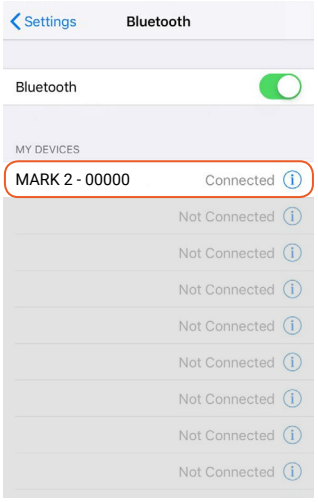
Select “MARK 2 - 00000”.

03



Confirm the “Bluetooth Pairing Request”.

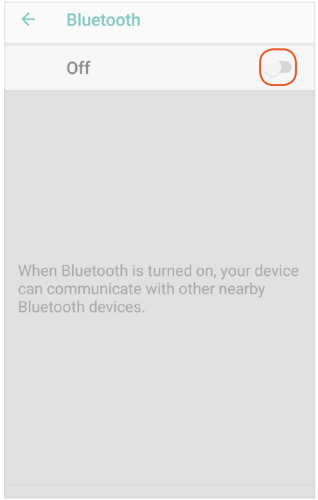
RESULT



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.

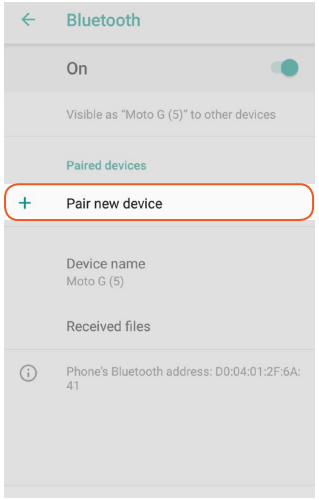
CONNECT WITH GOOGLE ANDROID 4.4 OR HIGHER:

01



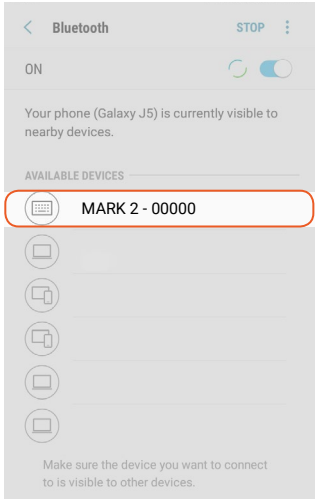
Under “Settings - Connected devices,” switch on the Bluetooth option.

02



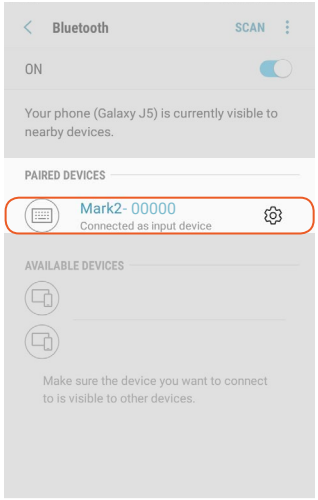
Tap “Bluetooth” and select “Pair new device.”

03



Select ‘MARK 2 - 00000’.

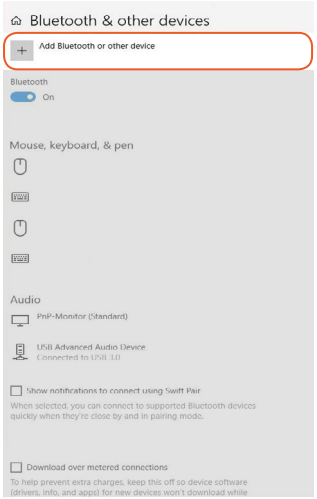
RESULT



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.

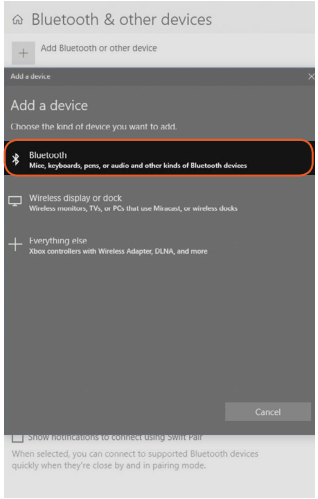
CONNECT WITH MICROSOFT WINDOWS 10:

01



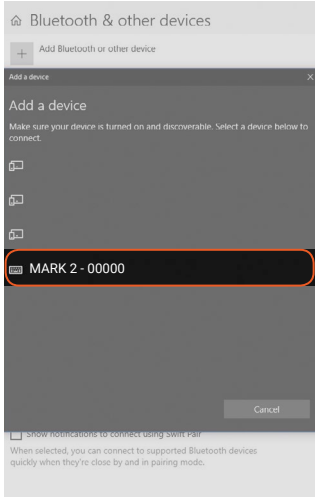
Under “Bluetooth & other devices,” click on “Add Bluetooth and other devices”.

02



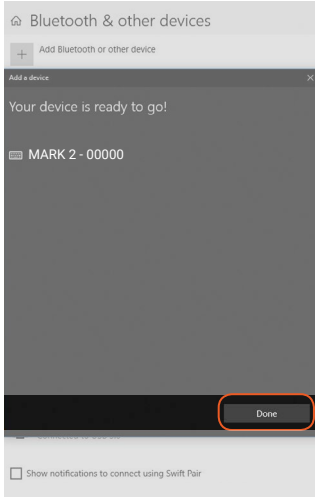
Select the option “Bluetooth: Mouses, keyboards and other types”.

03



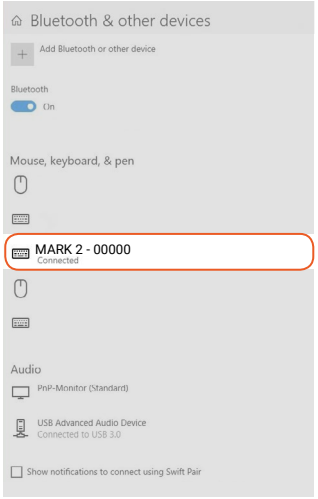
Select “MARK 2 - 00000”.

04



Click “Done”.

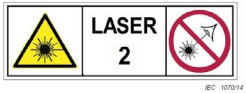
RESULT



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.

5TH 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.



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.

6TH 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.

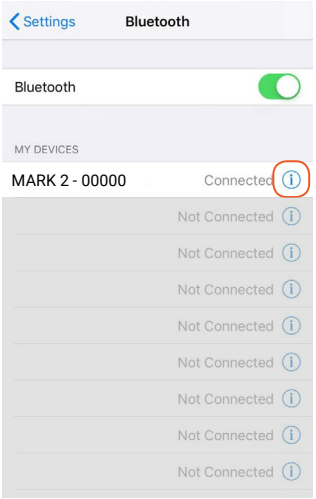
RESULT
The LED of the Access Point One S no longer lights up green. The connection cable is connected from Access Point One S.

6TH STEP: DISCONNECT MARK 2 (BLE HID)

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

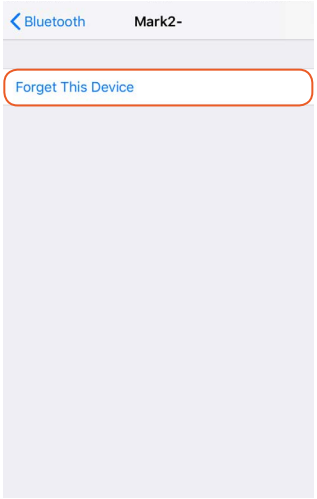
DISCONNECT FROM APPLE iOS:

01



Under: “Settings - Bluetooth,” tap on the ⓘ symbol.

02

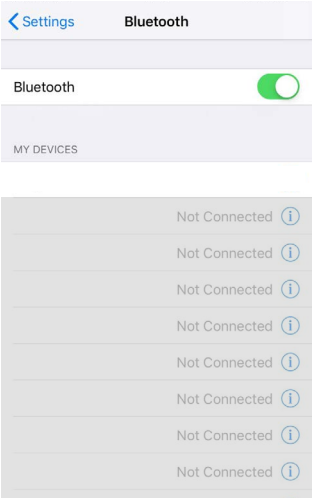


Tap on “Forget this device.”

03

Confirm “Forget Device.”

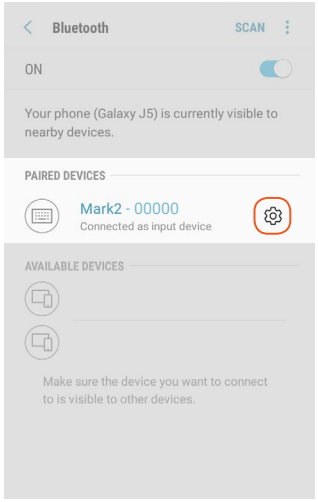
RESULT



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.”

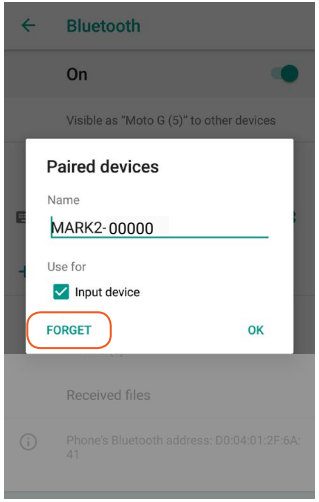
DISCONNECTING FROM GOOGLE ANDROID:

01



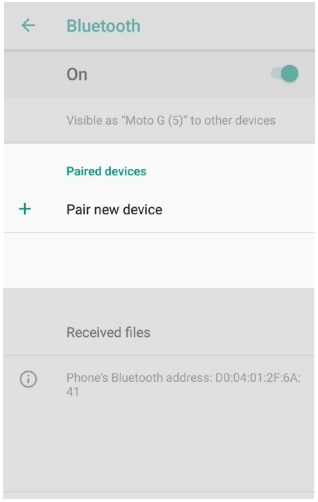
In the Bluetooth option under “Paired devices,” tap on the gear wheel symbol of “MARK 2 - 00000.”

02



Select “Forget.”

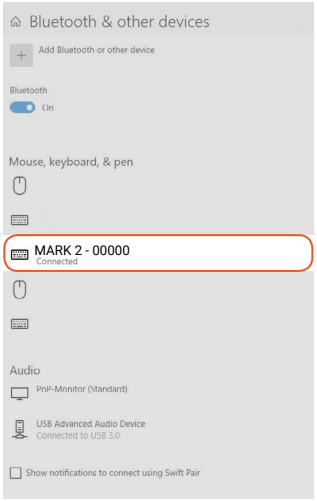
RESULT



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.”

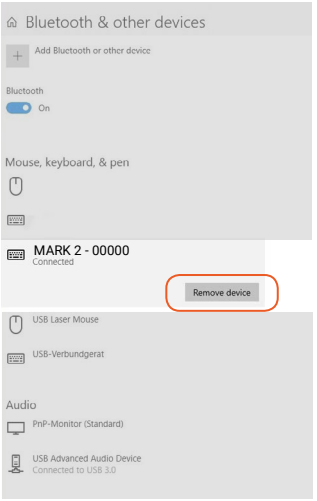
DISCONNECTING FROM MICROSOFT WINDOWS:

01



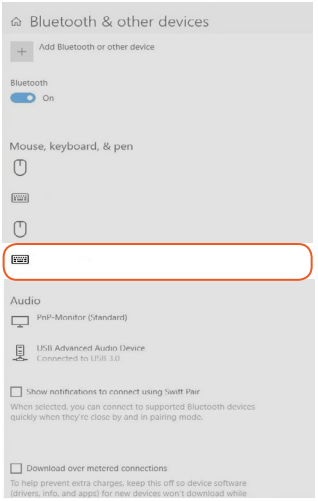
Under “Bluetooth & other devices,” select “MARK 2 - 00000.”

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.”

7TH 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** can be used to individually set MARK 2 System and improve scanning processes.

The configuration occurs in 5 steps:

1ST 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.

2ND 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.

3RD 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.”

4TH 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.

5TH 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	LED	Connection symbol	Battery symbol	Audio signal	Vibration
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	CAUSE	SOLUTION
MARK 2 not responding.	Battery is not charged.	→ Charge MARK 2 in the Charging Station S for at least 20 min.
	Glove is defective.	→ 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) 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	CAUSE	SOLUTION
The crosshairs light up, but no barcodes are scanned.	The barcode label cannot be read.	→ Create new barcode label.
	The barcode type cannot be read.	→ Check whether the barcode type in the configuration tool (config.proglove.de) is enabled under “Barcode settings”.
	The barcode length cannot be read.	→ Check whether the barcode length in the configuration tool (config.proglove.de) is enabled under “Barcode settings”.
	Scanner glass is dirty.	→ Clean the scanner glass with a cotton swab.
The crosshairs light up, but the barcodes are hard to scan.	The barcode label is difficult to read.	→ To enhance the scanning performance, make the following settings in the configuration tool (config.proglove.de) under “Device settings”. Fuzzy 1D processing: ON
	Scanner glass is dirty.	→ Clean the scanner glass with a cotton swab.
	Scanning distance is not optimally used.	→ 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	CAUSE	SOLUTION
Barcode data is not transferred.	MARK 2 is not connected to the Access Point One S.	→ Scan the pairing barcode on the Access Point One S.
	MARK 2 is out of range of the Access Point One S. (maximum range is < 98 ft. (30m))	→ Bring MARK 2 closer to Access Point One S.
	Access Point One S is defective.	Access Point One S must be replaced. → More detailed information can be found at proglove.com/support.
	MARK 2 is defective.	MARK 2 must be replaced. → More detailed information can be found at 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) 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) 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	CAUSE	SOLUTION
MARK 2 does not charge in Charging Station S.	MARK 2 is not correctly inserted in Charging Station S.	→ Insert MARK 2 in the Charging Station S again.
	Charging Station S is not connected to power source.	→ Connect Charging Station S to power source.
	MARK 2 is defective.	MARK 2 must be replaced. → More detailed information can be found at proglove.com/support.
	Charging Station S is defective.	The Charging Station S must be replaced. → More detailed information can be found at proglove.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)
- ISED Canada RSS-Gen Category I (radio apparatus)
- ISED Canada RSS-247
- ISED Canada RSS-102
- ISED Canada RSS-210

The ProGlove MARK 2 is a portable device (distance between person's body and theantenna 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

E-MAIL ADDRESS:
support@proglove.de
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

TELEPHONE NUMBER:
+49 89 26203505

YOUR CONTACT PARTNER:
Enter your contact partner here:

Name:

Telephone number:

E-mail address:

PROGLOVE

MARK 2

User Manual 07/2019

Workaround GmbH
Rupert-Mayer-Str. 44
81379 München
Germany

ProGlove Inc.
332 S Michigan Ave 9th fl.
60604 Chicago, IL
USA

Configuration at:
config.proglove.de

Support at:
proglove.com/support
support@proglove.de
support@proglove.com