

# KeyReader Plus



<b>Document:</b>	Manual Bedatungsstation
------------------	-------------------------

<b>Project:</b>	0211
-----------------	------

<b>Documenten Version:</b>	1.0	Datum: 19.07.2016
----------------------------	-----	-------------------

Autor	Name	Tel.	Fax	E-Mail
V 1.0	Frank Bajahr	+49 2261 8082 133		Frank.bajahr@teratron.de

<b>Document status</b>	Draft
------------------------	-------

<b>Confidential</b>	public
---------------------	--------

Release	Organisation	Name	Datum

Version	Date	Version	Change	Name
	19.07.2016	V 1.0	- first release	Frank Bajahr
			-	

Attach-ments	Auther	Document

## Index

1	Introduction .....	4
2	Mechanical.....	5
3	Driver Installation .....	5
4	Configuration of KeyReader Plus .....	8
5	Operation of KeyReader Plus .....	11

## 1 Introduction

The KeyReaderPlus is a portable Device which is capable of reading data stored in dedicated vehicle keys. Once the data have been read the data are transferred to a remote server. The transfer takes place via Wifi or the USB Interface.

### Delivery Content

KeyReaderPlus Handheld  
USB-Cable

The user(s) of these products are cautioned to only use accessories and peripherals approved, in advance, by MANUFACTURER. The use of accessories and peripherals, other than those approved by MANUFACTURER, or any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Installation

The KeyReader Plus should be completely charged before the first operation. Charging is done by connecting the KeyReader Plus to a USB-port or USB-Power Supply which is capable to deliver at least 500mA. The Micro-USB-Connection at the KeyReader Plus is covered by a sliding bar.

As soon as the KeyReader is connected to the power supply the device is booting up. The LED is giving the battery status.

### Indicator and Operating Elements

The KeyReader Plus has 3 RGB-LEDs, which are giving a feedback on its actual working condition. The LEDs are marked with a Symbol. There is one LED for the vehicle key reading function (symbol : Key), one for the connection state of the server (symbol: waves) and one for the battery status (symbol: battery).

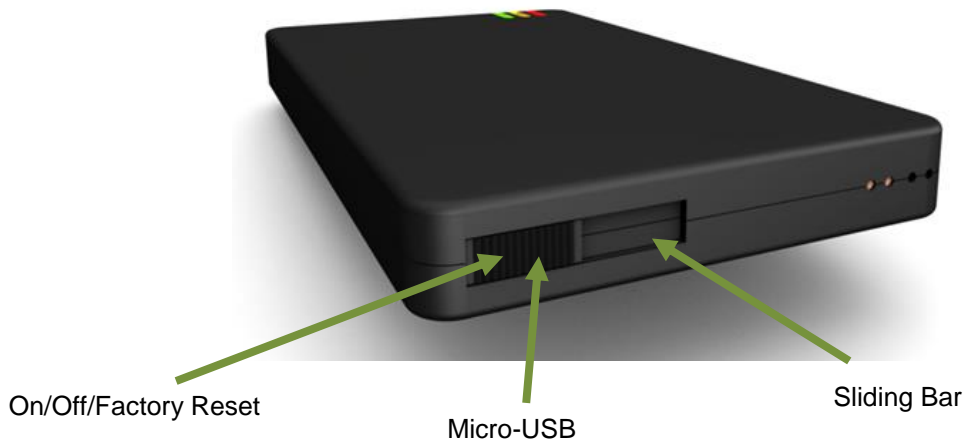
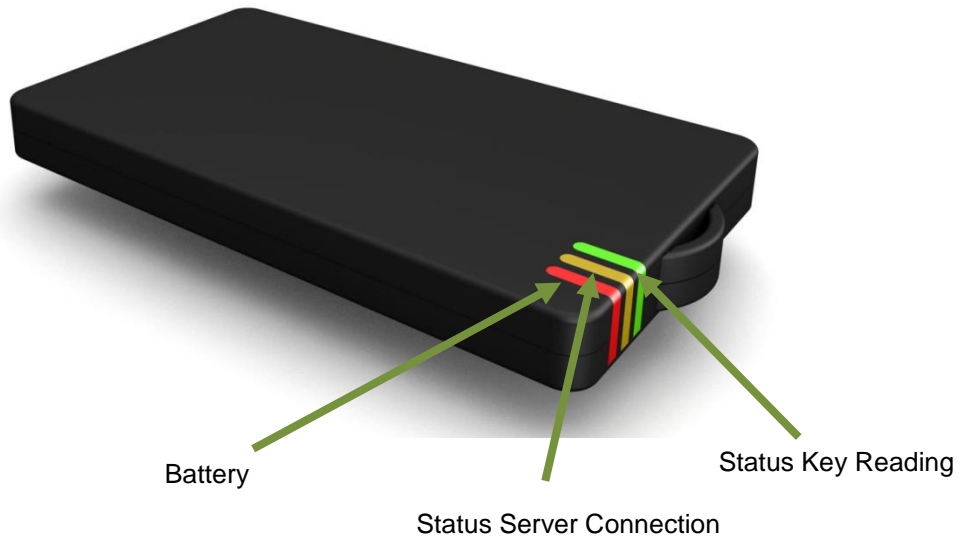
At the opposite side is are, covered by a sliding bar, the Micro-USB-Connector and a small switch. With this switch the KeyReader Plus can be switched off by holding it down for min of 2 sec. After the switch is released the KeyReader Plus will drive down. This is indicated by the flashing blue "Key"-LED.

In case the KeyReader Plus needs to be set back to initial factory state the button has to be pressed for > 10 sec. A Factory Reset is performed and all configuration settings and memory is set back.

Via the micro-USB-connection the KeyReader Plus can be charged. Furthermore the initial settings can be made via this Interface.

<b>Manual</b> <b>KeyReader Plus</b> ©TeraTron GmbH	Page 4 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		

## 2 Mechanical



## 3 Driver Installation

All required components will be installed by performing the Setup-Program on the target PC. During the Setup it is required to login as a local admin.

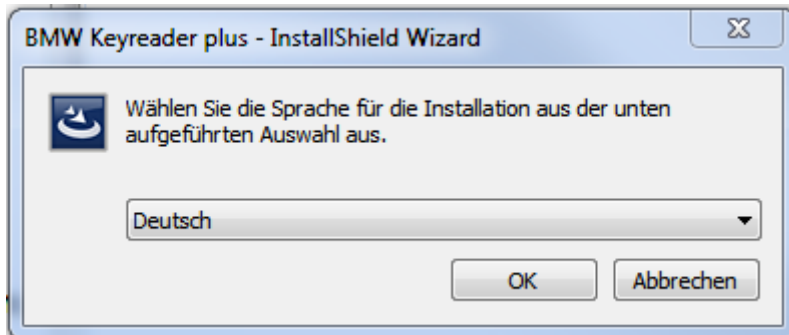
System Requirements:

Personal Computer with Windows 7, 8.1 oder 10  
 Eine freie USB-Schnittstelle  
 Internet Browser, e.g. Internet Explorer, Firefox

<b>Manual KeyReader Plus</b> ©TeraTron GmbH	Page 5 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		

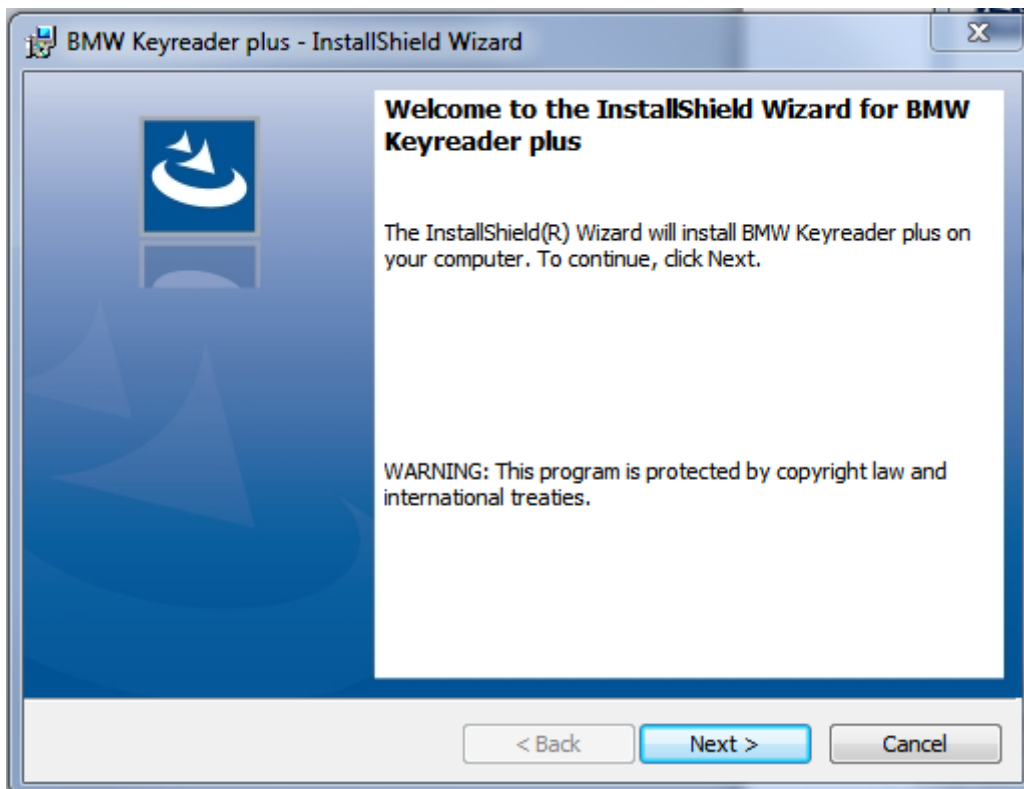
In order to charge the KeyReader Plus the USB-Interface should be capable to deliver at least 500mA. If this is not given charging has to be done with an appropriate USB-Charger.

To install the required driver please start the KeyReaderPlus\_Vx.x.x.x.exe. Select the language to proceed.



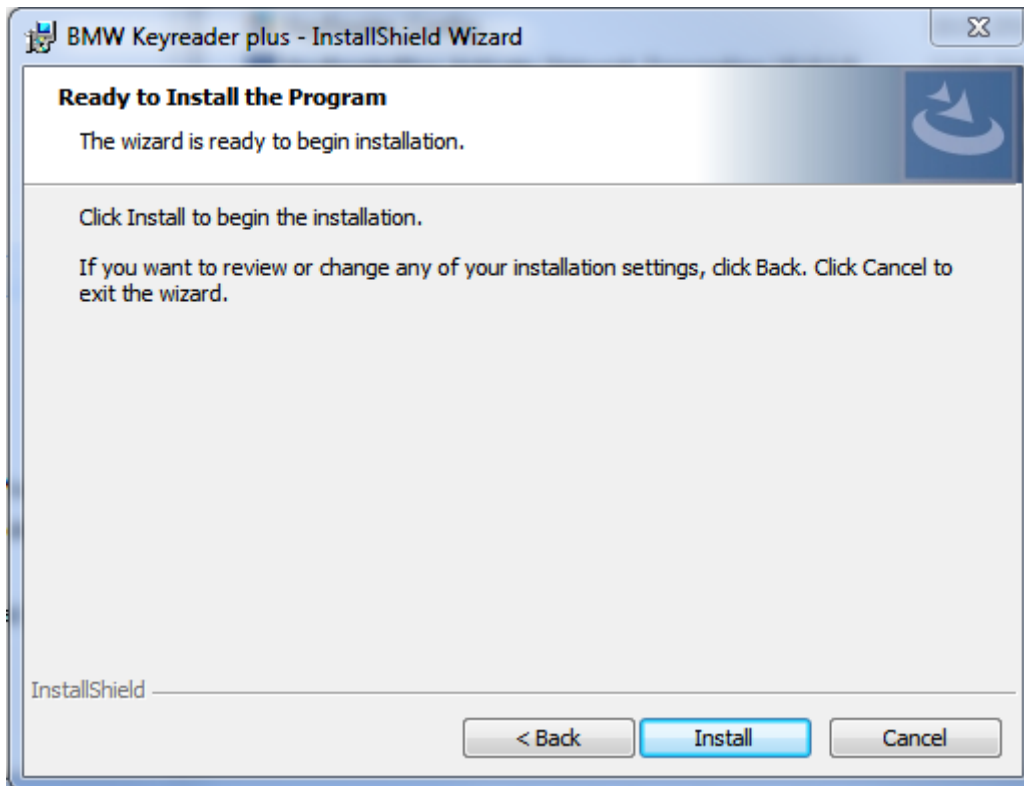
Picture 1: select language

Confirm with „Next“



Picture 2: Welcome Screen

Confirm with „Install“



**Picture 3: Confirmation**

Once the installation has been finished the last screen will prompt for “Finish”



**Picture 4: Completion**

Your Personal computer is prepared to work with the KeyReader Plus now.

#### 4 Configuration of KeyReader Plus

Connect the KeyReader Plus to an USB-Port of your PC. In case the KeyReader was off it will now automatically turn on and boot up. During the boot process the „Key“ LED is flashing blue. The “Bat-tery” LED is indicating the charge condition of the battery. If it is green no charging takes place. If yellow, charging is in progress.

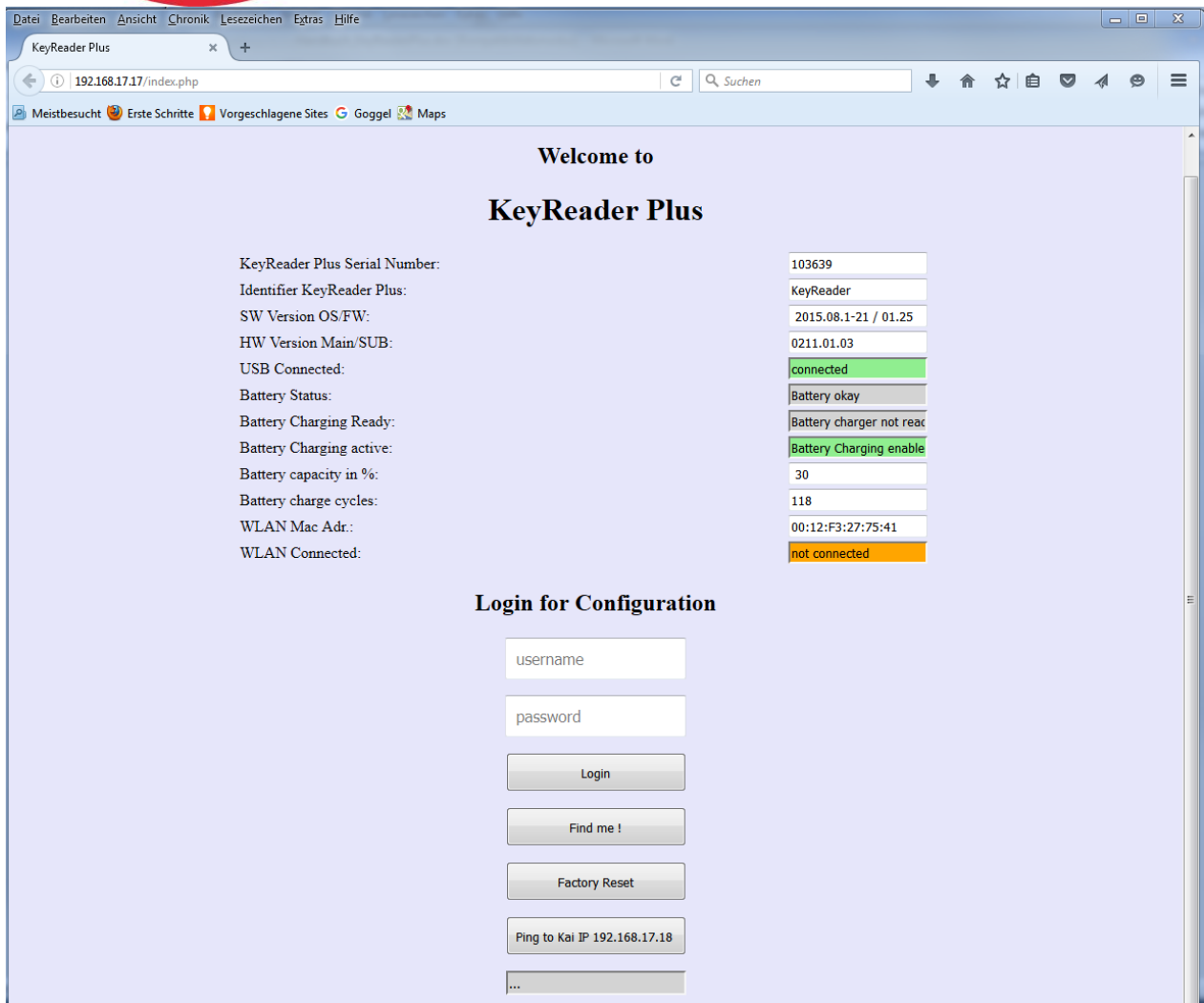
To configure the KeyReader open a Browser on your PC. E.g. Internet Explorer.

Connect to the KeyReader by typing the following address in your browser:

<http://192.168.17.17>

You should now see the welcome screen of KeyReader Plus:

<b>Manual KeyReader Plus</b> ©TeraTron GmbH	Page 8 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		



**Picture 5: Welcome screen**

The following system information are shown:

**KeyReader Plus Serial Number:** serial number of the device

**Identifier KeyReader Plus:** personal name of device (can be configured.)

**Software Version OS/FW:** version of the operating system and firmware version

**HW Version Main/SUB:** hardware version

**USB-Connected:** status of the USB connection

**Battery Status:** status of the battery

**Battery Charging active:** current charging status

**Battery Capacity in %:** charging condition of the battery

<b>Manual</b> <b>KeyReader Plus</b> ©TeraTron GmbH	Page 9 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		

**Battery charge cycles:** no. of charging cycles

**WLAN Mac Adr:** mac address of the Wifi-Interface

**WLAN Connected:** Wifi connection status

**Login-Button:** you have to login to configure the KeyReader Plus. Login name and password are configurable

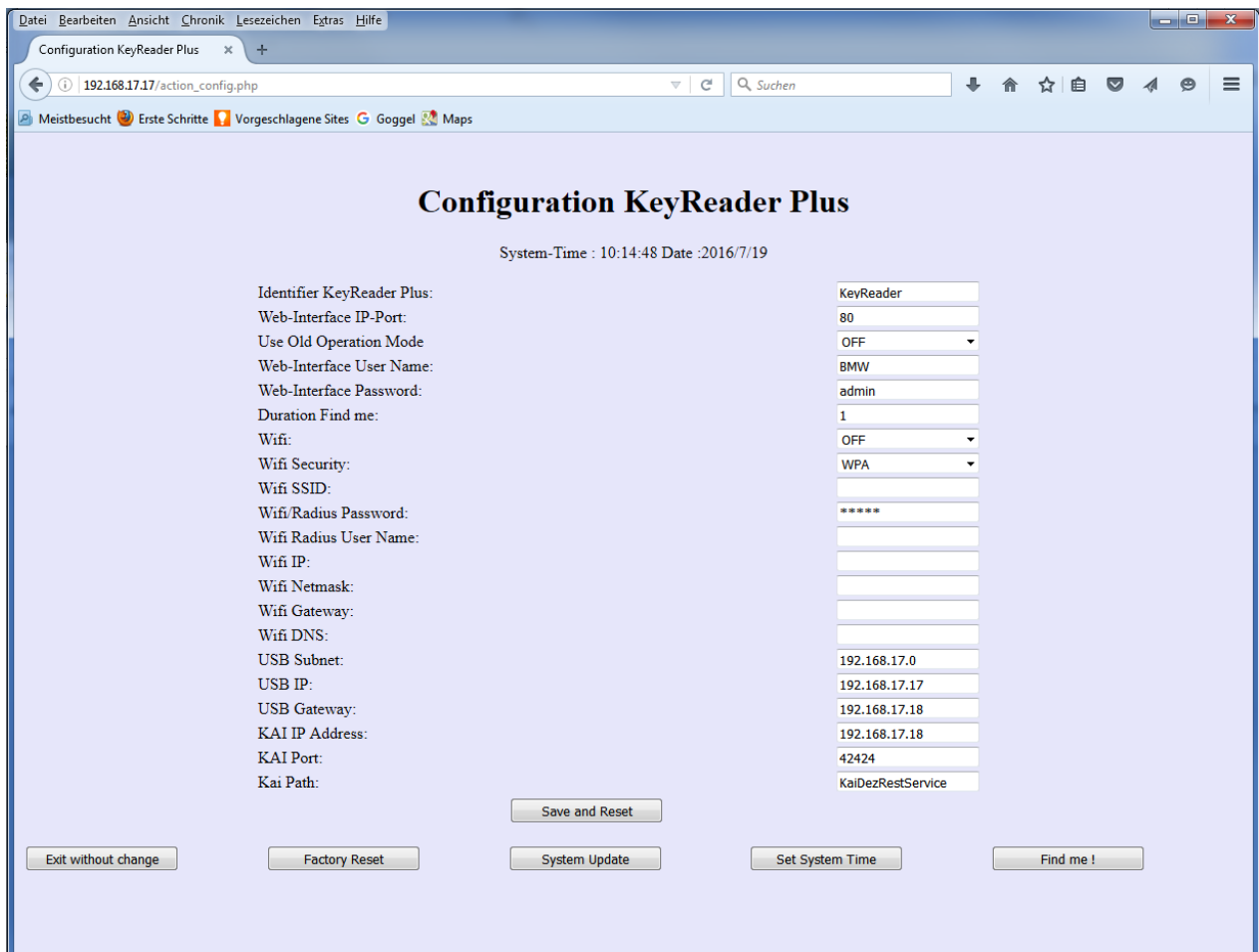
Default username / password: BMW / admin

**Find Me !:** This button will activate an acoustic feedback of the device

**Factory Reset:** sets the KeyReader Plus back to factory settings

**Ping to KAI IP :** check the connection to the KAI server. (attention: only the connection to the server is tested)

## Configuration (via login button)



**Picture 6: Configuration screen**

At the Configuration page the system time is shown. If there is an active connection to the Internet the system time is set automatically. In case there is not Internet connection the system time can be set by hitting the "Set System Time" button.

**Identifier Key Reader Plus:** name teh KeyReader Plus to your personal needs

**Web-Interface IP-Port:** Port for this web interface. Default port is 80

**Use Old Operation Mode:** If this is switched to On the KeyReader Plus will not send data to the KAI Server. It is only possible to collect the key data via the mass storage feature.

**Web Interface User Name:** login name

**Web Interface Password:** login password

**Duration Find Me:** repetition of acoustic signal for "Find me" Featrure.

**Wifi:** Operation mode for Wifi interface. OFF, DHCP or static.

**Wifi Security:** Select Security Mode: WPA or IEC802.1X (Radius Server Mode)

**Wifi SSID:** SSID of the desired network

**Wifi /Radius Password:** network password (WPA or Radius password)

**Wifi Radius User Name:** user name of radius server

The following for IP-numbers only have to be selected manually if Wifi-mode „static“ was selected. In this case please check with your network admin for correct settings.

**USB Subnet:** subnet for the USB connection. Please don´t change if you are not sure

**USB IP:** IP address for USB connection. Please don´t change if you are not sure

**USB Gateway:** IP address of USB host PC. Please don´t change if you are not sure

The following settings have to be advised by your network admin

**KAI IP Address:** Adress of KAI Server

**KAI Port:** Port of KAI Server

**KAI Path:** Path of KAI Server

Any change has to be confirmed by teh Button „Save nd Reset. After a reboot the new settings are valid.

## 5 Operation of KeyReader Plus

After the correct configuration the KeyReader Plus is able to operate. If you place a vehicle key pn top of the landing pad the key is read and the data are send to the KAI Server.

The start of the reading is indicated by an acoustic beep and the yellow "Key" LED. During reading the key should stay in the reading position. After the key is successfully read a second beep will indicate this condition. In addition the "Key" LED will change to green.

<b>Manual KeyReader Plus</b> ©TeraTron GmbH	Page 11 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		

The time for reading a key might be different, based on the data content of the key. It should be in the range of 1 to 4 sec.

Once the data have been read they will be transferred to the KAI server. If the transmission is successful the reader will beep a third time and the LED in the middle will flash green for confirmation. In case there is no connection to the KAI server the LED will start flashing red (no Wifi connection) or yellow (server is not responding). The data of the key is stored in the KeyReader. Every 15sec the KeyReader will try to establish a connection to the KAI-server to transmit the remaining data. Up to 1000 keys can be temporarily stored.

## FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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.

### CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

### RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of [www.fcc.gov/eot/ea/fccid](http://www.fcc.gov/eot/ea/fccid) after searching on FCC ID: QLXKRP

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

<b>Manual KeyReader Plus</b> ©TeraTron GmbH	Page 12 of 12 Document Version 1.0 Date: 19.07.2016	Autor: Frank Bajahr
Manual_KeyReaderPlus.doc		