



TECTUS Transponder Technology GmbH, Eurotec-Ring 39, 47445 Moers 7 Germany

# RFID MultiPen for LF, HF and UHF passive Transponder in one device

## User Manual



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## RFID MultiPen for all passive frequencies (LF, HF and UHF) in one device

The new RFID handheld device MultiPen enables you the reading of UIDs of passive RFID transponders of Frequency ranges UHF (868...915MHz) , HF / NFC (13,56 MHz) and LF (125/134 kHz FDX-B/HDX).

So you can identify RFID TAGs very easy with only one device for all passive frequencies.

The writing of data's into the memory of the transponder is also possible in SPP or CDC mode.

The UIDs can be displayed in addition to the device-display also be shown on a screen of a connected BLUETOOTH™ device like a smartphone, tablet or laptop.

The MultiPen is a battery powered device, which can be recharged using the micro USB interface. Battery cycles may vary from some hours to several days depending on the device configuration. When the device is connected via it's USB interface, the device is powered by USB power.

## FCC compliance statement

These devices comply with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. These devices may not cause harmful interferences;
2. These devices must accept any interference received, including interference that may cause undesired operation.

The following figures list the Grant by FCC ID Number for each of the following devices:

### **FCC ID: 2APYK-MULTIPEN3**

Please refer to the FCC's website (<http://www.fcc.gov>) to view the grant and related documentation.

### **CAUTION !**

Exposure to Radio Frequency Radiation. The radiated output of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized. These devices may not be co-located with any other transmitter or transmitter antenna.

### **NOTE:**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interferences when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modification not expressly approved by TECTUS could void the user's authority to operate the equipment described in the manual.

This device contains Bluetooth™ module **FCC ID: T9JRN41-3**



**Button 1** Transponder Read

**Button 2** Bluetooth™ ON / Virtual keyboard ON/OFF by using IOS devices in HID mode

**Button 3** ON / OFF

## Universal Operating modes (BLUETOOTH™ or USB)

USB CDC connection for PC/Laptop, Smartphone (ANDROID™, WINDOWS™)

USB HID connection for PC/Laptop, Smartphone (ANDROID™, WINDOWS™,)

BLUETOOTH™ HID for PC/Laptop, Smartphone (ANDROID™, WINDOWS™, IOS)

BLUETOOTH™ SPP connection for PC/Laptop, Smartphone (ANDROID™, PC/Laptop, WINDOWS™ )

**Default mode for Bluetooth™ is HID.**

## OLED Display

Bluetooth device name	TECTUS-C95D	Status for USB,Bluetooth memory and battery
Date & Time	04.09.2017 11:57:49	
Tag type	TAG: ISO 15693	
UID	E005000001D89B82	

## Transponder Reading (LF, HF or UHF)

Turn on the MultiPen by using button 3.

Move the tip of your MultiPen to the transponder (LF or HF) and push button 1 once or keep it pushed.

To read an UHF Transponder, please follow the same procedure, but guide the flat surface below the tip to the Transponder (see picture attached).

A successful read of the Transponder UID will be notified by vibration. Additionally, the UID will be shown in the display. The picture shows the read positions from LF / HF Transponder (Blue) and UHF Transponder (Red)



## Switching from HID (Human Interface Device) to SPP (Serial Port Profile) Mode and back to HID

Your MultiPen device is set to Bluetooth™ HID (Human Interface Device) Mode ex works.

To set SPP Mode, keep button 2 pushed and turn on the device with button 3.

The display will show the set mode.

To switch back to HID Mode, please keep button 1 one pushed and turn on the device with button 3.

## Use HID (Human Interface Device) Mode with BLUETOOTH™ connection

Your MultiPen device is set to BLUETOOTH™ HID (Human Interface Device) Mode ex works.

Turn on your MultiPen and push button 2 to enable the BLUETOOTH™ function.

To connect your MultiPen via Bluetooth, search on your PC/Laptop/mobile Phone/Tablet for new BLUETOOTH™ devices. In some cases, the MultiPen will notify the user about a new available keyboard device.

Pair the MultiPen to your device as soon as it has been identified as BLUETOOTH™ device.

If you now read a Transponder, the MultiPen will send the UID to your focus point (cursor point).



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## Use HID (Human Interface Device) Mode with USB cable connection

Please turn on your MultiPen and connect the corresponding USB cable to the USB slot on the back.

As soon as your PC/Laptop is connected to the USB cable, your MultiPen will send the UID to your focus point (cursor point) during the reading process.

## Use USB (CDC - Communication Device Class) function with USB cable

Please connect the corresponding USB cable to your PC/Laptop after your MultiPen has been turned on.

In case of using WINDOWS™ 10, the MultiPen is recognised automatically.

The used USB Serial port is available in your WINDOWS™ Device Manager (Connection COM & LPT -> USB Serial port COM xx).

If you prefer using WINDOWS™ 7 or 8, we will gladly provide our free driver software.

Our TIDMultiPen V1.x PC program enables users to check the USB connection, to send commands and configure the device.

The list of commands is available as download.

## Use SPP (Serial Port Profile) Mode with BLUETOOTH™ connection

Our TIDMultiPen V1.x PC program enables users to check the USB connection, to send commands and configure the device.

The list of commands is available as download.

To connect the MultiPen in SPP Mode, you will have to activate the SPP Mode as written above.

It is possible to send, commands to configure or control the MultiPen after a successful pairing of your devices.

The list of commands is available as download from our Dropbox:

<https://www.dropbox.com/home/Tectus%20Products/products%20industrial/MultiPen/Documentation>

## Battery charging (NiMH Nickel-Metalhydrid)

Please connect the USB cable to your MultiPen and an USB port on a PC/Laptop or power supply adaptor (not included in the delivery).

The display will show the charging information as well as the current battery status for a few seconds.

Even if the display is black, the MultiPen will continue charging the battery.

The battery will be automatically charged if the MultiPen is used with USB connection.

In case of complete discharge, the loading time lasts up to 20 hours until the device is completely charged again.



USB connector for charging and communication via USB mode

Further information as our PC program / ANDROID™ App to configure the MultiPen and WINDOWS™ 7/8 CDC drivers can be downloaded under the following link:

<https://www.dropbox.com/home/Tectus%20Products/Products%20Industrial/MultiPen>

## Technical information

Housing:	Plastic IP 64	
Dimensions:	190 x 35 x 30 mm	
Weight:	125 g	
Power supply:	USB 5 V DC	
Battery:	NIHM 2200 mAh	
Power consumption:		
ON:	1 mA (Automatic Power OFF)	
+RFID	Max. 300 mA (400 msec)	Push Read Button (1x)
+RFID + Bluetooth	Max. 380 mA (400 msec)	Push Read Button (1x)
RFID output power:		*Read distance :
LF / 125 / 134 kHz	200 mW	Up to 20 mm
HF 13,56 MHz	220 mW	Up to 25 mm
UHF 868 MHz	20 dBm	Up to 80 mm
UHF 916 MHz	20 dBm	Up to 80 mm
		*Depending on Tag type, Tag size and mounting situation
Interfaces	BLUETOOTH™ 2.1	
	USB CDC (Communication device class)	
	USB HID (Human interface device)	
Operation modes:		
Bluetooth	SPP or HID	
USB	CDC or HID	
Display:	OLED 4 Rows	
Number of Keys:	3 (ON/OFF, BLUETOOTH™ ON, READ TAG)	
Operating temperature:	-20°C...+65°C	
Certifications:	CE	ATEX, IECEx
Memory:	1000 UID's with time stamp	
Supported Transponder:		
LF	ISO 11784/785, UNIQUE, HITAG 1/S, FDX-B, HDX	HITAG S read and write
HF ISO 15693	ISO 15693	Read and write
HF ISO 14443/NFC	ISO 14443/NFC	Read and write
UHF	ISO 18000-6 EPC Class I Gen 2	Read EPC
Supported operating systems:	WINDOWS™ 7/8/10, WINDOWS™ Mobile, ANDROID™, IOS (HID BT)	

## Packaging and delivery

Contents Plastic transport box with:

1 x MultiPen, 1 x USB cable (2 m), 3 x Test Transponder ,1 x Quick start manual



Software for WINDOWS™ operating systems TECTUS TID MultiPen V.xx

<https://www.dropbox.com/home/Tectus%20Products/products%20industrial/multipen/WINDOWS%20PC%20Programm/TIDMultiPen%201.5>

APP for ANDROID™ operating systems TECTUS TID MultiPen V.xx

<https://www.dropbox.com/home/Tectus%20Products/products%20industrial/multipen/ANDROID%20/MultiPen/App>

or visit the Google Play Store™ and search for TECTUS MultiPen APP



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