

**KMTRONIC
LTD**

USB RFID 125 kHz Model USB-RFID User Guide



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I. CONNECTING AND OPERATION

1. An Overview

A low-cost solution to read RFID 125 kHz transponder tags and cards. The USB RFID Reader can be used in a wide variety of hobbyist and commercial applications, including access control, automatic identification, payment systems and others.

And these are some of the languages that can be used for programming

- C/C++/C#
- Visual Basic (VB6, VB2008, VB2010 express and other editions)
- Visual Basic for Applications (Microsoft Office VBA)
- Perl
- Python
- Java
- And many more...

1.1 Specification

- Rated voltage: DC 5V Powered from the USB port
- Reads 125kHz Tags, EM4100
- Baud rate: 9600/8/N/1
- Communication Port: USB Serial Port
- Dimension : 92mm x 58mm x 22mm
- Read distance : 2 ~ 7cm depends on the tag

1.2 Package Contents

The following is included in the USB RFID 125 kHz package

- One USB RFID Reader
- One RFID Key Fob Tag
- Two EM4200 ISO RFID cards

2.3 Operation Requirements

This product is compatible with the following operating systems

- Windows XP and later
- Linux
- Mac
- And any other operating system that supports USB CDC devices.

2. How to use RFID USB Reader?

2.1 Connection Details

USB Interface

The on board full speed USB controller that helps a PC/Linux/Mac computer to communicate and control this module seamlessly. You will need to use a USB A to B cable for connection to the PC

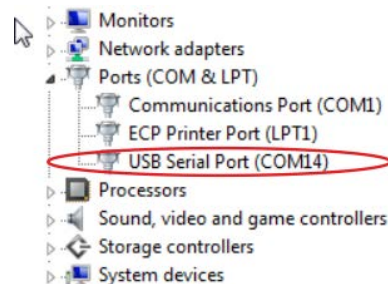


2.2 Driver installation

You can download the driver from official site of FTDI <http://www.ftdichip.com/Drivers/VCP.htm>

Windows:

This product requires a driver to be installed for proper functioning when used with windows. The driver package can be downloaded from the product page. To install the driver, unzip the contents of the downloaded driver package to a folder. Attach USB cable to the PC and when asked by Windows device installation wizard, point to the folder where driver files are present. When driver installation is complete, the module should appear in Windows Device Manager as a serial port (see the picture on the right). Note down the name of the serial port (COM1, COM2 etc..). This information is required to control the module from the PC.



Linux:

To use this product with Linux, USB CDC driver needs to be compiled in with the kernel. Fortunately, most Linux distributions (Ubuntu, Redhat, Debian etc..) has this driver pre-installed. The chances of you requiring rebuilding the kernel to include the USB CDC driver are very slim. When connected to a Linux machine, this product should appear as a serial port in the /dev directory. Usually the name of the device will be "ttyUSBx" or similar. The name may be different depending on the Linux distribution you have.

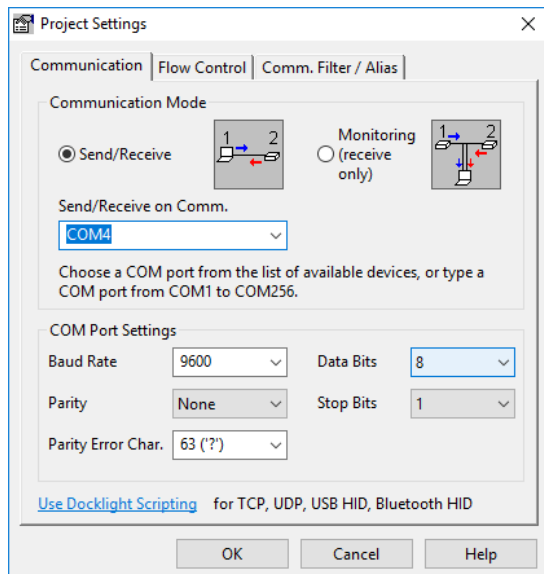
Mac:

Similar to Linux, Mac operating system comes with the required drivers pre-installed. When connected to a Mac computer, the device should appear as a serial port.

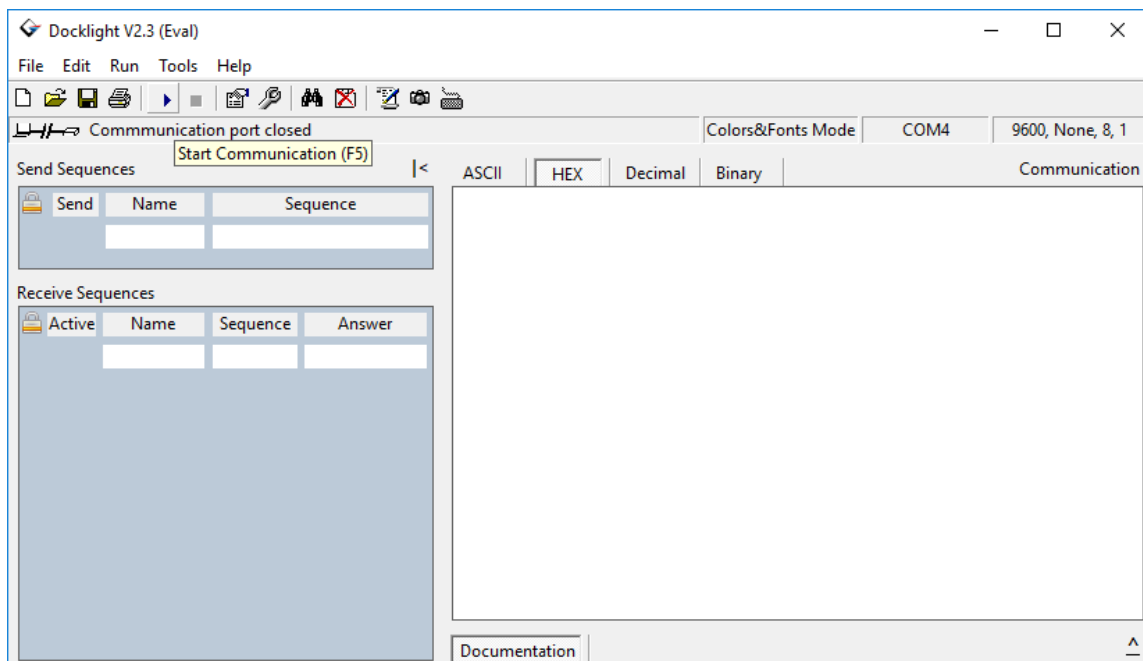
2.3 Read the RFID tag with Docklight software

You can download the evolution version of Docklight from here: [Docklight v2.0](#)

First you need to select the corresponding serial port in our case COM4.

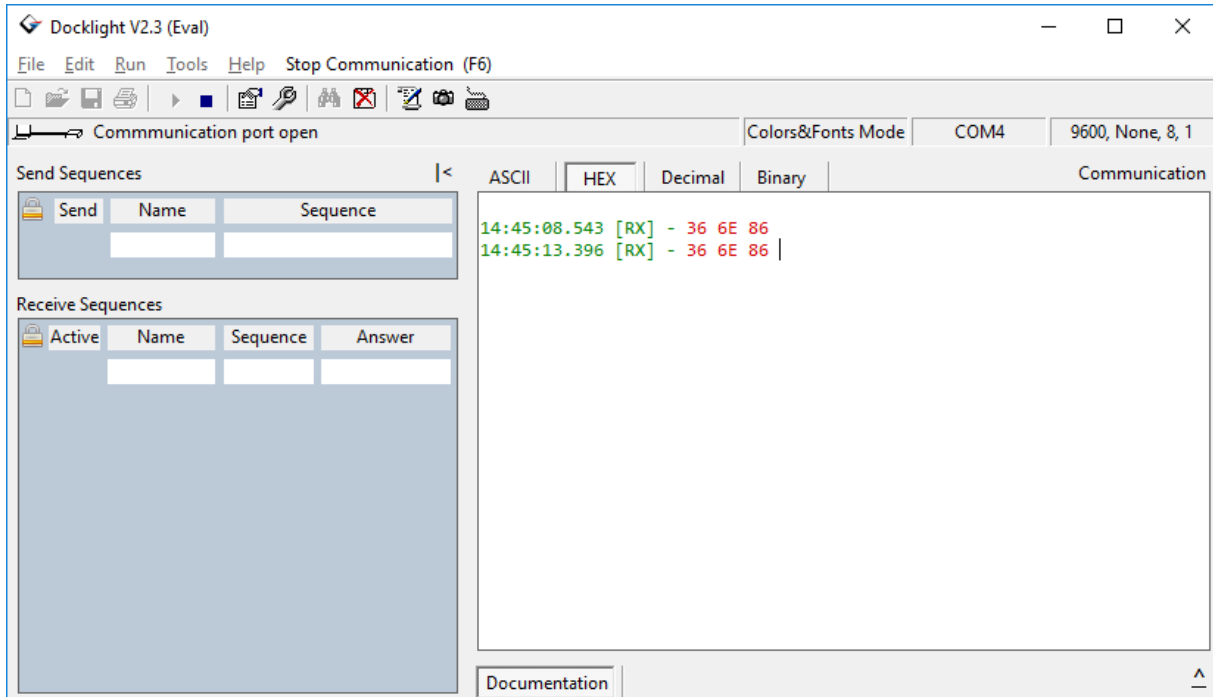


Then click on start communication button or just press F5



Place the RFID tag near to the device and you should see the RFID unique number for this tag from the Communication window in HEX format.

If you want to read the RFID tag number again you need to remove it and bring it closer to the reader again.



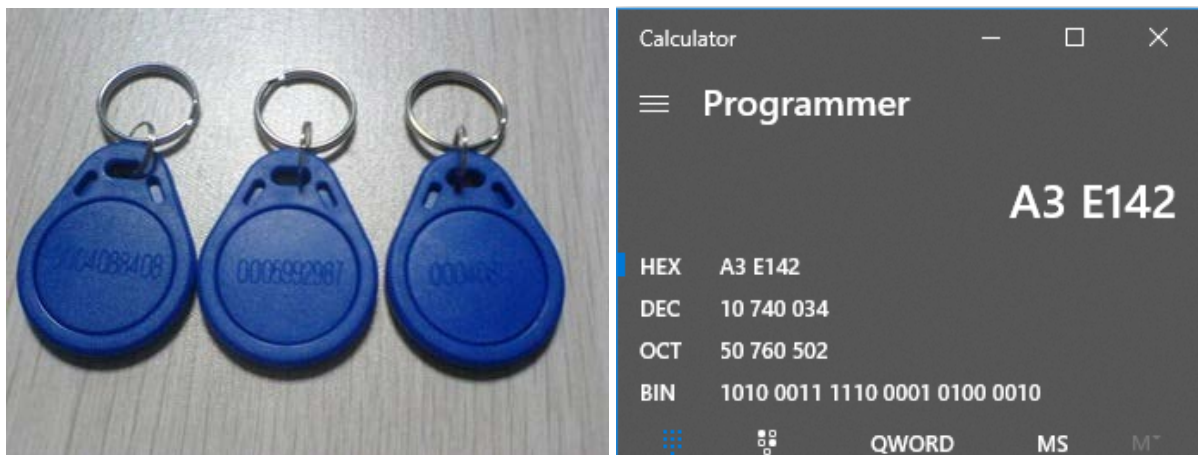
Here is the output of our board:

3 bytes tag number in HEX format

Example output number: A3E142

Converted in DEC format is 0010740034

This is the number marked on some RFID round tags

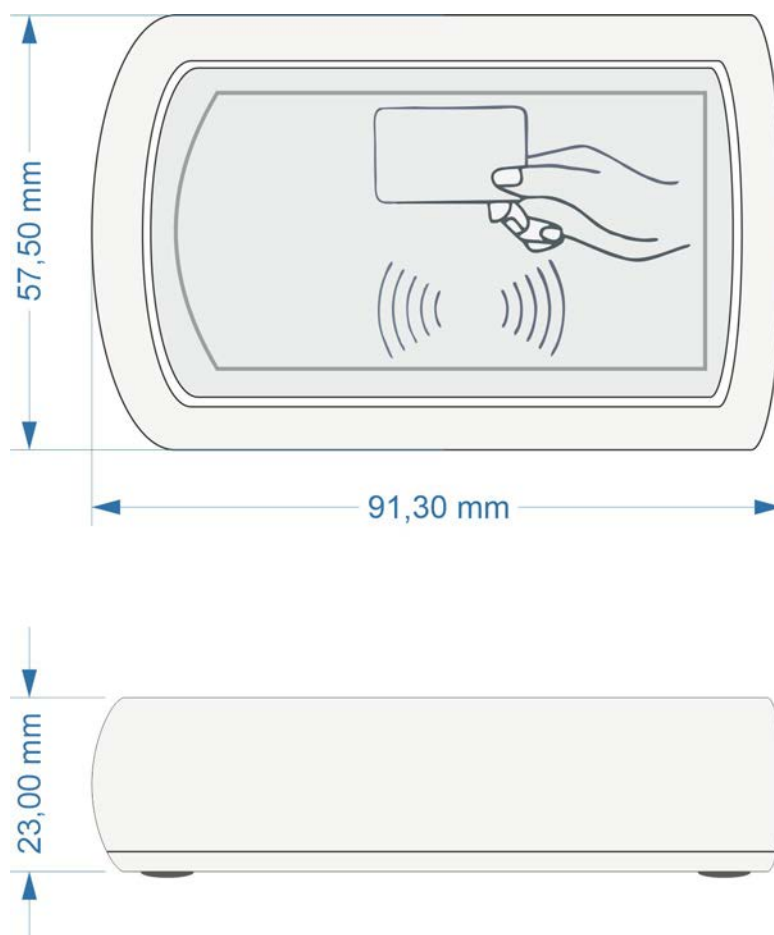


3. Technical specifications

Parameter *	Value	Unit
Basic Specification		
Digital circuit power supply voltage (USB or external)	5	V
Standby current	39	mA
Maximum current drawn by digital circuitry	45	mA
Reading distance	0~7	cm
Operating temp range	-20 to +185 °F (-20 to +85 °C)	°F/°C
Communication	USB Serial Port	9600 baud (8N1)

* All parameters considered nominal. KMTronic LTD reserves the right to modify products without notice.

4. Physical Dimensions



<http://www.kmtronic.com/>

Manufacture by:
KMTronic LTD
Bulgaria