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microSensys

Quick Start Guide *iID*[®] PEN bt PRO RFID read write interface

13.56 MHz closed coupling RFID & Bluetooth™

Introduction

This document describes in short form the basic handlings of **iID[®] PEN bt PRO v4.0** (called PEN in this document). Please read this document carefully to avoid any problems or mistakes.

With this new **iID[®] PEN bt PRO** microsensys starts the second generation of PEN type RFID reader with Bluetooth[™] interface. The improvements compared to the previous iID PEN bt are:

- newest Bluetooth[™] module with a faster connecting and higher communication reliability at low power,
- the rechargeable high power lithium ion battery and
- server and client Bluetooth[™] communication mode.

Preferably this new PEN should be used for direct online communications (DOC), why it didn't has no integrated data memory and real time clock.

The Bluetooth[™] communication supports Serial Port Profile (SPP) and emulates a serial link between PEN and HOST devices. For a detailed description see Bluetooth[™] standard documents.

Handling

Before you can use the PEN, you have to ensure that the rechargeable battery cap is loaded and completely twisted on the case of the PEN.



Normal operation (server mode)

In the delivery state the PEN is configured in server mode for incoming connecting from every other Bluetooth™ device supporting SPP like a PC or PDA. This means that the PEN starts its Bluetooth™ component and waits for another Bluetooth™ device, which should be connect.

Please press the button shortly to switch on the PEN. After that the internal controller and Bluetooth module are powered on. This state is showing by the LEDs which light shortly one after another from red over green to blue. After this start procedure the PEN is waiting for HOST connection and the green LED is blinking approximately 2 minutes up to the automatically switch off. In these cases no connection to the HOST couldn't be established. If the PEN is unknown for the host computer (no previous link between the devices), the pairing procedure is necessary. Therefore please see your host documentation.

If a connection is established, the blue LED is blinking and the green LED is flashing. The PEN is ready for communication. In this connected state the PEN never switches off itself. You can switch off by pressing and holding the button for approximately 3 seconds until the red LED is short lighting .

If the Bluetooth connection loss during normal operation, the PEN waits for approximately 2 minutes for a new incoming connection from HOST side, after that time the PEN switch off automatically.

Reset communication mode

By an initialization software (explained in next section of this document), the PEN can be configured in two different communication modes. One mode – so called server mode - is described the in the previous subsection.

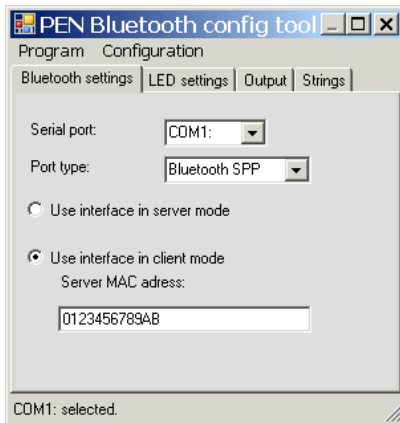
The second configurable mode is the so called client mode. Here the HOST is the participant, which waits for incoming connection from the PEN. A detailed description is founded in the configuration tool section. Please note, that most host systems allow configuration of incoming and outgoing serial lines on two different COM ports, which has to be selected in the according mode.

Because the PEN cannot establish a connection if the reconfiguration fails, for example as an effect of a syntax error in a configuration string, there is a possibility to set the PEN in the delivery state by the user. To do this, power off the PEN at first. Then switch on the PEN by press and hold the button. The PEN power up, the LEDs are light one after another and then the blue LED is on. Now release the button, the blue LED switch off and the green LED switch on for 2 seconds. During this 2 seconds press and release the button for starting the reconfiguration to the delivery state. The reconfiguration operation is showed by lighting the blue LED again, as long as the operation needs. If the procedure succeeded the PEN waits for an incoming connection from host side (server mode, explained at the beginning of this section).

If the button was down too long during switch on or reset to delivery state, the PEN is shutting down (red LED is lighting until the button is released). This saves the PEN against wrong behavior and too much power consumption if the button is pressed for a long time, what can occur if the PEN is between a lot of things in a brief case for example.

Configuration Software

Now we take a little look on the configuration tool (PEN bluetooth™ config tool). This tool helps to configure different things on the PEN.

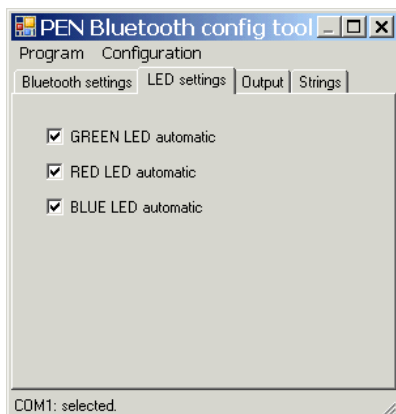


If the tool starts, the first screen shows the configuration tab for the Bluetooth™ connection. Here you have to configure which serial port on the computer/ PDA (following called host) is used by the Bluetooth™ device on this machine to connect to the PEN. For details check the documentation of your host Bluetooth™ device. If this is done, please select which mode the PEN for connection with the host should use.

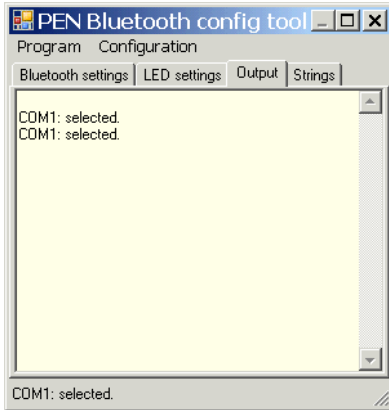
For a better understanding here a little explanation of the differences between the modes. If the PEN is configured in “server mode” this means, the PEN waits for incoming Bluetooth™ SPP connection - the host can connect as “client” to the PEN. The advantage is, that every Bluetooth™ device, which provides the Bluetooth™ SPP profile, can connect to the PEN. In this case the host Bluetooth™ device needs a PIN code for pairing with the PEN. This is preconfigured as “0000”.

If the PEN is configured in “client mode”, the host computer has to provide an incoming serial port on the Bluetooth™ device (using Bluetooth™ SPP profile) first (the PEN is the initiator for the connection in this case). Using the config tool you can enter the MAC address of your host Bluetooth™ device for the configuration in “client mode” and so the PEN connects automatically to this machine after power on.

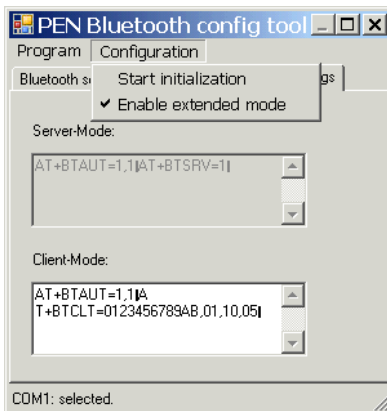
To transmit the chosen configuration select the Configuration menu and click on Start initialization.



In the second tab, named LED settings you can configure, if the PEN keeps the control of the LEDs. If the LEDs are deselected in this tab, the LEDs could be controlled by a feature of the reader software (for details look for this documentation).



The third tab Output shows a summary of the messages of the tool from the status bar on the bottom of the window.



The last tab Strings show in two frames the generated configurations strings for the Bluetooth™ module of the PEN. The bottom frame can be used to enter a custom configuration string, if the extended configuration mode is enabled showed in the left figure. *Note that there is attention needed! This option should be enabled only with knowledge of the specific configuration strings of the PEN Bluetooth™ component.* Using wrong configuration strings will cause a wrong behavior of the PEN.

Ordering Information

product	product code	remarks
iID PEN bt PRO iID2000	78.72.621	
iID PEN bt PRO iID3000	78.72.631	available from Feb 2007
replacement battery cap	78.72.901	rechargeable
easy charger	78.72.911	
charge station	78.72.921	available from Feb 2007

Any question? Please contact:

microsensy GmbH, Am Seegraben 4, D-99099 Erfurt, Germany

e-mail: info@microsensys.de, tel: +49 361 59874 0, fax: +49 361 59874 17