User's guide

for

Infinity® USB **SMART**

Description

The Infinity USB Smart is a HID USB smartcard interface, creating a virtual com port on the PC through the Infinity USB Smart software.

There are three distinct features of the Infinity USB Smart.

The first feature is that it does not require any drivers to install on Windows. Once the device is plugged into the USB port Windows will automatically install the required drivers.

The second distinct feature of the Infinity USB Smart is that it has the capability of installing a new firmware-module in the device and then change the switch located on the bottom of the programmer to activate it. Once the switch is switched to "module"-mode the device will re-enumerate as a completely new USB device which can support any smartcard / USB feature that the original Infinity USB Smart module does not. For instance, if it is preferred to run a virtual com port without any software running on the host (for instance on a Linux host) then a module can be installed in the device, which will present itself as a real USB-virtual com port. Using the module feature will usually require drivers that matches the new features.

The third and last feature of the Infinity USB Smart is the round/dome compact design with an upright position of the smartcard inserted. This upright position of the smartcard presents the card visually towards the user. The LED located just in front of the smartcard, gives the user a visual status and also illuminates the card slightly.

Hardware installation

The Infinity USB Smart is a HID USB device, which will automatically install in Windows when plugged in. Windows will not require any additional drivers to install this device.

To use the Infinity USB Smart in its default mode, make sure that the bottom switch is located to the right (when the USB cable points down and you can read the text on the bottom).

Infinity USB Smart, viewed from the bottom.
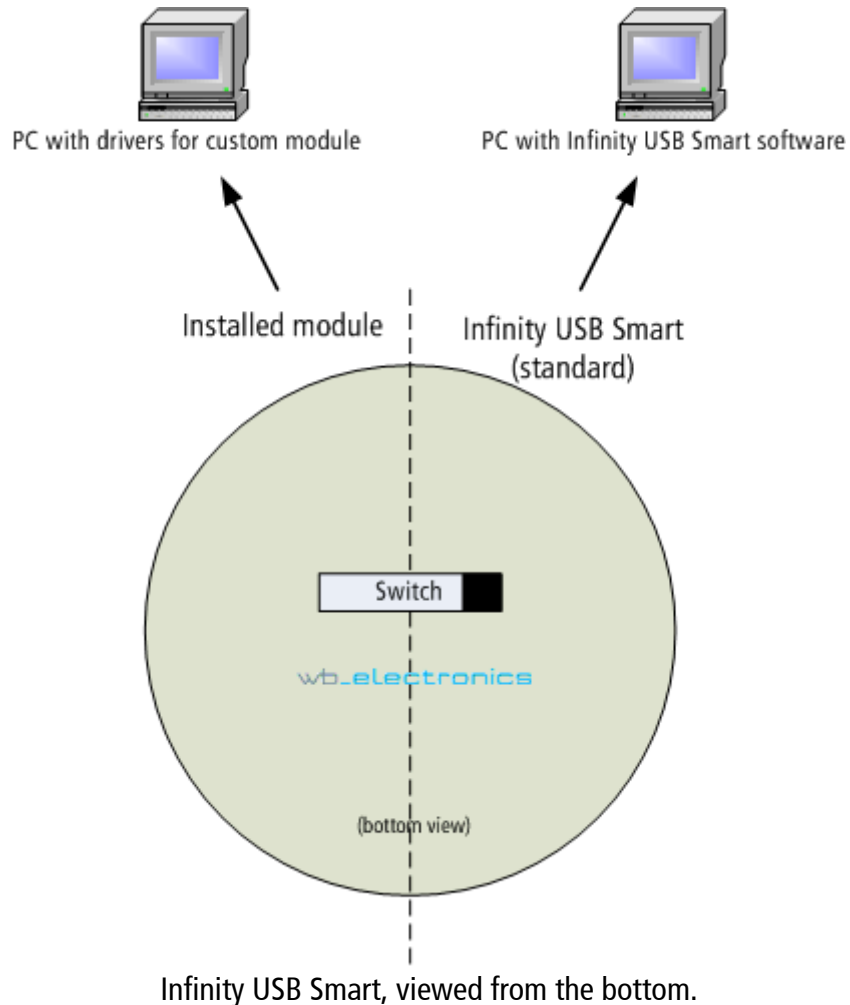
Software installation

When installing the Infinity USB Smart software, you will have the option of creating a virtual com port manually, or let windows automatically run the software to create the virtual com port.
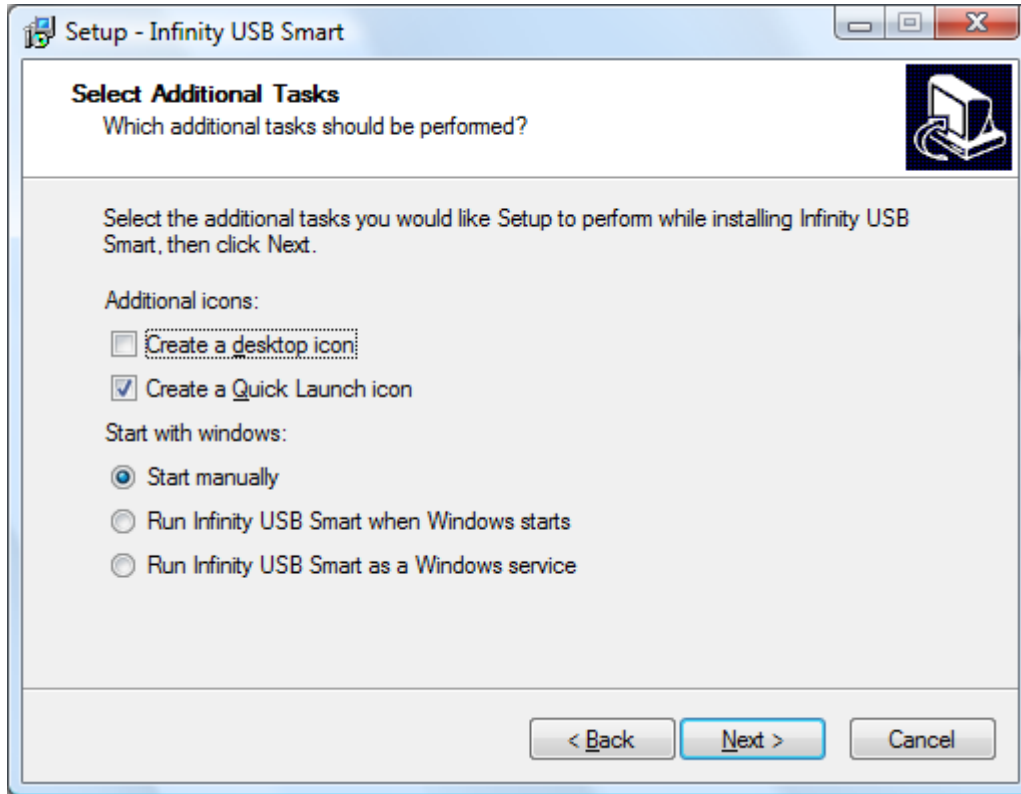
Start manually: This way you will have to start the Infinity USB Smart application manually, and enable the virtual com port with the settings you specify.

Run Infinity USB Smart when Windows starts: This way Windows will automatically start the Infinity USB Smart application, and enable the virtual com port with the settings you specified.

Run Infinity USB Smart as a Windows Service: This way Windows will automatically start the Infinity USB Smart application as a service in the background, this way you will not be able to access the graphical user interface and the virtual com port runs in the background. This is useful for a server setup.
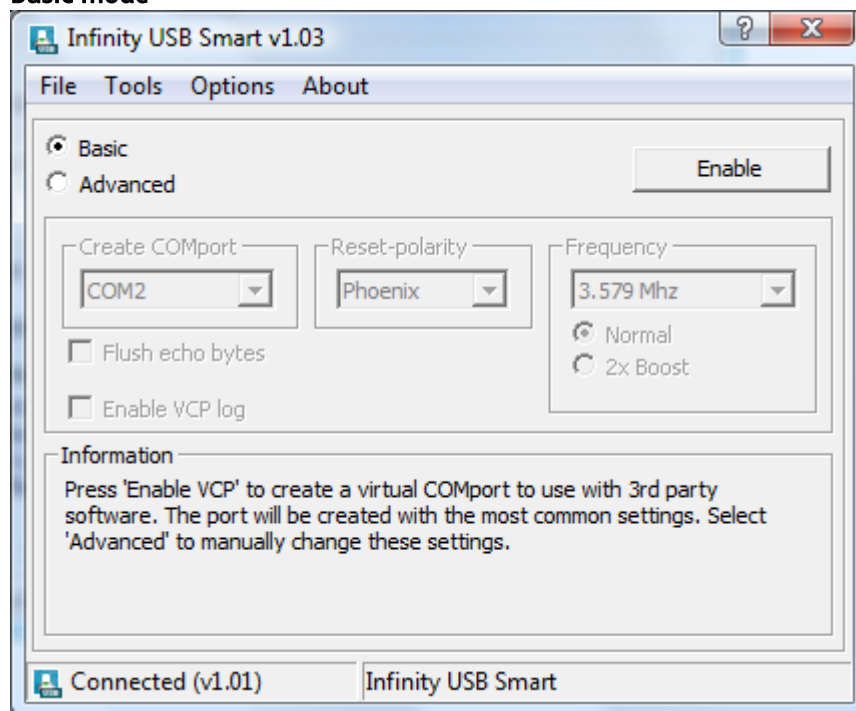
Software use

The Infinity USB Smart software has to purposes. It is used to create a virtual com port with the settings specified, and the software then minimizes to the tray from which it services data from the virtual com port to the smartcard.

The other purpose of the Infinity USB Smart software is to install a firmware module which will generate a completely new device.
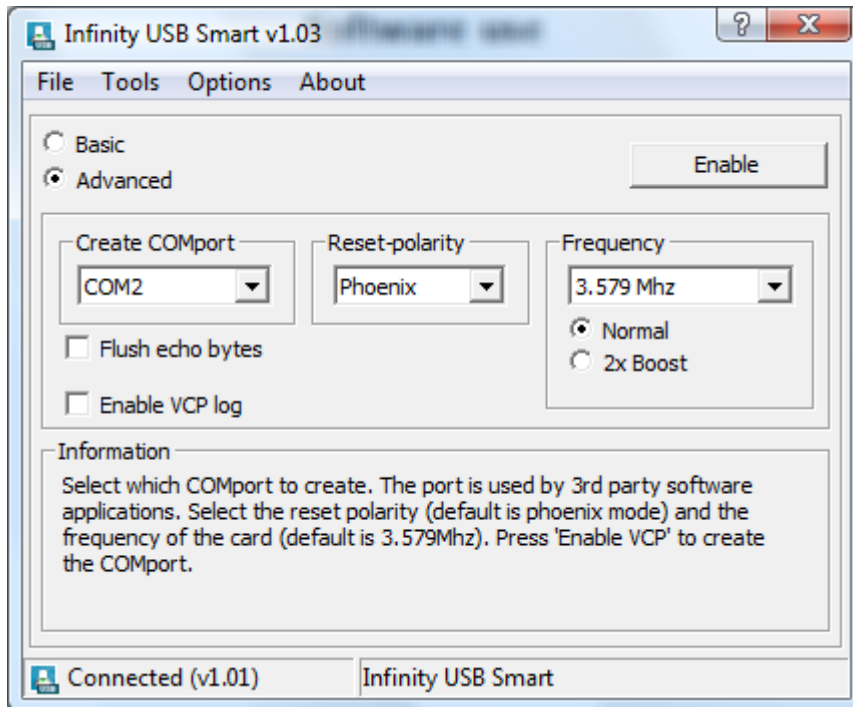
Creating a virtual com port: The simplest way to enable a virtual com port, is to select the 'Basic' mode and press 'Enable', this will create a virtual com port with default settings.
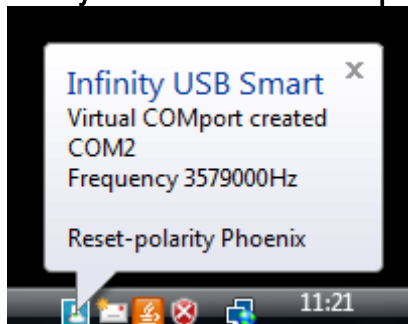
Basic mode

To control which com port is created or to change any of the default settings, select 'Advanced' mode and select the desired com port to create, and then press 'Enable'.

Advanced mode

Once the port is created the software will minimize to the tray and it will be ready for use.

Infinity USB Smart virtual com port ready for use

Installing a module: To add new custom features not available in the default Infinity USB Smart software a custom firmware module can be installed in the device, letting the device enumerate as a new USB device. Installing a module is **not** a firmware-upgrade of the Infinity USB Smart, it is a completely new device which is only activated by the physical switch.

To install a module activate the menu 'Tools->Install module' and the following screen will appear.
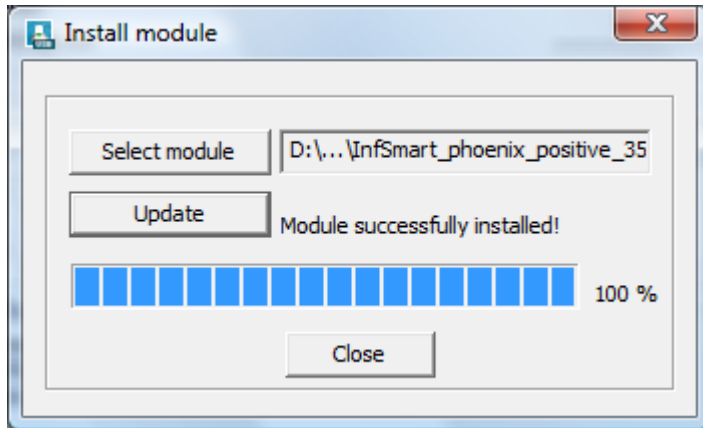
Select the correct module (.hex file) and press 'Update', the module will install in a few seconds. Once it is installed is can be activated by switching the bottom switch to the left position.

Installing a module will not change any feature of the Infinity USB Smart. The module will only be activated by switching the bottom switch from right to left, when doing this the device will no longer be an Infinity USB Smart it will only present itself as the new module. This device will present itself as whatever device is implemented in the module and will require custom drivers that are needed for any specific implemented module.

As soon as the bottom switch is switched back to the right position, the device will no longer work as a module, and will once again work as an Infinity USB Smart. The device is either running as a pure Infinity USB Smart (as it was from the factory) or purely as a "custom module" at any given time, the two are completely separated by the physical switch.

Using 2 or more Infinity USB Smart simultaneously: To use two or more Infinity USB Smart on the same PC, simply connect all available devices to a USB hub and open the Infinity USB Smart software, it will ask which Infinity USB Smart device to use for this session. It is required to open a new software instance and select the specific Infinity USB Smart for each device to use.

Enable one or more COM ports when Windows starts:
To launch the Infinity USB Smart software when Windows start there are several options available in the Options->General menu select the Startup tab.
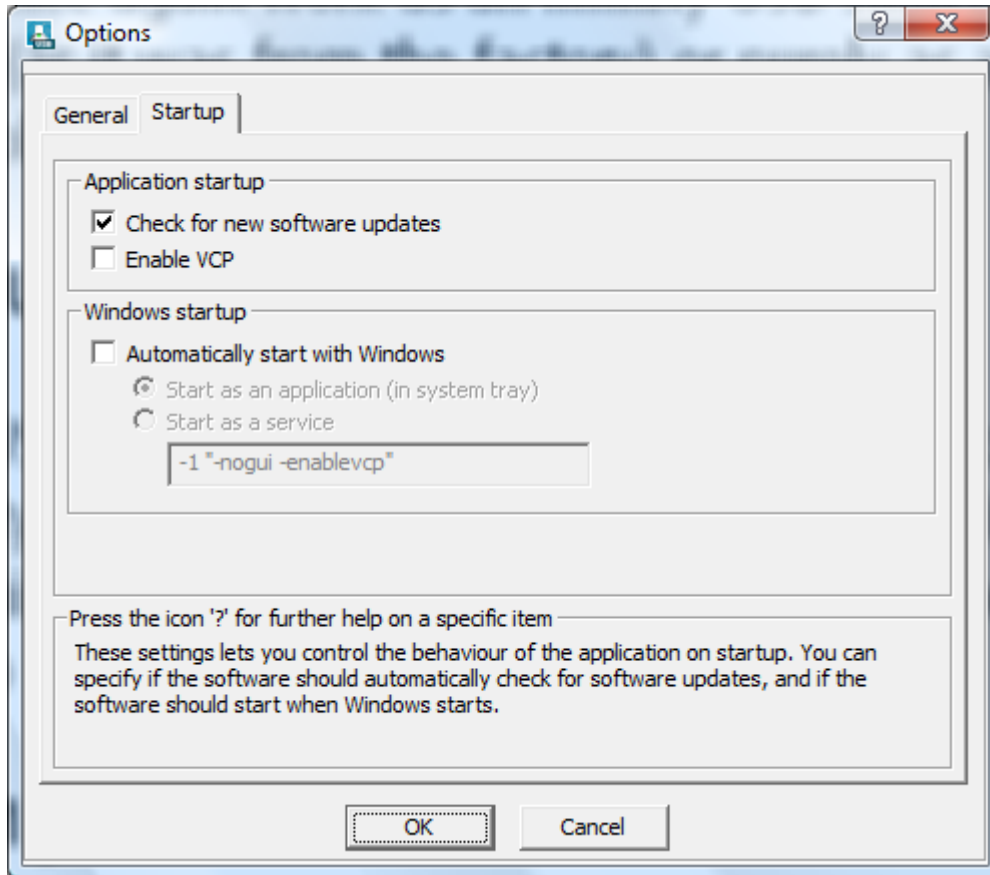
Default the software has to be started manually, the easiest way to start the software with Windows is to select "Automatically start with Windows" and then "Start as an application". This will launch the software and create the COM port when Windows starts, the software will be available as usual in the system tray.

If running one or more Infinity USB Smart on a server, select the "Start as service" option. The input field allows you to specify commandline arguments for each Infinity USB Smart to create. The syntax is

-X "<arguments for device 1>" "<arguments for device 2>" "<arguments for device X-1>"

X specifies the total number of devices to create a COM port for.
"<arguments for device>" is a set of commandline arguments to specify for each individual device. See the section "Commandline arguments" for details.

Example:
–2 "-name:Infsmart1 –nogui –enablevcp –createcom:3" "-name:Infsmart2 –nogui –enablevcp – createcom:4"

Creates Com3 which relates to the Infinity USB Smart device named "InfSmart1", and creates Com4 which relates to the Infinity USB Smart named "InfSmart".

Commandline arguments
-name:<name of device to use>
-deviceno:<number of device to use>
Identifies which Infinity USB Smart that the software should control

-enablevcp
Enables the Virtual COM port, must be used with the –createcom command

-createcom:<COM port number to create>
Select which port number to create.

-nogui
Does not display any graphical user interface, mostly for use in service mode or a server invironment

-frq:3.58
-frq:3.68
-frq:6.00
Select which frequency the card operates at, 3.58MHz, 3.68MHz or 6.00MHz

-polarity:phoenix
-polarity:smartmouse
Selects if the card resets in a positive (phoenix, default) or negative (smartmouse) mode

Examples:
Creates a virtual com port Com3 in 3.58MHz phoenix mode for the first located Infinity USB Smart
InfSmart.exe –enablevcp –createcom:3 –polarity:phoenix –frq:3.58

Creates a virtual com port Com3 in 3.58MHz phoenix mode for the first Infinity USB Smart
InfSmart.exe –deviceno:0 –enablevcp –createcom:3 –polarity:phoenix –frq:3.58

Creates a virtual com port Com3 in 6.00MHz phoenix mode for the Infinity USB Smart named "My Infinity USB Smart"
InfSmart.exe –name:"My Infinity USB Smart" –enablevcp –createcom:3 –polarity:phoenix – frq:6.00