TWN4

Upgrade Card User Guide

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1 TWN4 Upgrade Card

1.1 Introduction

This document describes how to upgrade TWN4 via the RF interface by presenting an Upgrade Card. The upgrade can be done quickly in just a few simple steps.

ELATEC TWN4 products support a huge variety of transponders and RFID technologies already in the standard version. An extended set of technologies can be added when using the option P, option I, or option PI of a TWN4 product. The list of additional technologies can be found in the data sheets of the appropriate products.

Usually P, I and PI are enabled during manufacturing of the product. Most products can be ordered as standard version with

- P option

- I option

- PI option

1.2 Concept

Many TWN4 products are upgradeable, providing the flexibility to allow new technologies to be added in the field on a case by case basis. The upgrade is performed easily by presenting an Upgrade Card to each TWN4 product, and in some cases inserting the HID SIO card for full HID iCLASS capability.

The Upgrade Card contains a given number of upgrades to a P, I or PI option. In fact, each upgrade is a license, which can be loaded to a TWN4 product. By applying the license, the respective technology is enabled and can be used with the product.

ELATEC offers Upgrade Cards for the following technologies:

- P - for HID Prox

- I - for HID iCLASS

- PI - for HID Prox and iCLASS

Each upgrade card can be ordered in following volumes and are not reloadable:

- 5 licenses

- 10 licenses

- 25 licenses

- 100 licenses

Each time the Upgrade Card is used, an internal license counter deducts one license until the number of valid licenses left is zero. The card internally records the serial number of the TWN4 product to reduce

the chance of multiple licenses being used on a reader that has already been upgraded. Licenses are perpetual and do not expire. Loss of Upgrade Cards remain at the risk of the user.

Upgrading to either the I or PI options require the installation of an SIO card, which is a secure module to be inserted into the SAM socket of the TWN4 reader. Upgrade Cards for I and PI options include the respective number of SIO cards (either 5, 10, 25 or 100 SIO cards) and are delivered as an Upgrade Card kit.

1.3 Prerequisites

There are a few items to be checked prior the upgrade of TWN4 products using Upgrade Cards:

- An Upgrade Card with at least one license remaining

- For I and PI upgrades, the same number of SIO cards

- A TWN4 product with bootloader v1.05 or newer

- PC with TWN4 DevPack 3.12b or newer (downloadable from www.elatec.com)

1.4 Limitations

The Upgrade Cards are based on HF technology and can be used with TWN4 products with an active HF interface only. The LF-only products can not be used with the Upgrade Cards.

The P option is technically not usable with HF-only products, due to the fact that this option requires LF support.

The TWN4 products with LEGIC frontend can be used with the Upgrade Card P only. Due to the license restrictions, the LEGIC products can not be used together with the I and/or PI option.

TWN4 Legic product variants allow the activation of P option only, I or PI upgrades are not applicable.

1.5 Upgrade Procedure

These are the steps in the upgrade process:

1. Connect TWN4 reader to host (e.g. PC).

2. Open AppBlaster which is included in the DevPack. For a detailed description of the AppBlaster see document *TWN4 AppBlaster Config Cards User Guide*.

3. Click the button "Program Firmware Image".

4. Select the firmware image TWN4_xKx401_STDU204_Multi_Keyboard_Standard_Accept_Upgrade_Cards.bix.

5. Click the button "Program Image" and wait till the image is loaded. The reader is now ready to accept Upgrade Cards.

6. Hold the Upgrade Card centred over TWN4 in the read range of the antenna.
   Comment: TWN4 beeps High and the diagnostic LED blinks once, when TWN4 detects an Upgrade Card.

7. Remove the card from TWN4 after TWN4 gives a second feedback:

Scenario	Beeper	Diagnostic LED
The option has been successfully installed	Beeps High, Low, High	Blinks once
The option was already installed. No option was charged from the upgrade card	Beeps High, Low, High, High	Blinks twice
Upgrade failed, retry	Beeps Low, Low, Low	Blinks three times

8. Wait for TWN4 to reboot.

9. Only relevant for Upgrade to I or PI option:
   Upgrading to either the I or PI options require the installation of an SIO card, which is a secure module to be inserted into the SAM socket of the TWN4 reader. Refer to the product manual of the respective product how to install a SIO card.

   Note: Please remove power from the TWN4 product and disconnect it from any other interfaces. Ensure a safe environment as you work with electronic devices. Work in a safe place to prevent any electrostatic discharge (ESD) issues. Only trained personnel may open the TWN4 product and insert SIO cards. SIO cards must be handled with care.

1.6 TWN4 Firmware

With the release of TWN4DevPack312c, Upgrade Card are supported in the following ways:

- Upgrade TWN4 by installation of a specific firmware image (as described in this document)

- Standard firmware image, which contains app STDU or STDX, e.g.
  TWN4_xKx401_STDU204_Multi_Keyboard_Standard_Accept_Upgrade_Cards.bix or
  TWN4_xKx401_STDX204_Multi_Keyboard_Standard_Accept_Config_Upgrade_Cards.bix

- AppBlaster, which has corresponding checkbox "Accept Upgrade Cards" (see tab sheet "Options"),
  which activates searching for Upgrade Cards.

- Call of system function `SetParameters` with parameter `SUPPORT_CONFIGCARD` and value
  `SUPPORT_UPGRADECARD_ON` followed by a call of system function `SearchTag`

- Simple protocol, command `SetParameters` followed by the command `SearchTag`

- Manifest with parameter `SUPPORT_CONFIGCARD` set to `SUPPORT_UPGRADECARD_ON` and a call of system
  function `SearchTag`

Please note, that after the application of an Upgrade Card, there might be the need to load your final firmware version into the TWN4 product.

For a detailed information about firmware programming see document *TWN4 AppBlaster Config Cards User Guide*. You may even return to an older firmware version.

1.7 Support

For further assistance please contact ELATEC's support team.

Link to support-center: https://www.elatec.com/en/support-center/

E-mail address: support-rfid@elatec.com

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For further assistance please contact ELATEC's support team

https://www.elatec.com/en/support-center/

or send us a mail support-rfid@elatec.com

You can also find a video demonstrating the upgrade process using Upgrade Cards.

2 Disclaimer

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