

# **ELATEC FAQs**

# All the things you want to know about ELATEC

# 1. How do RFID readers work?

When you use an RFID reader, it produces an alternating magnetic field at a frequency of 125 / 134.2 kHz (low frequency) or 13.56 MHz (high frequency). This field supplies energy to one or more transponders (media) located in its range. At the same time, data is exchanged between the reader and transponder through this field.

# 2. What range can I use with a RFID reader?

Low-frequency and high-frequency RFID readers can typically be used within a distance of two to ten centimeters depending on the transponder, your reader, and the surrounding conditions. There are special applications that give you ranges up to 25 centimeters. The relatively short range can be viewed as a clear affirmative action by an individual.

# 3. What is the difference between RFID and NFC?

RFID is an overarching term, and NFC is a potential usage technology. NFC builds on RFID technology and is particularly widespread in many smartphones, for instance, in payment, online banking, physical access control, IoT, SmartPoster and Connection Handover (from NFC to WiFi/Bluetooth) applications.

# 4. Which printers are compatible with ELATEC readers?

ELATEC has been working with all printer manufacturers for years. The secure printing solutions are 100% compatible with all major printer manufacturers on the hardware side. It is also important to know that most manufacturers prefer the TWN4 product family for easy upgrades and updates in the field.



#### 5. How does RFID benefit me?

When you use RFID transponders, one of the benefits is they don't need physical or visual contact to be read or written. RFID gives you a comparatively wear-free technology either in the reader or the transponder and this eliminates scanning problems. They are easily duplicated allowing you to write information to many RFID tags. RFID is also capable of withstanding environmental conditions and provides a scalable degree of security (e.g., from simple read-only tags to high-security transponders tested by EAL/common criteria).

# 6. Can I configure the ELATEC readers myself using a software tool to optimise the reader for secure printing ?

Yes, you can easily optimise the RFID readers for your secure printing application. With the TWN4 family, ELATEC have made it a priority to enable users to make all settings with one convenient tool, the AppBlaster. The software works seamlessly with all TWN4 family members, including TWN4 MultiTech Single and Dual Frequency, TWN4 FrontReader and TWN4 Slim Reader.

# 7. Why do you need a multi-frequency RFID reader?

Currently, there are 60+ commonly used transponder technologies, including both LF (125 or 134.2 kHz) and HF (13.56 MHz) technologies. In addition, there are newer smartphone applications using Bluetooth® Low Energy (BLE) and Near-Field Communication (NFC). A multi-frequency reader that can support both HF and LF technologies provides more flexibility to meet future needs.



### 8. What scanning distance or range can I use with ELATEC readers?

The maximum scanning distance for your ELATEC reader depends on several factors, such as:

- the size of the tag antenna
- the RFID standard of the tag chip
- the positioning of the tag in the reader's field
- ambient factors such as metal or other material near the tag and/or reader

With optimal conditions, you can use ELATEC readers with RFID technology in distances up to ten centimeters.

#### 9. How are RFID readers updated in the field?

When selecting an RFID reader, it is important to consider how convenient it will be to update or reconfigure the reader once installed. RFID readers may need to be updated after installation to add new transponder technologies, functionality or security features. The ability to quickly and easily reconfigure installed devices saves time and money and adds convenience for both integrators and their end customers.

ELATEC readers support easy, convenient post-installation reconfiguration via a contactless CONFIG card or remote updates over a network. No unplugging the reader or connecting to a laptop - simply tap the config card to update.

# 10. What kind of security is needed for configuration or firmware updates for an RFID reader?

An RFID card reader will occasionally need a firmware update or new configuration. This is typically done to address emerging security requirements, to expand the number of technologies the reader is able to read, or to introduce new functionality. Depending on the type of data that is stored in the firmware, it may be desirable to encrypt the new configuration data or firmware update for higher security. Encrypted firmware or configuration files can be safely shared with end customers to perform updates to existing readers or with the card reader manufacturer to load new readers with the



update. Using encrypted files secures the sharing process and the update process to eliminate security risks that arise with a firmware update.

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It is essential to choose a card reader that supports the security features appropriate to the requirement of the customer. ELATEC TWN4 RFID readers support the exchange of encrypted files for secure configuration and firmware updates.

#### 11. Why do you need a multi-frequency RFID reader?

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### 12. Can an RFID reader support multiple transponder technologies?

Most RFID readers are only able to support a small number of transponder technologies. Many RFID readers provided by transponder manufacturers are designed to only support their proprietary technologies. Other readers may only support a single frequency (LF or HF), or be limited in the number of transponder technologies that they can be configured to support at once, or lack the ability to add new transponder or smartphone-based technologies.

# 13. Which configuration tool can I use to configure TWN4 readers?

You can configure TWN4 readers with the Appblaster Tool. It is available in the TWN4 developer package. You can use the tool to configure the reader in six ways:

- Programming of firmware image
- Loading of pre-compiled firmware images
- Configurable project
- Producing an image from an interactive configuration
- Source code project
- Producing an image from a written C code



#### 14. What do I use the AppBlaster.exe and Director.exe files for?

You can use AppBlaster to change the configuration of TWN4 readers. Use Director to test the reader's API.

#### 15. Can I export TWN4 firmware or apps from the reader?

You can export neither firmware nor apps from the TWN4 reader. It is therefore possible to store confidential keys and other cryptographic functions as part of an app. You can also be certain that devices can't be cloned and that intellectual property is protected.

#### 16. TWN4-P or PI option - what should I choose?

#### **POPTION**

With this option, you can expand the range of supported NF transponders (125 kHz) to include the following functions: Cotag, G-Prox6, HID DuoProx II, HID ISO Prox II, HID MicroProx, HID ProxKey III, HID Prox, HID Prox II, Indala, ioProx and Nexwatch. Please note: With TWN4 P option-capable reader, you can only read the UID of the HID iClass cards, not the printed number.

#### **PI OPTION**

Choosing the PI option gives you support for HID iClass cards. The option allows the TWN4 reader to access a blocked section of your storage. If you want to read the number printed on the HID iClass card, the TWN4 reader with PI option is necessary. The printed number is part of the PAC number (Physical Access Control) embedded in the HID iClass card storage. An extra chip, the SE processor, is essential for this functionality. This chip lets you read the PAC when it is inserted in the SAM slots. If you use HID iClass SEOS cards, you can only select readers with the PI option, since the UID of the card technology outlined above is randomly assigned.