



TagStar Pro

Operator Manual

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History

Date	Version	Author	Description
24/03/2016	1.0	Mark Read, Rupert Meese	Initial version
11/09/2017	2.0	Mark Read	Updated to match the new user interface deployed in version 2.5.
03/07/2018	2.1	Matt Haines	Header, fonts and title page updated with new branding.

Related Documents

Reference	Document & Version	Author
[1]		

Glossary

AVI	Automatic Vehicle Identification
RFID	Radio Frequency Identification

1 Introduction

This guide covers the basic operations and configuration of the Coriel® Tagstar Pro hand held RFID reader.

TagStar Pro is designed to be easy and intuitive to use and reduce common tag programming problems such as multiple tags in the field.

UHF RFID tags can have a read range variable between a few centimetres and several meters, depending upon configured power levels, and the type and antenna size of the target RFID tags.

Programming of RFID tags involves the writing of data to the tag. The write operation range varies between a few centimetres up to approximately one metre. This will depend upon configured power levels and the type of tag being programmed. The write program is designed to only operate with a single RFID tag so as to protect against unintentional writing of stray tags within range.

The application is provided preconfigured with data of the ID's of tags expected to be encountered or those that need to be programmed. For example, it can be configured to program tags for a number of Rail Fleet according to EU standards. This data can be updated as it changes, contact Coriel support for details.

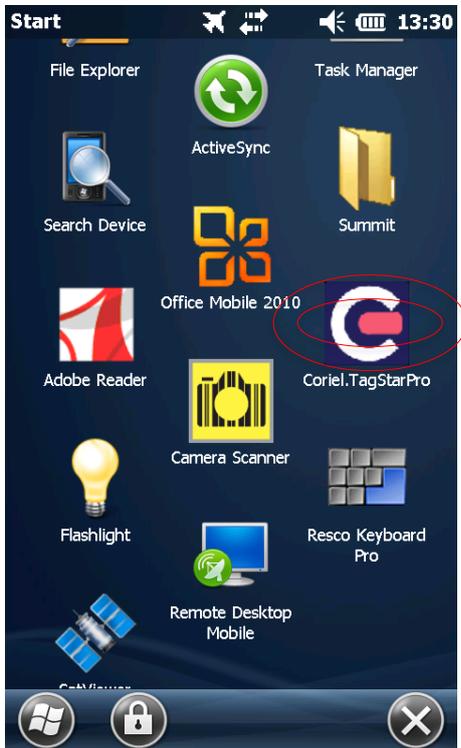
TagStar Pro is delivered as a software application running a Trimble Windows Mobile device. In normal operation the software should be running.

All tags written by TagStar Pro are locked with an RFID password specific to each individual TagStar Pro. This means that tags can be corrected in case of error at commissioning time (wrong side selected for example), but that the tags are protected from accidental or malicious overwrite in all other situations.

The handheld has a touch sensitive screen through which all operations are carried out. For additional information regarding the Trimble device, please refer to the user manual.

2 Getting Started

The application can be started by selecting the launch icon in the windows start menu.

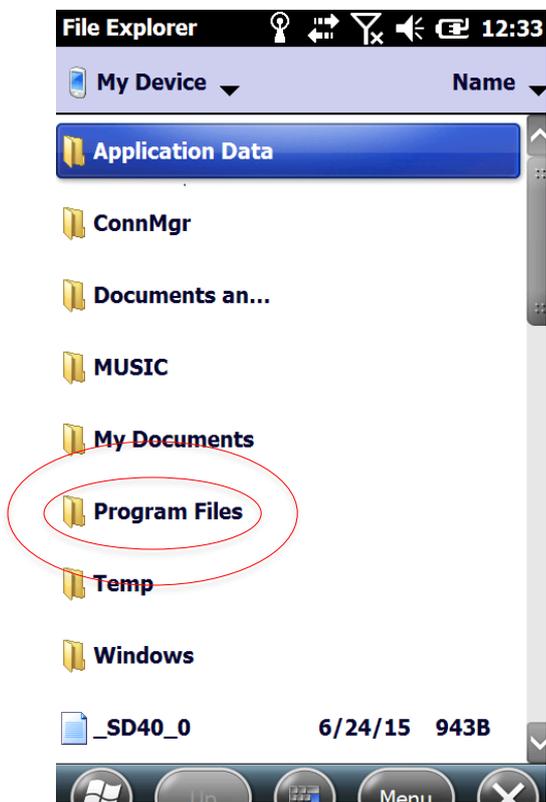


2.1 Launching using File Explorer

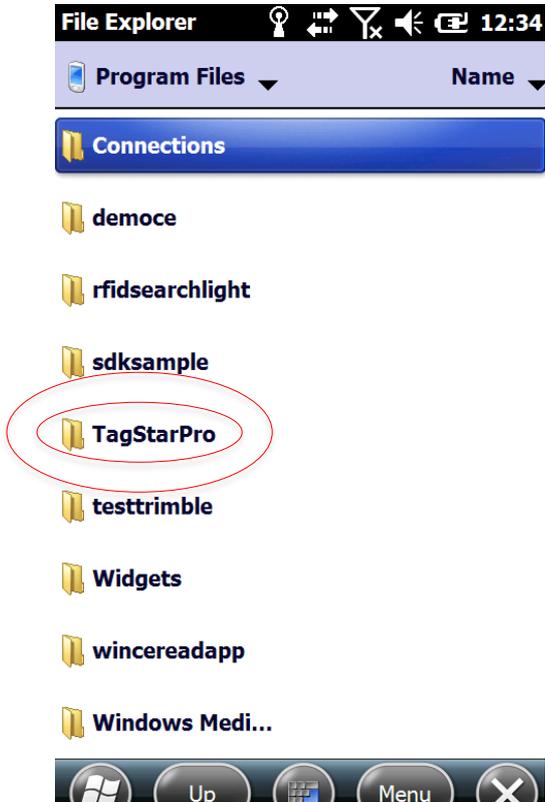
Alternatively, you can navigate and launch the application using the “File Explorer”.



Navigate to My Device (using the drop down at the top left corner) and select “Program Files”:



From within the Program Files select TagStar Pro directory:



Now select the application “Coriel.TagStarPro” to launch the application:



The application will now be running and you will be presented by the home screen as shown below:



There are four actions available from the home screen:

- Settings
- About
- Read Tag
- Write Tag

3 Settings

The settings screen is selected from the home screen through the 'Settings' button on the home screen lower menu bar.

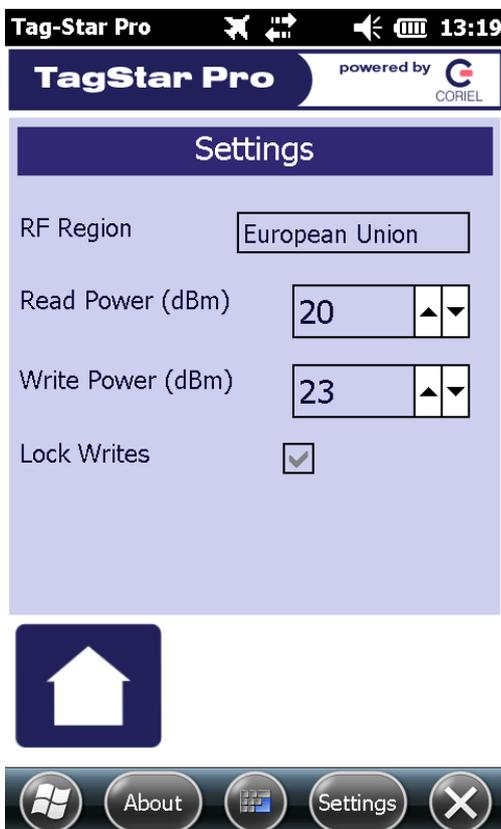
The settings screen controls the read and write power levels. Typically a write power level that is 3db higher than the read power level will lead to a write range that is close to the read range. When the read and write power levels are set identically a tag can often be read at twice the distance that it can be successfully written at.

Settings can be changed by selecting the up or down arrow boxes.

To save the desired settings, simply return to the Home screen using the 'Home' button at the bottom of the screen.

The default setting for Read power is 20dBm, and for the Write power is 23dBm. Under normal circumstances should allow you to select a Tag from a range of around 50cm. It is important when setting the power to consider the environment. For example, if many RFID Tags are closely located together you may want to reduce the power so you can be confident you are selecting the correct RFID Tag.

RFID power levels are controlled by international regulations and TagStar Pro is designed such that the maximum settable power levels do not exceed statutory regulations.



4 About

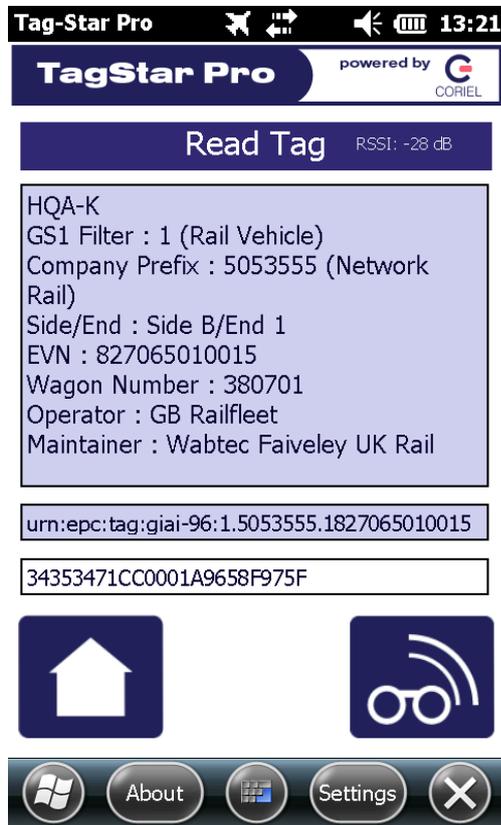
The 'about' screen is selected from the home screen through the 'about' button on the home screen lower menu bar.

It provides system information including the software version, the device serial number and available system resources.



5 Reading Tags

The tag reading screen is reached through the 'Read Tag' button in the centre of the home screen.



The light blue areas are initially blank. A tag ID is read by pressing the dark blue 'Read' button on the lower right of the screen. On this button the arrow indicates the data flow from tag to device.

On initiating a read the reader interrogates all tags within range. If no tags are found TagStar Pro emits an audio double beep and a message to indicate no tags were read. If multiple tags are in the field of view, a double beep is also emitted to alert you to the problem.

If a single tag is located, TagStar Pro emits a single beep and the RFID tag identity (displayed in the white box) is compared against the internal database. If there is a match then all of the known information is displayed in the upper blue box.

Further tag reads can be initiated by pressing the 'Read' button again.

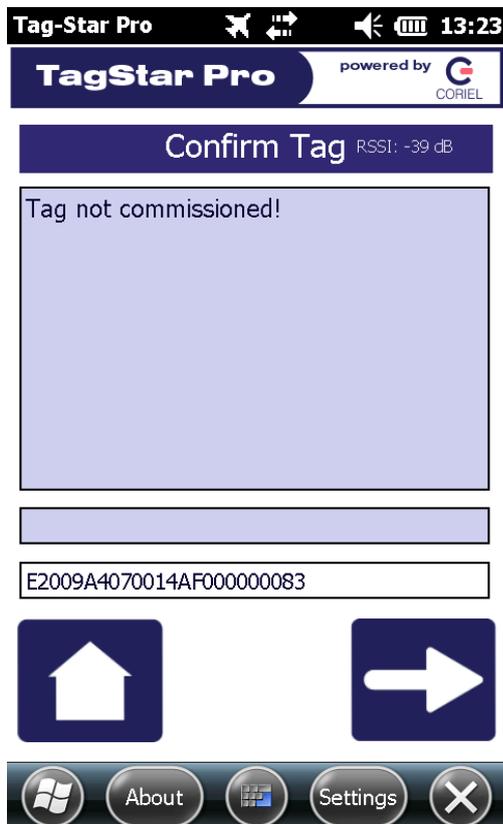
6 Writing Tags

The tag write screen is reached by pressing the 'Write Tag' button from the home screen.

As with the read screen the white and light blue sections of the screen are initially blank.

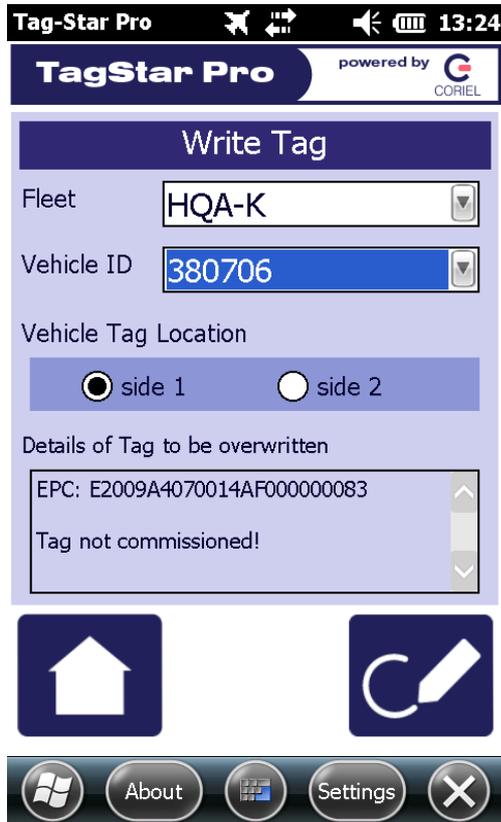
The tag write process is started by bringing the tag to be written within range of the handheld selecting this tag. Tag selection is done by initially pressing the 'Read' button on the lower right of the write screen. Writing to a tag requires that a single tag is in the field of view. If multiple tags are within read range then TagStar Pro emits a double audio beep to indicate that the write operation cannot continue. In this case locate and remove additional tags from range of the reader and repeat. Alternatively you can reduce the power as explained in the section 3.

Once a single tag has been found its information will be displayed in the light blue areas of the screen. You can use this information to confirm that the correct tag has been selected. If the tag is not recognised when compared with the internal data, and "Tag not commissioned!" message will appear. Even though a tag is not commissioned, present factory information will be shown in the white box. See example in image below.



Once you have identified the tag to be programmed, press the dark blue 'Write' button on the lower right to continue.

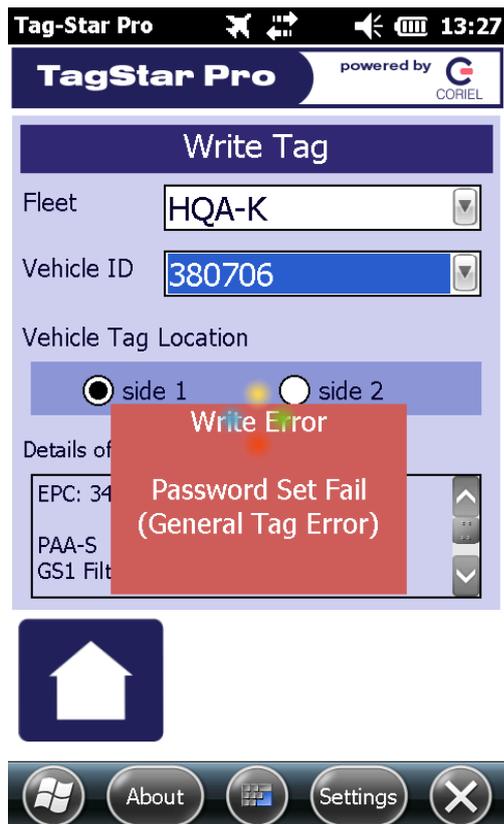
This will display the 'write data' screen where information is entered to program the tag. See the following screen.



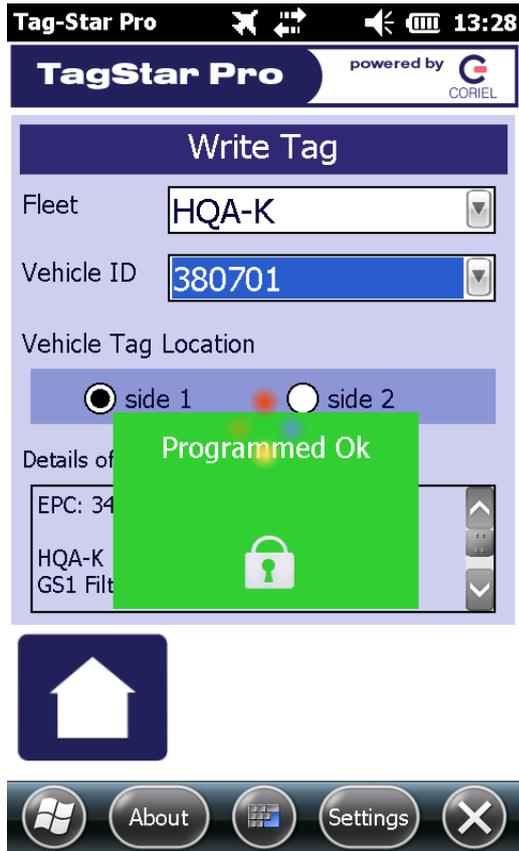
To write to the tag, initially you enter the vehicle data. First select the fleet from the drop down list (this may be preconfigured for your own fleet). The required vehicle ID belonging to that fleet can then be selected from the Vehicle ID drop down menu. Finally the correct vehicle side (1 or 2) should be selected. These fields complete the data preparation and you are ready to program tag.

Once all required fields have been selected pressing the dark blue 'Write' button on the bottom right of the screen will write the data to the selected tag. Please ensure that the same tag is within range of the device.

If the write is unsuccessful, for example because the tag has been removed, or is locked by an unknown password, then an error message is displayed and TagStar Pro remains on the write screen. A double beep indicates this condition.



If the write is successful then single audio beep is emitted and a 'success' message is briefly displayed. The lock icon indicates that the tag is now locked. All tags written by TagStar Pro are locked with an RFID password specific to each handheld.



After successful writing, the tag is automatically read and information displayed such that the write can be visually verified.

For further information or support for the device or software, please contact us.

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