USER MANUALS

Tuner4TRONIC Command (T4T-CMD 4) - User Manual

Install and use T4T-CMD 4 to program and read LED drivers, select programming interfaces, print labels, and interpret return codes.

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Tuner4TRONIC Command (T4T-CMD 4) - User Manual



This manual covers T4T-CMD 4.x and is based on the May 2024 user manual.

Please note

All information in this guide has been prepared with great care. Inventronics, however, does not accept liability for possible errors, changes and/or omissions. Please check the Inventronics Tuner4TRONIC page or contact your sales partner for an updated copy of this guide.

This technical application guide is for information purposes only and aims to support you in tackling the challenges and taking full advantage of all opportunities the technology has to offer. It is based on Inventronics' own measurements, tests, specific parameters and assumptions. Individual applications may not be covered and may need different handling. Responsibility and testing obligations remain with the luminaire manufacturer/OEM/application planner.

1 Introduction

The Tuner4TRONIC Command Line Application (T4T-CMD) programs luminaire Production Files (`.osrtup`) into Inventronics electronic control gear (ECGs). Production Files can be generated with the cloud-based Tuner4TRONIC Configurator or locally with the former Tuner4TRONIC Development (T4T-D).

T4T-CMD runs in the Windows command line or Windows PowerShell. The source manual lists Windows 7 and Windows 10 as supported operating systems. T4T-CMD is based on T4T-DLL (`ProgrammingAPI.dll`).

Supported programming interfaces:

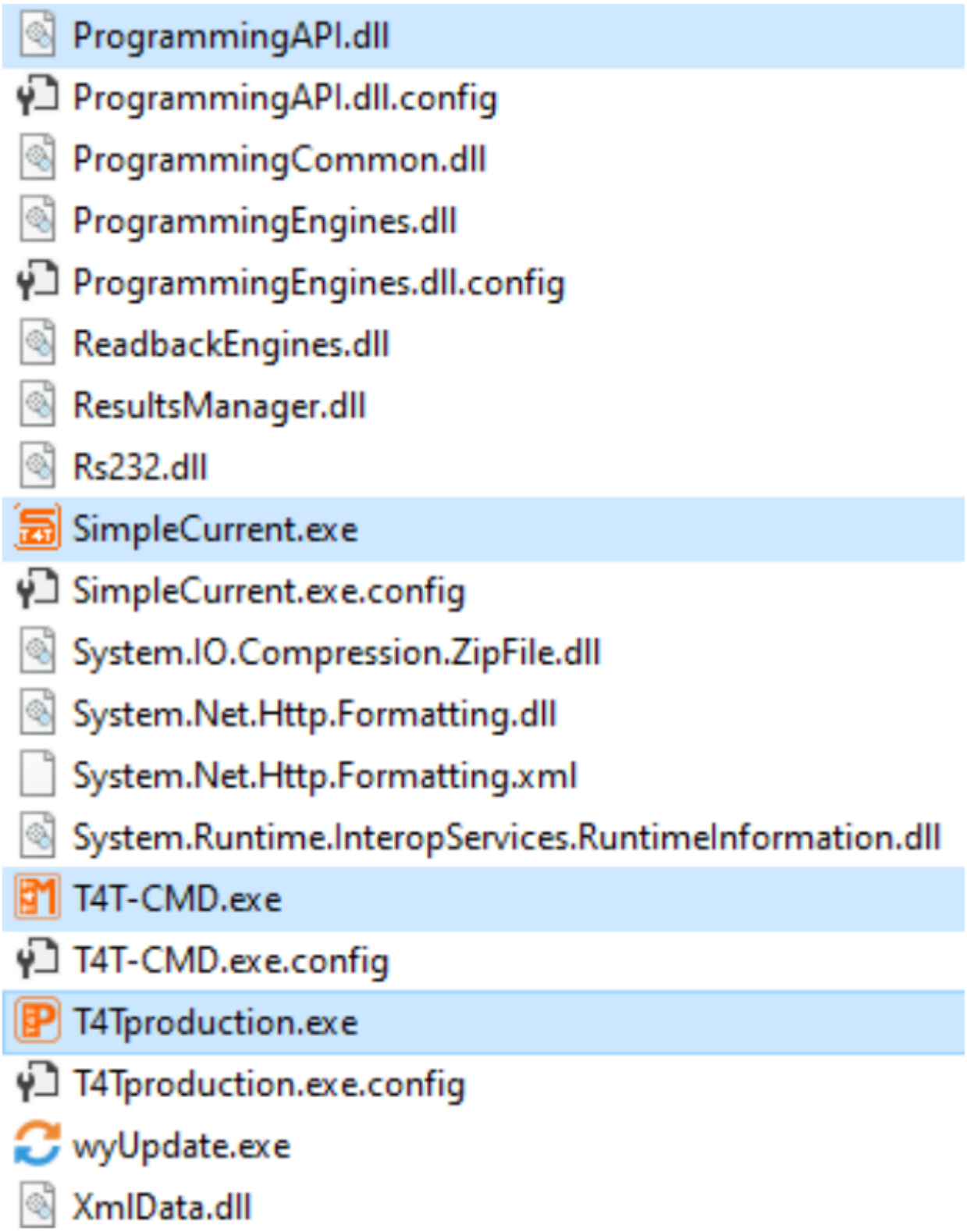
- DALI Magic.
- FEIG NFC reader ISC.PRH101.
- FEIG NFC reader CPR30.
- FEIG NFC reader ISC.MR102.
- FEIG NFC reader ISC.LR1002.
- FEIG ECCO Smart HF.BLE.
- OT Programmer (COM Box).

Earlier T4T-CMD 3.x versions supported ECG programming only. Version 4.x adds NFC box programming, ECG readback to raw data files (`.osrtur`), optional label printing during programming, update checks and additional command line options.

2 Installation

Since version 4.x, T4T-CMD is included in the Tuner4TRONIC Production installation. The executable `T4T-CMD.exe` and T4T-DLL (`ProgrammingAPI.dll`) are in the T4T-P 4.x installation directory:

```
C:\Program Files (x86)\Tuner4TRONIC 4
```



3 Features and command line options

General usage:

```
T4T-CMD.exe [options] [production_file]
```

- `options` are optional command line options.
- `production_file` is the path to the `.osrtup` file used for ECG programming.
- Unless otherwise specified, options can be entered in any order.
- If an option requires an argument, place the argument immediately after that option.

3.1 Program an ECG

Provide the path to a valid Inventronics Production File. Other options may be added.

The `T4T` command string required by version 3.x is optional in version 4.x and remains available for backward compatibility. Both commands below program `prod.osrtup` into the ECG:

```
T4T-CMD.exe prod.osrtup
T4T-CMD.exe T4T prod.osrtup
```

T4T-CMD waits for successful ECG detection until a timeout is reached: **5 seconds** for DALI programming interfaces and OT Programmers, and **20 seconds** for NFC programming interfaces.

Additional examples:

```
T4T-CMD.exe -verbose prod.osrtup
T4T-CMD.exe -PI DALI:DALIMAGIC1 prod.osrtup
T4T-CMD.exe -PI NFC:1FE27FEC prod.osrtup
T4T-CMD.exe -PI OSRSER:COM7 prod.osrtup
T4T-CMD.exe -BP 20 prod.osrtup
T4T-CMD.exe -PI NFC:1FE27FEC -BP 20 prod.osrtup
T4T-CMD.exe -lp -spf C:\Users\User1\Documents prod.osrtup
T4T-CMD.exe -lp -spf C:\Users\User1\Documents -ldf LabelDf.txt prod.osrtup
T4T-CMD.exe -noupdateresults prod.osrtup
T4T-CMD.exe -nocloud prod.osrtup
T4T-CMD.exe -antennapwr 5 prod.osrtup
```

3.2 Display help (-h, -help)

Use either option to display the help text:

```
T4T-CMD.exe -h
T4T-CMD.exe -help
```

```
Usage: T4Tcmd.exe [options] [production_file]

  "production_file"            path to production file (.osrtup)

  options:
    -h, -help                  print this help
    -version                   print command line tool + DLL version
    -verbose                   show more verbose and progress during programming/readback

    -PI "PI Type: PI Name"     specify programming interface (if more than 1 PI is connected):
                               PI Type = "DALI", "NFC" or "OSRSER"
                               PI Name = NFC -> Reader ID of NFC reader in Hex format
                                         DALI -> Name of Dali Magic
                                         OSRSER -> COM Port number

                               !! option -PI is mandatory for OT Programmers even if only 1 OT programmer is connected !!
                               e.g. "T4T-CMD.exe T4T -PI OSRSER:COM7 prod.osrtup"

    -BP num_of_ECGs_in_box     enable box programming (NFC only)

    -r                         read back ECG and save readback file (.osrtur) to MyDocuments folder
    -o "filename"              specify alternative name/path for readback file (optional)
                               (default filename: "DeviceReadback_gtin_fw_hw.osrtur")
                               (default file path: Documents folder of current user)

    -lp                        enable label printing
    -spf "spoolingFolder"      specify spooling folder path for label printing
    -ldf "labelDefFile"        specify label definition file for label printing

    -nocloud                   disable cloud services
    -noupdateresults           disable updating programming results in production file

    -antennapwr pwr_value      set antenna power of NFC reader (LR1002 reader only)
                               pwr_value = 1, 2, 3, 4 or 5 (W)
                               pwr_value = 0 -> sets default antenna power (3 W)

    -ecginfo                   read and display GTIN, FW, HW major versions and serial number of a connected ECG (DALI and NFC ECGs)
                               read and display ModelID of a connected OT driver (OT Programmer interface)

    -lumgtin                   read and display luminaire GTIN of a connected ECG (DALI and NFC ECGs only)

    -check                     check if updates are available

    -interfaces                list all the connected USB interfaces

    -nopowercheck              disable the check of the Power On status before NFC programming
```

3.3 Display command line and DLL versions (-version)

Display the versions of T4T-CMD and T4T-DLL (`ProgrammingAPI.dll`):

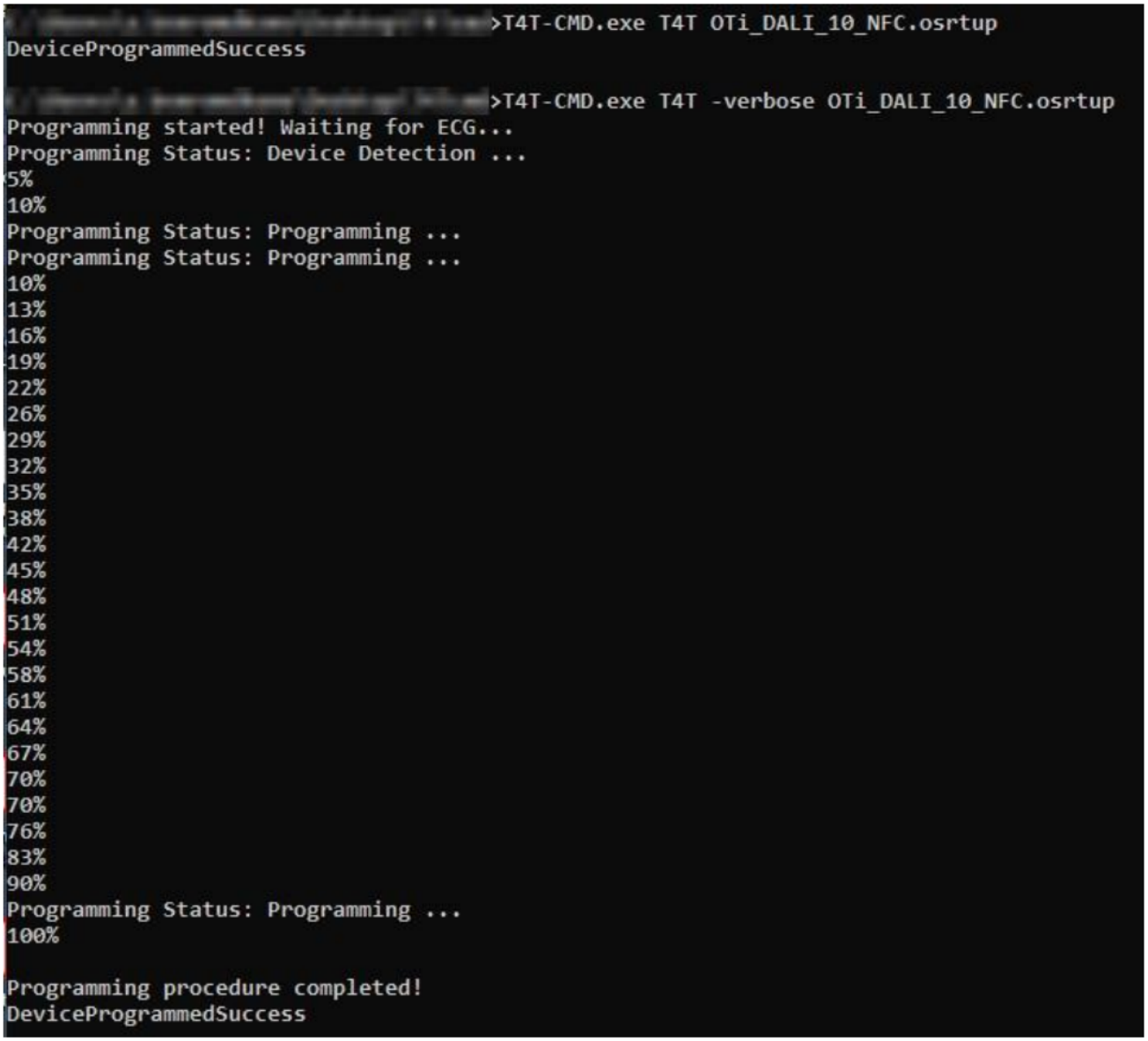
```
T4T-CMD.exe -version
```



3.4 Increase verbosity (-verbose)

Use `-verbose` to display more details and progress during programming or readback. Without it, the tool displays only its return code at the end. Combine it with other options as needed.

```
T4T-CMD.exe -verbose "testfile.osrtup"
T4T-CMD.exe T4T -verbose "testfile.osrtup"
T4T-CMD.exe -r -verbose
T4T-CMD.exe -verbose -ecginfo
```



3.5 Specify the programming interface (-PI)

When multiple programming interfaces are connected, select one with `-PI`. Otherwise, an error code is returned.

```
-PI "PI Type:PI Name"
```

Type	Interface name
NFC	NFC reader ID as a hexadecimal string, with or without the `0x` prefix. Find it in Tuner4TRONIC Production 4.x under Settings > Programming, or with FEIG service tools.
DALI	DALI Magic name. View or change it in Tuner4TRONIC Production 4.x under Settings > Programming.
OSRSER	OT Programmer COM-port number from Windows Device Manager. Both the number alone and the `COM` prefix are accepted.

> **Important:** For OT Programmers, `-PI` and the COM-port number are mandatory even when only one OT Programmer is connected. Without them, T4T-CMD will not find it when scanning for interfaces.

```
T4T-CMD.exe T4T -PI OSRSER:COM7 prod.osrtup
T4T-CMD.exe -PI DALI:DALIMAGIC1 prod.osrtup
T4T-CMD.exe -PI NFC:1FE27FEC prod.osrtup
T4T-CMD.exe -PI NFC:0x1FE27FEC prod.osrtup -verbose
T4T-CMD.exe -PI OSRSER:COM7 prod.osrtup
T4T-CMD.exe -verbose prod.osrtup -PI OSRSER:3
```

3.6 Enable NFC box programming (-BP)

Use `-BP N`, where `N` is the expected number of ECGs in the box. Only FEIG ISC.MR102 and ISC.LR1002 readers support box programming, according to the source manual.

```
T4T-CMD.exe -BP 20 prod.osrtup
T4T-CMD.exe -PI NFC:1FE27FEC -BP 20 prod.osrtup
T4T-CMD.exe -PI NFC:1FE27FEC -BP 10 prod.osrtup -verbose
```

3.7 Read back an ECG (-r)

Use `-r` to read a connected ECG and save its data to a raw data file (`.osrtur`). All three interface types support readback: DALI, NFC and OSRSER.

Optionally specify the output name and path with `-o`. Otherwise, the defaults are:

- Filename: `DeviceReadback_gtin_fw_hw.osrtur`, where `gtin` is the connected ECG's GTIN, `fw` its firmware revision and `hw` its hardware revision.
- Folder: the current user's **Documents** folder.

For OT drivers connected through an OT Programmer, firmware and hardware revisions cannot be read, so those filename fields are empty. A Model ID is read instead of a GTIN.

If multiple programming interfaces are connected, select one with `-PI`.

```
T4T-CMD.exe -r
T4T-CMD.exe -r -verbose
T4T-CMD.exe -PI NFC:1FE27FEC -verbose -r
```

3.8 Specify the readback output file (-o)

Use `-o` only with `-r`. Place the filename immediately after `-o`. If it contains no path, the raw data file is saved in the current working directory.

```
T4T-CMD.exe -r -o data.osrtur
T4T-CMD.exe -r -o C:\Users\User1\Desktop\data.osrtur
T4T-CMD.exe -PI NFC:1FE27FEC -verbose -r -o data.osrtur
```

3.9 Enable label printing (-lp)

Label printing is disabled by default. Use `-lp` to enable it for the current execution. After successful ECG programming, the tool generates `Output.csv` containing all parameter data programmed into the ECGs and saves it in the spooling folder.

`-spf` is mandatory with `-lp` to specify that folder. Without it, the source manual describes a `NoValidParameterPassed` error. Include `-lp` on every invocation that requires label printing.

```
T4T-CMD.exe -lp -spf C:\Users\User1\Documents prod.osrtup
T4T-CMD.exe -lp -spf C:\Users\User1\Documents -ldf LabelDf.txt prod.osrtup
```

3.10 Specify the label-printing spooling folder (-spf)

Use `-spf` with `-lp`. Place the spooling folder path immediately after `-spf`. The folder must already exist, and the user must have read and write permissions; otherwise, an error is returned.

```
T4T-CMD.exe -lp -spf C:\Users\User1\Documents prod.osrtup
```

3.11 Specify a label definition file (-ldf)

Use the optional `-ldf` option to specify a label definition file. Place its name immediately after the option.

```
T4T-CMD.exe -lp -spf C:\Users\User1\Documents -ldf LabelDf.txt prod.osrtup
```

3.12 Disable cloud services (-nocloud)

Cloud services are enabled by default. With `-nocloud`, neither programming data nor programming results from the current session are uploaded to the cloud. This can avoid network connections that could slow production.

```
T4T-CMD.exe -nocloud prod.osrtup
```

3.13 Disable updating of programming results (-noupdateresults)

By default, luminaire programming results are updated in the Production File at the end of programming. Use `-noupdateresults` to disable this, for example when the file is on a network share with a slow connection.

```
T4T-CMD.exe -noupdateresults prod.osrtup
T4T-CMD.exe -PI DALI:DALIMAGIC1 -verbose prod.osrtup -noupdateresults
```

3.14 Set NFC antenna power (-antennapwr)

This option applies only to the FEIG ISC.LR1002 reader and is ignored for other NFC readers. Place the power value in watts immediately after `-antennapwr`.

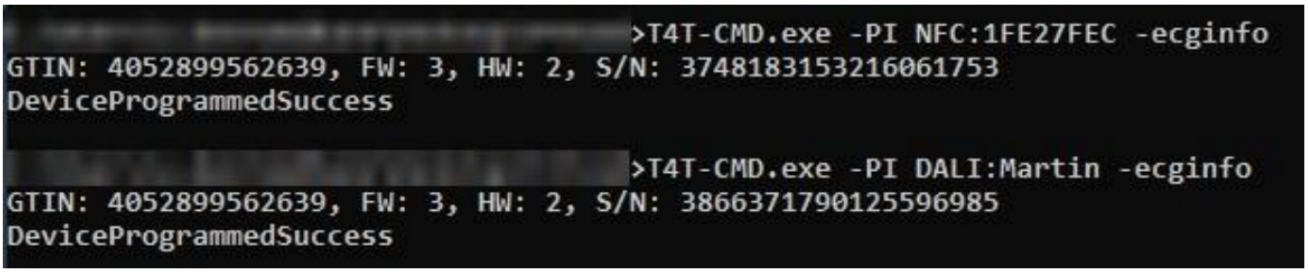
- Valid power settings: **1, 2, 3, 4 or 5 W**.
- A value of **0** selects the default antenna power of **3 W**.

```
T4T-CMD.exe -antennapwr 5 prod.osrtup
T4T-CMD.exe -PI NFC:0x1FE27FEC -antennapwr 4 -verbose prod.osrtup
```

3.15 Read ECG information (-ecginfo)

Read and display the connected, unidentified ECG's driver GTIN, firmware major revision, hardware major revision and serial number. This option supports DALI and NFC ECGs; OT drivers are not supported. Select an interface with `-PI` if multiple interfaces are connected.

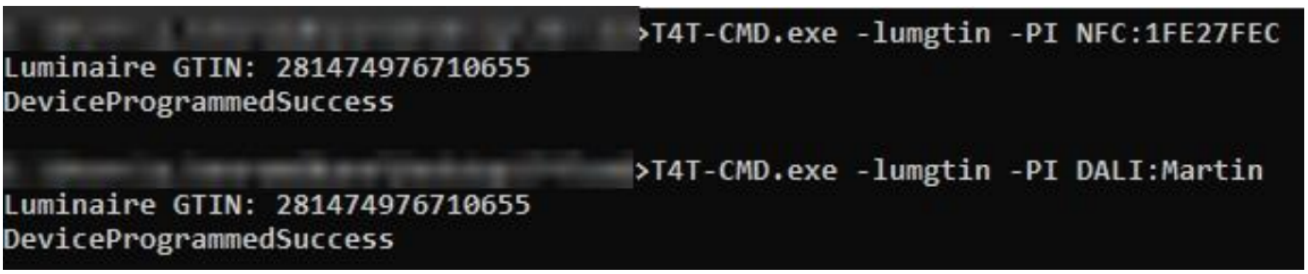
```
T4T-CMD.exe -ecginfo
T4T-CMD.exe -PI NFC:0x1FE27FEC -ecginfo
T4T-CMD.exe -PI DALI:DALIMAGIC1 -ecginfo
```



3.16 Read the luminaire GTIN (-lumgtin)

Read and display the luminaire GTIN from a connected ECG. This option supports DALI and NFC ECGs; OT drivers are not supported. Select an interface with `-PI` if multiple interfaces are connected.

```
T4T-CMD.exe -lumgtin
T4T-CMD.exe -PI NFC:0x1FE27FEC -lumgtin
T4T-CMD.exe -PI DALI:DALIMAGIC1 -lumgtin
```



3.17 Check for updates (-check)

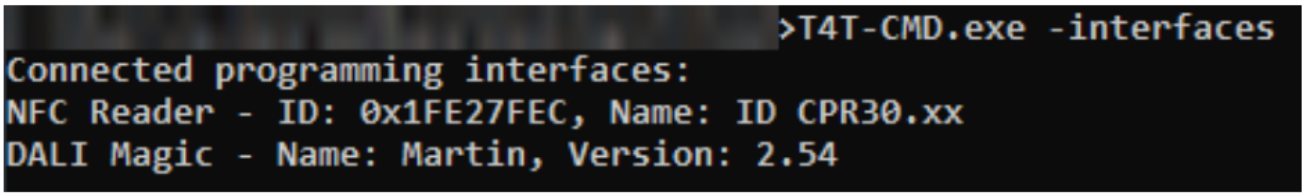
```
T4T-CMD.exe -check
```

Return name	Meaning
NoUpdatesAvailable	The installed version is already the latest.
UpdateAvailable	A newer version is available on the update server.
UpdateCheckError	The update server could not be reached, a timeout occurred, or another error occurred.

3.18 List programming interfaces (-interfaces)

List all connected DALI and NFC programming interfaces. OT Programmers are not supported by this option and will not be listed.

```
T4T-CMD.exe -interfaces
```



3.19 Disable the power-on status check (-nopowercheck)

`-nopowercheck` disables the power-on status check during NFC programming.

Normally, T4T-P4 rejects NFC programming when the driver is connected to mains, because NFC data may be corrupted. In the worst case, programming may be acknowledged even though the data was not programmed correctly. Drivers set a power-on flag in the NFC tag to tell the programming software they are powered.

The May 2024 manual describes some production lots where this flag was set incorrectly even though the driver was not connected to mains. Programming with `-nopowercheck` can repair these drivers.

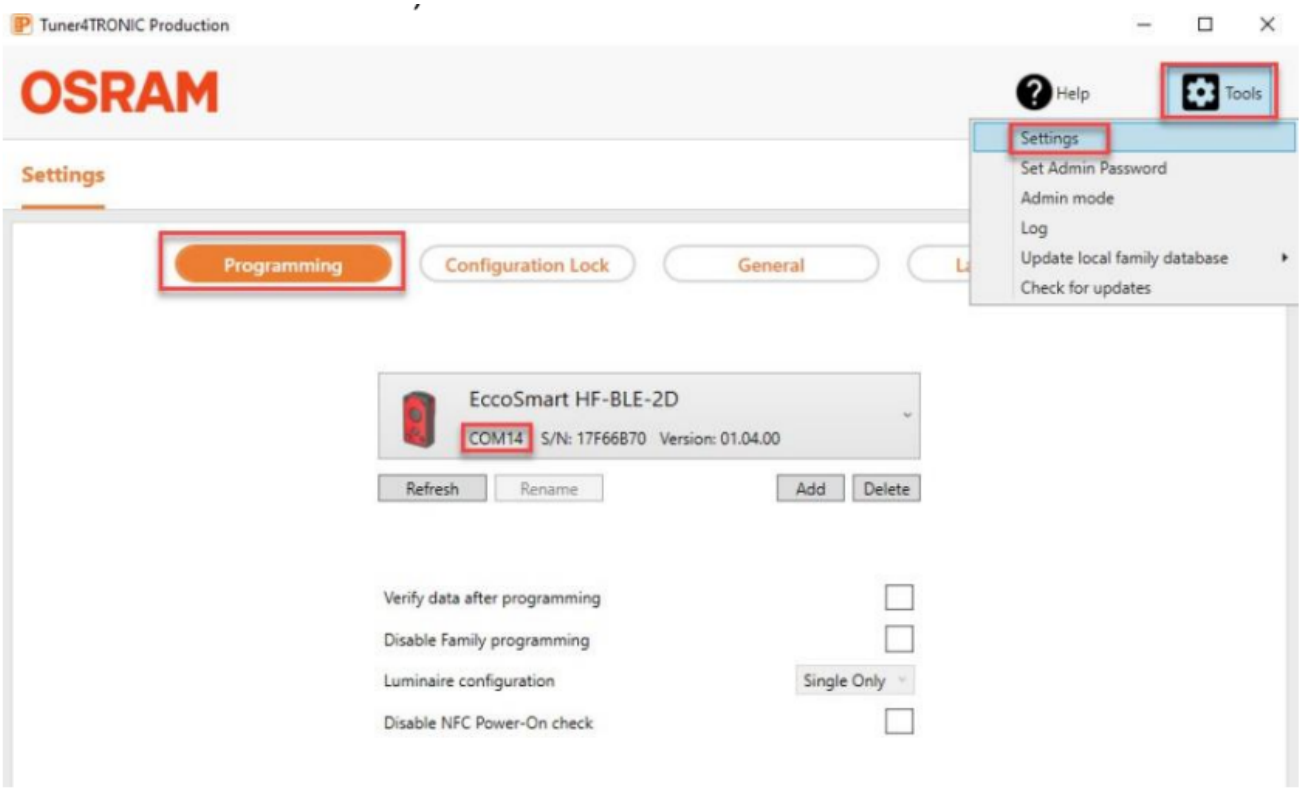
> **Warning:** Before using `-nopowercheck`, ensure that the driver is not powered. The software will not perform this check. Do not use this option by default.

```
T4T-CMD.exe prod.osrtup -nopowercheck
```

3.20 Read a QR code from ECCO Smart HF 2D (-barcode)

Use `-barcode` to scan and return a QR code from a connected FEIG ECCO Smart HF 2D. Connect the device to T4T-P4 through Bluetooth. Refer to the T4T-P4 manual for interface identification and connection details.

Find the COM port under **Tools > Settings > Programming > ECCO Smart 2D / COM**, then pass it to the command using `-PI NFCCOM:<port>`.



For COM port 14:

```
T4T-CMD.exe -PI NFCCOM:14 -barcode
```

Example output:

```
Barcode: E20170007590AM3117700OL000495
OperationCompletedSuccess
```

The source PDF spells the executable `T4TCMD.exe` in this section and one verbosity example. The installation section and other examples use `T4T-CMD.exe`; the commands here consistently use that installed executable name.

3.21 Force family programming off (-fp:off)

Use `-fp:off` to disable family programming. Drivers whose EAN and firmware major revision do not match the Production File are rejected.

```
T4T-CMD.exe -PI DALI:DALIMAGIC1 -fp:off prod.osrtup
```

3.22 Override the power-on delay (-pod)

Use `-pod <time in seconds>` to override the power-on delay before programming. The delay from the Production File is ignored.

```
T4T-CMD.exe -PI DALI:DALIMAGIC1 -pod 5 prod.osrtup
```

4 Error codes

For backward compatibility, the error code numbers from T4T-CMD 3.x remain valid. Version 4.x adds further codes. Names below follow the source manual's error-code table.

Code	Error name printed on the console	Description and possible causes
0	DeviceProgrammedSuccess	ECG programming, readback or another operation completed successfully.
-1	GeneralApplicationError	General application error, such as incorrect syntax or an invalid command line option.
4	ProgrammingValidationFailed	Validation after programming failed.
101	No_Invalid_ParameterPassed	No Production File was passed.
200	ParamFileNotExists_Readable	The Production File does not exist or cannot be read.
201	ParamFileInvalid	The Production File is invalid.
202	ParamFileIsEmpty	The Production File is empty.
500	NoDeviceConnected	No ECG is connected; a DALI ECG is not powered; an OT Programmer's PROG+ and PROG- connections are swapped; or the ECG is outside NFC reader range.
501	TooManyDeviceConnected	Too many ECGs are connected.
502	WrongDeviceConnected	Wrong ECG type, or correct type with a Production File for another firmware or hardware version. In multi-programming, one or more ECGs may be missing. Check the devices' IC codes.
503	WrongDeviceVersionConnected	Not used by T4T-CMD.
700	HWProgrammerNotFound_CommunicationError	No interface found, no interface supported by the ECG found, too many interfaces connected, a communication error, or the interface is in use by other software.
701	HWProgrammerFWVersionUnsupported	Unsupported programming-interface firmware, such as DALI Magic firmware below 2.5.
702	DALI_OP_HWProgrammerOverloaded	The interface's DALI output is overloaded or short-circuited.
2005	DeviceProtected	The ECG is write-locked by an OEM code that is missing from the Production File or does not match.

Code	Error name printed on the console	Description and possible causes
3000	NFCDifferentEcgsInTheBox	Different ECGs are present in the box during NFC box programming.
3001	UnlockPasswordNotMatchingEcgs	ECGs in the box have different unlock passwords during NFC box programming.
4000	NoUpdatesAvailable	The local version is already the latest.
4001	UpdateAvailable	A newer version is available on the update server.
4002	UpdateCheckError	The update server could not be reached, or another error occurred.

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