

Tuner4TRONIC Command

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1 Introduction

The Tuner4TRONIC Command Line Application (T4T-CMD) can be used to program luminaire production files (with extension **.osrtup**) into INVENTRONICS ECGs. Luminaire production files can be generated with the Tuner4TRONIC Configurator in the cloud or locally with the former Tuner4TRONIC Development (T4T-D). T4T-CMD runs in the Windows command line or in Windows PowerShell. It runs under Win7 and Win10. T4T-CMD is based on the T4T-DLL (**ProgrammingAPI.dll**).

T4T-CMD supports the following 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)

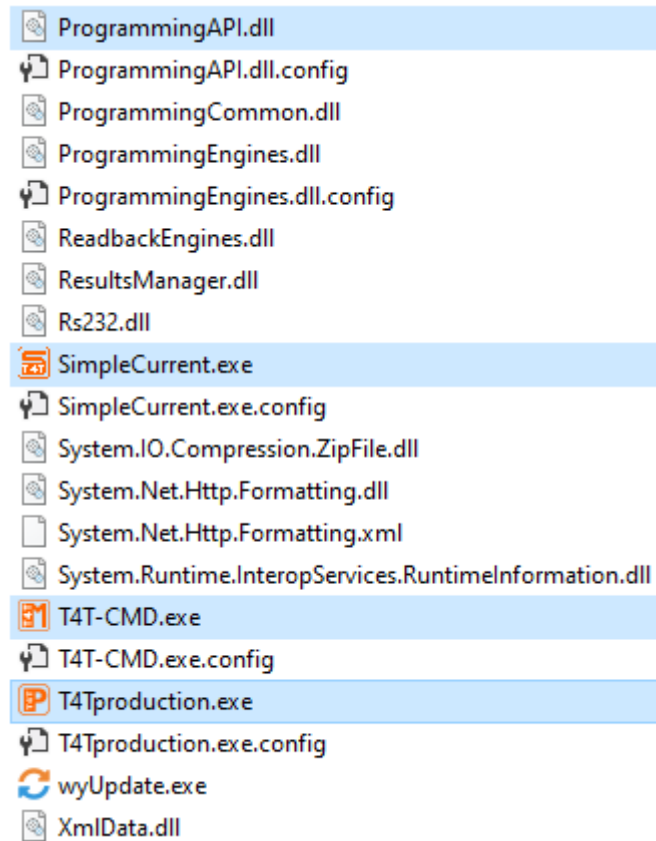
In the previous versions 3.x of T4T-CMD only ECG programming was supported. T4T-CMD 4.x brings new features. These are mainly:

- NFC box programming support
- ECG readback and saving data to a raw data file (.osrtur)
- User can enable label printing for ECG programming
- Check for updates
- Other new command line options

This manual describes how to use T4T-CMD 4.x.

2 Installation

Since version 4.x T4T-CMD is directly included in the installation of Tuner4TRONIC Production. The binary T4T-CMD.exe can be found along with the T4T-DLL (**ProgrammingAPI.dll**) in the installation directory of T4T-P 4.x (**C:\Program Files (x86)\Tuner4TRONIC 4**). The screenshot below shows the executables included in the installation directory.



3 Features & Command line options

General command usage: `T4T-CMD.exe [options] [production_file]`

- options” are the (optional) command line options
- “production_file” is the path to the production file (.osrtup) used for ECG programming
- Unless otherwise specified command line options can be entered in any order
- Some options require arguments. In this case the argument must follow the option

In the sections below the usage of each command line option is described in detail. Examples are also provided for each option.

3.1 Program an ECG

The main feature of T4T-CMD is programming luminaire production files (**.osrtup**) into INVENTRONICS ECGs. For this purpose the user has to provide the path to a valid INVENTRONICS production file. Other options can be added.

- In the previous versions T4T-CMD 3.x the command string “**T4T**” was the command for ECG programming. In T4T-CMD 4.x this string is not mandatory anymore for ECG programming but was kept for backward compatibility.
So both “T4T-CMD.exe prod.osrtup” and “T4T-CMD.exe T4T prod.osrtup” are correct and will program “prod.osrtup” into the ECG.
- T4T-CMD waits for successful ECG detection until a timeout is reached. This ECG detection timeout is 5 s for DALI PIs and OT programmers and 20 s for NFC PIs.

Examples:

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

Option “-h” or “-help” displays the help text of T4T-CMD.

Usage:

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

The output is similar to the following:

```
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 version of command line & DLL (-version)

Option “-version” displays the versions of T4T-CMD and T4T-DLL (**ProgrammingAPI.dll**)

Usage:

- `T4T-CMD.exe -version`

The output is similar to the following:

```
>T4T-CMD.exe -version
4.2.1.0 (DLL=4.2.1.0)
```

3.4 Increase verbosity (-verbose)

Option “-verbose” increases verbosity of command line output. Use this option to show more details and progress during ECG programming or ECG readback. If not used the command line tool displays only its return code at the end. User can combine the “-verbose” option with other options to show more details.

Examples:

- T4T-CMD.exe -verbose „testfile.osrtup“
- T4T-CMD.exe T4T -verbose „testfile.osrtup“
- T4T-CMD.exe -r -verbose
- T4TCMD.exe -verbose -ecginfo

Example of ECG programming first with verbose off then with verbose on:

```
>T4T-CMD.exe T4T OTi_DALI_10_NFC.osrtup
DeviceProgrammedSuccess

>T4T-CMD.exe T4T -verbose OTi_DALI_10_NFC.osrtup
Programming started! Waiting for ECG...
Programming Status: Device Detection ...
5%
10%
Programming Status: Programming ...
Programming Status: Programming ...
10%
13%
16%
19%
22%
26%
29%
32%
35%
38%
42%
45%
48%
51%
54%
58%
61%
64%
67%
70%
70%
76%
83%
90%
Programming Status: Programming ...
100%

Programming procedure completed!
DeviceProgrammedSuccess
```

3.5 Specify programming interface (-PI)

If multiple programming interfaces are connected, then user must select a specific PI by calling T4T-CMD with the option “-PI”, otherwise an error code is returned (see Error Codes).

Usage:

- -PI “PI Type: PI Name”
- “PI Type” is the type of the programming interface. So far defined are “**DALI**”, “**NFC**” and “**OSRSER**”.
- “PI Name” is the name of the programming interface. This depends on the interface type:
 - For NFC “PI Name” is the NFC reader ID as hexadecimal string. Both strings starting with “0x” or without “0x” are accepted. The reader ID can be viewed in the Settings-Page under “Programming” in Tuner4TRONIC Production 4.x or using service tools of the NFC reader manufacturer (FEIG).
 - For DALI “PI Name” is the name of the DALI Magic, which can be viewed and changed in the Settings-Page under “Programming” in Tuner4TRONIC Production 4.x
 - For interface type OSRSER “PI Name” is the COM port number of the OT Programmer. The COM port number can be viewed in the Windows Device Manager. Both the COM port number alone and with prefix COM (“COMx”) are accepted.

Important note for OT Programmer interfaces:

For OT Programmers option “-PI” is mandatory even if only 1 OT Programmer is connected. In this case the user must call T4T-CMD.exe with option “-PI” and specify the COM port number of the OT Programmer (otherwise T4T-CMD will not find the OT Programmer when scanning for PIs):

- `T4T-CMD.exe T4T -PI OSRSER:COM7 prod.osrtup`

Examples:

- `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 option “-BP” to enable NFC box programming. “-BP” requires as argument the expected number of drivers in the box. Note that only the FEIG NFC readers ISC.MR102 and ISC.LR1002 support box programming.

Usage:

- `-BP N` where N = expected number of ECGs in the box

Examples:

- `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 Readback an ECG (-r)

Use option “-r” to read data from an ECG connected by a programming interface and save it to a raw data file (*.osrtur). All 3 programming interface types support ECG readback (DALI, NFC and OSRSER). Optionally the user can specify name and path of the output raw data file via option “-o”. If not then the output file will have a default name and a default path. These are:

- Default filename: “**DeviceReadback_gtin_fw_hw.osrtur**” where:
 - “gtin”: GTIN of the connected ECG
 - “fw”: FW revision of the connected ECG
 - “hw”: HW revision of the connected ECG
- Default path: “Documents”-folder of current user
- Note that for OT drivers connected via an OT Programmer reading back of FW and HW revisions is not possible so “fw” and “hw” in the filename are empty. Also for these drivers instead of the GTIN a different ID is read back (Model ID)

If multiple programming interfaces are connected, then select the specific PI for readback by using option “-PI”.

Examples:

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

3.8 Specify output file for ECG readback (-o)

Use option “-o” to specify name and path of the raw data file (*.osrtur) created by ECG readback. Option “-o” can only be used in combination with option “-r”. The filename argument must follow the option “-o”. If the filename does not contain a path then the created raw data file is saved to the current working directory.

Examples:

- `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)

Option “-lp” enables label printing for ECG programming. Default setting is label printing disabled. If label printing is enabled, on successful programming of the ECG(s), a .csv file with all the parameter data programmed to the ECG(s) is generated and saved to a folder called the “spooling folder”. When using “-lp” it is mandatory to also use option “-spf” to specify the spooling folder path, otherwise the error code “NoValidParameterPassed” will be returned. The name of the generated .csv file is “**Output.csv**”. Note that label printing will be enabled only for the current execution of T4T-CMD.exe. In order to enable label printing permanently, call T4T-CMD.exe each time with option “-lp”.

Examples:

- `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 spooling folder for label printing (-spf)

Use option “-spf” to specify the spooling folder path for label printing. “-spf” must be used in combination with option “-lp”. The spooling folder path must follow the option “-spf”. The spooling folder must exist and the user must have RW-permissions for it, otherwise an error code is returned.

Example:

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

3.11 Specify label definition file for label printing (-ldf)

Use option “-ldf” to specify a label definition file for label printing. Unlike option “-spf” this is optional. The name of the label definition file must follow option “-ldf”.

Example:

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

3.12 Disable cloud services (-nocloud)

Use option “-nocloud” to disable the cloud services for ECG programming. By default cloud services are enabled. When cloud services are disabled:

- No programming data of the current programming session will be uploaded to the cloud.
- No programming results of the current programming session will be uploaded to the cloud

This can be used to avoid network connections that could slow the production process.

Example:

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

3.13 Disable updating of programming results (-noupdateresults)

By default, at the end of ECG programming process the luminaire programming results are updated in the production file. This can be disabled by using option “-noupdateresults”.

A possible use case is when the production file is located on a network folder/share and the network connection is slow. This might be the case in some production sites.

Example:

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

3.14 Set NFC antenna power (-antennapwr)

Use option “-antennapwr” to set the antenna power of the NFC reader. This applies only for the FEIG ISC.LR1002 reader. The option will be ignored for other NFC readers. The power value in W must follow option “-antennapwr”. The following power values are valid:

- Power value = 1, 2, 3, 4 or 5 (Watt)
- Power value = 0 → sets default antenna power (3 W)

Examples:

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

3.15 Read ECG info (-ecginfo)

Use option “-ecginfo” to read and display the ECG information of a connected (unidentified) ECG. The ECG information consists of:

- Driver GTIN
- FW major revision
- HW major revision
- Driver serial number

This option supports only DALI and NFC ECGs. OT drivers are not supported. If multiple programming interfaces are connected, then select the specific PI by using option “-PI”.

Examples:

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

Examples of possible output:

```
>T4T-CMD.exe -PI NFC:1FE27FEC -ecginfo
GTIN: 4052899562639, FW: 3, HW: 2, S/N: 3748183153216061753
DeviceProgrammedSuccess

>T4T-CMD.exe -PI DALI:Martin -ecginfo
GTIN: 4052899562639, FW: 3, HW: 2, S/N: 3866371790125596985
DeviceProgrammedSuccess
```

3.16 Read luminaire GTIN (-lumgtin)

Use option “-lumgtin” to read and display the luminaire GTIN of a connected ECG.

This option supports only DALI and NFC ECGs. OT drivers are not supported. If multiple programming interfaces are connected, then select the specific PI by using option “-PI”.

Examples:

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

Examples of possible output:

```

>T4T-CMD.exe -lumgtin -PI NFC:1FE27FEC
Luminaire GTIN: 281474976710655
DeviceProgrammedSuccess

>T4T-CMD.exe -lumgtin -PI DALI:Martin
Luminaire GTIN: 281474976710655
DeviceProgrammedSuccess

```

3.17 Check for updates (-check)

Use option “-check” to check if updates for T4T-CMD are available.

Usage:

- `T4T-CMD.exe -check`

Return codes:

- “NoUpdatesAvailable” if already the latest version is being used.
- “UpdateAvailable” if a newer version is available on the update server
- “UpdateCheckError” if the update server could not be reached (Timeout) or other error

3.18 List programming interfaces (-interfaces)

Option “-interfaces” lists all the connected DALI and NFC programming interfaces. OT programmers are currently not supported by this option so they won’t be listed.

Usage:

- `T4T-CMD.exe -interfaces`

Example of possible output:

```

>T4T-CMD.exe -interfaces
Connected programming interfaces:
NFC Reader - ID: 0x1FE27FEC, Name: ID CPR30.xx
DALI Magic - Name: Martin, Version: 2.54

```

3.19 Disable Power-On Status Check

Option “-nopowercheck” disables the power-on status check when programming drivers via NFC.

In general, T4T-P4 does not allow programming drivers that are connected to mains, since NFC data might get corrupted. In worst case, T4T-P4 may acknowledge programming, though data has not been

programmed correctly. To avoid this failure, LED drivers set a power-on flag in the NFC tag to communicate to T4T-P4, that the LED driver is powered. T4T-P4 will then reject NFC programming.

Due to a recent bug in LED driver production, the power-on flag has been set in some production lots by mistake, though the driver is not physically connected to mains. LED drivers can be repaired by programming with “-nopowercheck” option. In this case, the user needs to ensure, that the driver is not powered, since there is no check in T4T-P4. Therefore, this option should not be used by default.

Usage:

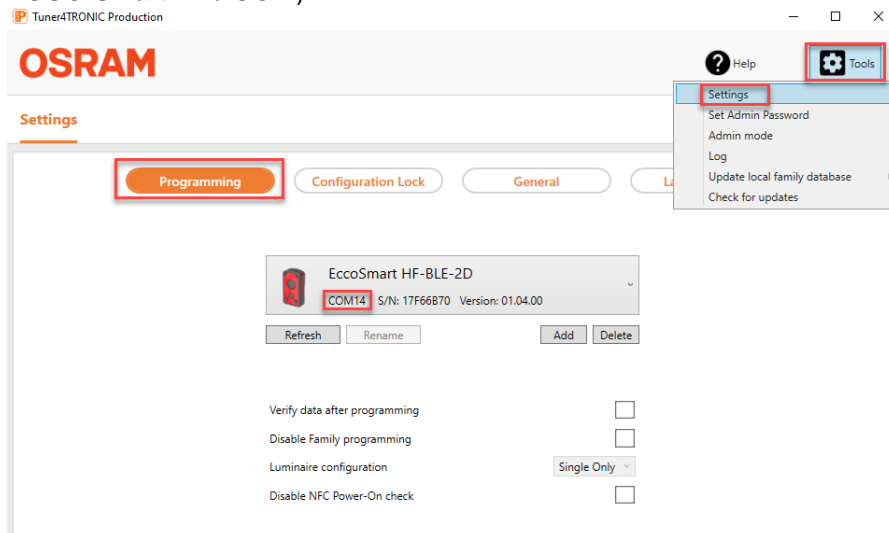
```
— T4T-CMD.exe prod.osrtup -nopowercheck
```

3.20 Read QR code from ECCO Smart HF 2D

Option “-barcode” scans and returns the QR code from a connected Feig ECCO Smart HF 2D.

To use this feature, a Feig ECCO Smart HF 2D device needs to be connected to T4T-P4 via Bluetooth. Please check T4T-P4 manual for details on identifying and connecting programming interfaces.

To identify the reader, PI credentials need to be added to the cmd line. Please pick the used COM-port from the settings in T4T-P4 be added as options to the command line (Tools → Settings → Programming → ECCO Smart 2D / COM):



Usage:

```
— C:\Program Files (x86)\Tuner4TRONIC 4>T4TCMD.exe -PI NFCCOM:14 -barcode
```

Example of possible output:

```
— T4TCMD.exe -PI NFCCOM:14 -barcode
Barcode: E20170007590AM31177000L000495
OperationCompletedSuccess
```

4 Error Codes

For backward compatibility the error code numbers of T4T-CMD 3.x are still valid and other new error codes were added in T4T-CMD 4.x

Error Code	Error Name (printed by T4T-CMD on the console)	Error Description and Reasons
0	DeviceProgrammedSuccess	The ECG programming or readback or any other operation was completed successfully.
-1	GeneralApplicationError	A general application error occurred such as wrong syntax or wrong command line option entered.
4	ProgrammingValidationFailed	The validation after programming failed
101	No_Invalid_ParameterPassed	No production file was passed
200	ParamFileNotExists_Readable	The production file does not exist or is not readable.
201	ParamFileInvalid	The production file is invalid.
202	ParamFileIsEmpty	The production file is empty.
500	NoDeviceConnected	No ECG is connected to the PI or ECG is not powered (DALI) or ECG is wrongly connected to the PI (OT programmer PROG+ and PROG-permutated) or ECG out of range of NFC reader
501	TooManyDeviceConnected	Too many ECG are connected.
502	WrongDeviceConnected	A wrong ECG type is connected or the ECG type is correct but the production file was prepared for a different ECG version (FW or HW). In case of multiprogramming, one or more ECGs may be missing. Please check the IC code of the device(s).
503	WrongDeviceVersionConnected	Not used by T4T-CMD

700	HWPprogrammerNotFound_ CommunicationError	No PI was found or no supported PI (by the ECG) was found or too many PIs are connected or a communication error with the PI occurred or the PI is used by another SW.
701	HWPprogrammerFWVersionUnsupported	Unsupported firmware version of the programming interface (e.g. DALI Magic FW < 2.5)
702	DALI_OP_HWPprogrammerOverloaded	The DALI output of Programming Interface is overloaded or short-circuited.
2005	DeviceProtected	The ECG is write-locked by an OEM Code. This error occurs, when no code is contained in the production file or the provided code is not correct.
3000	NFCDifferentEcgsInTheBox	Error occurs in case of NFC box programming and different ECGs are present in the box.
3001	UnlockPasswordNotMatchingEcgs	Error occurs in case of NFC box programming and ECGs in the box have different unlock passwords.
4000	NoUpdatesAvailable	Local version is already the latest version
4001	UpdateAvailable	A newer version is available on the update server
4002	UpdateCheckError	Update server could not be reached or other error

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