

# T E K S O N ®

# **3D** Tacho

#### **TUTORIAL**

Firmware version: 1.6.0

3D Tacho Configurator: 1.6.0

#### **3D** Tacho

#### **TUTORIAL**

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The program windows (screenshots) shown within this help file can differ in form and contents from the actual program windows. This can be the case especially when the program version differs from the manual version.



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Introduction

#### 1. Introduction

**3D Tacho**device allows to download data directly from a tachograph or a driver's and workshop card, without having to connect other devices. What is more, the device makes it possible to store data in its internal memory until the data is transferred to a different data carrier (e.g. a computer disk).



Fig. 3D Tacho

The device set includes:

- 1. Two 1,5V AA batteries to supply the device without having to connect it to a different source of electricity,
- 2. **Mini-USB cable** by means of which the device is connected with a computer (transfers data from the memory to a computer disk) and provided supply from the computer,
- 3. **Tacho TEKSON cable** for reading data from the tachograph the device uses the tachograph power supply

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#### 2. Technical data

#### **POWER SUPPLY**

- from the tachograph via Tacho TEKSON cable
- from the computer via the Mini-USB cable
- 2 batteries AA 1,5 V 1000 downloads from the card possible;
- 2 rechargeable batteries AA 1,2 V number of downloads depending on the battery load

#### **DEVICE STORAGE**

• internal memory of 8 GB minimum

#### **OTHER**

- supported by all current tachographs and driver/workshop cards
- fully configurable buttons for selecting the type and scope of data downloaded from the digital tachograph
- file extension for download files "ddd"
- The files in the internal memory are saved with local time (synchronized with the time of the computer on which the "configuration 10" was made)
- 12 leds that indicate the status of the unit (e.g. the progress of data download)

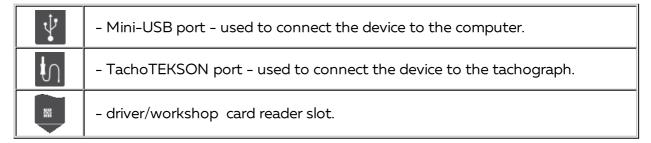


# 3. Operating elements

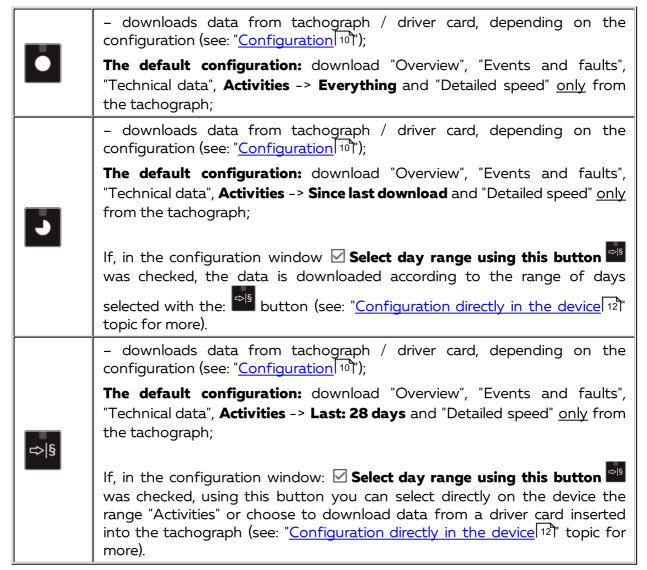


 ${\it Fig.\,3D\,Tacho-main\,operating\,elements}.$ 

1. Description of the ports used to connect the device to the computer, tachograph:



- 2. (Fig. above) Progress bar indicates the progress of the data download or reading error (see: "Error codes 23").
- 3. ( Main indicator indicates the reading/writing and events e.g. reading error, starting data download from a driver/workshop card or tachograph, etc.
- 4. Description of buttons:





#### 4. Installation

The device is not supported by Windows® 2000 and earlier operating systems.

#### **Required elements for PC installation**

- 1. The device **3D Tacho**;
- 2. The cable MINI-USB.

#### Installation procedure

- 1. Connect the device **3D Tacho** to USB port via Mini USB cable and wait till Windows® has performed the installation automatically.
- 2. In device manager you can find the installed **3D Tacho** as USB Mass Storage Device.

# 5. Operating modes

**3D Tacho** works in different modes. They depends on:

- connection type whether the device is operates standalone or if it is connected to a computer / tachograph;
- placing the driver/workshop card in the card reader slot or the tachograph slot;
- Driver card download via tachograph option in the device configuration window;

#### **Connection type**

#### 1. Standalone operation

Power supply: batteries (rechargeable batteries).

The driver/workshop card inserted in the reader slot

After the driver/workshop card is placed in the slot of the reader, the process of data download from the card starts automatically.

No communication with the device (remove the driver card).

• **Driver card download via tachograph** option - does not affect this mode of operation.



Operating modes 9

#### 2. Device conected to the tachograph with the Tacho TEKSON cable

Power supply: from the tachograph.

The driver/workshop card inserted in the reader slot

After the driver/workshop card is placed in the slot of the reader, the process of data download from the card starts automatically.

No communication with the device (remove the driver card).

• **Driver card download via tachograph** option - does not affect this mode of operation.

The driver card inserted in the tachograph slot

Depending on the **Driver card download via tachograph** option:

☑ Optic	n checked	– downloads	data fror	n driver	card and	l tachograph	simultaneou	sly;
---------	-----------	-------------	-----------	----------	----------	--------------	-------------	------

☐ **Option unchecked** — downloads data of the tachograph only;

No driver card

Depending on the **Driver card download via tachograph** option:

☑ Option checked — error report (driver	card	should	be	inserted	or	the	option	should	be
unchecked) - no data will be downloaded;									

$\square$ Option unchecked	<ul> <li>downloads data of</li> </ul>	the tachograph only;
----------------------------	---------------------------------------	----------------------

In each of these modes, to download data from the tachograph, you need to place the company card in the tachograph slot (see: "Download from tachograph 13").

#### 3. Device connected to the computer using a Mini-USB cable

Power supply: from the computer.

The driver/workshop card inserted in the reader slot

After the driver/workshop card is placed in the slot of the reader, the process of data download from the card starts automatically.

No communication with the device (remove the driver card).

• **Driver card download via tachograph** option - does not affect this mode of operation.

No driver card

Operation in USB mode - the possibility to configure the device (run the "3D Tacho Configurator.exe" file placed in 3D Tacho the memory), possibility to read/write data from/to the device.

• **Driver card download via tachograph** option - does not affect this mode of operation.



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## 6. Configuration

Device configuration window can be launched directly from the device memory - **3D Tacho Configurator.exe** file.

When you first start configuration, Windows® may prompt for installing .NET Framework. We recommend that you accept - otherwise you will not be able to start the configurator. .NET Framework will be automatically downloaded and installed by the operating system.

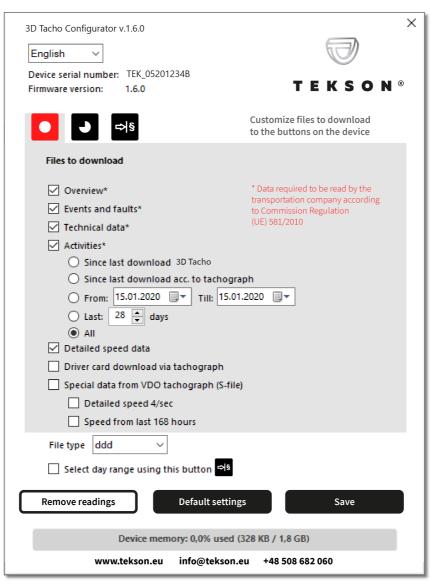


Fig. Configuration window.

The options described below can be assigned separately to each of the three buttons on the unit (left-click on the button icon):



- Overview basic tachograph data;
- **Events and faults** download events (e.g. driving without an appropriate card) and faults (e.g. Power supply interruption);
- Technical data Information like calibration date, tachograph serial number;
- Activities Driver activities (driving, rest, availability, work) on the particular day,
  - **Since last download** the range of downloaded activities is set from date of the previous download saved in the device's memory;

When this option is selected, the date of reading with other devices will not be counted.

• **Since last download acc. to tachograph** - the range of downloaded activities is set from date of the previous download saved in the tachograph's memory;

If you use a few devices to read the data, it is recommended to use this option.

- From: [...] Till: [...] set the time period for the download as required;
- Last: [...] allows to download the last 1 to 365 days (set by one day);
- Everything download all activity data stored in the tachograph (for all days);

On the "old" type of tachographs data reading can take up to one hour.

 Detailed speed - downloading speed data that the tachograph records with a frequency of one second;

The tachograph stores the detailed speed data of the last 24 hours of driving in the memory.

Reading this data can significantly extend the time of downloading data from the tachograph.

- Driver card download via tachograph:
  - ✓ **Option checked** allows to download data from the driver card placed in the tachograph slot in addition to downloading data from the tachograph (see: "Download from driver card inserted in the tachograph 20]" topic for more).

If the driver card is not inserted in the slot of the tachograph the device reports a data download error.

- ☐ **Option unchecked** the device will download data only from the tachograph, even if a driver card is inserted in the tachograph slot.
- **Speed data from VDO tachograph (S-file)** enables downloading special speed data from some tachographs (see: "<u>Download special speed data</u> for a full description). Download special speed data option:
  - Detailed speed 4/sec the following will be downloaded:



• Last three records (high resolution - frequency: four values/second) of two-minute speed periods, in which there was an unnatural speed change in a short period of time

- Last three records (high resolution frequency: four values/second) of two-minute speed periods, in which there was a sudden, high change in speed
- Speed from last 168 hours allows you to download the speed history from the last 168 hours, saved with the frequency of one second
- Select day range using this button
  - ☑ **Option checked** changes the function of: □, □ buttons:
  - changes the number of the last days from which the device should download Activities (number of days is displayed with green leds on the device);
  - initiates the process of data download for the above settings. (see: "Configuration directly in the device 12" for more)
  - ☐ **Option unchecked** downloading data will be based on the configurator settings.

To confirm the configuration changes, click

Save

#### 6.1. Configuration directly in the device

To perform configuration directly in the device:

- 1. Connect the device to a computer select: **Select day range using this button** option in the "device configuration" window (więcej w temacie: "Configuration 10").
- 2. Connect **3D Tacho** to the tachograph using a Tacho TEKSON cable.
- 1. Setting the range of days to download:
  - below the progress bar there are numbers indicating the range of days to download (e.g., 7 the last seven days, 60 the last sixty days, etc.);



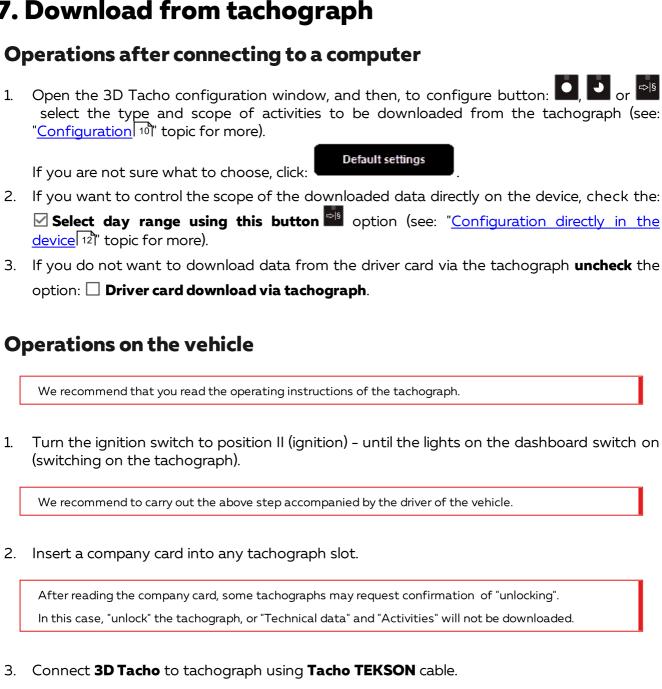
Fig. Progress bar

- to change the range of days to download, press the: button until the LED on the respective number of days lights up;
- downloading is started by pressing: button.



2. Direct configuration also allows to download data from a driver card inserted in the tachograph (see: "Download from driver card inserted in the tachograph 20" topic for more).

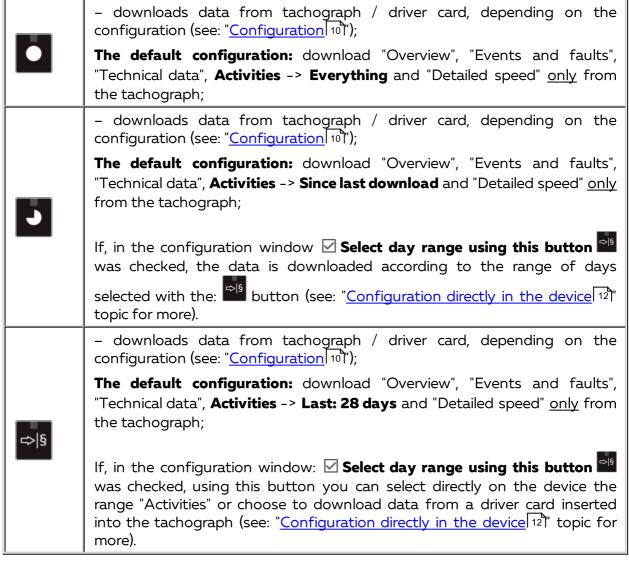
# 7. Download from tachograph





Position of the interface within the tachograph - see tachograph manual.

4. Depending on the method and the scope of data download, click on the appropriate button:



Press the respective button. A running download process is indicated by flashing of the red LED on the device foreside and by the expanding progress bar.



Fig. 3D Tacho - indication elements.

If during the data retrieval the device beeps 4 times and the progress bar moves back to the beginning, this means that the reading of data will be continued by **3D Tacho** at a lower speed. This can happen on the "old" type of tachograph, where the data download can take up to one hour.

If during data retrieval red LED located in the center of the label lights up for about 4 seconds, and in this time the device sounds three short beeps, then it goes off for about 2 seconds (repeatedly), this means an error occurred - refer to the " $\frac{1}{2}$ " topic.

- 5. End of data download will be signaled by the device by repeated beeps and flashing LEDs on the progress bar.
- 6. Disconnect **3D Tacho** from the tachograph and remove the company card.
- 7. The data is saved to a file (Vehicle reg.no.\_Date and time of data download.DDD), which is placed in the **TACHO** folder in the device memory.

Do not delete files from the LOG directory in the device memory.

#### 7.1. Download special speed data

Some tachographs record special speed data (except the data specified in the Regulation 3821/85).

#### Requirements

- 1. **Continental VDO** tachograph version 1.3 or higher
- 2. The device for downloading data from the tachograph: **TachoReader Combo Plus**, with serial number that ends with **the letter "B"**.

The serial number can be found on the label placed on the bottom of the device.

3. In the configuration window, for the selected button, select: ✓ Speed data from VDO tachograph (S-file) option (Fig. bellow) and decide which special data to download (all selected by default)

The special data include:

- Detailed data 4/sec, that is:
  - Last three records (high resolution frequency: four values/second) of two-minute speed periods, in which there was an unnatural speed change in a short period of time
  - Last three records (high resolution frequency: four values/second) of two-minute speed periods, in which there was a sudden, high change in speed
- Speed history of the last 168 hours of driving recorded with a frequency of one second

Operations during data download from the tachograph are the same as in regular data download (see: "<u>Download from tachograph</u> 13")

The only difference is that before downloading data in the device configuration window, you need to select the **Speed data from VDO tachograph (S-file)** option. After selecting it, you can decide what kind of special speed data you want to download (Fig. bellow).

The special data is always downloaded in full, regardless of the selected period of time.



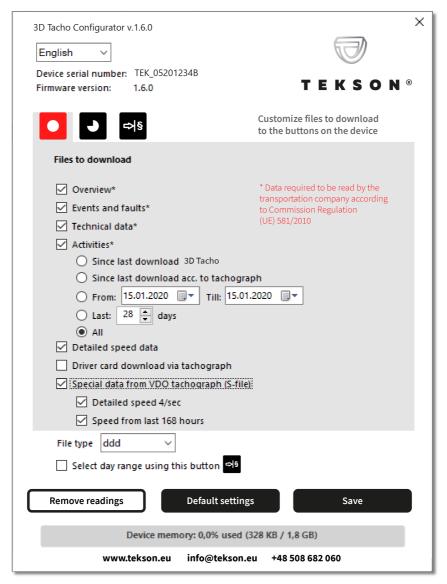


Fig. Configuration window: 3D Tacho.

Downloading data begins after pressing one of the buttons: or or or depending on the button for which you have selected: Speed data from VDO tachograph (S-file).

For an instruction on data download, refer to: "Download from tachograph 13" topic.

The data is saved to a file (Vehicle reg.no.\_Date and time of data download with added "\_S".DDD, e.g. "WWW1343\_20150827110734\_S.DDD"), which is placed in the **TACHO** folder in the device memory.

Do not delete files from the LOG directory in the device memory.

## 8. Download from driver card/workshop card

Downloading driver card and workshop card data directly from the **3D Tacho** slot can be accomplished in several ways, depending on the type of power supply of the unit:

- 1. When battery-powered (stand-alone operation) insert the battery/rechargeable batteries to the device socket. (see: "Battery change 28" topic for more).
- 2. When powered from the tachograph connect **3D Tacho** with the tachograph via **Tacho TEKSON cable**.
- 3. When powered from the computer connect TR Combo Plus to a computer via the Mini-USB cable.

3D Tacho is able to download data from a driver card inserted in the slot of the tachograph - see: "Download from driver card inserted in the tachograph 201" topic for more.

#### **Download procedure**

- 1. Insert the batteries/rechargeable batteries to **3D Tacho** or connect the device to a different power source (see the description above).
- 2. Insert the driver card/workshop card into the slot of **3D Tacho**.

  Data download is started automatically when you place the card in the device slot.

  Download progress will be indicated by a single beep and incremental lighting up the LEDs on the progress bar.





Fig. 3D Tacho - inserting a driver card.

If during data retrieval red LED located in the center of the label lights up for about 4 seconds, and in this time the device sounds three short beeps, then it goes off for about 2 seconds (repeatedly), this means an error occurred – refer to the " $\frac{1}{2}$ " topic.

- 3. End of data download will be signaled by the device by repeated beeps and flashing LEDs on the progress bar.
- 4. Remove the card from the device slot.
- 5. The data is saved to a file (Surname\_First name\_Middle name\_Date and time of data download.DDD) placed in the **CARD** directory in the device memory.

# 9. Download from driver card inserted in the tachograph

3D Tacho can download simultaneously or individually the data from a driver card inserted in the tachograph and the tachograph data. This depends on the settings described below.

O	perations after connecting to a computer
Ор	en the device configuration window (see: "Configuration 10" topic for more), and then:
Ор	otion I - Downloading data from driver card only
1.	For any selected configuration of $lacksquare$ , $lacksquare$ or $lacksquare$ button <b>uncheck</b> $\Box$ <u>all</u> the options.
2.	<b>Check</b> one option only: $oxedsymbol{oxed}$ Driver card download via tachograph.
Ор	otion II - Simultaneous downloading data from driver card and the tachograph
1.	For any selected configuration of or button, choose the type and scope of activities to be downloaded from the tachograph (see: "Configuration 10" topic for more).
	If you are not sure what to choose, click on the button:
2.	Additionally, <b>check</b> the: $oxedsymbol{oxed}$ <b>Driver card download via tachograph</b> option.
Ор	otion III - Configuration on the device - Downloading data from driver card only
1.	Regardless of the chosen button configuration, check 🗹 Select day range using this

- button 🖼
- 2. Other options do not affect the data download in this option.

### **Operations on the vehicle**

We recommend that you read the operating instructions of the tachograph.

Turn the ignition switch to position II (ignition) - until the lights on the dashboard switch on (switching on the tachograph).

We recommend to carry out the above step accompanied by the driver of the vehicle.



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- 2. Depending on the selected option:
  - Option | 20 insert the driver card into any slot of the tachograph;
  - Option | 20 - insert a company card and the driver card to any tachograph slots;

 $After \ reading \ the \ company \ card, \ some \ tachographs \ may \ request \ confirmation \ of \ "unlocking".$ 

In this case, "unlock" the tachograph, or "Technical data" and "Activities" will not be downloaded.

• Option III 20 - insert the driver card into any slot of the tachograph;

Old types of tachographs:

For Option 1 20 and Option 11 20 it may also be required to insert the company card.

- 3. Connect 3D Tacho device to the tachograph using a **Tacho TEKSON cable**.
- 4. Depending on the selected option:
  - Option | 20 press the button you configured ( , or or or

  - Option III 20 repeatedly press the: button until the LEDs on the fields 28 and 60 of the progress bar light up (Fig. bellow);



Fig. Data download progress bar.

Click: to start downloading data.

If during the data retrieval the device beeps 4 times and the progress bar moves back to the beginning, this means that the reading of data will be continued by **3D Tacho** at a lower speed. This can happen on the "old" type of tachograph, where the data download can take up to one hour.

If during data retrieval red LED located in the center of the label lights up for about 4 seconds, and in this time the device sounds three short beeps, then it goes off for about 2 seconds (repeatedly), this means an error occurred – refer to the " $\frac{1}{2}$ " topic.

- 5. End of data download will be signaled by the device by repeated beeps and flashing LEDs on the progress bar.
- 6. Disconnect **3D Tacho** from the tachograph and remove the driver card and possibly the company card.
- 7. The data is saved to a file (Surname\_First name\_Middle name\_Date and time of data download.DDD) placed in the **CARD** directory in the device memory.



# 10. Transferring data files into PC

Files downloaded from the driver card are stored in the **CARD** directory, and files downloaded from the digital tachograph are stored in the **TACHO** directory.

Under no circumstances should you move, delete, or rename these directories!

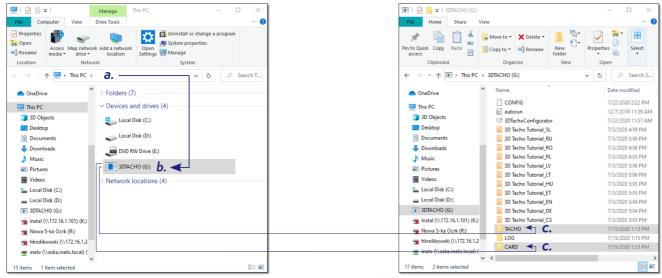
Do not delete files from the **LOG** directory in the device memory.

Transfer procedure from **3D Tacho** into a PC:

a. Connect the **3D Tacho** device to the USB port in your computer

**3D Tacho** is installed in the computer as a separate drive named "**3DTACHO**".

- b. Using windows or another file explorer, copy the files and move them to the desired location on your computer, e.g.:
  - a. open File Explorer (This PC/My computer)
  - b. find **3DTACHO** external drive
  - c. data downloaded from driver/workshop card is in **CARD** folder, and data from the tachograph is in **TACHO** folder
  - d. select, copy and then paste the files in the chosen location



Rys. 3DTACHO external drive

Downloaded tachograph data file name format: "Vehicle reg. no\_Date and time of the data download (year, month, day, hour, minutes, seconds). DDD" (Example: SB\_3106G\_20130520091234.DDD).

Downloaded driver card data file name format: "Surname\_First name\_Middle name\_Date and time of the data download (year, month, day, hour, minutes, seconds). DDD" (Example: Kowalski\_Jan\_Mateusz\_20130520084432.DDD).

#### 11. Error codes

Errors during device operation are indicated by sound and flashing of the corresponding LEDs.

Error Indication: Red LED located in the central point of the label is lit for about 4 seconds and is off for about 2 seconds. At the same time **3D Tacho** sounds three short beeps. The fault code is displayed in the progress bar.

The meaning of the error codes depends on the data source.

#### 11.1. Download from driver card/workshop card

Possible errors when downloading from a driver/workshop card:

No response of the unit
Cause
No power.
Solution
Replace batteries / rechargeable batteries or connect the device to a tachograph or computer.

# The whole line of the progress bar lights up smoothly four times just before reading the card

Cause

Low battery, you can download the data.

Solution

Replace batteries / rechargeable batteries or connect the device to a tachograph or computer.



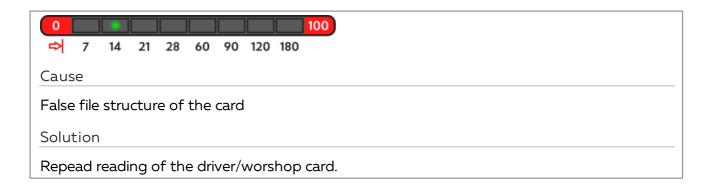
#### Quick three blinks of the red LED in two-second intervals

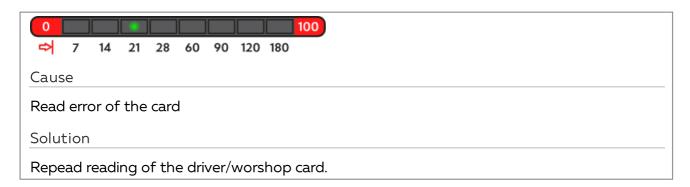
Cause

The battery is low, reading of the card is not possible.

Solution

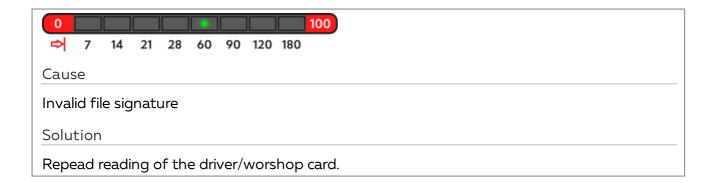
Replace batteries / rechargeable batteries or connect the device to a tachograph or computer.

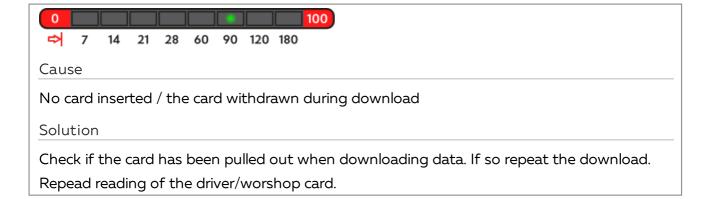




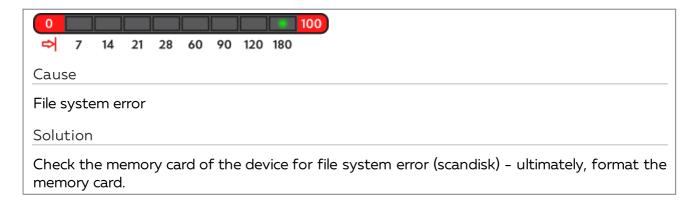








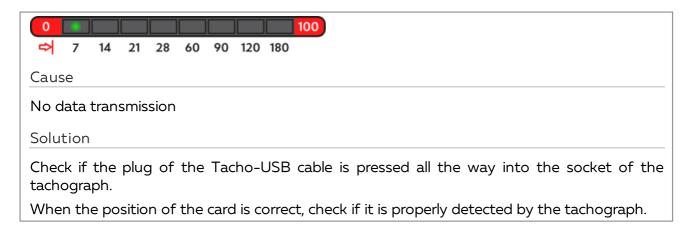


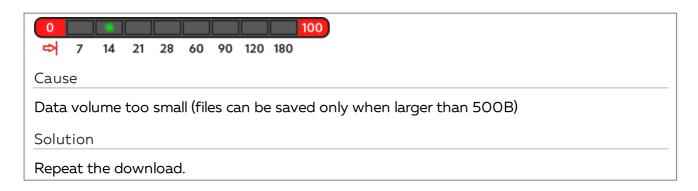


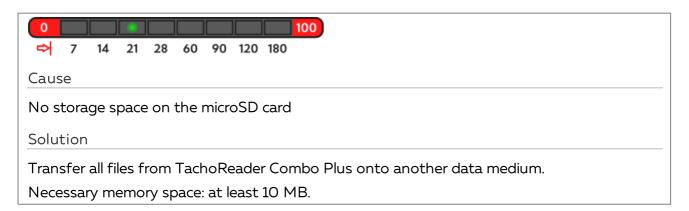


#### 11.2. Download from tachograph

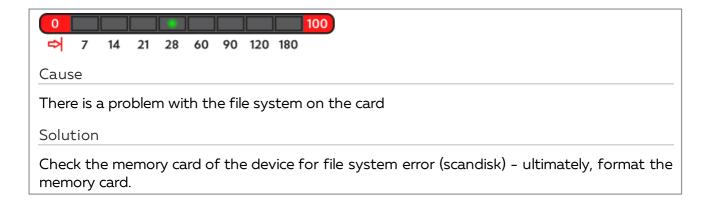
Possible errors when downloading from a digital tachograph:

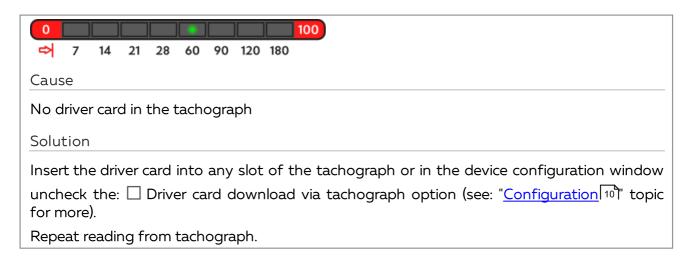


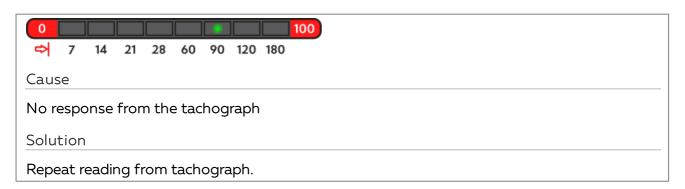


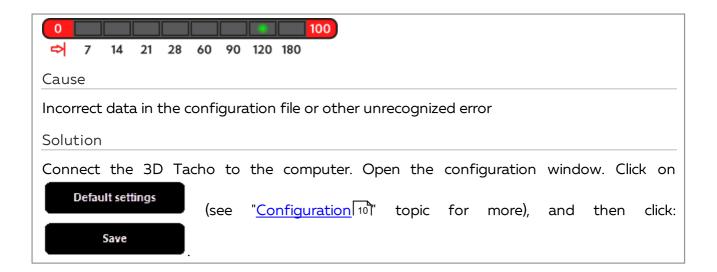


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## 12. Battery change

If **3D Tacho** (see "Error codes 23] -> <u>Download from driver card 23</u>" topic for more) a low or critical charge of the battery / rechargeable batteries, replace the batteries with new ones.

To replace the batteries proceed as follows:

- take off the black protection skin
- press the spot on the back of the case as shown by the arrow (Fig. bellow) and remove the cover. There you will find two batteries AA 1,5V.
- take out old batteries and put new ones in.





Fig.TachoReader Combo - battery change.

### 13. FAQ

#### Driver card is inserted in 3D Tacho and the LEDs on the device do not light up

In this case re-insert the card into the device, press it so that the device sounds a beep and the first LED on the progress bar lights up.

The problem may also occur when 3D Tacho is connected to a computer using a mini-USB cable via a HUB. Connect the device directly to the USB port.

If the problem persists, contact the manufacturer's <u>service</u> [31].

# After connecting 3D Tacho to computer LEDs on the progress bar do not blink and the device is not detected in the system

Restart the computer.

If the above step does not help, to check the very device, connect it to another computer.

If the device is still not visible in the system, connect the device to the computer using a different MINI USB cable.

If the problem persists, contact the manufacturer's <u>service</u> [31].



# After connecting the 3D Tacho to the tachograph LEDs on the device do not blink and data from tachograph are not downloaded

Switch the tachograph off and on, unplug and re-connect the device to the tachograph.

If the problem persists, check the device on another tachograph.

If the problem persists, contact the manufacturer's <u>service</u> [31].

#### 3D Tacho cannot read the driver/workshop card

Make sure that you insert the card reader correctly into the slot.

Check if the card is read by another digital card reader.

If 3D Tacho runs on battery power, it can be caused by discharged batteries/storage batteries (more: Error codes 23 -> Download from driver card 23)

If the problem persists, contact the manufacturer's <u>service</u> [31].



FAQ 31

## 14. Additional information

#### 14.1. About the TEKSON brand



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