INELO devices

Manual

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TachoReaderConfigurator: 1.6.0

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Manual

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1. Introduction

This manual describes the procedure for the data download from digital tachographs using several external devices and for transmitting this data into the software TachoScan/4Trans. Not experienced program user should follow exactly the described steps. Users with background knowledge can go through directly to the particular interesting topics.

This text is intended for users with no experience with external devices. For this reason the respective steps are described thoroughly.

2. TachoReader Mobile II

TachoReader Mobile II is a download device and supports all established digital tachograph makes. Using the tachograph, it is also possible to download driver card data. That data remain in the device memory until they are transmitted via USB interface into other storage medium.

During the download TachoReader Mobile II is supplied with power by the tachograph (no extra energy sources needed). The TachoReader Mobile II is a small, user-friendly and handy device.

Fig. TachoReader Mobile II.

2.1. Installation

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

To install **TachoReader Mobile II** on a computer, simply connect it to the USB port and wait until Windows® installs it automatically.

> When it detects a new device, Windows® automatically installs it as a new mass storage disk.

2.2. Configuration

> 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!

Before you launch the download, configure TachoReader in the following way:

1. Plug TachoReader into a USB port.
2. Start the program TachoScan/4Trans.

> Menu in the 4Trans is different than shown here - refer to the 4Trans Help.

- click on the appropriate icon;
- select the menu option **Device configuration**.

> The **Device configuration** window may be opened directly from TachoReader, by executing the file **Konfigurator**.

- then select the following settings:

Fig. Configuration window.

a. **Overview** - basic tachograph data,

b. **Activities** - Driver activities (driving, rest, availability, work) on the particular day,

   c. **since last download** - pick all data since last download with TachoReader.

> *The information about the previous download are stored in the memory of TachoReader Mobile II. Thus downloads with other devices are not taken into account.*
>
> *We suggest to use this option.*

   d. **since ... till ...** - set the time period for the download as required,
   e. **last ... days** - download data for the last (number of) days,
   f. **all** - download all activity data stored in the tachograph (for all days),

> *The data download from a tachograph can take up to 1 hour time.*

g. **Events and faults** - download events (e.g. driving without an appropriate card) and faults (e.g. Power supply interruption),

h. **Detailed speed** - download of detailed speed data,

> *The digital tachograph records the speed with a frequency 1 record/second. But the storage saves records only for the last 24 hours driving time.*

The download procedure takes longer, when you download the speed data as well.

    i. **technical data** - Information like calibration date, tachograph serial number;

    j. **Driver card download via tachograph** - check to make the device retrieve data from driver card only when connected to the tachograph (for details, see the section: TachoReader Mobile II -> Download from driver card 10, TachoReader Combo Plus -> Download from driver card inserted in the tachograph 27);

Setting range of days does not affect the reading from the driver card - **the device will always retrieve all the data from the driver card**.

    m. **Select data range using § button (TRC only)** - (option for TachoReader Combo Plus device) check it to make the configuration directly in the device (for a detailed description, refer to the topic: "Configuration directly in the device 23 ");

    k. **Save settings** - use this button to save the new configuration settings,

    n. **Erase** - Use this function to delete all the download files from the memory of the device.

2.2.1. Recommended configuration

Fig. Recommended configuration.

> *Please make sure that during each data download "Since last download" option is selected.*
>
> *During the first data download, TachoReader automatically downloads the whole range of activities, but not more than from one year ago.*
>
> *In the default settings the detailed speed data download is selected. Remember that the tachograph stores in its memory only the speed* **for approx. the last 24 hours of driving**.
>
> *When downloading data from a driver card, select the option:* **Driver card download via tachograph**. *Setting range of days does not affect the reading from the driver card -* **the device will always retrieve all the data from the driver card**.

2.3. Download from tachograph

To download data from the tachograph:

Operations after connecting to a computer
Make sure that the "Driver card download via tachograph" option in the configuration window of **TachoReader Mobile II** device is **unchecked**, otherwise uncheck it.

Operations on the vehicle

1. Turn the vehicle key in the position II (ignition) – the control lamps on the instrument board flash (tachograph activation).

   > *We recommend to perform these operation together with the driver.*

2. Insert the company card / control card into slot 1 or 2 in the tachograph.

3. The tachograph detects the card. Confirm the checkback "Company lock yes/no".

4. Plug your TachoReader Mobile II into the tachograph interface.

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

5. The TachoReader Mobile II starts the download automatically (both LED flashing green).

   > *Depending on the data range the download can take up to **1 hour** time.*
   >
   > *Flash the LEDs in the device with red light during the download then see: "[Error codes] 13 ".*

6. After the download both LEDs beam green (they beam red by download faults).

   > *Repeat the download when a download fault is signaled. When the repeated download is faulty as well, try to download data from another tachograph.*
   >
   > *If the download from another tachograph is OK, the first tachograph may be disturbed (visit a tachograph service station).*
   >
   > *When the second download is disturbed contact the [service] 44 of the TachoReader manufacturer.*

7. After reading, unplug the device from the tachograph and remove company card / control card.

   > *After pressing the reject button, you are asked, if the company lock has to be activated.*
   >
   > *It is useful to **ALWAYS** set the company lock, to avoid downloading of data by third parties (external persons could download data and lock the tachograph for their own company card).*

2.4. Download from driver card

To download driver card data:

Operations after connecting to a computer

Make sure that the "Driver card download via tachograph" option in the configuration window of TachoReader Mobile II device is **checked**, otherwise check.

Operations on the vehicle

1. Turn the vehicle key in the position II (ignition) – the control lamps on the instrument board flash (tachograph activation).

   > *It is recommended to perform this step together with the driver.*

2. Insert the company card into slot 1 or 2 in the tachograph.

3. After reading the card in the tachograph confirm the message: "**Lock tachograph yes/no.**"

4. Insert driver card from which data is to be retrieved into a free slot in the tachograph.

5. After recognizing the card by the tachograph, connect the TachoReader Mobile II device to the tachograph port.

   > *For location of the port in the tachograph refer to the tachograph manual.*

6. **TachoReader Mobile II** automatically proceeds to retrieve data (LED flickers green).

   > *If, during data downloading, LEDs on the key light up in red, this means an error; see the topic: "Error codes ⌐13¬".*

7. After the download is complete, both LEDs on TachoReader Mobile II turn green (if there were errors while downloading, the LED turns red).

   > *If the device signals data download error, repeat the download. If download error persists, please use another tachograph for downloading.*
   >
   > *If the download in another tachograph is successful, take the tachograph returning faulty reading to the service.*
   >
   > *If the incorrect reading is repeated also on another tachograph, please contact the TachoReader manufacturer service ⌐44¬.*

8. After the reading, unplug the unit from the tachograph, remove the company card and the driver card.

   > *When you press the company card eject button, the tachograph asks: "Do you want to lock the tachograph?".*

It is recommended to ALWAYS lock the tachograph to prevent unauthorized persons from downloading the data and locking the tachograph with another company card.

2.5. 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!

Transfer procedure from TachoReader Mobile II into a PC:

1. Connect the TachoReader device to the USB port in your computer.

2. When you press the appropriate button, select the "**Download data files**" -> "**all**".

Menu in the 4Trans is different than shown here - refer to the 4Trans Help.

*When under **"Program settings"** the option **"Delete original files after download"** is checked, then the original files will be automatically deleted from TachoReader Mobile II after successful download.*

It is easier and more efficient to work with the device when this option is activated.

*It is also possible to pick only a specified data file from the TachoReader Mobile II. Click **"Download data files"** and then select the desired file in the list.*

3. TachoScan picks the data and performs the evaluation (the digital signature check as well). If the digital signature is valid, the data is saved to the data base and the original file copied into the PC. The download file data will be presented in the "Daily view" (see: "**Help for TachoScan**").

*Source files (original downloaded files) will be copied (moved) to the appropriate directory configured in the **program settings**.*

*It is also possible to move the files from TachoReader into the PC (backup) without involving the program TachoScan. For this purpose perform the common Windows® copying procedure (the TachoReader is installed as a removable drive named **"PNSTACHO"**).*

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).

2.6. Error codes

The TachoReader Mobile II announces errors with flashing LED.

The error type is identified by a number of red impulses between green signals.

For instance: the LED beams green light, then twice red, again green. After that the cycle repeats. In this case the error is coded by the two red signals of the LED.

Error messages

1 x red

No communication with the tachograph.

> *Check, if the company card is correctly inserted.*
>
> *When the position of the card is correct, check if it is properly detected by the tachograph.*

2 x red

Data downloaded not completely.

> *Repeat the download.*

3 x red

No memory space in the device storage.

> *Move some files from TachoReader Mobile II onto external data media.*
>
> *Necessary memory space in TRM: at least 10 MB.*

4 x red

Memory cluster fault or error.

> Contact the *service* 44 *of the manufacturer.*

5 x red

File system other than FAT32.

> *Format device memory once again. Use the file system FAT32.*
>
> *Transfer all files onto another data medium before formatting.*

6 x red

Cluster size not correct.

> *Format device memory once again. Use the file system FAT32.*
>
> *Transfer all files onto another data medium before formatting.*

7 x red

Device disturbed / damaged.

> Contact the *service* 44 *of the manufacturer.*

LED do not flash

Power supply interruption.

> *Is the tachograph activated? The ignition key must be in the position II (ignition) (the control lamps on the instrument board flash).*

3. TachoReader Combo Plus

TachoReader Combo Plus device allows to download data directly from a tachograph or a driver's 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).
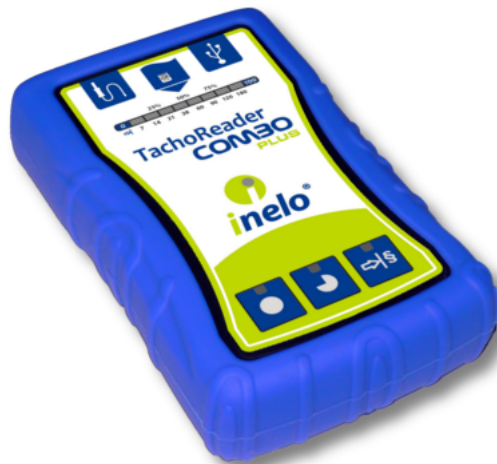

Fig. TachoReader Combo Plus.

The kit
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. TachoReader Combo Cable (hereinafter referred to as the **Tacho RC cable**) - for reading data from the tachograph - the device uses the tachograph power supply

3.1. Technical Data

POWER SUPPLY
• from the tachograph via **Tacho RC 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 2 GB minimum;   - stores up to 40 000 readings (2GB version) from driver cards;   - stores up to 10 000 readings (2GB version) from digital tachograph;

OTHER
- supported by all current tachographs and driver 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 6" was made);   12 leds that indicate the status of the unit (e.g. the progress of data download).

3.2. Operating elements

Fig. TachoReader Combo - main operating elements.

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

	- Mini-USB port - used to connect the device to the computer.
	- Tacho-Combo port - used to connect the device to the tachograph.

	- driver card reader slot.

2. (Item 1 - Fig. above) Progress bar - indicates the progress of the data download or reading error (see: "Error codes 30 ").

3. (Item 2) Main indicator - indicates the reading/writing and events e.g. reading error, starting data download from a driver card or tachograph, etc.

4. Description of buttons:

	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration 6 "); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Everything** and "Detailed speed" <u>only</u> from the tachograph;
	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration 6 "); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Since last download** and "Detailed speed" <u>only</u> from the tachograph; If, in the configuration window ☑ **Select day range using this button** was checked, the data is downloaded according to the range of days selected with the: button (see: "Configuration directly in the device 23 " topic for more).
	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration 6 "); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Last: 28 days** and "Detailed speed" <u>only</u> from the tachograph; If, in the configuration window: ☑ **Select day range using this button** was checked, using this button you can select directly on the device the range "Activities" or choose to download data from a driver card inserted into the tachograph (see: "Configuration directly in the device 23 " topic for more).

3.3. Operating modes

TR Combo Plus 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 card in the card reader slot or the tachograph slot;
- **Driver card download via tachograph** option in the device configuration window;

Connection type

Standalone operation

Power supply: batteries (rechargeable batteries).

The driver card inserted in the reader slot

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

Device conected to the tachograph with the Tacho-Combo cable

Power supply: from the tachograph.

The driver card inserted in the reader slot

After the driver card is placed in the slot of the reader, the process of data download from the driver 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:

☑ *Option checked* — downloads data from driver card and tachograph simultaneously;

☐ *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;

☐ **_Option unchecked_** — downloads data of 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 23 ").

Device connected to the computer using a Mini-USB cable

Power supply: from the computer.

The driver card inserted in the reader slot

After the driver card is placed in the slot of the reader, the process of data download from the driver 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 "Konfigurator.exe" file placed in TR Combo the memory), possibility to read/write data from/to the device and work with 4Trans and TachoScan.

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

3.4. Installation

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

Required elements for PC installation

1. The device **TachoReader Combo Plus**;
2. The cable MINI-USB.

Installation procedure
1. Connect the device **TachoReader Combo Plus** 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 **TachoReader Combo Plus** as USB Mass Storage Device.

3.5. Configuration

Device configuration window can be launched in two different ways:

1. Directly from the device memory - **Konfigurator.exe**. file.
2. Using 4Trans or TachoScan - program menu.

> 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.
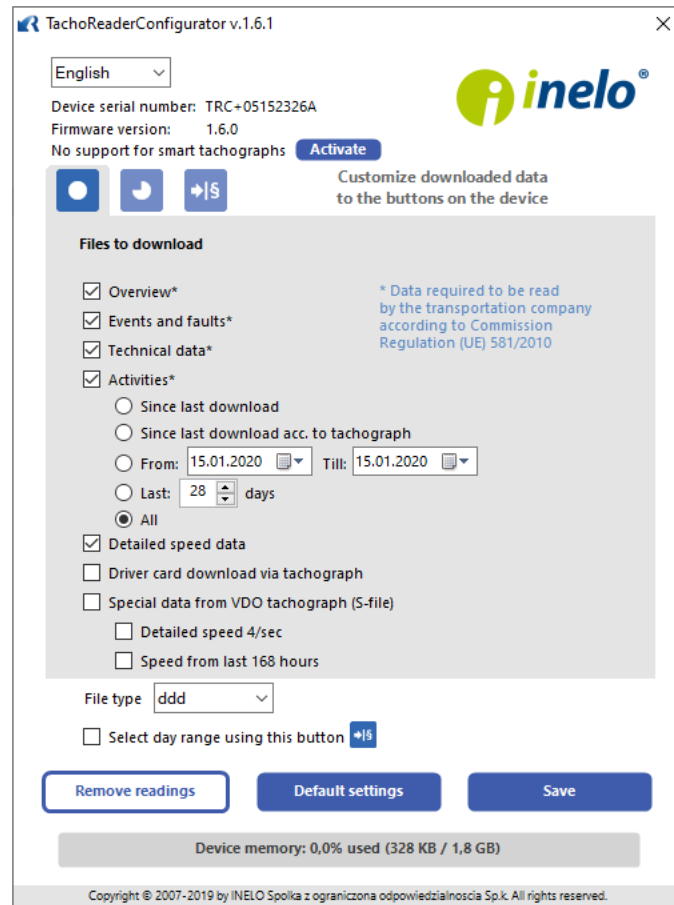
Fig. Configuration window.

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
    - **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 27" 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: "Download special speed data" 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 23" for more)

☐ ***Option unchecked*** — downloading data will be based on the configurator settings.

To confirm the configuration changes, click .

3.5.1. 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* 6 *")*.

2. Connect **TachoReader Combo Plus** to the tachograph using a Tacho-Combo 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.);
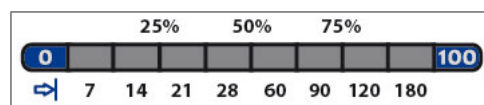
   - to change the range of days to download, press the: ⇨§ button until the LED on the respective number of days lights up;
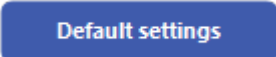
   - downloading is started by pressing: button.

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 27 " topic for more).

3.6. Download from tachograph

Operations after connecting to a computer

1. Open the TR Combo Plus configuration window, and then, to configure button: ,

   or ⇨§ select the type and scope of activities to be downloaded from the tachograph (see: "Configuration 6 " topic for more).

   If you are not sure what to choose, click: Default settings .

2. If you want to control the scope of the downloaded data directly on the device, **check** the:

   ✓ **Select day range using this button** ⇨§ option (see: "Configuration directly in the device 23 " topic for more).

3. If you do not want to download data from the driver card via the tachograph **uncheck** the

option: ☐ **Driver card download via tachograph**.

Operations on the vehicle

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

1. 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.*

2. Insert a company card into any tachograph slot.

> *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.*

3. Connect TR Combo Plus to tachograph using Tacho RC cable.

> *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:

	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration⌐ 6 ⌐"); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Everything** and "Detailed speed" <u>only</u> from the tachograph;
	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration⌐ 6 ⌐"); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Since last download** and "Detailed speed" <u>only</u> from the tachograph; If, in the configuration window ☑ **Select day range using this button** ⇥§ was checked, the data is downloaded according to the range of days

	selected with the: ⇨|§ button (see: "Configuration directly in the device 23 " topic for more).
⇨|§	– downloads data from tachograph / driver card, depending on the configuration (see: "Configuration 6 "); **The default configuration**: download "Overview", "Events and faults", "Technical Data", **Activities -> Last: 28 days** and "Detailed speed" <u>only</u> from the tachograph; If, in the configuration window: ☑ **Select day range using this button** ⇨|§ was checked, using this button you can select directly on the device the range "Activities" or choose to download data from a driver card inserted into the tachograph (see: "Configuration directly in the device 23 " topic for more).

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. TachoReader Combo - 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 **TR Combo** at a lower speed. This can happen on the "old" type of tachograph, where the data download can take up to one hour.*

No special speed data collected from VDO tachographs (a detailed description: "Download special speed data").

5. End of data download will be signaled by the device by repeated beeps and flashing LEDs on the progress bar.

6. Disconnect **TR Combo Plus** 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.

3.7. Download from driver card/workshop card

Downloading driver card data directly from the **TR Combo Plus** 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 33 " topic for more).

2. When powered from the tachograph - connect TR Combo Plus with the tachograph via **Tacho RC cable**.

3. When powered from the computer - connect TR Combo Plus to a computer via the **Mini-USB cable**.

> *TR Combo 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* 27 " *topic for more.*

Download procedure
1. Insert the batteries/rechargeable batteries to **TR Combo Plus** or connect the device to a different power source (see the description above).   2. Insert the driver card into the slot of **TR Combo Plus**.   Data download is started automatically when you place the driver 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. TachoReader Combo Plus - inserting a driver card.

No special speed data collected from VDO tachographs (a detailed description: "Download special speed data").

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.

3.8. Download from driver card inserted in the tachograph

TR Combo Plus 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.

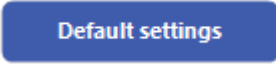| **Operations after connecting to a computer** |
| --- |
| Open the device configuration window (see: "Configuration 6 " topic for more), and then:

Option I - Downloading data from driver card only

1. For any selected configuration of ⬜, ⬜ or ⬜ button **uncheck** ⬜ all the options.

2. **Check** one option only: ☑ **Driver card download via tachograph**. |

Option II - Simultaneous downloading data from driver card and the tachograph

1. For any selected configuration of [icon], [icon] or [icon] button, choose the type and scope of activities to be downloaded from the tachograph (see: "Configuration 6 " topic for more).

    If you are not sure what to choose, click on the button: [Default settings] .

2. Additionally, **check** the: ☑ **Driver card download via tachograph** option.

Option 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** [icon] .

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.*

1. 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.*

2. Depending on the selected option:
    - **Option I** 27 - insert the driver card into any slot of the tachograph;
    - **Option II** 28 - - 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** 28 - insert the driver card into any slot of the tachograph;

> *Old types of tachographs:*
> *For **Option I** 27 and **Option III** 28 it may also be required to insert the company card.*

3. Connect TachoReader Combo Plus device to the tachograph using a **Tacho RC cable**.

4. Depending on the selected option:

   - **Option I** 27 - press the button you configured (, or)

   - **Option II** 28 - press the button you configured (, or)

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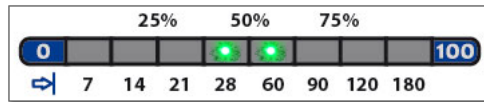
Fig. Data download progress bar.

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 **TR Combo** at a lower speed. This can happen on the "old" type of tachograph, where the data download can take up to one hour.
>
> > No special speed data collected from VDO tachographs (a detailed description: "Download special speed data").

5. End of data download will be signaled by the device by repeated beeps and flashing LEDs on the progress bar.

6. Disconnect **TR Combo Plus** 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.

3.9. 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!

Transfer procedure from TachoReader Mobile II into a PC:

1. Connect the TachoReader device to the USB port in your computer.

2. When you press the appropriate button, select the "**Download data files**" -> "**all**".

> *Menu in the 4Trans is different than shown here - refer to the 4Trans Help.*

3. TachoScan picks the data and performs the evaluation (the digital signature check as well). If the digital signature is valid, the data is saved to the data base and the original file copied into the PC. The download file data will be presented in the "Daily view" (see: "**Help for TachoScan**").

> *Source files (original downloaded files) will be copied (moved) to the appropriate directory configured in the **program settings**.*
>
> *It is also possible to move the files from TR Combo Plus into the PC (backup) without involving the program TachoScan. For this purpose perform the common Windows® copying procedure (the TachoReader is installed as a removable drive named "**PNSTACHO**").*
>
> *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).*

3.10. 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 TR Combo Plus sounds three short beeps. The fault code is displayed in the progress bar.

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

3.10.1. Download from driver card

Possible errors when downloading from a driver card:

No response of the unit

No power.

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

Low battery, you can download the data.

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

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

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

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

False card type

Insert the card correctly again. Check if it is the right card type.

False file structure of the driver card

Repead reading of the driver card.

Read error of the driver card

Repead reading of the driver card.

Differing card structure

Repead reading of the driver card.

Invalid file signature

Repead reading of the driver card.

No card inserted / the card withdrawn during download

Check if the card has been pulled out when downloading data. If so repeat the download.

Repead reading of the driver card.

`0` ▮▮▮▮▮▮▮🟢▮▮ `100`	**Read error**

Repead reading of the driver card.

`0` ▮▮▮▮▮▮▮▮▮🟢 `100`	**File system error**

Check the memory card of the device for file system error (scandisk) - ultimately, format the memory card.

3.10.2. Download from tachograph

Possible errors when downloading from a digital tachograph:

`0` 🟢▮▮▮▮▮▮▮▮▮ `100`	**No data transmission**

Check if the plug of the Tacho-USB cable is pressed all the way into the socket of the tachograph.

When the position of the card is correct, check if it is properly detected by the tachograph.

`0` ▮🟢▮▮▮▮▮▮▮▮ `100`	**Data volume too small (files can be saved only when larger than 500B)**

Repeat the download.

`0` ▮▮🟢▮▮▮▮▮▮▮ `100`	**No storage space on the microSD card**

Transfer all files from TachoReader Combo Plus onto another data medium.

Necessary memory space: at least 10 MB.

`0` ▮▮▮🟢▮▮▮▮▮▮ `100`	**There is a problem with the file system on the card**

Format the device memory.

`0` ▮▮▮▮🟢▮▮▮▮▮ `100`	**No driver card in the tachograph**

Insert the driver card into any slot of the tachograph or in the device configuration window uncheck the: ☐ **Driver card download via tachograph** option (see: "[Configuration](#) 6 " topic for more).

Repeat reading from tachograph.

![progress bar]	**No response from the tachograph**

Repeat reading from tachograph.

![progress bar]	**Incorrect data in the configuration file or other**

unrecognized error

Connect the TR Combo to the computer. Open the configuration window. Click on

Default settings (see "[Configuration](#) 6 " topic for more), and then click:

Save.

3.11. Battery change

> *If TR Combo Plus indicates (see "[Error codes](#) 30 -> [Download from driver card](#) 30" 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 blue 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.

3.12. FAQ

Driver card is inserted in TachoReader Combo Plus 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 TR Combo Plus 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 service 44 .

After connecting TachoReader Combo Plus 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 service 44 .

After connecting the TachoReader Combo Plus 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 service 44.

TR Combo Plus cannot read the driver card

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

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

If the problem persists, contact the manufacturer's service 44.

4. Tacho USB Transmission cable

Plug the transmission cable ("Tacho USB") into USB port for direct data download from tachograph into the TachoScan software on the laptop.

The advantage of this solution is the low cost of the device itself (when the user owns already a laptop and TachoScan). You will have to take into account, that the whole set is bulky and the laptop needs external power supply.

Fig. Transmission cable "Tacho USB".

4.1. Installation

Requirements for the installation in a PC

• USB Transmission cable ("Tacho SUB"),
• PC,
   ➢ installed software TachoScan,
   ➢ free USB port

Installation procedure

Tacho USB Transmission cable

1. Plug the transmission cable into the USB port of the PC.

2. The following window pops up (Fig. bellow). Choose the option **Install from a list or specific location** (pos.1) and press the button **[Next >]** (pos.2).
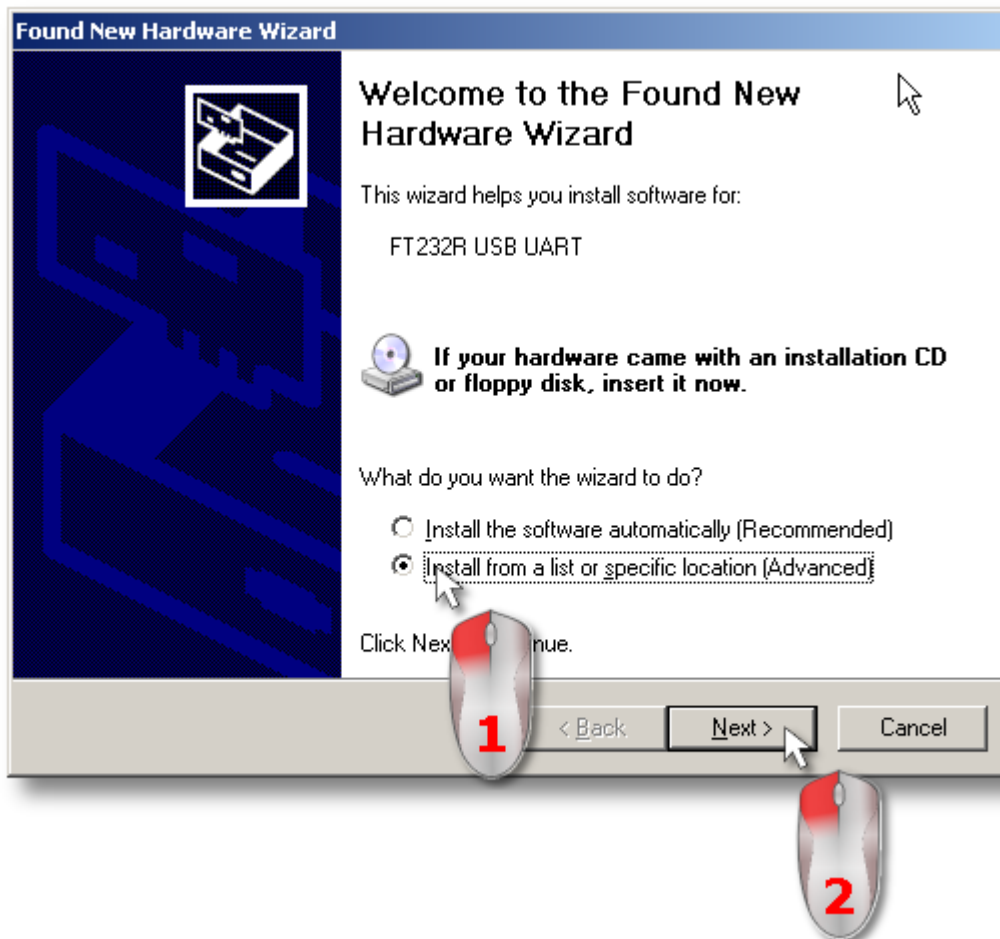
Fig. Hardware Update Wizard.

3. Insert **TachoScan** installation CD into the drive.

4. In the following window select the option **Search for the best driver in these locations:** (pos.1 – Fig. bellow) then press **[Browse]** (pos.2).
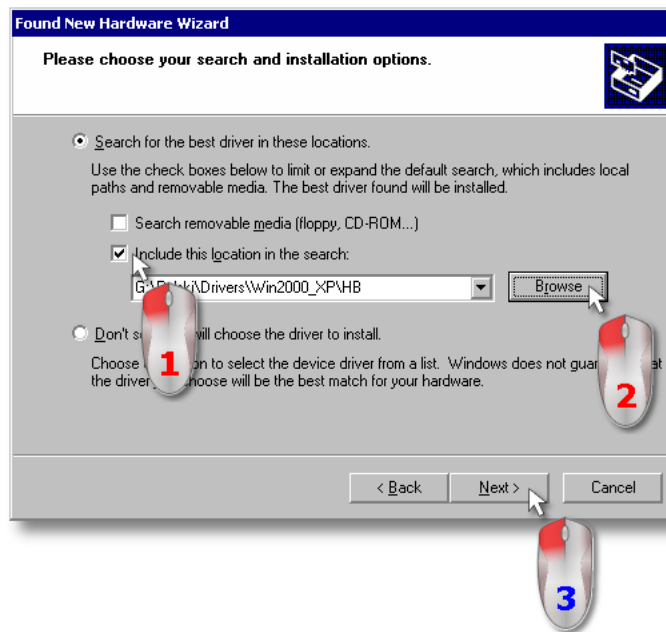
Fig. The path to the device drivers.

5. In the next window select the path to the drivers of the USB cable: "TachoScan\Extras\Treiber\TachoCable USB" (pos.1- Fig. bellow) and press **[OK]** (pos.2).

6. Is the path selected, press **[Next>]** (pos.3 - Fig. above).
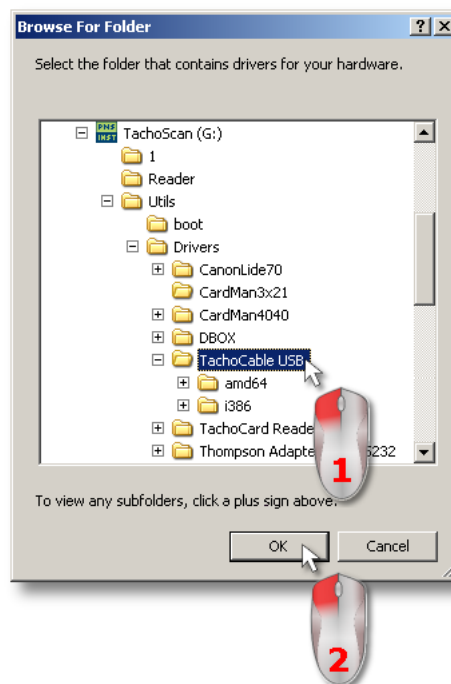
Fig. The path selection window.

7. The window (Fig. bellow) appears when the installation is completed.

Fig. Installation completed.

8. After completing the installation (Fig. above) the hardware update wizard pops up again (Fig. bellow); Repeat the steps from points 2 to 7.

Fig. Hardware Update Wizard once again.

4.2. Configuration

Configuration depends on your version of TachoScan. Description is available in Help file of the appropriate program.

4.3. Download from tachograph

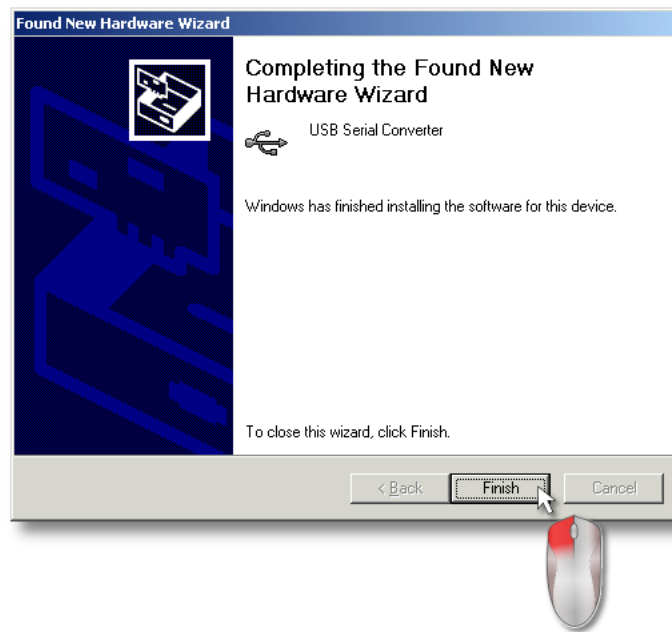| Requirements for a data download from digital tachograph |
|---|
| • USB transmission cable,
• laptop with installed software TachoScan,
• company card. |

Download procedure

1. Turn the vehicle key in the position II (ignition) – the control lamps on the instrument board flash (tachograph activation).

> *We recommend to perform these operation together with the driver.*

2. Insert the company card into the slot No. 1 or No. 2.
3. The tachograph detects the card. Confirm the checkback "Company lock yes/no".
4. Connect your PC to the tachograph using the USB transmission cable.

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

5. Launch TachoScan.
   - select: **Read digital tachograph**;
   - a configuration window pops up. Press the button **[OK]** within this window,

> *You can change the settings in the configuration dialog (see "USB Transmission cable" -> "Configuration") before the download.*

   - the TachoScan starts the download.

> *If the window "Download in progress" does not appear or pops off you can assume that the COM port setting is false (see "USB Transmission cable" -> "Configuration") or the USB transmission cable itself is not plugged correctly.*
>
> *Depending on the data volume the download can take up to about 1 hour time.*

6. After the download is completed you will see the window "**General and technical data**" (see **"Help file for TachoScan"**).

Repeat the download, if the software signals a download fault. If the repeated download is not correct, perform a reference download on an another tachograph.

If the last download is OK, the first tachograph might be out of order (contact tachograph service station).

If the last download is faulty contact the service 44 of the transmission cable manufacturer.

7.   Pull the transmission cable and the company card.

*Push the Reject button. You are asked: "**Lock the tachograph?**".*

*It is useful to **always** lock the tachograph. Otherwise third party can download data from the tachograph and even lock it for its own company card (making it inaccessible for the owner).*

4.4. Transferring data files into PC

The software TachoScan picks the data from the tachograph directly and transfers it into the PC.

The TachoScan picks the data and performs the evaluation (the digital signature check as well). If the digital signature is valid, the data is saved to the data base and the original file copied into the PC (selected directory). The download file data will be presented in the "Daily view" (see: "**Help file for TachoScan**").

*The **original data files** are stored in the directory "**Digital**". Directory selection under "**Program settings**".*

*The download data file name has the following format: "**Reg. No, download date, download time.dtg (extension)**" (example: SB3106G 10-10-2007 15_34.dtg).*

5. TachoBlue

TachoBlue is a device that enables data transfer from the digital tachograph to the PC via TachoScan usingi Bluetooth® technology.

Fig. TachoBlue.

- the first breakthrough solution on the market for wireless data transmission from digital tachographs
- replaces a serial cable or USB, uses SPP (Serial Port Profile) protocol
- no source of power is needed
- application of a high class Bluetooth® module guarantees transmission stability and reliability, and enables the range up to 100 m in the open space
- two LEDs indicating device operation:
  o blue – indicating that the module is connected to the PC
  o red – indicating data transmission from the tachograph to PC
- fully compatible with the TachoScan program
- is compatible with inbuilt Bluetooth® modules, e.g. in a laptop, or a USB adapter in any PC with the TachoScan program installed
- easy to install and operate

5.1. Installation

To download data via the TachoBlue device, first you should configure connection with it.

Required elements to install and configure the device in the PC
- TachoBlue,   - PC,   <blockquote>➢ TachoScan program installed or 4Trans with TachoScan module accessible, ➢ Bluetooth® module accessible.</blockquote>

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

Installation steps
1. Connect TachoBlue to an appropriate port in the tachograph,
2. Go to **Windows Settings** and then click **Devices**
3. In **Bluetooth & other devices** tab, click ⊞ **Add Bluetooth or other device**
4. In **Add a device window** choose the first option - **Bluetooth**. The process of searching for TachoBlue will start automatically
5. If TachoBlue is correctly detected by the system, it will appear on the list. Click on the device in order to add it. The pairing process will start automatically
6. If using the access key is necessary, enter key comprising of **4 zeros**
7. If everything has been configured correctly, the information: **Your device is ready to go!** will be displayed in **Add a device window**
8. Click **Done**
9. You can check in which **COM** ports the device has been installed in the device manager (**Ports (COM & LPT)**). Com ports should be set up in the TachoScan program to enable correct downloading of data by the device. See: "TachoBlue -> Configuration⌐43⌐".
The device is installed in COM ports that are free in a given moment. The TachoScan program does not support COM ports higher than 10, change the ports to lower ones if such a situation happens.

5.2. Configuration

Configuration depends on your program version. Description is available in the help file of the program.

5.3. Download from tachograph

Data download via "**TachoBlue**" is done similarly as via: "**Tacho-USB Cable**" and is described in the item: "Download procedure⌐40⌐".

5.4. Transferring data files into PC

Transfer of data from "**TachoBlue**" to PC is done in a similar manner as via: "**Tacho-USB Cable**" and is described in the item: "Transferring data files into PC 41".

6. Additional information

6.1. The company

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6.2. Support

Should maintenance-related errors or problems occur, please contact the INELO devices program service.

INELO

Support

e-mail: support@inelo.pl

tel.: +48 33 496 58 74

6.3. FAQ

You plugged the TachoReader Mobile into a USB port and the LED flashed. But the hardware is in fact not detected.

Restart the PC. If it does not help, plug the device into another PC. If it does not help, contact the service of the device manufacturer.

The TachoReader Mobile is being detected by the PC but the TachoScan does not read it out.

The cause may be the mapped drives with subsequent letters (disc names). Disconnect the mapped drives or change their names (letters) and plug the download device again.

Driver card is inserted in TachoReader Combo Plus 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.

Otherwise, replace the batteries in the device.

If replacing the batteries does not help, please contact the manufacturer's service 44.

After connecting TachoReader Combo Plus to computer LEDs on the progress bar do not blink and the device is not detected in the system

In this case, restart the computer, unplug the MINI USB cable from the device and the computer, reconnect TachoReader Combo Plus to your 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 device still does not work then you should contact the manufacturer's [service](#) 44 .

After connecting the TachoReader Combo Plus 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, on the other tachograph, the problem appears again, you should contact the manufacturer's [service](#) 44 .