

# TachoReader Basic

## Tutorial

Firmware version: 1.6.1

TachoReaderConfigurator: 1.6.1



# TachoReader Basic

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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# 1. Introduction

The **TachoReader Basic** device allows you to download data directly from the tachograph without connecting other devices. Using the tachograph, it is also possible to download driver card data. The device can store data in its internal memory until it is transferred to another media (for example, to a computer disk).

**TachoReader Basic** uses tachograph power supply while retrieving data, so no external power source is required. It is small, easy and convenient to use.



*Fig. TachoReader Basic.*

# 2. Installation

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

To install **TachoReader Basic** 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.*

### 3. Operating modes

**TachoReader Basic** works in different modes. They depend on:

- connection type - whether the device operates standalone, is connected to a computer or tachograph;
- **Driver card download via tachograph** option in the device configuration window.

#### Connection type:

##### 1. Device connected to the tachograph.

Power supply: from the tachograph.

##### The driver card inserted in the tachograph slot

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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

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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](#)" topic for more).*

##### 2. Device connected to the computer.

Power supply: from the computer.

Operation in USB mode - the possibility to configure the device (run the "TachoReaderConfigurator.exe" file placed in the **TachoReader Basic** 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.

## 4. Configuration

Device configuration window can be launched in two different ways:

1. Directly from the device memory - **TachoReaderConfigurator.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.*

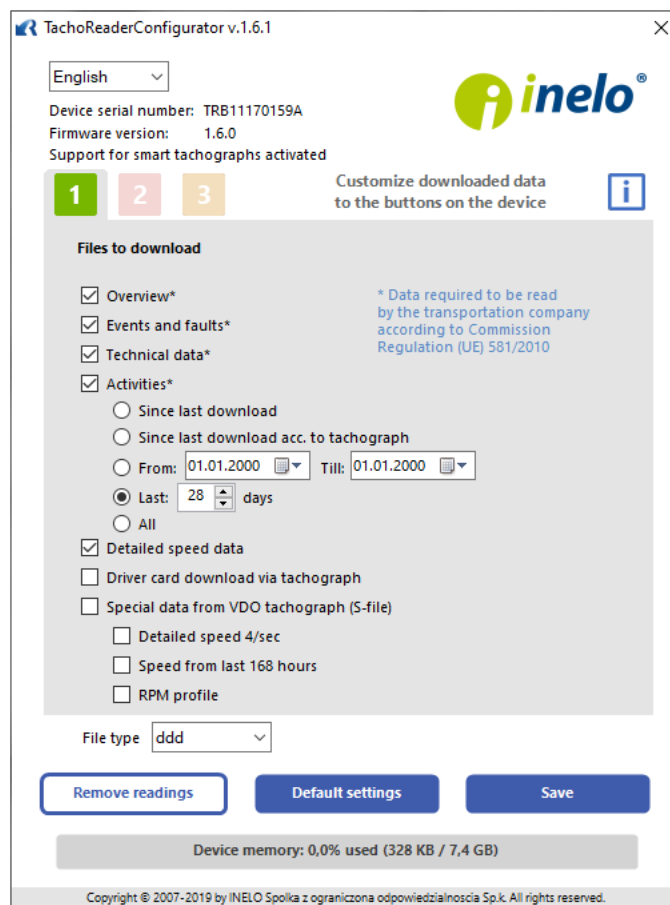


Fig. Device configuration window.

This window allows you to create three separate configurations ( 1 2 3 ), that can be selected when connected to the tachograph.

For example, you can set up data retrieval from the digital tachograph as **1** and downloading data from the driver card as **2**.

Description of data download options:

- **Overview** - basic information about the tachograph;
- **Events and faults** - reading events (e.g. driving without card) and failures (e.g. power failure) from the tachograph memory;
- **Technical data** - reading e.g. calibration data, tachograph serial number;
- **Activities** - driving, work, standby or standstill events divided into individual days:
  - **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: [...]** - possibility to set any date range for the downloaded activities;
- **Last: [...]** - allows to download the last 1 to 365 days (set by one full day);
- **Everything** - retrieval of activities for all days in the digital tachograph memory;

*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 detailed speed data from the last 24 hours.  
Reading of this data can significantly increase the time taken to retrieve 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](#)<sup>[13]</sup>" 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](#)<sup>[8]</sup>" 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 and
  - 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
- **RPM profile** - allows you to download engine rotational speed profiles. The rpm time in the individual profiles recorded in the tachograph is limited to a maximum of 18 hours, 12 minutes and 15 seconds.

To confirm the configuration changes, click 

## 5. Download from tachograph

### Operations after connecting to a computer:

1. Open the **TachoReader Basic** configuration window, and then, for any selected configuration of: ,  or  button, choose the type and scope of activities to be downloaded (see: "[Configuration](#)<sup>[6]</sup>" topic for more).

If you are not sure what to choose, click on the:  button.

2. If you do not want to download data from the driver card via the tachograph **uncheck** the:  **Driver card download via tachograph** option.



Download from tachograph



## Download from 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 "unlocking" confirmation.  
In this case, "unlock" the tachograph, or "Technical data" and "Activities" will not be downloaded.*




3. **As soon as** you connect **TachoReader Basic** to the tachograph, select the type of configuration you have set on your computer.

*If, after you inserting the device into the tachograph slot, you do not switch the configuration immediately, after approximately 5 seconds the download will start automatically with configuration .*

You can change the configurations by pressing the



button once (the LED will cycle green-red-orange):

- **green** LED:  configuration;
- **red** LED:  configuration;
- **orange** LED:  configuration;

After selecting the configuration, wait approx. 5 seconds until the device starts downloading data from the tachograph. The download will be indicated with the LED blinking green-red, or green only (there may be times when the LED will be off).

## Download from tachograph

*Depending on the number of days downloaded from the tachograph memory, the download may take up to approx. **1 hour**.*

*If the device beeps three times while the data is being downloaded and the LED flashes red, this means that an error occurred (see "[Error codes](#)"<sup>13</sup>" topic for more).*

4. When the download is finished, the device will play a short tune and the LED will blink steadily green.
5. Disconnect **TachoReader Basic** from the tachograph and remove the company card.
6. 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.

### 5.1. 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 Basic**, with serial number that ends with **the letter "A"**

*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. below) and decide which special data to download (all selected by default)

#### The special data include:

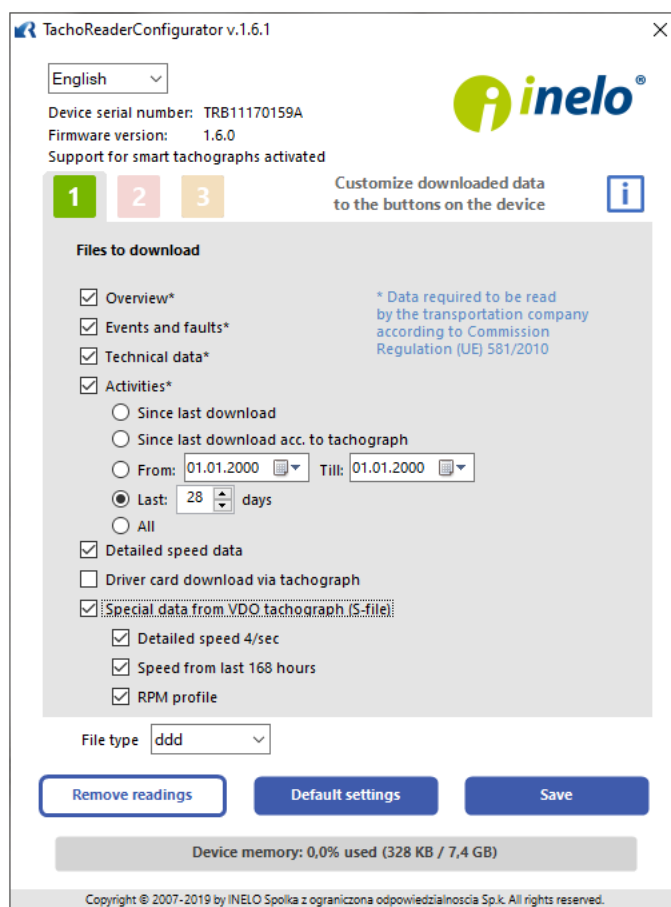
- Detailed data 4/sec, that is:
  - Last three records (high resolution - frequency: four values/second) of two-minute speed periods, in which there was an unnatural speed change in a short period of time
  - Last three records (high resolution - frequency: four values/second) of two-minute speed periods, 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
- Engine rotational speed profiles (the rpm time in the individual profiles recorded in the tachograph is limited to a maximum of 18 hours, 12 minutes and 15 seconds)

## Download from tachograph

Operations during data download from the tachograph are the same as in regular data download (see: "[Download from tachograph](#)"<sup>[8]</sup>)

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. below**).

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



*Fig. Device configuration window: TachoReader Basic.*

Downloading data begins after selecting the configuration: **1**, **2** or **3** – 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](#)"<sup>[11]</sup> 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.

## 6. Download from driver card

**TachoReader Basic** 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](#)"<sup>6</sup>) topic for more), and then:




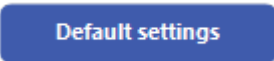
#### Option I - Downloading data from driver card only

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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

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1. For any selected configuration of ,  or  button, choose the type and scope of activities to be downloaded from the tachograph (see: "[Configuration](#)"<sup>6</sup>) topic for more).  
  
If you are not sure what to choose, click on the  button.
2. **Additionally, check** the :  **Driver card download via tachograph** 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:

## Download from driver card

- **Option I** <sup>13</sup> - insert the driver card into any slot of the tachograph;

*In old tachograph types you may also need to insert the company card.*

- **Option II** <sup>13</sup> - insert a company card and the driver card to any tachograph slots;

*After reading the company card some tachographs may request "unlocking" confirmation.*

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

3. Connect **TachoReader Basic** to the tachograph.

4. Use the  button to select the appropriate configuration: ,  or  ;

*If, after you inserting the device into the tachograph slot, you do not switch the configuration immediately,*

*after approximately 5 seconds TachoReader Basic will start the download automatically with configuration.*



after approx. 5 seconds the device will automatically start downloading data. The download will be indicated with the LED blinking green-red, or green only (there may be times when the LED will be off).

5. When the download is finished, the device will play a short tune and a the LED will blink steadily green.
6. Disconnect **TachoReader Basic** 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.

## 7. Transferring data files into PC

*The files downloaded from the driver card are stored in the **CARD** directory, while files downloaded from the digital tachograph are stored in the **TACHO** directory.  
Never transfer, delete, or rename these directories!*

## Transferring data files into PC

Recommended procedure for data transfer from **TachoReader Basic** to a computer:

1. Launch TachoScan / 4Trans;
2. Connect the device to a USB port in your computer;
3. When you press the appropriate button, select "**Download readouts**" -> "**all**";

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

4. The program downloads the file and examines it in terms of, among others. digital signature. If the digital signature is valid, data will be stored in the database and the file copied to the computer. The data from the file will be displayed in the daily visualization window (see: "**Pomoc - program TachoScan / 4Trans**").

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

*It is also possible to manually copy files (backup) from **TachoReader Basic** device to your computer without the use of 4Trans / TachoScan software. To do this, use windows or other file explorer to copy the files and move them to the desired location (TachoReader Basic is installed on your computer as a separate drive named "**PNSTACHO**").*

*Downloaded tachograph data file name format: "**Vehicle reg. no\_Date and time of the data download (year, month, day, hour, minute, second).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, minute, second).DDD**" (Example: Kowalski\_Jan\_Mateusz\_20130520084432.DDD).*

## 8. Error codes

Errors are indicated by a specific number of red LED blinks.

To identify the type of error, count the number of red LED blinks.

*The LED blinks red twice, then there is a pause and the whole cycle is repeated. This means that the key is signaling the error by blinking red twice.*

## Description of error types:

### One red LED blink

#### Cause

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No data transmission.

#### Solution

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1. Insert the company card.
2. Wait until the company card is read by the tachograph.
3. Repeat reading from tachograph.

### Two red LED blinks

#### Cause

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Too little data downloaded.

#### Solution

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Repeat reading from tachograph.



### Three red LED blink

#### Cause

---

There is not enough free memory.

#### Solution

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1. Transfer the source files to another media (such as a computer disk)
2. Repeat reading from tachograph.

*Minimum available storage space in the device memory is 10 MB.*

### Four red LED blinks

#### Cause

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Invalid file system.

#### Solution

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1. When you plug your device into a computer, check the file system (scandisk). If this operation does not work, format the device (FAT32).
2. Repeat reading from tachograph.

**Five red LED blinks**

**Cause**

No driver card in the tachograph..

**Solution**

1. Insert the driver card into any slot of the tachograph or in the device configuration window do not check the  **Driver card download via tachograph** option (see: "[Configuration](#)"<sup>6</sup>) topic for more).
2. Repeat reading from tachograph.

**Six red LED blinks**

**Cause**

No response from the tachograph.

**Solution**



Repeat reading from tachograph.

**Seven red LED blinks**

**Cause**

Incorrect data in the configuration file or other unrecognized error.

**Solution**

1. Connect **TachoReader Basic** to the computer.
2. In the device configuration window click on  (see: "[Configuration](#)"<sup>6</sup>) " topic for more), .
3. Repeat reading from tachograph.

### **The LED is off**

#### **Cause**

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No power.

#### **Solution**

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1. Make sure the tachograph is switched on.
2. Repeat reading from tachograph.

## 9. Additional information

### 9.1. The company



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