Alternator tester

ALTALYZER

User manual

Read the user manual carefully before using this device. Ignorance of this user manual may cause damage to the device or components and subassemblies operated by it.

DTE DeltaTech® Electronics

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1. Tester usage

The Altalyzer tester is used to check the operation of alternators equipped with electronically controlled voltage regulators. In alternators of this type, the charging voltage is not constant, but varies depending on external factors such as: engine speed, number of active loads, etc. The voltage at a given moment is set by the engine controller by sending the appropriate information to the alternator.

In order to check the operation of the charging system operating on the basis of an alternator with an electronic voltage regulator, it is necessary to use a special device. That device needs to simulate ECU control signals and thus the serve as a replacement of the engine controller in this matter. Altalyzer is such a device. With it, you can freely set the value of alternator charging voltage, which allows you to check the correctness of its operation regardless of the external conditions.

2. Specifications

Supply voltage:	12...16V DC
Current draw:	80mA
Control signals:	PWM, LIN
PWM signal parameters	
Voltage:	Supply voltage
Frequency:	50...500Hz
Duty cycle:	5...95%
LIN bus	
Baudrate:	1200...19200 bps

3. Connection of alternators

The tester connects to the power source using alligator clip type connectors:
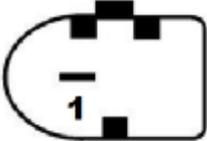- red to positive terminal (B +)
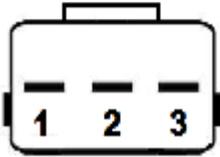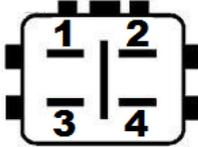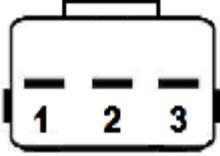- black to the negative terminal (B-)

The set with the tester there is a cable that allows connecting the alternators to the test, with the following cables:
- B+ – supply voltage, output

- SYG – control signal, output
- DMF –control signal, input
- LIN – digital communication, output/input

An example of alternator wiring is shown in Table 3.1.

Table 3.1

Make	Connection	Connector
VW/Audi	1- LIN	
Ford	1 – B+ 2 – SYG 3 – DMF	
Opel/Vauxhall	1 – DMF 2 – SYG	
Toyota	1 – B+ 2 – SYG 3 - 4 – DMF	
Mazda	1 – B+ 2 – SYG 3 – DMF	

4. Tester operation

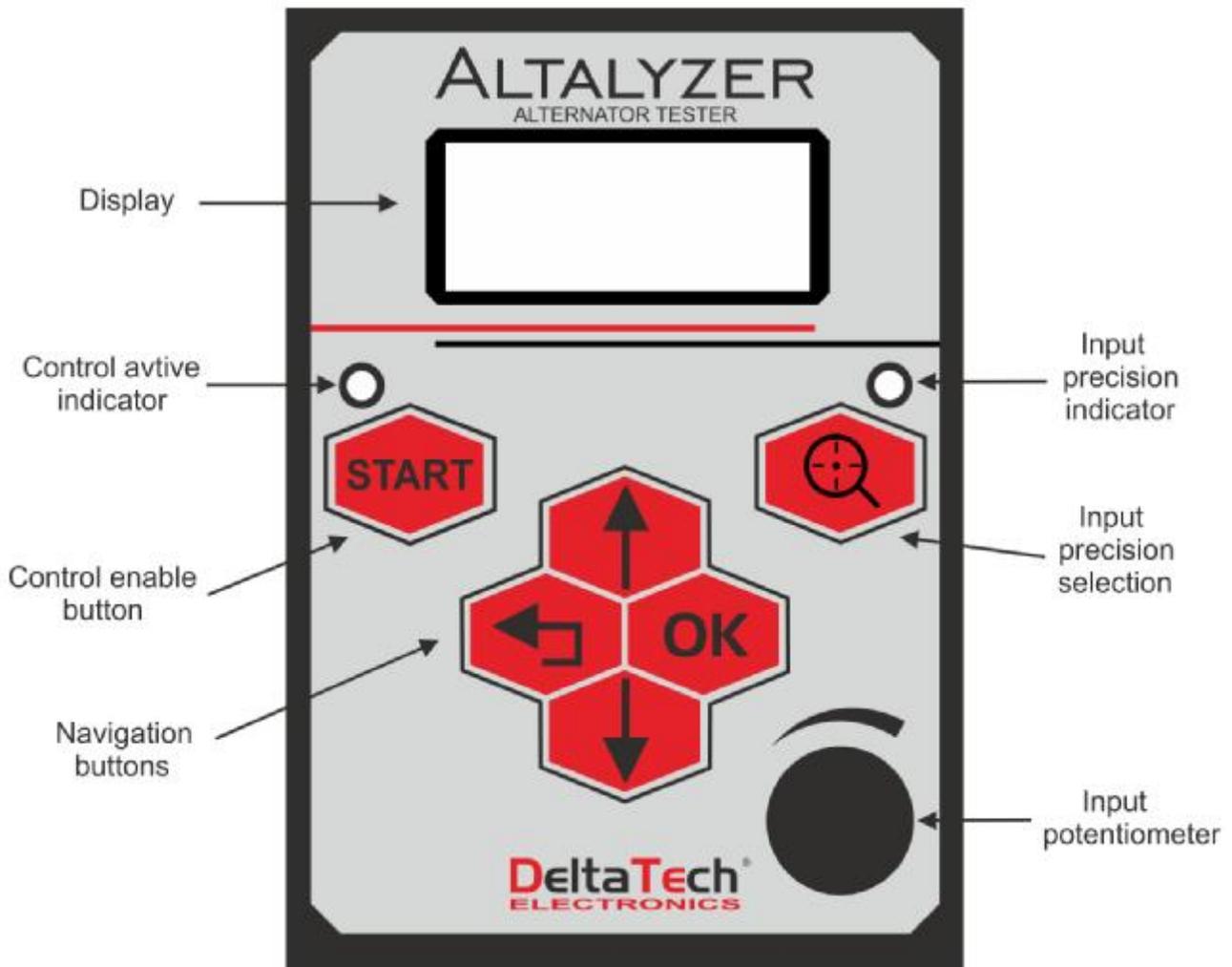The tester is operated using the panel shown in Figure 4.1.

Figure 4.1

Display – displays the information necessary to operate the tester and status messages.

Control enabled indicator - indicates that the desired function is active.

Control enable button – allows you to enable or disable function selected.
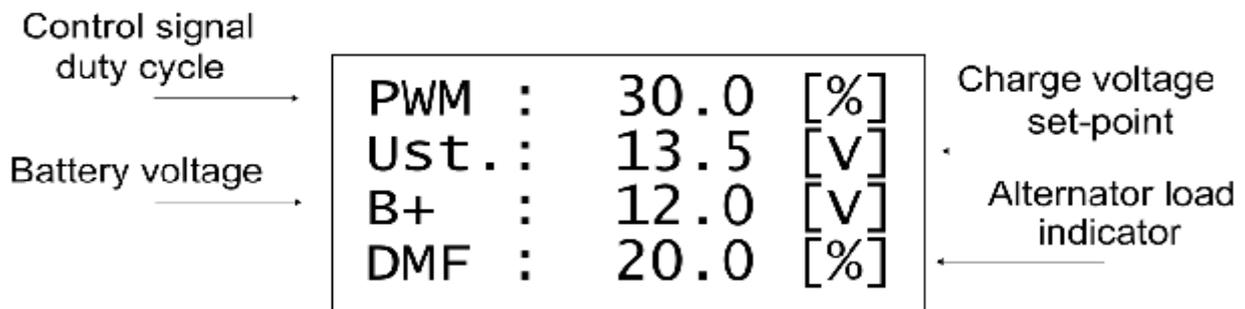
Navigation buttons – used to select and confirm desired action.

Input potentiometer - it is used to change the set-point value. Depending on the input precision selected, the knob causes small or large increments of set-point value.

Input precision selection – switches between coarse and fine increments.

Input accuracy indicator – goes on when fine adjustment of set-point value is active

After connecting the tester to the power source, a list of car makes is displayed on the screen, the alternators of which can be tested using Altalyzer. Select the appropriate make and then press the OK button. At this moment, the test parameters are displayed on the screen: supply voltage, alternator control, etc. (Figure 4.1).

```
Control signal                                    Charge voltage
 duty cycle                                          set-point
            ──────→   PWM :    30.0  [%]
                      Ust.:    13.5  [V]
Battery voltage       B+  :    12.0  [V]          Alternator load
            ──────→   DMF :    20.0  [%] ←──────     indicator
```

To start the alternator test, press the START button. Use input potentiometer to change charging voltage set-point during the test.
An alternator is operation is considered correct if the battery voltage (B +) is close to the set-point voltage.
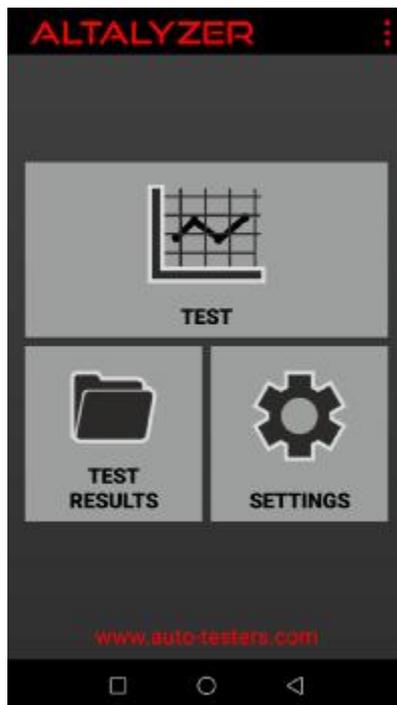
5. Android application

It is possible to extend the device's capabilities by using a dedicated application. To download the application, please use the link:

http://auto-testers.com/download/altalyzer

To download the program it is necessary to provide the serial number of the device. It is located under the silicone housing cover.

Application screen:

TEST – allows remote starting of the alternator test. If the function is selected, the function keys of the device are inactive

RESULTS – allows the user to view and modify the test database stored in the device.

SETTINGS – set up a Bluetooth connection and change the language of the program.

To connect to the application:
- Turn on Bluetooth on your mobile device.
- Start the *ALTALYZER* application.

On the first connection:
- Select the Bluetooth device by selecting *Settings → Bluetooth*
- When pairing devices, please enter PIN number 1234.

All application data is saved in the device's main memory in the *ALTALYZER_DATA* folder. To back up the database, you must make a copy of this folder. To transfer data to another device, all you have to do is move the contents of the mentioned folder.

6. Software update

      The Altalyzer device has the ability to remotely update the software. All you need to do is connect the tester to the USB connector of a PC computer and run the

appropriate update program.

The tester should be connected to the computer using the appropriate USB cable that is included in the set. The computer must have Internet access.

Updater tool that allows you to run the update procedure is included on the CD supplied.

The update procedure takes place in two stages:

Stage 1. Installation of USB drivers (performed only during the first update)
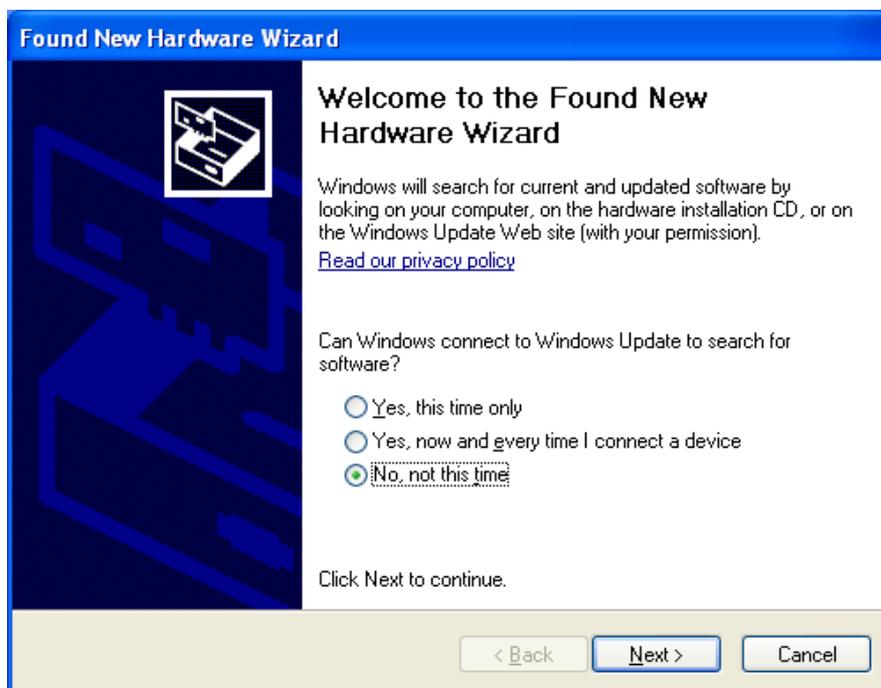
Stage 2. Verification and programming of the device using the Updater tool.

6.1 Driver installation – Windows XP

After connecting the device to the USB port you should see the following notification:
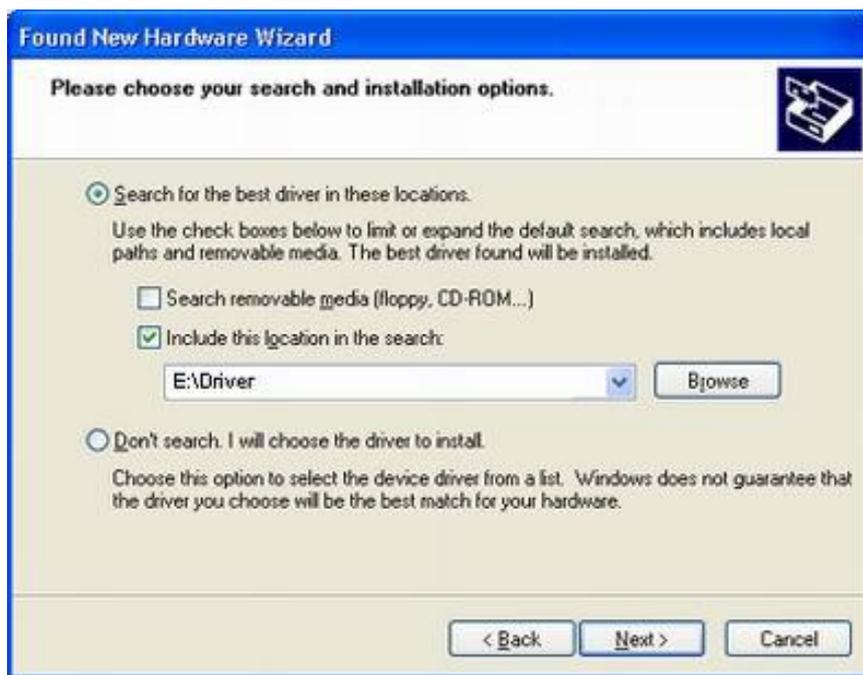

Then the *Found New Hardware Wizard* will display:

Select *No, not this time* and click *Next*. Now the system will ask for driver location.

Select *Install from a list or specific location (Advanced)* and click *Next*.
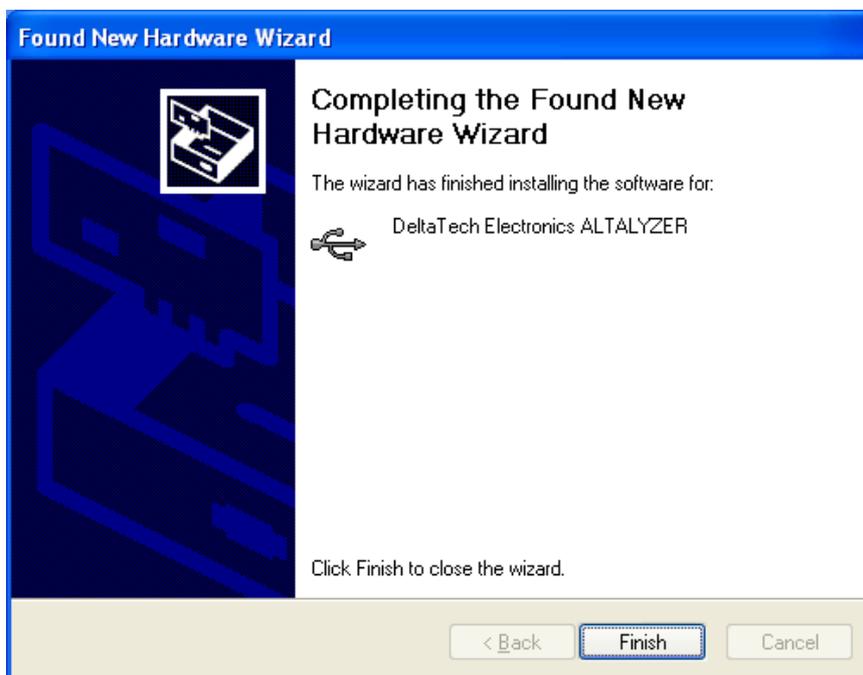

In the next step specify driver path After clicking *Browse* select *Driver* folder on the CD-ROM or in other folder that contains driver (drive letter may differ). Then, click *Next*.

The system will display warning on installed software. Click *Continue Anyway* to install the driver.

After successful installation an information should appear on the screen.
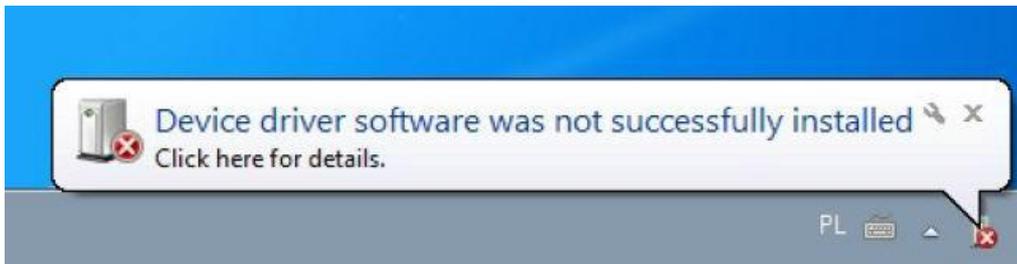

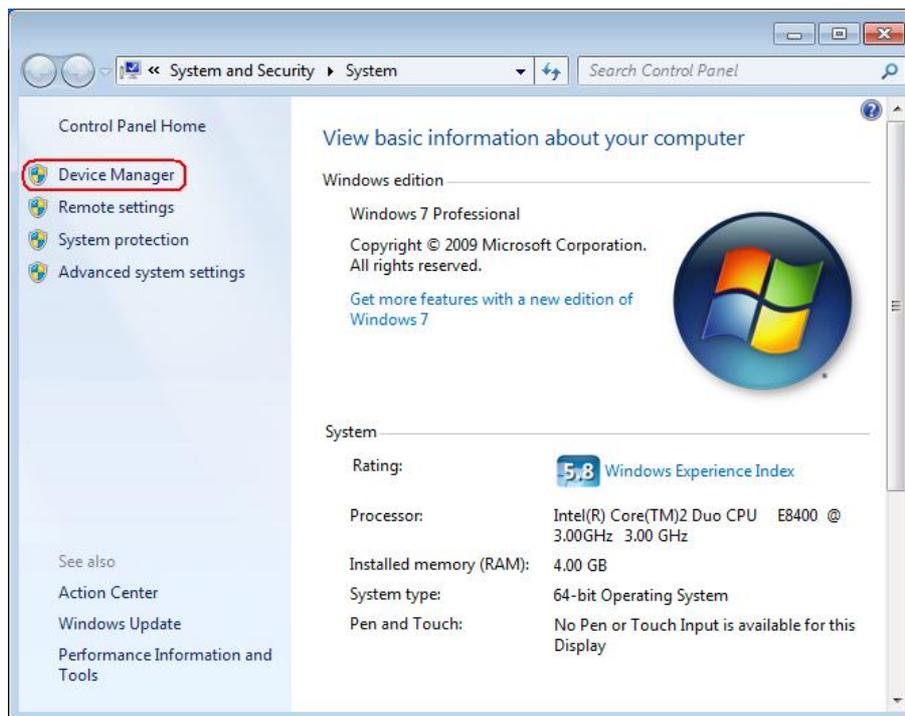**6.2 Driver installation - Windows 7**

Connect the device to the USB port. Notification will appear in the lower right corner of the screen:
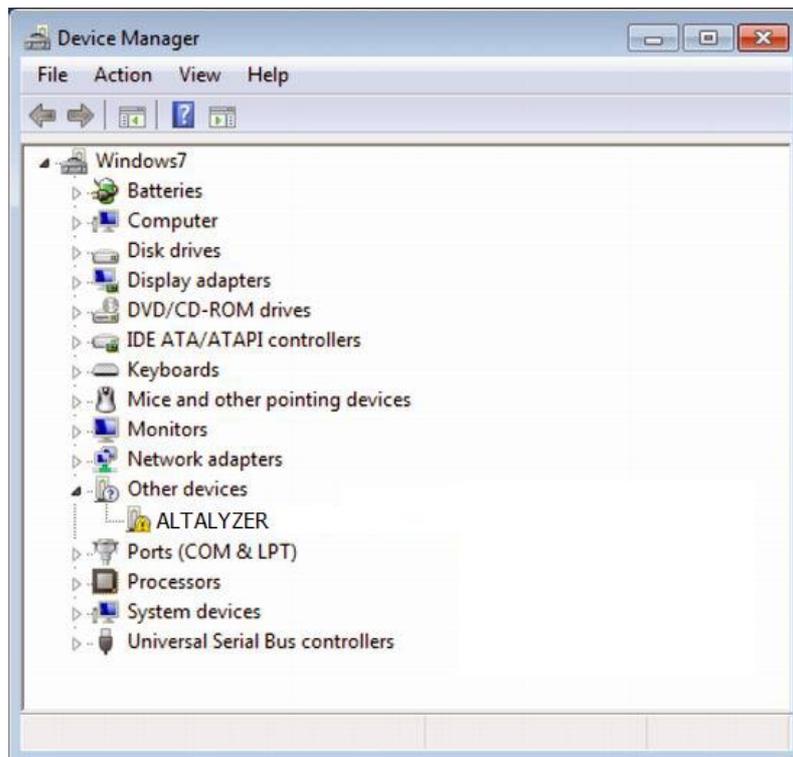
After a while the warning will display as the driver will not install automatically:
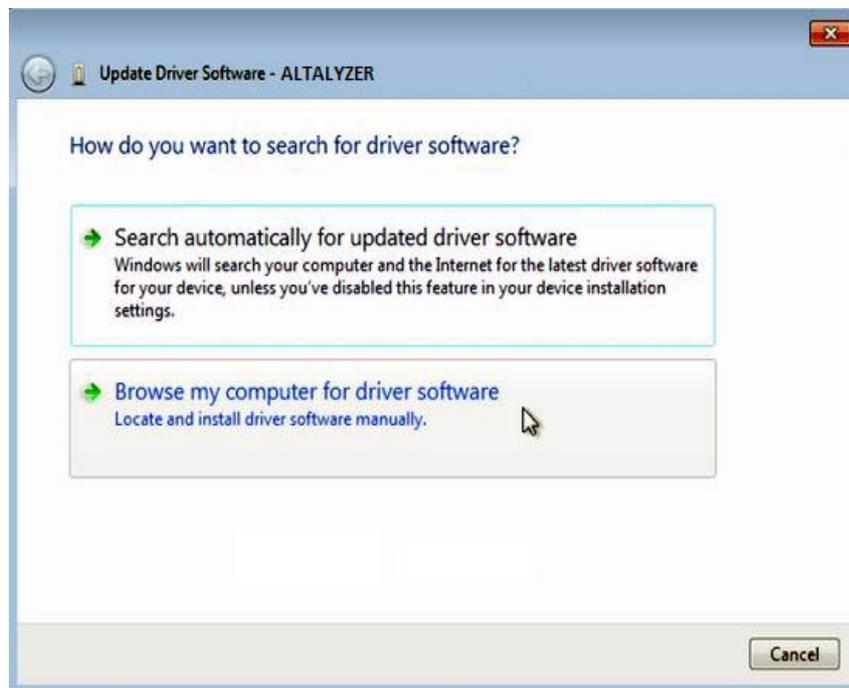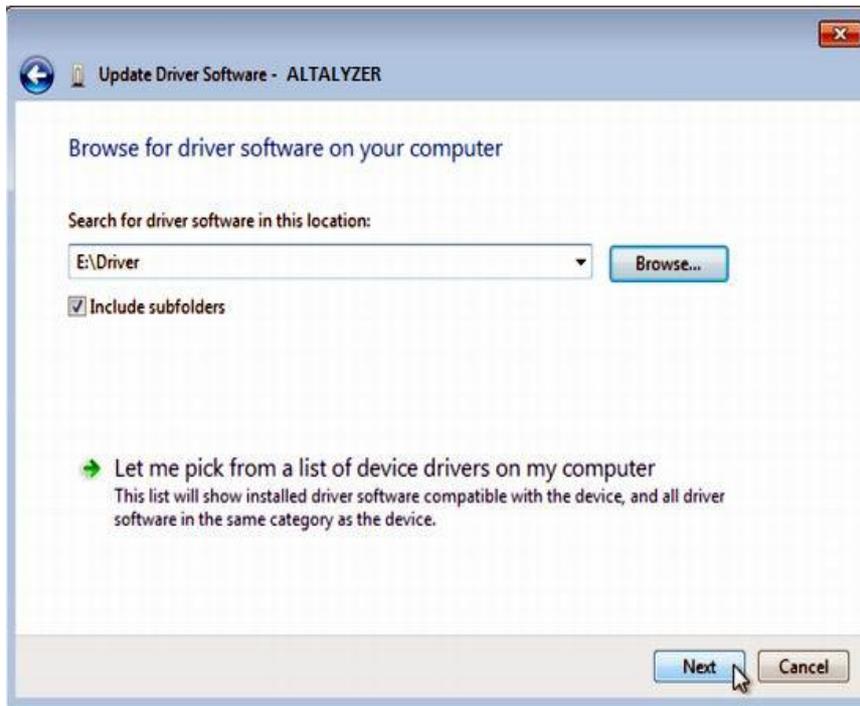

Right-click the *Computer* icon:

Click **Device manager**, this will invoke the list of devices. Among others there should be *ALTALYZER* on the list.

Right-click **ALTALYZER** and select *Update device driver* from the pop-up menu. The following window will appear:

Choose ***Browse my computer for driver software*** and specify driver path:
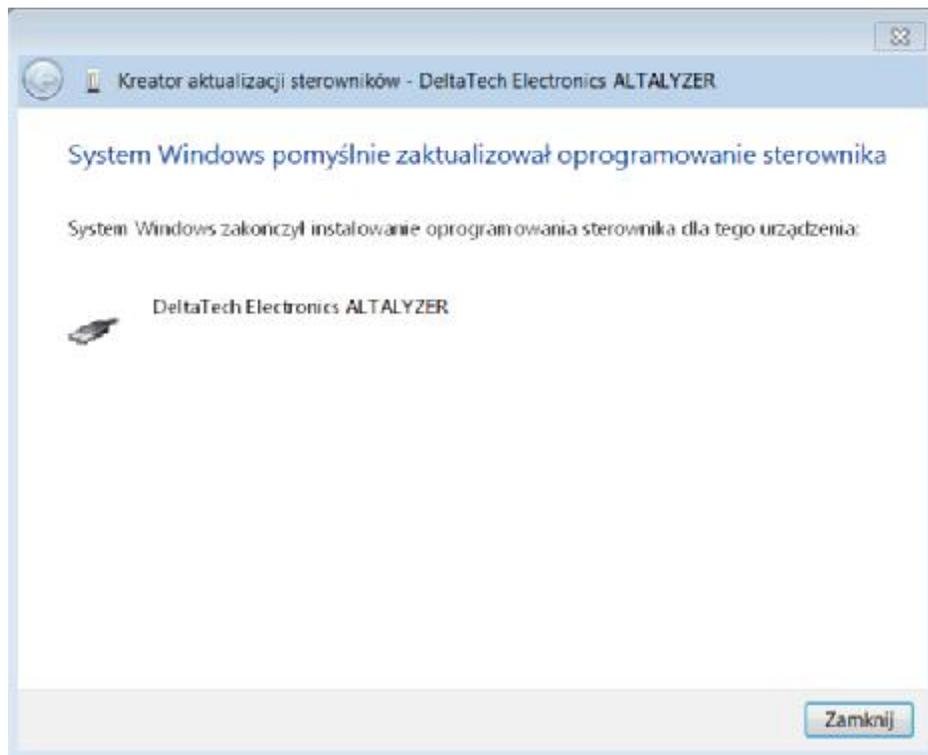
Select *Driver* folder on the installation media (drive letter may differ) and click *Next*. The system will display untrusted publisher warning:

Select *Install this driver software anyway*.

After a while installation should be completed:

6.3 Driver installation - Windows 8, 8.1, 10

To install driver properly in Windows 8/8.1/10 64 bit, it is necessary to start the computer in special mode.

Perform the following steps:

1. Display power options:

   - 1. Windows 8/8.1: Move cursor over the top or bottom right corer of the screen and the *Charm Bar* will appear. Click *Settings* (**gear icon**) and then click **Power**.

   - 2. Windows 10: Click *Menu Start* and then **Power**.

2. While holding **SHIFT** key click **Restart**.

3. When an option screen will display, click **Troubleshoot**, then **Advanced options**, and then, **Startup settings**.

4. The system will display list of options available. Click **Restart**.

5. System will restart into startup settings mode. On the list displayed select number *7* (Disable driver signature enforcement) by pressing **F7** or **7** key.

After performing all the steps run *Device manager*. The fastest way to do this is to press *WinKey* + X on the keyboard and select *Device manager*.

Then proceed as in Windows 7 (see previous section of this Manual).

6.4 Software updater

This application is used to update DeltaTech Electronics testers software.

To update the tester software, first connect the device to the computer's USB port and install the software driver (see section 6.1, 6.2 or 6.3).
Then run the "Software Updater" program. When you first start the program, the language selection window will appear.

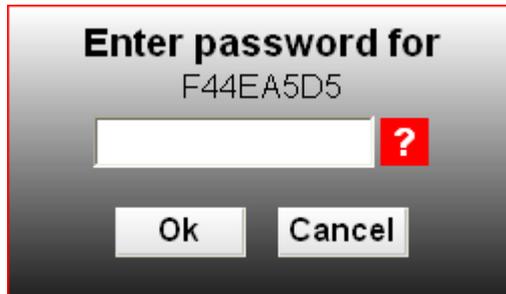After selecting application language the main window will appear.

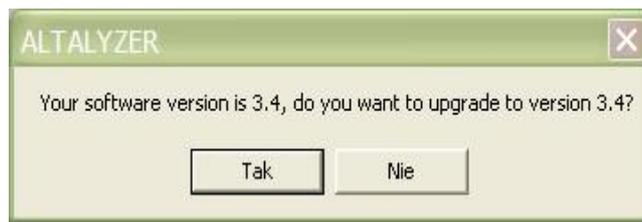In the next step run the tester device in update mode. To enable update mode perform the following steps:

- Turn off the tester.
- Press the **START** button.
- While holding the button turn on the device.

- Wait 3 seconds while initial screen is displayed.

- When the "Update ..." information is displayed, release the START button.

After activating the update mode, press the **Program** button in the updater program. A window will appear asking for the access password.

Enter password for
F44EA5D5

[   ] [?]

Ok   Cancel

Password information is included as a separate page in this Manual.

ALTALYZER

Your software version is 3.4, do you want to upgrade to version 3.4?

Tak   Nie

After typing the password click **OK**. After correct device identification the program will ask the user to confirm firmware update.

After selecting **Yes** the update will begin. Update process may take several minutes to complete.

DeltaTech
ELECTRONICS

Menu [X]

Software updater

Transferring ..44%.

Programm

After the update the following message will display. The user may now close the application

Warning !!!

DeltaTech Electronics company is not responsible for any damage and consequences of misuse of ALTALYZER tester.
The warranty does not cover any damage caused by incorrect use.