



updated 06.02.2011  
application version: 00.060211

## USER MANUAL ZeelProg PCDI-24

Supported control units: **PCDI-24**

**ZeelProg** is PC application for programming ZEELTRONIC engine *control units*.  
For programming special PC-USB programmer is needed.

- **ZeelProg** automatically detects PC-USB programmer connection and enables all functions (without PC-USB programmer, **ZeelProg** application is locked).
- **ZeelProg** automatically detects type of engine *control unit* connected to PC-USB programmer.

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## **ZeelProg SOFTWARE INSTALLATION GUIDE**

### CD content:

- driver (USB programmer driver)
- NET Framework
- ZeelProg

Software can be also downloaded from web site:

<http://www.zeeltronic.com/page/zeelprog.php>

**ZeelProg** application can be installed on Windows XP/Vista.  
"NET Framework 3.5" needs to be installed.

### Installation:

- ① Insert CD-ROM and browse content.
- ② Install USB programmer driver with running "CDM20600.exe" from CD-ROM "driver" directory.
- ③ Install **ZeelProg** with running "setup ZeelProg.exe" from CD-ROM "ZeelProg" directory.

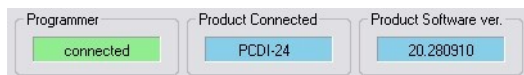
If **ZeelProg** does not start, install "NET Framework" from CD-ROM "NET Framework" directory.

## **ZeelProg USER INTERFACE**

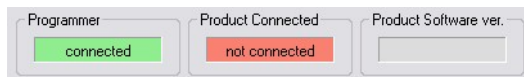
### Auto detection

**Zeelprog** automatically detects USB-Programmer connection and type of *control unit*.

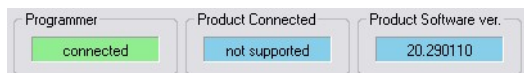
⇒ Programmer connected, product (*control unit*) connected:



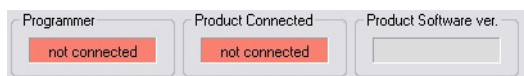
⇒ Programmer connected, product (*control unit*) not connected:



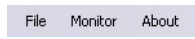
⇒ Programmer connected, product (*control unit*) not supported:



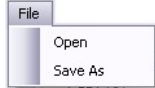
⇒ Programmer not connected, product (*control unit*) not connected:



## Menu structure



⇒ **File menu** is active when PC-USB programmer is connected



**Open** → Open an existing \*.zee file

**Save As** → Save all parameters to \*.zee file

⇒ **Monitor** is active when *control unit* is connected to PC-USB programmer.  
Clicking on the **Monitor** opens Monitor window.



⇒ Clicking on **About** opens About window and show some basic information about **ZeelProg** application.



## Ignition Parameters

Ignition Parameters

**Ignition Map #1** 1

10  Nr. of Points 4   deg

TPS 100%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

TPS 66%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

TPS 0-33%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

**Ignition Map #2**

10  Nr. of Points   deg

TPS 100%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

TPS 66%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

TPS 0-33%											
Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12
1500 <input type="text"/>	3000 <input type="text"/>	4000 <input type="text"/>	5000 <input type="text"/>	6000 <input type="text"/>	7000 <input type="text"/>	8000 <input type="text"/>	9000 <input type="text"/>	10000 <input type="text"/>	11000 <input type="text"/>	12000 <input type="text"/>	13000 <input type="text"/>
15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>	15,0 <input type="text"/>

Ign. Map Switch

1  Select Ignition Map

34,0  Static Angle [°]

0,0  Advance out 1 [°]

0,0  Advance out 2 [°]

30  Delay Compensation [us]

- ① **Nr. of Points** for each ignition map can be set from 4 to 12.
- ② **RPM** of each ignition point can be set from 100rpm to 20000rpm in 100rpm steps.
- ③ **deg...**advance of each ignition point can be set from 0deg to 85deg in 0,1deg steps
- ④ increasing, or decreasing advance of all ignition points in same ignition map
- ⇒ **Ignition Map Switch**...enables, or disables ignition map switch. When checked, ignition map can be selected with switch.
- ⇒ **Select Ignition Map**...selection is active only when **Ignition Map Switch** is not checked.
- ⇒ **Static Angle** is pickup advance position from TDC (Top Dead Centre)
- ⇒ **Advance Out 1**...advances, or retards ignition advance on ignition output 1, from -10deg to 10deg in 0,1deg steps. Positive value advances and negative value retards.
- ⇒ **Advance Out 2**...advances, or retards ignition advance on ignition output 2, from -10deg to 10deg in 0,1deg steps. Positive value advances and negative value retards.
- ⇒ **Delay Compensation**...ensure correct ignition angle through whole revs. Default value is 30us.

## Misc Parameters

Misc

2 Pulses per Rev

13000 Rev Limit [rpm]

**Quick Shift**

0 Kill Time [ms]

**Throttle Position Sensor**

TPS Enable

Calibrate 219 TPS closed (0%)

Calibrate 946 TPS opened (100%)

**Power Jet 1**

0 'ON' rpm 0 'ON' TPS [%]

1400 'OFF' rpm 100 'OFF' TPS [%]

- ⇒ **Pulses per Rev...** set to 2
- ⇒ **Rev limit...** limits maximum revolutions. Set to maximum 20000rpm in 100rpm steps.
- ⇒ **Kill Time...** for shifting without using clutch - shift sensor is required. Function is disabled with setting to 0ms.
- ⇒ **TPS Enable...** when checked, TPS input is enabled.
- ⇒ **TPS closed (0%)...** close position of throttle sensor
- ⇒ **TPS opened (100%)...** open position of throttle sensor
- ⇒ **'ON' rpm (Power Jet)...** revs for activating power jet output
- ⇒ **'OFF' rpm (Power Jet)...** revs for deactivating power jet output
- ⇒ **'ON' TPS (Power Jet)...** (only if TPS enabled) throttle position for activating power jet output
- ⇒ **'OFF' TPS (Power Jet)...** (only if TPS enabled) throttle position for deactivating power jet output

### ⇒ Power Jet example:

*Power jet 1 ON (RPM) = 8000rpm*

*Power jet 1 OFF (RPM) = 10000rpm*

*Power jet 1 ON (TPS) = 70%TPS*

*power jet 1 OFF (TPS) = 90%TPS*

## PROGRAMMING AND SETTING NEW PARAMETERS

- ⇒ While programming or reading, *control unit* does not need to be connected to power supply, because it is supplied through PC-USB programmer.

### Changing control unit parameters

- ① Read parameters from connected *control unit*, by pressing **Read** button.



Progress bar indicate read and verify process.

Successful reading is indicated as: 


Error while reading is indicated as: 


If error occurs, then repeat reading.

- ② Change parameters
- ③ Program parameters to connected *control unit*, by pressing **Program** button.



Progress bar indicate program and verify process.

Successful programming is indicated as: 

Error while programming is indicated as: 

If error occurs, then repeat programming.

### Make new \*.zee file without connecting control unit

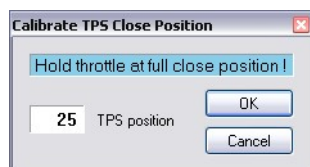
- ① Connect PC-USB programmer to PC.
- ② Set parameters
- ③ Save parameters by clicking **Save As** from **File menu**.



### Calibrate TPS Close Position



- ⇒ Clicking on **Calibrate** button opens Calibrate TPS Close Position window. Function is active when PC-USB programmer and *control unit* are connected.

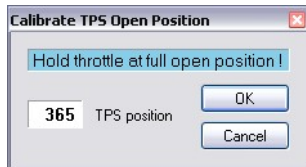


- ⇒ To calibrate TPS close position, hold throttle at full close position and confirm with clicking on **OK** button.
- ⇒ To exit without calibrating, click on **Cancel** button.

## Calibrate TPS Open Position



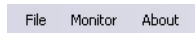
- ⇒ Clicking on **Calibrate** button opens Calibrate TPS Open Position window.  
Function is active when PC-USB programmer and *control unit* are connected.



- ⇒ To calibrate TPS open position, hold throttle at full open position and confirm with clicking on **OK** button.  
⇒ To exit without calibrating, click on **Cancel** button.

## MONITOR FUNCTION

- ⇒ **Monitor** function is active when *control unit* is connected to PC-USB programmer.



Clicking on **Monitor** opens Monitor window.



- ⇒ Monitor show engine revolution, ignition advance angle, throttle position, power jet, selected ignition map and rev limit activation.