



updated 18.10.2011  
application version: 00.060810

## USER MANUAL ZeelProg PCDI-11V

Supported control units: **PCDI-11V**

**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.

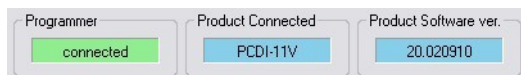
If **ZeelProg** does not start, install "NET Framework" from CD-ROM "NET Framework" directory.

## **ZeelProg USER INTERFACE**

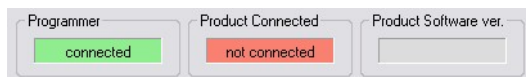
### Auto detection

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

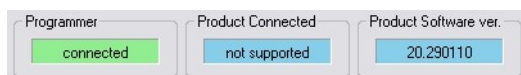
⇒ Programmer connected, product (*control unit*) connected:



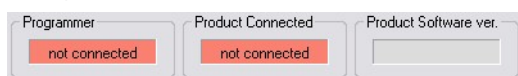
⇒ Programmer connected, product (*control unit*) not connected:



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



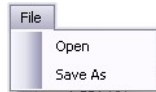
⇒ Programmer not connected, product (*control unit*) not connected:



## 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 4

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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

**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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

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	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	RPM
15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	deg

Ign. Map Switch

1 Select Ignition Map

34,0 Static Angle [°]

0,0 Advance [°]

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**...advance, or retard whole ignition map, 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.

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## PV Parameters

PV Parameters

**PV map #1** 2

Nr. of Points:

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	RPM
<input type="text" value="5500"/>	<input type="text" value="9500"/>	<input type="text" value="10000"/>	<input type="text" value="10100"/>	<input type="text" value="13000"/>	<input type="text" value="13100"/>	<input type="text" value="13200"/>	<input type="text" value="13300"/>	<input type="text" value="100"/>
<input type="text" value="0"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>

**PV map #2**

Nr. of Points:

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	RPM
<input type="text" value="5500"/>	<input type="text" value="9500"/>	<input type="text" value="10000"/>	<input type="text" value="11100"/>	<input type="text" value="13000"/>	<input type="text" value="13100"/>	<input type="text" value="13200"/>	<input type="text" value="13300"/>	<input type="text" value="100"/>
<input type="text" value="0"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>

**PV map #3**

Nr. of Points:

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	RPM
<input type="text" value="5500"/>	<input type="text" value="9500"/>	<input type="text" value="11000"/>	<input type="text" value="12900"/>	<input type="text" value="13000"/>	<input type="text" value="13100"/>	<input type="text" value="13200"/>	<input type="text" value="13300"/>	<input type="text" value="100"/>
<input type="text" value="0"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>

**PV map #4**

Nr. of Points:

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	RPM
<input type="text" value="5500"/>	<input type="text" value="9500"/>	<input type="text" value="10000"/>	<input type="text" value="12900"/>	<input type="text" value="13000"/>	<input type="text" value="13100"/>	<input type="text" value="13200"/>	<input type="text" value="13300"/>	<input type="text" value="100"/>
<input type="text" value="0"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>

**PV map #5**

Nr. of Points:

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	RPM
<input type="text" value="5500"/>	<input type="text" value="9500"/>	<input type="text" value="10000"/>	<input type="text" value="12900"/>	<input type="text" value="13000"/>	<input type="text" value="13100"/>	<input type="text" value="13200"/>	<input type="text" value="13300"/>	<input type="text" value="100"/>
<input type="text" value="0"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>	<input type="text" value="100"/>

Power-up Test

Select PV Map

Close Position

Open Position

Deviation +-

- ① **Nr. of Points** for each PV map can be set from 2 to 8.
- ② **RPM** of each PV point can be set from 100rpm to 20000rpm in 100rpm steps.
- ③ **%...PV position** of each PV point can be set from 0% to 100% in 1% steps.
- ⇒ **Power-up Test**...enables, or disables PV test at switching on power supply.
- ⇒ **Select PV Map**... selected PV map.
- ⇒ **Close Position** of PV servo. Close position is 0% on PV map.
- ⇒ **Open Position** of PV servo. Open position is 100% on PV map.
- ⇒ **Test Close**...clicking on **Test Close** button, opens Test Close window. Function is active when PC-USB programmer and *control unit* are connected.
- ⇒ **Test Open**...clicking on **Test Open** button, opens Test Open window. Function is active when PC-USB programmer and *control unit* are connected.
- ⇒ **Deviation**...prevents 'hunting' of PV servo.

## 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.

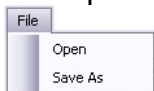
Successful programming is indicated as: 

Error while programming is indicated as: 

If error occurs, then repeat programming.

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

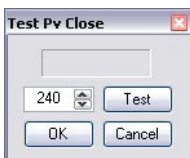
- ① Connect PC-USB programmer to PC.
- ② Set parameters
- ③ Save parameters by clicking **Save As** from **File menu**.



### Set PV close position



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



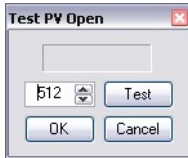
- ⇒ PV servo close position can be tested before confirming... PV servo moves to close position, after clicking on **Test** button.
- ⇒ If PV servo can't move to close position then **error 1** will occur. To clear **error 1** change close position and click on **Test** button.
- ⇒ Click on **OK** button to confirm close position, or **Cancel** to keep old close position.



## Set PV open position



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

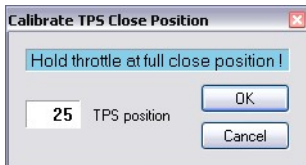


- ⇒ PV servo open position can be tested before confirming... PV servo moves to open position, after clicking on **Test** button.
- ⇒ If PV servo can't move to open position then **error 1** will occur. To clear **error 1** change open position and click on **Test** button.
- ⇒ Click on **OK** button to confirm open position, or **Cancel** button to keep old open position.

## 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.

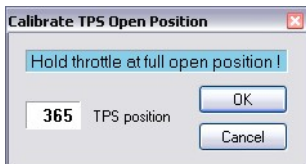


- ⇒ To calibrate TPS close position, hold throttle at full close position and confirm with clicking on **OK** button.
- ⇒ To exit without calibrating, click on **Cancel** button.

## 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.

File Monitor About

Clicking on **Monitor** opens Monitor window.



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

⇒ PV error 1...when PV servo can't move to position.

⇒ PV error 2...when too high current on PV servo output.