



updated 17.10.2011
application version: 01.080411

PROGRAMMING MANUAL ZeelProg PDCI-12

Supported control units: **PDCI-12**

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

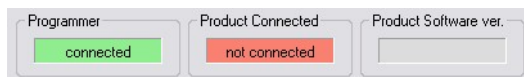
Auto detection

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

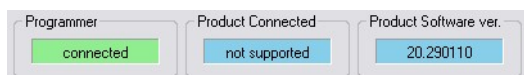
⇒ Programmer connected, product (*control unit*) connected:



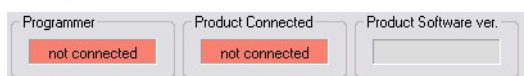
⇒ Programmer connected, product (*control unit*) not connected:



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



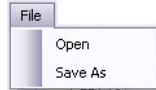
⇒ Programmer not connected, product (*control unit*) not connected:



Menu structure

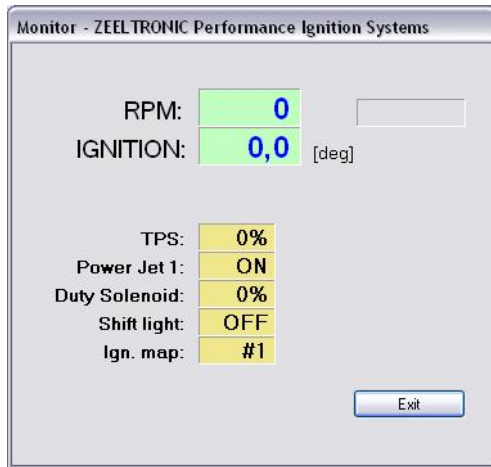


⇒ **File menu** is active when PC-USB programmer is connected



- 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

12 Nr. of Points

| 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

12 Nr. of Points

| 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]

- ⇒ **Nr. of Points** for each ignition map can be set from 4 to 12.
- ⇒ **RPM** of each ignition point can be set from 100rpm to 2000rpm in 100rpm steps.
- ⇒ **deg...**advance of each ignition point can be set from 0deg to 85deg in 0,1deg steps
- ⇒ **Static Angle** is pickup advance position from TDC (Top Dead Centre)
- ⇒ **Advance...**advances, or retards 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.
- ⇒ **Ignition Map Switch...**enables, or disables ignition map switch. Ignition map can be selected with switch, when function is enabled.
- ⇒ **Select Ignition Map...**selection is active only when **Ignition Map Switch** is not enabled.

Misc Parameters

Misc

13000 Rev Limit [rpm] 7900 RAVE [rpm] RAVE Clean Cycle

12000 Shift Light [rpm] 0 Shift Kill Time [ms]

Throttle Position Sensor

TPS Enable

Calibrate 230 TPS closed (0%)

Calibrate 715 TPS opened (100%)

Power Jet 1

8000 'ON' rpm 0 'ON' TPS [%]

10000 'OFF' rpm

Stop Switch Mode

Low Level Stop

High Level Stop

- ⇒ **Rev limit**...limits maximum revolutions. Set to maximum 20000rpm in 100rpm steps.
- ⇒ **Shift light**...activate shift light output above programmed revs. Set to maximum 20000rpm in 100rpm steps.
- ⇒ **RAVE**...set open revs, for exhaust RAVE valve
- ⇒ **RAVE Clean Cycle**...enable, or disable RAVE Clean Cycle (same as with Aprilia)
- ⇒ **TPS Enable**... enable, or disable TPS (Throttle Position Sensor).
- ⇒ **TPS closed [0%]**... for correct TPS operation, TPS close position must be calibrated!
- ⇒ **TPS opened [100%]**... for correct TPS operation, TPS open position must be calibrated!
- ⇒ **Shift Kill Time**... for shifting without using clutch - shift sensor is required. Function is disabled with setting to 0ms.
- ⇒ **Power Jet 1 'ON' rpm**... revs for activating Power Jet 1
- ⇒ **Power Jet 1 'OFF' rpm**... revs for deactivating Power Jet 1
- ⇒ **Power Jet 1 'ON' TPS**... throttle position for activating Power Jet 1
- ⇒ **Power Jet 1 'OFF' TPS**... throttle position for deactivating Power Jet 1
- ⇒ **Stop Switch Mode: Low Level Stop**... engine stops with low level signal (stop switch connected to the ground)
- ⇒ **Stop Switch Mode: High Level Stop**... engine stops with high level signal (stop switch is opened)

Power Jet 1 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

Power jet is switched on when revs are between 8000-10000rpm and throttle position is between 70-90%, otherwise power jet is switched off.

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.

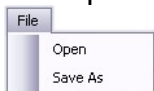
Successful programming is indicated as: 

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**.



TPS Close Position [0%]

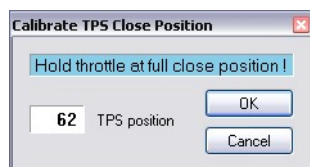
For correct operation of TPS function, TPS close position must be calibrated!



TPS close position can be set manually by entering number, or calibrated by clicking on **Calibrate** button.

Using **Calibrate** function is more recommended.

Clicking on **Calibrate** button opens **Calibrate TPS Close Position** window.



- ⇒ to finish calibration: hold throttle at full close position and press **OK** button
- ⇒ to cancel calibration: press **Cancel** button

TPS Open Position [100%]

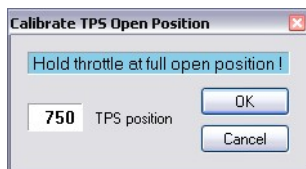
For correct operation of TPS function, TPS open position must be calibrated!



TPS open position can be set manually by entering number, or calibrated by clicking on **Calibrate** button.

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Clicking on **Calibrate** button opens **Calibrate TPS Open Position** window.



- ⇒ to finish calibration: hold throttle at full open position and press **OK** button
- ⇒ to cancel calibration: press **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, TPS position, selected ignition map, shift light operation, rev limit operation, power jet 1 operation.

NOTES
