www.zeeltronic.com
info@zeeltronic.com

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# USER MANUAL
# ZeelProg PCDI-RGT

Supported control units: **PCDI-RGT**

***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.

# CONTENT

## *ZeelProg* SOFTWARE INSTALLATION GUIDE

CD content:
- driver (USB programmer driver)
- NET Framevork
- 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.

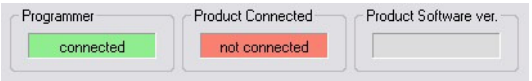
## *ZeelProg* USER INTERFACE

### Auto detection

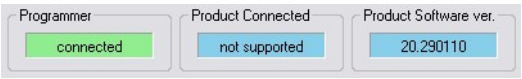
***Zeelprog*** automatically detects USB-Programmer connection and type of *control unit*.

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

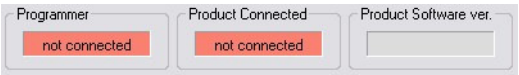

⇨ Programmer connected, product (*control unit*) not connected:




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




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

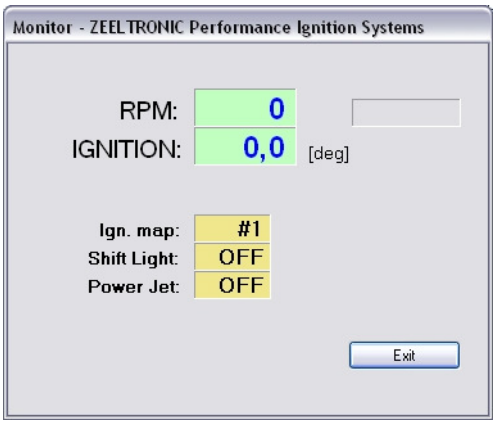


## Menu structure


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

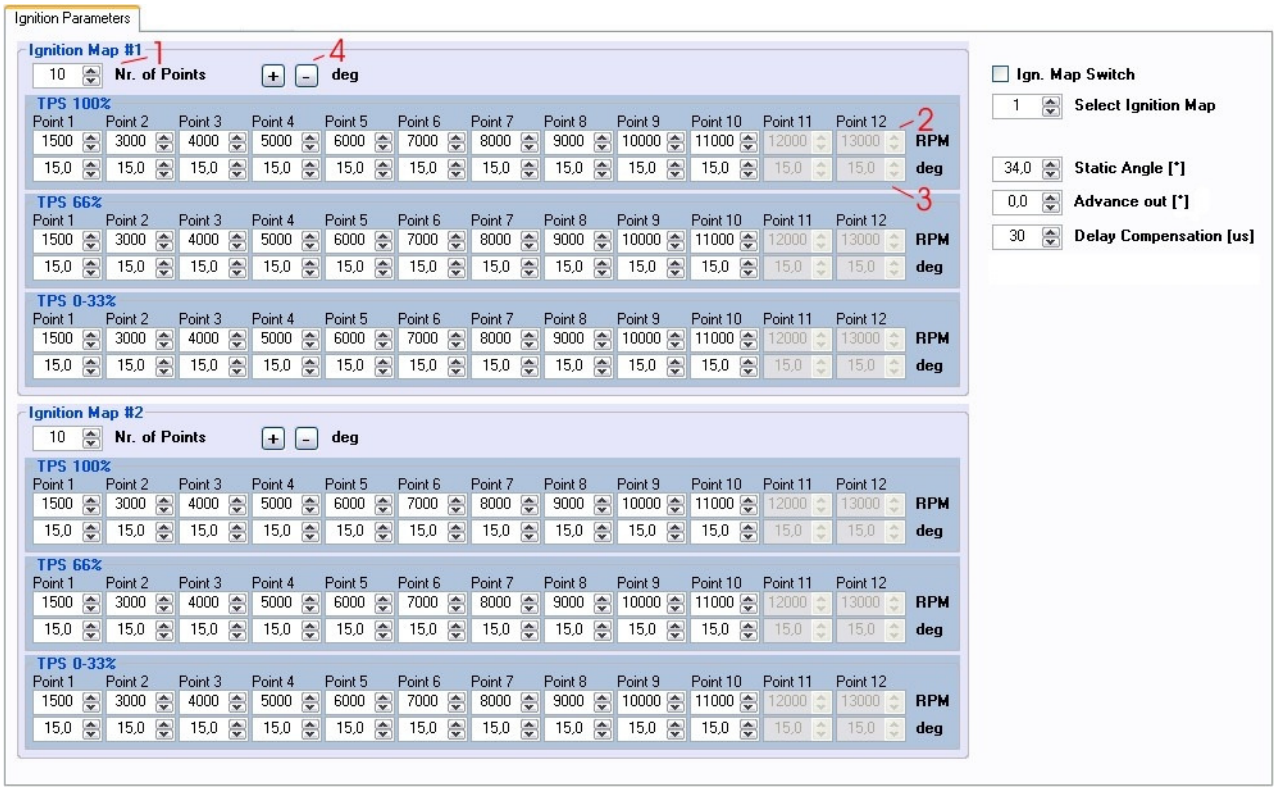

**Open** → Open an existing *.zee file
**Save As** → Save all parameters to *.zee file

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



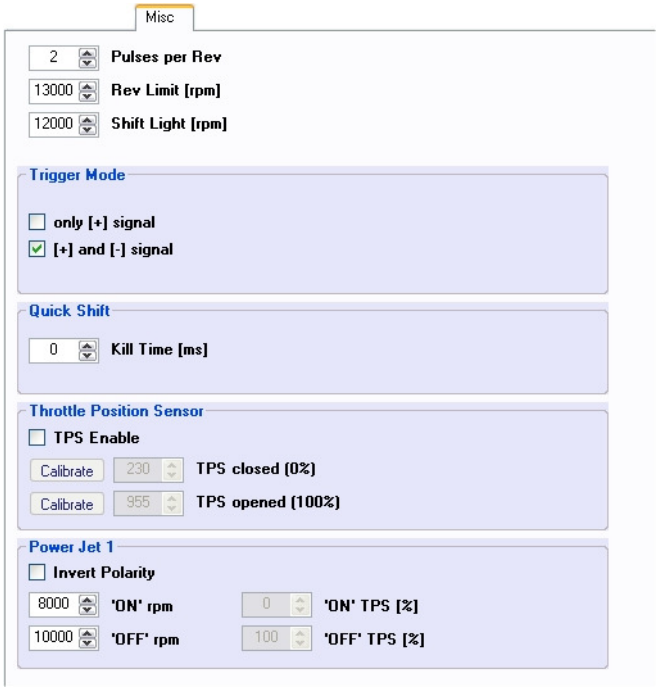

⇨ Clicking on **About** opens About window and show some basic information about ***ZeelProg*** application.

## Ignition Parameters




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** ...advances, or retards ignition advance of all 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.

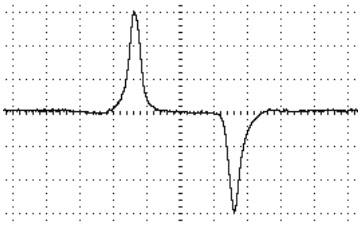
## Misc Parameters



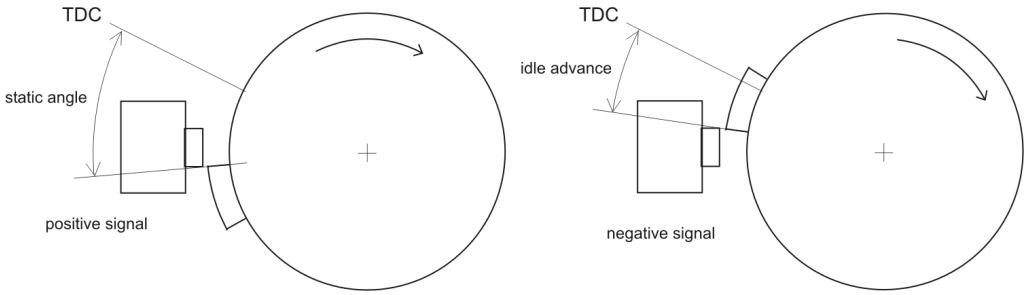

⇨ **Pulses per Rev**...for singles set to 1 and for twins set to 2. (set 2 for RG500)
⇨ **Rev limit**...limits maximum revolutions...to maximum 20000rpm in 100rpm steps.
⇨ **Shift light**...activate shift light output above programmed revs...to maximum 20000rpm in 100rpm steps.
⇨ **Kill Time**...for 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
⇨ **Invert Polarity**... when checked, operation of power jets is inverted.
⇨ **'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*

## Trigger Mode

Trigger signal from pickup consist of positive and negative pulse. Positive pulse must be first and is generated by leading edge of trigger bar...negative pulse must be second and is generated by trailing edge of trigger bar.
If trigger signal is opposite (first negative and second positive), then wires from the pickup need to be switched...that changes polarity of signal from pickup.
Positive pulse defines static angle position and negative pulse defines idle running timing position.




⇨ When **"only [+] signal"** is checked, then only positive signal is detected and ignition timing is calculated with all revs as programmed with ignition map.

⇨ When **"[+] and [-] signal"** is checked, then both signals are detected. Revs of first ignition point define switching point between, programmed ignition map and idle running timing position.
- Ignition timing is defined with trailing edge of trigger bar, at revs lower then first ignition point (idle advance...se drawing above).
- Ignition timing is defined with programmed map, at revs higher then first ignition point.
Example: if first ignition point is programmed at 1500rpm, then below 1500rpm, ignition timing is defined with trailing edge of trigger bar (idle advance...se drawing above) and above 1500rmp, ignition timing is defined by programmed ignition map.

Set **"only [+] signal"** when using custom, or modified trigger rotor, or upgrade from static ignition timing CDI.
Set **"[+] and [-] signal"** when using original trigger rotors, or flywheels. First ignition point should be programmed somewhere between 1000-2000rpm.

## 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

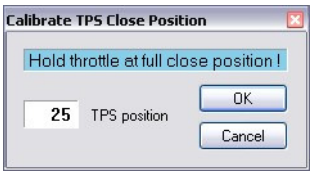
① Connect PC-USB programmer to PC.

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

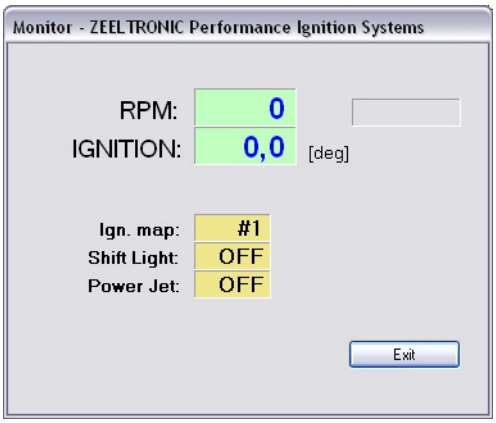

⇨ Clicking on **Calibrate** button opens Calibrate TPS Open Position window. Function is active when PC-USB programmer and *control unit* are connected.


⇨ 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.

NOTES