Information

Power Parts

69029096140

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KTM POWERPARTS

DEUTSCH

Danke, dass Sie sich für KTM Power Parts entschlossen haben.
Alle unsere Produkte wurden nach den höchsten Standards entwickelt und gefertigt, unter Verwendung der besten verfügbaren Materialien.
KTM Power Parts sind rennerprobt und gewährleisten ultimative Performance.

KTM KANN NICHT VERANTWORTLICH GEMACHT WERDEN FÜR FALSCHE MONTAGE ODER VERWENDUNG DIESES PRODUKTS. Bitte befolgen Sie die Montageanleitung. Fachmännische Beratung und korrekte Installation der KTM PowerParts durch einen autorisierten KTM Händler sind unerlässlich, um das Optimum an Sicherheit und Funktionalität zu gewährleisten.
Danke.

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ENGLISH

Thank you for choosing KTM Power Parts!
All of our products are designed and built to the highest standards using the finest materials available.
KTM Power Parts are race proven to offer the ultimate in performance.

KTM WILL NOT BE HELD LIABLE FOR IMPROPER INSTALLATION OR USE OF THIS PRODUCT. Please follow all instructions provided. Professional advice and proper installation of the KTM PowerParts by an authorized KTM dealer are essential to provide maximum safety and functions.
Thank you.

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ITALIANO

Grazie per aver deciso di acquistare un prodotto KTM Power Parts.
Tutti i nostri prodotti sono stati sviluppati e realizzati secondo i massimi standard e con l'impiego dei migliori materiali disponibili.
Le KTM Power Parts sono collaudate nelle competizioni ed assicurano altissime prestazioni.

KTM NON PUÒ ESSERE RESA RESPONSABILE PER UN MONTAGGIO O USO IMPROPRIO DI QUESTO PRODOTTO. Per favore osservate le istruzioni nel manuale d'uso. Al fine di garantire la massima sicurezza e il corretto funzionamento, è indispensabile farsi consigliare da persone esperte e competenti e far eseguire l'installazione delle KTM PowerPart presso i concessionari KTM autorizzati.
Grazie.

2

FRANCAIS

Nous vous remercions d'avoir choisi KTM Power Parts.
Tous nos produits ont été développés et réalisés selon les plus hauts standards et en utilisant les meilleurs matériaux disponibles.
Les Power Parts de KTM ont fait leurs preuves en compétition et garantissent les meilleures performances.

LA RESPONSABILITÉ DE KTM NE SAURAIT ÊTRE ENGAGÉE EN CAS D'ERREUR DANS LE MONTAGE OU L'UTILISATION DE CE PRODUIT.
Il convient de respecter les instructions de montage.
Le conseil spécialisé et l'installation dans les règles de l'art des PowerParts KTM par un concessionnaire KTM agréé sont indispensables pour assurer un maximum de sécurité et de fonctionnalité.
Merci.

2

ESPANOL

Gracias por haberse decidido por el Power Parts KTM.
Todos nuestros productos han sido desarrollados y producidos según los estándares más altos utilizando los mejores materiales disponibles.
Las KTM Power Parts están probadas en competencia y garantizan un óptimo rendimiento.

NO SE PUEDE HACER RESPONSABLE A LA KTM POR UN MONTAJE O UN USO INCORRECTO DE ESTE PRODUCTO.
Le rogamos seguir las instrucciones para el montaje.
A fin de garantizar la máxima seguridad y un funcionamiento correcto es imprescindible acudir a un concesionario autorizado de KTM para obtener el mejor asesoramiento técnico e instalar correctamente las KTM PowerParts.
Gracias.

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User Setting Tool
Installations- und Bedienungsanleitung

Chapter 1 System description

1. Functional overview

The User Setting Tool (UST) enables you to adjust your vehicle's injection quantity and ignition timing (**KTM Offroad** only) to your needs (set-up function). Data from the ECU can be recorded as well (data recording function).

NOTE HUSABERG:
The User Setting Tool can only change settings relating to the injection rate. The ignition curve can only be changed via the Map Select switch. Changing the injection rate can only improve rideability and has **NO** influence on engine power.

- Setup function

This function can be used to change the data of the ECU and load them into the ECU.
The available settings are:

- Changing the injection rate over the entire area
- Changing the injection rate at individual load points
- Acceleration enrichment
- Changing the ignition curve (**KTM Offroad** only)

All of these settings can also be saved as a "KSD" file and, if necessary, written back into the ECU.
In this way, the optimal setting can be determined for every operating condition or route and used again when necessary.

- Data recording function

This function can be used to record data from the ECU, such as speed, throttle valve position, manifold air pressure, etc., and to display and analyze them via the software on the computer. These data can be saved as a "ULD" file.

2. Safety instructions

This manual will provide you with an overview of the installation, use, functions and specifications of the User Setting Tool (UST).

NOTE:
This product was developed for racing operation only.
Under NO circumstances can KTM be held responsible for any damage to the vehicle or PC that arises while using the tool.

- Read the manual carefully before using the UST.
- Keep the manual in a safe place.
- Duplication of the manual, in its entirety or in part, is prohibited without prior written permission.
- These instructions describe the state of the product at the time of printing. Minor deviations from these instructions due to continued development cannot be excluded. If you have any questions, please contact your KTM or Husaberg dealer.
- KTM cannot be held responsible for a loss of data that occurs due to hardware faults, malfunctions or other reasons.
- KTM cannot guarantee that the specifications of the product meet your particular requirements.
- KTM reserves the right to make changes to these instructions at any time and without notification.

3. System requirements

NOTE:
Please note that certain minimum PC requirements are necessary for optimal performance of the UST.

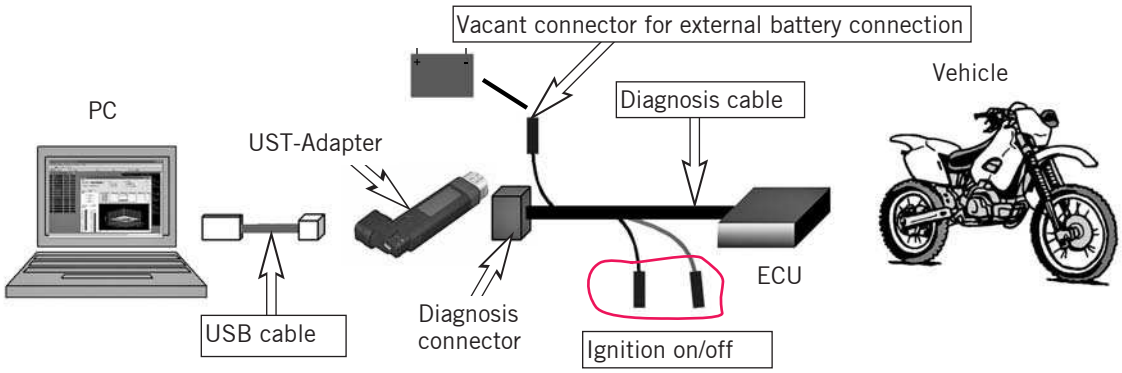
Minimum requirements:

Operating system (OS)	**Windows XP** (Home Edition oder Professional Edition) with Service Pack 2 or higher **Windows Vista** (Home Basic Edition) **Windows Vista** (Home Premium Edition) **Windows Vista** (Ultimate Edition)
OS languages	Japanese, English, German, French, Spanish and Italian If the OS language is Japanese, the software language of the UST will also be Japanese. If the OS language is not Japanese, the software language of the UST will be English.
CPU	CPU with Intel **PentiumM** or later
HDD Kapazität	Required OS memory 5 GB or more
Speicherkapazität	Required OS memory 512 MB or more
Bildschirmauflösung	1024×768 pixels or more
USB	USB 2.0

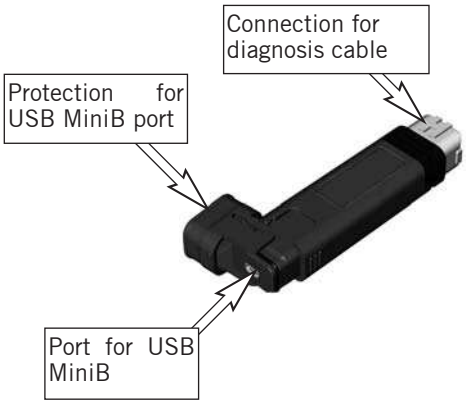
NOTE:
The HDD/memory capacity depends on the various environmental influences and operating conditions.

Windows XP/ Windows Vista are registered trademarks of the Microsoft Corporation USA.
PentiumM is a registered trademark of the U.S. Intel Corporation.

4. Component description



NOTE:
For connecting the cable and the UST adapter, see the Parts Installation Manual. (supplied with the UST)



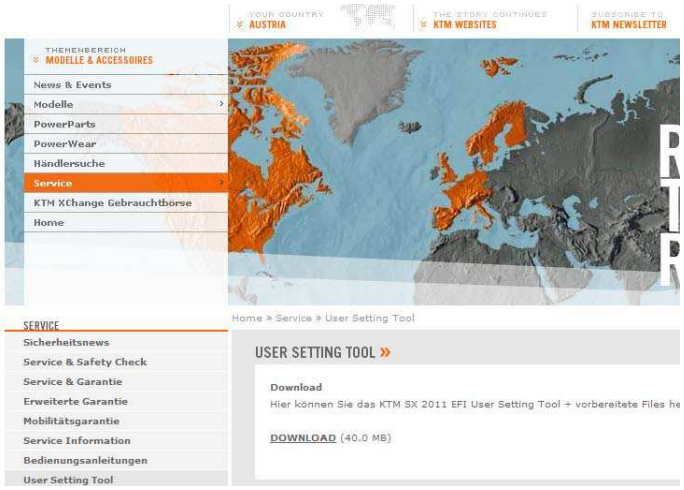
Chapter 2 Software installation

1. Downloading software

Download the “KTM UserSettingTool.zip” file from **www.husaberg.com** (Service -> Downloads) for Husaberg and from **www.ktm.at** (Service -> User Setting Tool) for KTM. Save it on your PC. Unpack the file. It contains two folders.

- KTMUserSettingToolVerX.X.X.X.(*1).exe
- Driver directory

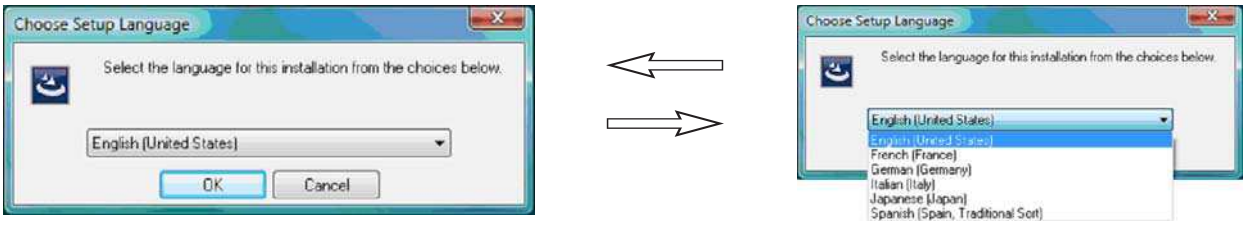
*1 The version number is generated and substituted in for X.X.X.X.



NOTE (Husaberg and **KTM Offroad** only):
The respective homepages contain finished mappings (for example, softer, more aggressive, for optional power components, etc.). These can likewise be downloaded and flashed (loaded) onto the respective ECU using the UST. They are updated and expanded sporadically.
We therefore recommend checking the download area occasionally for new mappings and software.

2. Installing UST under Windows Vista/XP

- Start the "KTM UserSettingToolVerX.X.X.X.exe":
- Select the language of the operating system for the installation and click on "OK".



NOTE:
If the operating system does not run with one of the suggested languages, English is used by default. The language that is selected here has nothing to do with the software language. For the software language, you can only choose between Japanese and English.

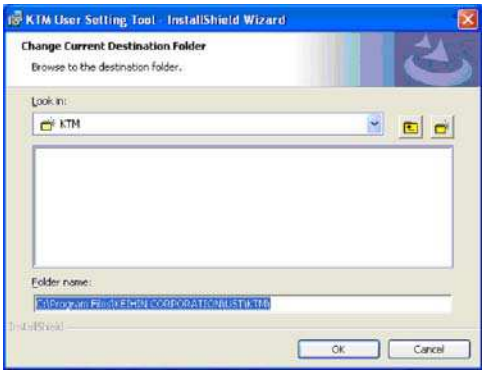
- Preparations for installation are started.

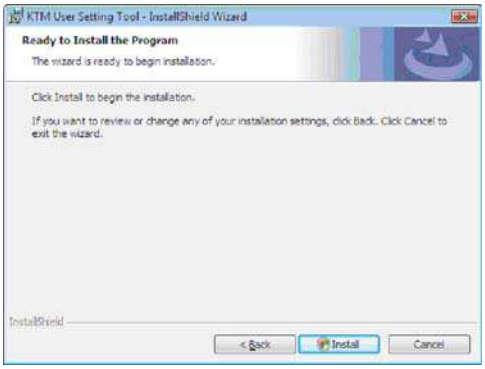
- The welcome window opens.

Confirm this with "Next".

- Select the installation directory.

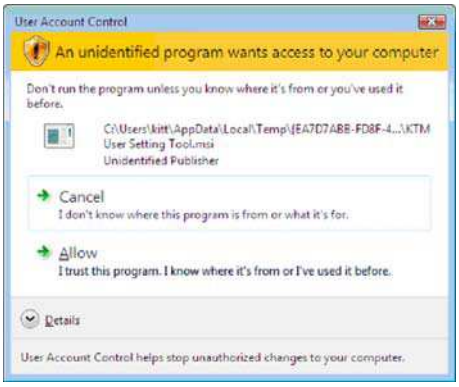
Confirm the directory with "Next". You can also select a different directory. To do so, select "Change...", select the directory and click on "Next".





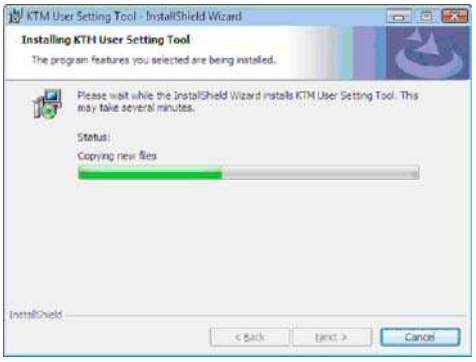
- Install the program.

After the preparations for the installation are completed, start the installation with "Install". If you would like to make changes to your settings (directory,...), you can return to the required window with "Back".

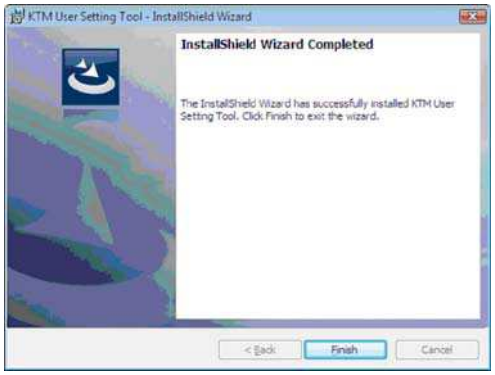


- The User Account Control window opens (Windows Vista only).

Select "Allow" to continue the installation.



- The installation window opens.



- Finish the installation.

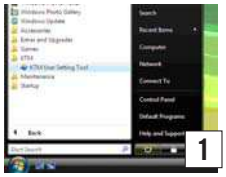
After the installation is finished, another window opens. Confirm it with "Finish".

- Check the shortcuts.

After the installation is finished, check the shortcuts on the desktop and in the start menu.

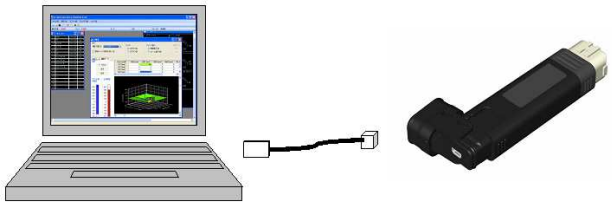
Windows Vista **(1)**

Windows XP **(2)**



3. Installing the drivers

To be able to use the UST adapter, you must first install the appropriate driver.



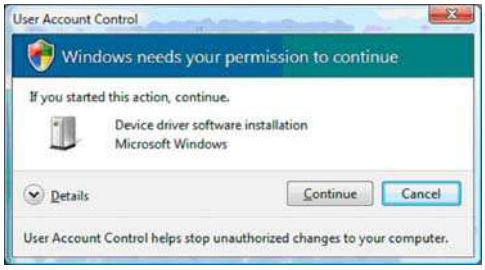
- Select a USB port that you wish to use with the UST adapter in the future.

NOTE:
The UST adapter only functions with the USB port with which it was installed.

- Connect the UST adapter with the PC using the USB cable included.

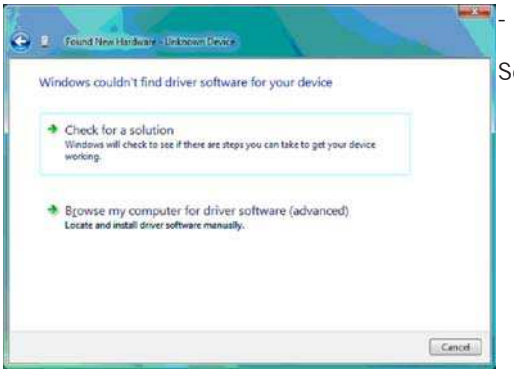
- **Installation under Windows Vista**
- The "Found New Hardware" window appears.

Select "Locate and install driver software (recommended)"



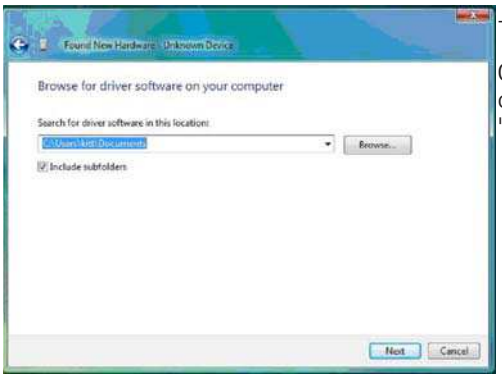
- The User Account Control window opens.

Select "Continue" to proceed with the installation.



- Another window opens.

Select "Browse my computer for driver software (advanced)".

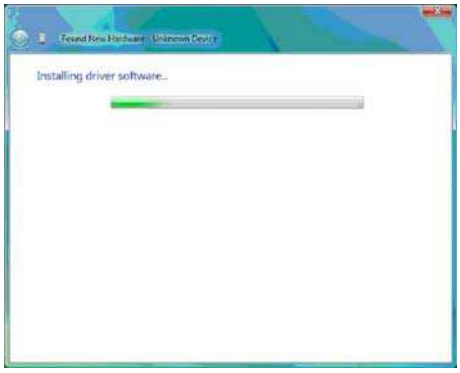


- Select the directory that contains the driver.

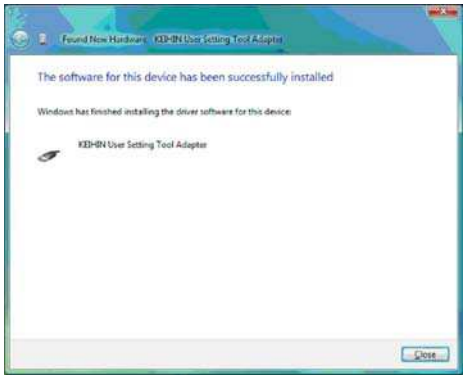
Click on "Browse..." and select the directory that contains the driver that you downloaded from **www.husaberg.com** . Select the right driver for your operating system, e.g.: "D:\Driver\Win2000_XP" and click on "Next".

- The Windows Security window opens.

Select "Install this driver software anyway".



- The driver software is installed.



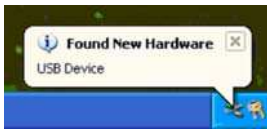
- New hardware was found.

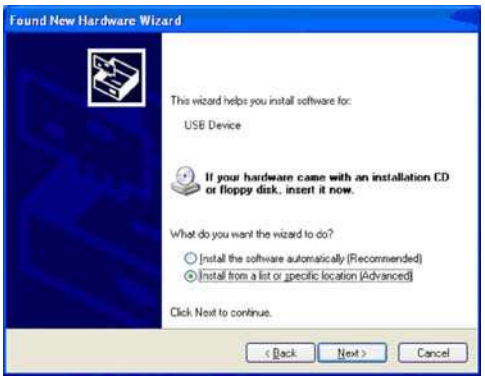
After installation, the new hardware is detected.You can now "Close" the window to finish the installation.

- **Installation under Windows XP**

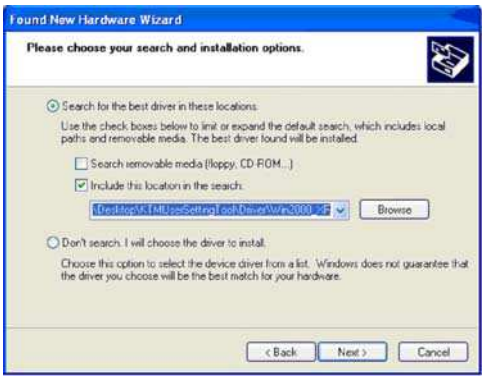
- The "Found New Hardware" window appears.

Select "No, not this time" and click on "Next".



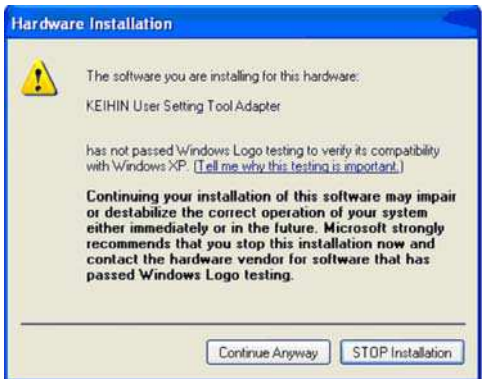


- Select "Install from a list or specific location (Advanced)" and click on "Next.



- Select "Search for the best driver in the locations" and "Include this location in the search:" and click on "Browse"; select the directory that contains the driver that you downloaded from **www.husaberg.com**. Select the correct driver for your operating system, e.g.: "D:\Driver\Win2000_XP", and click on "Next".

- The Hardware Installation window opens.



Confirm with "Continue Anyway".

- New hardware was found.

After installation, the new hardware is detected.
You can now complete the installation by clicking on"Finish".

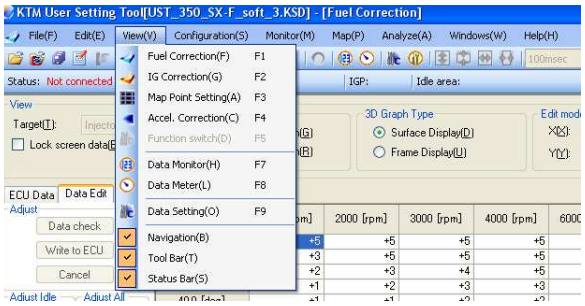
- Detection of the "KEIHIN User Setting Tool Adapter"

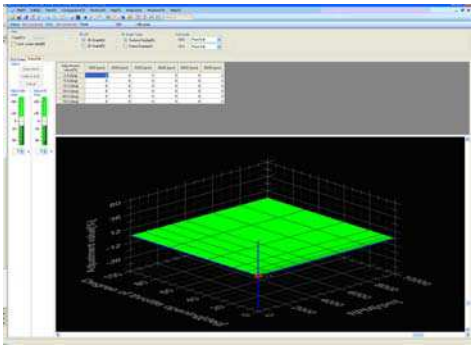
Check whether the adapter has been detected.

Chapter 3 Screen configuration

1. Main window of the KTM User Setting Tool.

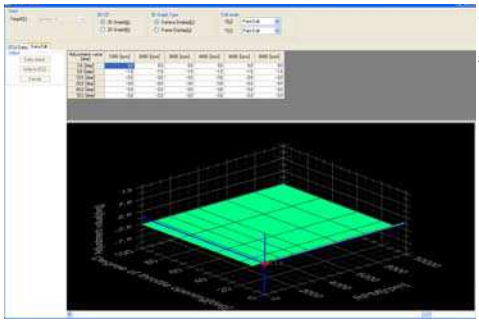
Select under "View(V)".





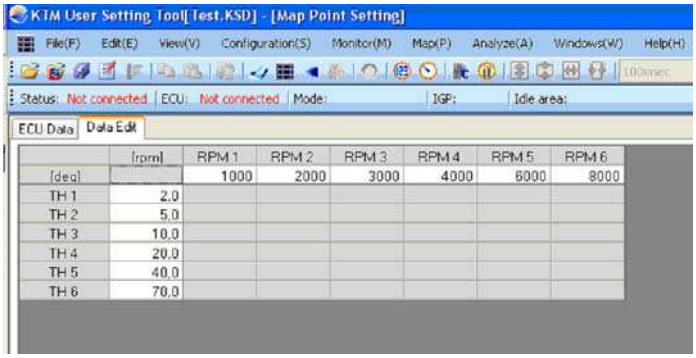
- **“Fuel Correction(F)”.**

The fuel injection rate can be controlled in this window.



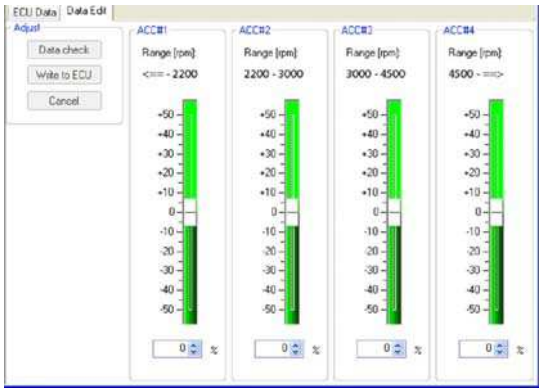
- **“IG Correction(G)” (KTM Offroad** only**).**

The ignition curve can be adjusted in this window.



- **Map Point Setting(A)**

The basic mapping settings can be changed in this window (RPM and throttle valve position in %)



- **Accel. Correction(C)**

The acceleration enrichment can be adjusted in four predefined RPM ranges in this window.

- **Data Monitor(H)**

The current ECU/engine parameters can be displayed in this window.

- **Data Meter(L)**

Provides a graphic display of the current ECU/engine parameters.

- **Function Switch (KTM RC8** only)

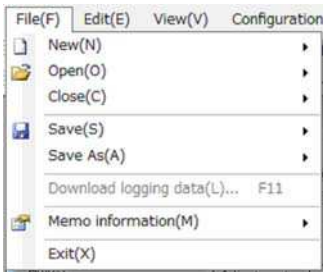
Used to deactivate the vehicle control. (This function is not enabled at this time.)

2. “Pull Down” menu

In the menu bar, you can select from the following functions:

File	Contains options that relate to the files.
Edit	Contains options for data processing.
View	Contains options for screen views and for showing various functions.
Configuration	Contains options for communication with the vehicle and resets the settings.
Monitor	Contains options pertaining to setting and logging data and the display settings.
Map	Contains options relating to the mapping data of the injection rate.
Analyze	Contains options relating to the logging data recording.
Windows	Arranges the displayed windows.
Help	Displays information on the current version.

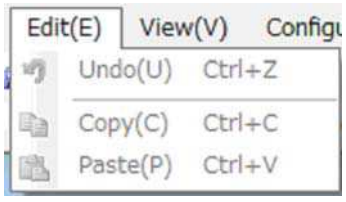
- **File Menü**



New	Creates a new file. The following format is created: -"Set-up data" (KSD file).
Open	Opens an existing file. The following formats can be opened: -"Set-up data file" (KSD file). -"Logging data file" (ULD file).
Close	Closes the open file. The following formats are closed: -"Set-up data file" (KSD file). -"Logging data file" (ULD file).
Save	Saves the current file onto itself. The following formats can be saved: -"Database file" (KSD file). -"Logging data file" (ULD file) If a file has not yet been saved, a new file is created and saved.
Save As	Save the open file under a different name. The following formats can be created: -"Set-up data file" (KSD file). -"Logging data file" (ULD file).
Download logging data	If the connected USB adapter contains data, these logging data files can be downloaded. The "logging data" file (ULD file) is created after downloading.
Memo information	Displays information on the current file and changes it.The following information can be dis played or changed. -"Database file" (KSD file). -"Logging data file" (ULD file).
Exit	Closes the application.

- **Edit Menü**

This selection is only active if the "Fuel screen Correction" window is active.



Undo	Reverses the last change to the file.
Copy	Copies the selected area onto the clipboard.
Paste	Inserts the information from the clipboard into the selected location.

- **View Menü**

Fuel Correction Opens the "Fuel Correction" window.
If a "Setup data file" (KSD file) was not loaded, this function is not active.

IG Correction Opens the "IG Correction" window (ignition curve adaptation).
This function is only available for KTM Offroad models.

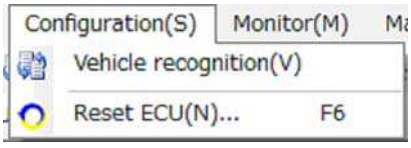
Map Point Setting Opens the "Map Point Setting" window.
If a "Setup data file" (KSD file) was not loaded, this function is not active.

Accel. Correction Opens the "Accel. Correction" window (acceleration enrichment correction).
If a "Setup data file" (KSD file) was not loaded, this function is not active.

Function switch Opens the "Function switch" window.
This function is only available in KTM RC8 models.

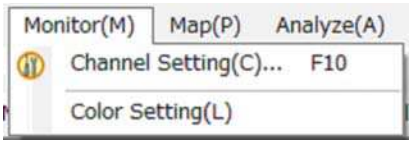
Data Monitor Opens the "Data Monitor" window.
Data Meter Opens the "Data Meter" window.
Data Setting Opens the "Data Setting" window.
Navigation Shows/hides the "navigation bar" window.
Tool Bar Shows/hides the "main screen tool bar" window.
Status Bar Shows/hides the "main screen status bar" window.

- **Configuration Menü**



Vehicle recognition Recognizes the vehicle. This function is only active if the vehicle is connected to the adapter.
Reset ECU Restores the factory setting of the ECU (original HUSABERG setting). This function is only active if the vehicle is connected to the adapter.

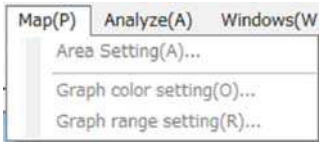
- **Monitor Menü**



Channel Setting Displays the window in which changes can be made to the data display ("Data Monitor" and "Data Meter").
Color Setting Displays the window in which the background and foreground colors can be set.

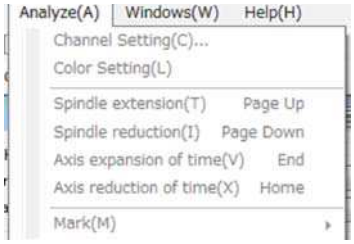
- **Map Menü**

This selection is only active if the "Fuel screen Correction" window is active.



Area Setting Opens the "Area Setting" window.
Graph color setting Opens the "Graph Color Setting" window.
Graph range setting Opens the "Graph Range Setting" window.

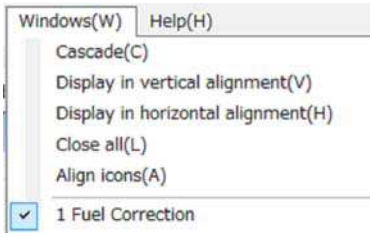
- **Analyze Menü**



Channel Setting	Displays the window in which the changes to the data display can be made.
Color Setting	Color settings of the background and cursor color in the "Data Analyze" window.
Spindle extension	Extends the Y-axis of the "Data Analyze" window.
Spindle reduction	Reduces the Y-axis of the "Data Analyze" window.
Axis expansion of time	Extends the X-axis of the "Data Analyze" window.
Axis reduction of time	Reduces the X-axis of the "Data Analyze" window.
Mark	Adds and deletes marks in the "Data Analyze" window.

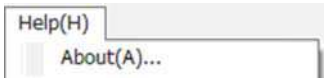
- **Windows Menü**

This selection is only active if the "Windows" window is active.



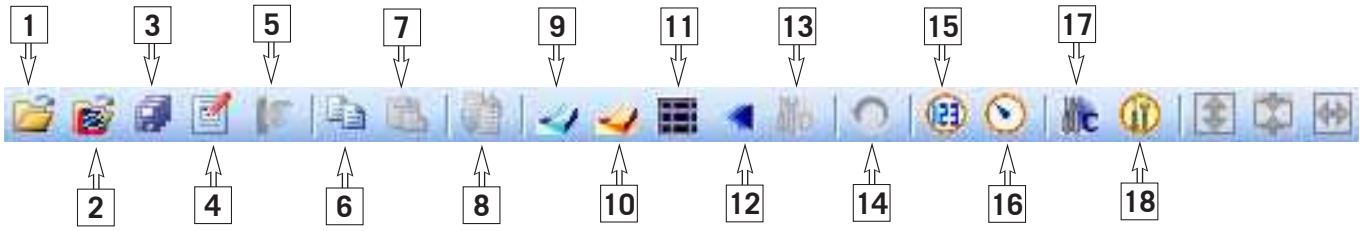
Cascade	Displays the window.
Display in vertical alignment	Vertically aligns the open windows.
Display in horizontal alignment	Horizontally aligns the open windows.
Close all	Closes all windows in the main window.
Align icons	Minimizes all windows in the main window.

- **Help Menü**



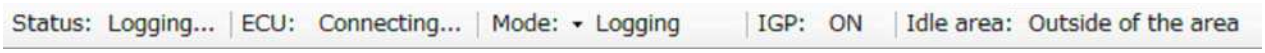
About	Shows the current version of the software.

3. Tool list



1	**Opens the set-up data file .**	Opens the "Setup data" file.
2	**Opens the logging data file.**	Opens the "Logging data" file.
3	**Saves the set-up data file .**	Saves the "Setup data" file.
4	**Memo Information**	Displays the memo input window.
5	**Downloads logging data.**	Downloads the logging data from the UST adapter.
6	**Copy**	Copies the selected area onto the clipboard.
7	**Paste**	Inserts the information from the clipboard into the selected location.
8	**Vehicle recognition**	Vehicle recognition.
9	**Fuel Correction**	Opens the "Fuel Correction" window.
10	**IG Correction**	Opens the "IG Correction" window. (KTM Offroad only)
11	**Map Point Setting**	Opens the "Map Point Setting" window.
12	**Accel. Correction**	Opens the "Accel. Correction" window.
13	**Function Switch**	Opens the "Function Switch" window.(KTM RC8 only)
14	**Reset ECU**	Restores the factory setting of the ECU (original HUSABERG setting.) This function is only active if the vehicle is connected to the adapter.
15	**Data monitor**	Opens the "Data Monitor" window.
16	**Data meter**	Opens the "Data Meter" window.
17	**Data Setting**	Opens the "Data Setting" window.
18	**Channel Setting**	Displays the window in which changes can be made for the data display.

4. Status bar



Status Shows the status of the UST adapter.

ECU Shows the status of the ECU.

"**Connecting":** Communication established with the ECU.

"Not connected": Communication not established with the ECU.

-UST adapter not connected.

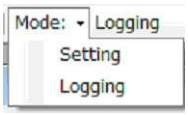
-Ignition not switched on.

Mode Indicates the current mode of the UST adapter.

"Setting mode": Enables changing the injection rate.

"Logging": Enables the recording of data from the ECU to the UST adapter.

Click on "Mode" to change between the mode settings.



IGP Shows the status of the ignition between the vehicle and the UST adapter.

"ON": Ignition is active

"OFF": Ignition is not active

Idle area Indicates whether or not the engine is idling.

- **Status of the UST adapter**

Not connected:	The UST adapter is not connected.
Waiting for a command:	Communication with the UST adapter is being established.
Logging:	The UST adapter is connected.
Waiting for a trigger:	The UST adapter is waiting for the start trigger to begin data recording.
Waiting for a trigger (holding logging data):	The UST adapter is waiting for the start trigger to begin data recording. If "Logging mode" is set to "additional basis", this indicates that logging data already exist.

5. Navigation bar

The "Navigation Bar" window serves as a quick launch bar for the main functions of the application.

Fuel Correction	F1	Opens the "Fuel Correction" window.
IG Correction	F2	Opens the "IG Correction" window. (KTM Offroad only)
Map Point Setting	F3	Opens the "Map Point Setting" window.
Accel. Correction	F4	Opens the "Accel. Correction" window.
Function Switch	F5	Opens the "Function Switch" window. (KTM RC8 only)
Reset ECU	F6	Restores the factory setting of the ECU (original HUSABERG/KTM setting). This function is only active if the vehicle is connected to the adapter.
Data Monitor	F7	Opens the "Data Monitor" window.
Data Meter	F8	Opens the "Data Meter" window.
Data Setting	F9	Opens the "Data Setting" window.
Channel Setting	F10	Displays the window in which the changes can be made for the data display.
Download logging data	F11	If the connected USB adapter contains data, these "Logging data" files can be downloaded.

Chapter 4 Application

1. Vehicle recognition

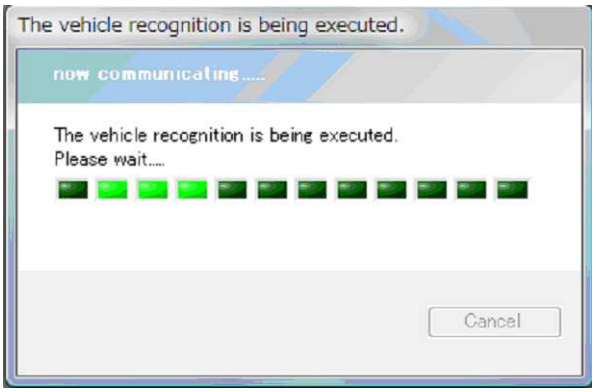
To be able to use this software, all data of the ECU must be known. These are checked via "Vehicle Recognition".

- Connect the vehicle to the PC (see Parts Manual).
- Start the User Setting Tool application.
- The window for the vehicle recognition opens.

Confirm this with "Yes".

NOTE:
If the window does not open automatically, there may be a problem with the connection between the PC, the UST adapter and the vehicle (ignition on). Establish the connection again.

NOTE:
A vehicle identification must be performed every time the vehicle is changed. Otherwise, the motorcycle will not be recognized.
To switch on the ignition, see the Parts Manual (included with UST).



- The following window is open while vehicle recognition is active.

Wait for vehicle recognition to finish. Do not in any case remove the UST adapter or switch off the ignition.

- When vehicle recognition is finished,the "Fuel Correction" window opens. Vehicle recognition is now completed.

NOTE:
If the UST adapter is connected to a different vehicle, or if the UST adapter is changed to a different UST adapter, a vehicle recognition procedure is performed again.
This function can also be selected under:
"Vehicle recognition" under the "Configuration(S)" menu.

2. Setting function

The Setting function is used to edit the settings of the vehicle's injection quantity and ignition curve (KTM only) and to flash them back to the vehicle's ECU.

- **Creating and saving a new "setup data" file**

Creating

After successful vehicle recognition, a new "setup data" file is created.

Select "New(N)" > "Setting data file(E)" in the file menu to create a new setup data file.

Saving

Saving a changed file:
Select "Save as(A)" > "Setting data file(E)" in the file menu.
A window opens in which the storage location and file name can be entered.

Saving the file downloaded from the ECU:
Select "Save as(A)" > "ECU data(E)" in the file menu.
A window opens in which the storage location and file name can be entered.

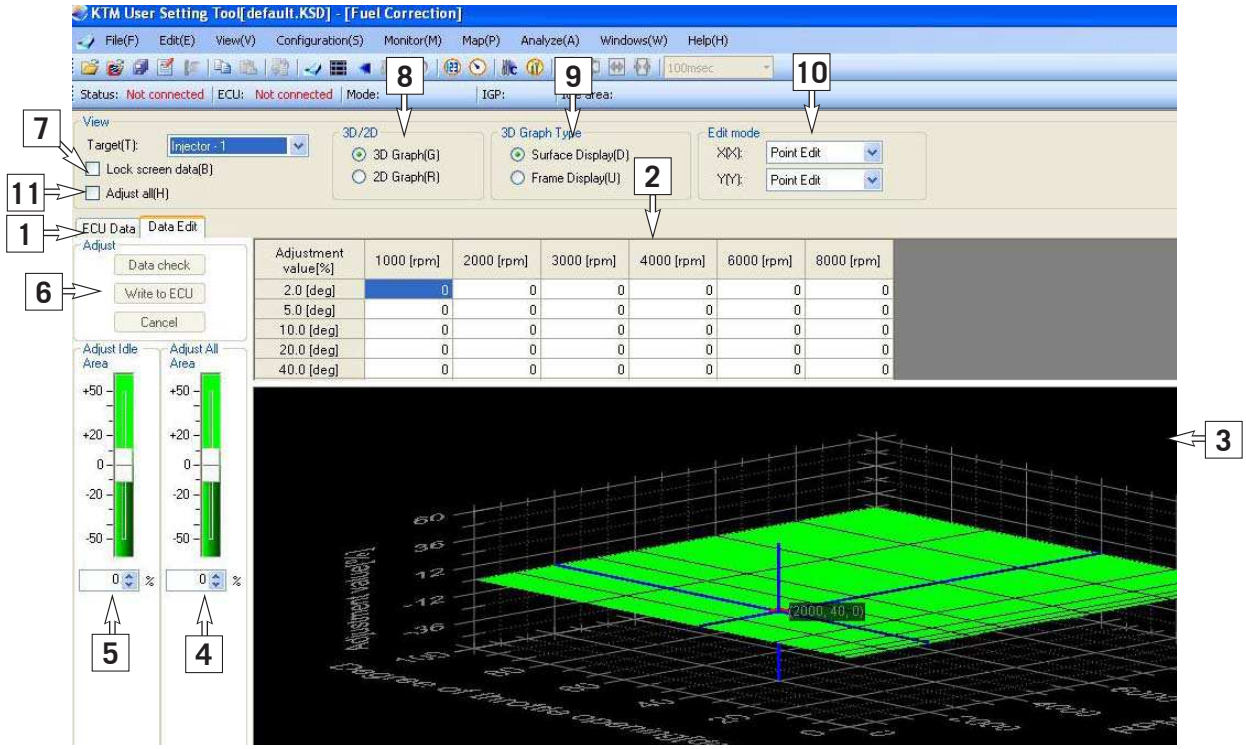
Saving a changed file under the same name:
Select "Save(S)" > "Edit setting data file" in the file menu.

Opening and flashing mappings onto the ECU

Opening and flashing you own mappings and preconfigured mappings (homepage) onto the ECU:
It is recommended that you reset the ECU before flashing a mapping onto it: "Reset ECU".
Select the desired file (mapping) and open it in the software program.
To flash the entire mapping onto the ECU, all windows (Fuel Correction, IG Correction, ...) must be opened and individually flashed onto the ECU.

- **Fuel Correction**

"Fuel Correction" can be used to raise or lower the injection rate in individual map point as a function of the RPM and the throttle valve position.
Select the "Fuel Correction(F)" in the "View" menu or in the navigation window.



1 - “ECU Data” shows the current settings on the ECU.
- In "Data Edit", individual settings can be made that can then be loaded into the ECU.

2 Shows the current settings.

3 Graphic window. The settings are graphically displayed here.

4 Setting of the injection rate across the entire area.

5 Setting of the injection rate in the idle area

6
- "Data check" enables a brief test of the changed mappings on the vehicle without loading the data into the ECU. The changes are not permanent. When you disconnect the UST adapter, the standard mapping takes effect again.
- "Write to ECU" writes the changed mapping into the ECU. Data remain in the ECU even after the UST adapter is disconnected.
- "Cancel" deletes the settings again. The started process is aborted.

7 Locks the window. Changes cannot be made in the window.

8 Changes between the 2D and 3D view of the graphic window.

9 Changes between the Frame Display and the Surface Display the graphic window.

10 Setting of the injection rate via the X-axis or Y-axis. Available settings:
- "Point Edit" - Only changes the selected point.
- "Parallel Edit" - Changes the entire axis.
- "Proportional Edit" - Proportionally changes the setting range around the selected point.

11 Activation makes it possible to set both cylinders simultaneously. (**KTM RC8** only)

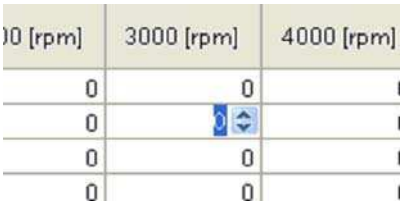
Every change in the injection rates is displayed in the table (in the "Map point setting" window) and in the graphic window.
The changes can be made both in the table and in the graphic window itself.
The values that were changed are displayed in color.

ECU Data	Light blue
Unchanged data	White
Changed data	Yellow
Data outside of the limits of the ECU	Red

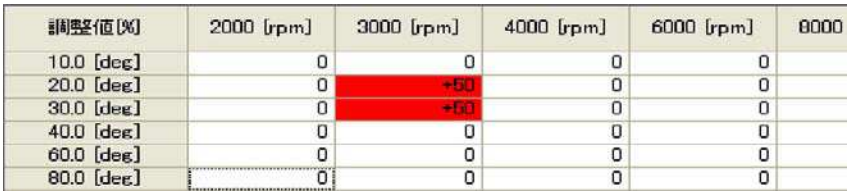
As soon as the changed data are saved, the background color changes to white. The setting itself stays the same.

- Changing the settings:

A double-click on the desired cell activates the cell and makes it possible to enter specific values.These data can be entered manually via the keyboard and via the arrow key.The process can be interrupted with the "ESC" button. The input range is +/- 50% (Husaberg/KTM Offroad) and +/- 30% (KTM RC8).



If the set area does not agree with the ECU, the background color changes to red.

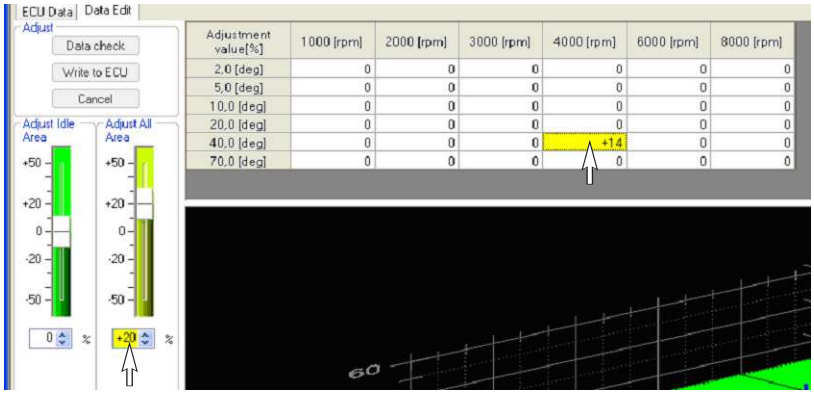


There is also the possibility of raising the injection rate across the entire area ("Adjust All Area"). Move the slider up (richer) or down (leaner).

! CAUTION

If "Adjust All Area" is changed, this change is not visible in the graphic window.If individual points are to be changed in addition, this value needs to be added or subtracted.

Example:
Change in "Adjust All Area" +20% and individual points another +14%, then the total change equals +34%!!!!



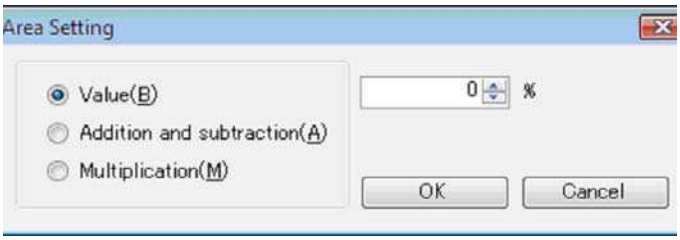
NOTE:
The idle range can only be adjusted via "Adjust Idle Area".
The settings in "Adjust All Area" do not influence the idle range.
Another possibility is to mark several areas and to change these.
Simply select a field with the left mouse button, keep the button pressed and select the additional fields, or highlight the first field of the desired area and the last one with the "Shift" key pressed. All of the intermediate fields are highlighted.

There is also the possibility of highlighting several areas and changing these.

Highlight the required areas.

調整値[%]	1000 [rpm]	2000 [rpm]	3000 [rpm]	4000 [rpm]	6000 [rpm]	8000 [rpm]
2.0 [deg]	0	0	0	0	0	0
5.0 [deg]	0	0	0	0	0	0
10.0 [deg]	0	0	0	0	0	0
20.0 [deg]	0	0	0	0	0	0
40.0 [deg]	0	0	0	0	0	0
70.0 [deg]	0	0	0	0	0	0

After highlighting the area, select "Map(P)" in the menu and click on "Area Setting(A)", or select "Area Setting(A)" with the right mouse button. A dialog box opens.



Value Changes all values of the selected fields to the entered value. This is irrespective of the value that was previously in the fields.

Addition and subtraction Adds the new value to or subtracts the new value from the current value in the selected fields. New value = current value + entered value.

Multiplication Multiplies all values of the selected fields with the entered value. A maximum value of 10 times can be entered. If the calculated value would then lie over 50%, the set ting would be set to 50%.

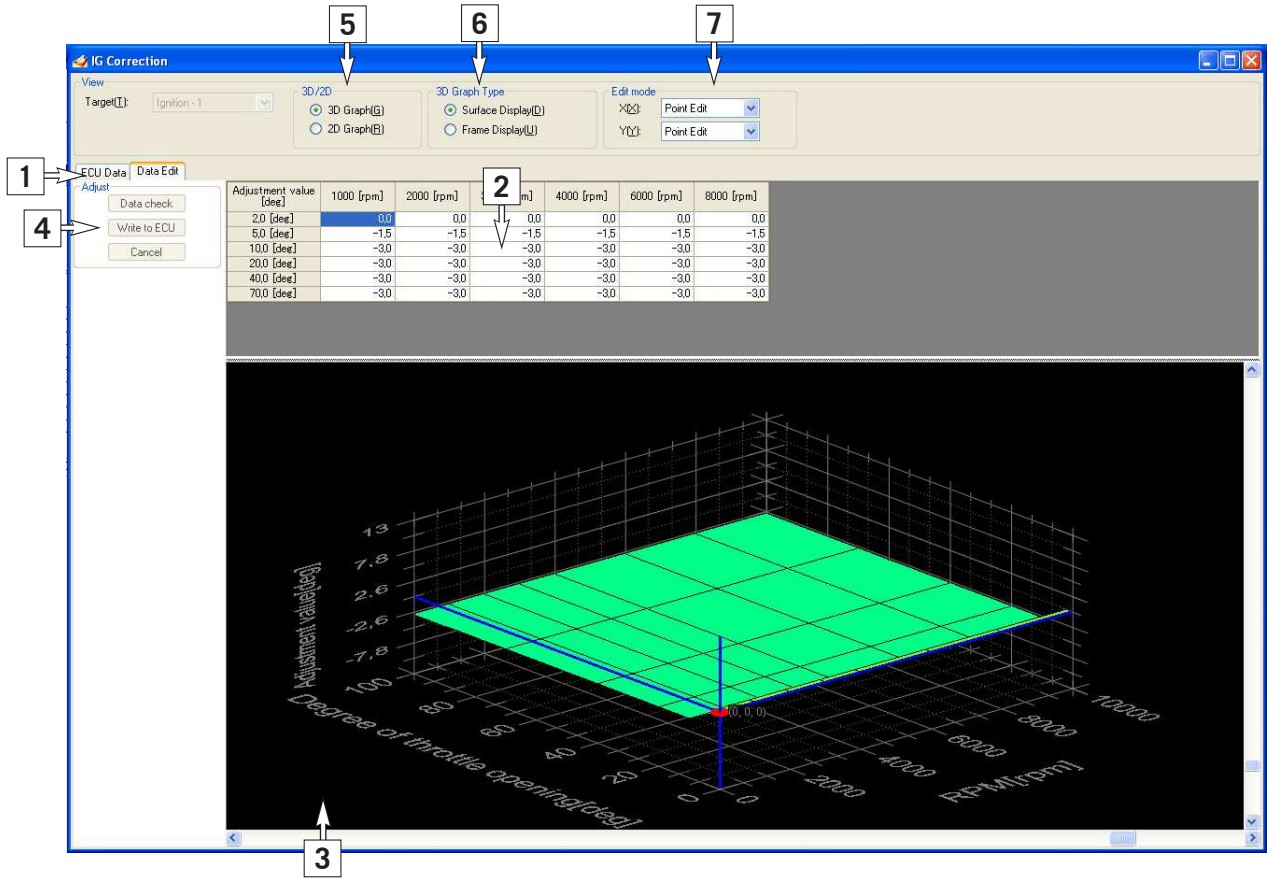
To confirm the input value, select "OK". "Cancel" can be used to delete the settings again and the window is closed.

- **IG Correction (KTM Offroad only)**

"IG Correction" is used to change the individual ignition times of the ignition curve to an earlier or later time.

Select "IG Correction(F)" in the "View" menu or in the navigation window.

NOTE:
The maximum values are at +2. All values above +2 are displayed but only values up to +2 are enabled by the system.
The minimum values are at -10. All values below -10 are displayed, but only values down to -10 are enabled by the system.



1 - “ECU Data” shows the current settings on the ECU.
- In "Data Edit", individual settings can be made that can then be loaded into the ECU.

2 Shows the current settings.

3 Graphic window. The settings are graphically displayed here.

4
- "Data check" enables a brief test of the changed mappings on the vehicle without loading the data into the ECU. The changes are not permanent. When you disconnect the UST adapter, the standard mapping takes effect again.
- "Write to ECU" writes the changed mapping into the ECU. Data remain in the ECU even after the UST adapter is disconnected.
- "Cancel" deletes the settings again. The started process is aborted.

5 Changes between the 2D and 3D view of the graphic window.

6 Changes between the Frame Display and the Surface Display the graphic window.

7 Setting of the iignition curve via the X-axis or Y-axis. Available settings:
- "Point Edit" - Only changes the selected point.
- "Parallel Edit" - Changes the entire axis.
- "Proportional Edit" - Proportionally changes the setting range around the selected point.

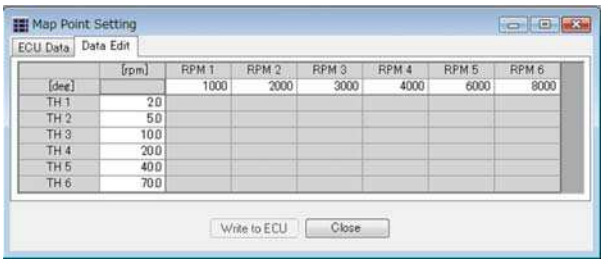
Every change of the ignition curve is displayed in the table (in the "Map point setting" window) and in the graphic window.
The changes can be made both in the table and in the graphic window itself.
The values that were changed are displayed in color.

ECU Data	Light blue
Unchanged data	White
Data outside of the limits of the ECU	Yellow

As soon as the changed data are saved, the background color changes to white. The setting itself stays the same.

- **Map Point Setting**

To make even more precise adjustments, the setting range for the speed **(RPM)** and throttle valve position **(TH)** can be adjusted individually.
Select "Map Point Setting(A)" in the menu under "View(V)" or directly in the navigation window.



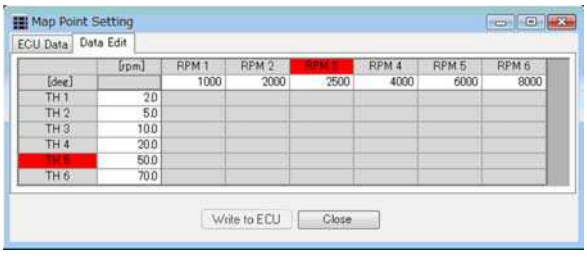
Adjusting the speed **(RPM)** input field.

Double-click on the desired RPM and enter a new value.

NOTE:
Values can be entered from 1 to 18,000 rpm in ascending order.
For example, if the value in the second field is changed to a value that exceeds the value in the third field, the value is not accepted.
Therefore, it is useful to work from right to left.

Adjusting the throttle valve position **(TH)** input field.

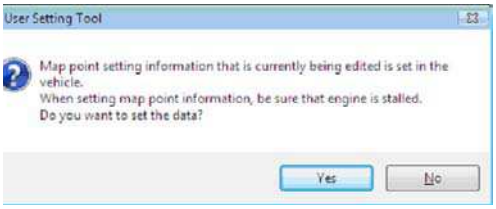
Double-click on the desired value and enter a new value.



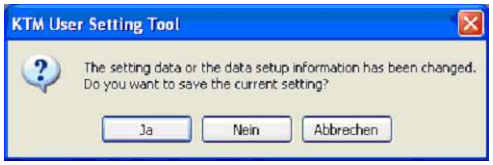
- With the "Write to ECU" command, the new setting range is written to the ECU of the vehicle.Confirm the process with "Yes".

The "Write to ECU" command is deactivated if:

- ECU "Connecting" status
- "Logging data" working mode



- The "Close" command closes the window without writing the new setting range to the vehicle ECU.



The following window opens:

- "Yes"

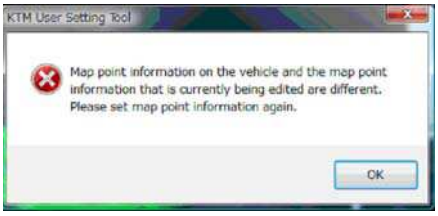
With this command, the changed setting range is changed in "Data Edit", although not in the vehicle ECU (shown in "ECU Data"). To adjust the ECU settings, the setting range must be changed again and the ECU settings changed via the "Write to ECU" command.

- "No"

The changed setting range is deleted without saving the changes.

- "Cancel"

Returns to the "Map Point Setting" window.



In this case, execute the "Write to ECU" command under "Map Point Setting" again to synchronize the changed data with the ECU.

ECU Data:

It is recommended that you check the "ECU Data" window after every "Write to ECU" to ensure that the data was actually stored on the ECU.

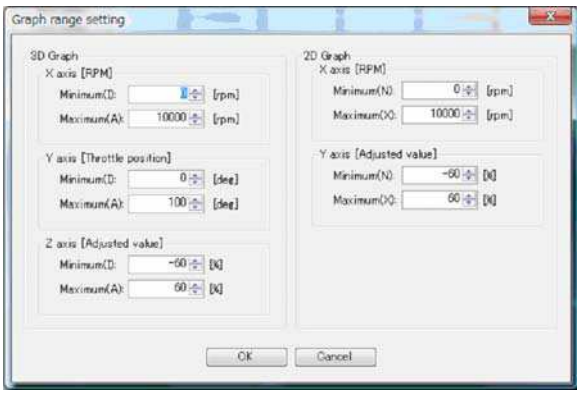
- **"Graph range setting" and "Graph color setting" settings**

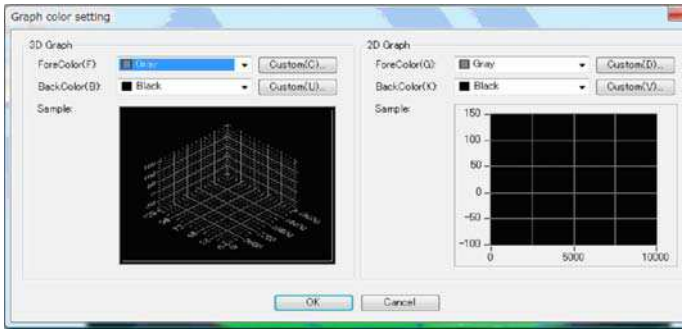
Graph range setting

Select "Graph range setting(R)" in the menu under "Map(P)".
This function can be used to define the display limits for the 2D and 3D graphs in the "Fuel Correction" window.

Input limits:

Achse	Minimum Wert	Maximum Wert
3D X axis [RPM]	0	18000
3D Y axis [Throttle position]	0	120
3D Z axis [Adjustment value]	-200	200
2D X axis [RPM]	0	18000
2D Y axis [Adjustment value]	-200	200





Graph color setting

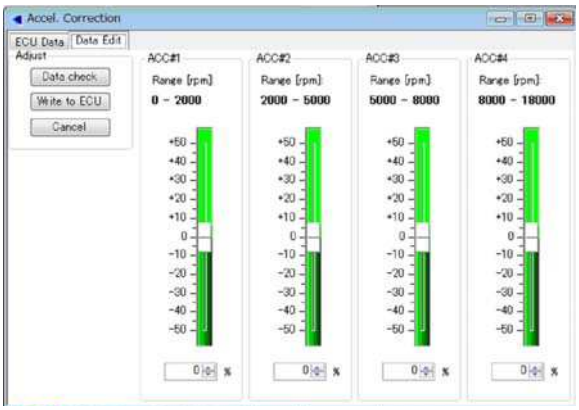
Select "Graph color setting(O)" in the menu under "Map(P)".

This function can be used to define the basic layout properties such as background and line color.

- **"Reset ECU"**

This function can be selected via the "Configuration" and "Reset ECU" menu or directly in the navigation window.
Thus, this function can be used to restore the HUSABERG standard settings with a mouseclick.

- **"Accel. Correction"**



Select "Accel. Correction(C)" in the menu under "View(V)" or directly in the navigation window.

"Accel. Correction" can be used to change the acceleration enrichment.
There are four setting ranges:

0 - 2000 rpm
2000 - 5000 rpm
5000 - 8000 rpm
8000 - 18000 rpm

NOTE:
This setting range cannot be changed.
In the KTM RC8, these setting ranges are read out by the control unit and displayed accordingly.

The "Accel. Correction" covers two areas:

ECU Data > Displays the current setting of the connected ECU.
Data Edit > Displays the setting of the open file. This setting can be changed individually.

To change the setting, simply move the slider in each RPM range up (richer) or down (leaner). The settings can only be made in the "Data Edit" window.

The following functions are available:

- "Data check" makes it possible to "test" the changed mappings on the vehicle without writing the data to the ECU.The changes are only temporary. If the UST adapter is disconnected, the standard mapping takes effect again.
- "Write to ECU" writes the changed mapping to the ECU. Data remain of the ECU after the UST adapter is disconnected.
- "Cancel" deletes the settings again. The started process is aborted.

The values that were changed are displayed in color.

Value of the ECU (ECU data)	Light blue
Value of the loaded file (Data Edit)	White
Changed values (Edit data)	Yellow

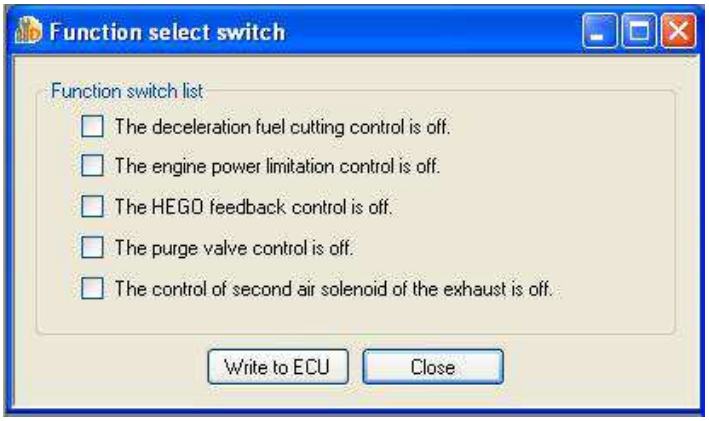
- **“Function select switch” (KTM RC8 only)**

! VORSICHT

If there is an intervention in engine management that extends beyond the data recording function, a control bit is set in the control unit.KTM is able to track this type of change.
Please note that changes to the engine management, or interventions in the performance characteristics of the vehicle, lead to withdrawal of the general operating permit.
In addition, the warranty is restricted with every deviation from the standard setting of the motorcycle.

Individual vehicle functions can be deactivated or reactivated with the "Function select switch" function.

NOTE:
This only functions when the engine is not running and the ignition is switched on.



1 - “The deceleration fuel cutting control is off” deactivates the trailing throttle fuel cutoff.

! CAUTION

Only activate this function switch if the vehicle is NOT equipped with a catalytic converter. Otherwise, the catalytic converter may be damaged.

2 - “The engine power limitation is off”.
This function can be selected but it is deactivated and thus has no effect on the vehicle setting.

3 - “The HEGO feedback control is off” deactivates the lamp control.

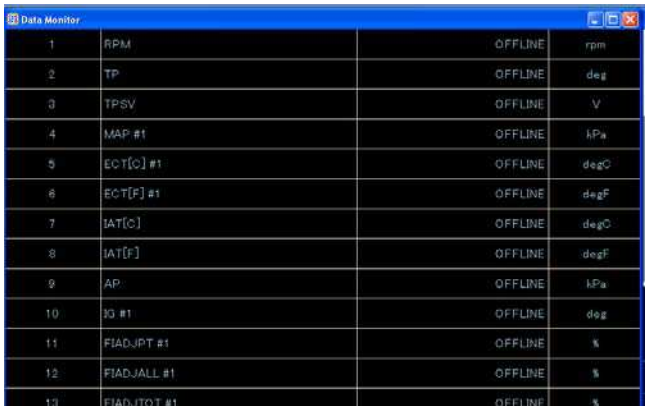
4 - “The purge valve control is off” deactivates the activated charcoal filter control. (RC8 USA model only)
In this way, the activated charcoal filter tank can be removed.

5 - “The control of second air solenoid of the exhaust is off” deactivates the SLS (secondary air filter system).

! CAUTION

If the SLS is removed, the optionally available SLS blocking system must be mounted. Otherwise, false air will enter the system.

After the selection is made via the “Function select switch”, select the “write to ECU” function, switch off the ignition and switch it back on. The selection is now active.



3. “Data Logging” Function

The "Data Logging" function is used to record the vehicle's settings of the injection quantities, the ignition and the engine parameters and to display these on the PC.

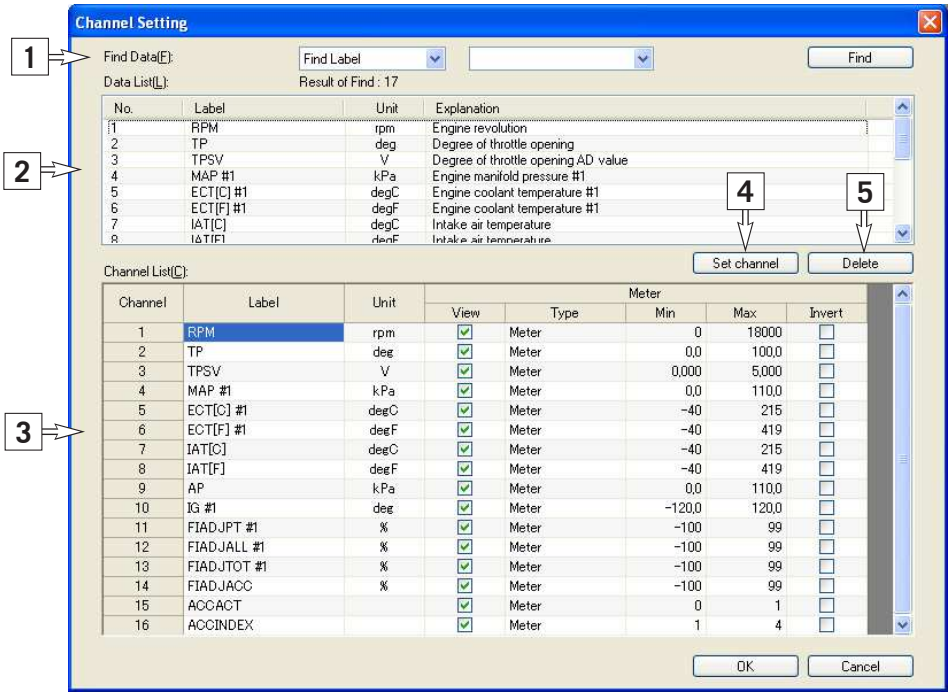
- **“Data Monitor”**

Select "Data Monitor(H)" in the menu under "View(V)" or directly in the navigation window.

In this window, the data of the ECU are displayed "live". For this, however, the vehicle must be connected to the UST adapter and the PC.

A double-click on one of the rows opens the "Channel Setting". This function can also be called up directly in the navigation window.

The data that are displayed in the data monitor can be adjusted in the Channel Setting window.



- “Find Data” **(1)**

Search function:

Find Label	Searches for the search term in the Name (label) and shows the results.
Find Explanation	Searches for the search term in the description (explanation) and shows the results.
Find All	Searches for the search term in the name (label) and in the description (explanation) and shows the results.

- “Data List” **(2)**

Shows the results of the search function.

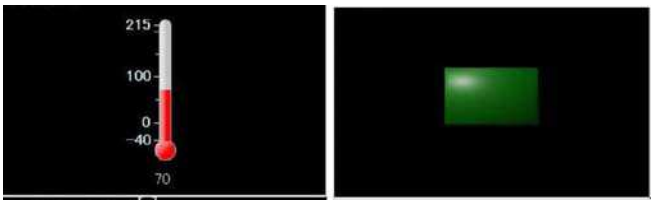
- “Channel List(C)” **(3)**

Shows the values that are currently being displayed in the "Data Monitor".

Label	Name of the value
Unit	Unit of the value
View	Specify whether a value is displayed or not.
Type	Displays the display type.
Min	Minimum value.
Max	Maximum value.

The following display modes can be selected in the "Type" field:

Meter **Gauge** **Bar**



Thermometer **Indicator**

- “Set channel” **(4)**

With the "Set channel" function, a value can be adopted from the "Data List(L) into the "Channel List(C)".

- “Delete” **(5)**

When you select a value from the "Channel List(C)" and select "Delete", the value is deleted from the display.

- “OK”

The settings are saved and the Data Monitor is updated with the "OK" button.

- “Cancel”

The changes are deleted and the window is closed with the "Cancel" button. The "Data Monitor" remains unchanged.

- **“Data Meter”**

Select "Data Meter(L)" in the menu under "View(V)" or directly in the navigation window.

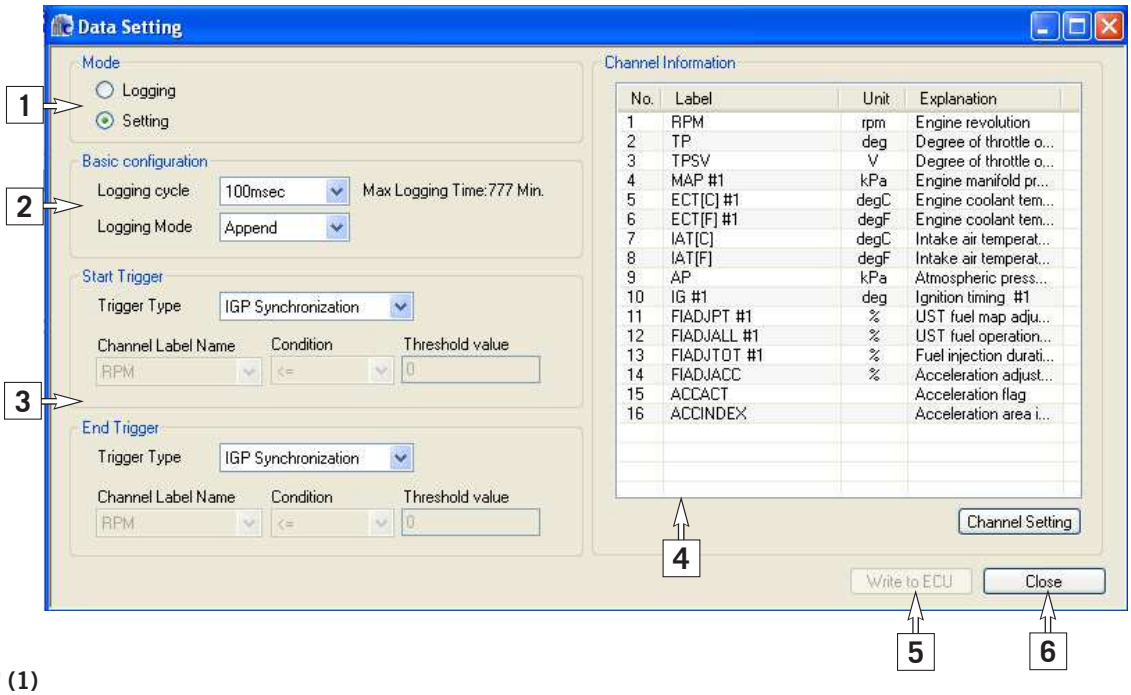
This window graphically displays the set values of the "Data Monitor". The setting can be changed under Type" in the "Data Monitor".

NOTE:
The greater the number of different views that the "Data Meter" has, the more memory is required.

- **“Logging Data Setting”**

Select "Data Setting(O)" in the menu under "View(V)" or directly in the navigation window.

The settings for the Data Logging Information can be made in this window.



- **"Mode" (1)**

This function is used to change between "Logging" (data recording FROM the vehicle) and "Setting" (loading data to the vehicle). It must be set to the mode that is necessary to either load the data TO the vehicle or FROM the vehicle.

- **"Basic configuration" (2)**

This function makes it possible to make more precise settings for the "logging".

"Logging cycle":
Used to set the cycle time for the recording. Possible settings are

100msec
1sec.

"Logging Mode":
Used to set the type of recording. The available settings are Clear and Append.

-"Clear": The collected information is overwritten every time the recording is started again (Start Trigger).

-"Append": Every time the recording starts (Start Trigger), a cut is made and the new recording is appended to the previous one.

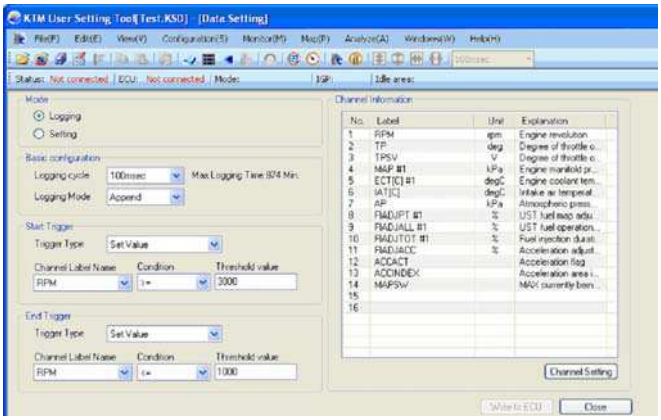
- **"Start Trigger” and “End Trigger" (3)**

This function makes it possible to set the exact start trigger and end trigger times for the "Logging".
The beginning of the recording ("Start Trigger") and the end of the recording ("End Trigger") can be set.

The following settings are available for the "Start Trigger" and the "End Trigger":

-IGP Synchronization": As soon as the ignition is switched on, the data recording begins or ends.

-"Set Value": Here you can define when the recording is to start or end. You can choose from all data that you set in the "Channel Information". These can be selected under "Channel Label Name".

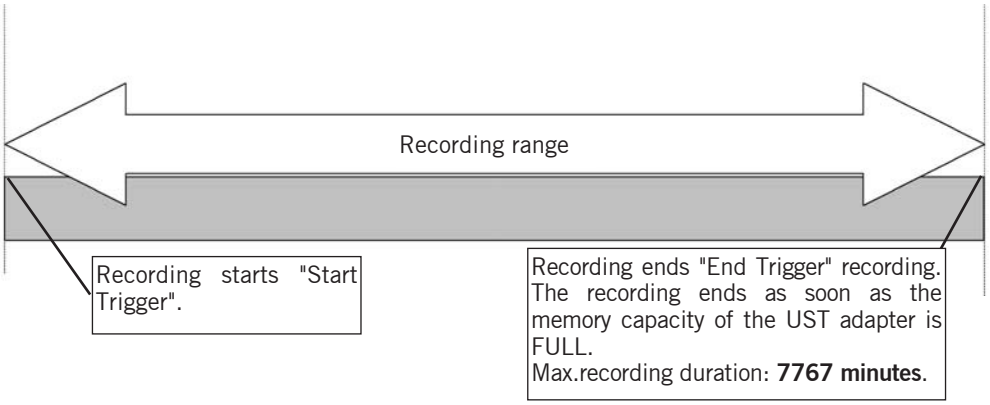


Example of a recording:

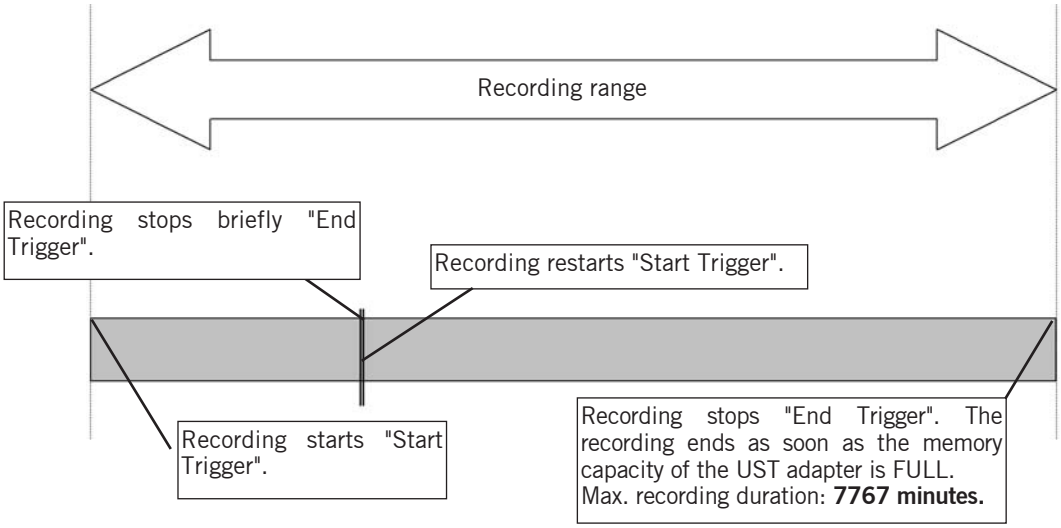
The recording starts ("Start Trigger") as soon as the RPM is greater than or equal to 3000 rotations. It ends ("End Trigger") when the speed drops below 1000 rotations.

NOTE:
In this case, "Append" is set. This means that all recordings are listed consecutively.The recording starts at 3000 rpm and ends at less than 1000 rpm. If you accelerate again and reach 3000 rpm, the new information is appended behind the first. If"Clear" is selected instead of "Append", the first recording is overwritten by the new recording.

One-time recording "Clear":



Running recording "Append":



- **"Condition":**

Available selection:

<=	Less than or equal to
<	Less than
>=	Greater than or equal to
>	Greater than

- **"Threshold value":**

In this area, you can enter a limit value.

- **"Channel Information" (4)**
The values that are selected under "Channel Setting" are displayed here.

- **"Write to ECU" (5)**
This command is used to load the set values into the ECU.

NOTE:
If the UST adapter is not connected, this function is deactivated.

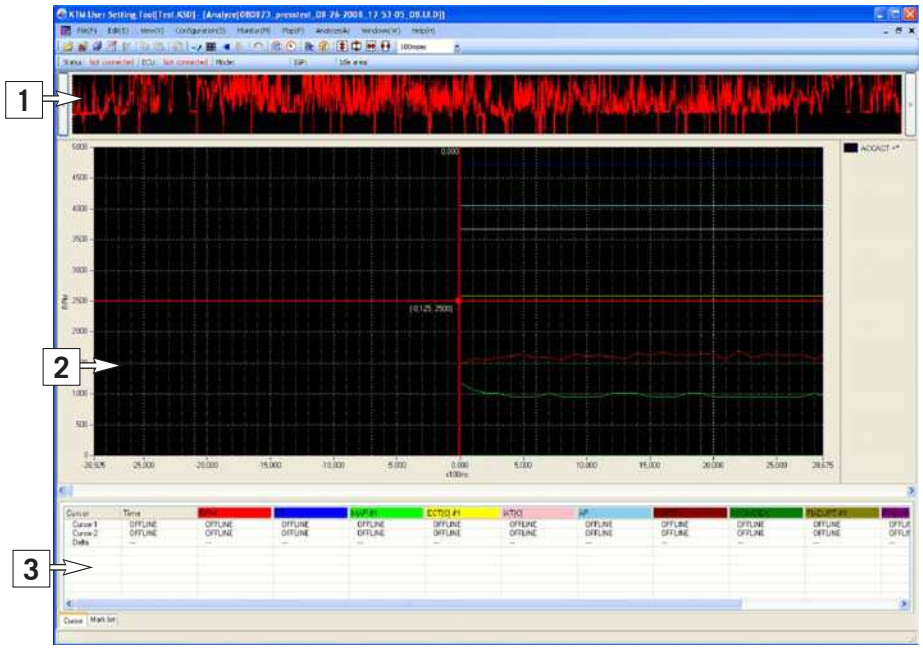
- **"Close" (6)**
The window is closed by clicking on "Close".

4. Analyzing the "Data Logging" data

Select "Download logging data(L)" in the menu under "File(F)" or directly in the navigation window.

When a "Logging data" file (ULD) is opened from the computer, the "Analyze" window opens as well.

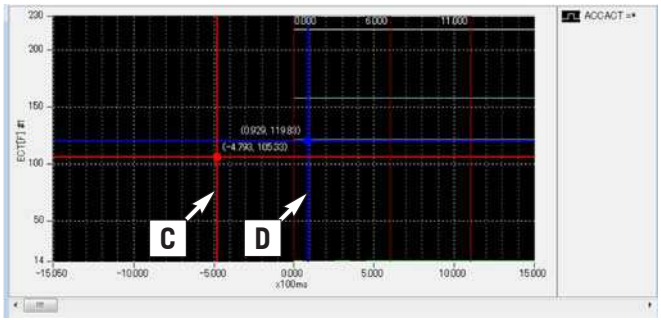
- Parts of the "Analyze" window:



- **"All area graph view area" (1)**.

In this window, all data are displayed together.

A Scroll bar, left and right
B Direction bar

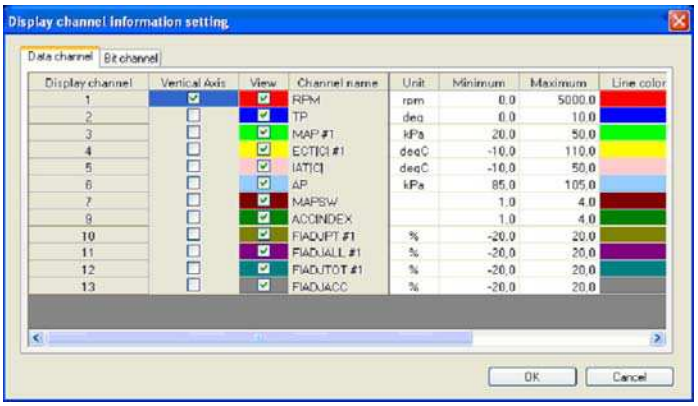


- **"Partial area graph view area" (2)**

The selected data are displayed in this window. Two cursors are always displayed (cursor 1 **(C)** and cursor 2 **(D)**). A maximum of 16 pieces of information (lines) can be displayed.

HINWEIS:
NOTE:
The cursor is used to select certain points of the information line to obtain detailed values.These values are shown directly next to the cursor below ( ) and in the cursor window **(3)**, page 29.

Each individual line can be selected with a double-click to change the individual setting "Display channel information setting". For example, line colors can be changed or lines can be shown/hidden. The cursors can be moved in the X- and Y-directions.



- **"Display channel information setting"**

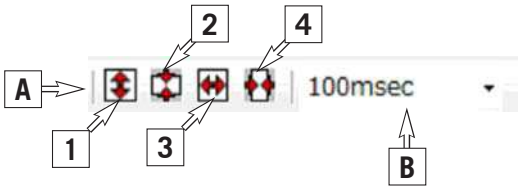
Select "Channel Setting(C)" in the menu under "File(F)" or double-click on an information line.

Term	Description	Editable
Channel No.	Shows the "logging" number.	No
Vertical axis setting	The information unit that is selected here is displayed in the "All Area Graph".	Yes
View	Shows whether or not data are displayed in the graphic.	Yes
Channel Name	Name of the piece of information.	No
Unit	Unit of information	No
Minimum value	Shows the minimum value of the information.	No
Maximum value	Shows the maximum value of the information	No
Line color	Shows the color of the information line.	Yes
Line type	Shows the line type of the information line.	Yes
Line thickness	Shows the thickness of the information line.	Yes

- **"Kursor Information" (3)**

This window displays the information at which the cursor is currently located.

- Toolbar of the "Analyze" window:



- Extending and reducing the ax **(A)**

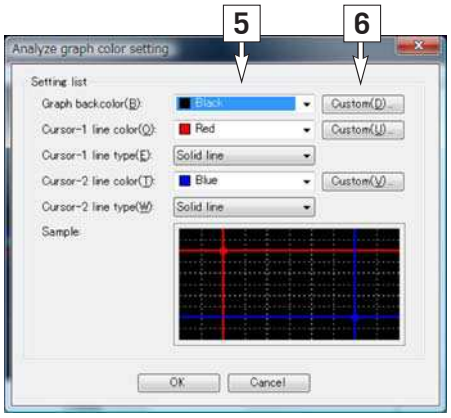
Extending the longitudinal axis **(1)**
Reducing the longitudinal axis **(2)**
Extending the time axis **(3)**
Reducing the time axis **(4)**

- Setting the time interval **(B)**

1msec, 2msec, 5msec, 10msec, 20msec, 50msec, 100msec, 200msec, 500msec
1sec, 2sec, 5sec, 10sec, 20sec, 30sec, 1min, 2min, 5min, 10min, 20min, 30min

- **Settings of the graphic interface of the "Analyze Window"**

Select the "Color Setting(L)" in the menu under "Analyze(A)".



- Changing the color and line type **(5)**

Here the cursor lines can be assigned a certain color and line type. The background, too, can be replaced by a different color.

- User-defined color setting "Custom" **(6)**

- "OK" Button
Confirms and updates the settings in the "Analyze" window

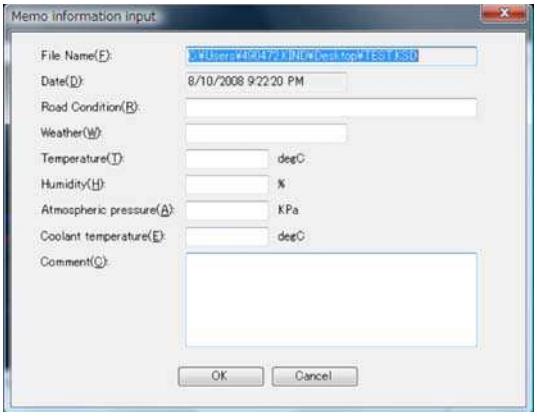
- "CANCEL" Button
The settings are discarded using the "Cancel" function and the window is closed.

5. "Memo" Information

Select "Memo Information(L)" in the menu under "File(F)".

With this function, information can be stored for all files.For example, road conditions, weather, ... anything that may be important for a later analysis.

Information can be saved for "Setting" data "Setting data file(I)"/(KDS) and for "Logging" data "Logging Data File(K)"/(U LD).



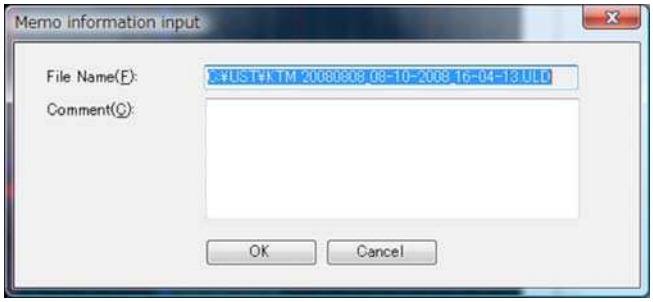
Available information fields:

File name	Name of the current "setup data" file.
Save time	Date and time is set automatically.
Road condition	User field
Weather	User field
Temperature	User field
Humidity	User field
Atmospheric pressure	User field
Water temperature	User field
Comment	User field

- **Info field for "setting data file" (KSD):**

- "OK" button
Confirms and updates the settings in the "Memo information input" window

- "CANCEL" button
With the "Cancel" function, the settings are discarded and the window is closed.



Available information fields:

File name	Name of the current file.
Comment	Input field for the user.

- **Info field for "logging data file" (ULD):**

- "OK" button
Confirms and updates the settings in the "Memo information input" window.

- "CANCEL" button
The "Cancel" function is used to discard the settings and close the window.

Chapter 5 General information

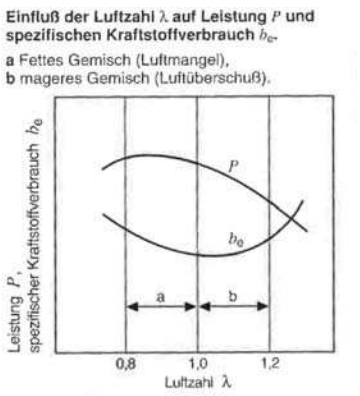
WARNING:
Special knowledge of the engine and of mixture formation in gasoline engines is needed to be able to use the UST effectively. Therefore, it is recommended that the UST only be used in connection with an authorized workshop.
With their experience and the aid of test stands, authorized workshops have the necessary resources to determine the optimal setting for your vehicle.Therefore, you should desist from "experimenting" with extreme settings. There is a danger of engine damage.

NOTE:
The UST does **NOT** increase engine performance. It can only contribute to improving engine response to meet the individual needs of the driver.

1. Short introduction to mixture formation

Air-fuel mixture

An engine requires a certain air-fuel ratio for operation.



Lambda λ

The lambda value specifies by how much the existing air-fuel mixture differs from the theoretically necessary mass ratio (14.7:1). This value is defined λ =1.

λ Ratio of supplied air mass to air need (14.7:1).

λ =1 Supplied air mass equals the required air need (14.7:1).

λ< 1 Air deficiency = rich mixture. Optimal power λ =0.85...0.95.

λ > 1 Air excess = lean mixture. Low fuel consumption but also low power.

Adjustment to the operating conditions

The engine requires adjusted fuel quantities in certain operating states. The mixture preparation system must be capable of meeting these varying requirements. In vehicles with the factory setting, this task is performed by the injection system with a standard mapping. The mapping is tuned to the standard requirements. In this case, it is likely that the injection rate does not need to be changed. However, if changes are made to the vehicle, such as a different exhaust system, changes to the engine, etc., it may be necessary to adjust the injection rate since the standard mapping is not tuned to these changes.

- Idle
The lambda value should be selected to create a stable engine idle (λ = approx. 0.9)

- Partial load
A change to the fuel quantity in the partial load segment has the greatest impact on engine response.

- Full load
An enriched fuel mixture is used in full throttle operation. This setting results in the greatest possible torque or the greatest possible power. The enriched mixture also cools the engine and exhaust system.

- Acceleration
At high accelerations, the manifold pressure increases, fuel volatility worsens and the wall film is thicker. Because a portion of the fuel is lost to the wall film, the motor briefly becomes leaner until the wall film stabilizes.This makes an acceleration enrichment necessary.In series mapping, this enrichment is optimally tuned for the series engine. In the UST, the value "0" appears for the acceleration setting. This is the series setting.

2. General information on injection and ignition

The characteristics of the vehicle can be adapted to the driving style, route and type of terrain by adjusting the injection quantity and/or the ignition time within certain ranges.
The characteristic fields, injection quantities and ignition time are preset to achieve optimized torque and power for the series versions of the power-related components.
If the power-related components change (more charge), the mixture becomes leaner.
In this case, the mixture should be adjusted in the "rich" direction to achieve optimum torque/power and to reduce the thermal load on the components.

Attention: When the charge is larger, the mixture burns more rapidly.

To achieve maximum torque/power and avoid knocking, the ignition must be adjusted in the direction of "late".

3. Combination of Mapselect mappings and User Setting Tool mappings

The combination of mappings via the ignition curve switch (Mapselect) and User Setting Tool mappings results in the addition or subtraction of injection quantities and ignition curves.

Example:
When a Mapselect mapping with a "softer" power development is selected (e.g. Wet Condition Mapping for SX) along with a User Setting Tool mapping with a "softer" power development, the vehicle characteristics become considerably "softer".

The same applies to the combination of "advanced" mappings, in which case the vehicle becomes considerably more "aggressive". When opposing mappings are combined, one of which is "softer" and the other more "aggressive", they balance each other out.

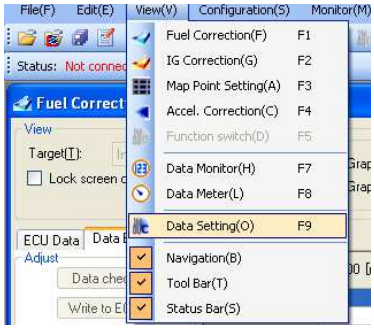
4. Application in practice

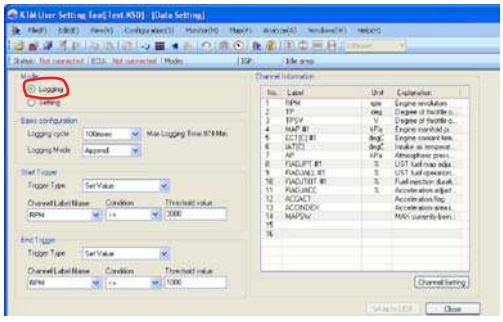
Recording data, "Data Logging".

On the road, for example:

Before you connect the UST adapter to the vehicle, it must be ensured that the "Logging" function is active on the UST adapter.This needs to be performed on the PC . The UST adapter does not need to be connected to the vehicle and the ignition does not need to be active.It is sufficient to connect the UST adapter to the computer with the USB cable (for instructions, see the Parts Manual).

Start the program and open the "Data Setting(C)" file under "View(V)".
The "Data Setting" window opens. In this window, ensure that the "Logging" function is active. At the same time, all of the other settings need to be defined as well, such as "Start Trigger", "End Trigger", ... For more information on the settings and a description of the individual functions, see **Chapter 3** "Data Logging Function" > "Logging Data Setting".



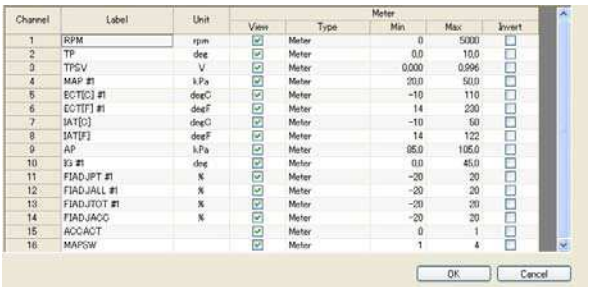


After all settings are made, disconnect the UST adapter from the PC and connect it to the vehicle (for instructions, see Parts Manual). Depending on how the functions are defined, the data recording starts or ends. They are saved on the UST adapter.

After the recording is completed, the data can be transferred to the PC and analyzed.
To do so, connect the UST adapter to the PC. The vehicle does not need to be connected since the recorded data are found on the adapter.

For detailed information on downloading the data to the PC and analyzing the data, see **Chapter 4** (Application) > **Subchapter 4** "Analyzing the Data Logging data".

5. Explanation of terms



An explanation of terms can be obtained by double-clicking on the term with the left mouse button in the "Data Monitor" or directly under "Data Setting" > and "Channel Setting".

Term	Unit	Description
RPM	rpm	Engine revolution **(Engine revolution)**.
TP	deg	Throttle position in degrees **(Throttle position)**.
TPSV	V	Throttle position sensor voltage **(Throttle position sensor voltage)**.
MAP#1	kPa	Engine manifold pressure **(Engine manifold pressure)**.
ECT[C]#1	degC	Engine coolant temperature °C **(Engine coolant temperature "°")**.
ECT[F]#1	degF	Engine coolant temperature F **(Engine coolant temperature "F")**.
IAT[C]	degC	Intake air temperature °C **(Intake air temperature "°")**.
IAT[F]	degF	Intake air temperature F **(Intake air temperature "F")**.
AP	kPa	Atmospheric pressure **(Atmospheric pressure)**.
IG	deg	Ignition timing setting (only **KTM Offroad**).
FIADJPT#1	%	Fuel correction value in current map point **(Fuel Injection adjusting point)**.
FIADALL#1	%	Fuel correction value in total map point "Adjust all area" **(Fuel Injection adjusting all)**. NOTE: "Adjust Idle Area" is displayed when idling. When not idling, "Adjust All Area".
FIADTOT#1	%	Combined fuel correction value from FIADPT#1 and FIADALL#1. **(Fuel Injection adjusting total)**.
FIADJACC	%	Acceleration correction value during active acceleration enrichment. **(Fuel Injection adjusting acceleration)**. NOTE: Only displayed when acceleration enrichment is active.
ACCACT		Indicates whether acceleration enrichment is active **(Acceleration active)**. NOTE: 0= Inactive (no acceleration) 1= Active
ACCINDEX		Indicates the area in which acceleration enrichment is currently active **(Acceleration index)**. HINWEIS: NOTE: Possible values: 1= > 2200 rpm 2= 2200 - 3000 rpm 3= 3000 - 4500 rpm 4= < 4500 rpm
MAPSW		Indicates whether the "Map Select Switch" (option) is active. **(Map Select Switch)**. NOTE: Applies to the Husaberg/KTM Offroad model range. In the KTM RC8, only the display in the speedometer applies
VSP		Indicates the vehicle speed. (**KTM RC8** only)
GP		Indicates the gear position (gear position). (**KTM RC8** only)