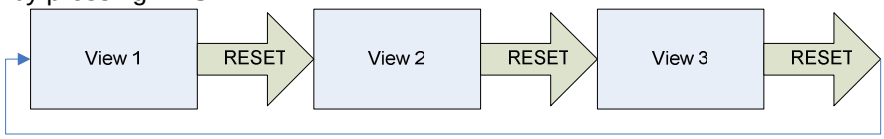
Multi-gauge configuration
For software V101

General Information

The Multi-Gauge comes pre-configured and ready to go. Usually one need **not** make any extra settings. The only change one will wish to make is the selection of the preferred **view mode**. However, there are various ways to change parameters of measurements if one chooses to do so, but keep in mind that they should only be amended on special demand.
For this the Multi-Gauge has a configuration menu to change these.

Preset view modes

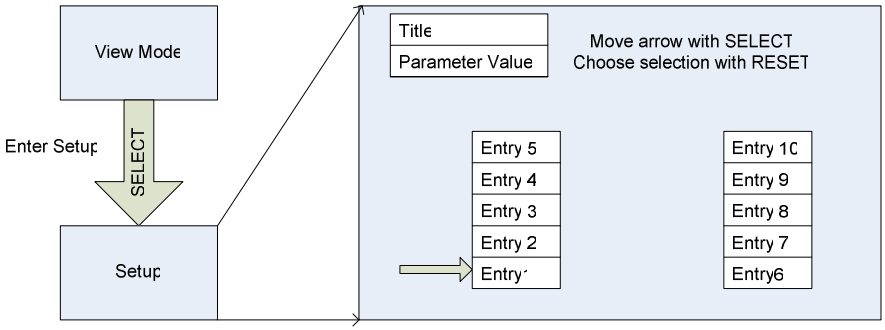
To speed-up switching between different view modes a set of 3 presets (out of about 20) can be toggled around by pressing RESET.



Each preset can be assigned individually. To change enter the setup menu when the particular preset is active.

How the setup is used

The setup menu is entered by pressing SELECT. Navigation through the setup menu is done by the buttons SELECT and RESET of the stock dash. The SELECT button has a built-in delay time of about 2 seconds, to avoid overlapping with the reset of the odometer.



Upon entry of the setup menu the display shows an arrow that serves as cursor to select the menu items, to which it points.

To move the cursor press **SELECT** (for at least 2 secs. or keep pressed until cursor moves to desired position).
To select a menu item press **RESET**.

The topmost line of the display contains the name of the current parameter, the line beneath it shows the current value of that parameter.
Once you have changed a parameter's value you can store it permanently by selecting SAVE in most screen. Unless you save it, the selected value is lost when the ignition is turned off.
To return to the normal view (gear, temperature, fuel etc.) you need to go through all menu items to EXIT (by keeping RESET pressed while cursor points to NEXT)
Cutting off the voltage during setup can be used as ‘emergency exit’. It does not result in a damage. There's only a short moment during saving when a loss of power could result in erratic behavior.

The menu of this SW-version is divided into two areas. The first one contains the settings for the regular use. The second holds the adjustment values, which need not be changed by the end user. To enter the second menu, the Multi-Gauge needs to be set to view mode 0 before.

Menu 1

1. VIEWMODE
2. CONTRAST
3. SPEED CORRECTION
4. CONVERTER SPECIAL
5. VCCWATER
6. GEAR DELAYTIME
7. FUEL DELAYTIME
8. FUEL EMPTY
9. SPEEDMODE FACTOR
10. STARTMESSAGE
11. MESSAGE 1
12. MESSAGE 2
13. UNIT SPEED
14. UNIT FUEL
15. UNIT TEMP.
16. LOGO TYPE
17. LANGUAGE
18. SHIFT LIGHT
19. ACCEL STOPSPEED
20. ACCEL DISTANCE
21. OSCILLOSCOPE

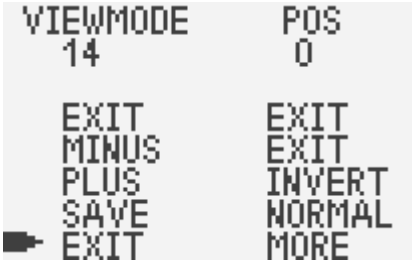
Menu 2

1. VCCMAIN
2. REFERENCE VOLTAGE
3. FAZER TYPE
4. CONVERTER
5. BAUDRATE CHECK
6. TANK MAX
7. HALT DETECT
8. OVERVIEW
9. GEAR FIT VALUE
10. TIMER CALIBRATION
11. TEMP ADJUST
12. SIGNALS

Detailed description menu 1

VIEWMODE

The selection of the values' arrangements in the display.
Selectable from 0 to 22; Mode 0 = Demo mode.
The actual preset number is given at POS.
Some View modes are only intended for debugging purposes.
INVERT switches the display to inverted view.



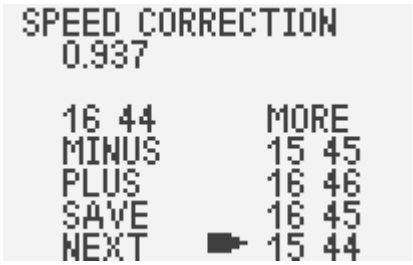
The following settings are only accessible if you select MORE from the view mode menu. After the last configuration menu MORE will take you back to the view mode menu.

CONTRAST

Change the contrast of the LC-Display
But caution: If you change this parameter to a value that impairs readability of the display you may not reach the correct menus again. So be careful with your changes!

SPEED CORRECTION

Setup for SPEEDCONVERTER. The second line from the top shows the scaling factor for the compensated speedometer signal. The speedometer value will be multiplied with this factor. Select your transmission ratio from the list or enter any given factor by selecting PLUS or MINUS. Allowed values range from 0.7 to 1.4
Press SAVE to store the factor to the speed converter's circuit!
As the stock speedometer shows around 4% too high value you have to take that into consideration when entering your own factor. With the example above, where only the 15 sprocket is corrected, this would lead to a factor of 0.937/1.04 = 0.901. Do not confuse this function with the SPEEDMODE FACTOR, which is only used for the display of the speed in the Multi-Gauge.



CONVERTER SPECIAL
Special menu for the speedometer converter. It contains a set of test modes. Only for debugging purposes. The menu items TESTxxx simulate a speed signal that is sent to the speedometer. The value for xxx is not the speed in km/h but rather an internal calculation factor.

VCCWATER
Supply voltage of the coolant temperature sensor. Relevant for a precise measurement of the water temperature (nominally 4.8V). Current value top right corner. Saved value top left corner.
Adjustment (only needed once after installation):
The (idle) supply voltage is measured when the sensor is unplugged. The value is displayed in the top right corner of the menu. Unplug temperature sensor, which is located beneath the right inner fairing. Adjustment and storing is done automatically by selecting SAVE. Plug in the temperature sensor again. Done.

GEAR DELAYTIME
Adds a delay before a changed gear is displayed in the Multi-Gauge. Used to "calm down" the change of values to avoid misinterpretation of the selected gear.
Range 0 .. 30, interval: 1
0 = instantaneous display, no averaging
30 = maximum delay and averaging

FUEL DELAYTIME
Adds a delay before a changed value for the fuel level is displayed. Used to "calm down" the change of values when the level changes upon acceleration, braking or uphill/downhill rides.
Range: 0 .. 399, interval: 1
0 = instantaneous display, no averaging
399 = maximum delay and averaging

FUEL EMPTY
Limit of remaining fuel until the warning light should go on.
Range: 0..40 (liters), default: 4

SPEEDMODE FACTOR
Compensation value for the speedometer view mode (mode 13). The displayed value can be scaled by any given factor. Only for the speedometer-view mode inside the Multi-Gauge, not the stock speedometer.
Range 0.01 .. 5.00, default: 1.00

STARTMESSAGE
Select whether or not to display the startup messages and logo.

MESSAGE 1
Any text that is displayed during startup (if STARTMESSAGE is enabled). Maximum of 9 characters. Line 1.
To edit the text select the desired character by selecting menu item 'LETTER'. Then navigate to the next character position by selecting 'POSITION'. Repeat until your text is finished. Store by selecting 'SAVE'.

MESSAGE 2
Same as above. Only for the second line of the message.

UNIT SPEED
The unit in which to display the speed: MPH or KM/H

UNIT FUEL
The unit in which to display the fuel level: Liters, US gallons or imperial gallons.

UNIT TEMP
The unit in which to display the temperature: Fahrenheit or Celsius (Centigrade)

LOGO TYPE
The logo for the startup screen: "Fazer 1000 EXUP", "FZ1", "FAZER" or "FAZER JPN" (Japanese character)

LANGUAGE
The language for all text used in the display: English or German.

SHIFT LIGHT
A flash can indicate an RPM limit, at which to shift gear. By default the fuel tank warning light serves as the flash, but optionally the user can connect an aftermarket LED to the Multi-Gauge.

ACCEL STOPSPEED
Associated to viewmode DRAGMODE 1.
Stop-speeds for acceleration measurement. The build-in stopwatch is automatically started if a movement is detected (speed > 0) and stops if the given values are exceeded. 3 consecutive measurements are done at a time. The 3 different entries are accessible by toggling through POSITION.

ACCEL DISTANCE
Associated to viewmode DRAGMODE 2.
Stop-distances for acceleration measurement. Similar as before, except that 2 consecutive distances can be set.

OSCILLOSCOPE
Oscilloscope function to view the raw speedo and RPM signals. Only for check-up purposes.

Detailed description menu 2

VCCMAIN
The supply voltage for the processor. Nominally 3V. It depends on the individual specimen of the processor. Only to be measured on the circuit board.
DO NOT CHANGE THIS VALUE! Only intended for initial factory configuration.

REFERENCE VOLTAGE
The reference voltage for the Multi-Gauge's processor. Used to calculate voltage differences in the bike's circuit. It depends on the individual specimen of the processor. Only to be measured on the circuit board.
DO NOT CHANGE THIS VALUE! Only intended for initial factory configuration.

FAZER TYPE
Enables switching the gear recognition between the FZS 600 and the FZS 1000 models (also dependent on the bike's year of production)

CONVERTER
Selects whether or not the speed conversion menu items should be displayed in menu 1. Selecting this is only available if the circuit board is equipped with the speed compensation chip.

BAUDRATE CHECK
To test the built-in speed converter, if available. The data transmission to the converter is tested with a decreasing bit rate (OK or FAIL). The medium value of the OK-range can be programmed in the CONVERTER SPECIAL menu. Only for check-up purposes.

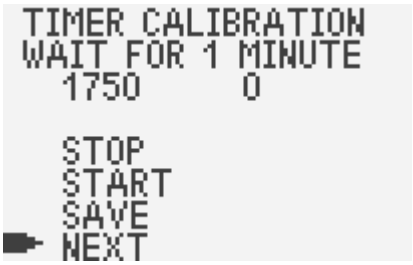
TANK MAX
Maximum capacity of the fuel tank. Ranging from 4..40 liters, default: 21 liters. By changing the value in the FAZER TYPE menu, this value will automatically adjusted to suit the FZS 600 or the 1000 model.

HALT DETECT
Latency time in seconds without speedo or tacho signals before idle is detected (displayed as '-', no gear calculation possible).

OVERVIEW
Some general information on the Hard- and Software in use.

GEAR FIT VALUE
Matching values for gear recognition. The comparison ratio for speed and RPM can be modified. However, it is already optimized and set for the selected Fazer-Type. To be used with view mode QUOTIENT.

TIMER CALIBRATION
The build-in timebase used for acceleration measurements needs to be calibrated: press START, wait for exactly 1 minute, press STOP, press SAVE, done!



TEMP ADJUST
In case the ambient temperature readout is not accurate enough modify the correction-factor until the actual value matches the real temperature. To get best results this should be done at ambient temperatures below 10°C.

SIGNALS
Real-time view of the sensor signals for Neutral, fuel tank potentiometer, battery voltage, water temperature and air temperature. Only for diagnostic purposes!