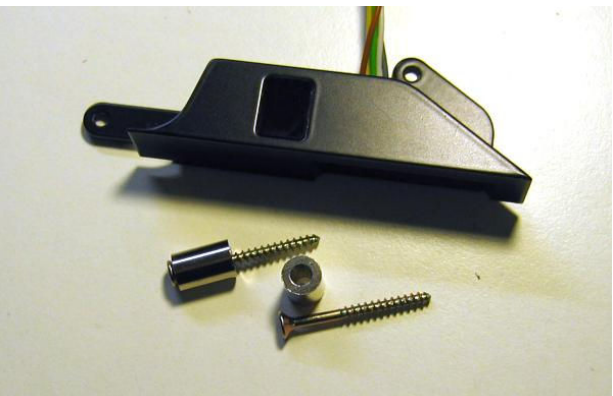# Gear Indicator FZ1 – Installation

Overview

This Gear-Indicator is designed to work with a Yamaha FZ1N/Fazer motorbike (´06 onwards). The module is mounted to the lower edge of the dashboard.

The Gear-Indicator utilizes the signals of speedo, revmeter and neutral switch. From these inputs the current gear is calculated and shown on a LED-display. Luminosity is switchable to avoid dazzling in darkness.
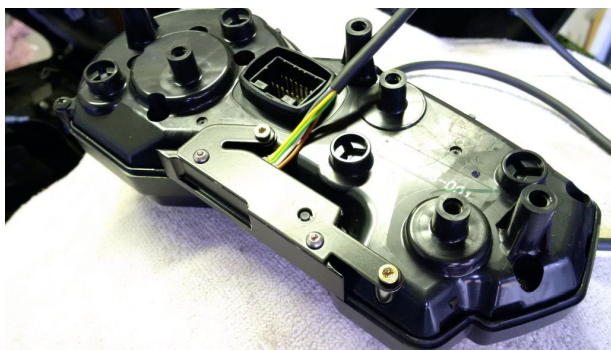
All subsequent informations are based on the information from a Yamaha FZ1 ´06. No guarantee can be given that this guide is applicable to all types or years of manufacture. All modifications are on your own risk.

Mounting

In front of installation the fuel tank and dashboard have to be removed. To ease cable routing it is also recommended to disassemble the airbox completely.

The gear indicator module is fixed by two screws to the backside of the dashboard. The brackets need additional spacer bushings and elongated screws (included in package).

The dashboard is fixed by 3 screws to the mounting frame. To get access the complete front fairing has to be removed (excluding "N" naked models).
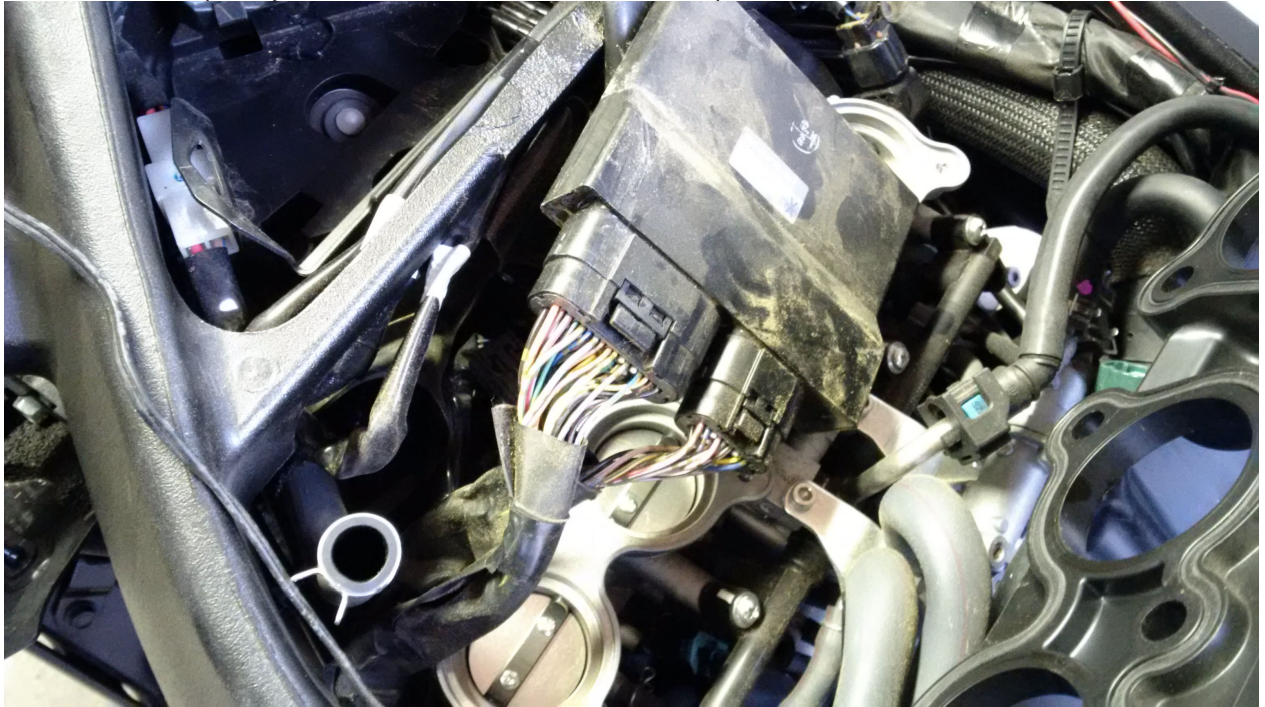
The ECU is located below the steering head. Remove the tank and the complete airbox.
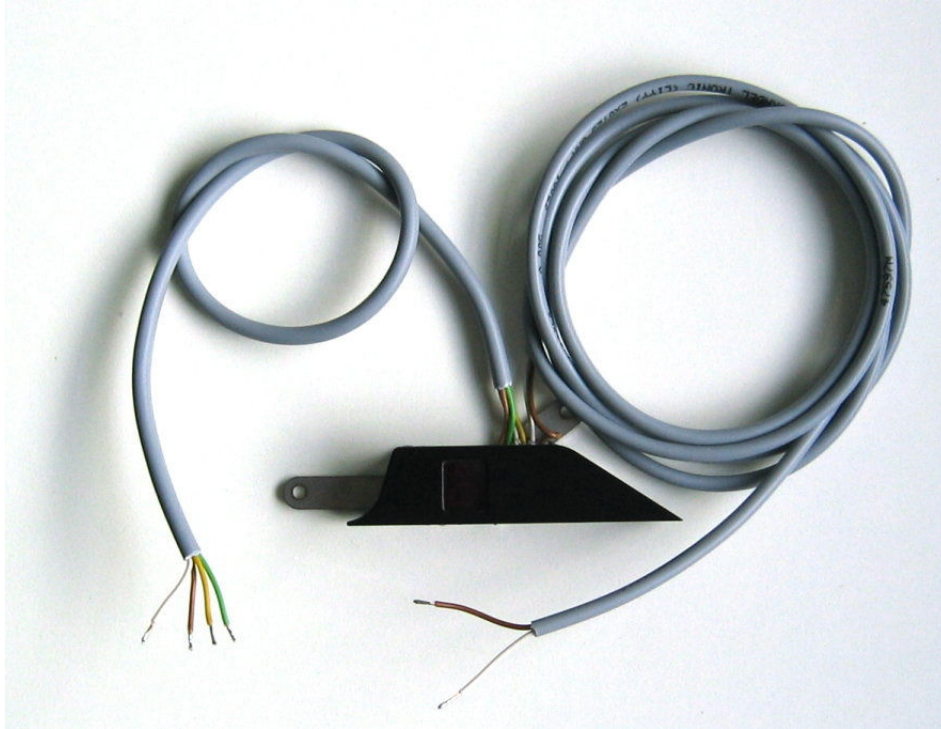

The ECU is clamped by a rubber band. Pull it out of the compartment.

Open the isolation tape to get better access to the wires.

Electrical Signals

The current version has 6 wires split into 2 cables. Colors are coded according to the following table:

Cable #1 (4 wires):

Color	Function / Signal
Yellow	Ground
White	Neutral
Green	+12V Supply
Brown	Button

Cable #2 (2 wires):

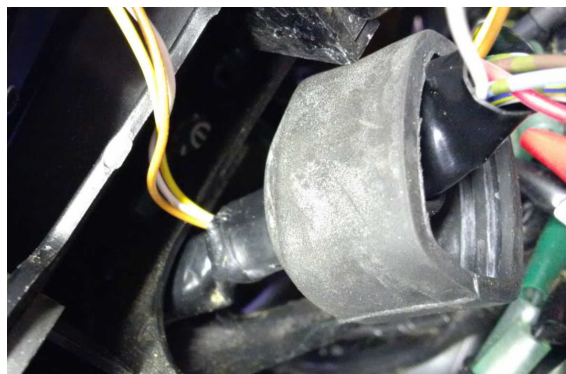| Color	Function / Signal
White	Revs (RPM)
Brown	Speedo signal

Cable #1 takes the signals from the dashboard.
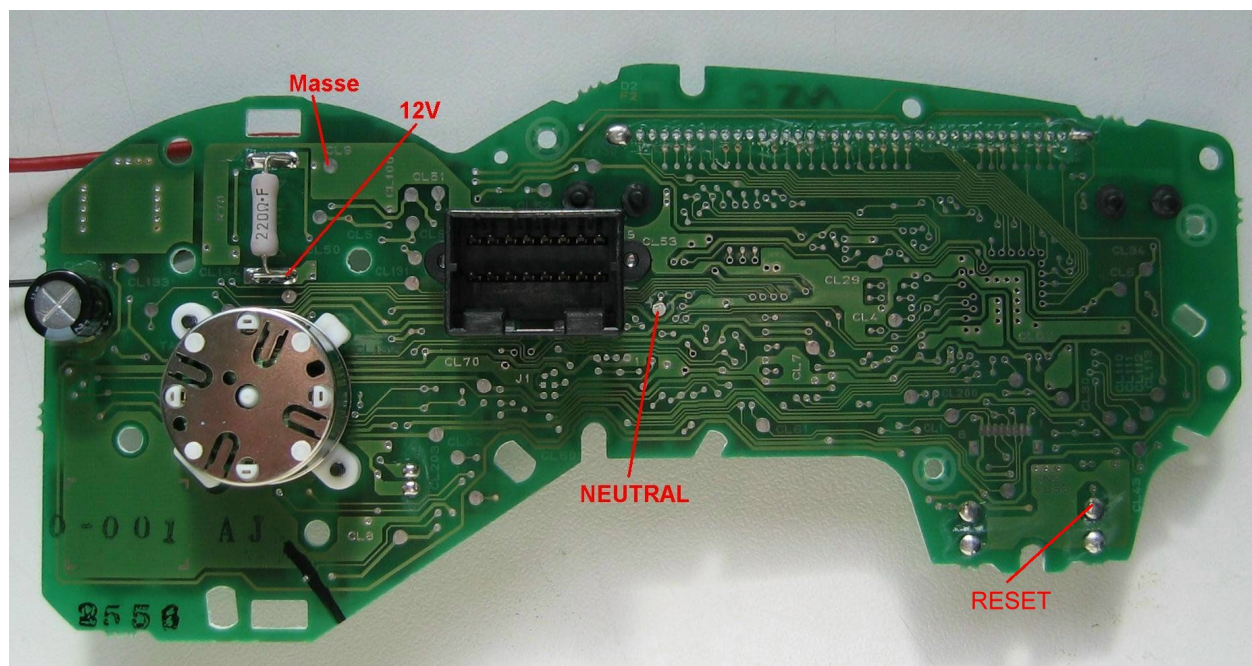
Cable #2 takes the signals from the ECU.

Dashboard Cabling

Route the cable through the rubber protection.

Remove the backside of the dashboard compartment. Solder the wires to the designated spots on the main board. Don't forget to route the wires through the opening in the backhousing before!
„Button" is connected to RESET.

Take care to not squeeze any wires while closing the compartment.

The solder spot for NEUTRAL is quite small. Take special care to not connect to any of the nearby through-holes.

Just once again the color coding for cable #1:

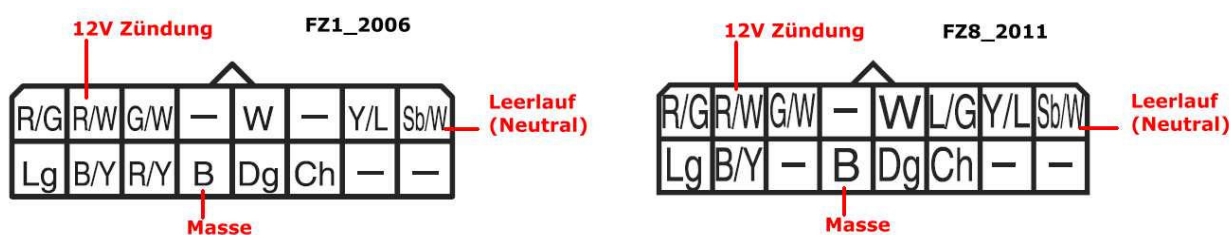| Color	Function / Signal
Yellow	Ground
White	Neutral
Green	+12V Supply
Brown	Button

Dashboard Cabling Alternative

In case of doubt to solder directly to the main board you might want to pick the signals from its connector at the harness.
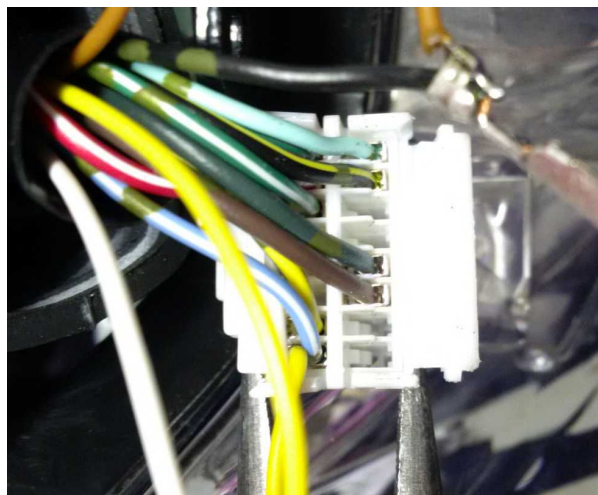
Unfortunately there is no signal that goes to RESET button. Instead attach any small push-button to the brown wire. Connect the other end to ground.
This is not as bad as it sounds as the button is typically only used while first set up, if necessary at all.
Keep the button and cables hidden behind the fairing.

Open the security clamp of the connector. Release/unlock the contacts by inserting a needle and pull them out. Solder the wires to the contacts.

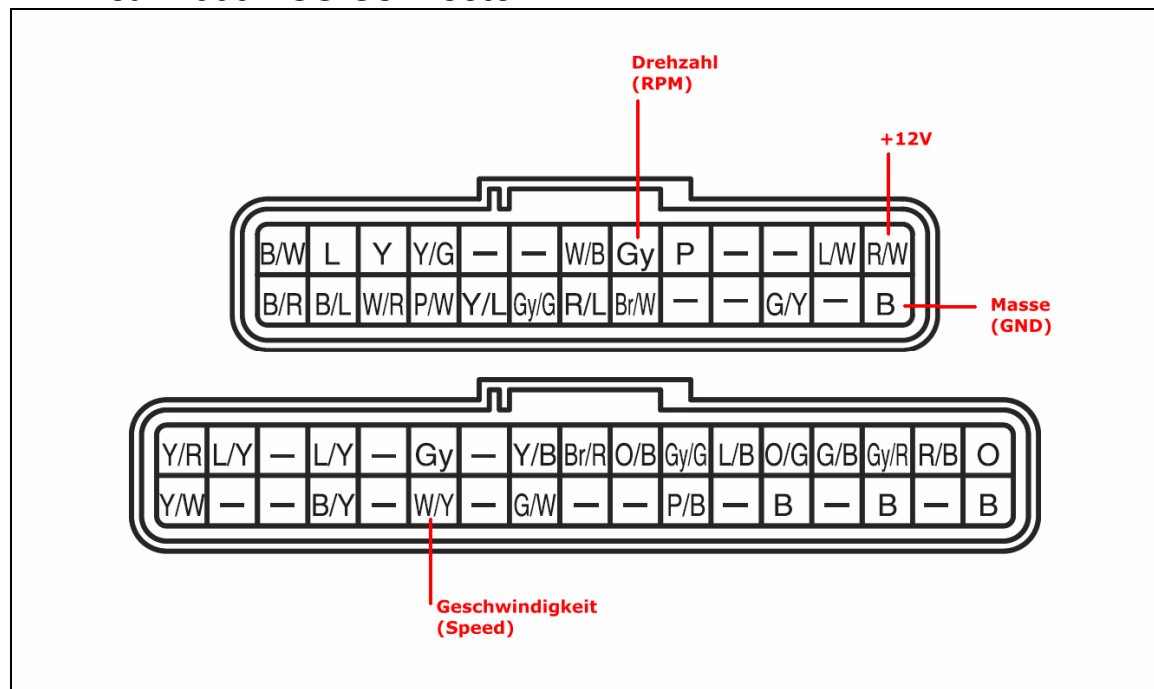(12V Zündung = 12V ignition supply, Masse = ground)

ECU Cabling

Cable #2 has to be routed to the ECU to be connected to the signals for RPM and speed. Those are present at the ECU connectors.
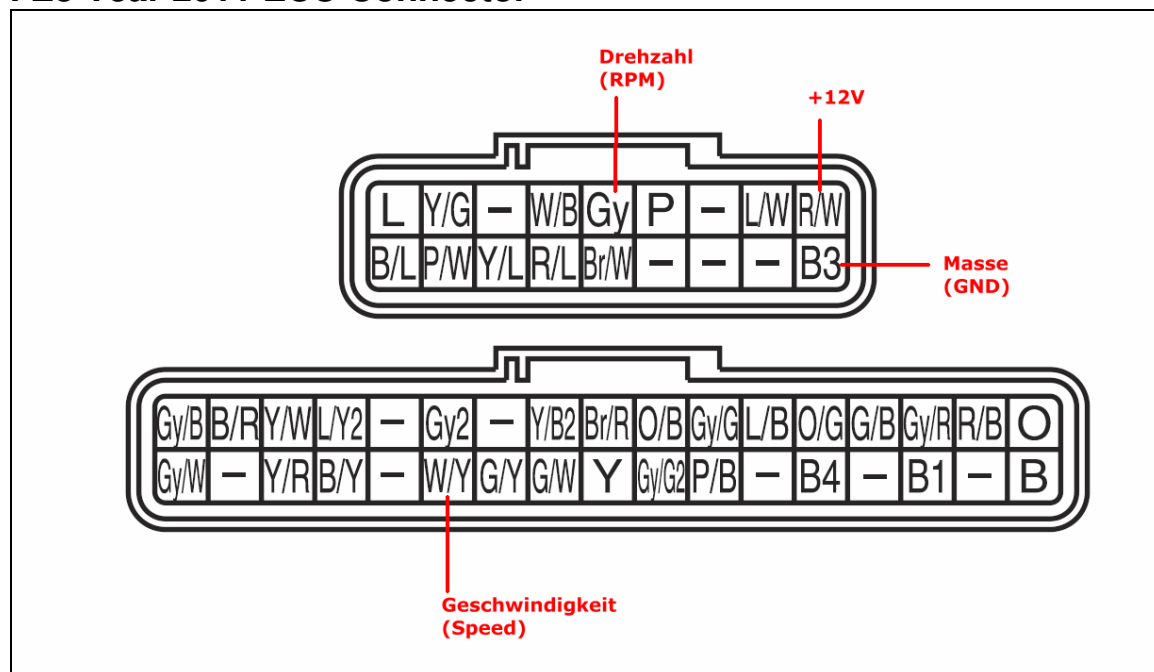
Signal	Gear Indicator	ECU
RPM	White	Grau (Gy)
Speedo Signal	Brown	White / Yellow (W/Y)

FZ1 Year 2006 ECU Connector

(GND is not used)

FZ8 Year 2011 ECU Connector

(GND is not used)

Operation

The only control is a single button. The display gets dimmed while touching the button.

Keep the button pressed for a few seconds to enter the settings menu. A detailed description is available in a separate document.

Testing

If necessary the correct cabling can be verified with build-in test functions.

- Switch on ignition, engine off, gear indicator should start-up. Neutral is shown as "0", any gear as "-".
- Enter settings menu: Keep button pressed until ⌐ appears. Release button.
- Press button **6** times, the display counts up.
-> Turn the rear-wheel by hand. The display shows a moving segment, jumping to the next position with each **speedo trigger**.
- Press button to leave the menu.

- Enter settings menu: Keep button pressed until ⌐ appears. Release button.
- Press button **7** times, the display counts up.
-> Let the engine run at idle. The display shows a moving segment, jumping to the next position with each 10th **rev trigger**.

Abort testing at any time by a short press to the button.

Ready for use!

Remarks

Please let me know for any question, proposal or correction.