




## Hardware Details

	Item	Quantity	Description
Parts List	ECU	1 piece	Electronic Control Unit
	COM Line	1 piece	FT232 to USB COM Line
	CD	1 piece	Contains Installer Software Package



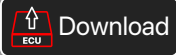


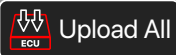



## Installation

	File Name	File Description
The Installation Package File Introduction	ECU MB.exe	ECU MB main program installation file
	ftdi_ft232_drive.exe	FT232 to USB Communication driver installation files
Installation Requirements	Windows XP / 7 / 10 System	
	.NET 3.5 or above	
Installation Steps	<ol style="list-style-type: none"> <li>1. Open the ECU MB.exe file to install it step by step.</li> <li>2. If the system does not install more than 3.5 versions of .NET, you will be prompted to install .NET when you install the first step. Please install it by prompt.</li> <li>3. Install ftdi_ft232_drive.exe.</li> </ol>	









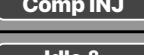

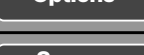

## Menu

Icon	Menu	Sub Menu	Function
	Data	Restore Factory Data	Reset back the ECU to its default state.
	Serial Port		Select the USB Communication port.
	Copy Current Data To	1,2,3,4 and All	Copy the current data to other mapping.
	Test Injector	-	Testing the injector flow rate.
	Air Fuel Ratio	Record Air-Fuel Ratio	
Air-Fuel Ratio Injection Regulation			Record the air-fuel ratio injection regulation.
	Open	-	Open the .tqECU, .tqMCU file.

## Menu

Icon	Menu	Sub Menu	Function
 Save	Save	-	Save the data.
 Save As	Save As	-	Save as file.
 Download	Download	-	Read the current data from the ECU.
 Upload	Upload	-	Write the current data to the ECU.
 Download All	Download All	-	Read all the data from the ECU.
 Upload All	Upload All	-	Write all the data to the ECU.
 Reset	Reset	-	Reset back the ECU to its default state.
 OFF ECU	On / Off	-	Connect / disconnect the communication.
 Help	Help	-	Open the operation manual of the software.

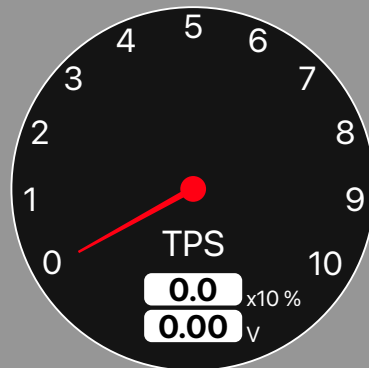
## Table

Tab	Info	Function
 Fuel Table	Fuel Table	TPS (0% - 100%) - RPM (500 - 15,000) fuel injection time, IDLE is the idle TPS position.
 Fuel Angle	Fuel Angle	TPS (0% - 100%) - RPM (500 - 15,000) fuel injection angle, IDLE is the idle TPS position.
 Ignition Angle	Ignition Angle	TPS (0% - 100%) - RPM (500 - 15,000) ignition angle, IDLE is the idle TPS position.
 Ignition Time	Ignition Time	Ignition time (Ignition energy), the larger the value, the larger the energy of spark. But too strong of spark will result to the ignition coil and the ECU temperature go higher.
 Air Fuel Ratio	Air-Fuel Ratio	TPS (0% - 100%) - RPM (500 - 15,000) Air-Fuel Ratio, 0% is the idle TPS position.
 ECT Comp INJ	Engine Coolant Temp Compensation Injection	Engine Coolant Temperature (0°C - 140°C) RPM (500 - 15,000) the percentage of fuel injection time of compensation.
 ECT Comp IGN	Engine Coolant Temp Compensation Ignition	Engine Coolant Temperature (0°C - 140°C) RPM (500 - 15,000) the percentage of ignition angle of compensation.
 MAP Comp INJ	Manifold Air Pressure Compensation Injection	(OKPa - 120kPa) RPM (500 - 15,000) Injection compensation of intake pressure.
 Idle & Limit	Idle & Limit	Idle & Limit, Shift Light, Variable Valve Actuation and Speed Calibration setup.
 Options	Options	Other settings.
 Sensor Voltage	Sensor Voltage	AFR - Voltage Relation, ECT - Voltage Relation, IAT - Voltage Relation, MAP - Voltage Relation setup.
 Set & Info	Set & Info	ECU Info, Software Setting and Display switch.

# Gauge



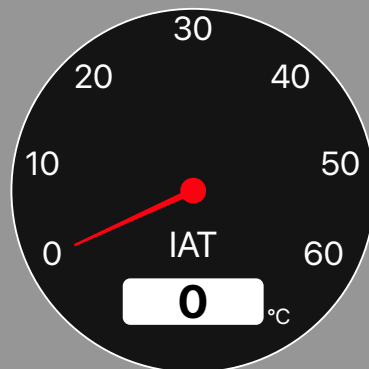
RPM Gauge



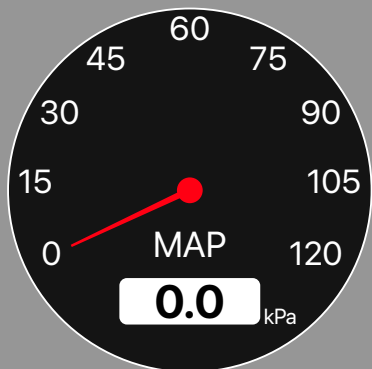
TPS Gauge



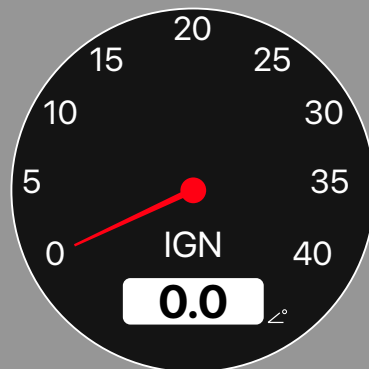
Oxygen Air-Fuel Ratio Gauge



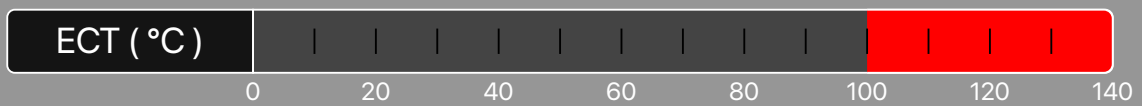
Intake Air Temperature Gauge



Manifold Air Pressure Gauge



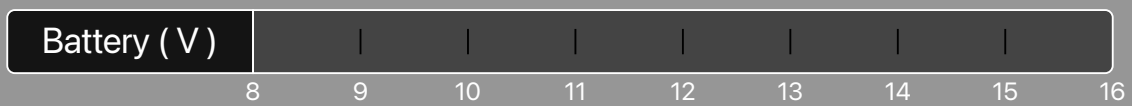
Ignition Angle Gauge



Engine Coolant Temperature Gauge



Injection Time Gauge



Battery Voltage Gauge

**Idle Speed (Cold)**

The target value of the idle RPM for the cold engine. The setting of this value helps the ECU to control the actual idle RPM towards the target value when the engine is cold. However, it does not mean that the idle RPM will definitely control the target value.

**Idle Speed (Hot)**

The target value of the idle RPM for the hot engine. The setting of this value helps the ECU to control the actual idle RPM towards the target value when the engine is hot. However, it does not mean that the idle RPM will definitely control the target value.

**Maximum Speed**

Set the speed limit value of the non original ECU. This value is set only for the non original ECU.

**Idle Return INJ (Cold)**

When the engine is cold and the throttle is released, stop the fuel injection, and the fuel will start again until the value is less than that. Adjust this value to adjust the speed of the drop when the throttle is released. The setting of this value is generally above 5000. If the set is too high, the idle speed is slower. Set the value too low, the idle speed will be easy to extinguish.

**Idle Return INJ (Hot)**

When the engine is hot and the throttle is released, stop the fuel injection, and the fuel will start again until the value is less than that. Adjust this value to adjust the speed of the drop when the throttle is released. The setting of this value is generally above 500 higher than the target idling RPM. If the value is too high, the idle speed will be slower. Set the value too low, the idle speed will be easy to extinguish.

**Software Settings**

TPS (Voltage Display) - Voltage display or percentage display of TPS.

MAP (Voltage Display) - Voltage display or percentage display of intake pressure sensor.

Temp (Voltage Display) - Voltage display or percentage display of temperature sensor.

AFR (Voltage Display) - Voltage display or percentage display of air-fuel ratio sensor.

**ECU Settings**

Don't MAP - Intake pressure sensor compensation or non compensation.

TPS 100% Max Power - Automatic search for maximum horsepower or non.

## Options

### **TPS Voltage (Min.)**

The voltage of the TPS at idle RPM. To change this value, please use voltmeter or other voltage measuring devices to measure TPS voltage at idle RPM, or select [TPS Calibration] in the [More] menu to automatically calibrate the TPS voltage.

### **TPS Voltage (Max.)**

The voltage of the TPS at maximum position. To change the value, please use voltmeter to other voltage measuring devices to measure TPS voltage at maximum position, or select [TPS Calibration] in the [More] menu to automatically calibrate the TPS voltage.

### **Cold Start (Increase INJ)**

Set this value to help the cooler better start. If this value is set too high, it may lead to too much fuel and it is not a good start, and even lead to carbon spark plug.

### **Cold Start (Increase INJ Delay)**

(Cold start) increase fuel injection delay time.

### **AFR Delay Duration (Cold)**

The delay duration for air-fuel ratio control when the cold motorcycle engine starts. The delay is needed to obtain the accurate reading of AFR value. This is because the oxygen sensor need to reach a certain temperature to get the accurate reading. The duration for the delay is generally set longer for hot engine.

### **AFR Delay Duration (Hot)**

The duration for oxygen sensor to function when the hot motorcycle engine starts. The delay is needed to obtain the accurate reading of AFR value. This is because the oxygen sensor need to reach a certain temperature to get the accurate reading. The duration for the delay is generally set shorter for cold engine.

## Sensor Voltage

### **AFR - Voltage Relation**

The setting to manually adjust the voltage for the air-fuel ratio sensor.

### **ECT - Voltage Relation**

The setting to manually adjust the voltage for the engine coolant temperature sensor.

### **IAT - Voltage Relation**

The setting to manually adjust the voltage for the intake air temperature sensor.

### **MAP - Voltage Relation**

The setting to manually adjust the voltage for the manifold air pressure sensor.

# Operation Manual

## How to adjust the idle RPM:

1. Adjusting idle RPM by fuel injection time. In general, only adjust the fuel injection rate of 1000 to 2500 of the IDLE row. According to the actual RPM adjustment, too much or too little fuel injection will affect the idle RPM. For example, the normal idle RPM is 1500. If the RPM rises to more than 2000, the amount of fuel injection of 2000 to 2500 can be reduced.

	<b>Fuel Table</b>	Fuel Angle	Ignition Angle	Ignition Time	Air Fuel Ratio		
TPS	500	1000	1500	2000	2500	3000	3500
100%	0	0	0	0	0	0	0
70%	0	0	0	0	0	0	0
50%	0	0	0	0	0	0	0
40%	0	0	0	0	0	0	0
35%	0	0	0	0	0	0	0
30%	0	0	0	0	0	0	0
25%	0	0	0	0	0	0	0
20%	0	0	0	0	0	0	0
14%	0	0	0	0	0	0	0
11%	0	0	0	0	0	0	0
8%	0	0	0	0	0	0	0
5%	0	0	0	0	0	0	0
2%	0	0	0	0	0	0	0
IDLE	0	0	0	0	0	0	0

2. Adjusting idle RPM by ignition angle. In general, only adjust the the ignition angle rate of 1000 to 2500 of the IDLE row. According to the actual RPM adjustment, in normal conditions, the higher the angle, the higher the RPM. For example, the normal idle RPM is 1500, if the RPM rises to more than 2000, the angle of 2000 to 2500 can be reduced.

	Fuel Table	Fuel Angle	<b>Ignition Angle</b>	Ignition Time	Air Fuel Ratio		
TPS	500	1000	1500	2000	2500	3000	3500
100%	0	0	0	0	0	0	0
70%	0	0	0	0	0	0	0
50%	0	0	0	0	0	0	0
40%	0	0	0	0	0	0	0
35%	0	0	0	0	0	0	0
30%	0	0	0	0	0	0	0
25%	0	0	0	0	0	0	0
20%	0	0	0	0	0	0	0
14%	0	0	0	0	0	0	0
11%	0	0	0	0	0	0	0
8%	0	0	0	0	0	0	0
5%	0	0	0	0	0	0	0
2%	0	0	0	0	0	0	0
IDLE	0	0	0	0	0	0	0