

# ECU Hardware

Manual

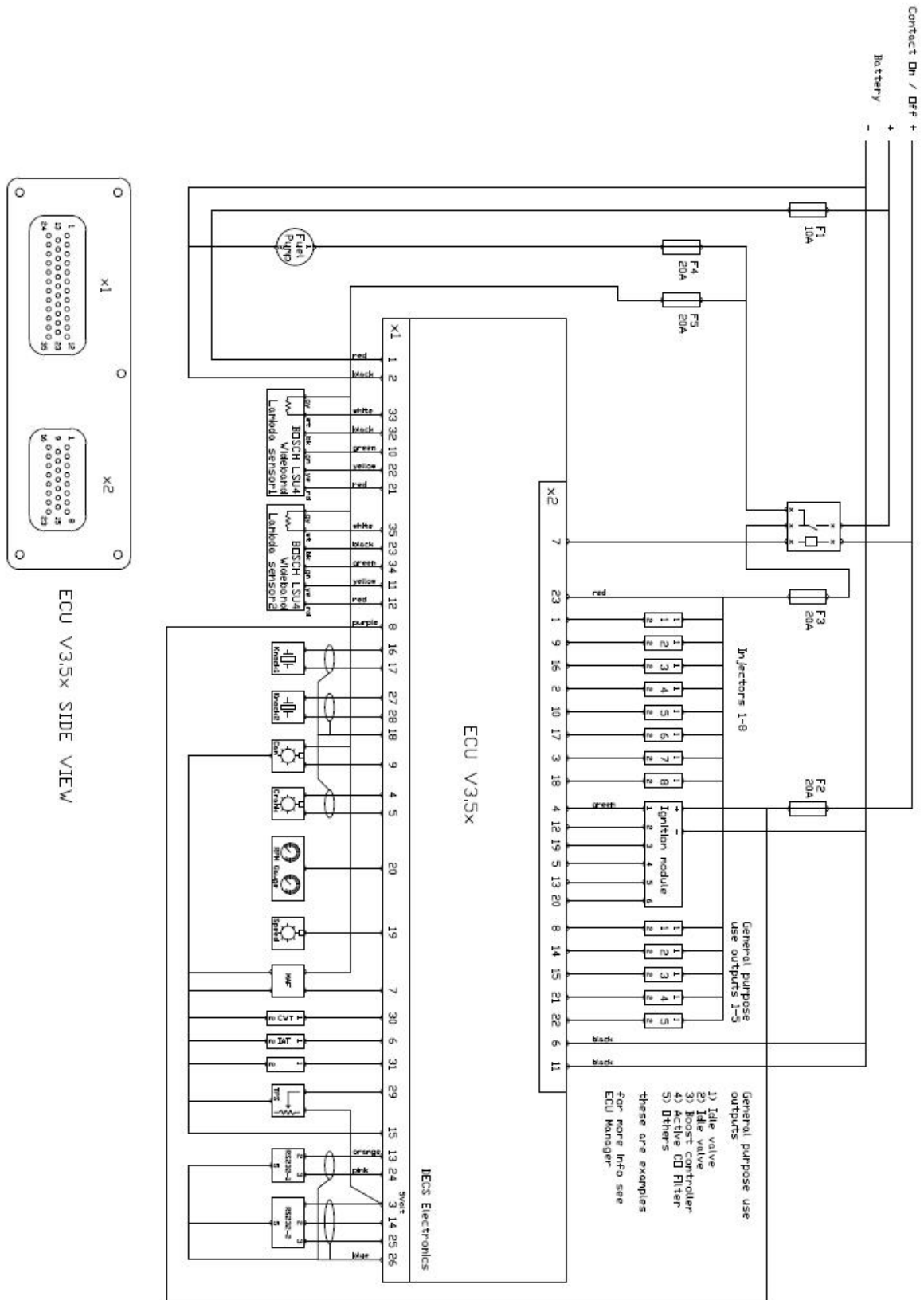
V1.00

**Based on:**  
ECU 3.5x

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# 1 Wiring diagram



## **2 Wiring specifications**

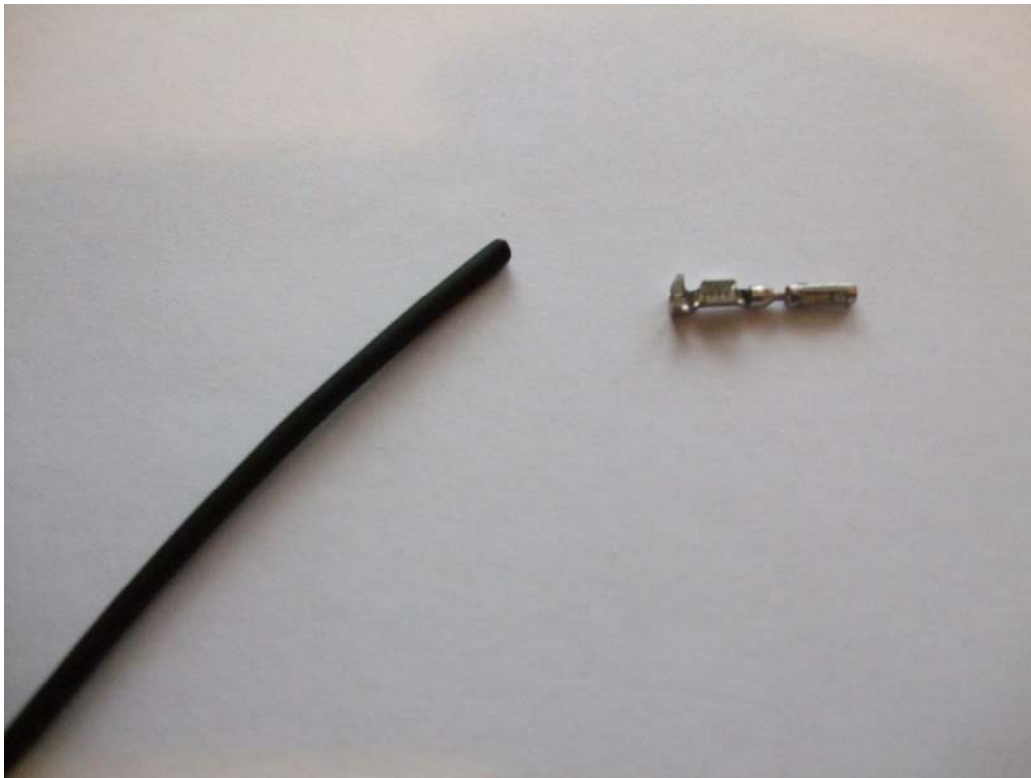
Injector current is approx 1,5A  
Delivered wiring thickness is 0,5mm<sup>2</sup>

$$\text{Wire thickness (mm}^2\text{)} = \frac{2 \times \text{length (metres)} \times \text{current (amps)} \times 0,0175}{\text{acceptable voltagedrop (0,2 Volt)}}$$

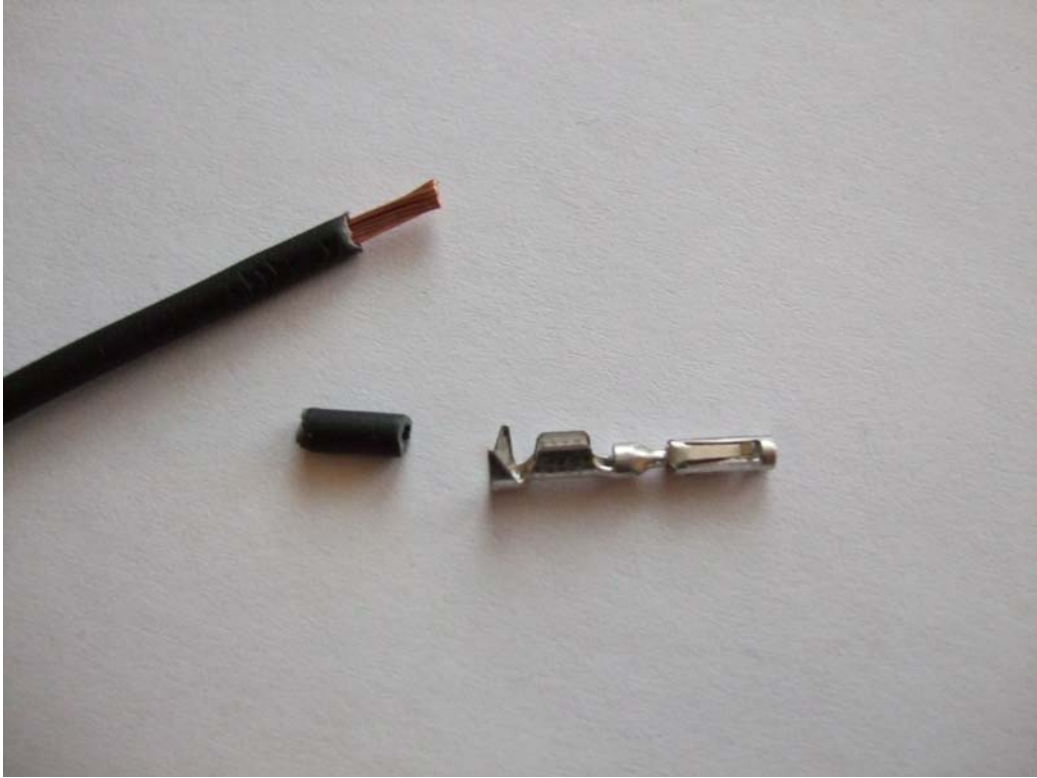
When you make a wiring harness with a common + wire you need to make a sum of all currents trough that common wire.

## **3 Connector crimp terminals**

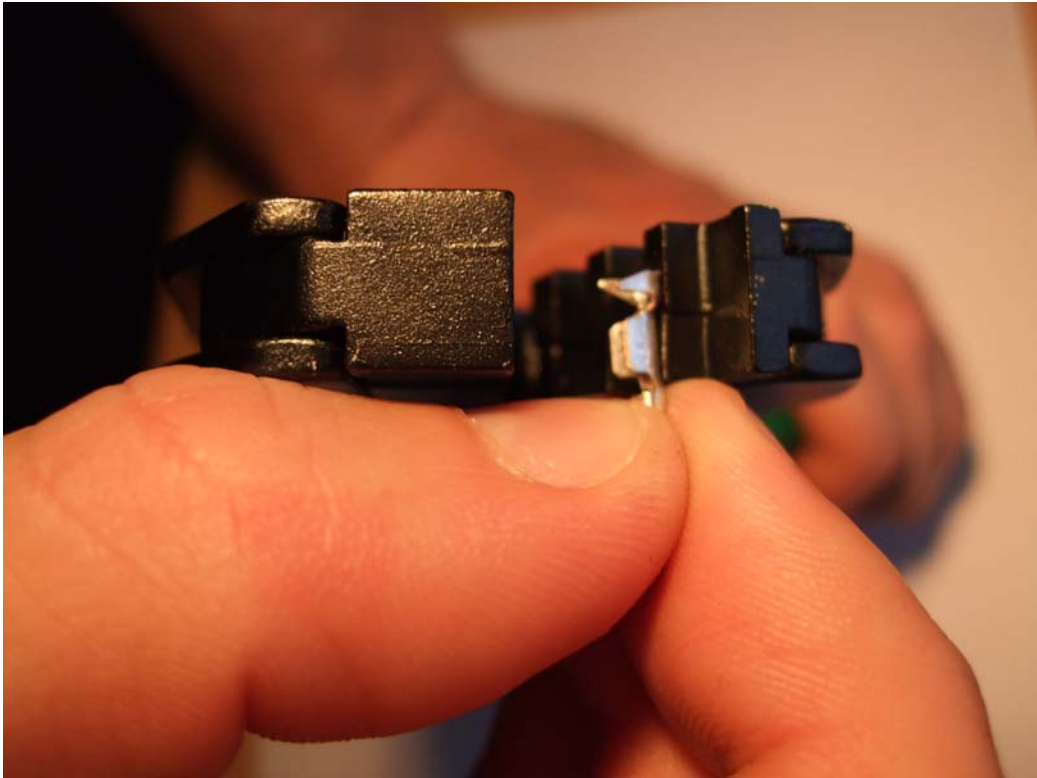
This chapter explains how to crimp the terminals to the wires with example pictures.



As example we use 1,5mm<sup>2</sup> wire.



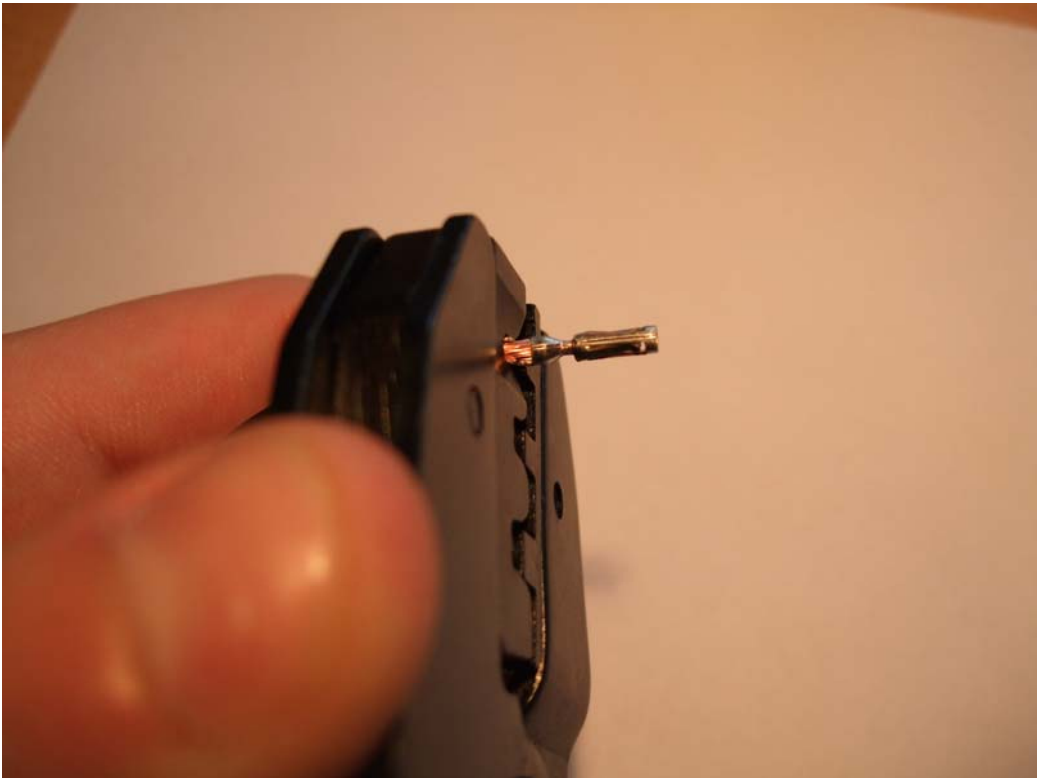
Strip the wire 7mm.



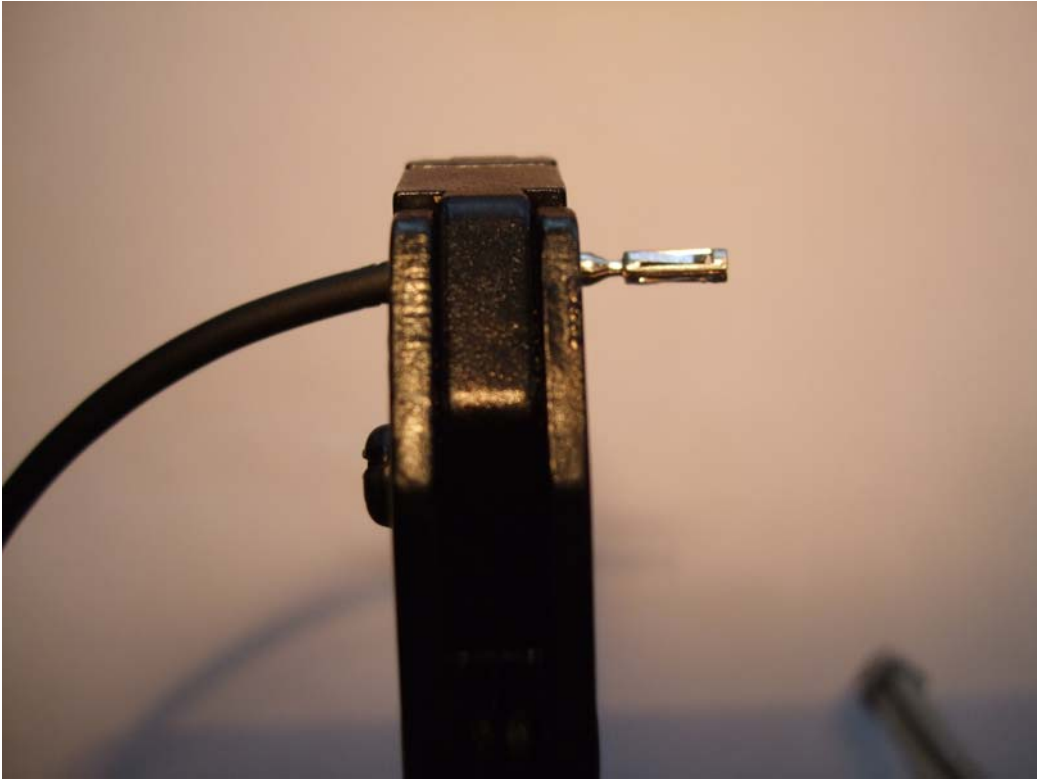
Place the terminal in the crimp tool.



Close the crimp tool carefully until the terminal can't move anymore. (As shown)



Insert the wire in the terminal carefully.

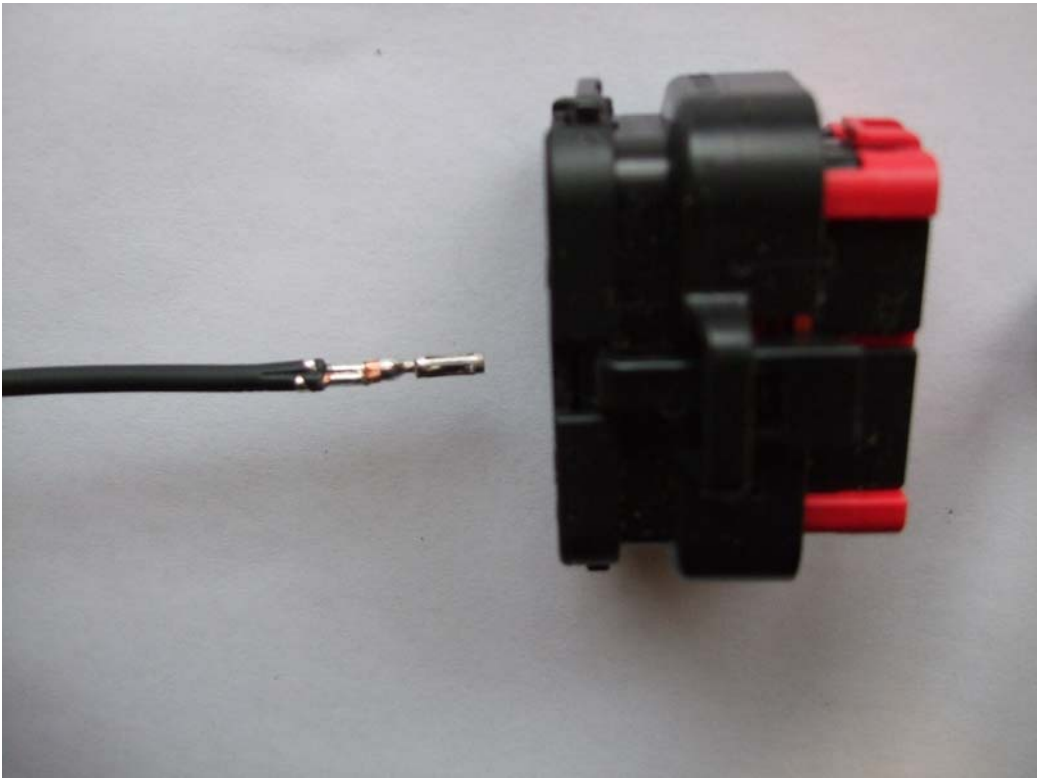


Crimp the terminal.



Ready.

**4 How to insert the terminal in the connector**

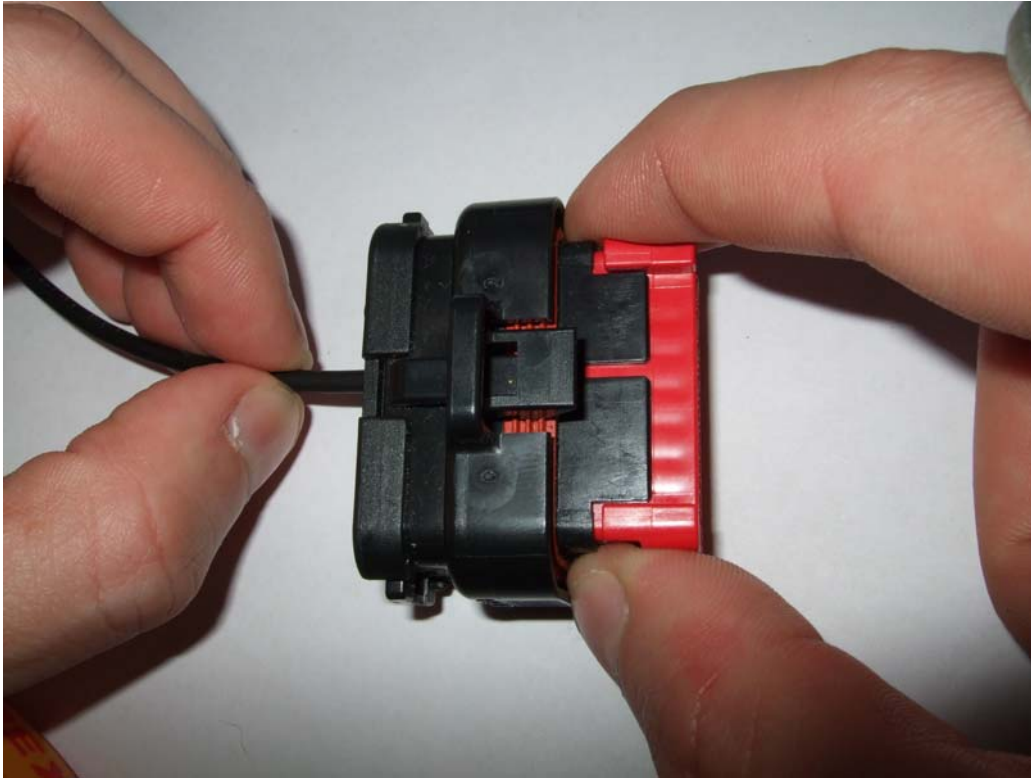


Wire and connector

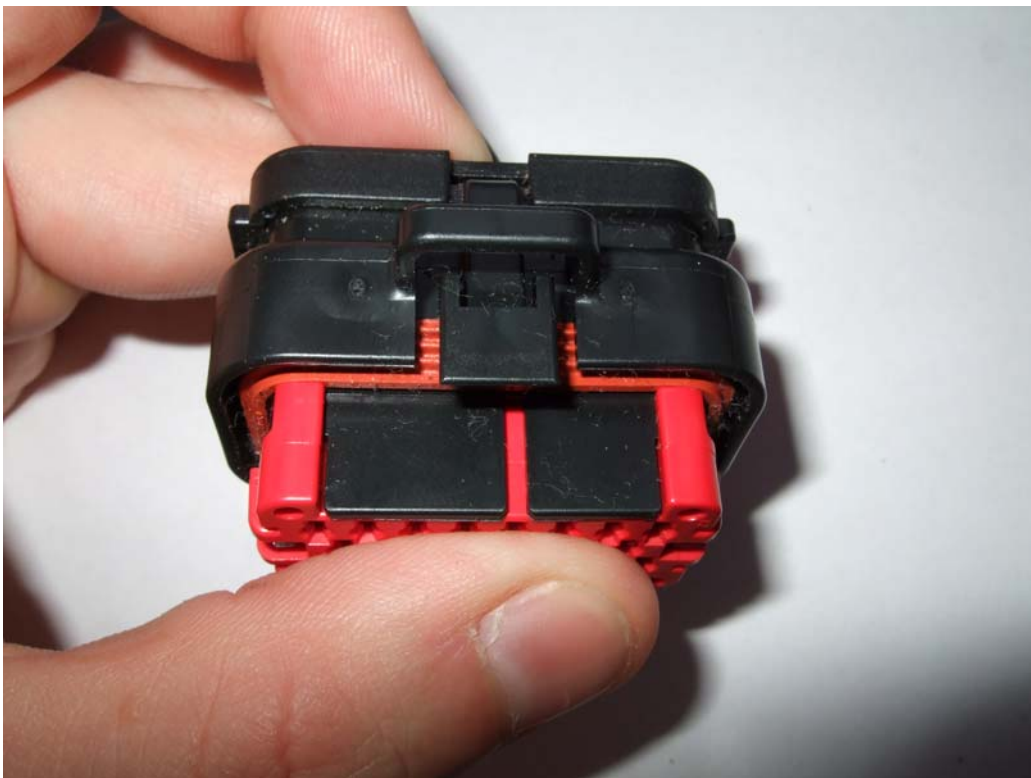


Open the red cover.





Insert the wire in the connector on the correct position.



Close the cover (click)



Check if all terminals are visible. (As shown)

## **5 VR sensor, Hall sensor and universal input**

In ECU Manager in the tab page basic engine settings/crank sensor you can make an input selection for the crank sensor and the cam sensor:

- VR sensor, the sensor need to be connected between terminal X1-4 and X1-5.
- Hall sensor, the sensor need to be connected to X1-9.
- Universal input, when the VR sensor input is not sensitive enough you can connect the VR sensor between X1-4 and X1-19.

## **6 Injector outputs**

Terminals:

- X2-1 Injector 1
- X2-9 Injector 2
- X2-16 Injector 3
- X2-2 Injector 4
- X2-10 Injector 5
- X2-17 Injector 6
- X2-3 Injector 7
- X2-18 Injector 8

Inside the ECU the injector terminals are switched to battery- (0V) X2-6 and X2-11.

**Never connect the battery+ (12V) to one of the injector terminals X2-1, X2-9, etc... this will damage the ECU.**

## **7 General purpose outputs**

Terminals:

- X2-8 General purpose 1
- X2-14 General purpose 2
- X2-15 General purpose 3
- X2-21 General purpose 4
- X2-22 General purpose 5

Inside the ECU the General purpose terminals are switched to battery- (0V) X2-6 and X2-11.  
**Never connect the battery+ (12V) to one of the General purpose terminals X2-8, X2-14, etc... this will damage the ECU.**

## **8 Ignition outputs**

Terminals:

- X2-4 Ignition output 1
- X2-12 Ignition output 2
- X2-19 Ignition output 3
- X2-5 Ignition output 4
- X2-13 Ignition output 5
- X2-20 Ignition output 6

Inside the ECU the Ignition output terminals are active outputs to control a coil driver.  
**Never connect the battery+ (12V) or battery- (0V) to one of the Ignition output terminals X2-4, X2-12, ... this will damage the ECU.**  
**Never connect a coil straight to one of the Ignition output terminals X2-4, X2-12, etc... this will damage the ECU. (High voltage)**

## **9 Fuel pump**

Terminal:

- X2-7 Fuel pump output

Inside the ECU the fuel pump terminal is switched to battery- (0V) X2-6 and X2-11.  
**Never connect the battery+ (12V) to the fuel pump terminal X2-7 this will damage the ECU.**

**The fuel pump is not connected straight to the ECU but is controlled by a relay as shown on our Hardware drawing.**

The parameters can be adjusted at tab page fuel settings/general settings/fuel pump.

## **10 Hardware Filter**

Terminal:

- X2-23 Hardware filter

To have a good functionality of the injectors and general purpose outputs you need to connect the injector+ (12V) to X2-23 as shown on the hardware drawing.

Regards,  
Decs Electronics