Double Eight Documentation

Conception by BZO Concept (France)

This universal ECU includes everything needed to run a basic-to-intermediate project. He is capable of managing a V8 in full sequential without RPM limits with her STM32F4 processor. It comes pre-flashed with Speeduino-based firmware and supports TunerStudio or EpicTuner.

He have a dual VR conditioner for inductive, optical, and Hall-effect sensors. For Hall or optical sensors, the power supply must be connected to 5V or 12V (depending on the sensor reference), the sensor ground must be used for GND, and the signal must be wired to VR+.

The LSU 4.9 wideband sensor is directly connected to the main connector, to the integrated wideband module. The output numbers correspond to the LSU 4.9 connector pin numbers. Use only a genuine Bosch sensor. The calibration setting to use is "14 Point 7".

The tachometer pin is not defined. I realized it was rarely used. however, it's possible to define and operate it on any "Drived to GND" channel by adding a 10k 12V pull-up resistor on the harness.

The aluminum case is laser-engraved by me. The PCB is encapsulated in a moisture and vibration resistant resin so promotes heat dissipation. Do not attempt to remove the encapsulation material ! important risks to killing this ECU.

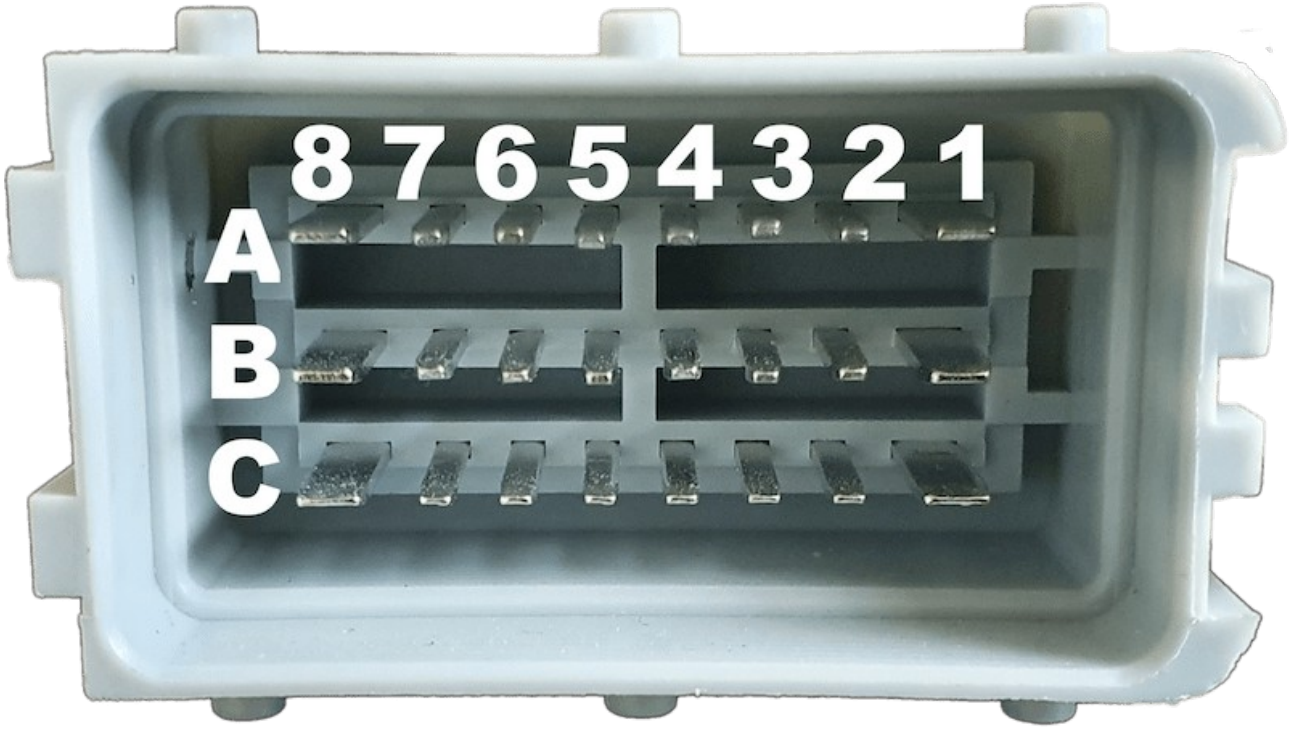
Exercise the utmost care during connection: although encapsulation offers many advantages, it makes repair impossible in the majority of cases.

Pinout ECU (Delphi 24 x2) :

BLACK Connector:

A1	12v PWR	Main 12v ECU
A2	FAN	Fan relay driver (Drived to GND)
A3	FUEL	Fuelpump relay driver (Drived to GND)
A4	VVT	VVT driver (Drived to GND)
A5	BOOST	Boost valve driver (Drived to GND)
A6	IDLE1	2wires idle valve driver (Drived to GND)
A7	IDLE2	3wires idle valve driver (Drived to GND)
A8	GND PWR	Main GND ECU
B1	INJ 8	Injector Driver 8 (Drived to GND)
B2	INJ 7	Injector Driver 7 (Drived to GND)
B3	INJ 6	Injector Driver 6 (Drived to GND)
B4	INJ 5	Injector Driver 5 (Drived to GND)
B5	INJ 4	Injector Driver 4 (Drived to GND)
B6	INJ 3	Injector Driver 3 (Drived to GND)

B7	INJ 2	Injector Driver 2 (Drived to GND)
B8	INJ 1	Injector Driver 1 (Drived to GND)
C1	IGN 8	Smart Ignition Driver 8 (Positive Signal)
C2	IGN 7	Smart Ignition Driver 7 (Positive Signal)
C3	IGN 6	Smart Ignition Driver 6 (Positive Signal)
C4	IGN 5	Smart Ignition Driver 5 (Positive Signal)
C5	IGN 4	Smart Ignition Driver 4 (Positive Signal)
C6	IGN 3	Smart Ignition Driver 3 (Positive Signal)
C7	IGN 2	Smart Ignition Driver 2 (Positive Signal)
C8	IGN 1	Smart Ignition Driver 1 (Positive Signal)



GRAY Connector:

A1	GND	GND for analog sensors, Hall, etc...
A2	VR2+	CAM Sensor Input (VR/Hall)
A3	VR2-	CAM Sensor Input (VR only)
A4	VR1-	CRANK Sensor Input (VR only)
A5	VR1+	CRANK Sensor Input (VR/Hall)
A6	CLT	Coolant Liquid Temperature Sensor Input
A7	IAT	Intake Air Temperature Sensor Input
A8	5V	5v for analog sensors, Hall, etc...
B1	INTER 1	Interruptor Input 1 (active to GND)
B2	ADC 2	Additional analog sensor 2
B3	ADC 1	Additional analog sensor 1
B4	TPS	Throttle Position Sensor Input
B5	FLEX	Ethanol Percentage Sensor (Flexfuel)
B6	LSU 6	Pin 6 LSU 4.9 (Wideband)
B7	LSU 5	Pin 5 LSU 4.9 (Wideband)
B8	LSU 4	Pin 4 LSU 4.9 (Wideband)
C1	INTER 2	Interruptor Input 2 (active to GND)
C2	STEP 2B	Pin 2B Idle Stepper module A4988
C3	STEP 2A	Pin 2A Idle Stepper module A4988
C4	STEP 1A	Pin 1A Idle Stepper module A4988
C5	STEP 1B	Pin 1B Idle Stepper module A4988
C6	LSU 1	Pin 1 LSU 4.9 (Wideband)
C7	LSU 2	Pin 2 LSU 4.9 (Wideband)
C8	LSU 3	Pin 3 LSU 4.9 (Wideband)