



## **BMW Engine Conversion Specialist**

Installation Instructions – BMW DDE6 with 6hp28x Gearbox to Puma 2.4 Defender with Optional A/C

The harness supplied is made of 2 parts: ECU harness and Battery-box Harness.

The ECU harness has 4 connectors; ECU plug, Controller plug, 14-Way Body plug, Battery-box Harness plug

The Battery-box Harness has; Fuel Pump Relay Block, Reverse Light Relay, OBDII port, connector to ECU harness. This harness should be located in the Battery-box and the 10 pin connector fed through a grommet to the engine bay.

### ECU Harness Connection

The controller box takes place of the original Puma 2.4 engine ECU. This connects directly to the controller and should be mounted to the bulkhead. The ECU Harness connector can be fitted.

Bosch Engine ECU and TDCI Controller

With DDE6 BMW ECU mounted to the bulkhead the ECU connector from supplied harness can be connected

ECU Power

The free length RED (Or BROWN) cable at ECU connector must be connected to the red/blue cable exiting the engine harness. This feed to the harness is supplied by the blue DDE main relay built into the engine harness. Using the crimp tube provided, remove the black connector, join and then heat shrink the connection.

Supplied is a length of suitable cable for the engine harness DDE relay feed.

ECU Ground Black Ring Terminal

This ring terminal should be attached to a constant ground e.g. Battery (-) Terminal. This MUST be a secure and strong connection to ground. The ground terminal must be clean of rust, paint and dirt to ensure a solid ground connection is made.

14-Way Body Plug

This connects to the vehicle harness in engine bay near the blower motor (RHD vehicles)

Outputs to be connected;

Black: Engine Crank

Green/white: A/C Clutch Ground

Purple/orange: A/C Clutch 12v

### Battery-box Harness

This harness should be located in the Battery-box and fed through a grommet to the engine bay to connect to the ECU harness.

#### Reverse Light Relay

The reverse light relay is pre wired.

#### Fuel Pump relay

Connect the relay feed to battery 12v in the battery box, fit the supplied fuel pump twin core cable to the relay holder and fit relay. Ground ring terminal and run the twin core wire to fuel pump accordingly.

#### Cooling Fan Control

A brown wire loop left by fuel pump relay can be used to control a cooling fan if desired. It provides the ground to a relay and is operated by the TDCI Controller.

#### OBD II Connector

The OBD port is used for diagnostics and should be located inside the Battery-box. It does not need to be connected to anything for the kit to function. The 2-pin connection can be used for additional optional devices that may require a CAN connection. Black ring terminal should be grounded.

#### Gearbox Connection

4 wires are left to connect to the gearbox through the engine harness, follow the guide here: <https://house-of-torque.com/wiring/> for 6hp28

The wire tails are:

White – Lin BUS

Green/red – Ignition Supply

Yellow – CAN High

Green – CAN Low

#### Shifter Connection

Connect the turquoise 6 pin connector into the shifter. Suitable shifters are from an LCI automatic 530d.



If you have any queries with the installation, please don't hesitate to contact us.