Transit 2.2 Dash Controller Instructions

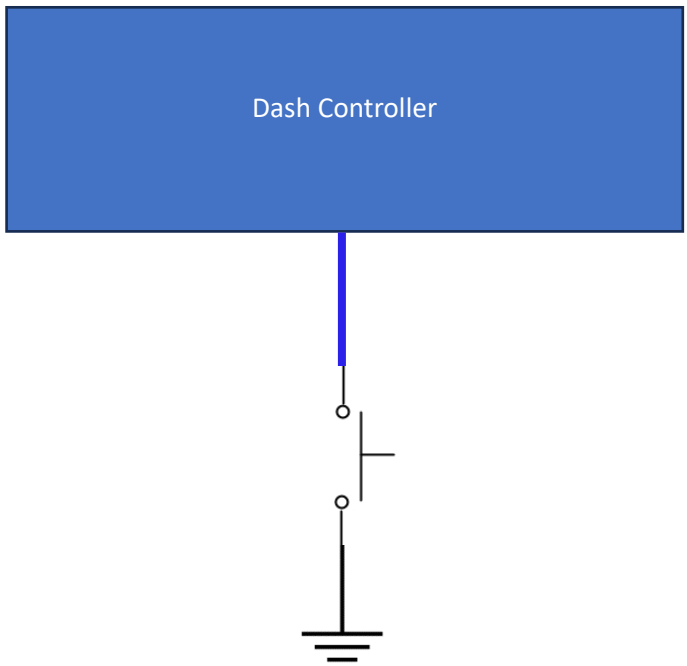
Thankyou for purchasing the 2.2 MK8 Dash Controller. To get started, you need to make a few connections to the controller. Once you have removed the Transit's original engine ecu (located in the engine bay, passenger side, under header tank), the dash controller can be plugged in to one of the plugs. The other connectors are no longer required, and can be left.

The connections for the controller are as follows:

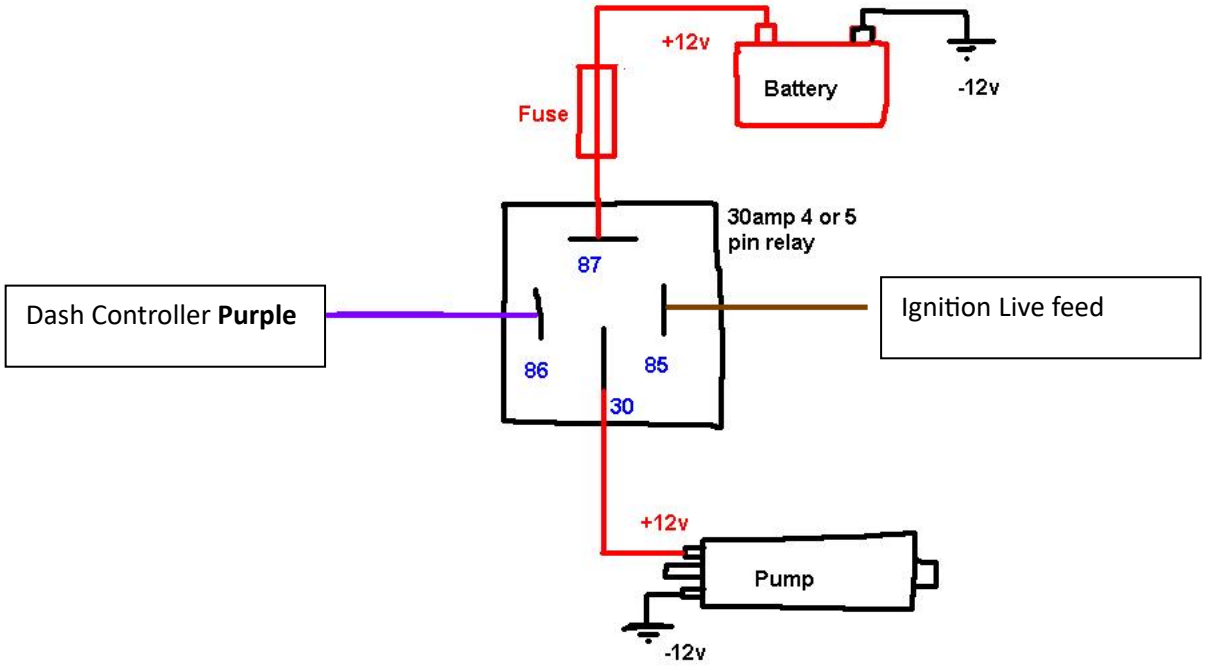
Wire Colour	Function	Connect to
Green	CAN Low	Standalone loom
Yellow	CAN High	Standalone loom
Blue	Reverse Light trigger	Reverse Light switch
Purple	Fuel Pump relay trigger	Fuel pump relay (see below)
Grey	Fan relay trigger	Electric Fan relay (see below)
Light Green	Ignition Live	Standalone loom
Black	Brake Signal	Standalone loom
Brown	Brake Signal	Standalone loom

Functions of the dash controller:

Reverse lights: The transit MK8 reverse lights are powered by the BCU. The reverse light trigger wire should be connected as per the diagram below. When reverse gear is selected, a signal is sent to the BCU over CANbus to activate the reverse lights. The reverse light wire runs from the reverse light switch on the gearbox, up the wiring harness, towards the ECU. Identify the correct wire, and join it to the reverse light trigger (**BLUE)**. You should also check that the other wire on the **reverse light switch** has a secure ground connection. The diagram below shows how the reverse light trigger operates. When reverse is selected, the circuit gets a path to ground.



Fuel pump relay trigger: Some looms that are currently available for purchase will already have this option (e.g. House of Torque). You can use either output. The switched earth output in the dash controller will run the pump for 10 seconds with the ignition on, then go off. It will restart when you crank the engine over. Below is a diagram showing how you should connect the fuel pump relay:



Note: The dash controller will also active the standard Transit MK8 lift pump in the tank. If it not required you can simply remove the relay for the fuel pump, located in the engine bay fuse box.

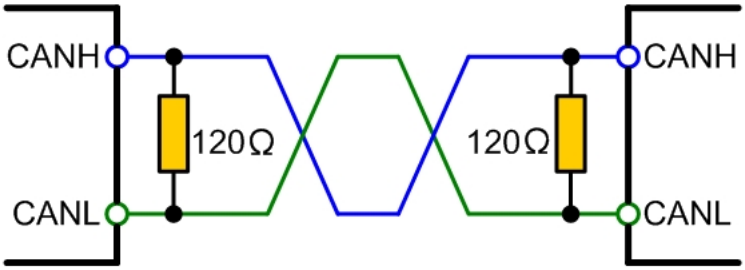
Fan relay trigger: You can use the Dash Controller to drive a relay to activate electric fans. The temperature is preset at 96 degrees on, 93 off (this can be customised to your requirements if necessary). The fan relay must be connected in the same way as the fuel pump relay shown above, instead using the **Grey** wire supplied to drive the relay.

Throttle pedal: The Dash Controller can be used to retain functionality of the standard Ford throttle pedal. If selected, the loom you have received will have a BMW throttle pedal connector installed. Connect the throttle pedal connector from your standalone loom to here (e.g if you have a House of Torque loom, connect the throttle pedal connector from this loom to the dash controller loom). Some other looms on the market already contain wiring to connect to the standard pedal. In this situation, you will not need to utilise this feature.

CANBUS:

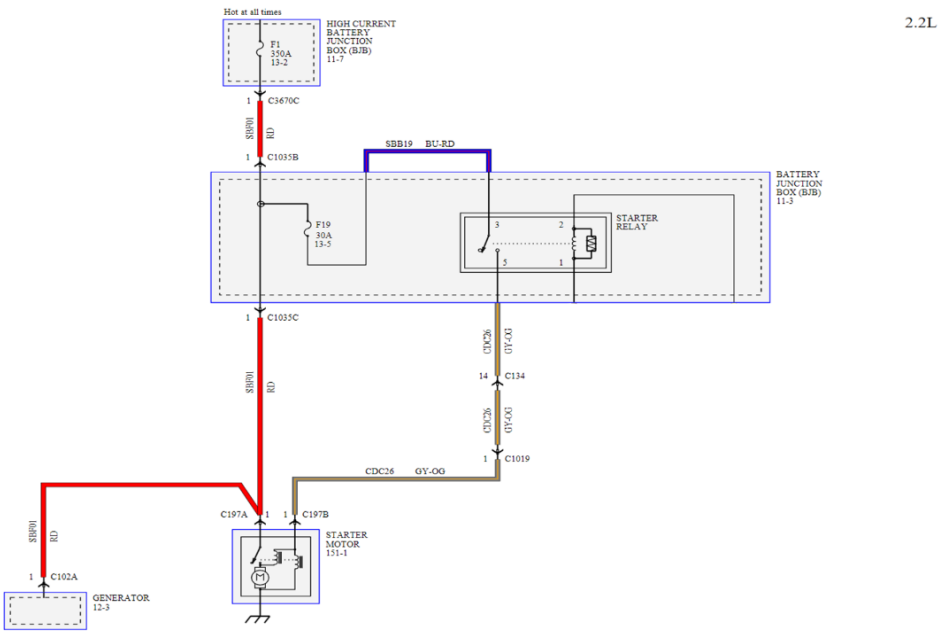
The controller connects directly to the Ford CANBUS through the ECU plug; you do not need to do anything with this. The supplied twisted pair yellow & green CANBUS wires need to be connected to the BMW ECU. **If using a House of Torque Standalone loom, there is a connection point for this, the colours are yellow and blue (next to the OBD port). Yellow to yellow, and blue to green.**

Once connected, you need to ensure that the CANBUS resistance is correct. This can be achieved by using a multimeter, set to measure resistance, across the pair. The resistance should be somewhere very near to **60 OHMS.** If it is greater, you need to add 1 or 2 120 ohm resistors across the pair, until the resistance equals 60. The diagram below shows how the CANBUS should be terminated:



Starter Motor:

The controller operates the Ford starter motor relay located in the engine bay fusebox. From here, you will need to locate the starter motor wire, and connect it to the BMW engine harness starter motor connection (usually thick black). The below diagram shows the routing of the starter motor wiring. The wire you need to locate is the **Grey & Orange**. It is a relatively thick wire around 4-5mm. It passes through the large multiplug connector between the Ford engine harness, and the body, located behind the nearside headlight.



Brake Signals:

You will need to connect up the brake signals to the BMW ECU. If you have a House of Torque standalone loom, this is very easy, and the black and brown wire from the controller will connect directly. If your loom does not have wires for the brake signals, you will need to connect them as follows to the ECU connector:

Black	Pin 23
Brown	Pin 36

Please note, if you do not connect these signals, the DSC light will illuminate when braking. If you are using a brake switch converter from my website, please follow the instructions to install this.

Other things you should know:

A lot of time and effort has been spent trying to get every feature of the controller to work seamlessly. Occasionally, you might get the “engine service now” message on the dash. This is something that has been very difficult to rectify, and currently there is no fix.

Secondly, the ambient air temperature will always read 17-18 degrees. This is because on the Ford, the temperature sensor wiring is routed through the 2.2 ECU. Currently there are no plans to include this, but if there is a requirement for it, then please contact me directly to discuss.