

# EPAS ULTRA ECU INSTRUCTIONS



Before Installation is undertaken please read the following notes.

## NOTE 1: WELDING

Electronic components situated within the motor assembly and control unit could be damaged if welding takes place upon the vehicle chassis or frame.

If welding is to take place it is advisable to remove both the motor assembly and the control unit from the vehicle.

If only the control unit can be removed, ensure both electrical connections to the motor assembly are disconnected and the vehicles battery is removed.

UNDER **NO** CIRCUMSTANCES SHOULD ANYTHING BE WELDED TO THE CASING OF THE MOTOR ASSEMBLY.

## NOTE 2: ELECTRICAL CONNECTIONS

The electronic power assisted steering system should be connected using the EPAS Ultra interface loom (available separately) or by following the DC Electronics supplied wiring diagram.

FAILURE TO CORRECTLY CONNECT VEHICLE POWER SUPPLY **WILL** DAMAGE THE CONTROL UNIT.

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## EPAS ULTRA ELECTRICAL CONNECTION & SET UP GUIDE

1. Make all electrical connections as per the DC Electronics wiring diagram or if using the EPAS Ultra interface loom (available separately) follow steps 2 to 7.
2. Connect 2 pin connector marked "MOTOR" to the motor assembly.
3. Connect the black connector marked "TORQUE" to the motor assembly.
4. Find a suitable location for ECU (within cabin, away from heat and moisture), fix and connect to both Autosport connectors on the loom.
5. Find suitable location for rotary switch and mount.
6. Fit LED to loom (Red cable to Gold pin, White cable to Silver pin).
7. Connect 2 pin connector marked "POWER" to Vehicle power supply , A to +12v and B to ground

8. Connect 8 pin connector marked "ELECTRONICS" as follows:-

Pin No.	Description	Destination
1	+12v (Input)	Switched +12v
2	Ground (Input)	Chassis Ground
3	CAN Hi	Data Logger CAN Hi
4	CAN Lo	Data Logger CAN Lo
5	+5v (Output)	Steering Sensor +5v
6	Steering Angle (Input)	Steering Sensor Signal
7	0v (Output)	Steering Sensor 0v
8	Not Used	

9. If no steering angle sensor is fitted, the over current protection for rack end stops will not be present. Holding the steering against the stops will **SEVERLY DAMAGE THE CONTROLLER!** We strongly recommend connecting a steering angle sensor.

FAILURE TO COMPLY WITH THE ABOVE INSTRUCTIONS **WILL** DAMAGE THE CONTROL UNIT AND WILL VOID ANY WARRANTY.

### Calibration of Column

It is normal for the steering wheel to move on initial power up and during calibration. Do not attempt to hold the wheel at this time or the settings may become corrupted.

- Set rotary switch fully counter clockwise.
- Switch on "Electronics +12v" until LED lights up. Immediately switch off and then back on until LED lights again.
- Continue to do this 3 more times until on the 4<sup>th</sup> time the LED lights and flashes, this is the calibration phase.
- The LED will extinguish at the end of calibration when you can now use the system.

Calibration only needs to be carried out once at installation as the settings will be retained even when power is removed.

### Calibration of Steering Angle Sensor

- Attach a Steering Angle sensor to the specified pins in section 8.
- Calibrate column using the procedures above.
- Keep the rotary switch turned fully anticlockwise.
- Connect to the EPAS system using a suitable serial lead.
- Open EPAS Desktop Pro V4 or higher and 'connect' the software.
- Turn the Steering wheel fully anticlockwise until the stop is reached, release the wheel and note the steering angle value shown on the desktop.
- Repeat for fully clockwise stop.

- **NOTE:** The LH value must be lower than the RH value. If this is not true, the +5v and 0v wires need to be reversed in the Steering Angle sensor.
- Keeping the power on, click on 'disconnect' on the Desktop Pro software screen.
- Go to the 'Setup' menu and scroll to 'Parameters', pick 'LH stop'
- Scroll to the value that had been noted for anticlockwise stop.
- Next pick 'RH stop' and put in the value noted for clockwise stop.
- Click on 'apply'.
- Test calibration by setting rotary switch to position 1, turn steering fully anticlockwise and check if motor duty switches to 0% on the Desktop Pro when the preset angle is reached, repeat for clockwise steering.