LTC - LSU LAMBDA TO CAN

MoTeC's LTC (Lambda To CAN) monitors, controls and diagnoses a Bosch LSU 4.9 Lambda sensor, transmitting Lambda readings on a CAN bus. When using multiple LTCs, up to 32 Lambda sensors can be configured on a single CAN bus for simultaneous monitoring by an ECU or logging device.

▶ FEATURES

- Provides accurate Lambda measurement, even when exhaust gas temperature is changing rapidly (heating or cooling).

- Calibrated by the user for a particular sensor using either the initial sensor factory calibration or the free air calibration.

- Pre-configured to suit a single unit installation. If necessary, the configuration can be adjusted; see the Configuration section for more details.

- Units marked with a 2 or higher under the barcode are able to transmit extended Lambda values (Rich Lambda).

▶ COMPATIBILITY

MoTeC ECU: M1 Series, M84, M400, M600, M800, M880

MoTeC Display/Loggers: All C Series Display Loggers, ACL, CDL3 (and discontinued models: SDL, SDL3, ADL, ADL2, ADL3)

▶ PC COMMUNICATIONS

A MoTeC gateway device is required to communicate with the LTC on CAN. Such devices include:

- M1 Series ECUs

- All C Series Display Loggers, ACL, ADL3, SDL3, CDL3

- UTC (USB to CAN) #61059

▶ SPECIFICATIONS

Inputs/Outputs

- 1 x Bosch LSU 4.9 Lambda sensor

- Power supply voltage 11 V - 16 V

- Power supply current 110 mA typical plus the sensor heater current. Heater current is typically 0.5 A - 1 A and up to 2 A on startup.

Communications

- 1 x CAN - using LTC Manager, configurable to:
  125 Kbps, 250 Kbps, 500 Kbps or 1 Mbps

Physical

- Dimensions: 38 x 26 x 14 mm, excluding wiring looms and connectors

- Weight: 62 g

- 1 x 4 pin male DTM connector (power/CAN)

- 1 x mating connector for Bosch LSU 4.9 sensor

- Maximum ambient temperature: 100 °C

▶ SOFTWARE

For multiple installations, LTC Manager software allows all units to be simultaneously managed and diagnosed.

The software is used to:

- Configure and calibrate all units on the CAN bus

- Display readings and diagnostics

- Configure CAN transmission addresses

- Control free air sensor calibration

- Update unit firmware

▶ CONFIGURATION

MoTeC LTCs come pre-configured to suit a single LTC unit installation. By default, the initial factory sensor calibration is used and the CAN address is 460.

It is only necessary to use LTC Manager if installing multiple LTC units, or if changes to the default settings are required.

▶ DIMENSIONS AND MOUNTING

All dimensions in mm.

Connector A Sensor Connector

Power/CAN Connector
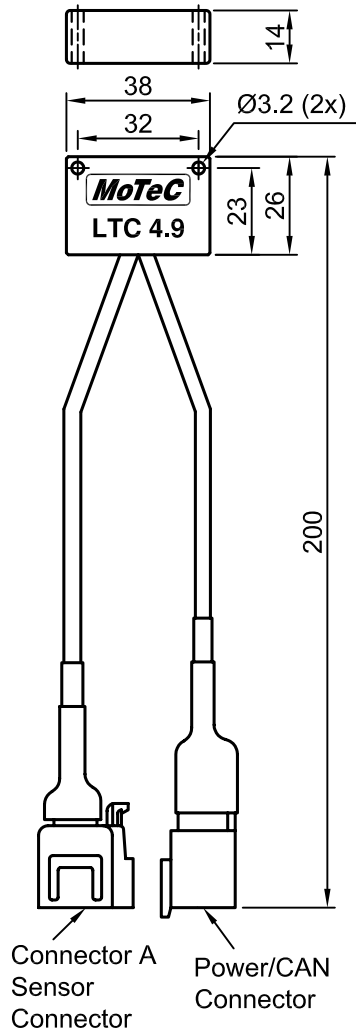
▶ CONNECTOR PINOUTS

Connector A (and B for Dual version)

Bosch LSU 4.9 sensor connector

Mating connector: supplied on sensor

Pin	Wire Colour	Description
1	Red	Ip
2	Yellow	Sensor 0 V
3	White	Heater −
4	Grey	Heater +
5	Green	Ipr
6	Black	Vs

Power/CAN Connector

DTM 4 Pin (M) (#68055)

Mating connector: DTM 4 Pin (F) #68054

Pin	Wire Colour	Description
1	Black	Battery −
2	Green	CAN Lo
3	White	CAN Hi
4	Red	Battery +

▶ WIRING

To power the LTC, connect to either the ignition switch for fast sensor startup or the fuel pump relay to prevent accidental battery drainage.

Wiring example
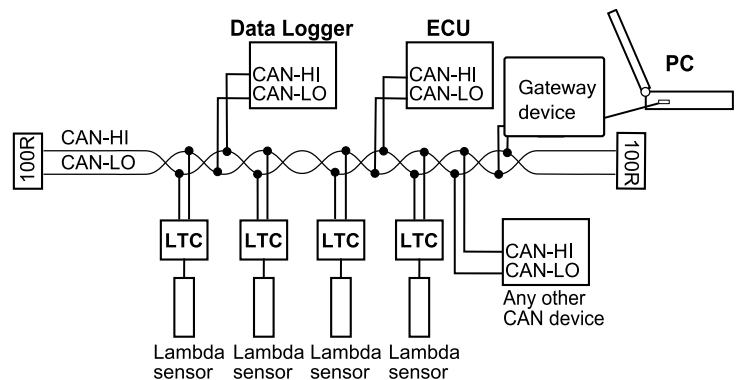
For information on wiring a CAN bus with several LTCs and any number of other CAN devices (as per the example), refer to the relevant device manual.