ECUMASTER ADU

Application Note

MoTec M400/M600/M8XX

Revision 1.0

1. Copyright and trademarks

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2. Introduction

This application note explains how to connect and configure the ADU with MoTec M400/ M600/M8XX

3. Electrical connection

If MoTec ECU communication speed is set to 1Mbps, it may be connected to ADU CAN1 or ADU CAN2. If the ECU CAN speed is set to 500kbps, it must be connected to ADU CAN2 (ADU CAN1 speed is fixed at 1Mbps).
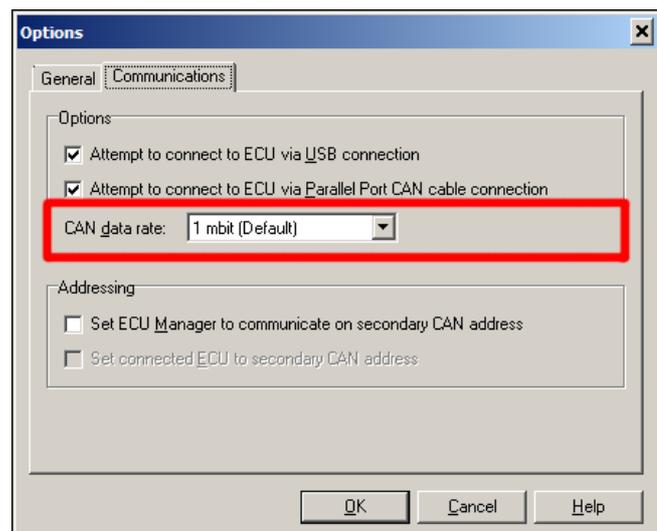
M400/M600/M800	ADU CAN1	ADU CAN2	Comment
B24	4	6	CAN L
B23	5	7	CAN H

Twisted pair cable is required for any CAN BUS connection!
Ensure that the CAN BUS is properly terminated!

To check MoTec CAN communication speed go to the "Tools / Options" menu.
Default communication speed is 1Mbps.

4. ADU and MoTec ECU configuration

The first step is to enable the MoTec standard output stream. This option is found in the "*Adjust / General Setup / Communication / Can setup*" menu.

The following setup should appear:

"*CAN 0 Data*" should be set to 1 (ADL Dash Logger), and the "*CAN 0 Address*" should be set to 1520 (0x5f0 hexadecimal).

After setting CAN parameters the ECU should be rebooted!

ADU CAN1 bus has a fixed speed of 1Mbps and cannot be changed. If you plan to connect MoTec ECU to CAN2, you must set the CAN BUS speed and termination in the ADU configuration.

To open CAN2 configuration, press F9 to show the pane selector. Then open "*General / CAN BUS Serial setup*". Select the appropriate CAN2 speed and termination.

Next, you must load the *CANX* file with MoTec M400/M600/M800 channel definitions.

In the Project tree, click the "Add" button and select "Import .CANX file". When the file dialog opens, select the "*Motec_M800_Set1.canx"* file.
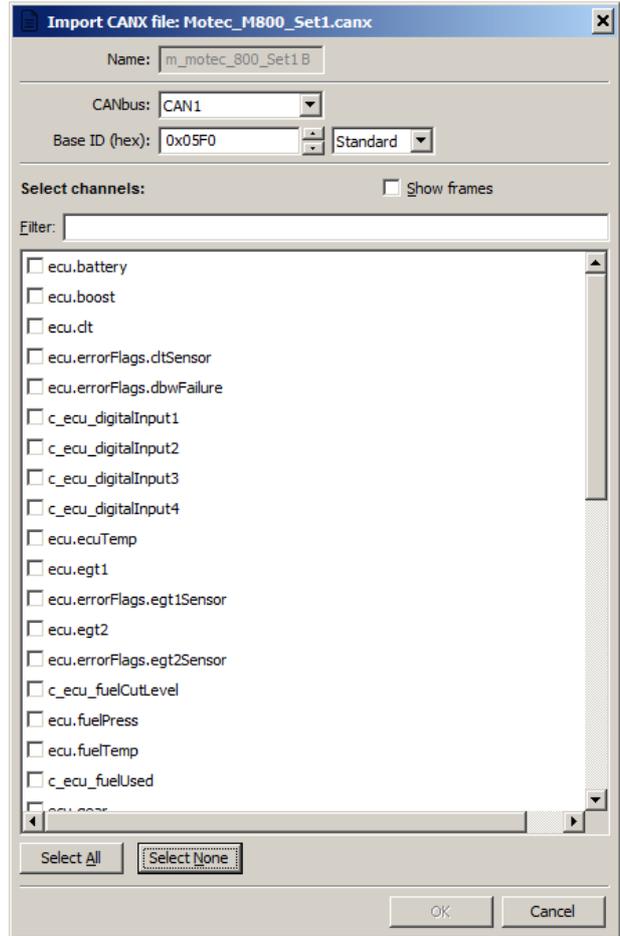
You must select the CAN BUS that will be used for communication (CAN1 or CAN2) and the channels you want to read. In most situations all channels should be loaded (Select All). The project tree should look like the following:
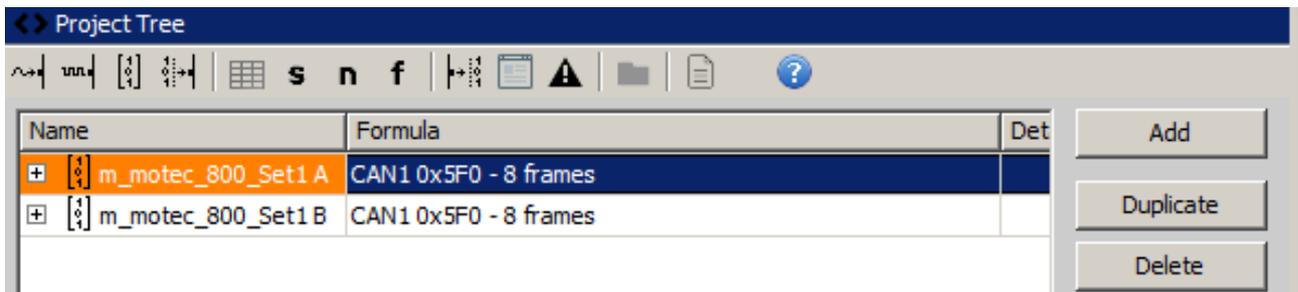
If you open "*m_motec_800_Set1A or m_motec_800_Set1B* mob", all available CAN inputs should be visible.

5. Supported channels

ADU channel	Description
ecu.battery	Battery voltage
ecu.boost	Boost level
ecu.clt	Engine coolant temperature
ecu.ecuTemp	ECU internal temperature
ecu.egt1	Exhaust gases temperature 1
ecu.egt2	Exhaust gases temperature 2
ecu.errorFlags	The following flags are available: - cltSensor error - iatSensor error - mapSensor error - wboSensor error - egt1Sensor error - egt2Sensor error - egtAlarm error - knocking - ffSensor error - dbwFailure error
ecu.fuelPress	Fuel pressure
ecu.fuelTemp	Fuel temperature
ecu.gear	Current gear
ecu.iat	Intake manifold temperature
ecu.ignAngle	Ignition advance
ecu.injDC	Injectors DC
ecu.injPW	Injectors pulse width
ecu.lambda1	Lambda from oxygen sensor #1
cu.lambda1Trgt	Desired lambda target for sensor #1
ecu.lambda1Trim	Current lambda #1 fuel trim
ecu.lambda2	Lambda from oxygen sensor #2
cu.lambda2Trgt	Desired lambda target for sensor #2
ecu.lambda2Trim	Current lambda #2 fuel trim
ecu.map	Manifold absolute pressure
ecu.oilPress	Engine oil pressure

ecu.oilTemp	Engine oil temperature
ecu.rpm	Engine RPM
ecu.speed	Vehicle speed
ecu.tps	Throttle position sensor
c_ecu_digitalInput1	The state of ECU digital input #1
c_ecu_digitalInput2	The state of ECU digital input #1
c_ecu_digitalInput3	The state of ECU digital input #1
c_ecu_digitalInput4	The state of ECU digital input #1
c_ecu_fuelCutLevel	Fuel cut level
c_ecu_fuelUsed	Fuel used i
c_ecu_ignCutLevel	Ignition cut level
c_ecu_slip	Wheel slip