AiM InfoTech

Hondata KPro4

Release 1.02

ECU

This tutorial explains how to connect AiM devices to Hondata KPro4 ECU.
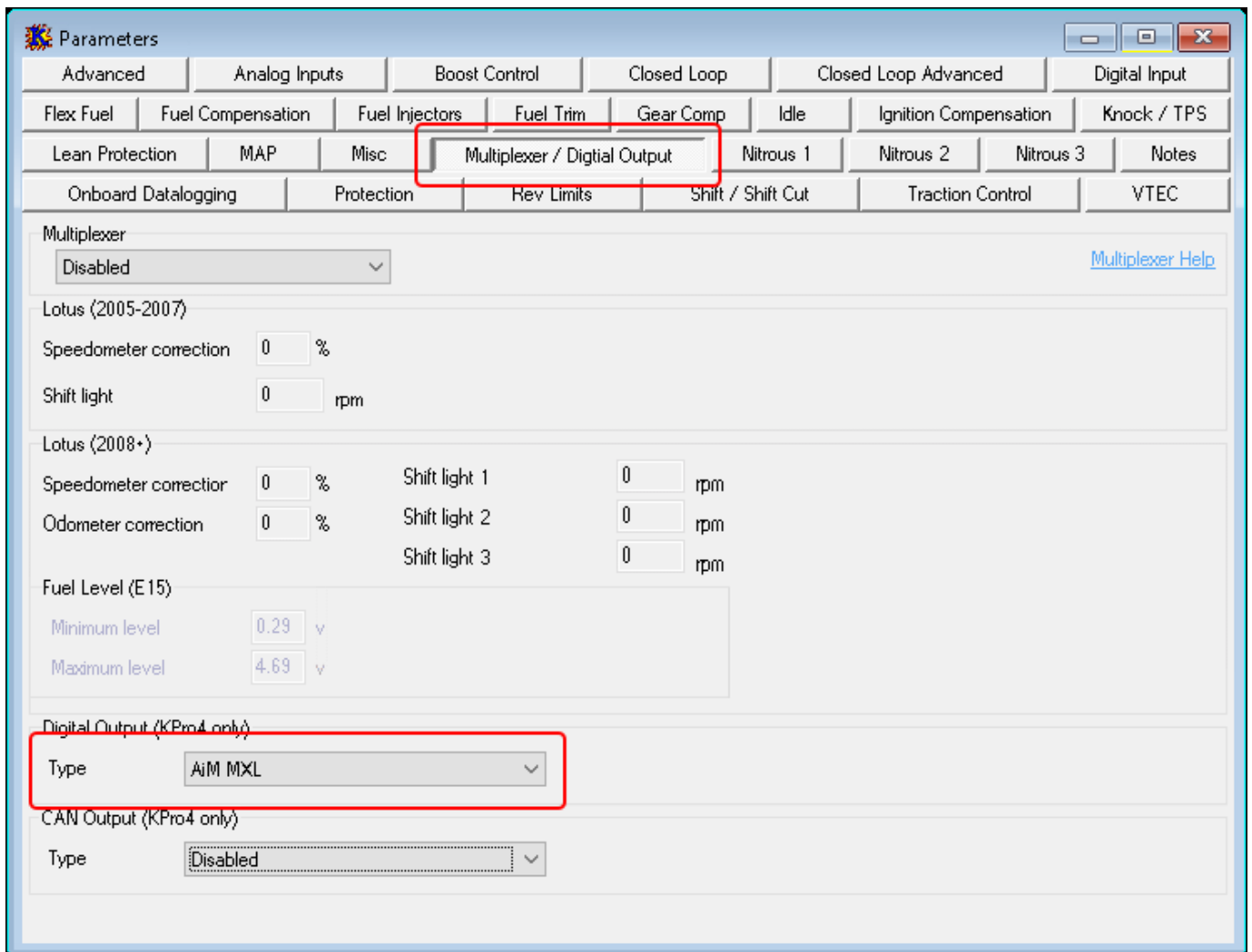
1
Software configuration

For Hondata KPro4 ECU to correctly communicate with AiM device it is necessary to set it up using the dedicate Hondata software "Kmanager". The setup changes according to the data bus communication protocol you choose.

Follow the steps here below to know how to proceed.

1.1
RS232 data stream setup

- In Parameters panel press "Multiplexer/Digital Output" and set "Digital Output" box to "AiM MXL" as shown below:
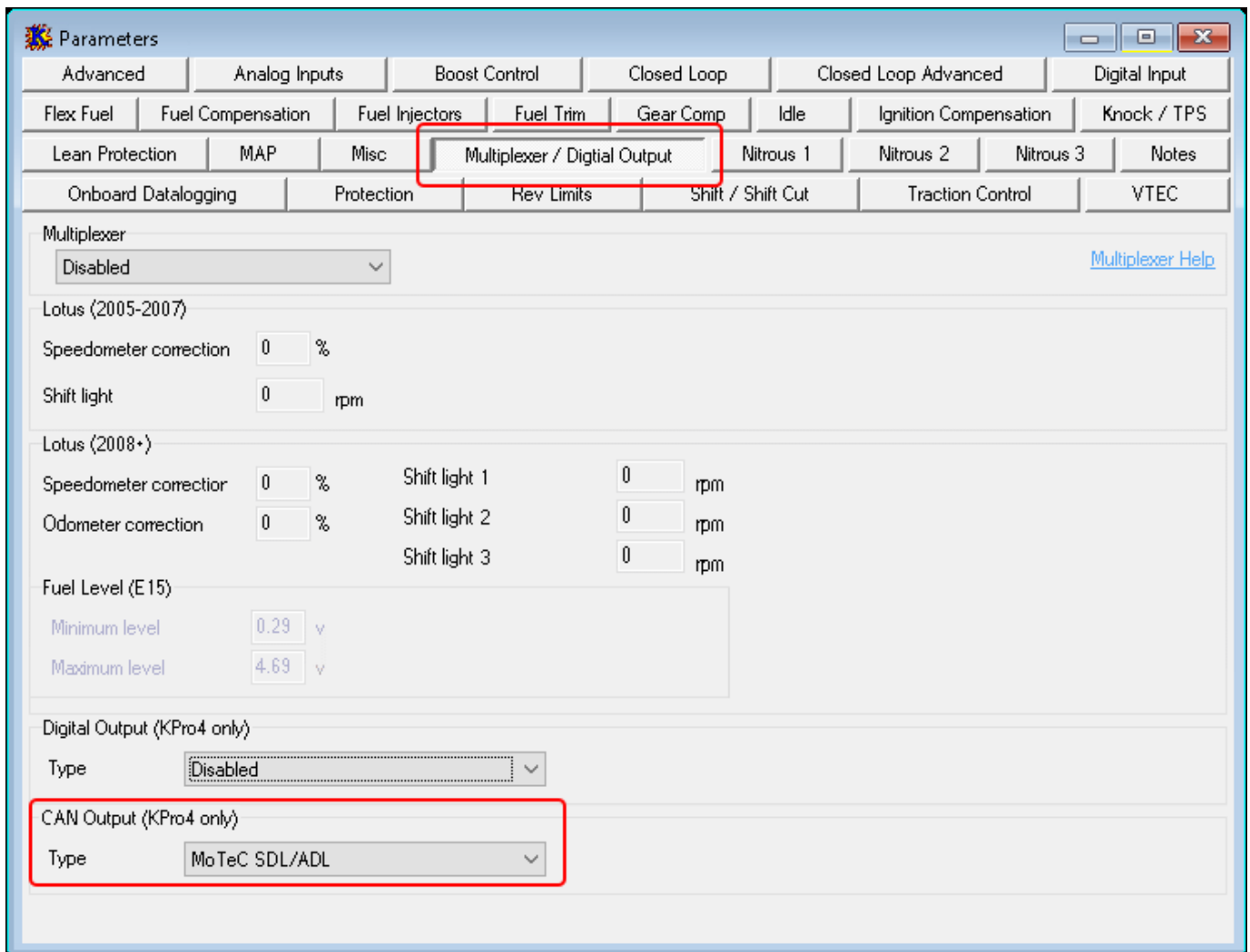
1.2
CAN data stream setup

- In Parameters panel press "Multiplexer/Digital Output" and set "CAN Output" box to "MoTeC SDL/ADL" as shown below:

- Shut the vehicle down and disconnect the USB cable for the changes to take effect.

2
Wiring connection

For Hondata KPro4 ECU, it is possible to connect to AiM devices through the accessory harness connector (following picture). Hondata accessory harness already allows to perform both connections. AiM suggests to prefer the new CAN bus, much faster and more reliable.

Hondata KPro4 ECU
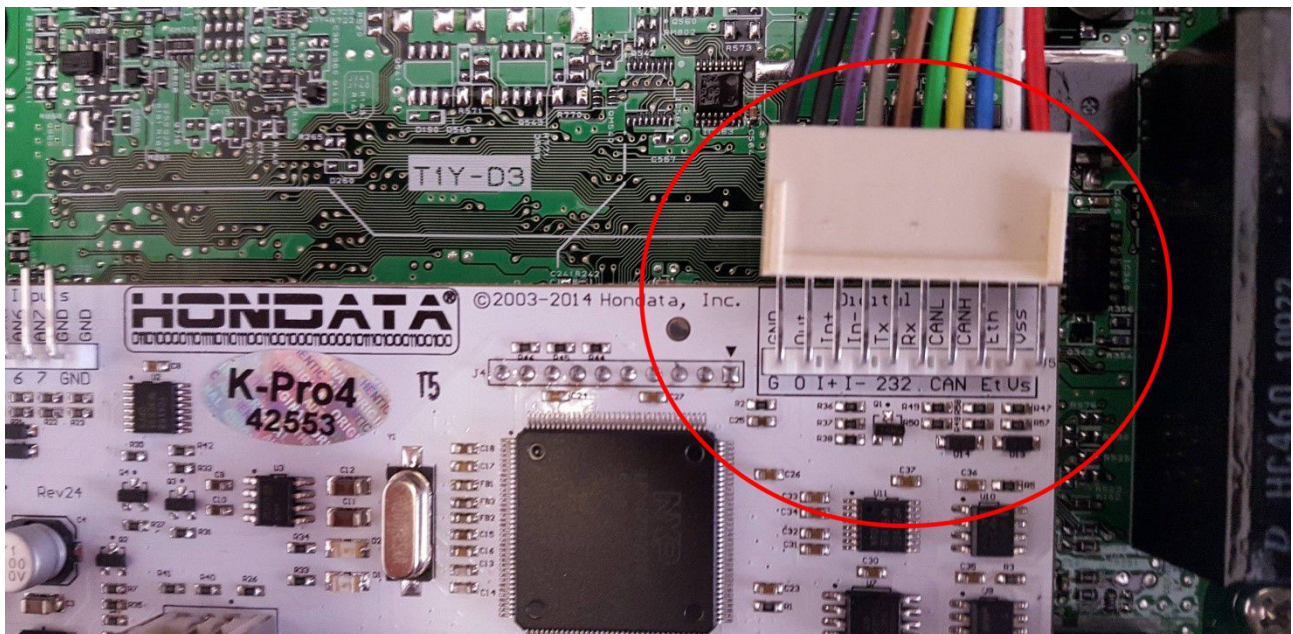
Here below you find the accessory harness connector wires colors and their function:

ECU Cable function	ECU Cable colour	AiM cable colour	AiM cable label
GND	Black	Black	RS232GND
RS232TX	Brown	White	RS232RX
CANH	Blue	White	CAN+
CANL	Yellow	Blue	CAN-

3
AiM device configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio software. The parameters to select in the device configuration are:

- ECU manufacturer **Hondata**
- ECU Model:
    - **KPRO** for serial RS232 communication protocol
    - **KPRO4_CAN** for CAN bus communication protocol

4
Protocols

Channels received by AiM device change according to the selected protocol.

4.1
"Hondata – KPRO" protocol

Channels received by AiM device connected to "Hondata – KPRO" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	HONDATA_RPM	RPM
ECU_2	HONDATA_SPEED	Vehicle speed
ECU_3	HONDATA_GEAR	Engaged gear
ECU_4	HONDATA_ECT	Engine cooling temperature
ECU_5	HONDATA_IAT	Intake air temperature
ECU_6	HONDATA_BATTERY	Battery voltage supply
ECU_7	HONDATA_TPS	Throttle position sensor
ECU_8	HONDATA_MAP	Manifold Air Pressure
ECU_9	HONDATA_INJECTOR_TIME	Injection time
ECU_10	HONDATA_IGNITION_PHASE	Ignition phase
ECU_11	HONDATA_REVERSE_LOCKOUT	Reverse lockout
ECU_12	HONDATA_BRAKE_SWITCH	Brake indicator
ECU_13	HONDATA_SCS	SCS
ECU_14	HONDATA_EPS	EPS
ECU_15	HONDATA_FUEL_PUMP	Fuel pump indicator
ECU_16	HONDATA_RADIATOR_FAN	Radiator fan indicator
ECU_17	HONDATA_VTEC_OIL_PRESS	Oil pressure
ECU_18	HONDATA_VTECS1	Solenoid indicator 1
ECU_19	HONDATA_VTECS2	Solenoid indicator 2
ECU_20	HONDATA_MIL	Malfunctioning indicator lamp
ECU_21	HONDATA_CAM_ANGLE	Cam angle
ECU_22	HONDATA_LAMBDA	Lambda value
ECU_23	HONDATA_AFR	Air/Fuel ratio
ECU_24	HONDATA_KNOCK_COUNT	Knock since power on

5.2
"Hondata – KPRO4_CAN" protocol

Please note: Hondata KPRO4 ECU features some customizable analog channels. To answer our customers request, AiM decided to set oil pressure and oil temperature on channels 15 and 16 of this driver. To correctly sample these channels is however necessary to physically connect specific sensors to specific ECU pins. The sensor to connect are:

- Autometer 2246 pressure sender (image below on the left) to connect to ECU Analog0 pin
- Autometer 2252 temperature sender (image below on the right) to connect to ECU Analog1 pin; moreover, you need to install a 1.5kOhm 1% pull up resistor connected to VCC 5V.

Please refer to your ECU user manual to know the ECU pinout.

Channels received by AiM device connected to "Hondata – KPRO4_CAN" protocol are:

CHANNEL NAME	FUNCTION
ECU RPM	RPM
ECU SPEED	Vehicle speed
ECU GEAR	Engaged gear
ECU VOLTAGE	Battery supply
ECU IAT	Intake air temperature
ECU ECT	Engine coolant temperature
ECU TPS	Throttle position sensor
ECU MAP	Manifold air pressure
ECU INJ	Injection time
ECU IGN	Ignition angle
ECU LAMBDA	Lambda value
ECU KNOCK CNT	Knock counter
ECU CAM TARGET	Camshaft target
ECU CAM ACTUAL	Actual camshaft
ECU POIL	Oil pressure
ECU OILT	Oil temperature
ECU ANALOG2	Analog signal 2
ECU ANALOG3	Analog signal 3
ECU ANALOG4	Analog signal 4
ECU ANALOG5	Analog signal 5
ECU ANALOG6	Analog signal 6
ECU ANALOG7	Analog signal 7
ECU FREQ Hz	Frequency
ECU ETH CONT	Ethanol counter
ECU FUEL T	Fuel temperature