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AiM Infotech

# Hondata KPro4

## Release 1.01

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ECU

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# 1 Supported model

This tutorial explains how to connect Hondata ECU to AiM devices. Supported model is:

- Hondata K-Pro4 to AiM devices.

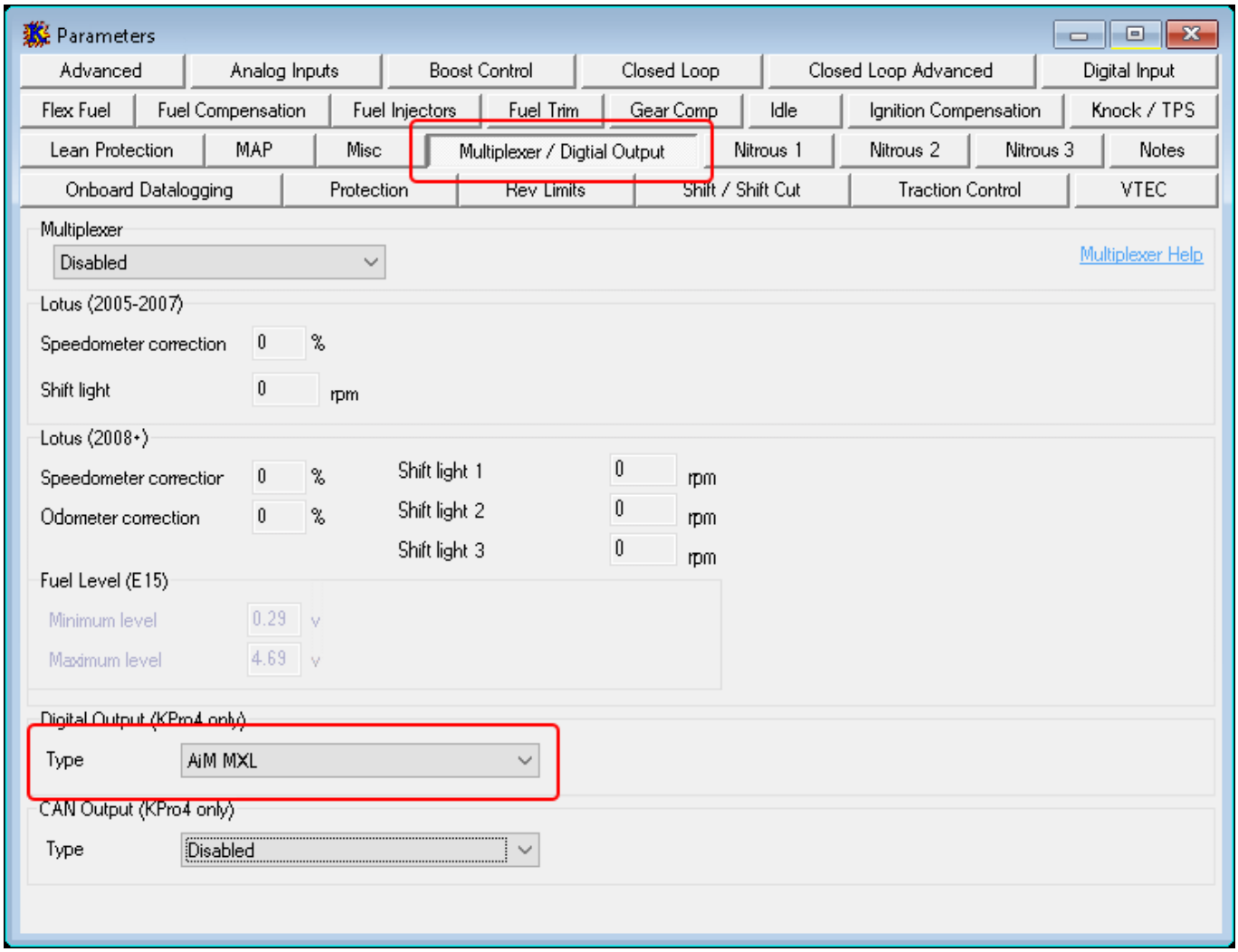
# 2 Software setup

The ECU comes with "KManager" software and needs a software setup before being connected to AiM devices. The setup changes according to the data bus communication protocol you choose.

First of all run "Kmanager" software and then follow the steps here explained.

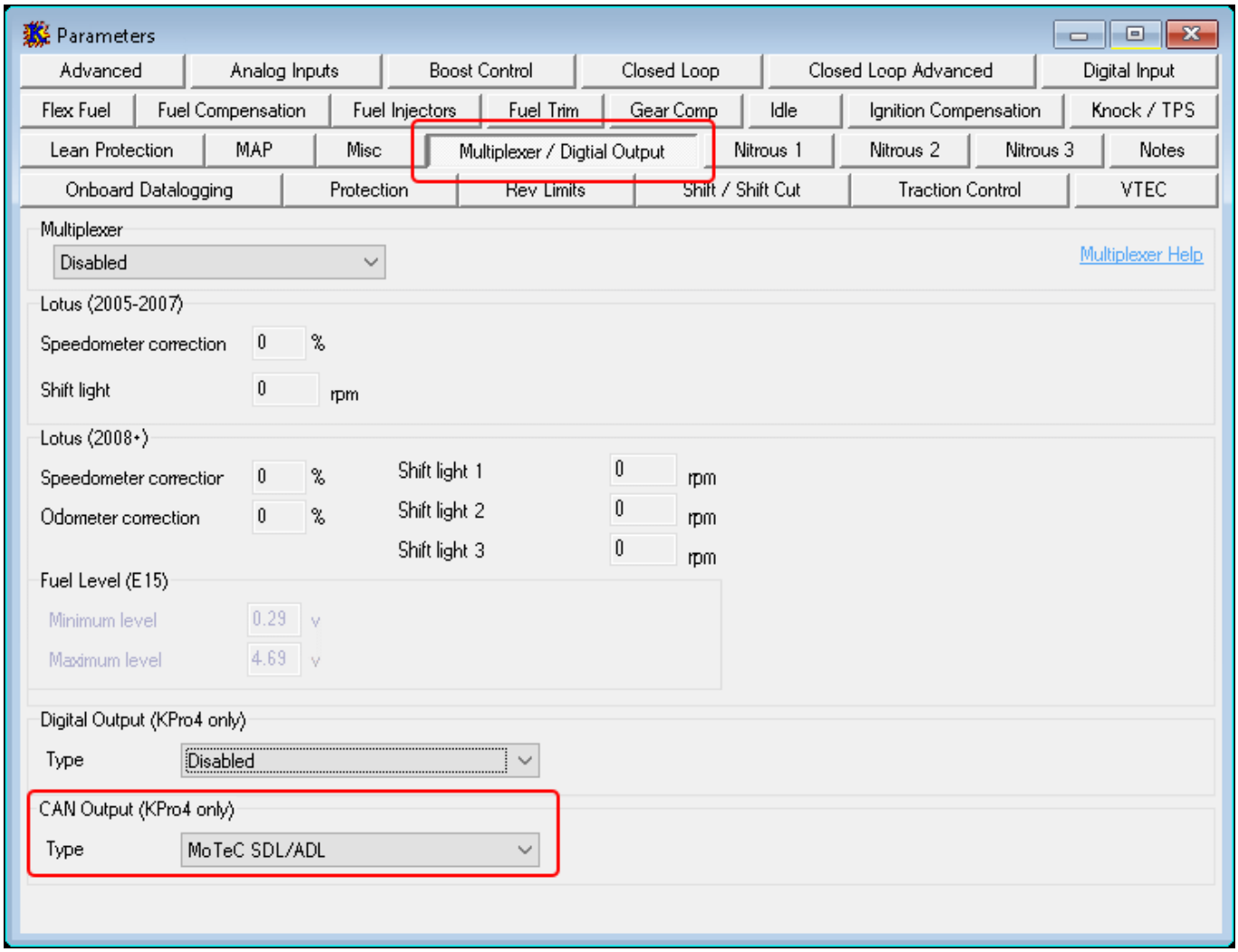
# 2.1
# Serial RS232 data stream setup

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



# 2.2
# CAN data stream setup

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

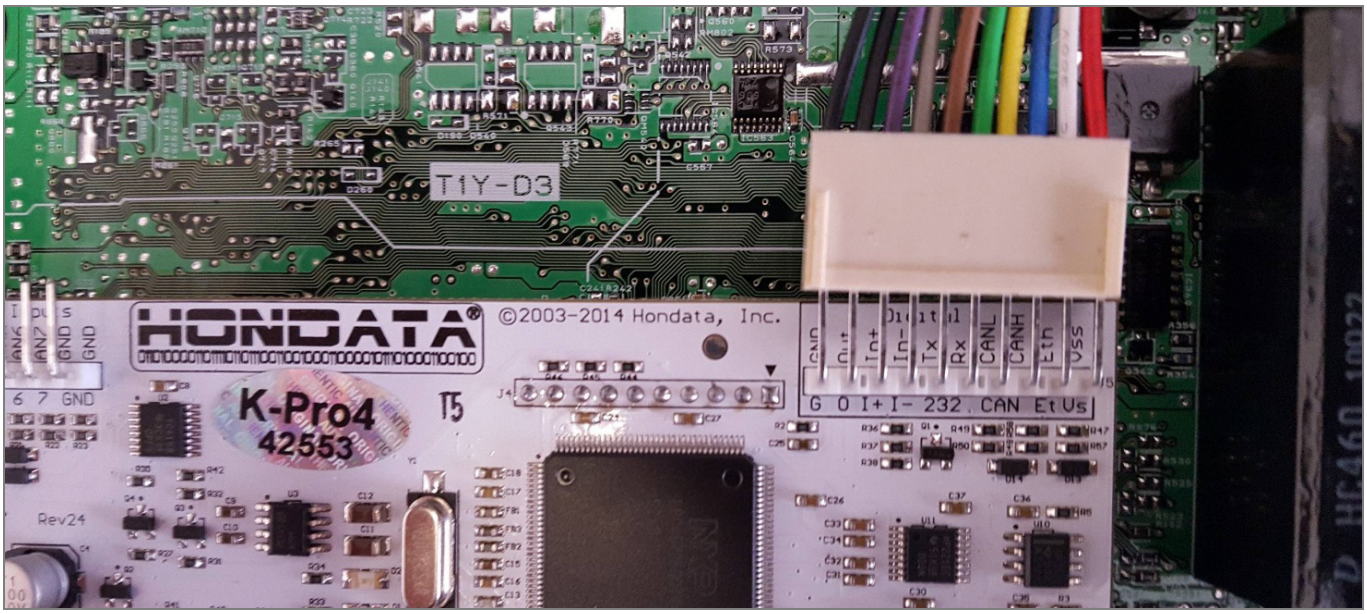



- Shut the car down and disconnect the USB cable for the changes to take effect.

# 3
# Wiring connection

Hondata K-Pro4 ECU features both the serial (RS232) and the CAN bus communication protocol. In both cases there is no need of additional interface module as it was for previous Hondata KPro. AiM suggests to prefer the new CAN bus, much faster and more reliable.

Hondata accessory harness already allows to perform both connections. Just plug them correctly following the colour code here below reported.




| 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- |

# 4 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

# 5 Available channels

Channels received by AiM device connected to "Hondata" ECU changes according to the selected protocol.

# 5.1
# "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:

| ID | CHANNEL NAME | FUNCTION |
|---|---|---|
| ECU_1 | ECU_RPM | RPM |
| ECU_2 | ECU_SPEED | Vehicle speed |
| ECU_3 | ECU_GEAR | Engaged gear |
| ECU_4 | ECU_VOLTAGE | Battery supply |
| ECU_5 | ECU_IAT | Intake air temperature |
| ECU_6 | ECU_ECT | Engine coolant temperature |
| ECU_7 | ECU_TPS | Throttle position sensor |
| ECU_8 | ECU_MAP | Manifold air pressure |
| ECU_9 | ECU_INJ | Injection time |
| ECU_10 | ECU_IGN | Ignition angle |
| ECU_11 | ECU_FUEL_T | Fuel temperature |
| ECU_12 | ECU_KNOCK_CNT | Knock counter |
| ECU_13 | ECU_CAM_TARGET | Camshaft target |
| ECU_14 | ECU_CAM_ACTUAL | Actual camshaft |
| ECU_15 | ECU_POIL | Oil pressure |
| ECU_16 | ECU_OILT | Oil temperature |
| ECU_17 | ECU_ANALOG2 | Analog signal 2 |
| ECU_18 | ECU_ANALOG3 | Analog signal 3 |
| ECU_19 | ECU_ANALOG4 | Analog signal 4 |
| ECU_20 | ECU_ANALOG5 | Analog signal 5 |
| ECU_21 | ECU_ANALOG6 | Analog signal 6 |
| ECU_22 | ECU_ANALOG7 | Analog signal 7 |
| ECU_23 | ECU_FREQ_Hz | Frequency |
| ECU_24 | ECU_ETH_CONT | Ethanol counter |