

AiM Infotech

DTA S Series CAN Protocol and RS232 update to CAN

Release 1.03



ECU



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Supported models

This Document explains how to connect AiM devices to the Engine Control Unit (ECU) datastream. Supported models are:

- S40 Pro
- S60
- S60 Pro
- S80
- S80 Pro
- S100
- S100 Pro

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Firmware prerequisites

DTA S Series ECUs have been using CAN bus communication protocol only from a defined firmware version onward. Here you find complete indication of all firmware versions needed for each supported S Series ECU.

- S40/S40 Pro from firmware version V37.00 onward
- S60/S60 Pro from firmware version V36.00 onward
- S80/S60 Pro from firmware version V40.00 onward
- S100/S100 Pro from firmware version V43.00 onward

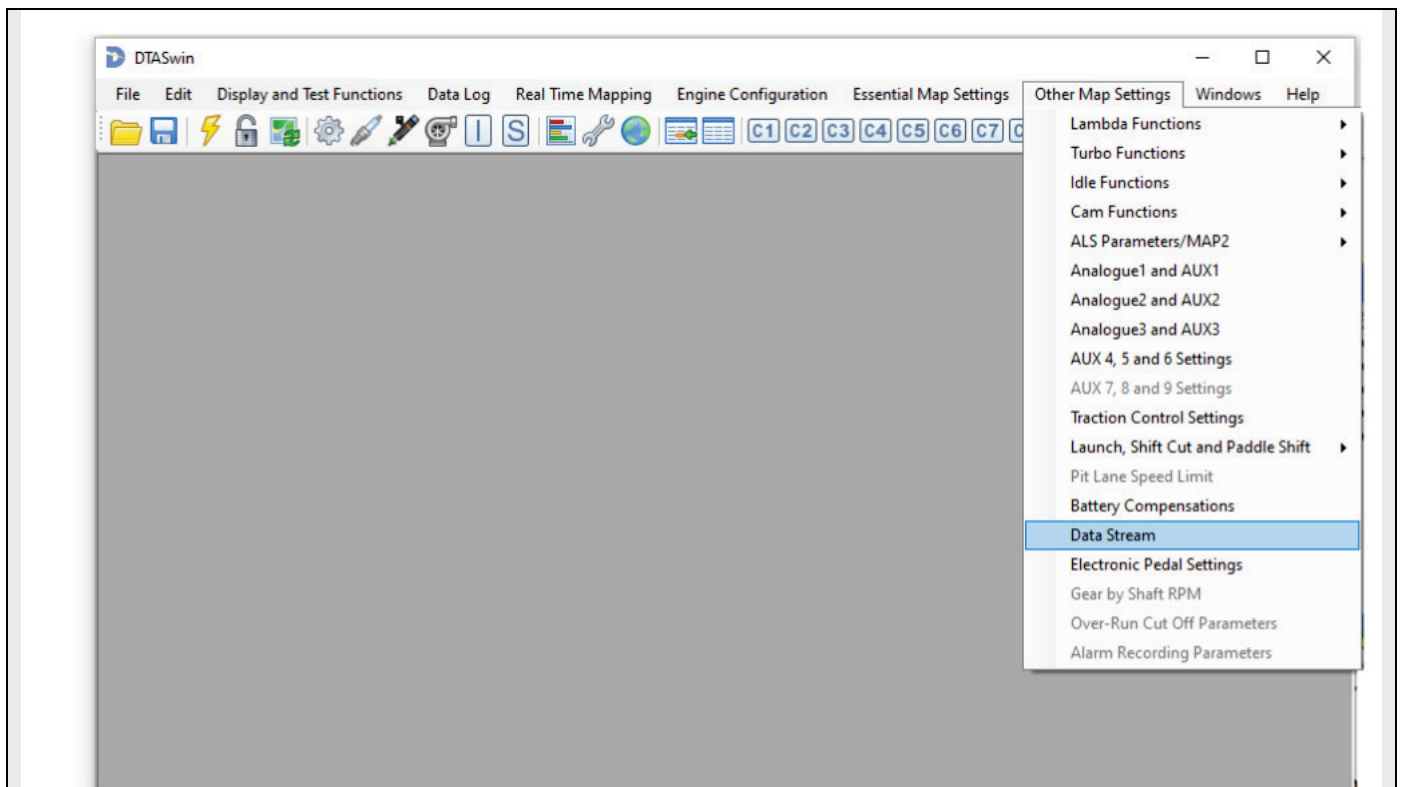
Please note: in case your ECU has a firmware version older than these above specified, please upgrade the firmware.

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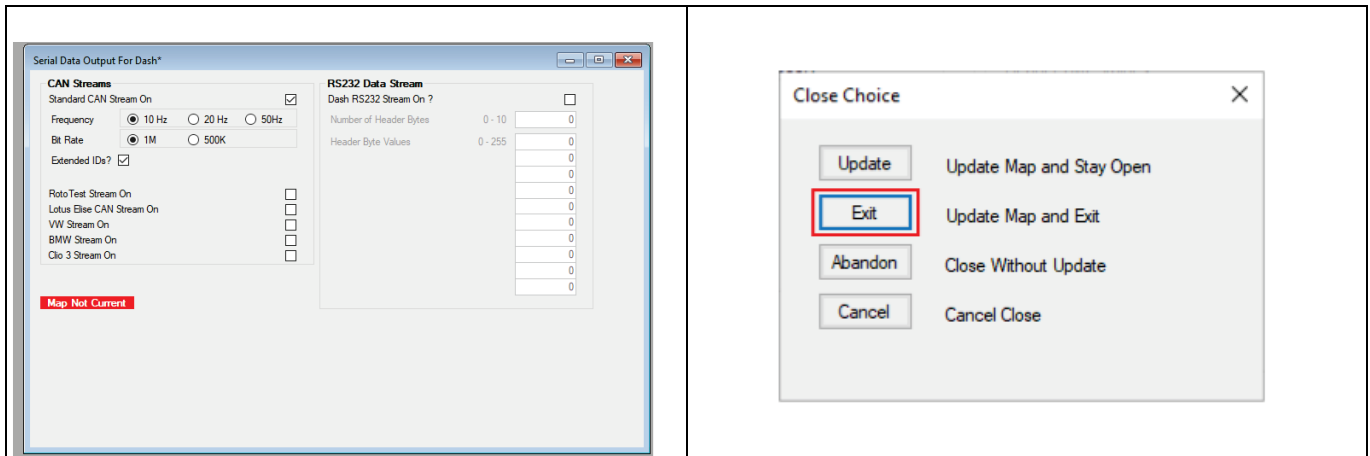
Software setting

For DTA ECUs to communicate with AiM devices a software setting is needed. DTA ECU comes with DTASwin software. To configure it in order to communicate with AiM devices follow these steps.

- Run DTASwin software and follow the path: "Other Map settings -> Data stream" as here below.



- “Serial Data Output For Dash” window appears: enable “Standard CAN Stream on” as here below on the left following the specifics settings.



- Click on the red cross top right of “Serial Data Output for Dash” panel to close the window;
- “Close choice” panel, shown above on the left, appears select “Exit” and exit the software.

For any further information concerning ECU firmware/software settings and/or upgrading it is always recommended to address to the ECU dealer.

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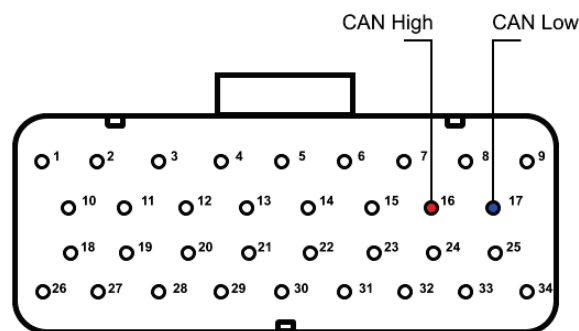
Wiring connection

DTA ECU CAN communication protocol is on the ECU front connector(s). DTA S40 has only one front connector while the others have two.

4.1

S40/S40 Pro ECU wiring connection

DTA S40/S40 Pro ECU features one 34 pins front male connector. Here below are connector drawing and connection table.



DTA S40/S40 Pro connector

16
17

Pin function

CAN High
CAN Low

AiM cable

CAN+
CAN-

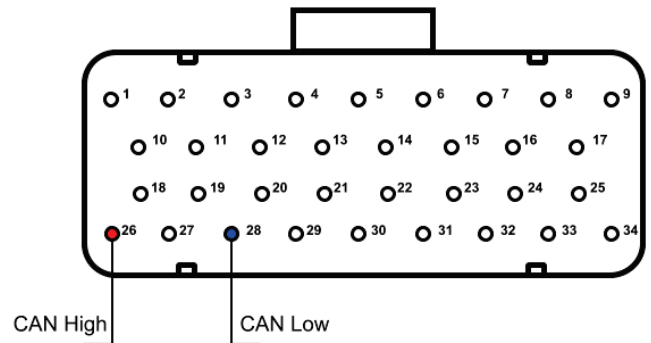
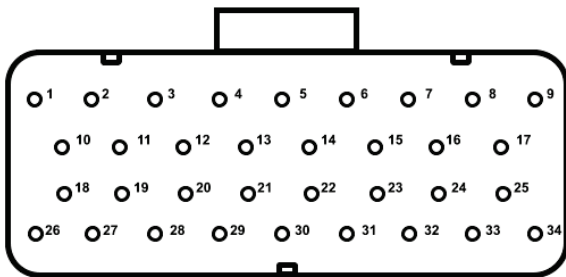
AiM color cable

White
Blue

4.2

S60/S60 Pro, S80/S80 Pro and S100/S100 Pro ECU wiring connection

DTA S60/S60 Pro, S80/S80 Pro and S100/S100 Pro ECUs have two 34 pins front male connectors. They can be distinguished by the number of bottom keys: the one to be used for CAN connection is that with two bottom keys. Here below are connector drawings as well as connection table



DTA connector

26
28

Pin function

CAN High
CAN Low

AiM cable

CAN+
CAN-

AiM color cable

White
Blue

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Race Studio configuration

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

- ECU manufacturer: **DTA**
- ECU Model: **S_SERIES_PRO**

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“DTA – S_SERIES_PRO” protocol

Channels received by AiM devices configured with “DTA – S_SERIES_PRO” protocol are:

CHANNEL NAME	FUNCTION
DTA_RPM	Engine RPM
DTA_TPS	Throttle position sensor
DTA_ECT	Engine coolant temperature
DTA_AIR_TEMP	Intake air temperature
DTA_MAP	Manifold air pressure
DTA_LAM	Lambda value
DTA_SPEED	Vehicle speed
DTA_OIL_PRESS	Oil pressure
DTA_FUEL_PRESS	Fuel pressure
DTA_OIL_TEMP	Oil temperature
DTA_BATT	Battery voltage
DTA_FUEL_CONS_Hr	Fuel consumption per hour in litres
DTA_GEAR	Engaged gear
DTA_ADVANCE	Spark advance
DTA_INJECTIME	Injection time
DTA_FUEL_CONS100	Fuel consumption per 100 km in litres



DTA_ANA1	Analog 1
DTA_ANA2	Analog 2
DTA_ANA3	Analog 3
DTA_CAM_ADV	CAM Advance
DTA_CAM_TAR	CAM Target
DTA_CAM_PWM	CAM Pulse with Modulation
DTA_KNOCK_ERR	Knock error
DTA_CAM_ERR	CAM error

Technical note: not all data channels outlined in the ECU template are validated for each manufacture's model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable