AiM Infotech

Holley HP EFI and Dominator EFI ECUs

Release 1.00

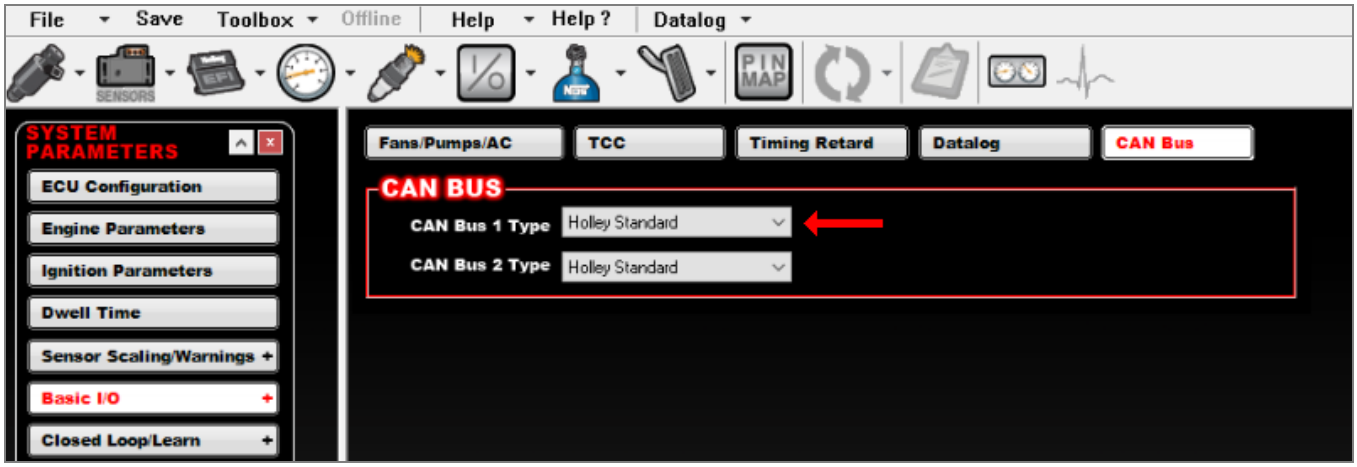
This tutorial explains how to connect AiM devices to Holley HP EFI and Holley Dominator EFI ECUs.

1 Software configuration

For both Holley HP EFI and Dominator EFI ECUs to correctly communicate with AiM device it is necessary to set them up using the dedicate Holley software.

From the "V2" ECU firmware and software version it is possible to program the ECU CAN output This software/firmware updating can be downloaded from Holley website directly.

To configure the CAN output, open the System ICF, select "Basic I/O" and then the "CAN Bus" tab. Set the CAN Bus 1 Type as "Holley Standard", so to enable the CAN output on the P1A connector (following image). Setting the CAN Bus 2 Type as "Holley Standard" as well, it is possible to output data from the P3 connector **(Holley Dominator EFI only)**.

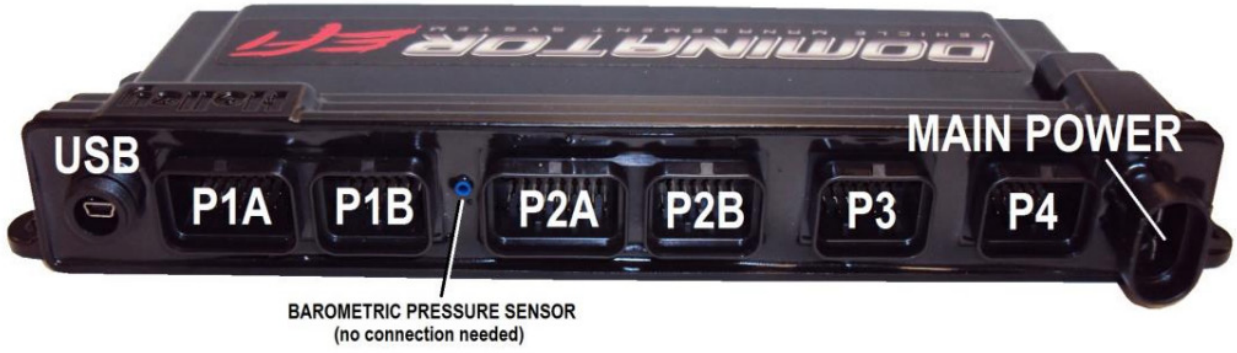


2
Wiring connection

For both these ECU models, it is possible to connect to AiM devices through the P1A connector (following pictures). Regarding Holley Dominator EFI, data can be output through the P3 connector, as well.

Holley HP EFI

Holley Dominator EFI



Here below you find the P1A connector pinout and connection table (in common for both ECUs).

P1A connector pin	Function	AiM cable label
A32	CAN1 Hi	CAN+
A24	CAN1 Lo	CAN-

Here below you find the P3 connector pinout and connection table **(Holley Dominator EFI ECU only):**

P3 connector pin	Function	AiM cable label
B20	CAN2 Hi	CAN+
B14	CAN2 Lo	CAN-

If the Holley EFI CAN connection kit has been purchased, these two wires are ended with a two ways connector labelled as “EFI CAN” (2 ways Delphi connector), which can be used to connect to the ECU directly.
Here below, its pinout and connection table are specified:

EFI CAN connector pin	Function	AiM cable label
A	CAN Hi	CAN+
B	CAN Lo	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 “Holley”
- ECU Model “EFI”;

4
“Holley” “EFI” protocol

Channels received by AiM loggers connected to “Holley – EFI” protocol are:

CHANNEL NAME	FUNCTION
RPM	RPM
INJ PULSEWIDTH	Injection pulse width
FUEL FLOW	Fuel flow
CLOSED LOOP ST	Closed loop state
DUTY CIRCLE	Duty circle
AFR LEFT	Air fuel ratio left
CLOSED LOOP COMP	Closed loop compensation
TARGET AFR	Target air fuel ratio
AFR RIGHT	Right air fuel ratio
IGNITION TIME	Ignition time
AFR AVERAGE	Average air fuel ratio
MAP	Manifold air pressure
KNOCK RETARD	Knock retard
MAT	Intake air temperature
TPS	Throttle position sensor
BAROMETRIC P	Barometric pressure
COOLANT T	Engine coolant temperature
OIL P	Oil pressure
BATTERY VOLT	Battery voltage
PEDAL POS	Pedal position sensor
FUEL P	Fuel pressure
BOOST GEAR	Boost gear
MAIN REV LIMIT	Main revolution limiter
BOOST SPEED	Boost speed
BOOST STAGE	Boost stage

TARGET BOOST	Target boost
BOOST TIME	Boost time
BOOST SOL DTY	Boost solenoid duty
BOOST	Boost pressure
N2O STAGE1	Nitrous oxygen percent – cylinder 1
WETHER METH IJ	Water/meth njection
N2O STAGE2	Nitrous oxygen percent – cylinder 2
N2O STAGE3	Nitrous oxygen percent – cylinder 3
GEAR	Active gear
N2O STAGE4	Nitrous oxygen percent – cylinder 4
LINE PRESSURE	Line pressure
SPEED	Vehicle speed
INPUT SHF SPD	Input shaft speed
LINE TEMP	Line temperature
INPUT 1	Input channel
INPUT 2	Input channel
INPUT 3	Input channel
INPUT 4	Input channel
INPUT 5	Input channel
OUTPUT 1	Output channel
OUTPUT 2	Output channel
OUTPUT 3	Output channel
OUTPUT 4	Output channel
OUTPUT 5	Output channel

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