AiM Infotech

AEM Infinity ECUs

Release 1.00

ECU

1
Supported models

AEM Infinity supported models are:
- Infinity 6/8H
- Infinity 8/10/12

Technical note: for AEM Inifinity plug&Play kits address to AEM technical service.
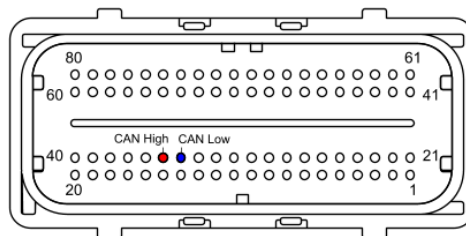
2
Connection to AiM devices

Infinity ECUs feature a bus communication protocol based on CAN. Here follow instructions on how to connect these ECUs to AiM devices.

2.1
Connection of Infinity 6/8H

Infinity 6/8H ECU has a front Molex connector. Here below is connector pinout from solder termination side as well as connection table.

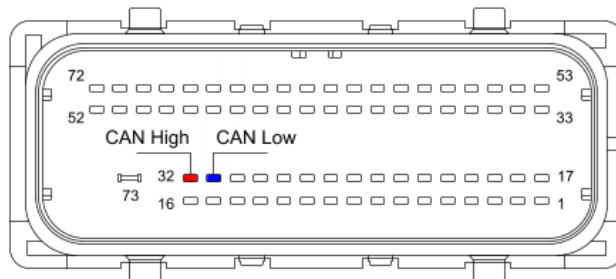| Molex connector pin	Pin function	AiM cable
C1-35	CAN High	CAN+
C1-34	CAN Low	CAN-

2.2
Connection of Infinity 8/10/12

Infinity 8/10/12 ECU has two front Molex connectors: one grey and the other blue. To connect AEM 8/10/12 ECU to AiM device use the grey one. Here below is connector pinout from solder termination side as well as connection table.

Molex connector pin	Pin function	AiM cable
C1-32	CAN High	CAN+
C1-31	CAN Low	CAN-

3
AiM Logger configuration

Before connecting the device to the ECU set it up as follows:

- Run Race Studio 2 software and follow this path:
- Device Configuration –> Select the device you are using;
- select the configuration or press "New" to create a new one;
- select ECU manufacturer "AEM" and ECU Model "EMS v1.17 CAN+DynoShaft"
- transmit the configuration to the device pressing "Transmit".

4
Available channels

Channels received by AiM devices connected to "AEM" " EMS v1.17 CAN+DynoShaft " protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	EMS_RPM	RPM
ECU_2	EMS_ENG_LOAD	Engine Load
ECU_3	EMS_TPS	Throttle position sensor
ECU_4	EMS_AIR_TEMP	Air Temperature
ECU_5	EMS_COOL_TEMP	Engine Coolant Temperature
ECU_6	EMS_ADCR11	Analog Digital Converter 11; 0-5 Volts
ECU_7	EMS_ADCR13	Analog Digital Converter 13; 0-5 Volts
ECU_8	EMS_ADCR14	Analog Digital Converter 14; 0-5 Volts
ECU_9	EMS_ADCR17	Analog Digital Converter 17; 0-5 Volts
ECU_10	EMS_ADCR18	Analog Digital Converter 18; 0-5 Volts
ECU_11	EMS_ADCR15	Analog Digital Converter 15; 0-5 Volts
ECU_12	EMS_ADCR16	Analog Digital Converter 16; 0-5 Volts
ECU_13	EMS_ADCR08	Analog Digital Converter 08; 0-5 Volts
ECU_14	EMS_O2_#1	Lambda sensor
ECU_15	EMS_O2_#2	Lambda sensor
ECU_16	EMS_VEH_SPEED	Vehicle speed
ECU_17	EMS_GEAR	Engaged Gear
ECU_18	EMS_IGN_TIM	Ignition Time
ECU_19	EMS_BATT_VOLT	Battery Voltage
ECU_20	EMS_ENG_LOAD2	Engine Load 2
ECU_21	DY_DSH_RPM	Driveshaft RPM
ECU_22	DY_DSH_TQ_FTLB	Driveshaft Torque - ft-lb
ECU_23	DY_DSH_PW_HP	DriveShaft Power - HP
ECU_24	DY_TQ_FR_FTLB	Torque Fraction ft-lb
ECU_25	DY_PW_FR_HP	PowerFraction - HP

ECU_26	DY_DSH_RPM2	DriveShaft RPM
ECU_27	DY_DSH_TQ2FTLB	Driveshaft Torque (low range) - ft-lb
ECU_28	DY_DSH_PW2_HP	Driveshaft Power (low range) - HP
ECU_29	DY_SYS_VOLT	System Voltage
ECU_30	DY_TANK_VOLT	Tank Voltage
ECU_31	DY_SENS_VOLT	Sensor Voltage
ECU_32	DY_POW_LEV	Power level
ECU_33	DY_SENS_TEMP	Sensor Temp
ECU_34	DY_DRV_FREQ	Drive Frequency
ECU_35	DY_SYST_TEMP	System Temp
ECU_36	DY_ERROR	Mixed Errors and status:

bit = 0 – Sensor firmware error

bit = 1 – Controller firmware error

bit = 2 – Sensor comms active

bit = 3 – Got good zero offset

bit = 4 – Got good calibration

bit = 5 – Led aligned

bit = 6 – Auto zero active

bit = 7 – not used