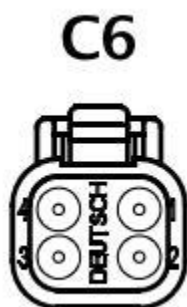


TA2 AEMNet Configuration

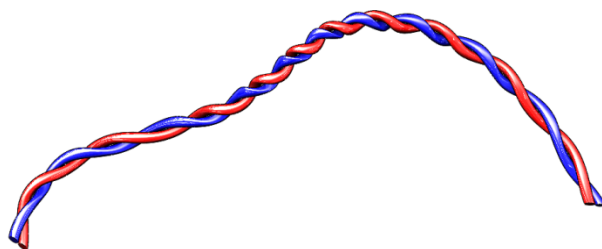
On the TA2 Chassis harness, Connector 6 (C6) is the AEMNet CAN Connector:



1- Viewed from REAR of Connector

C6: DTM06-4S Label: AEM NET						
Cav	Col.	Spec	End 2 name	End 2 location	Short Description	Terminal part no. supp
1	BLK	22	C1	35	CAN HI	1062-20-0222
2	BLK	22	C1	34	CAN LO	1062-20-0222
3	BLK	22	SP6	L	AEM NET +12V	1062-20-0222
4	BLK	22	SP3	L	GND	1062-20-0222

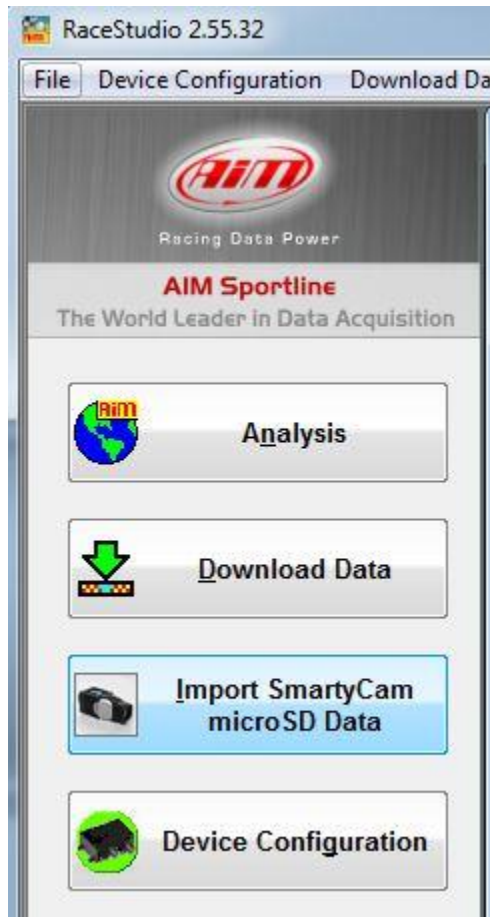
To connect to a CAN device such as a dash, a mating connector DTM04-4P with terminals 1060-20-0222 are required. CAN HI (Pin 1) and CAN LO (Pin 2) wires must be twisted a **MINIMUM** of 1 twist per inch in route to a mating device. **NOTE: No shielding is required for twisted CAN wires.** Connect CAN HI and CAN LO wires to appropriate pins on device mating connector. **Ensure that mating device (DASH) has terminating resistor (120Ω) installed across CAN HI and CAN LO wires at mating connector of the device.**



The following devices support AEMNet CAN Data streams and are to be configured as follows:

AIM MXL Dash:

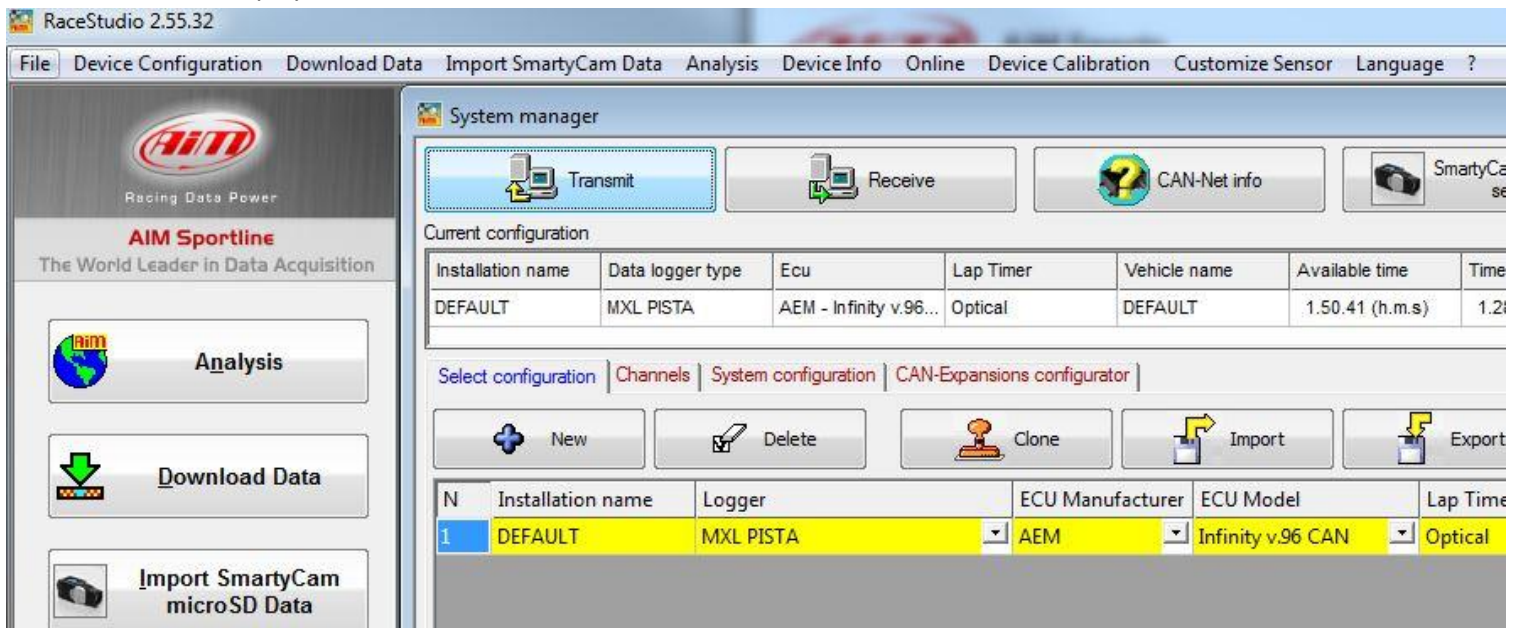
1. Ensure that the RaceStudio 2 software is the most current revision from AIM.
 - a. RaceStudio 2 software can be found at the following location:
 - i. <http://aimsports.com/software/index.html>
 - ii. At the time that this document was written, the latest revision of RaceStudio 2 is **2.55.32**.
2. Open RaceStudio 2 and select **Device Configuration** from the menu on the left of the task window.



3. Select the appropriate Dash from the Configuration Screen. Click **Go to**.

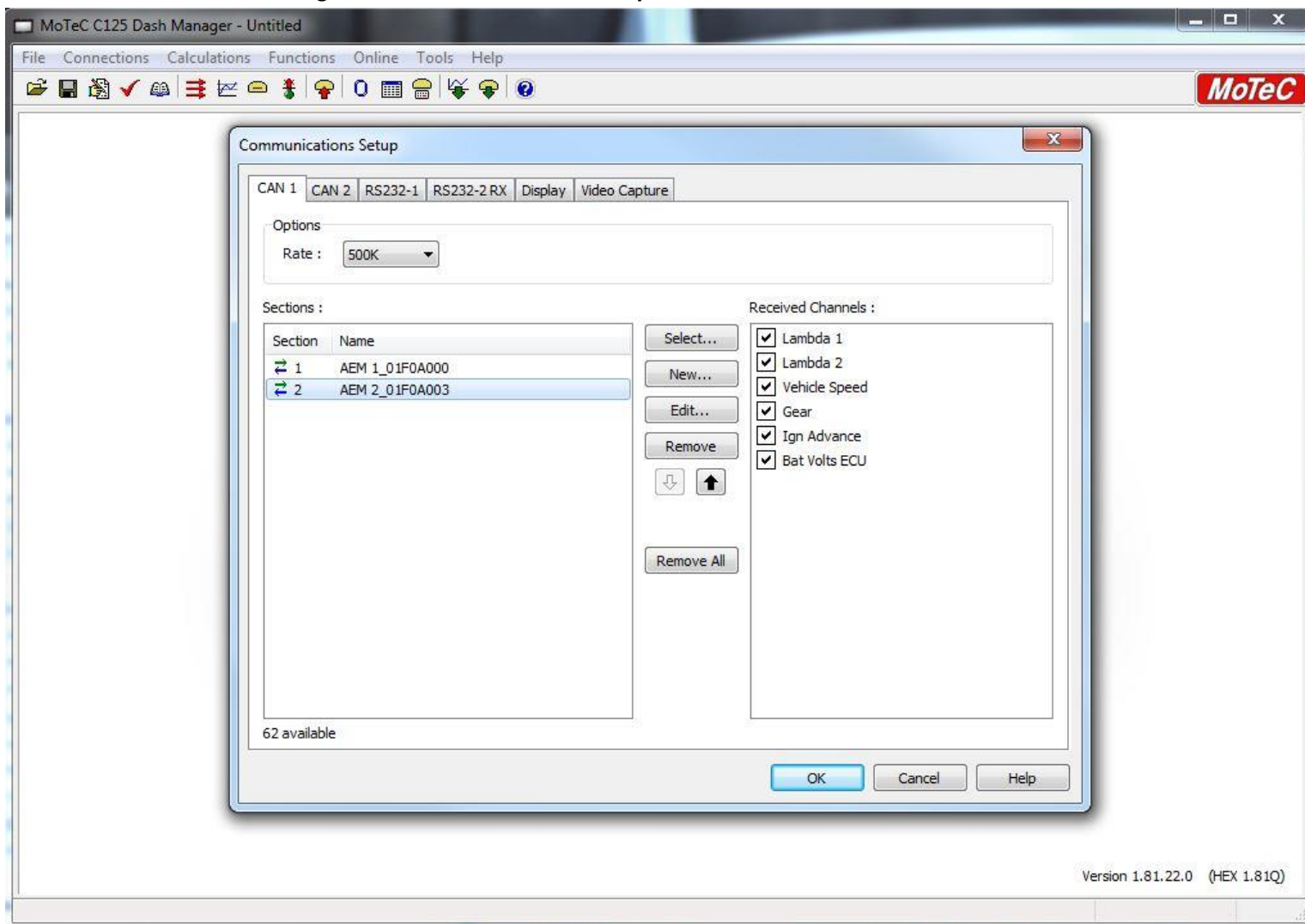


4. Under **ECU Manufacturer** drop down menu, select **AEM**.
 5. Under **ECU Model** drop down menu, select **Infinity v.96 CAN**.
 6. At top left of system manager dialog box, select **Transmit** to commit the configuration to the display.



MOTEC C125 Color Display:

1. Configure the **Communications Setup** as follows:



The following is the AEM CAN Data Stream that outlines the CAN Messages transmitted by the Infinity ECU:

AEMnet

29 bit, 500 kBit/sec, 8 data bytes per message unless otherwise specified

Multi-byte data is packed big endian (Motorola format, most significant byte transmitted first)

Bits numbered MSB first, with the MSB = bit7, LSB = bit0

Both unit types (SI & US) should be made available to the customer whenever possible!

Message ID: 0x01F0A000

Sources: Infinity EMS (30-71XX)

AEM S2 & EMS-4 (30-6XXX)

20ms continuous (50hz)

Byte	Bit	Bitmask	Label	Data Type
0-1			Engine Speed	16 bit unsigned
2-3			Engine Load (Deprecated in Infinity)	16 bit unsigned
4-5			Throttle	16 bit unsigned
6			Intake Air Temp	8 bit signed, 2's comp
7			Coolant Temp	8 bit signed, 2's comp

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
0.39063 rpm/bit	0	0 to 25,599.94 RPM
0.0015259%/bit	0	0 to 99.998%
0.0015259%/bit	0	0 to 99.998%
1 Deg C/bit	0	-128 to 127 C
1 Deg C/bit	0	-128 to 127 C

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
1.8 Deg F/bit	32	-198.4 to 260.6 F
1.8 Deg F/bit	32	-198.4 to 260.6 F

Message ID: 0x01F0A003

Sources: Infinity EMS (30-71XX)

Infini AEM S2 & EMS-4 (30-6XXX)

20ms continuous (50hz)

Byte	Bit	Bitmask	Label	Data Type
0			Lambda #1	8 bit unsigned
1			Lambda #2	8 bit unsigned
2-3			Vehicle Speed	16 bit unsigned
4			Gear Calculated	8 bit unsigned
5			Ign Timing	8 bit unsigned
6-7			Battery Volts	16 bit unsigned

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
0.00390625 Lambda/bit	0.5	0.5 to 1.496 Lambda
0.00390625 Lambda/bit	0.5	0.5 to 1.496 Lambda
0.0062865 kph/bit	0	0 to 411.986 km/h
1	0	0 to 255
.35156 Deg/bit	-17	-17 to 72.65 Deg
0.0002455 V/bit	0	0 to 16.089 Volts

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
0.057227 AFR/bit	7.325	7.325 to 21.916 AFR
0.057227 AFR/bit	7.325	7.325 to 21.916 AFR
0.00390625 mph/bit	0	0 to 255.996 MPH
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x01F0A004

Sources: Infinity EMS (30-71XX) V96.1+

20ms continuous (50hz)

Byte	Bit	Bitmask	Label	Data Type
0-1			MAP	16 bit unsigned
2			VE	8 bit unsigned
3			FuelPressure	8 bit unsigned
4			OilPressure	8 bit unsigned
5			LambdaTarget	8 bit unsigned
6	0 (lsb)	0	FuelPump	Boolean
	1	2	Fan 1	Boolean
	2	4	Fan 2	Boolean
	3	8	N2O Active	Boolean
	4	16	O2FB Active	Boolean
	5	32	EngineProtectOut	Boolean
	6	64	MILOutput	Boolean
7	7 (msb)	128	Lean Protect	Boolean
	0 (lsb)	0	Oil Press Protect	Boolean
	1	2	2 Step Fuel	Boolean
	2	4	2 Step Spark	Boolean
	3	8	Sync State	Boolean
	4	16	A/C On	Boolean
	5	32	BoostCut	Boolean
	6	64	CoolantProtect	Boolean
	7 (msb)	128	DBZ Error	Boolean

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
0.1 kPa/bit	0	0 to 6,553.5 kPa
1%/bit	0	0 to 255 %
0.040 bar/bit	0	0 to 10.2 Bar
0.040 bar/bit	0	0 to 10.2 Bar
0.00390625 Lambda/bit	0.5	0.5 to 1.496 Lambda
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
0.014504 PSI/bit	-14.6960	-14.696 to 935.81 PSig
<==	<==	<==
0.580151 PSig/bit	0	0 to 147.939 PSig
0.580151 PSig/bit	0	0 to 147.939 PSig
0.057227 AFR/bit	7.325	7.325 to 21.916 AFR
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x01F0A005

Sources: Infinity EMS (30-71XX) V96.1+

20ms continuous (50hz)

Byte	Bit	Bitmask	Label	Data Type
0-1			LaunchRampTime [ms]	16 bit unsigned
2-3			MassAirflow [gms/s]	16 bit unsigned
4-5			MassAirflow [gms/rev]	16 bit unsigned
6			Clutch Pressure	8 bit unsigned
7	0 (lsb)	0	Brake Sw	Boolean
	1	2	Clutch Sw	Boolean
	2	4	Shift Sw	Boolean
	3	8	Staged Sw	Boolean
	4	16	----	Boolean
	5	32	----	Boolean
	6	64	----	Boolean
	7 (msb)	128	----	Boolean

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
10 mS/bit	0	0 to 655,350 mS
.05 [gms/s] / bit	0	0 to 3,276.75 gms/s
.0005 [gms/rev] / bit	0	0 to 32,7675 gm s/rev
0.344738 Bar/bit	0	0 to 87.91 Bar
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
----	----	----
----	----	----
----	----	----
----	----	----

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
<==	<==	<==
.00661387 [lb/min]/bit	0	0 to 433,440 lb/min
.0000661387 [lb/rev]/bit	0	0 to 4,3344 lb/rev
5 PSig/bit	0	0 to 1275 PSig
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
----	----	----
----	----	----
----	----	----
----	----	----

Message ID: 0x01F0A006

Sources: Infinity EMS (30-71XX) V96.1+

40ms continuous (25hz)

Byte	Bit	Bitmask	Label	Data Type
0			Inj1Pulse	8 bit unsigned
1			Inj1LambdaFB	8 bit unsigned
2			PrimaryInjDuty [%]	8 bit unsigned
3			Mode Sw	8 bit unsigned
4			Water Pressure	8 bit unsigned
5			Pan Pressure	8 bit unsigned
6-7			Est Torque	16 bit unsigned

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
0.1 mS/bit	0	0 to 25.5 mS
0.5 %/bit	-64.00	-64 to 63.5 %
0.392157 %/bit	0	0 to 100 %
1 /bit	0	0 - 255
0.040 bar/bit	0	0 to 10.2 Bar
1 kPa/bit	0	0 to 255 kPa
0.1 Nm/bit	-3276.8	-3276.8 to 3276.7 Nm

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
0.580151 PSig/bit	0	0 to 147.939 PSig
0.14504 PSI/bit	-14.696	-14.696 to 22.289 PSig
0.0737562 ft-lbs/bit	-2416.843	+/- 2416.77 ft-lbs

Message ID: 0x01F0A007

Sources: Infinity EMS (30-71XX) V96.1+

40ms continuous (25hz)

Byte	Bit	Bitmask	Label	Data Type
0			InjectorProbability [%]	8 bit unsigned
1			SparkProbability [%]	8 bit unsigned
2			LambdaTrim_Knock	8 bit unsigned
3			Baro Press	8 bit unsigned
4			FlexContent	8 bit unsigned
5			Airbox Temp	8 bit unsigned
6			Oil Temp	8 bit unsigned
7	0 (lsb)	0	LaunchTimerArmed	Boolean
	1	2	ECU Logging Active	Boolean
	2	4	ModeSelect_Ign	2 bit unsigned
	3	8		
	4	16		
	5	32	ModeSelect_Lambda	2 bit unsigned
	6	64	ModeSelect_DBW	1 bit unsigned
	7 (msb)	128	VTEC	Boolean

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
0.392157 %/bit	0	0 to 100 %
0.392157 %/bit	0	0 to 100 %
0.001 Lambda/bit	0	0 to 0.255 Lambda
0.25 kPa/bit	50	50 to 113.75 kPa
0.392157 %/bit	0	0 to 100 %
1 Deg C/bit	-50.00	-50 to 205 C
1 Deg C/bit	-50.00	-50 to 205 C
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
##### = Mode 1, ##### = Mode 2		
##### = Mode 3, ##### = Mode 4		
##### = Mode 1, ##### = Mode 2		
##### = Mode 3, ##### = Mode 4		
##### = Mode 1, ##### = Mode 2		
0 = false, 1 = true	0	0/1

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
0.01465 AFR/bit	0	0 to 3.73575 AFR
0.073825 inHg/bit	14.76	14.76 to 33.5903 inHg
<==	<==	<==
1.8 Deg F/bit	-58	-58 to 401 F
1.8 Deg F/bit	-58	-58 to 401 F
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x01F0A008

Sources: Infinity EMS (30-71XX) V96.1+

200ms continuous (5hz)

Byte	Bit	Bitmask	Label	Data Type
0			Trans Temp	8 bit unsigned
1-2			SparkCut [RPM]	16 bit unsigned
3-4			FuelCut [RPM]	16 bit unsigned
5			2StepTargetFuel [RPM]	8 bit unsigned
6			2StepTargetSpark [RPM]	8 bit unsigned
7	0 (lsb)	0	ErrorThrottle	Boolean
	1	2	ErrorCoolantTemp	Boolean
	2	4	ErrorFuelPressure	Boolean
	3	8	ErrorOilPressure	Boolean
	4	16	ErrorEBP	Boolean
	5	32	ErrorMAP	Boolean
	6	64	ErrorAirTemp	Boolean
	7 (msb)	128	ErrorBaro	Boolean

SI Units (C / kPa / kph / Lambda)		
Scaling	Offset	Range
1 Deg C/bit	-50.00	-50 to 205 C
0.39063 rpm/bit	0	0 to 25,599.94 RPM
0.39063 rpm/bit	0	0 to 25,599.94 RPM
100 rpm/bit	0	0 to 25,500 RPM
100 rpm/bit	0	0 to 25,500 RPM
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1
0 = false, 1 = true	0	0/1

US Units (F / PSI / MPH / AFR)		
Scaling	Offset	Range
1.8 Deg F/bit	-58	-58 to 401 F
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x01F0A009

Sources: Infinity EMS (30-71XX) V96.1+

40ms continuous (25hz)

Byte	Bit	Bitmask	Label	Data Type
0-1			Brake Pressure	16 bit unsigned
2-3			Steering Angle	16 bit unsigned
4-5			Launch Boost Target	16 bit unsigned
6			----	----
7			----	----

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
0.006895 Bar/bit	0	0 to 451.85 Bar
0.1 degree/bit	-3276.8	-3276.8 to 3276.7 deg
0.1 kPa/bit	0	0 to 6,553.5 kPa
----	----	----
----	----	----

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
0.1 PSig/bit	0	0 to 6553.5 PSig
<==	<==	<==
0.014504 PSI/bit	-14.6960	-14.696 to 935.81 PSig
<==	<==	<==
<==	<==	<==

Message ID: 0x000A0000

Sources: AEM Vehicle Dynamics Module (30-2203)

100ms continuous (10hz)

Byte	Bit	Bitmask	DBC Label	Data Type
0-3			GPS_Latitude	32 bit float
4-7			GPS_Longitude	32 bit float

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
Degrees reference WGS-84 datum North is positive	0	+90.00 (north) to -90.00 (south) Degrees
Degrees reference WGS-84 datum East is positive	0	+180.00 (east) to -180.00 (west) Degrees

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
<==	<==	<==
<==	<==	<==

Message ID: 0x000A0001

Sources: AEM Vehicle Dynamics Module (30-2203)

100ms continuous (10hz)

Byte	Bit	Bitmask	DBC Label	Data Type
0-1			GPS_Speed	16 bit unsigned
2-3			GPS_Altitude	16 bit signed
4-5			GPS_Course	16 bit unsigned
6			GPS_Satellite_Count	8 bit unsigned
7			GPS_Valid	8 bit unsigned

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
0.01609344 kph/bit	0	0 to 1054.684 kph
0.3048 meter/bit	0	-9,987.7 to 9,987.4 meters
0.01 deg/bit	0	0 to 655.35 degrees
1	0	0 to 255
1	0	0 to 255

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
0.01 mph/bit	0	0 to 655.35 MPH
1 ft/bit	0	-32,768 to 32,767 Feet
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x000A0002

Sources: AEM Vehicle Dynamics Module (30-2203)

200ms continuous (5hz)

Byte	Bit	Bitmask	DBC Label	Data Type
0			GPS_Valid	8 bit unsigned
1			GPS_Year	8 bit unsigned
2			GPS_Month	8 bit unsigned
3			GPS_Day	8 bit unsigned
4			GPS_Debug_Flags	8 bit unsigned
5			GPS_Hours	8 bit unsigned
6			GPS_Minutes	8 bit unsigned
7			GPS_Seconds	8 bit unsigned

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
0 = N/G, 1 = OK	0	0-255
1	2000	2000-2255 Years UTC
1	0	0-255 Months UTC
1	0	0-255 Days UTC
1	0	0-255
1	0	0-255 Hours UTC
1	0	0-255 Minutes UTC
1	0	0-255 Seconds UTC

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==

Mess 0x000A0003

Sources: AEM Vehicle Dynamics Module (30-2203)

10ms continuous (100hz)

Byte	Bit	Bitmask	DBC Label	Data Type
0-1			X_Axis_Accel	16 bit signed
2-3			Y_Axis_Accel	16 bit signed
4-5			Z_Axis_Accel	16 bit signed
6			-	8 bit unsigned
7			-	8 bit unsigned

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
0.0002441406 g/bit	0	-8g to +8g
0.0002441406 g/bit	0	-8g to +8g
0.0002441406 g/bit	0	-8g to +8g
1	0	---
1	0	---

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==

Message ID: 0x000A0004

Sources: AEM Vehicle Dynamics Module (30-2203)

10ms continuous (100hz)

Byte	Bit	Bitmask	DBC Label	Data Type
0-1			X_Axis_Yaw_Rate	16 bit signed
2-3			Y_Axis_Yaw_Rate	16 bit signed
4-5			Z_Axis_Yaw_Rate	16 bit signed
6			-	8 bit unsigned
7			-	8 bit unsigned

SI Units (C / kPa / kph / Lambda)

Scaling	Offset	Range
0.01525879 deg/s/bit	0	-500 deg/s to +500 deg/s
0.01525879 deg/s/bit	0	-500 deg/s to +500 deg/s
0.01525879 deg/s/bit	0	-500 deg/s to +500 deg/s
1	0	---
1	0	---

US Units (F / PSI / MPH / AFR)

Scaling	Offset	Range
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==
<==	<==	<==