

# Instruction Manual



## Infinity Series 3 Marine Adapter MEFI4 30-3829



### **STOP!**

**THIS PRODUCT HAS LEGAL RESTRICTIONS.**  
**READ THIS BEFORE INSTALLING/USING!**

**WARNING!** THIS IS A RACE ONLY PRODUCT MANUFACTURED AND SOLD FOR INSTALLATION ON VEHICLES DESIGNED TO BE USED SOLELY FOR COMPETITION PURPOSES. ONCE THIS PART IS INSTALLED, THE VEHICLE MAY NEVER BE USED, OR REGISTERED OR LICENSED FOR USE, ON A PUBLIC ROAD OR HIGHWAY. IF YOU INSTALL THIS PART ON YOUR VEHICLE AND USE THE VEHICLE ON A PUBLIC ROAD OR HIGHWAY, YOU WILL VIOLATE THE CLEAN AIR ACT AND MAY BE SUBJECT TO PERSONAL CIVIL OR CRIMINAL LIABILITY, INCLUDING FINES OF UP TO \$4,819 PER DAY.

IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IF THIS PRODUCT WAS PURCHASED IN ERROR, DO NOT INSTALL AND/OR USE IT. THE PURCHASER MUST ARRANGE TO RETURN THE PRODUCT FOR A FULL REFUND.

THIS POLICY ONLY APPLIES TO INSTALLERS AND/OR USERS WHO ARE LOCATED IN THE UNITED STATES; HOWEVER CUSTOMERS WHO RESIDE IN OTHER COUNTRIES SHOULD ACT IN ACCORDANCE WITH THEIR LOCAL LAWS AND REGULATIONS.

### **WARNING!**

**Improper installation and/or adjustment of this product can result in major engine/vehicle damage. For technical assistance visit our dealer locator to find a professional installer/tuner near you.**

**Note: AEM holds no responsibility for any engine damage or personal injury that results from the misuse of this product, including but not limited to injury or death.**

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## Introduction

General Motors Powertrain introduced the Marine Electronic Fuel Injection (MEFI) system in 1992. The fourth generation of the GM MEFI system is known as the MEFI-4 was introduced around 2004.

***Double Click on the following image to open a copy of the original brochure.***



The AEM 30-3829 adapter harness is designed to adapt an Infinity Series 3 ECU to an existing MEFI-4 engine harness. The Infinity Series 3 ECU and 30-3829 adapter harness combination will not solve existing problems. AEM recommends checking your engine for existing diagnostic trouble codes before installing the new AEM products. A basic list of diagnostic codes is shown below. More detailed information can be found in the following manual. ***Double Click on the following image to open a copy of the diagnostic manual.***



Diagnostic Trouble Code (DTC) Table

DTC	Description
DTC 14	Engine Coolant Temperature (ECT) Sensor Circuit. Coolant Sensor Voltage High. (Low Temperature Indicated)
DTC 15	Engine Coolant Temperature (ECT) Sensor Circuit. Coolant Sensor Voltage Low. (High Temperature Indicated)
DTC 21	Throttle Position (TP) Sensor Circuit. Throttle Position Sensor Skewed High.
DTC 21	Throttle Position (TP) Sensor Circuit. Throttle Position Sensor Voltage High.
DTC 22	Throttle Position (TP) Sensor Circuit. Throttle Position Sensor Voltage Low.
DTC 23	Intake Air Temperature (IAT) Sensor Circuit. Manifold Temperature Sensor Voltage High. (Low Temperature Indicated)
DTC 25	Intake Air Temperature (IAT) Sensor Circuit. Manifold Temperature Sensor Voltage Low. (High Temperature Indicated)
DTC 33	Manifold Absolute Pressure (MAP) Sensor Circuit. Manifold Pressure Sensor Voltage High.
DTC 34	Manifold Absolute Pressure (MAP) Sensor Circuit. Manifold Pressure Sensor Voltage Low.
DTC 41	EST Fault - EST A Fault. (Cylinder/Coil #1) or (5.0/5.7L Ignition Control Circuit)
DTC 41	EST Fault - EST B Fault. (Cylinder/Coil #8)
DTC 41	EST Fault - EST C Fault. (Cylinder/Coil #7)
DTC 41	EST Fault - EST D Fault. (Cylinder/Coil #2)
DTC 41	EST Fault - EST E Fault. (Cylinder/Coil #6)
DTC 41	EST Fault - EST F Fault. (Cylinder/Coil #5)
DTC 41	EST Fault - EST G Fault. (Cylinder/Coil #4)
DTC 41	EST Fault - EST H Fault. (Cylinder/Coil #3)
DTC 44	ESC System Cannot Detect Knock. Knock Sensor (KS) 1 Circuit Inactive.
DTC 44	ESC System Cannot Detect Knock. Knock Sensor (KS) 2 Circuit Inactive. (6.0/8.1L only)
DTC 51	ECM Calibration Checksum Failure.
DTC 81	Exhaust Temperature Switch Circuit. (If Applicable) * See Note. Oil/CAT Low. (High Exhaust Temperature Indicated - $248^{\circ} \pm 5^{\circ} \text{F}$ .)
DTC 81	Optional CAN BUS 3-wire Oil Pressure Sensor Circuit (If Applicable). Oil/CAT Low. (Low Oil Pressure Indicated - $< 10 \text{ psi}$ )
DTC 81	Crankshaft Position (CKP) Sensor Circuit Fault. Crank Signal Fault. (Hard or No Start, Backfire, No Power)
DTC 81	Camshaft Position (CMP) Sensor Circuit Fault. CAM Signal Fault. (No Symptom)
DTC 81	DEPSPWR Circuit. DEPSPWR Out of Range. (Hard or No Start, No Symptom)
DTC 81	5 Volt Reference Circuit. 5 Volt Reference Malfunction. (Hard Start, Rough, Rich Exhaust)
DTC 81	Fuel Pump Relay Circuit. Fuel Pump Low/Open. (No Fuel Pump Operation)
DTC 81	Fuel Pump Relay Circuit. Fuel Pump High. (No Fuel Pump Operation)
DTC 81	Injector Driver A Circuit. Inj A High. [Cylinders 1,4,6,7 (6.0/8.1L) / Cylinders 2,3,5,8 (5.0/5.7L)]
DTC 81	Injector Driver A Circuit. Inj A Low/Open. [Cylinders 1,4,6,7 (6.0/8.1L) / Cylinders 2,3,5,8 (5.0/5.7L)]
DTC 81	Injector Driver B Circuit. Inj B High. [Cylinders 2,3,5,8 (6.0/8.1L) / Cylinders 1,4,6,7 (5.0/5.7L)]
DTC 81	Injector Driver B Circuit. Inj B Low/Open. [Cylinders 2,3,5,8 (6.0/8.1L) / Cylinders 1,4,6,7 (5.0/5.7L)]

\* NOTE: Exhaust Temperature Switches **ARE NOT** used on engines using the 3-wire CAN BUS Oil Pressure Sensor. If a DTC 81 OIL/CAT trouble code is displayed on your scan tool, verify your engine configuration to determine which DTC 81 OIL/CAT diagnostic procedure to perform.

## Recommended Accessories

The Series 3 Infinity ECU does not have an onboard UEGO controller. The following products are recommended for accurate lambda measurements and control.

### 30-0300 / X-Series Wideband UEGO AFR Sensor Controller Gauge



### 30-0310 / X-Series Inline Wideband UEGO AFR Controller



## ECU Connectors

The Infinity ECUs use the MX123 Sealed Connection System from Molex. AEM strongly recommends that users become familiar with the proper tools and procedures before attempting any modifications or additions to these connector housings. The entire Molex user manual can be downloaded direct from

Molex at [http://www.molex.com/mx\\_upload/family/MX123UserManual.pdf](http://www.molex.com/mx_upload/family/MX123UserManual.pdf)

## Harness Installation Tips

### FOR AUTOMOTIVE APPLICATIONS OF MARINE MEFI HARNESS:

In order for cooling fans to function via Infinity Series 3 ECU control, **Pin J1-23** of the **FACTORY HARNESS** must be moved to **Pin J1-22**. Please see pinout documentation for information regarding J1 connector.

### Wiring Conventions and EMI

Some wire harness assemblies come pre-wired with all connectors, fuses, and relays needed to operate an engine. Harnesses that include a PDC generally require extension/termination of the flying leads to their appropriate devices, and additional sensors and other devices can be wired into the harness as needed for the specific application. The following guidelines should be adhered to while completing the required wiring.

A proper wiring job includes proper termination of the wire at the sensor. The wire terminal end must be moisture tight where it plugs into the sensor and it must have strong, electrically sound terminals. The preferred method of securing a wire to a terminal is to use a crimp terminal with NO solder. It is important to use the proper crimping tool for sound terminal construction. Plastic terminal plugs must have moisture tight seals. Inspect each plug to make sure the seals are in place. Di-electric grease can be added in the terminal slots to further aid in corrosion resistance.

If a splice into a wire must be made and no solder-less terminals are available, then you must properly solder the splice.

Noise can be a serious problem and can cause intermittent misfiring of the engine. Every precaution should be taken to prevent interference to the ECU's operation. Resistive plug leads are REQUIRED.

To eliminate or reduce the chance of EMI, wires that carry high current must run in twisted pairs. An example of this would be the power leads from a multiple spark ignition system. These ignition systems can carry up to 100 amps for a couple milliseconds at the time of discharge, which induces a strong magnetic field in close proximity of the wires.

The routing of the wire loom is critical to EFI system performance and safety. The following safety considerations should be made when installing the wire loom:

- Heat protection: the loom should be placed away from or insulated from sources of heat. The obvious item(s) that should be avoided are the exhaust manifolds, EGR delivery tubes, and turbochargers. If it is absolutely necessary to route a wire in close proximity to any of these items, then a suitable insulator must be used. Reflective foil insulators should be used on all harness lengths that are routed in close proximity to extreme sources of heat.
- Noise suppression: do not route wires near HT (High Tension) leads such as ignition wires from a distributor or a CNP (Coil Near Plug) ignition system. For coil-on-plug ignition systems this is not as critical.
- Shielding of important signal input wires such as Crank Sensor input, Cam Sensor input, and Knock Sensor input should be addressed when assembling a harness. VR (Variable Reluctance) sensors, also known as MAG sensors, are 2 wire sensors that generate a voltage as the frequency increases of the trigger wheel. These wires **MUST** be wired in a twisted pair configuration with a shield. The shield should be terminated to chassis ground at **ONE END** of the lead while the other end is left unterminated. Failure to shield these wires with proper shield

termination will result in noise on the signal and subsequent errors in the Infinity ECU. Hall Sensors (3 Wire) are not as susceptible to noise, but care should be taken into account when routing these wires.

- Moving component protection: route wires away from moving components such as fans, the blower belt, or the throttle linkage. Also, make sure the wires are not under any strain when the engine is at full deflection on the motor mounts. This may be hard to test, ensure that there is at least a few inches of slack in harnessing between engine-mounted and chassis-mounted components. The use of Zip Ties is an acceptable method of securing a harness from moving components.
- Never have the wires in exposed bundles throughout the engine compartment. All wires should be covered in a protective sheathing, at minimum, plastic corrugated loom to protect harness from abrasion. Ideally, a harness should be covered in a fire-resistant sheathing rated to a minimum of 125C, or 257F.
- When utilizing CAN Bus communication devices in the harness, it is important that the CAN Hi/Lo wires are twisted at a minimum of 1 twist per inch. When terminating these wires, ensure that there is a 120 ohm terminating resistor installed between the two CAN wires at each end of the CAN Bus. If a connected device has an internal CAN terminating resistor, no external resistor is needed.
- All additional controlled devices wired into the vehicle need to be wired with appropriately sized wiring. When considering wire size requirements, the following factors should be considered: Amperage of device, length of wire, heat source near wire and component. Both positive and ground circuits require equal attention to this detail and care should be taken to choose the appropriate wire gauge. Always use a larger wire gauge if unsure of power requirements of device.
- Ensure that ground loops are completed correctly in the vehicle including: engine to chassis, chassis to battery, ECU to chassis, etc.
- Ensure that when installing any additional +12v components, all power (+12v) leads should be fused with an appropriately sized fuse. Ensure that the fuse selected does not exceed the current carrying capacity of the wire used to control the component.
- Relays should be selected so that they are capable of carrying the load of the controlled device. Ensure that the relay has enough current carrying capacity and that the fuse in the circuit does not exceed the rating of relay. Failure to address this will result in the relay becoming the fuse, rather than the fuse in the circuit.

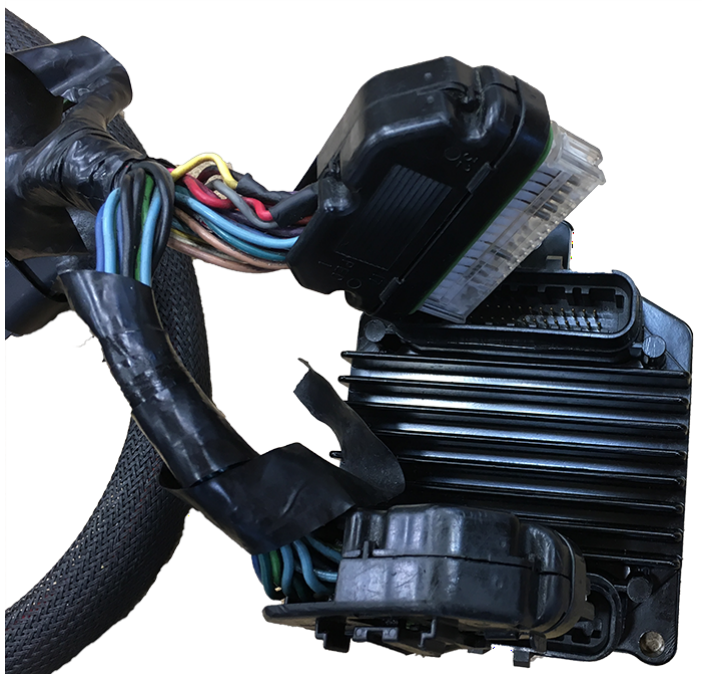
#### **Determining ECU Location**

- It is recommended that the ECU be placed in an environment that does not expose it to temperatures above 85° Celsius (160F).



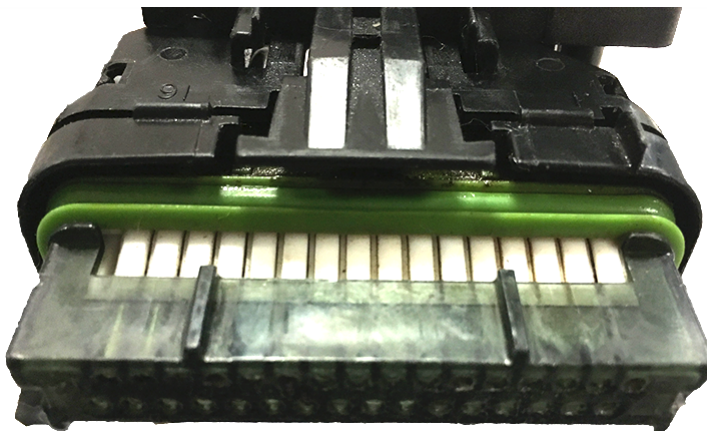
## Harness Installation

Disconnect the MEFI4 Harness from the MEFI controller. Remove the MEFI Controller.



Review of the MEFI engine harness.

J1 has a Black TPA as shown below.



J2 has a Clear TPA as shown below.

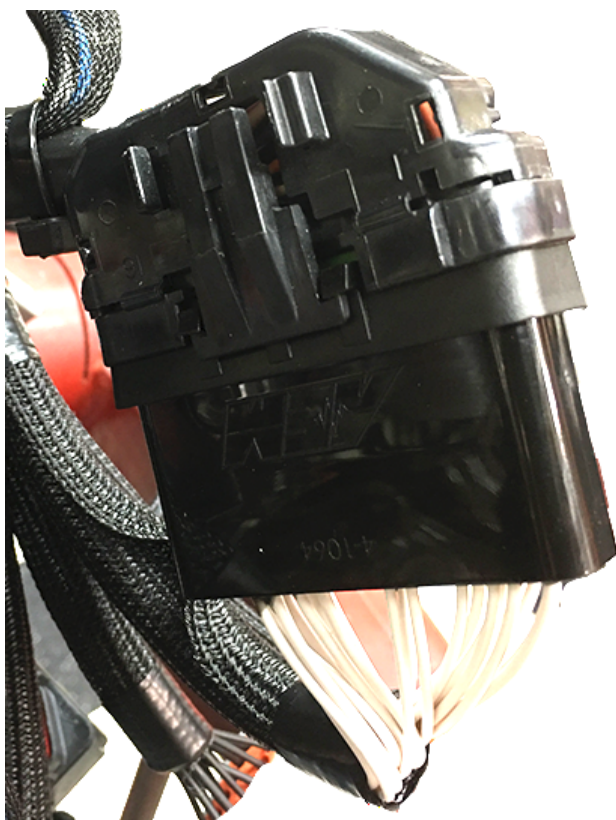


Connect J1 with the AEM adapter harness with black wires.



Connect J2 with the AEM adapter harness with white wires.

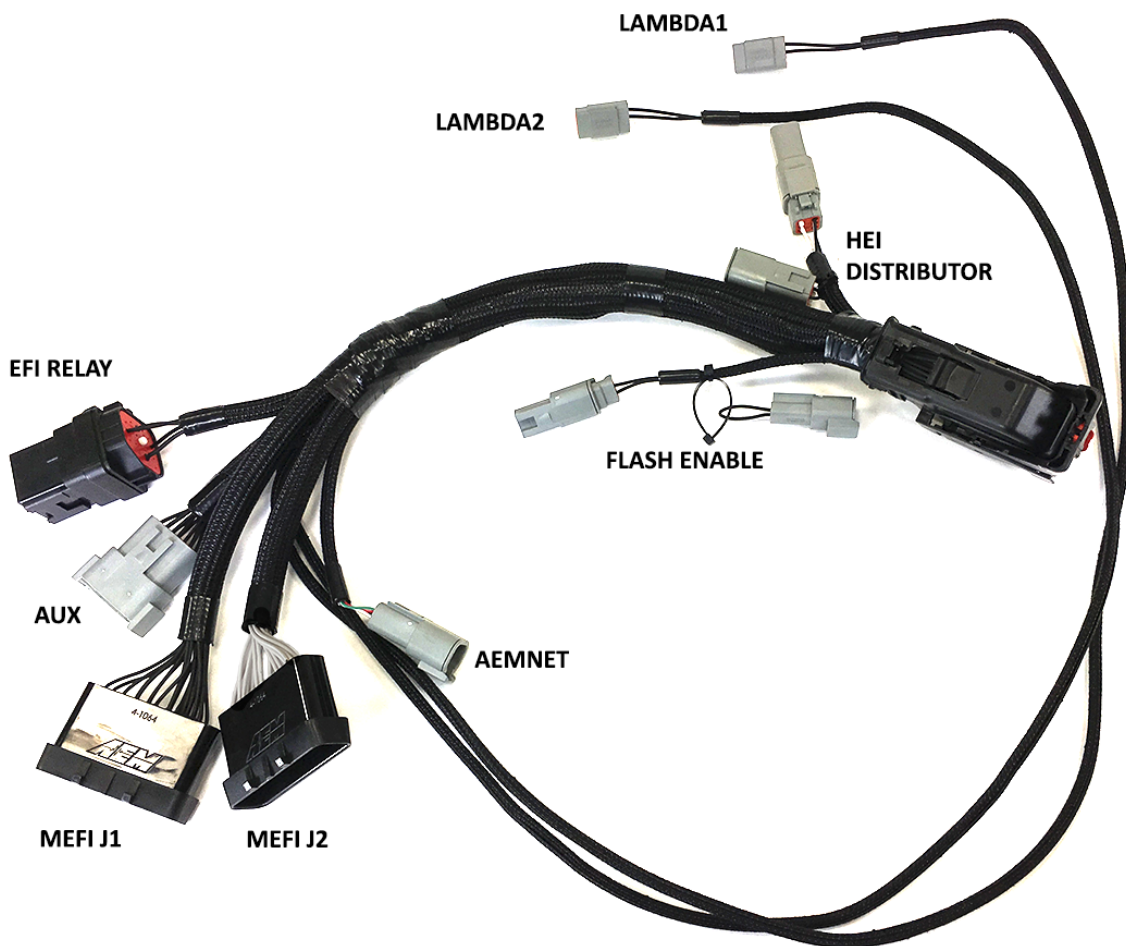




Connect the 73 Pin connector to the Series 3 ECU.



## Harness Layout



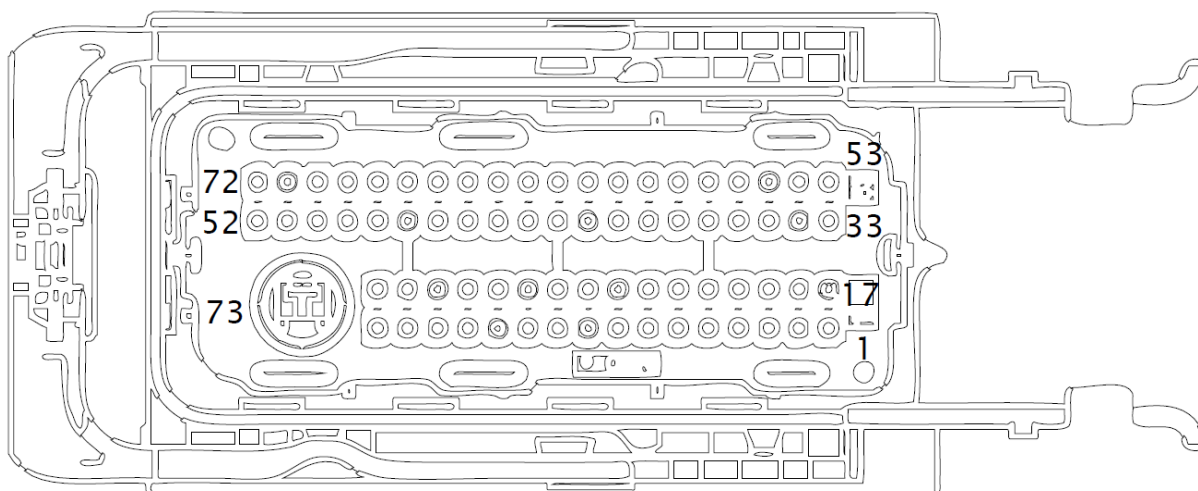
Connector	Installation
MEFI J1	Connect to MEFI J1 with BLACK TPA
MEFI J2	Connect to MEFI J2 with Clear TPA
AUX	Optional I/O features. See pinout.
AEMNet	Optional CAN
Flash Enable	Optional - Sets ECU to flash mode manually
EFI Relay	Power distribution relay
Lambda1	0-5V analog to ECU Analog 18 input
Lambda2	0-5V analog to ECU Analog 19 input
HEI Distributor	HEI distributor interface. Default setup for HEI. Remove and replace with jumper for non-HEI setups

## Harness Pinout

	Infinity Connector C1			73 Way F Receptacle 0.64 2.8 Series Sealed (GY)	
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
C1-1	WHT	20	J2-13	COIL 5	
C1-2	WHT	20	J2-12	COIL 3	
C1-3	BLK	20	J1-16	IAC 1A	
C1-4	BLK	20	J1-30	IAC 2A	
C1-5	BLK	20	J1-15	IAC 2B	
C1-6	BLK	20	J1-15	IAC 1B	
C1-7	BLK	20	R1	MAIN RELAY CONTROL	
C1-8					
C1-9					
C1-10					
C1-11					
C1-12	WHT	22	C6-1	CAN HI	
C1-13	GRN	22	C6-2	CAN LO	
C1-14	WHT	20	J2-31	COIL 1	
C1-15	WHT	20	J2-28	COIL 4	
C1-16	WHT	20	J2-29	COIL 6	
C1-17	WHT	20	J2-30	COIL 7	
C1-18	WHT	20	J2-19	IGN SWITCH IN	
C1-19	BLK	18	SP3-R	ECU +12V	
C1-20	BLK	22	J1-1	KNOCK SENSOR 2	
C1-21	BLK	22	J1-17	KNOCK SENSOR 1	
C1-22	BLK	22	SP4-R	SIG GND (ANALOG SENSOR GROUND)	
C1-23	BLK	22	C5-3	SIG GND (ANALOG SENSOR GROUND)	
C1-24	WHT	22	J2-16	CRANKSHAFT POSITION SENSOR HALL	
C1-25	WHT	22	J2-32	CAMSHAFT POSITION SENSOR HALL	
C1-26	WHT	22	J2-20	EXHAUST TEMP S/W	
C1-27	BLK	22	C5-6	DIGITAL 3 (FLEX FUEL)	
C1-28					
C1-29	BLK	22	C5-9	DIGITAL 5 (CLUTCH SWITCH)	
C1-30					

C1-31					
C1-32	WHT	20	J2-15	COIL 8	
C1-33	WHT	20	J2-14	COIL 2	
C1-34	BLK	20	SP2-R	PERM BATTERY PWR	
C1-35	BLK	18	SP3-R	RELAY POWER IN 12V	
C1-36	BLK	22	C2-1	FLASH ENABLE	
C1-37	WHT	22	J2-7	CLT TEMP	
C1-38	WHT	22	J2-21	AIR TEMP	
C1-39	BLK	22	C5-2	OIL TEMP (ANALOG TEMP 3)	
C1-40	WHT	22	J2-23	TPS	
C1-41	WHT	22	J2-8	MAP	
C1-42	BLK	22	J1-32	FUEL PRESS (ANALOG 9)	
C1-43	BLK	22	C5-11	ANALOG 10	
C1-44	WHT	22	J2-2	VCC (ANALOG SENSOR POWER +5V)	
C1-45	BLK	22	C5-4	VCC (ANALOG SENSOR POWER +5V)	
C1-46	BLK	22	C5-12	ANALOG 11	
C1-47	BLK	22	C5-5	ANALOG 13	
C1-48	BLK	22	J1-4	ANALOG 16	
C1-49	BLK	20	C3-1	ANALOG 18 (LAMBDA 1)	
C1-50	BLK	20	C4-1	ANALOG 19 (LAMBDA 2)	
C1-51	BLK	18	SP1-R	BATTERY GROUND	
C1-52					
C1-53	BLK	22	J1-8	LOWSIDE 9 (BUZZER)	
C1-54	BLK	22	J1-9	LOWSIDE 8 (ENGINE TEMP LAMP)	
C1-55	BLK	22	J1-23	LOWSIDE 7 (EOP LAMP)	
C1-56	BLK	22	J1-27	LOWSIDE 6 (MIL LAMP)	
C1-57	WHT	22	C10-11	LOWSIDE 5 (HEI BYPASS)	
C1-58					
C1-59					
C1-60					
C1-61					
C1-62	BLK	18	J1-11	INJECTOR B (PEAK AND HOLD)	
C1-63	BLK	18	J1-26	INJECTOR A (PEAK AND HOLD)	
C1-64					
C1-65					

C1-66					
C1-67					
C1-68	BLK	22	J1-14	LOWSIDE 4 (TACH)	
C1-69					
C1-70	BLK	20	C5-10	LOWSIDE 2	
C1-71	BLK	20	C5-7	LOWSIDE 1	
C1-72	BLK	18	J1-6	FUEL PUMP (LOWSIDE 0)	
C1-73	BLK	18	J1-13	BATTERY GROUND	

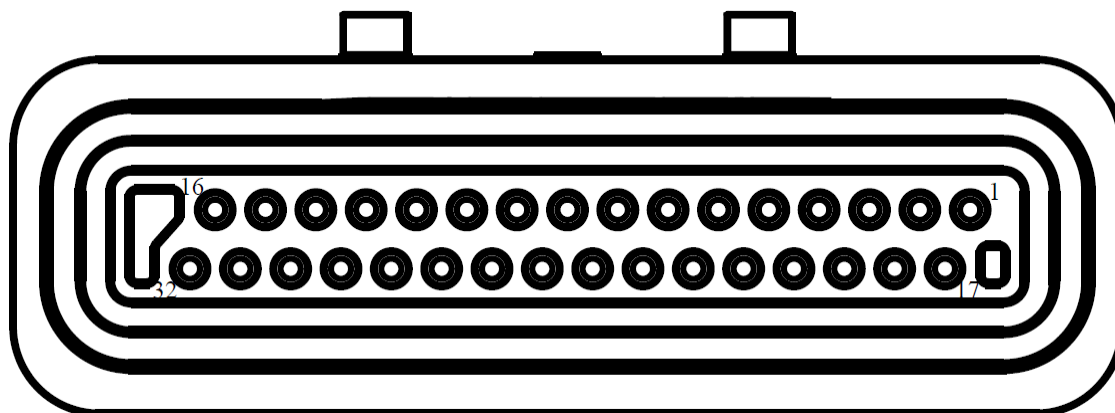


**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

	MEFI J1						
Pin	Wire Color	Gauge	Destination	AEM Function	MEFI 5.0/5.7L	MEFI 6.0/8.1L	Installer Notes
J1-1	BLK	22	C1-20	KNOCK 2		KNOCK SENSOR 2 SIGNAL	
J1-2					DIAGNOSTIC TEST TERMINAL	DIAGNOSTIC TEST TERMINAL	
J1-3							
J1-4	BLK	22	C1-48	ANALOG 16	GEN WARN 2 INPUT	GEN WARN 2 INPUT	
J1-5							
J1-6	BLK	18	C1-72	FUEL PUMP RELAY	FUEL PUMP RELAY	FUEL PUMP RELAY	
J1-7							
J1-8	BLK	22	C1-53	LOWSIDE 9	BUZZER	BUZZER	
J1-9	BLK	22	C1-54	LOWSIDE 8	CHECK GAUGES LAMP	CHECK GAUGES LAMP	



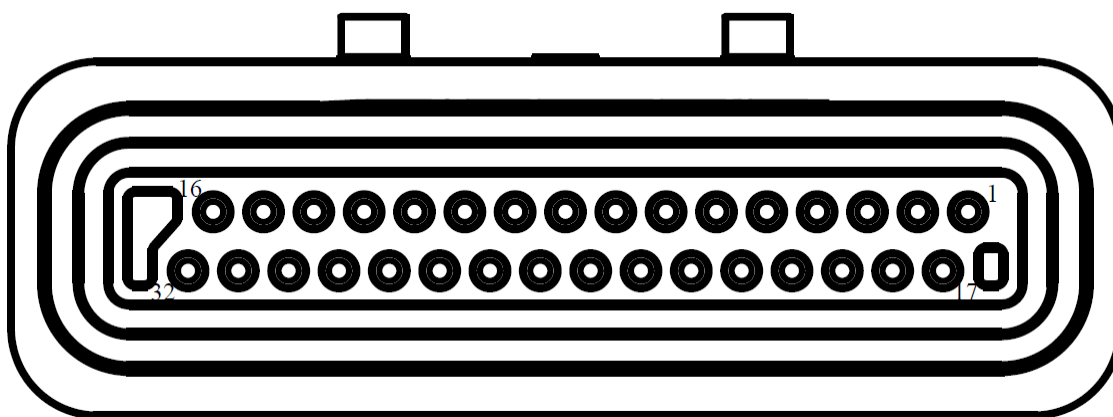
J1-10							
J1-11	BLK	18	C1-62	FUEL INJECTOR B	FUEL INJECTOR B	FUEL INJECTOR B	
J1-12							
J1-13	BLK	18	C1-73	GROUND	ECM GROUND	ECM GROUND	
J1-14	BLK	22	C1-68	TACH	TACH OUTPUT 1	TACH OUTPUT 1	
J1-15	BLK	20	C1-5	IAC 2B	IAC COIL B LOW	IAC COIL B LOW	
J1-16	BLK	20	C1-3	IAC 1A	IAC COIL A HIGH	IAC COIL A HIGH	
J1-17	BLK	22	C1-21	KNOCK 1	KNOCK SENSOR 1 SIGNAL	KNOCK SENSOR 1 SIGNAL	
J1-18							
J1-19							
J1-20							
J1-21							
J1-22							
J1-23	BLK	22	C1-55	LOWSIDE 7	GEN WARN 2 LAMP	GEN WARN 2 LAMP	
J1-24							
J1-25							
J1-26	BLK	18	C1-63	INJECTOR A	INJECTOR A	INJECTOR A	
J1-27	BLK	22	C1-56	LOWSIDE 6	MALFUNCTION INDICATOR LAMP	MALFUNCTION INDICATOR LAMP	
J1-28	BLK	18	SP1-L	GROUND	ECM GROUND	ECM GROUND	
J1-29	BLK	18	SP1-L	GROUND	ECM GROUND	ECM GROUND	
J1-30	BLK	20	C1-4	IAC 2A	IAC COIL A LOW	IAC COIL A LOW	
J1-31	BLK	20	C1-6	IAC 1B	IAC COIL B HIGH	IAC COIL B HIGH	
J1-32	BLK	22	C1-42	FUEL PRESSURE			



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

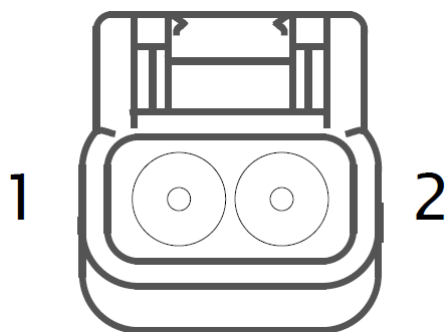
	MEFI J2						
Pin	Wire Color	Gauge	Destination	Function	MEFI 5.0/5.7L	MEFI 6.0/8.1L	Installer Notes
J2-1	WHT	18	SP2-L	PERM +12V	BATTERY FEED	BATTERY FEED	
J2-2	WHT	22	C1-44	VREF +5V	5 VOLT REFERENCE	5 VOLT REFERENCE	
J2-3	WHT	22	SP4-L	SENSOR GROUND	SENSOR GROUND	SENSOR GROUND	
J2-4							
J2-5							
J2-6							
J2-7	WHT	22	C1-37	COOLANT TEMP	ECT SENSOR SIGNAL	ECT SENSOR SIGNAL	
J2-8	WHT	22	C1-41	MANIFOLD PRESSURE	MAP SENSOR SIGNAL	MAP SENSOR SIGNAL	
J2-9							
J2-10					SERIAL DATA	SERIAL DATA	
J2-11							
J2-12	WHT	20	C1-2	COIL 3		IGNITION CONTROL H	
J2-13	WHT	20	C1-1	COIL 5		IGNITION CONTROL F	
J2-14	WHT	20	C1-33	COIL 2		IGNITION CONTROL D	
J2-15	WHT	20	C1-32	COIL 8		IGNITION CONTROL B	
J2-16	WHT	22	C1-24	CRANK HALL	CRANK SENSOR SIGNAL	CRANK SENSOR SIGNAL	
J2-17	WHT	22	SP3-L	VBATT +12V	DEPSPOWER	DEPSPOWER	
J2-18	WHT	22	SP4-L	SENSOR GROUND	DEPSLO	DEPSLO	
J2-19	WHT	20	C1-18	IGNITION SWITCH	IGNITION FEED	IGNITION FEED	
J2-20	WHT	22	C1-26	DIGITAL 2		EXHAUST TEMP SWITCH INPUT	
J2-21	WHT	22	C1-38	INLET AIR TEMP	IAT SENSOR SIGNAL		
J2-22							
J2-23	WHT	22	C1-40	THROTTLE POSITION	TP SENSOR SIGNAL	TP SENSOR SIGNAL	
J2-24							
J2-25							
J2-26							
J2-27							

J2-28	WHT	20	C1-15	COIL 4		IGNITION CONTROL G	
J2-29	WHT	20	C1-16	COIL 6		IGNITION CONTROL E	
J2-30	WHT	20	C1-17	COIL 7		IGNITION CONTROL C	
J2-31	WHT	20	C1-14	COIL 1	IGNITION CONTROL	IGNITION CONTROL A	
J2-32	WHT	22	C1-25	CAM HALL	CAM SENSOR SIGNAL	CAM SENSOR SIGNAL	



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

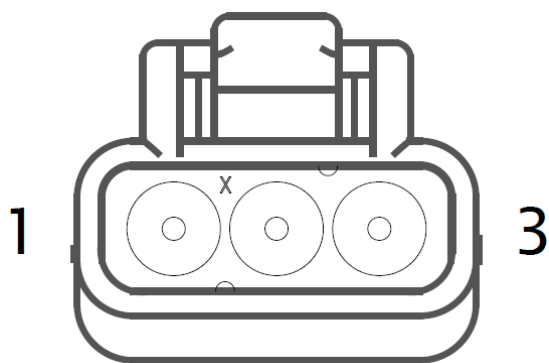
C2 - FLASH ENABLE					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
C2-1	BLK	22	C1-36	FLASH ENABLE	
C2-2	BLK	22	SP2-R	PERM +12V	



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

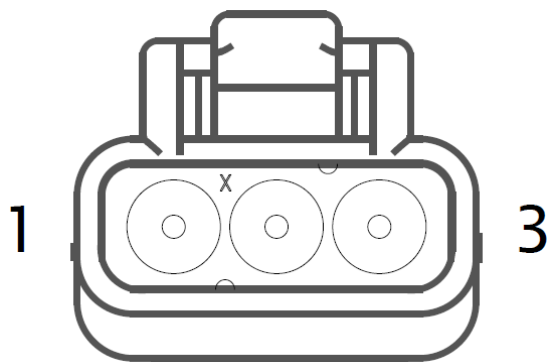
C3 - LAMBDA 1					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes

C3-1	BLK	20	C1-49	LAMBDA 1	
C3-2	BLK	20	SP4-L	SENSOR GROUND	
C3-3					



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

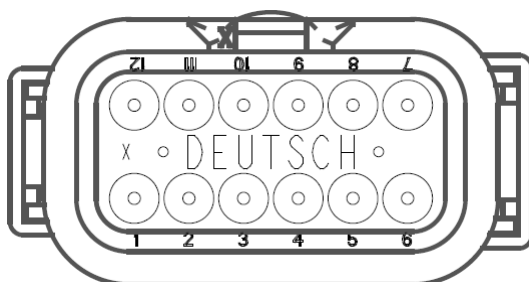
C4 - LAMBDA 2					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
C4-1	BLK	20	C1-50	LAMBDA 2	
C4-2	BLK	20	SP4-L	SENSOR GROUND	
C4-3					



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

C5 - AUX					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
C5-1	BLK	22	SP6-L	FUEL PRESSURE	
C5-2	BLK	22	C1-39	ANALOG TEMP 3	
C5-3	BLK	22	C1-23	SENSOR GROUND	

C5-4	BLK	22	C1-45	VREF +5V	
C5-5	BLK	22	C1-47	ANALOG 13	
C5-6	BLK	22	C1-27	DIGITAL 3	
C5-7	BLK	20	C1-71	LOWSIDE 1	
C5-8	BLK	18	SP3-L	VBATT +12V	
C5-9	BLK	22	C1-29	DIGITAL 5	
C5-10	BLK	20	C1-70	LOWSIDE 2	
C5-11	BLK	22	C1-43	ANALOG 10	
C5-12	BLK	22	C1-46	ANALOG 11	



**DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!**

C6 - AEMNET					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
C6-1	WHT	22	C1-12	CAN HI	
C6-2	GRN	22	C1-13	CAN LO	
C6-3	RED	22	SP3-L	VBATT +12V	
C6-4	BLK	22	SP1-L	GROUND	

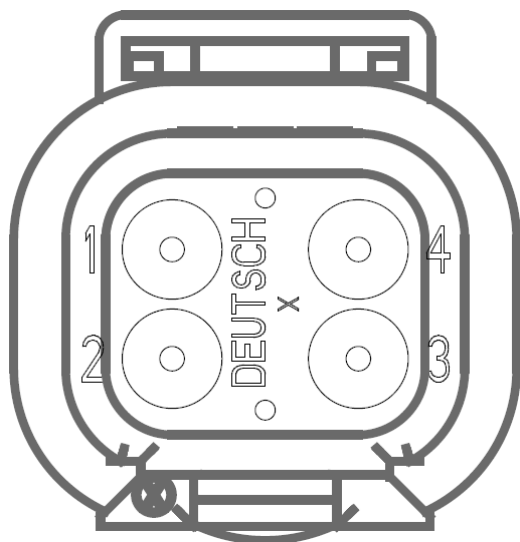


DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!

R1 - MAIN EFI RELAY					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
30	BLK	18	SP2-L	PERM +12V	
85	BLK	20	C1-7	MAIN RELAY CONTROL	
86	BLK	20	SP2-L	PERM +12V	
87	BLK	18	SP3-L	ECU +12V	
87A					

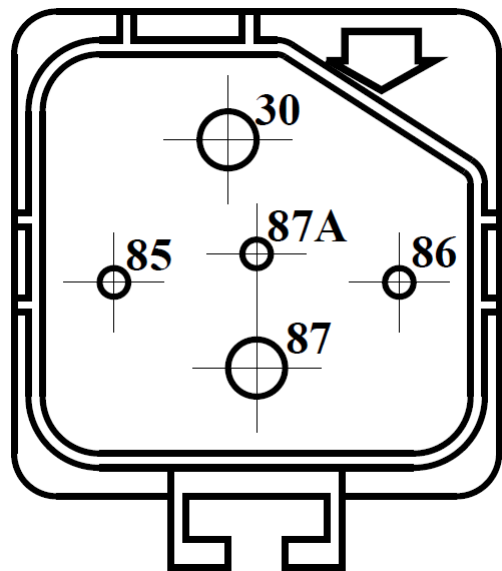


DIAGRAM AS VIEWED FROM WIRE ENTRY SIDE!



	SP1				
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	BLK	18	J1-28		
L	BLK	18	J1-29		
L	BLK	22	C6-4		
R	BLK	18	C1-51		
X					

	SP2				
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	WHT	18	J2-1		
L	BLK	18	R1-30		
L	BLK	20	R1-86		
R	BLK	20	C1-34		
R	BLK	22	C2-2		
X					

	SP3				
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	BLK	18	R1-87		
L	WHT	22	J2-17		
L	BLK	18	C5-8		
L	RED	22	C6-3		
R	BLK	18	C1-19		
R	BLK	18	C1-35		
X					

	SP4				
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	WHT	22	J2-3		
L	WHT	22	J2-18		

L	BLK	20	C4-2		
L	BLK	20	C3-2		
R	BLK	22	C1-22		
X					

SP5					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	WHT	22	J2-17		
L	WHT	22	J2-2		
L	WHT	22	C1-44		
L	WHT	22	C10-1		
X					

SP6					
Pin	Wire Color	Gauge	Destination	Function	Installer Notes
L	BLK	22	J1-32		
L	BLK	22	C5-1		
L	BLK	22	C1-42		
X					

### Infinity Series 3 ECU Pinout, 30-7113

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-1	Coil 5	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-2	Coil 3	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-3	Stepper 1A	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-4	Stepper 2A	Automotive, Programmable Stepper Driver, up to 28V and	Be sure that each internal coil of the stepper motor are properly paired

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		$\pm 1.4A$	with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-5	Stepper 2B	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-6	Stepper 1B	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-7	EFI Main Relay Switched Ground Output	0.7A max ground sink for external relay control	Will activate at key on and at key off according to the configuration settings.
C1-8	Crankshaft Position Sensor VR+	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-9	Crankshaft Position Sensor VR-		See Setup Wizard page Cam/Crank for options.
C1-10	Camshaft Position Sensor 1 VR-	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-11	Camshaft Position Sensor 1 VR+		See Setup Wizard page Cam/Crank for options.
C1-12	CANH A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-13	CANL A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-14	Coil 1	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-15	Coil 4	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-16	Coil 6	25 mA max source current	0-5V Falling edge fire. DO NOT

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-17	Coil 7	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-18	Ignition Switch	10K pulldown	Full time battery power must be available at C1-34 before this input is triggered.
C1-19	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-7 above.
C1-20	Knock Sensor 2	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-21	Knock Sensor 1	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-22	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-23	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-24	Crankshaft Position Sensor Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-25	Camshaft Position Sensor 1 Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-26	Digital 2	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-27	Dig3 [Hz] / Dig3 Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-28	Dig4 [Hz] / Dig4 Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-29	Digital 5	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-30	Dig6 [Hz] / Dig6_Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-31	Digital 7	10K pullup to 12V. Will work with ground or floating	See Setup Wizard page "Input Function Assignments" for setup

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		switches.	options.
C1-32	Coil 8	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-33	Coil 2	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-34	Battery Perm Power	Dedicated power management CPU	Full time battery power. MUST be powered before the ignition switch input is triggered (See C1-18).
C1-35	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-7 above.
C1-36	Flash Enable	10K pulldown	Not usually needed for automatic firmware updates through Infinity Tuner. If connection errors occur during update, connect 12 volts to this pin before proceeding with upgrade. Disconnect the 12 volts signal after the update.
C1-37	Analog Temp 1	12 bit A/D, 2.49K pullup to 5V	Default Coolant Temperature Input
C1-38	Analog Temp 2	12 bit A/D, 2.49K pullup to 5V	Default Air Temperature Input
C1-39	Analog Temp 3	12 bit A/D, 2.49K pullup to 5V	Default Oil Temperature Input. See Setup Wizard page "Input Function Assignments" for setup options.
C1-40	Analog 7	12 bit A/D, 100K pullup to 5V	Default primary Throttle Position sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard Set Throttle Range page for automatic min/max calibration. Monitor the Throttle [%] channel.
C1-41	Analog 8	12 bit A/D, 100K pullup to 5V	Default Manifold Pressure Sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			damage the ECU.
C1-42	Analog 9	12 bit A/D, 100K pullup to 5V	Default Fuel Pressure Sensor Input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU.
C1-43	Analog 10	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-44	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-45	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-46	Analog 11	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-47	Analog 13	12 bit A/D, 100K pullup to 5V	Default Oil Pressure Sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU.
C1-48	Analog 16	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.



Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-49	Analog 18	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-50	Analog 19	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See the Setup Wizard "Input Function Assignments" page for options.
C1-51	Battery Ground	Battery Ground	Connect directly to battery ground
C1-52	Coil 1 HO	IGBT Ignition Driver	
C1-53	Lowside 9	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-54	Lowside 8	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-55	Lowside 7	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-56	Lowside 6	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-57	Lowside 5	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.	See Setup Wizard Page "Output Function Assignment" for setup options.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		No pullup	
C1-58	Injector 8	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 8
C1-59	Injector 6	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 6
C1-60	Injector 4	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 4
C1-61	Injector 2	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 2
C1-62	Injector 2 Peak and Hold	Peak and hold, 3A max continuous	Injector 2 Peak and Hold - for use with typical throttle body injection systems
C1-63	Injector 1 Peak and Hold	Peak and hold, 3A max continuous	Injector 1 Peak and Hold - for use with typical throttle body injection systems
C1-64	Injector 1	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 1
C1-65	Injector 3	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 3
C1-66	Injector 5	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 5
C1-67	Injector 7	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 7
C1-68	Lowside 4	Lowside switch, 2A max, NO internal flyback diode.  12V pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-69	Lowside 3	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-70	Lowside 2	Lowside switch, 1.7A max, NO internal flyback diode.	See Setup Wizard Page "Output Function Assignment" for setup options.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		No pullup	
C1-71	Lowside 1	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-72	Lowside 0	Lowside switch, 2A max, NO internal flyback diode.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-73	Battery Ground	Battery Ground	Connect directly to battery ground

### Infinity Series 3 ECU Pinout, 30-7114

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-1	Coil 5	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-2	Coil 3	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-3	Stepper 1A	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-4	Stepper 2A	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-5	Stepper 2B	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.
C1-6	Stepper 1B	Automotive, Programmable Stepper Driver, up to 28V and $\pm 1.4A$	Be sure that each internal coil of the stepper motor are properly paired with the 1A/1B and 2A/2B ECU outputs. Supports Bi-Polar stepper motors only.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-7	EFI Main Relay Switched Ground Output	0.7A max ground sink for external relay control	Will activate at key on and at key off according to the configuration settings.
C1-8	Crankshaft Position Sensor VR+	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-9	Crankshaft Position Sensor VR-		See Setup Wizard page Cam/Crank for options.
C1-10	Camshaft Position Sensor 1 VR-	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-11	Camshaft Position Sensor 1 VR+		See Setup Wizard page Cam/Crank for options.
C1-12	CANH A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-13	CANL A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-14	Coil 1	25 mA max source current	0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an ignitor OR CDI that accepts a FALLING edge fire signal.
C1-15	Coil 4	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-16	Coil 6	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-17	Coil 7	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-18	Ignition Switch	10K pulldown	Full time battery power must be available at C1-34 before this input is triggered.
C1-19	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-7 above.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-20	Knock Sensor 2	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-21	Knock Sensor 1	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-22	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-23	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-24	Crankshaft Position Sensor Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-25	Camshaft Position Sensor 1 Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-26	Digital 2	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-27	Dig3 [Hz] / Dig3 Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-28	Dig4 [Hz] / Dig4 Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-29	Digital 5	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-30	Dig6 [Hz] / Dig6_Duty	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-31	Digital 7	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-32	Coil 8	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-33	Coil 2	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-34	Battery Perm Power	Dedicated power management CPU	Full time battery power. MUST be powered before the ignition switch input is triggered (See C1-18).
C1-35	Main Relay Power	12 volt power from relay	12 volt power from relay. Relay must

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
	Input		be controlled by +12V Relay Control signal, pin C1-7 above.
C1-36	Flash Enable	10K pulldown	Not usually needed for automatic firmware updates through Infinity Tuner. If connection errors occur during update, connect 12 volts to this pin before proceeding with upgrade. Disconnect the 12 volts signal after the update.
C1-37	Analog Temp 1	12 bit A/D, 2.49K pullup to 5V	Default Coolant Temperature Input
C1-38	Analog Temp 2	12 bit A/D, 2.49K pullup to 5V	Default Air Temperature Input
C1-39	Analog Temp 3	12 bit A/D, 2.49K pullup to 5V	Default Oil Temperature Input. See Setup Wizard page "Input Function Assignments" for setup options.
C1-40	Analog 7	12 bit A/D, 100K pullup to 5V	Default primary Throttle Position sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard Set Throttle Range page for automatic min/max calibration. Monitor the Throttle [%] channel.
C1-41	Analog 8	12 bit A/D, 100K pullup to 5V	Default Manifold Pressure Sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU.
C1-42	Analog 9	12 bit A/D, 100K pullup to 5V	Default Fuel Pressure Sensor Input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU.
C1-43	Analog 10	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-44	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-45	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-46	Analog 11	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-47	Analog 13	12 bit A/D, 100K pullup to 5V	Default Oil Pressure Sensor input.  0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU.
C1-48	Analog 16	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-49	Analog 18	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See Setup Wizard page "Input Function Assignments" for setup options.
C1-50	Analog 19	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. See the Setup Wizard "Input Function Assignments" page for options.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-51	Battery Ground	Battery Ground	Connect directly to battery ground
C1-52	Coil 1 HO	IGBT Ignition Driver	Connect directly to coil primary negative. Coil power should be provided by a source switched by the ECU controlled EFI main relay.
C1-53	Lowside 9	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-54	Lowside 8	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-55	Lowside 7	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-56	Lowside 6	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-57	Lowside 5	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-58	Injector 8	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 8
C1-59	Injector 6	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 6
C1-60	Injector 4	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 4
C1-61	Injector 2	For use with high impedance	Injector 2



Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		(10-15 ohms) injectors only, 1.7A max.	
C1-62	Not used		
C1-63	Not used		
C1-64	Injector 1	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 1
C1-65	Injector 3	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 3
C1-66	Injector 5	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 5
C1-67	Injector 7	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Injector 7
C1-68	Lowside 4	Lowside switch, 2A max, NO internal flyback diode.  12V pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-69	Lowside 3	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-70	Lowside 2	Lowside switch, 1.7A max, NO internal flyback diode.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-71	Lowside 1	Lowside switch, 2A max with internal flyback diode. Inductive load should NOT have full time power.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-72	Lowside 0	Lowside switch, 2A max, NO internal flyback diode.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-73	Battery Ground	Battery Ground	Connect directly to battery ground

## 12 Month Limited Warranty

Advanced Engine Management Inc. warrants to the consumer that all AEM High Performance products will be free from defects in material and workmanship for a period of twelve (12) months from date of the original purchase. Products that fail within this 12-month warranty period will be repaired or replaced at AEM's option, when determined by AEM that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of the AEM part. In no event shall this warranty exceed the original purchase price of the AEM part nor shall AEM be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product. Warranty claims to AEM must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12-month warranty period. Improper use or installation, accident, abuse, unauthorized repairs or alterations voids this warranty. AEM disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM. Warranty returns will only be accepted by AEM when accompanied by a valid Return Merchandise Authorization (RMA) number. Product must be received by AEM within 30 days of the date the RMA is issued.

UEGO oxygen sensors are considered wear items and are not covered under warranty.

Please note that before AEM can issue an RMA for any electronic product, it is first necessary for the installer or end user to contact the EMS tech line at 1-800-423-0046 to discuss the problem. Most issues can be resolved over the phone. Under no circumstances should a system be returned or a RMA requested before the above process transpires.

AEM will not be responsible for electronic products that are installed incorrectly, installed in a non-approved application, misused, or tampered with.

Any AEM electronics product can be returned for repair if it is out of the warranty period. There is a minimum charge of \$50.00 for inspection and diagnosis of AEM electronic parts. Parts used in the repair of AEM electronic components will be extra. AEM will provide an estimate of repairs and receive written or electronic authorization before repairs are made to the product.