

# Instruction Manual



## 30-3809 Universal V8 Harness System User Manual



### STOP!

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

THIS PRODUCT MAY BE USED SOLELY ON VEHICLES USED IN SANCTIONED COMPETITION WHICH MAY NEVER BE USED UPON A PUBLIC ROAD OR HIGHWAY, UNLESS PERMITTED BY SPECIFIC REGULATORY EXEMPTION. (VISIT THE "EMISSIONS" PAGE AT [HTTP://WWW.SEMASAN.COM/EMISSIONS](http://www.semasan.com/EMISSIONS) FOR STATE BY STATE DETAILS.)

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:** This installation is not for the tuning novice! Use this system with **EXTREME** caution! The AEM Infinity Programmable EMS allows for total flexibility in engine tuning. Misuse or improper tuning of this product can destroy your engine! If you are not well versed in engine dynamics and the tuning of engine management systems **DO NOT** attempt the installation. Refer the installation to an AEM-trained tuning shop or call 800-423-0046 for technical assistance.

**NOTE:** All supplied AEM calibrations, Wizards and other tuning information are offered as potential starting points only. **IT IS THE RESPONSIBILITY OF THE ENGINE TUNER TO ULTIMATELY CONFIRM IF THE**

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Document Build 8/2/2016

## Introduction

Some harness user manuals contain active hyperlinks that point to specific sections or even launch additional documents such as wiring diagrams. Recommend viewing this document electronically to take advantage of all features.

Several universal wiring harness options are available for Infinity products. They range in complexity from simple plug and pin kits to complete engine harness assemblies that include power distribution centers. Custom wiring harness projects should only be undertaken by experienced harness builders. If in doubt, please contact AEM for recommendations.

### **30-3805 Universal V8 harness system for Infinity Series 7**

The Infinity Universal V8 Harness system consists of a universal core harness and optional application specific extensions. It was designed with flexibility in mind. The harness system includes many features and it can be used in many different applications.

### **30-3809 Universal V8 harness system for Infinity Series 5**

The Infinity Universal V8 Harness system consists of a universal core harness and optional application specific extensions. It was designed with flexibility in mind. It includes throttle body and pedal interfaces for DBW applications. The harness system includes many features and it can be used in many different applications.

### **30-3705 Universal Mini Harness for Infinity Series 5**

This harness is intended to be used as a starting point by experienced harness builders. It saves time by including basic power distribution features that can be expanded to suit many application requirements. It allows the harness builder to populate the ECU connector with only the features needed by the application.

### **30-3706 Mini Flying Lead Harness for Infinity Series 5**

This harness is intended to be used as a starting point by experienced harness builders. It saves time by including flying leads that can be terminated by the harness builder at the sensor and actuator connectors.

### **30-3707 Mini Flying Lead Harness for Infinity Series 3**

This harness is intended to be used as a starting point by experienced harness builders. It saves time by including flying leads that can be terminated by the harness builder at the sensor and actuator connectors.

### **30-3702 Infinity Series 7 Mini-harness**

This harness is intended to be used as a starting point by experienced harness builders. It saves time by including basic power distribution features that can be expanded to suit many application requirements. It allows the harness builder to populate the ECU connector with only the features needed by the application. Includes 100 96" pre-terminated leads.

### **30-3703 Infinity Series 7 Mini-harness**

This harness is intended to be used as a starting point by experienced harness builders. It saves time by including basic power distribution features that can be expanded to suit many application requirements. It allows the harness builder to populate the ECU connector with only the features needed by the application.

### **30-3701 Infinity Series 7 Plug & Pin Kit**

Bare necessities to begin a custom wire harness design. Includes 73 and 56 pin Molex MX123 harness connectors, terminals and sealing plugs, main relay and relay socket.

### **30-3704 Infinity Series 5 Plug & Pin Kit**

Bare necessities to begin a custom wire harness design. Includes 80 pin Molex MX123 harness connector, terminals and sealing plugs, main relay and relay socket.

### **30-3708 Infinity Series 3 Plug & Pin Kit**

Bare necessities to begin a custom wire harness design. Includes 73 pin Molex MX123 harness connector, terminals and sealing plugs, main relay and relay socket.

***Please read the entire User Manual prior to beginning any installation.***

Extension harnesses compatible with the 3805 and 3809 V8 harness system are available.

### **30-3805-00 GM Injector Adapter Harness**

Adapter harness that mates EV1 style injectors in standard GM cylinder order (odd cylinders on one bank, even cylinders on other) to Core Harnesses.

### **30-3805-01 Ford Injector Adapter Harness**

Adapter harness that mates EV1 style injectors in standard Ford cylinder order (cylinders 1-4 on one bank, cylinders 5-8 on other) to Core Harnesses.

### **30-3805-02 Single Channel Ignition Adapter Harness**

Adapter harness that mates AEM Single Channel Coil Driver (30-2841) to 30-3805 Core Harness. Coil driver takes 5v falling edge ignition trigger signal from Infinity and outputs a 12v rising edge signal. 12v rising edge signal can either be used to trigger an inductive coil directly or trigger a single channel CDI box (MSD 6A, etc).

### **30-3805-03 VR Crank & VR Cam Adapter Harness**

Adapter harness that mates variable reluctance (VR) crank and cam sensors to Core Harnesses. Legs to each sensor are 48" long.

### **30-3805-04 VR Crank & Hall Cam Adapter Harness**

Adapter harness that mates variable reluctance (VR) crank sensor and Hall Effect cam sensor to Core Harnesses. Legs to each sensor are 48" long.

### **30-3805-05 Hall Crank & VR Cam Adapter Harness**

Adapter harness that mates Hall Effect crank sensor and variable reluctance (VR) cam sensor to Core Harnesses. Legs to each sensor are 48" long.

### **30-3805-06 Hall Crank & Hall Cam Adapter Harness**

Adapter harness that mates Hall Effect crank and cam sensors to Core Harnesses. Legs to each sensor are 48" long.

### **30-3805-07 GM Stepper Idle Control Adapter Harness**

Adapter harness that mates GM stepper idle control valve to Core Harnesses. IAC connector is flat and meant for use with later model style control valves.

### **30-3805-08 Universal PWM Idle Control Adapter Harness (For use with 30-3805 only. Not compatible with 30-3809 Core Harness)**

Flying lead to mate universal PWM idle control valve to 3805 core harnesses. Connector to connect to control valve must be provided by end user.

### **30-3805-09 GM Coil Adapter Harness - AEM High Output IGBT Smart Coils**

Adapter harness that mates AEM High Output IGBT Smart Coils (AEM p/n 30-2853) in standard GM cylinder order (odd cylinders on one bank, even cylinders on other) to Core Harnesses.

### **30-3805-10 GM Injector Adapter - EV6**

Adapter harness that mates EV6 style injectors in standard GM cylinder order (odd cylinders on one bank, even cylinders on other) to Core Harnesses.

### **30-3805-11 Ford Injector Adapter - EV6**

Adapter harness that mates EV6 style injectors in standard Ford cylinder order (cylinders 1-4 on one bank, cylinders 5-8 on other) to Core Harnesses.

### **30-3805-12 GM Coil Adapter Harness - GM "LS" Style Coils**

Adapter harness that mates GM "LS" Style Coils in standard GM cylinder order (odd cylinders on one bank, even cylinders on other) to Core Harnesses.

### **30-3805-14 Crank/Cam Signal Adapter Harness - AEM Engine Position Module (EPM), 15"**

Adapter harness that mates AEM EPM to Core Harnesses for crank/cam timing sensor inputs. 15" long for rear mounted

distributor.

**30-3805-15 Crank/Cam Signal Adapter Harness - FAST Dual Sync Distributor, 15"**

Adapter harness that mates FAST Dual Sync Distributor to Core Harnesses for crank/cam timing sensor inputs. 15" long for rear mounted distributor.

**30-3805-16 Crank/Cam Signal Adapter Harness - MSD Dual Sync Distributor, 15"**

Adapter harness that mates MSD Dual Sync Distributor to Core Harnesses for crank/cam timing sensor inputs. 15" long for rear mounted distributor.

**30-3805-17 Ford Coil Adapter Harness - AEM High Output IGBT Smart Coils**

Adapter harness that mates AEM High Output IGBT Smart Coils (AEM p/n 30-2853) in standard Ford cylinder order (cylinders 1-4 on one bank, cylinders 5-8 on other) to Core Harnesses.

**30-3805-18 Ford Coil Adapter Harness - GM "LS" Style Coils**

Adapter harness that mates GM "LS" Style Coils in standard Ford cylinder order (cylinders 1-4 on one bank, cylinders 5-8 on other) to Core Harnesses.

**30-3805-19 Crank/Cam Signal Adapter Harness - AEM Engine Position Module (EPM), 35"**

Adapter harness that mates AEM EPM to Core Harnesses for crank/cam timing sensor inputs. 35" long for front mounted distributor.

**30-3805-20 Crank/Cam Signal Adapter Harness - FAST Dual Sync Distributor, 35"**

Adapter harness that mates FAST Dual Sync Distributor to Core Harnesses for crank/cam timing sensor inputs. 35" long for front mounted distributor.

**30-3805-21 Crank/Cam Signal Adapter Harness - MSD Dual Sync Distributor, 35"**

Adapter harness that mates MSD Dual Sync Distributor to Core Harnesses for crank/cam timing sensor inputs. 35" long for front mounted distributor.

**30-3809-01 GM Throttle Body Adapter (For use with 30-3809 only. Not compatible with 30-3805 Core Harness)**

For DBW use only. Adapter harness that mates GM DBW throttle body PNs 12570790, 12580760 (or equivalent) to 3809 core harness.

**30-3809-00 GM Pedal Adapter (For use with 30-3809 only. Not compatible with 30-3805 Core Harness)**

For DBW use only. Adapter harness that mates GM DBW Pedal PN 10379038 (or equivalent) to 3809 core harness.

**30-3600 O2 Sensor Extension Harness**

Extension harness to connect AEM UEGO Wideband O2 sensor to 6 pin Deutsch DTM in Infinity Mini Harnesses (30-3702/3703) and V8 core harnesses 30-3805 and 30-3809.

**30-3601 IP67 Comms Cable**

USB Mini-B comms cable; 39" long with right angled connector and bayonet style lock.

**30-3602 IP67 Logging Cable**

USB A-to-A extension cable: 39" long with right angled connector and bayonet style lock.

## Kit Contents

- Universal V8 Core Harness
- User Instructions
- DTM 8 Way Receptacle Assembly with 8 contacts
- 2x DTM 8 Way Plug Assemblies with 8 contacts each



## 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)

## Splice Savers

Some harness assemblies include connector housings called splice savers. These are used to distribute power and ground circuits throughout the harness without requiring unreliable crimp splices within the harness. There are no external interfaces required at these connectors. Example shown below.



## Power Distribution Center

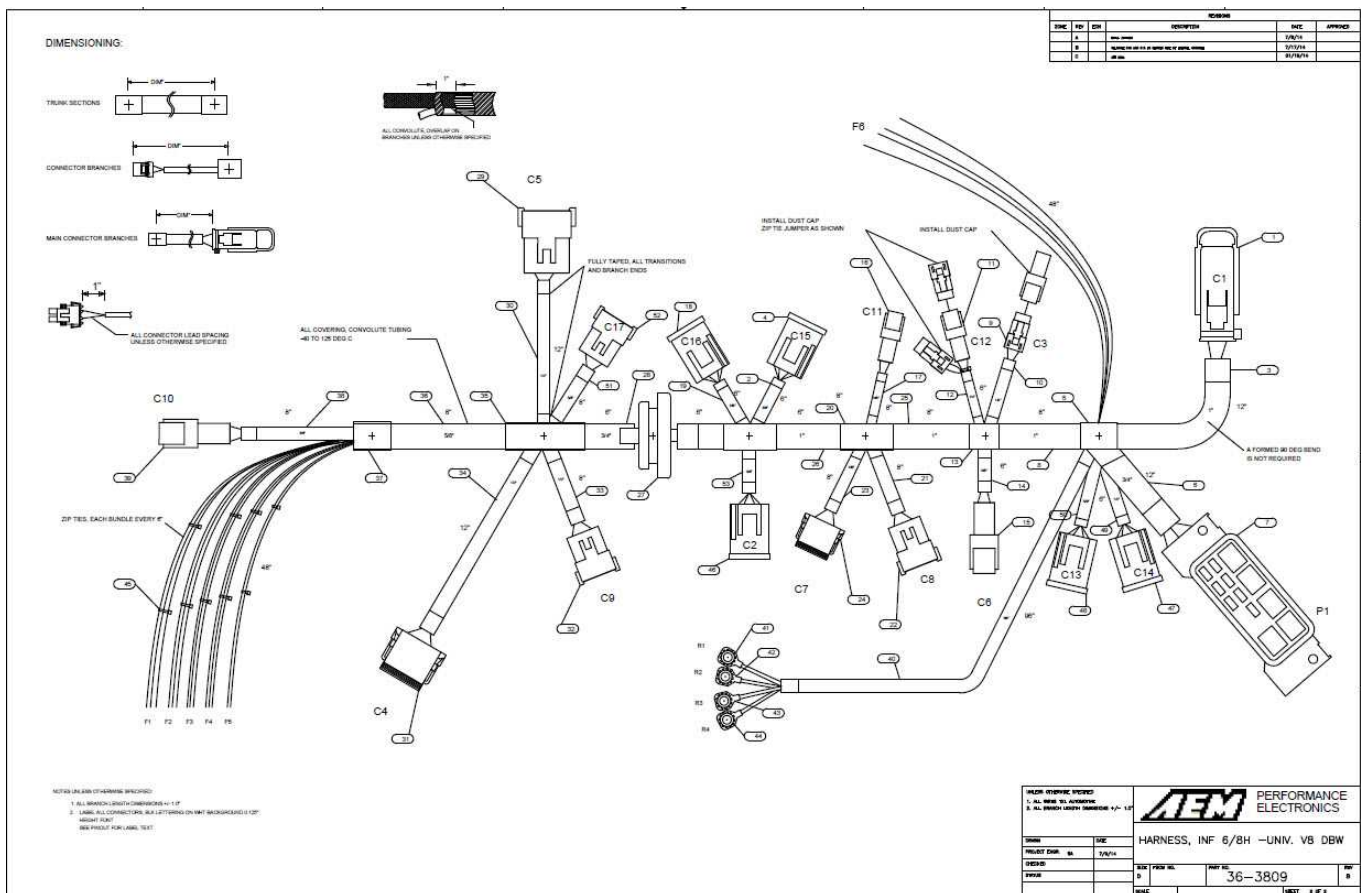
Included in the harness is a Power Distribution Center (PDC), pre-populated with the required relays and fuses for correct operation of accessory loads. The PDC comes with a bundle of flying leads that need to be properly wired as part of the installation. Flying leads include switched ignition, an optional fused +12V relay power output for auxiliary loads, and optional fused +12V relay outputs for a Fuel Pump and Coolant Fan.





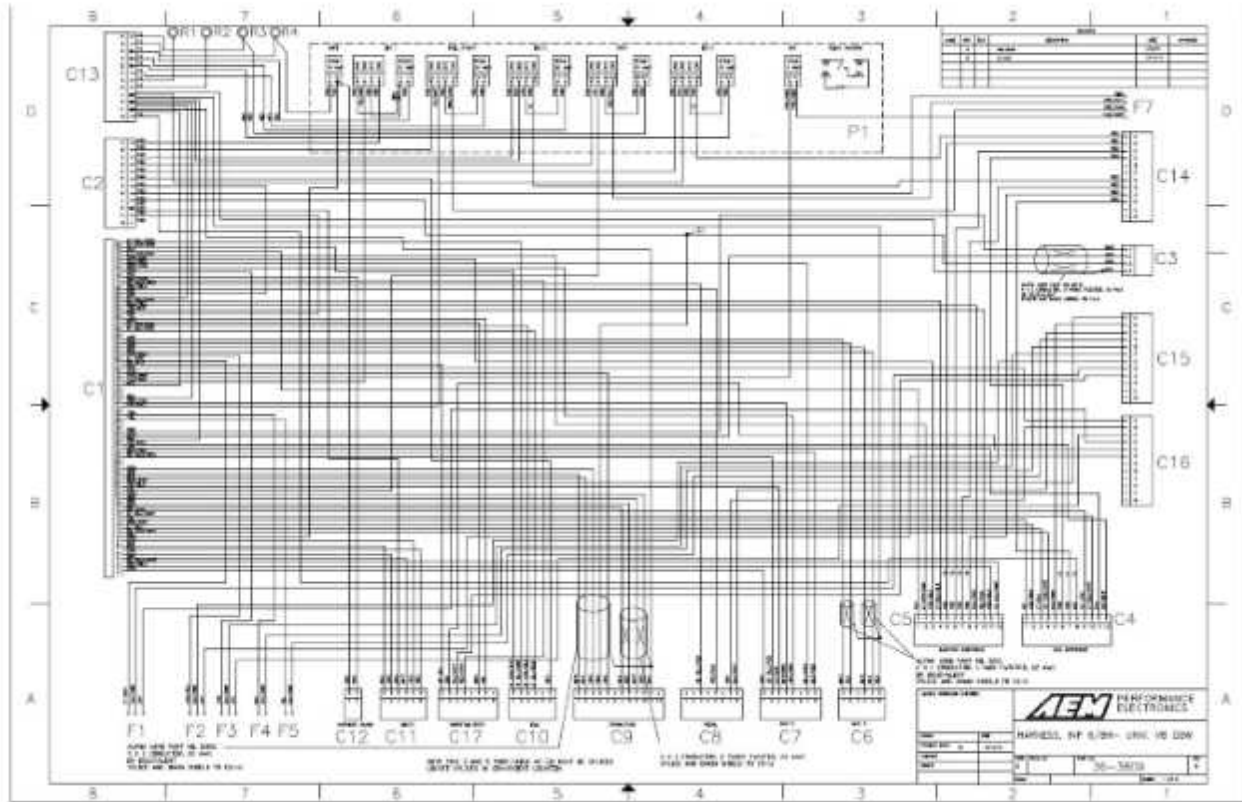


### Harness Layout



If viewing this manual electronically, an embedded document containing the above layout can be found [HERE](#)

## Harness Schematic



A schematic for the universal core harness is included [HERE](#)

## Harness Pinout

C1	Infinity Connector C1		80 Way F Receptacle 0.64 2.8 Series Sealed (BL)		
	Wire Color	Gauge	Destination		
			1	2	3
C1-01					
C1-02	GRN	20	C7-1		Low sideSw itch_5
C1-03	RED/BLK	20	C5-11		Injector 7/Low sideSw itch_6
C1-04	DK BLU/WHT	20	C5-12		Injector 8/Low sideSw itch_7
C1-05	WHT	18	C11-4		UEGO1_Heat
C1-06	GRN	20	C11-2		UEGO1_IA
C1-07	RED	20	C11-6		UEGO1_IP
C1-08	BLK	20	C11-1		UEGO1_UN
C1-09	ORG	20	C11-5		UEGO1_VM
C1-10	RED	20	P1-8		+12V_R8C_CPU



C1-11	DK GRN/WHT	20	C4-4			Coil4
C1-12	LT BLU	20	C4-3			Coil3
C1-13	RED/WHT	20	C4-2			Coil2
C1-14	VIO	20	C4-1			Coil1
C1-15	LT BLU/WHT	20	C4-10			Coil6
C1-16	DK GRN	20	C4-9			Coil5
C1-17	BLK	22	C9-7			Crank VR+
C1-18	RED	22	C9-8			Crank VR-
C1-19	WHT	22	C9-9			Cam1 VR-
C1-20	GRN	22	C9-10			Cam1 VR+
C1-21	VIO	20	P1-37			Low sideSw itch_2
C1-22	VIO/BLK	20	C7-3			Low sideSw itch_3
C1-23	BLK/WHT	20	C15-A			AGND_1
C1-24	BLK	20	C9-2			AGND_1
C1-25	WHT	20	C9-1			Crank_Hall
C1-26	GRN	20	C9-3			Cam1_Hall
C1-27						
C1-28						
C1-29	DK BLU/RED	20	C7-2			Digital_In_4
C1-30	BLK/RED	20	C7-8			Digital_In_5
C1-31	TAN	20	C4-11			COIL7/Digital_In_6
C1-32	VIO/WHT	20	C4-12			COIL8/Digital_In_7
C1-33	BLK	20	C13-K			PGND
C1-34	GRN	20	C3-2			CanL_Aout
C1-35	WHT	20	C3-1			CanH_Aout
C1-36						
C1-37						
C1-38	YEL	20	F6			Analog_In_Temp_1
C1-39	TAN	20	F5			Analog_In_Temp_2
C1-40						
C1-41	VIO/WHT	20	P1-13			Low sideSw itch_0
C1-42	WHT/RED	20	C7-4			Low sideSw itch_1
C1-43	BLK	20	C13-K			PGND
C1-44						
C1-45						
C1-46	BLK	20	C13-L			PGND
C1-47	YEL/WHT	20	P1-1			+12V_Relay_Cntrl
C1-48	PNK/WHT	20	P1-27			+12V_SW
C1-49	ORG	20	C9-5			+5V_Out_1

C1-50	GRY	20	C16-A			+5V_Out_1
C1-51	DK BLU	20	C17-1			Analog_In_7
C1-52	LT GRN	20	F1			Analog_In_8
C1-53	GRN/BLU	20	F3			Analog_In_9
C1-54	BLK	22	C6-5			VR+_In_2
C1-55	WHT	22	C6-4			VR-_In_2
C1-56	BLK	22	C6-2			VR-_In_3
C1-57	WHT	22	C6-1			VR+_In_3
C1-58						
C1-59	LT BLU/BLK	20	C10-4			Stepper_1B
C1-60	LT GRN/BLK	20	C10-3			Stepper_2B
C1-61	BRN	20	C17-6			DBW1 Motor - (+12V to close)
C1-62	YEL	20	C17-7			DBW1 Motor + (+12V to open)
C1-63	RED	20	C2-L			+12V
C1-64	YEL/BLK	20	C5-10			Injector 6
C1-65	BLU/RED	20	C5-9			Injector 5
C1-66	LT BLU/BLK	20	C5-4			Injector 4
C1-67	BLK	20	C13-L			PGND
C1-68	RED	20	C2-G			+12V
C1-69	RED/BLK	20	C8-5			Analog_In_19
C1-70	DK BLU/RED	20	C8-3			Analog_In_18
C1-71	RED/GRN	20	C7-6			Analog_In_16
C1-72	RED	20	C12-2			Flash_Enable
C1-73	GRN	20	F4			Analog_In_13
C1-74	BRN/ORG	20	C7-5			Analog_In_11
C1-75	BLU/BRN	20	C7-7			Analog_In_10
C1-76	PNK/BLK	20	C5-3			Injector 3
C1-77	LT GRN/BLK	20	C5-2			Injector 2
C1-78	BLU	20	C5-1			Injector 1
C1-79	LT GRN/WHT	20	C10-1			Stepper_2A
C1-80	LT BLU/WHT	20	C10-2			Stepper_1A

<b>C2</b>		280 METRI-PACK 12F				
<b>Pin</b>	<b>Wire Color</b>	<b>Gauge</b>	<b>Destination</b>			<b>Splice Saver - No Connection</b>
			<b>1</b>	<b>2</b>	<b>3</b>	
A	RED	12	P1-2			
B	RED	20	P1-22			
C	RED	20	P1-34			
D	RED	20	P1-46			

E	RED	20	P1-48			
F	RED	20	C10-6			
G	RED	20	C1-68			
H	RED	20	F7			
J	RED	22	S1			
K	BRN	20	C11-3			
L	RED	20	C1-63			
M						

<b>C3</b>			DTM Plug, 4 Way			
Pin	Wire Color	Gauge	Destination			AEMNet
			1	2	3	
1	WHT	22	C1-35			
2	GRN	22	C1-34			
3	RED	22	S1			
4	BLK	22	C13-J			

<b>C4</b>			DT Plug, 12 Way			
Pin	Wire Color	Gauge	Destination			Coils Optional Mating Harnesses - 30-3805-02
			1	2	3	
1	VIO	20	C1-14			COIL1
2	RED/WHT	20	C1-13			COIL2
3	LT BLU	20	C1-12			COIL3
4	DK GRN/WHT	20	C1-11			COIL4
5	BLK/WHT	20	C15-B			SENSOR GND
6	RED	14	C14-D			EF13 RELAY PWR
7	RED	14	C14-K			EF12 RELAY PWR
8	BLK	14	C13-M			BATTERY GND
9	DK GRN	20	C1-16			COIL5
10	LT BLU/WHT	20	C1-15			COIL6
11	TAN	20	C1-31			COIL7
12	VIO/WHT	20	C1-32			COIL8

<b>C5</b>			DT Receptacle, 12 Way			
Pin	Wire Color	Gauge	Destination			Injectors Optional Mating Harnesses: 30-3805-00,
			1	2	3	

			1	2	3	30-3805-01, 30-3805-10, 30-3805-11
1	BLU	20	C1-78			INJECTOR1
2	LT GRN/BLK	20	C1-77			INJECTOR2
3	PNK/BLK	20	C1-76			INJECTOR3
4	LT BLU/BLK	20	C1-66			INJECTOR4
5	RED	18	C14-B			EF13 RELAY PWR
6	RED	18	C14-C			EF13 RELAY PWR
7	RED	18	C14-H			EF12 RELAY PWR
8	RED	18	C14-J			EF12 RELAY PWR
9	BLU/RED	20	C1-65			INJECTOR5
10	YEL/BLK	20	C1-64			INJECTOR6
11	RED/BLK	20	C1-3			INJECTOR7
12	DK BLU/WHT	20	C1-4			INJECTOR8

<b>C6</b>						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			WheelSpeeds
			1	2	3	
1	WHT	22	C1-57			VR3+
2	BLK	22	C1-56			VR3-
3						
4	WHT	22	C1-55			VR2-
5	BLK	22	C1-54			VR2+
6	BLK	22	C13-J			SHIELD GND

<b>C7</b>						DTM Plug, 8 Way
Pin	Wire Color	Gauge	Destination			Aux2
			1	2	3	
1	GRN	20	C1-2			Low sideSw itch_5 (flyback)
2	DK BLU/RED	20	C1-29			Digital_In_4 (RX)
3	VIO/BLK	20	C1-22			Low sideSw itch_3 (flyback) (shift light)
4	WHT/RED	20	C1-42			Low sideSw itch_1 (flyback) (BoostCntrl)
5	ORG/WHT	20	C1-74			Analog_11 (shift sw itch)
6						
7	BLU/BRN	20	C1-75			Analog_10
8	BLK/RED	20	C1-30			Digital_In_5 (TX)

<b>C8</b>						DTM Receptacle, 8 Way
Pin	Wire	Gauge	Destination			Aux1 (Pedal) Optional Mating Harnesses: 30-3809-00
			1	2	3	

	Color		1	2	3	
1						
2						
3	DK BLU/RED	20	C1-70			Analog_18
4						
5	RED/BLK	20	C1-69			Analog_19
6						
7	GRY	20	C16-B			+5V
8	BLK/WHT	20	C15-C			SENSOR GND

<b>C9</b>						DTM Receptacle, 12 Way
Pin	Wire Color	Gauge	Destination			<b>Crank/Cam</b> Optional Mating Harnesses: 30-3805-03, 30-3805-04, 30-3805-05, 30-3805-06
			1	2	3	
1	WHT	22	C1-25			Crank_Hall
2	BLK	22	C1-24			AGND_1
3	GRN	22	C1-26			Cam1_Hall
4	RED	22	S1			
5	ORG	22	C1-49			+5V_Out_1
6						
7	BLK	22	C1-17			Crank VR+
8	RED	22	C1-18			Crank VR-
9	WHT	22	C1-19			Cam1 VR-
10	GRN	22	C1-20			Cam1 VR+
11	BLK	22	C13-L			
12						

<b>C10</b>						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			<b>Idle</b> Optional Mating Harnesses: 30-3805-07
			1	2	3	
1	LT GRN/WHT	20	C1-79			Stepper_2A
2	LT BLU/WHT	20	C1-80			Stepper_1A
3	LT GRN/BLK	20	C1-60			Stepper_2B
4	LT BLU/BLK	20	C1-59			Stepper_1B
5						
6	RED	20	C2-F			

<b>C11</b>					DTM Receptacle, 6 Way
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Pin	Wire Color	Gauge	Destination			UEGO1 Optional Mating Harnesses: 30-3600
			1	2	3	
1	BLK	20	C1-8			
2	GRN	20	C1-6			
3	BRN	20	C2-K			
4	WHT	18	C1-5			
5	ORG	20	C1-9			
6	RED	20	C1-7			

C12						DTM Receptacle, 2 Way
Pin	Wire Color	Gauge	Destination			Flash
			1	2	3	
1	RED	20	P1-8			
2	RED	20	C1-72			

C13						280 METRI-PACK 12F
Pin	Wire Color	Gauge	Destination			Splice Saver - No Connection
			1	2	3	
A	RED	12	R3			
B	RED	12	R4			
C	RED	12	P1-7			
D	RED	12	P1-15			
E	RED	12	P1-23			
F	RED	12	P1-16			
G	BLK	12	R1			
H	BLK	12	R2			
J	BLK	22, 22, 22	C3-4	P1-39	C6-6	
K	BLK	20, 22, 20	C1-33	P1-25	C1-43	
L	BLK	20, 22, 20	C1-67	C9-11	C1-46	
M	BLK	14	C4-8			

C14						280 METRI-PACK 12F
Pin	Wire Color	Gauge	Destination			Splice Saver - No Connection
			1	2	3	
A	RED	12	P1-40			
B	RED	18	C5-5			
C	RED	18	C5-6			



D	RED	14	C4-6			
E						
F						
G	RED	12	P1-26			
H	RED	18	C5-7			
J	RED	18	C5-8			
K	RED	14	C4-7			
L						
M						

C15			280 METRI-PACK 12F			
Pin	Wire Color	Gauge	Destination			Splice Saver - No Connection
			1	2	3	
A	BLK/WHT	20	C1-23			
B	BLK/WHT	20	C4-5			
C	BLK/WHT	20	C8-8			
D	BLK/WHT	20	F6			
E	BLK/WHT	20	F5			
F	BLK/WHT	20	F4			
G	BLK/WHT	20	F3			
H	BLK/WHT	20	F1			
J	BLK/WHT	20	C17-3			
K						
L						
M						

C16			280 METRI-PACK 12F			
Pin	Wire Color	Gauge	Destination			Splice Saver - No Connection
			1	2	3	
A	GRY	20	C1-50			
B	GRY	20	C8-7			
C	GRY	20	F4			
D	GRY	20	F1			
E	GRY	20	C17-2			
F	GRY	20	F3			
G						
H						
J						
K						

L						
M						

C17			DTM Receptacle, 8 Way			
Pin	Wire Color	Gauge	Destination			Throttle Body Optional Mating Harnesses (DBW only): 30-3809-01
			1	2	3	
1	DK BLU	20	C1-51			Analog_In_7
2	GRY	20	C16-E			+5V_Out_1
3	BLK/WHT	20	C15-J			AGND_1
4	RED/GRN	20	C1-71			Analog_16
5						
6	BRN	20	C1-61			DBW1 Motor - (+12V to close)
7	YEL	20	C1-62			DBW1 Motor + (+12V to open)
8						

P1			Power Distribution Module, PDM-T3AA1			
Pin	Wire Color	Gauge	Destination			
			1	2	3	
1	YEL/WHT	20	C1-47			
2	RED	12	C2-A			
3	RED	12, 22	P1-9	P1-10		
4	RED	20	R4			
5						
6						
7	RED	12	C13-C			
8	RED	20, 20	C1-10	C12-1		
9	RED	12	P1-3			
10	RED	22	P1-3			
11	RED	12	P1-33			
12	RED	12	P1-21			
13	VIO/WHT	20	C1-41			
14	RED/GRN	12	F7			
15	RED	12	C13-D			
16	RED	12	C13-F			
17						
18						
19	RED	12	P1-47			

20	RED	12	P1-45			
21	RED	12	P1-12			
22	RED	20	C2-B			
23	RED	12	C13-E			
24	RED	12	R3			
25	BLACK	20	C13-K			
26	RED	12	C14-G			
27	PNK/WHT	20	C1-48			
28						
29						
30						
31	PNK/WHT	22	F7			
32						
33	RED	12	P1-11			
34	RED	20	C2-C			
35						
36						
37	VIO	20	C1-21			
38	RED/BLU	12	F7			
39	BLK	22	C13-J			
40	RED	12	C14-A			
41						
42						
43						
44						
45	RED	12	P1-20			
46	RED	20	C2-D			
47	RED	12	P1-19			
48	RED	20	C2-E			

<b>F1</b>					Flying Leads	
<b>Pin</b>	<b>Wire Color</b>	<b>Gauge</b>	<b>Destination</b>			<b>MAP</b>
			<b>1</b>	<b>2</b>	<b>3</b>	
	LT GRN	20	C1-52			Sensor signal
	BLK/WHT	22	C15-H			Sensor ground
	GRY	22	C16-D			Sensor power

<b>F2</b>						Flying Leads
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Pin	Wire Color	Gauge	Destination			FuelPress
			1	2	3	
	GRN/BLU	20	C1-53			Sensor signal
	BLK/WHT	22	C15-G			Sensor ground
	GRY	20	C16-F			Sensor power

F3							Flying Leads
Pin	Wire Color	Gauge	Destination			OilPress	
			1	2	3		
	GRN	20	C1-73			Sensor signal	
	BLK/WHT	22	C15-F			Sensor ground	
	GRY	20	C16-C			Sensor power	

F4							Flying Leads
Pin	Wire Color	Gauge	Destination			AirTemp	
			1	2	3		
	TAN	20	C1-39			Sensor signal	
	BLK/WHT	22	C15-E			Sensor ground	

F5							Flying Leads
Pin	Wire Color	Gauge	Destination			CoolantTemp	
			1	2	3		
	YEL	20	C1-38			Sensor signal	
	BLK/WHT	22	C15-D			Sensor ground	

F6							Flying Leads
Pin	Wire Color	Gauge	Destination				
			1	2	3		
	RED	20	C2-H			PWR OUT	
	RED/BLU	12	P1-38			FAN1	
	RED/GRN	12	P1-14			FUELPUMP1	
	PNK/WHT	22	P1-31			IGNSWT	

S1							Splice

Pin	Wire Color	Gauge	Destination		
			1	2	3
In	RED	22	C2-J		
Out	RED	22	C3-3		
Out	RED	22	C9-4		

R1	Ring Terminal					
Pin	Wire Color	Gauge	Destination			Batt-
			1	2	3	
	BLK	12	C13-G			

R2	Ring Terminal					
Pin	Wire Color	Gauge	Destination			Batt-
			1	2	3	
	BLK	12	C13-H			

R3	Ring Terminal					
Pin	Wire Color	Gauge	Destination			Batt+
			1	2	3	
	RED	12,12	C13-A	P1-24		

R4	Ring Terminal					
Pin	Wire Color	Gauge	Destination			Batt+
			1	2	3	
	RED	12, 20	C13-B	P1-4		

## Harness Installation Tips

### 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.

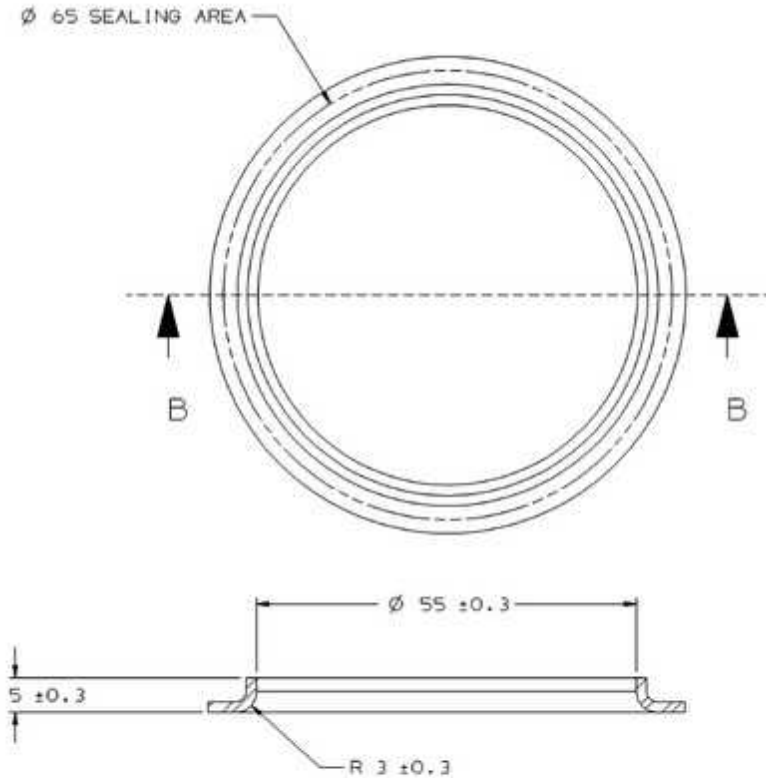
### **Determining ECU Location**

- It is recommended that the ECU be placed in an environment that does not expose it to temperatures above 85° Celsius (160F).
- In cases where the Infinity is to be used in place of the stock ECU, the location that the stock ECU occupied is suitable.
- On applications where the ECU is to be located in a different position than stock, the interior of the vehicle is best.
- The Infinity should be located in a place that reduces the length of extension wires from the PDC while maintaining an environmentally sound location.
- The ECU location must permit the PDC to be mounted in a serviceable location.

### **Power Distribution Center**

PDCs included in the harness assemblies generally include all relays and fuses necessary for proper function and should be mounted in a location which permits serviceability. Ideally the PDC should be located in the passenger compartment, or if necessary within the engine compartment as far away from heat sources as can be achieved. Some PDCs contain flying lead bundles which must be wired to the battery, fuel pump and radiator fan(s), switched ignition and possibly other interfaces. Routing of this flying lead bundle should also be taken into account when determining the mounting location of the PDC.

The diagram below shows details for cutting a hole to accommodate the firewall grommet.



SECTION B-B

## MOUNTING HOLE INFORMATION

SCALE 2:1

**Battery Power and Ground**

The main power and ground feeds (R1-R4) are designed with a long branch length that can be used to route to a trunk mounted battery. They include a heavy duty, serrated ring terminal and should only be modified if absolutely necessary.

**Power Flying Leads**

A bundle of flying lead wires is included for power input and output functions. They are described below.

Wire	Description
PNK/WHT	Ignition Switch - +12V power in crank and run positions only. Recommend that no other loads or devices be connected to this wire
RED/BLU	Relay controlled fused fan power. Connect to fan motor +
RED/GRN	Relay controlled fused fuel pump power. Connect to fuel pump motor +
RED	Relay controlled fused auxiliary power. Connect to optional relay primary coil +

**Analog Input Flying Leads**

A bundle of flying lead wires is included for certain required and optional analog inputs. See [this section](#) and connectors F1-F5 for pinout information.

**C-17 Throttle Body Connector for Non DBW applications**

This interface connector can be used for both DBW and Non-DBW throttle bodies. See [this section](#) for more detail. If this harness is to be used on a Non-DBW application, use the following table to build an extension to a typical 3-wire throttle

position sensor. An 8 position DTM mating plug is included in the kit.

Pin	Wire	Description
1	DK BLU	Connect to Throttle Position Sensor (TPS) signal
2	GRY	Connect to Throttle Position Sensor (TPS) 5V reference
3	BLK/WHT	Connect to Throttle Position Sensor (TPS) analog ground
4		
5	BRN	DBW applications only
6	YEL	DBW applications only
7		
8		

### Infinity Series 5 ECU Pinout

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-1	Lowside 4	Lowside switch, 1.7A max, NO internal flyback diode.  12V pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-2	Lowside 5	Lowside switch, 6A max with internal flyback diode. Inductive load should NOT have full time power.  12V pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-3*	Lowside 6 (*Infinity-506 Only)	Lowside switch, 6A 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.
C1-3**	Injector 7 (**Infinity-508 Only)	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Available on P/N 30-7108 only
C1-4*	Lowside 7 (*Infinity-506 Only)	Lowside switch, 6A max, NO internal flyback diode.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-4**	Injector 8 (**Infinity-508 Only)	For use with high impedance (10-15 ohms) injectors only, 1.7A max.	Available on P/N 30-7108 only
C1-5	UEGO 1 Heat	Bosch UEGO controller	Lowside switch for UEGO heater control. Connect to pin 4 of Bosch UEGO sensor. NOTE that pin 3 of the Sensor is heater (+) and must be power by a fused/switched 12V supply.
C1-6	UEGO 1 IA		Trim Current signal. Connect to pin 2

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			of Bosch UEGO sensor
C1-7	UEGO 1 IP		Pumping Current signal. Connect to pin 6 of Bosch UEGO sensor
C1-8	UEGO 1 UN		Nernst Voltage signal. Connect to pin 1 of Bosch UEGO sensor
C1-9	UEGO 1 VM		Virtual Ground signal. Connect to pin 5 of Bosch UEGO sensor.
C1-10	Battery Perm Power	Dedicated power management CPU	Full time battery power. MUST be powered before the ignition switch input is triggered (See C1-48).
C1-11	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.
C1-12	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.
C1-13	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.
C1-14	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 6	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 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.
C1-17	Crankshaft Position Sensor VR+	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-18	Crankshaft Position Sensor VR-		See Setup Wizard page Cam/Crank for options.
C1-19	Camshaft Position Sensor 1 VR-	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-20	Camshaft Position Sensor 1 VR+		See Setup Wizard page Cam/Crank for options.
C1-21	Lowside 2	Lowside switch, 1.7A max, NO	See Setup Wizard Page "Output

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
		internal flyback diode. No pullup	Function Assignment" for setup options.
C1-22	Lowside 3	Lowside switch, 6A 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.
C1-23	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-24	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-25	Crankshaft Position Sensor Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-26	Camshaft Position Sensor 1 Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-27	Digital 2	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-28	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.
C1-29	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	RS232 Rx	RS232 Line Driver/Receiver	Future expansion
C1-30	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	RS232 Tx	RS232 Line Driver/Receiver	Future expansion
C1-31*	Dig6 [Hz] / Dig6_Duty (*Infinity-506 Only)	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-31**	Coil 7 (**Infinity-508 Only)	25 mA max source current	Available on P/N 30-7108 only. 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.
C1-32*	Digital 7 (*Infinity-506 Only)	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 (**Infinity-508 Only)	25 mA max source current	Available on P/N 30-7108 only. 0-5V Falling edge fire. DO NOT connect directly to coil primary. Must use an

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			ignitor OR CDI that accepts a FALLING edge fire signal.
C1-33	Battery Ground	Battery Ground	Connect directly to battery ground
C1-34	CANL A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-35	CANH A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-36	CanL B	Dedicated High Speed CAN Transceiver	Not used, reserved for future expansion.
C1-37	CanH B	Dedicated High Speed CAN Transceiver	Not used, reserved for future expansion.
C1-38	Analog Temp 1	12 bit A/D, 2.49K pullup to 5V	Default Coolant Temperature Input
C1-39	Analog Temp 2	12 bit A/D, 2.49K pullup to 5V	Default Air Temperature Input
C1-40	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.
C1-41	Lowside 0	Lowside switch, 1.7A max, NO internal flyback diode.  No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-42	Lowside 1	Lowside switch, 6A 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.
C1-43	Battery Ground	Battery Ground	Connect directly to battery ground
C1-44	Knock Sensor 1	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-45	Knock Sensor 2	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-46	Battery Ground	Battery Ground	Connect directly to battery ground
C1-47	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.
C1-48	Ignition Switch	10K pulldown	Full time battery power must be available at C1-10 before this input is triggered.

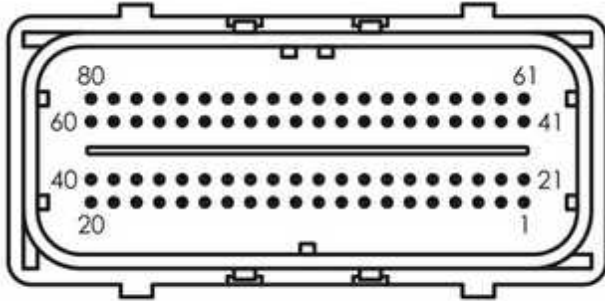


Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-49	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-50	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-51	Analog 7	12 bit A/D, 100K pullup to 5V	Default primary Throttle 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. Also DB1_TPSA [%] for DBW applications.
C1-52	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.
C1-53	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.
C1-54	VR+ 2	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page "Input Function Assignments" for setup options.
C1-55	VR- 2		
C1-56	VR- 3	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page "Input Function Assignments" for setup options.
C1-57	VR+ 3		
C1-58	Highside 0	2.6A max, High Side Solid State Relay	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-59	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.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			Supports Bi-Polar stepper motors only.
C1-60	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.
C1-61	DBW1 Motor -	5.0A max Throttle Control Hbridge Drive	+12V to close
C1-62	DBW1 Motor +	5.0A max Throttle Control Hbridge Drive	+12V to open
C1-63	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-47 above.
C1-64	Injector 6	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 6
C1-65	Injector 5	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 5
C1-66	Injector 4	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 4
C1-67	Battery Ground	Battery Ground	Connect directly to battery ground
C1-68	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-47 above.
C1-69	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 Setup Wizard page "Input Function Assignments" for setup options.
C1-70	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.
C1-71	Analog 16	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
			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.
C1-72	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.
C1-73	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.
C1-74	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.
C1-75	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.
C1-76	Injector 3	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 3
C1-77	Injector 2	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 2
C1-78	Injector 1	Saturated (P/N 30-7108) or peak and hold, 3A max continuous (P/N 30-7106)	Injector 1
C1-79	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.

Infinity Pin	Hardware Ref.	Hardware Specification	Notes
C1-80	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.



INFINITY "C1" 80 PIN

## 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.