

Instruction Manual



Infinity Universal V8 Core Harness System User Manual 30-3805



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.

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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

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
- DTM 8 Way Plug Assembly with 8 contacts



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

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. Note that these connectors are NOT sealed and should not be located in environments that may see excessive water spray.

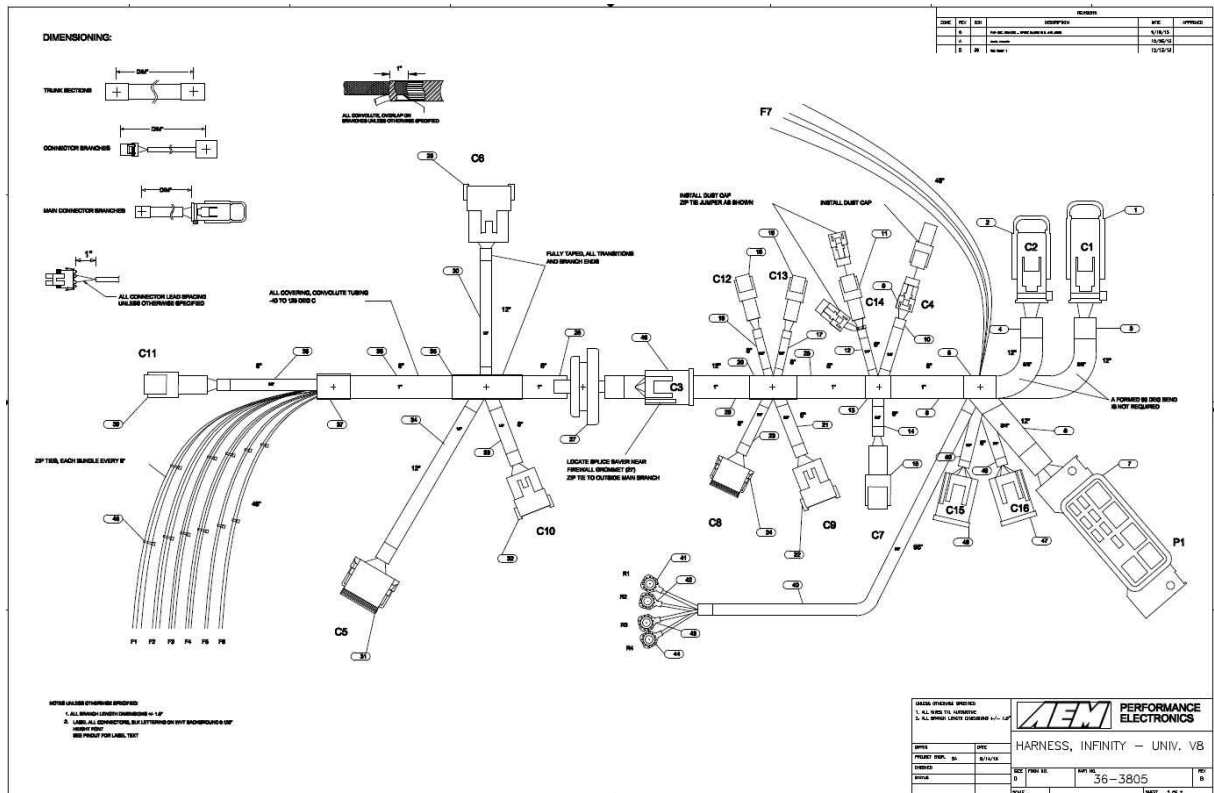


Power Distribution Center

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.

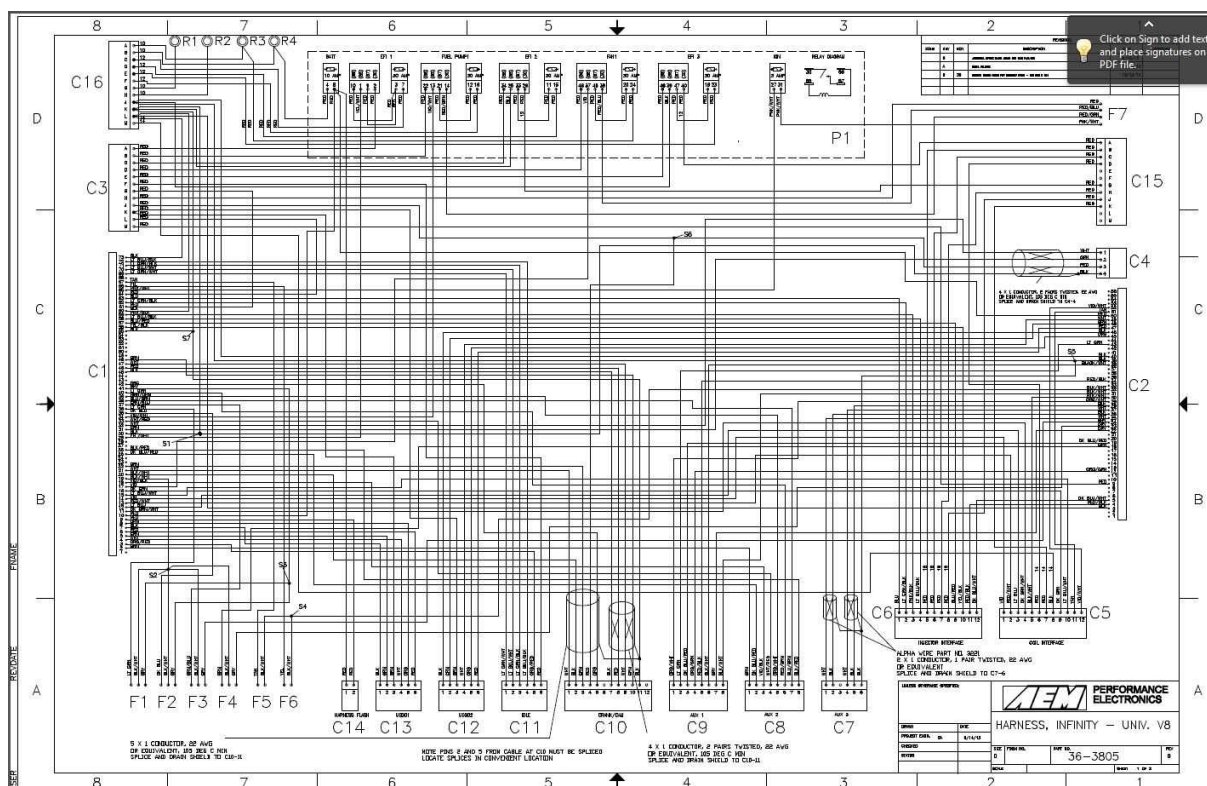


Harness Layout



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

3805 - Infinity Pinout Universal V8

Default functions are listed in parentheses

C1	Infinity Connector C1					73 Way F Receptacle 0.64 2.8 Series Sealed (GY)
Pin	Wire Color	Gauge	Destination			
			1	2	3	
C1-1	---					
C1-2	GRN	20	C8-1			LowsideSwitch_5
C1-3	ORG/RED	20	C11-5			LowsideSwitch_6
C1-4	WHT	18	C13-4			UEGO1_Heat
C1-5	GRN	20	C13-2			UEGO1_IA
C1-6	RED	20	C13-6			UEGO1_IP
C1-7	BLK	20	C13-1			UEGO1_UN
C1-8	ORN	20	C13-5			UEGO1_VM

C1-9	RED	20	C14-2			Flash_Enable
C1-10	RED	20	P1-8			+12V_R8C_CPU (Perm Power)
C1-11	DK GRN/WHT	20	C5-4			Coil4
C1-12	LT BLU	20	C5-3			Coil3
C1-13	RED/WHT	20	C5-2			Coil2
C1-14	VIO	20	C5-1			Coil1
C1-15	LT BLU/WHT	20	C5-10			Coil6
C1-16	DK GRN	20	C5-9			Coil5
C1-17	VIO	20	P1-37			LowsideSwitch_2 (Coolant Fan 1 Control)
C1-18	VIO/BLK	20	C8-3			LowsideSwitch_3 (MIL Output)
C1-19	BLK/WHT	20	S2			AGND_1 (Analog Sensor Ground)
C1-20	BLK/WHT	20	C10-2			AGND_1 (Analog Sensor Ground)
C1-21	WHT	20	C10-1			Crank Position Sensor (Hall Effect)
C1-22	GRN	20	C10-3			Camshaft Position Sensor 1 (Hall Effect)
C1-23	---					
C1-24	---					
C1-25	DK BLU/RED	20	C8-2			Digital_In_4 (Vehicle Speed Sensor Hall Effect)
C1-26	BLK/RED	20	C8-8			Digital_In_5 (Flex Fuel Sensor)
C1-27	---					
C1-28	---					
C1-29	YEL/WHT	20	P1-1			+12V_Relay_Cntrl (Lowside switch output)
C1-30	BLK	20	S1			Battery Ground
C1-31	GRN	20	C4-2			AEMNet CANL
C1-32	WHT	20	C4-1			AEMNet CANH
C1-33	WHT/RED	20	C8-4			LowsideSwitch_1 (Boost Control Solenoid)
C1-34	VIO/WHT	20	P1-13			LowsideSwitch_0 (Fuel Pump)
C1-35	DK BLU	20	F2			Analog_In_7 (Throttle Position Sensor)
C1-36	LT GRN	20	F1			Analog_In_8 (MAP Sensor)
C1-37	GRN/BLU	20	F3			Analog_In_9 (Fuel Pressure Sensor)
C1-38	BLU/BRN	20	C8-7			Analog_In_10 (Baro Sensor)
C1-39	BRN/ORG	20	C8-5			Analog_In_11 (Shift Switch Input)
C1-40	LT GRN	20	C8-6			Analog_In_12 (Mode Switch)
C1-41	GRY	20	S3			+5V_Out_1 (Analog Sensor Power)
C1-42	ORG	20	C10-5			+5V_Out_1 (Analog Sensor Power)
C1-43	---					

C1-44	---					
C1-45	BLK	22	C10-7			Crank Position (VR+)
C1-46	RED	22	C10-8			Crank Position (VR-)
C1-47	WHT	22	C10-9			Cam1 Position (VR-)
C1-48	GRN	22	C10-10			Cam1 Position (VR+)
C1-49	---					
C1-50	---					
C1-51	---					
C1-52	---					
C1-53	---					
C1-54	---					
C1-55	BLK	20	S7			Battery Ground
C1-56	YEL/BLK	20	C6-10			Injector 6
C1-57	BLU/RED	20	C6-9			Injector 5
C1-58	LT BLU/BLK	20	C6-4			Injector 4
C1-59	PNK/BLK	20	C6-3			Injector 3
C1-60	BLK	20	C16-L			Battery Ground
C1-61	RED	20	C3-G			Fused +12V Power from Relay
C1-62	LT GRN/BLK	20	C6-2			Injector 2
C1-63	BLU	20	C6-1			Injector 1
C1-64	RED	20	C3-L			Fused +12V Power from Relay
C1-65	PNK/WHT	20	P1-27			Fused +12V Ignition Switch
C1-66	YEL	20	F6			Analog_In_Temp_1 (Coolant Temp Sensor)
C1-67	TAN	20	F5			Analog_In_Temp_2 (Air Temp Sensor)
C1-68	---					
C1-69	LT GRN/WHT	20	C11-1			Stepper_2A
C1-70	LT BLU/WHT	20	C11-2			Stepper_1A
C1-71	LT GRN/BLK	20	C11-3			Stepper_2B
C1-72	LT BLU/BLK	20	C11-4			Stepper_1B
C1-73	BLK	14	C16-L			Battery Ground

C2	Infinity Connector C2					56 Way F Receptacle 0.64 2.8 Series Sealed (BU)
Pin	Wire Color	Gauge	Destination			
			1	2	3	
C2-1	---					

C2-2	---					
C2-3	BLK	20	C16-L			Battery Ground
C2-4	RED/BLK	20	C6-11			Injector 7
C2-5	DK BLU/WHT	20	C6-12			Injector 8
C2-6	---					
C2-7	---					
C2-8	---					
C2-9	RED	20	C3-M			Fused +12V Power from Relay
C2-10	---					
C2-11	---					
C2-12	ORG/GRN	20	C9-4			Analog_In_17 (A/C Request)
C2-13	---					
C2-14	---					
C2-15	---					
C2-16	---					
C2-17	---					
C2-18	GRN	20	F4			Analog_In_13 (Oil Pressure)
C2-19	DK BLU/RED	20	C9-3			Analog_In_14
C2-20	---					
C2-21	---					
C2-22	GRY	20	C9-7			+5V_Out_2 (Analog Sensor Power)
C2-23	GRY	20	F4			+5V_Out_2 (Analog Sensor Power)
C2-24	GRY	20	F3			+5V_Out_2 (Analog Sensor Power)
C2-25	WHT	22	C7-1			VR+_In_5 (Driven Rt Wheel VR+)
C2-26	BLK	22	C7-2			VR-_In_5 (Driven Rt Wheel VR-)
C2-27	WHT	22	C7-4			VR-_In_4 (Non Driven Rt Wheel VR-)
C2-28	BLK	22	C7-5			VR+_In_4 (Non Driven Rt Wheel VR+)
C2-29	ORG/WHT	20	C9-1			LowsideSwitch_9 (Tachometer Output)
C2-30	BLK/WHT	20	C5-5			AGND_2 (Analog Sensor Ground)
C2-31	BLK/WHT	20	C9-8			AGND_2 (Analog Sensor Ground)
C2-32	BLK/WHT	20	S4			AGND_2 (Analog Sensor Ground)
C2-33	---					
C2-34	RED/BLK	20	C9-5			Analog_In_21 (3 Step Enable)
C2-35						
C2-36						

C2-37						
C2-38	BLK/WHT	20	C9-6			Digital_In_7 (Clutch Switch)
C2-39	BLK	20	S5			Battery Ground
C2-40	BLK	20	C16-J			Battery Ground
C2-41	---					
C2-42	---					
C2-43	RED/GRN	20	C9-2			LowsideSwitch_8 (Engine Protect Warning Output)
C2-44	---					
C2-45	ORG	20	C12-5			UEGO2_VM
C2-46	BLK	20	C12-1			UEGO2_UN
C2-47	RED	20	C12-6			UEGO2_IP
C2-48	GRN	20	C12-2			UEGO2_IA
C2-49	WHT	18	C12-4			UEGO_2_Heat
C2-50	RED	20	P1-8			Fused +12V_R8C_CPU (Perm Power)
C2-51	TAN	20	C5-11			Coil 7
C2-52	VIO/WHT	20	C5-12			Coil 8
C2-53	---					
C2-54	---					
C2-55	---					
C2-56	---					

C3						280 METRI-PACK 12F
Pin	Wire Color	Gauge	Destination			
			1	2	3	
A	RED	12	P1-2			Fused +12V Relay Power
B	RED	20	P1-22			Fused +12V Relay Power
C	RED	20	P1-34			Fused +12V Relay Power
D	RED	20	P1-46			Fused +12V Relay Power
E	RED	20	P1-48			Fused +12V Relay Power
F	RED	20	C11-6			Fused +12V Relay Power
G	RED	20	C1-61			Fused +12V Relay Power
H	RED	20	F7			Fused +12V Relay Power
J	RED	22	S6			Fused +12V Relay Power
K	BRN	20	C12-3	C13-3		Fused +12V Relay Power
L	RED	20	C1-64			Fused +12V Relay Power

M	RED	20	C2-9			Fused +12V Relay Power
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C4						DTM Plug, 4 Way
Pin	Wire Color	Gauge	Destination			AEMNet
			1	2	3	
1	WHT	20	C1-32			AEMNet CANH
2	GRN	20	C1-31			AEMNet CANL
3	RED	22	S6			Power Splice
4	BLK	22	S1			Ground Splice

C5						DT Plug, 12 Way
Pin	Wire Color	Gauge	Destination			Coils
			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	C2-30			AGND_2 (Sensor Ground)
6	RED	14	C15-D			Fused +12V Relay Power
7	RED	14	C15-K			Fused +12V Relay Power
8	BLK	14	C16-M			Battery Ground
9	DK GRN	20	C1-16			Coil5
10	LT BLU/WHT	20	C1-15			Coil6
11	TAN	20	C2-51			Coil7
12	VIO/WHT	20	C2-52			Coil8

C6						DT Receptacle, 12 Way
Pin	Wire Color	Gauge	Destination			Injectors
			1	2	3	
1	BLU	20	C1-63			Injector 1
2	LT GRN/BLK	20	C1-62			Injector 2
3	PNK/BLK	20	C1-59			Injector 3
4	LT BLU/BLK	20	C1-58			Injector 4
5	RED	18	C15-B			Fused +12V Relay Power

6	RED	18	C15-C			Fused +12V Relay Power
7	RED	18	C15-H			Fused +12V Relay Power
8	RED	18	C15-J			Fused +12V Relay Power
9	BLU/RED	20	C1-57			Injector 5
10	YEL/BLK	20	C1-56			Injector 6
11	RED/BLK	20	C2-4			Injector 7
12	DK BLU/WHT	20	C2-5			Injector 8

C7						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			WheelSpeeds
			1	2	3	
1	WHT	20	C2-25			VR+_In_5 (Driven Rt Wheel VR+)
2	BLK	20	C2-26			VR-_In_5 (Driven Rt Wheel VR-)
3						
4	WHT	20	C2-27			VR-_In_4 (Non Driven Rt Wheel VR-)
5	BLK	20	C2-28			VR+_In_4 (Non Driven Rt Wheel VR+)
6	BLK	22	S5			Shield Ground

C8						DTM Plug, 8 Way
Pin	Wire Color	Gauge	Destination			Aux2
			1	2	3	
1	GRN	20	C1-2			LowsideSwitch_5
2	DK BLU/RED	20	C1-25			Digital_In_4 (Vehicle Speed Sensor Hall Effect)
3	VIO/BLK	20	C1-18			LowsideSwitch_3 (MIL Output)
4	WHT/RED	20	C1-33			LowsideSwitch_1 (Boost Control Solenoid)
5	ORG/WHT	20	C1-39			Analog_In_11 (Shift Switch Input)
6	RED/GRN	20	C1-40			Analog_In_12 (Mode Switch)
7	BLU/BRN	20	C1-38			Analog_In_10 (Baro Sensor)
8	BLK/RED	20	C1-26			Digital_In_5 (Flex Fuel Sensor)

C9						DTM Receptacle, 8 Way
Pin	Wire Color	Gauge	Destination			Aux1
			1	2	3	
1	ORG/WHT	20	C2-29			LowsideSwitch_9 (Tachometer Output)

2	LT GRN	20	C2-43			LowsideSwitch_8 (Engine Protect Warning Output)
3	DK BLU/RED	20	C2-19			Analog_In_14
4	ORG/GRN	20	C2-12			Analog_In_17 (A/C Request)
5	RED/BLK	20	C2-34			Analog_In_21 (3 Step Enable)
6	BLK/WHT	20	C2-38			Digital_In_7 (Clutch Switch)
7	GRY	20	C2-22			+5V_Out_2 (Analog Sensor Power)
8	BLK/WHT	20	C2-31			AGND_2 (Sensor Ground)

C10						DTM Receptacle, 12 Way
Pin	Wire Color	Gauge	Destination			Crank/Cam
			1	2	3	
1	WHITE	22	C1-21			Crank Position Sensor (Hall Effect)
2	BLK	22	C1-20			AGND_1 (Analog Sensor Ground)
3	GRN	22	C1-22			Camshaft Position Sensor 1 (Hall Effect)
4	RED	22	S6			Fused +12V Relay Power
5	ORG	22	C1-42			+5V_Out_1 (Analog Sensor Power)
6						
7	BLK	22	C1-45			Crank Position (VR+)
8	RED	22	C1-46			Crank Position (VR-)
9	WHT	22	C1-47			Cam1 Position (VR-)
10	GRN	22	C1-48			Cam1 Position (VR+)
11	BLK	22	S7			Shield Ground
12						

C11						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			Idle
			1	2	3	
1	LT GRN/WHT	20	C1-69			Stepper_2A
2	LT BLU/WHT	20	C1-70			Stepper_1A
3	LT GRN/BLK	20	C1-71			Stepper_2B
4	LT BLU/BLK	20	C1-72			Stepper_1B
5	ORG/RED	20	C1-3			LowsideSwitch_6 (PWM Idle)
6	RED	20	C3-F			Fused +12V Relay Power

C12						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			UEGO2
			1	2	3	
1	BLK	20	C2-46			UEGO2_UN
2	GRN	20	C2-48			UEGO2_IA
3	BRN	20	C3-K			Fused +12V Relay Power
4	WHT	18	C2-49			UEGO_2_Heat
5	ORG	20	C2-45			UEGO2_VM
6	RED	20	C2-47			UEGO2_IP

C13						DTM Receptacle, 6 Way
Pin	Wire Color	Gauge	Destination			UEGO1
			1	2	3	
1	BLK	20	C1-7			UEGO1_UN
2	GRN	20	C1-5			UEGO1_IA
3	BRN	20	C3-K			Fused +12V Relay Power
4	WHT	18	C1-4			UEGO1_Heat
5	ORN	20	C1-8			UEGO1_VM
6	RED	20	C1-6			UEGO1_IP

C14						DTM Receptacle, 2 Way
Pin	Wire Color	Gauge	Destination			Flash
			1	2	3	
1	RED	20	P1-8			Fused +12V Battery Power
2	RED	20	C1-9			Flash_Enable

C15						280 METRI-PACK 12F
Pin	Wire Color	Gauge	Destination			
			1	2	3	
A	RED	12	P1-40			Fused +12V Relay Power
B	RED	18	C6-5			Fused +12V Relay Power
C	RED	18	C6-6			Fused +12V Relay Power
D	RED	14	C5-6			Fused +12V Relay Power
E						

F						
G	RED	12	P1-26			Fused +12V Relay Power
H	RED	18	C6-7			Fused +12V Relay Power
J	RED	18	C6-8			Fused +12V Relay Power
K	RED	14	C5-7			Fused +12V Relay Power
L						
M						

C16						280 METRI-PACK 12F
Pin	Wire Color	Gauge	Destination			
			1	2	3	
A	RED	12	R3			Battery Power
B	RED	12	R4			Battery Power
C	RED	12	P1-7			Battery Power
D	RED	12	P1-15			Battery Power
E	RED	12	P1-23			Battery Power
F	RED	12	P1-16			Battery Power
G	BLK	12	R1			Battery Ground
H	BLK	12	R2			Battery Ground
J	BLK	20, 22, 22	C2-40	P1-39	S5	Battery Ground
K	BLK	22, 22, 22	S1	P1-25	S7	Battery Ground
L	BLK	20, 20, 14	C1-60	C2-3	C1-73	Battery Ground
M	BLK	14	C5-8			Battery Ground

P1						Power Distribution Module, PDM-T3AA1
Pin	Wire Color	Gauge	Destination			
			1	2	3	
1	YEL/WHT	20	C1-29			+12V_Relay_Cntrl (Lowside switch output)
2	RED	12	C3-A			Fused +12V Relay Power
3	RED	12, 22	P1-9	P1-10		Fused +12V Battery Power
4	RED	20	R4			+12V Battery Power
5						
6						
7	RED	12	C16-C			+12V Battery Power

8	RED	20, 20, 20	C1-10	C2-50	C14-1	Fused +12V Battery Power
9	RED	12	P1-3			Fused +12V Battery Power
10	RED	22	P1-3			Fused +12V Battery Power
11	RED	12	P1-33			Fused +12V Battery Power
12	RED	12	P1-21			Fused +12V Battery Power
13	VIO/WHT	20	C1-34			LowsideSwitch_0 (Fuel Pump)
14	RED/GRN	12	F7			Fused +12V Power for Fuel Pump
15	RED	12	C16-D			+12V Battery Power
16	RED	12	C16-F			+12V Battery Power
17						
18						
19	RED	12	P1-47			Fused +12V Battery Power
20	RED	12	P1-45			Fused +12V Battery Power
21	RED	12	P1-12			Fused +12V Battery Power
22	RED	20	C3-B			Fused +12V Battery Power
23	RED	12	C16-E			+12V Battery Power
24	RED	12	R3			+12V Battery Power
25	BLACK	20	C16-K			Battery Ground
26	RED	12	C15-G			Fused +12V Battery Power for Inj. And Coils
27	PNK/WHT	20	C1-65			Fused +12V Switched Ignition Power
28						
29						
30						
31	PNK/WHT	22	F7			+12V Switched Ignition Power
32						
33	RED	12	P1-11			Fused +12V Battery Power
34	RED	20	C3-C			Fused +12V Battery Power
35						
36						
37	VIO	20	C1-17			LowsideSwitch_2 (Coolant Fan 1 Control)
38	RED/BLU	12	F7			Fused +12V Power for Coolant Fan 1
39	BLK	22	C16-J			Battery Ground
40	RED	12	C15-A			Fused +12V Battery Power for Inj. And Coils
41						
42						

43						
44						
45	RED	12	P1-20			Fused +12V Battery Power
46	RED	20	C3-D			Fused +12V Relay Power
47	RED	12	P1-19			Fused +12V Battery Power
48	RED	20	C3-E			Fused +12V Relay Power

F1						Flying Leads
Pin	Wire Color	Gauge	Destination			MAP
			1	2	3	
	LT GRN	20	C1-36			Analog_In_8 (MAP Sensor)
	BLK/WHT	22	S2			AGND_1 (Analog Sensor Ground)
	GRY	22	S3			+5V_Out_1 (Analog Sensor Power)

F2						Flying Leads
Pin	Wire Color	Gauge	Destination			Throttle
			1	2	3	
	DK BLU	20	C1-35			Analog_In_7 (Throttle Position Sensor)
	BLK/WHT	22	S2			AGND_1 (Analog Sensor Ground)
	GRY	22	S3			+5V_Out_1 (Analog Sensor Power)

F3						Flying Leads
Pin	Wire Color	Gauge	Destination			FuelPress
			1	2	3	
	GRN/BLU	20	C1-37			Analog_In_9 (Fuel Pressure Sensor)
	BLK/WHT	22	S2			AGND_1 (Analog Sensor Ground)
	GRY	20	C2-24			+5V_Out_2 (Analog Sensor Power)

F4						Flying Leads
Pin	Wire Color	Gauge	Destination			OilPress
			1	2	3	
	GRN	20	C2-18			Analog_In_13 (Oil Pressure)
	BLK/WHT	22	S2			AGND_1 (Analog Sensor Ground)
	GRY	20	C2-23			+5V_Out_2 (Analog Sensor Power)

F5						Flying Leads
Pin	Wire Color	Gauge	Destination			AirTemp
			1	2	3	
	TAN	20	C1-67			Analog_In_Temp_2 (Air Temp Sensor)
	BLK/WHT	22	S4			AGND_2 (Analog Sensor Ground)

F6						Flying Leads
Pin	Wire Color	Gauge	Destination			CoolantTemp
			1	2	3	
	YEL	20	C1-66			Analog_In_Temp_1 (Coolant Temp Sensor)
	BLK/WHT	22	S4			AGND_2 (Analog Sensor Ground)

F7						Flying Leads
Pin	Wire Color	Gauge	Destination			
			1	2	3	
	RED	20	C3-H			12V ACC. 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	BLK	22	C16-K			Battery Ground
Out	BLK	20	C1-30			Battery Ground
Out	BLK	22	C4-4			Battery Ground

S2						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	
In	BLK/WHT	20	C1-19			AGND_1 (Analog Sensor Ground)
Out	BLK/WHT	22	F1			AGND_1 (Analog Sensor Ground)
Out	BLK/WHT	22	F2			AGND_1 (Analog Sensor Ground)

Out	BLK/WHT	22	F3			AGND_1 (Analog Sensor Ground)
Out	BLK/WHT	22	F4			AGND_1 (Analog Sensor Ground)

S3						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	
In	GRY	20	C1-41			+5V_Out_1 (Analog Sensor Power)
Out	GRY	22	F1			+5V_Out_1 (Analog Sensor Power)
Out	GRY	22	F2			+5V_Out_1 (Analog Sensor Power)

S4						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	
In	BLK/WHT	20	C2-32			AGND_2 (Analog Sensor Ground)
Out	BLK/WHT	20	F5			AGND_2 (Analog Sensor Ground)
Out	BLK/WHT	20	F6			AGND_2 (Analog Sensor Ground)

S5						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	
In	BLK	22	C16-J			Battery Ground
Out	BLK	20	C2-39			Battery Ground
Out	BLK	22	C7-6			Battery Ground

S6						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	
In	RED	22	C3-J			Fused +12V Relay Power
Out	RED	22	C4-3			Fused +12V Relay Power
Out	RED	22	C10-4			Fused +12V Relay Power

S7						Splice
Pin	Wire Color	Gauge	Destination			
			1	2	3	

In	BLK	22	C16-K			Battery Ground
Out	BLK	20	C1-55			Battery Ground
Out	BLK	22	C10-11			Battery Ground

R1						Ring Terminal
Pin	Wire Color	Gauge	Destination			Batt-
			1	2	3	
	BLK	12	C16-G			Battery Ground

R2						Ring Terminal
Pin	Wire Color	Gauge	Destination			Batt-
			1	2	3	
	BLK	12	C16-H			Battery Ground

R3						Ring Terminal
Pin	Wire Color	Gauge	Destination			Batt+
			1	2	3	
	RED	12,12	C16-A	P1-24		+12V Battery Power

R4						Ring Terminal
Pin	Wire Color	Gauge	Destination			Batt+
			1	2	3	
	RED	12, 20	C16-B	P1-4		+12V Battery Power

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.

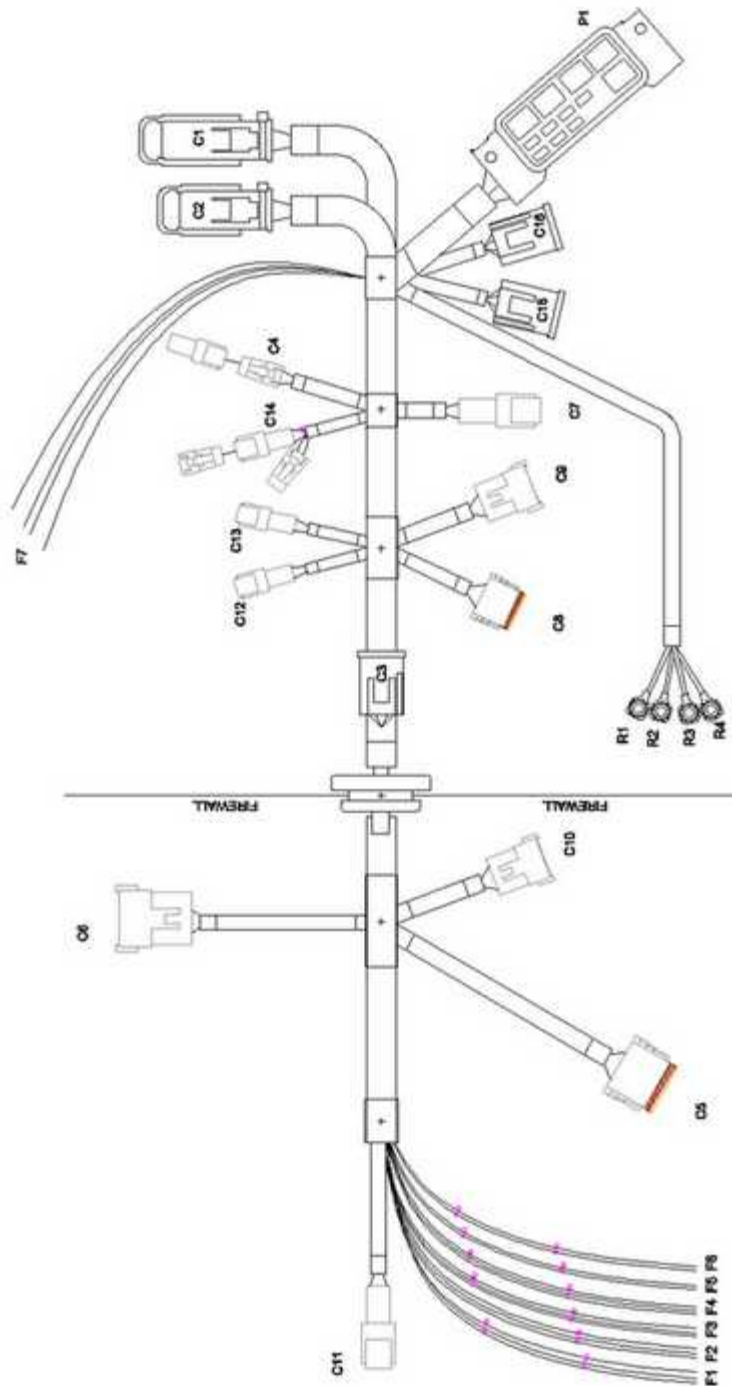
Determining ECU Location

- 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.

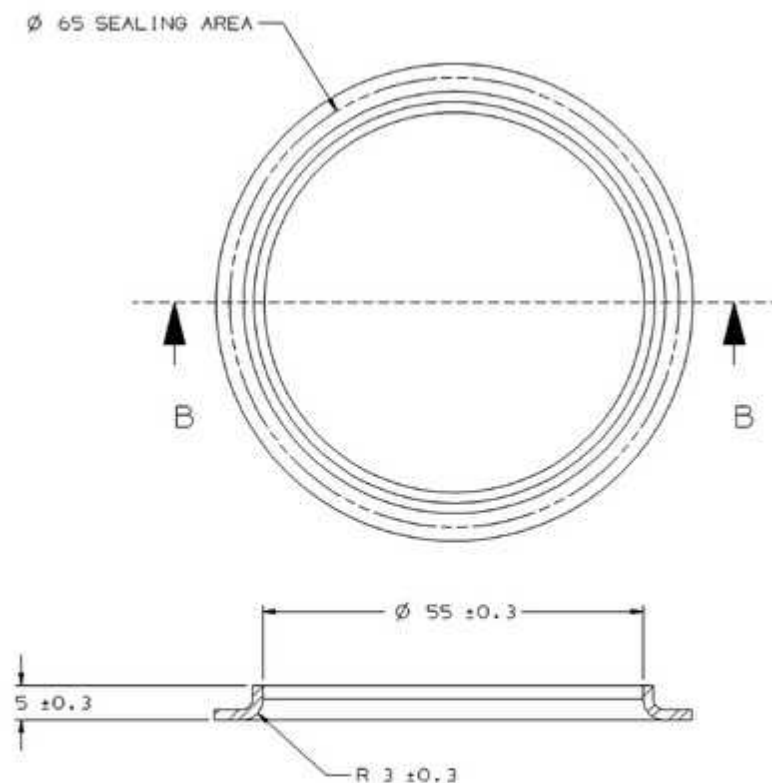
Power Distribution Center

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.

30-3805 Universal Core Harness Installation



Install the core harness in the vehicle as shown in the image above using the firewall grommet to separate engine compartment connections from vehicle cabin connections. The main power and ground feeds (R1-R4) are designed with a long branch 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.



SECTION B-B
MOUNTING HOLE INFORMATION
SCALE 2:1

Auxiliary Connectors

The kit includes 2 optional connector kits that mate with connectors labeled Aux1 and Aux2 on the main harness trunk. See the [3805 Core Harness Pinout](#) section for details on available functions. All default functions are listed in parentheses. Many are re-assignable through the setup wizard interface.

Infinity Series 7 ECU Pinout

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C1-1	Lowside 4	Lowside switch, 4A max, NO internal flyback diode. No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C1-2	Lowside 5	Lowside switch, 4A 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	Lowside 6	Lowside switch, 4A 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.
C1-4	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.
C1-5	UEGO 1 IA		Trim Current signal. Connect to pin 2 of Bosch UEGO sensor
C1-6	UEGO 1 IP		Pumping Current signal. Connect to pin 6 of Bosch UEGO sensor
C1-7	UEGO 1 UN		Nernst Voltage signal. Connect to pin 1 of Bosch UEGO sensor
C1-8	UEGO 1 VM		Virtual Ground signal. Connect to pin 5 of Bosch UEGO sensor.
C1-9	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.
C1-10	Battery Perm Power	Dedicated power management CPU	Full time battery power. MUST be powered before the ignition switch input is triggered (See C1-65).
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.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
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	Lowside 2	Lowside switch, 4A max, NO internal flyback diode. No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-18	Lowside 3	Lowside switch, 4A 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.
C1-19	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-20	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C1-21	Crankshaft Position Sensor Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-22	Camshaft Position Sensor 1 Hall	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.
C1-23	Digital 2	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page Cam/Crank for options.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C1-24	Digital 3	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-25	Digital 4	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-26	Digital 5	10K pullup to 12V. Will work with ground or floating switches.	See Setup Wizard page "Input Function Assignments" for setup options.
C1-27	Knock Sensor 1	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-28	Knock Sensor 2	Dedicated knock signal processor	See Setup Wizard page Knock Setup for options.
C1-29	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.
C1-30	Battery Ground	Battery Ground	Connect directly to battery ground
C1-31	CANL A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-32	CANH A	Dedicated High Speed CAN Transceiver	Recommend twisted pair (one twist per 2") with terminating resistor. Contact AEM for additional information.
C1-33	Lowside 1	Lowside switch, 4A 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.
C1-34	Lowside 0	Lowside switch, 4A max, NO internal flyback diode. No pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C1-35	Analog 7	12 bit A/D, 100K pullup to 5V	Default primary Throttle Position 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 the Setup Wizard Set Throttle Range page for automatic min/max

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
			calibration.
C1-36	Analog 8	12 bit A/D, 100K pullup to 5V	Default Manifold Pressure 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.
C1-37	Analog 9	12 bit A/D, 100K pullup to 5V	Default Fuel Pressure 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.
C1-38	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 the Setup Wizard "Input Function Assignments" page for options.
C1-39	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 the Setup Wizard "Input Function Assignments" page for options.
C1-40	Analog 12	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.
C1-41	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C1-42	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C1-43	Highside 1	0.7A max, High Side Solid State Relay	See Setup Wizard page "Output Function Assignment" for configuration options.
C1-44	Highside 0	0.7A max, High Side Solid State Relay	See Setup Wizard page "Output Function Assignment" for configuration options.
C1-45	Crankshaft Position Sensor VR+	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-46	Crankshaft Position Sensor VR-		See Setup Wizard page Cam/Crank for options.
C1-47	Camshaft Position Sensor 1 VR-	Differential Variable Reluctance Zero Cross Detection	See Setup Wizard page Cam/Crank for options.
C1-48	Camshaft Position Sensor 1 VR+		See Setup Wizard page Cam/Crank for options.
C1-49	VR+ 2	Differential Variable Reluctance Zero Cross Detection	See the Setup Wizard "Input Function Assignments" page for options.
C1-50	VR- 2		
C1-51	VR- 3	Differential Variable Reluctance Zero Cross Detection	See the Setup Wizard "Input Function Assignments" page for options.
C1-52	VR+ 3		
C1-53	DBW1 Motor -	5.0A max Throttle Control Hbridge Drive	+12V to close.
C1-54	DBW1 Motor +	5.0A max Throttle Control Hbridge Drive	+12V to open.
C1-55	Battery Ground	Power Ground	Connect directly to battery ground
C1-56	Injector 6	Saturated or peak and hold, 3A max continuous	Injector 6
C1-57	Injector 5	Saturated or peak and hold, 3A max continuous	Injector 5
C1-58	Injector 4	Saturated or peak and hold, 3A max continuous	Injector 4
C1-59	Injector 3	Saturated or peak and hold, 3A max continuous	Injector 3
C1-60	Battery Ground	Power Ground	Connect directly to battery ground

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C1-61	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by EFI Main Relay Switched Ground Output, pin C1-29 above.
C1-62	Injector 2	Saturated or peak and hold, 3A max continuous	Injector 2
C1-63	Injector 1	Saturated or peak and hold, 3A max continuous	Injector 1
C1-64	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal pin C1-29 above.
C1-65	Ignition Switch	10K pulldown	Full time battery power must be available at C1-10 before this input is triggered.
C1-66	Analog Temp 1	12 bit A/D, 2.49K pullup to 5V	Default Coolant Temperature Input.
C1-67	Analog Temp 2	12 bit A/D, 2.49K pullup to 5V	Default Air Temperature Input.
C1-68	Analog Temp 3	12 bit A/D, 2.49K pullup to 5V	Normally used for Oil Temp input. See the Setup Wizard "Input Function Assignments" page for options.
C1-69	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.
C1-70	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.
C1-71	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.
C1-72	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.
C1-73	Battery Ground	Battery Ground	Connect directly to battery ground
C2-1	DBW2 Motor +	5.0A max Throttle Control Hbridge Drive	+12V to open.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-2	DBW2 Motor -	5.0A max Throttle Control Hbridge Drive	+12V to close.
C2-3	Battery Ground	Battery Ground	Connect directly to battery ground
C2-4	Injector 7	Saturated or peak and hold, 3A max continuous	Injector 7
C2-5	Injector 8	Saturated or peak and hold, 3A max continuous	Injector 8
C2-6	Injector 9	Saturated or peak and hold, 3A max continuous	Injector 9.
C2-7	Injector 10	Saturated or peak and hold, 3A max continuous	Injector 10.
C2-8	Battery Ground	Power Ground	Connect directly to battery ground.
C2-9	Main Relay Power Input	12 volt power from relay	12 volt power from relay. Relay must be controlled by +12V Relay Control signal, pin C1-29 above.
C2-10	Injector 11	Saturated or peak and hold, 3A max continuous	Not used
C2-11	Injector 12	Saturated or peak and hold, 3A max continuous	Not used
C2-12	Analog 17	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. Normally used as A/C Analog Request input. See the Setup Wizard "Input Function Assignments" page for options.
C2-13	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. Normally used as DBW APP1. See the Setup Wizard "Input Function Assignments" page for options.

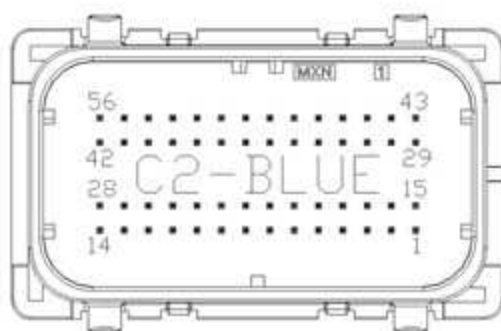
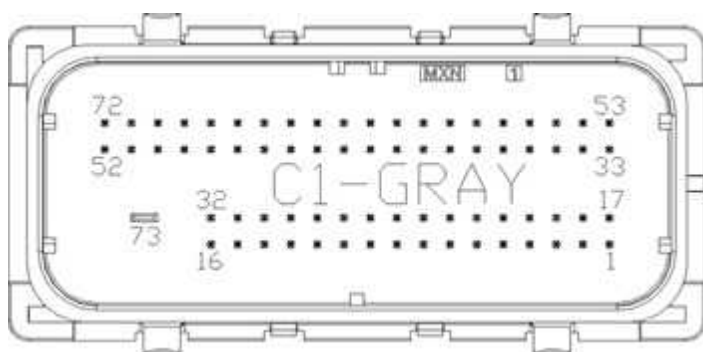
Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-14	Analog 19	12 bit A/D, 100K pullup to 5V	0-5V analog signal. Use +5V Out pins as power supply and Sensor Ground pins as the low reference. Do not connect signals referenced to +12V as this can permanently damage the ECU. Normally used as DBW APP2. See the Setup Wizard "Input Function Assignments" page for options.
C2-15	Analog Temp 4	12 bit A/D, 2.49K pullup to 5V	Normally used as Charge Out Temperature input. See the Setup Wizard "Input Function Assignments" page for options.
C2-16	Analog Temp 5	12 bit A/D, 2.49K pullup to 5V	Normally used as Airbox Temperature input. See the Setup Wizard "Input Function Assignments" page for options.
C2-17	Analog Temp 6	12 bit A/D, 2.49K pullup to 5V	Normally used as Fuel Temperature input. See the Setup Wizard "Input Function Assignments" page for options.
C2-18	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.
C2-19	Analog 14	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.
C2-20	Analog 15	12 bit A/D, 100K pullup to 5V	Default Exhaust Backpressure 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 the Setup Wizard "Input Function Assignments" page for options.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-21	Analog 16	12 bit A/D, 100K pullup to 5V	Default DBW1_TPSB 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.
C2-22	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C2-23	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C2-24	+5V Sensor Power	Regulated, fused +5V supply for sensor power	Analog sensor power
C2-25	VR+ 5	Differential Variable Reluctance Zero Cross Detection	See the Setup Wizard "Input Function Assignments" page for options.
C2-26	VR- 5		
C2-27	VR- 4	Differential Variable Reluctance Zero Cross Detection	See the Setup Wizard "Input Function Assignments" page for options.
C2-28	VR+ 4		
C2-29	Lowside 9	Lowside switch, 4A max with internal flyback diode, 2.2K 12V pullup. Inductive load should NOT have full time power. 12V pullup	See Setup Wizard Page "Output Function Assignment" for setup options.
C2-30	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C2-31	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground
C2-32	Analog Sensor Ground	Dedicated analog ground	Analog 0-5V sensor ground

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-33	Analog 20	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.
C2-34	Analog 21	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. Normally used as 3 Step Enable Switch input. See the Setup Wizard "Input Function Assignments" page for options.
C2-35	Analog 22	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.
C2-36	Analog 23	12 bit A/D, 100K pullup to 5V	Default Charge Out 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. See the Setup Wizard "Input Function Assignments" page for options.
C2-37	Digital 6	No pullup. Accepts 12V switch inputs	Input can be assigned to different pins. See Setup Wizard page Input Function Assignments for input mapping options.
C2-38	Digital 7	No pullup. Accepts 12V switch inputs	See ClutchSwitch 1-axis table for setup options. Input can be assigned to different pins. See Setup Wizard page Input Function Assignments for input mapping options.
C2-39	Battery Ground	Battery Ground	Connect directly to battery ground
C2-40	Battery Ground	Battery Ground	Connect directly to battery ground
C2-41	CanH B	Dedicated High Speed CAN Transceiver	Not used

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-42	CanL B	Dedicated High Speed CAN Transceiver	Not used
C2-43	Lowside 8	Lowside switch, 4A 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.
C2-44	Lowside 7	Lowside switch, 4A 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.
C2-45	UEGO 2 VM	Bosch UEGO Controller	Virtual Ground signal. Connect to pin 5 of Bosch UEGO sensor.
C2-46	UEGO 2 UN		Nernst Voltage signal. Connect to pin 1 of Bosch UEGO sensor
C2-47	UEGO 2 IP		Pumping Current signal. Connect to pin 6 of Bosch UEGO sensor
C2-48	UEGO 2 IA		Trim Current signal. Connect to pin 2 of Bosch UEGO sensor
C2-49	UEGO 2 HEAT		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.
C2-50	Battery Perm Power	Dedicated power management CPU	Full time battery power. MUST be powered before the ignition switch input is triggered (See C1-65).
C2-51	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.
C2-52	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.
C2-53	Coil 9	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.

Infinity Pin	Hrdwr Ref.	Hardware Specification	Notes
C2-54	Coil 10	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.
C2-55	Highside 2	Highside switch, 0.7A max, Solid State Relay, NO internal flyback diode.	See Setup Wizard Page "Output Function Assignment" for setup options.
C2-56	Not used	Not used	Not used



12 Month Limited Warranty

AEM Performance Electronics warrants to the consumer that all AEM ELECTRONICS products will be free from defects in material and workmanship for a period of twelve months from date of the original purchase. Products that fail within this 12-month warranty period will be repaired or replaced when determined by AEM that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement, at AEM's discretion, of the AEM Electronics part. In no event shall this warranty

exceed the original purchase price of the AEM ELECTRONICS part nor shall AEM ELECTRONICS be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product.

Warranty claims to AEM ELECTRONICS must be transportation prepaid and accompanied by 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 ELECTRONICS disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM ELECTRONICS.

Warranty returns will only be accepted by AEM ELECTRONICS when accompanied by a valid Return Merchandise Authorization (RMA) number. Product must be received by AEM ELECTRONICS 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 ELECTRONICS can issue an RMA for any electronic product, it is first necessary for the installer or end user to contact the 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 an RMA requested before the above process transpires. AEM ELECTRONICS will not be responsible for products that are installed incorrectly, installed in a non-approved application, misused, or tampered with.

Fuel Pumps installed with incorrect polarity (+&- wires crossed) will not be warranted. Proper fuel filtration before and after the fuel pump are essential to fuel pump life. Any pump returned with contamination will not be warranted.

Any AEM ELECTRONICS product, excluding discontinued products, can be returned for repair if it is out of the warranty period.

There is a minimum charge for inspection and diagnosis of AEM ELECTRONICS parts which are out of warranty. Parts used in the repair of AEM ELECTRONICS electronic components will be extra. AEM ELECTRONICS will provide an estimate of repairs and must receive written or electronic authorization before repairs are made to the product.

Need additional help? Contact the AEM Performance Electronics tech department at 1-800-423-0046 or email us at tech@aemelectronics.com.