

Instruction Manual



AEMnet Adapter Harness Installation for Series 2 EMS 30-6040 & 30-6300 P/N 30-3431 & 30-3434



STOP!

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

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

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

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

WARNING!

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

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

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AEMnet

AEMnet is an open architecture software and hardware interface based on the CAN 2.0 specification, which provides the ability for multiple AEMnet enabled devices to easily communicate with each other through a single cable. The hardware connection is made through a Deutsch 4P DTM connector. Devices connected to the AEMnet transmit data through this one connection. Once the AEMnet adapter is installed, the Series 2 EMS will be able to send and receive data on the AEMnet. Instructions for configuring the Series 2 EMS to output data are included in this manual. Instructions on configuring the Series 2 EMS to receive data from other AEMnet enabled products are contained in the individual product manuals. Upon completion of these instructions, the Series 2 EMS will be configured to output data to an AQ1 Data Logger or other data receiving device.

The following AEM products are currently AEMnet enabled:

Series 2 Engine Management System

EMS-4 Universal Standalone Engine Management System

4-Channel Wideband UEGO Controller

AQ-1 Data Logger

Dyno Shaft On-Vehicle Dynamometer

AEMnet CONNECTORS

The AEMnet has four wires, two are for communication (white pin 1 and green pin 2) and two are for powering (red pin 3 and black pin 4) certain AEMnet devices. Only the two communication wires (white pin 1 and green pin 2) are needed for the Series 2 EMS to send/receive data as the EMS is not powered by AEMnet. The red and black wires will need to be connected when using the Series 2 EMS with devices that are powered by AEMnet such as the Dyno-Shaft (see individual instructions for details). The AEMnet connectors are shown below in figure 1. See table 1 for the AEMnet connection pinout.

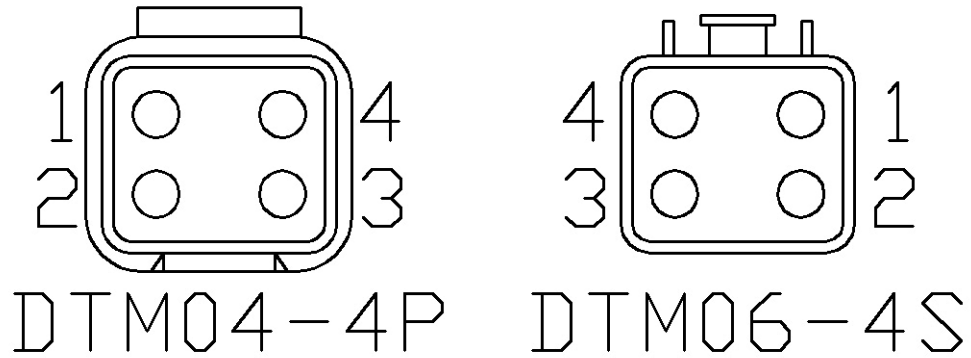


Figure 1: AEMnet connectors, wire entry view

AEMnet Connector		Series 2 EMS Connector
Pin 1	White	CAN1H
Pin 2	Green	CAN1L
Pin 3	Red	AEMnet Power (switched 12 volts)
Pin 4	Black	AEMnet Ground

Table 1: AEMnet connector pinout

REMOVE EXISTING WIRES FROM ECU PLUG(S)

1. Locate a small screwdriver (a precision 1.5mm wide flathead screwdriver is recommended) and carefully pry white plastic retainer using both slots in the retainer so it disengages vertically about 1mm as shown in figures 2 and 3 (please note: some connectors may have a lock opposite to the wires in between the pins, these can be removed simply using a pair of needle nose pliers):

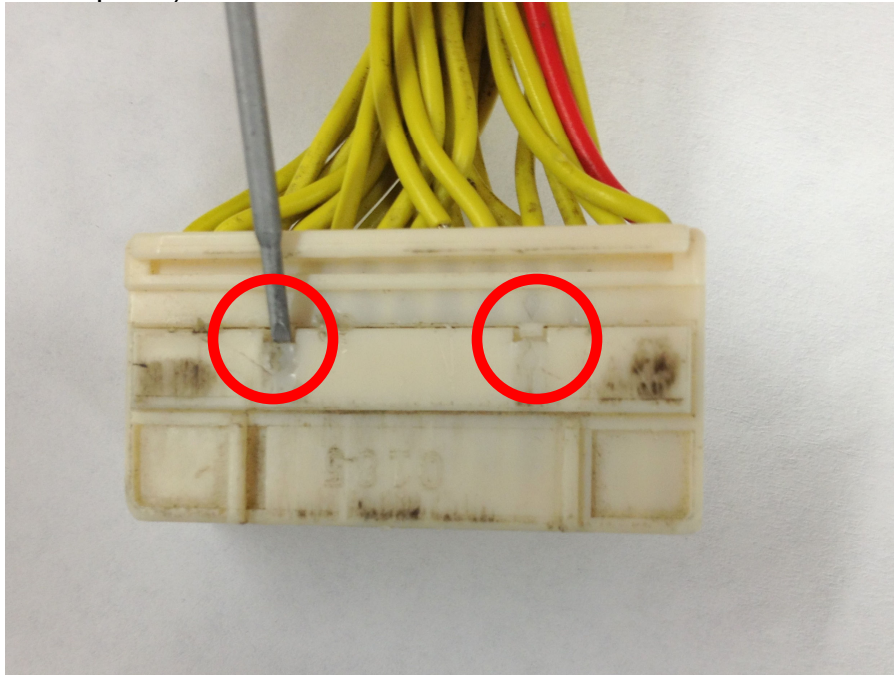


Figure 2: Pry in these areas

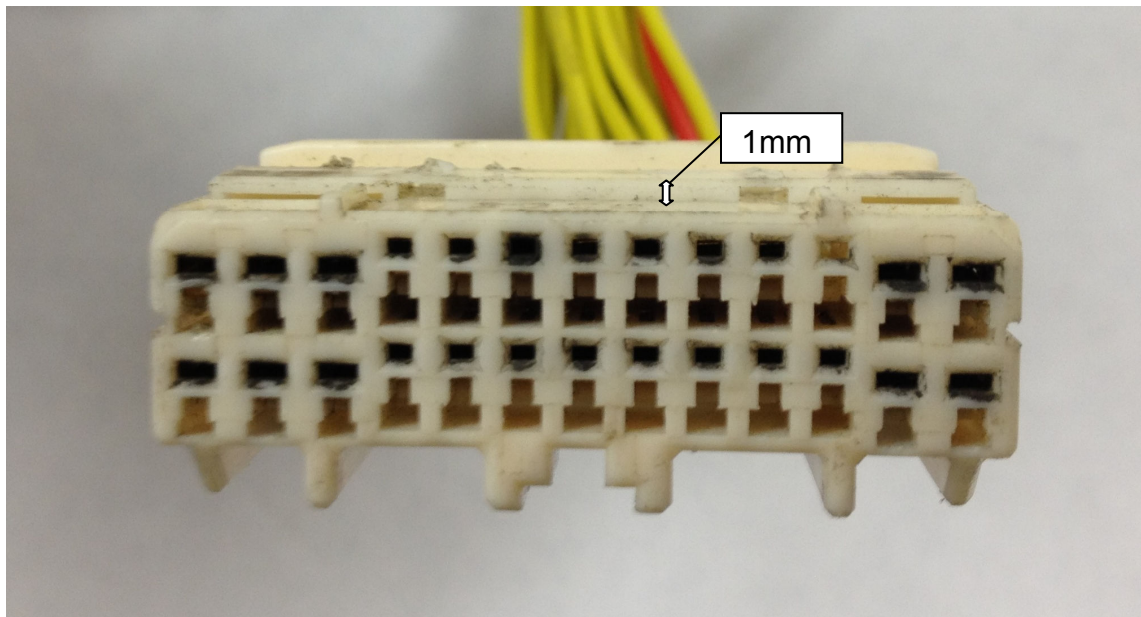


Figure 3: Lock that has to move up

2. Next remove the pin from the plastic connector by lightly prying on the plastic tabs that secure the pin in the plastic connector while gently pulling on the wire at the same time as shown in figures 4 and 5.

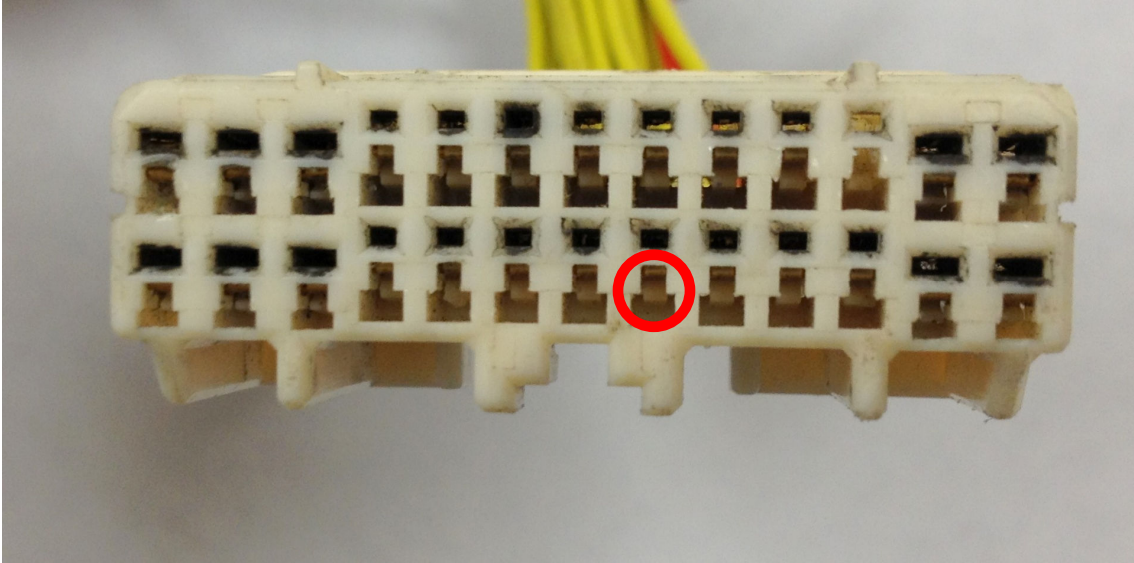


Figure 4: Pry this tab up with the screwdriver or paper clip to release pin

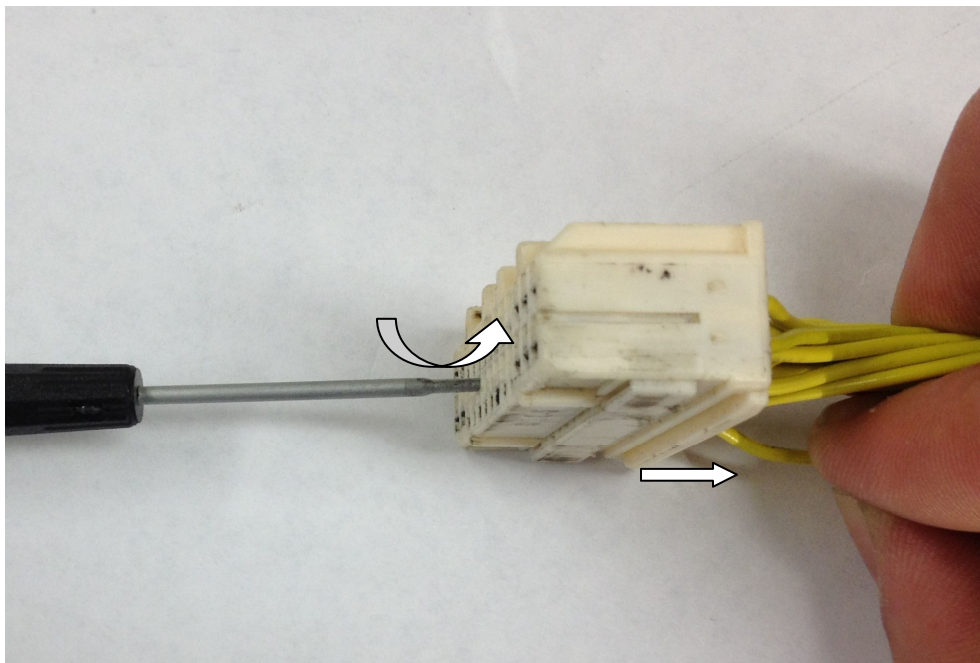


Figure 5: While prying tab, gently pull wire back

- If the screwdriver does not fit in the area of the plug, a ground paper clip can be used to release the tabs of the plug as shown in figure 6.

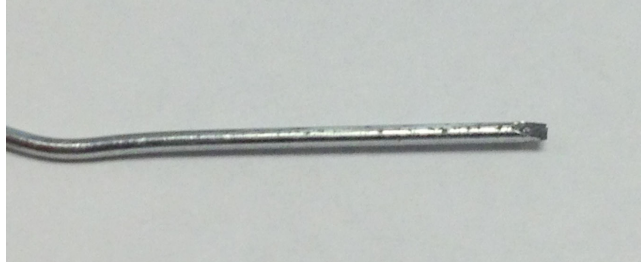


Figure 6: Grind a paper clip like this

INSTALL AEMnet ADAPTER HARNESS

- Table 2 below lists the corresponding CAN1L and CAN1H pin locations for each Series 2 EMS.

EMS	Adapter p/n	CAN1L (Green wire) LOCATION	CAN1H (White wire) LOCATION
30-6040	30-3431	A22	C2
30-6300	30-3434	75	13

Table 2: CAN1L and CAN1H pin locations

Figures 7 and 8 below show the connectors for each Series 2 EMS.

A1	A3	A5	A7	A9	A11	A13	A15	A17	A19	A21	A23	A25	B1	B3	B5	B7	B9	B11	B13	B15	C1	C3	C5	C7	C9	C11	D1	D3	D5	D7	D9	D11	D13	D15	D17	D19	D21
A2	A4	A6	A8	A10	A12	A14	A16	A18	A20	A22	A24	A26	B2	B4	B6	B8	B10	B12	B14	B16	C2	C4	C6	C8	C10	C12	D2	D4	D6	D8	D10	D12	D14	D16	D18	D20	D22

Connector A

Connector B Connector C

Connector D

Figure 7: Wire-side view of pinout for 6040 EMS

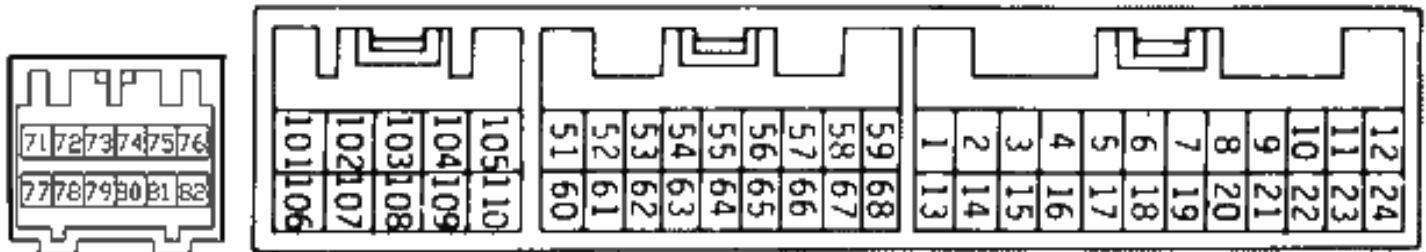


Figure 8: Wire-side view of pinout for 6300 EMS

5. To install the harness into the ECU plug, align the CANL and CANH pins into the receptacle of the plug and push in until it clicks as shown in figure 9:

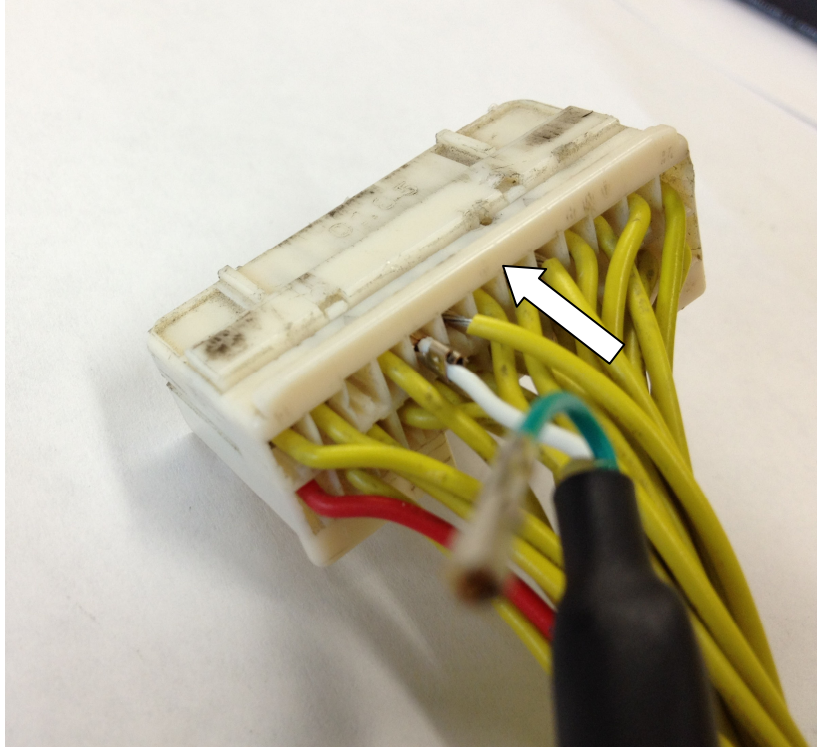


Figure 9: Pushing pin into ECU plug

6. Push the pin lock back into place until it is flush with the ECU plug as shown in figure 10:

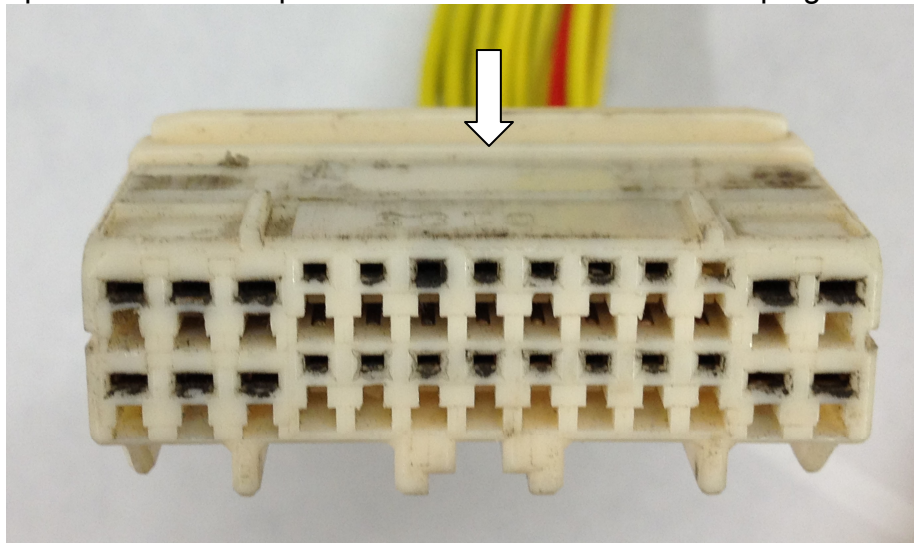


Figure 10: Ensure pin lock is relocked

CONFIGURING THE SERIES 2 EMS

The AEMnet data stream is compatible with version AEM25 01v23 firmware and later. To activate the AEMnet data stream, open AEMTuner and go to Wizards > Setup Wizard and select the AEMnet Data Stream. See figure 11 below.

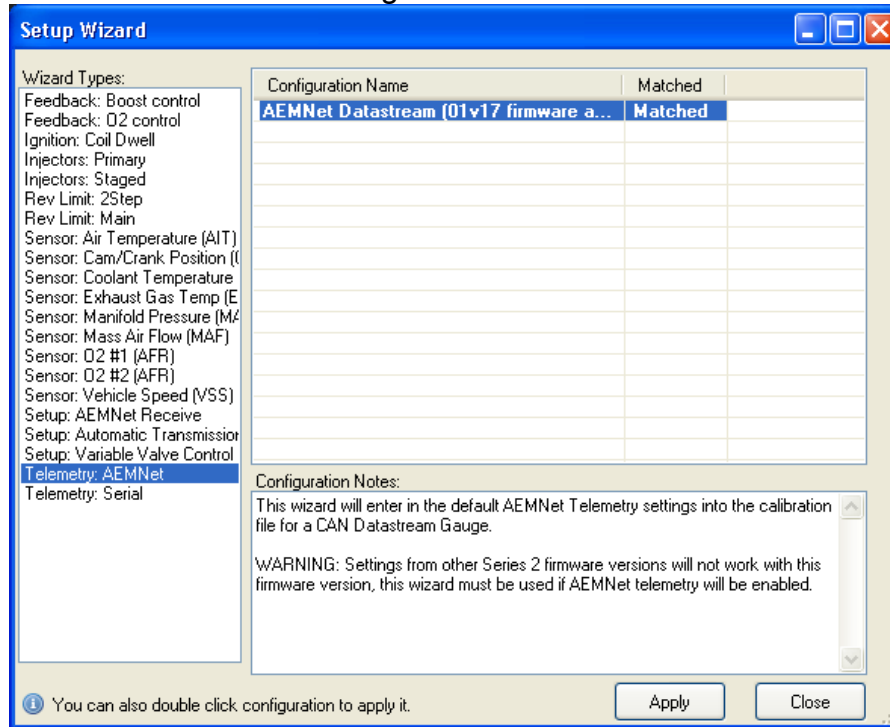


Figure 11: Selecting the AEMnet Datastream

With the AEMnet enabled, the Series 2 EMS broadcasts information as shown below in figure 12.

	Name	Scaler	Offset	Live Data	Units
AEM Series 2 EMS					
1	Engine Speed	1	0	0.00	rpm
2	Engine Load	1	0	234.83	kPa(abs)
3	Throttle	1	0	50.12	%
4	Air Temp	1	0	48.00	°C
5	Coolant Temp	1	0	5.00	°C
6	ADCR11	1	0	5.01	V
7	ADCR13	1	0	0.05	V
8	ADCR14	1	0	0.10	V
9	ADCR17	1	0	0.13	V
10	ADCR18	1	0	0.04	V
11	ADCR15	1	0	0.05	V
12	ADCR16	1	0	0.38	V
13	ADCR08	1	0	13.60	V
14	O2 #1	1	0	0.65	Lambda
15	O2 #2	1	0	0.45	Lambda
16	Vehicle Speed	1	0	0.00	mph
17	Gear Calculated	1	0	7.00	Decimal
18	Ign Timing	1	0	-17.00	Decimal
19	Battery Volts	1	0	13.58	V

Figure 12: AEMnet Data

WARRANTY

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 Goods Authorization (RGA) number. Product must be received by AEM within 30 days of the date the RGA is issued.

Please note that before AEM can issue an RGA for any product, it is first necessary for the installer or end user to contact the AEM Performance Electronics 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 RGA requested before the above process transpires.

Need additional help? Contact the AEM Performance Electronics tech department at 1-800-423-0046 or tech@aempower.com, or visit the AEM Performance Electronics forum at <http://forum.aempower.com/forum/>