Instruction Manual

AEM
PERFORMANCE ELECTRONICS

P/N 30-2907-96
AQ-1 DATA LOGGER OBDII HARNESS

STOP! - READ THIS BEFORE INSTALL OR USE!

WARNING:
THIS INSTALLATION MAY REQUIRE WELDING OR INTEGRATION INTO A VEHICLE'S ELECTRICAL SYSTEM. DAMAGE TO SENSITIVE ELECTRONICS, FIRE, OR EXPLOSION MAY OCCUR IF PROPER PRECAUTION IS NOT TAKEN. IF THERE IS ANY DOUBT, **DO NOT** ATTEMPT THE INSTALLATION AND CONSULT A PROFESSIONAL.
NOTE: IT IS THE RESPONSIBILITY OF THE ENGINE TUNER TO ULTIMATELY CONFIRM THE CALIBRATION USE FOR ANY PARTICULAR ENGINE IS SAFE FOR ITS INTENDED USE. AEM HOLDS NO RESPONSIBILITY FOR ANY ENGINE DAMAGE THAT RESULTS FROM THE MISUSE OF THIS PRODUCT.
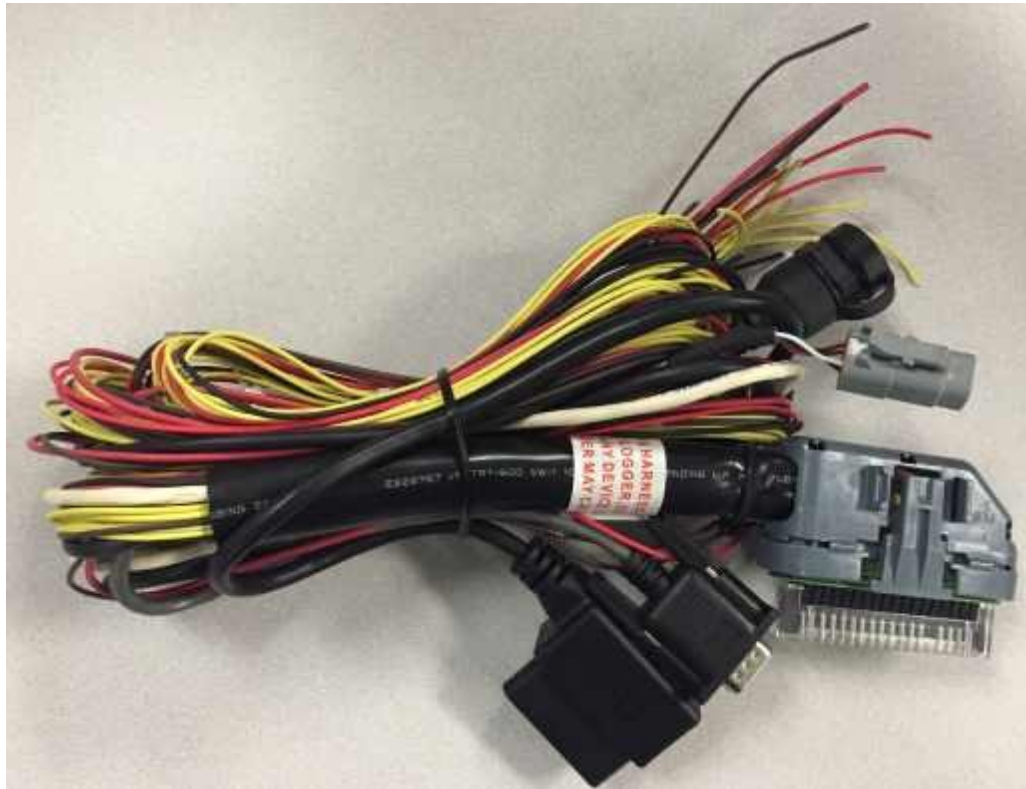
The AEM P/N 30-2907-96 AQ-1 Data Logger Harness has been designed to ensure easy installation, signal integrity, and proper logger operation. The 96" flying leads allow for easy integration into your vehicle for sensor inputs along with pre-terminated USB, Serial, AEMnet, and OBD-II connectors.

Features

- 96" Flying Leads
- Permanent Power, Switched Power, and Ground
- 4 Analog
- 4 Analog/Frequency
- 3 Digital
- DB9 Serial
- 4 Pin Deutsch AEMnet
- Bulkhead Mount USB w/ dust cap
- 28 Spare Pins

- OBD-II Connector

PN	Description
35-2907-96	HARNESS, AQ1 OBD + 28 Spare Pins

Overview

The AEM P/N 30-2907-96 AQ-1 Data Logger Harness has been designed to ensure easy installation, signal integrity, and proper logger operation.

Only skilled, experienced installers should attempt to source and design their own harness.

Manufacturer	Part Number	Description
Delphi	12110487	36 Way Black Micro-Pack 100W Sealed Female Connector, Max Current 7.5 amps
Delphi	12110490	LOCK STRAIN RLF MIC/P 100W RH GRA
Delphi	12110488	LOCK RETAINER CONN 36 CLR
Delphi	12110489	Green Multiple Cable Seal
Delphi	12084913	Micro-Pack 100W Series Female Unsealed Gold Plating Terminal Assembly, Cable Range 0.35 - 0.50 mm2
Delphi	12084912	Micro-Pack 100W Series Female Unsealed Gold Plating Terminal Assembly, Cable Range 0.80 - 0.80 mm2

Important Wiring Tips
- Permanent 12V (Pin 6) *must* be connected to a constant 12V battery source that is not disconnected via a cut-off switch or similar.
- Switched/Ignition 12V (Pin1) must be connected to a switched ignition source that energizes when the vehicle is in use and is off when the vehicle is not in use.
- Frequency inputs (Pins 12-15) must only be connected to clean DC square wave signals. Connections to ignition coils or magnetic/VR sensors *will* damage the logger.
- CAN wiring (Pins 27-28, 33-34) must utilize twisted pairs with greater than one twist per inch.
- USB wiring (Pins 31-32, 35-36) is only required if users wish to mount a USB port remotely; the integrated USB port functions exactly the same. USB wiring requires special care; please contact the USB consortium (usb.org) for proper wiring conventions.

• Proper crimping, shielding, and harness routing practices should always be implemented.

Pinout
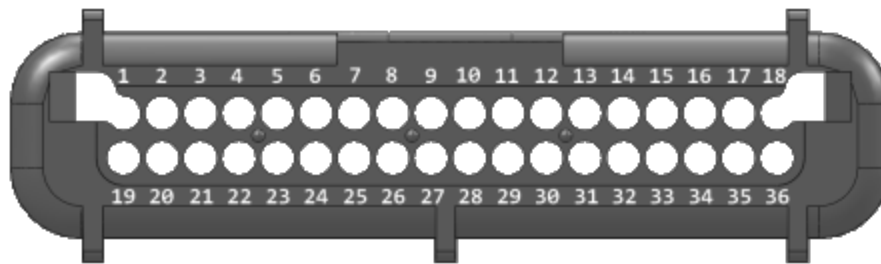
Pin	Description	Color	Notes
1	Switched/Ignition 12V	RED	"Battery Voltage" log channel source
2	Digital Input 1 (16V Max)	TAN	Must be a switched ground signal
3	Digital Input 2 (16V Max)	TAN	Must be a switched ground signal
4	Digital Input 3 (16V Max)	TAN	Must be a switched ground signal
5	Sensor/Power Ground		Not Populated
6	Permanent 12V	RED	This must be connected to a permanent 12V source (~200mA)
7	Sensor Ground	BLACK	Available for Use
8	Analog Input 1 (5V Max)	YELLOW	Software selectable 2.2k pull-up
9	Analog Input 2 (5V Max)	YELLOW	Software selectable 2.2k pull-up
10	Analog Input 3 (5V Max)	YELLOW	Software selectable 2.2k pull-up
11	Analog Input 4 (5V Max)	YELLOW	Software selectable 2.2k pull-up
12	Analog / Frequency Input 5 (16V Max)	YELLOW	Frequency signals must be "clean" DC square wave only
13	Analog / Frequency Input 6 (16V Max)	YELLOW	Frequency signals must be "clean" DC square wave only
14	Analog / Frequency Input 7 (16V Max)	YELLOW	Frequency signals must be "clean" DC square wave only
15	Analog / Frequency Input 8 (16V Max)	YELLOW	Frequency signals must be "clean" DC square wave only
16	RS-232 Serial Tx	WHITE	AEM EMS Series 1/2 or NMEA0183 GPS Only
17	RS-232 Serial Rx	RED	AEM EMS Series 1/2 or NMEA0183 GPS Only
18	RS-232 Serial Ground	BLACK	AEM EMS Series 1/2 or NMEA0183 GPS Only
19	Power Ground	BLACK	Available for Use
20	5V Sensor Reference	RED	100mA maximum
21 - 26	Reserved	N/A	Not Populated
27	AEMnet+ (CANH)	WHITE	AEMnet devices only
28	AEMnet- (CANL)	GREEN	AEMnet devices only
29	Reserved	N/A	Not Populated
30	Sensor Ground	BLACK	Available for Use
31	USB D-	WHITE	Redundant with integrated USB port
32	USB D+	GREEN	Redundant with integrated USB port
33	OBD-II (CANH)	RED	Populated in 30-2907-96 Only
34	OBD-II (CANL)	BLACK	Populated in 30-2907-96 Only
35	USB Ground	N/A	Redundant with integrated USB port
36	USB 5V	RED	Redundant with integrated USB port

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