

# Edelbrock QwikData 2 Harness Installation



These QwikData 2 Harness Installation notes provide all the information you need to install your harness and make necessary terminations.

For more detailed information, please refer to the QwikData 2 Installation Manual included with your kit or refer to the QwikData 2 Help Manual included in your software.



## EDELBROCK QWIKDATA 2 HARNESS INSTALLATION INSTRUCTIONS

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## **QwikData 2 Harness Instructions**

This section covers the LCU Harness details. The QwikData 2 Data Acquisition System is available in three configurations; [Basic](#), [Advanced Thermocouple](#) and [Advanced Analog](#). Harness schematics, pin-out designations and connector details for each system are available in this section. These details may be useful when setting up your QwikData 2 system.

To make the installation as easy as possible, the wiring harness provided is completely assembled with connectors that mate to the supplied sensors. Each sensor is connected to the QwikData 2 unit by simply mating the appropriate connectors.

Route the wiring harness as needed to make connections to the installed sensors. Avoid paralleling Data Log wires with any ignition wiring (primary or secondary) To connect the circular connectors on the wiring harness to the sensors, push the mating connectors firmly together and then turn the locking ring clockwise to lock the connectors together.

Refer to **Suggested Harness Routing** in the Harness Detail Section for assistance with routing your harness. With some installations it may be necessary to re-pin the LCU Connector in order to accommodate sensor location and available sensor input types. In these situations it should only be necessary to move the Analog Signal or Digital Signal wires in the LCU connector. The Sensor power and ground wires are all common. To release the pins in the LCU Connector simply depress the single white rectangular shape button on the LCU Connector. Re-locate pins as necessary in connector then depress pair of white rectangular buttons on opposite side of connector to lock pins.

### **BASIC SYSTEM HARNESS PART #91290**

The Basic System includes a single harness with 8 analog, 4 thermistor type temperature sensor, 1 Tach Input, 1 frequency(digital) sensor connectors and 1 programmable switched output that all terminate at the 34 pin connector on the LCU. \* **Inputs 7-10 are configured for thermistor type temperature sensors.**

### **ADVANCED THERMOCOUPLE HARNESS PART #91294**

The Advanced Thermocouple System includes two harnesses; the Basic System Harness and a second harness with 4 additional Analog sensor connectors, 2 frequency(digital) sensor connectors, 8 thermocouple connectors and a additional programmable switched output that terminate at the 26 pin connector on the LCU.

\* **Inputs 7-10 are configured for thermistor type temperature sensors.**

### **ADVANCED ANALOG HARNESS PART #91291**

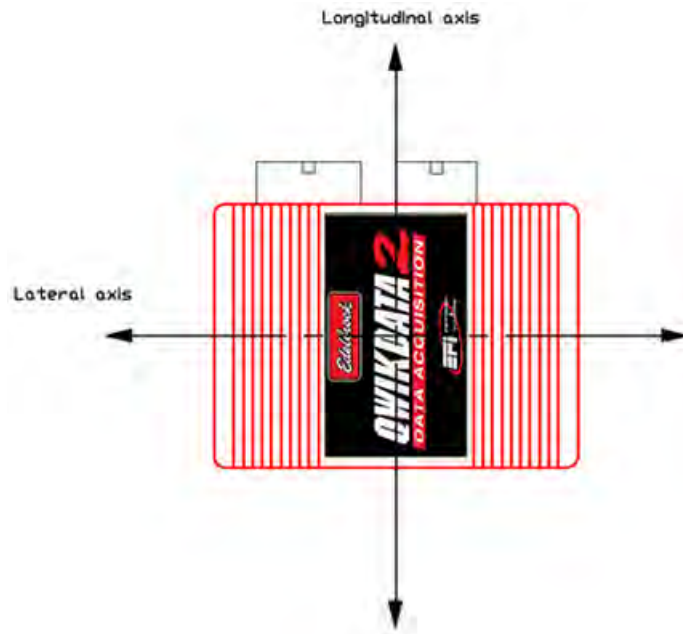
The Advanced Analog System includes two harnesses; the Basic System Harness and a second harness with 12 analog sensor connectors, 2 frequency(digital) connectors and a additional programmable switched output that terminate at the 26 pin connector on the LCU. \* **Inputs 7-10 are configured for thermistor type temperature sensors.**

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## **LCU Installation**

When installing the LCU you should consider the following points:

- The LCU is resistant to water, oil and fuel, but after prolonged exposure to these elements they may eventually work their way inside the LCU.
- Select a mounting position where the LCU will not be in constant contact with any fluid.
- Make sure that air can flow over the LCU to keep it below +70°C
- Do not place the LCU near source of electrical interference e.g. ignition boxes, coils, plug leads, or alternators.
- Mount the LCU bracket to the vehicle, line the bracket with the supplied foam tape, secure the LCU in the bracket with supplied O-Ring. Note: If G-Load data is desirable, for Lateral and Longitudinal sensor data to read properly the LCU must be mounted in a specific orientation. It is advisable to mount the LCU parallel to the ground with the QwikData 2 label up and the harness connectors facing forward.



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## **System Power Requirements**

The LCU needs a switched supply voltage greater than 10.0 volts to power-up and between 9.0 volts and 18.0 volts to operate correctly. If the supply voltage is outside the 9.0 volts and 18.0 volts limits, the LCU will not function properly.

Power is connected to the QwikData2 using the Pink/Black (switched 12 volts) and Black (ground) wires on the wiring harness. Connect the Pink/Black wire to a switched 12Volt source (e.g. output of ignition switch) and the black wire to a good ground source. Do not connect the Pink/Black wire directly to the battery, as this will put a constant current draw on your battery when the logger is not in use. QwikData 2 does not need continual battery power to preserve data and configuration settings.

Avoiding RFI and EMI Interference:

When installing the QwikData2 data logger unit avoid RF and EMI interference and make sure all grounds are connected to a clean reliable ground source. Try to keep all data logger unit wiring as far as possible from ignition components and related wiring. Avoid paralleling data logger wires with any ignition wiring(primary or secondary). Do not mount the data logger unit next to ignition box or ignition components.

## **Data Logging On/Off Switch**

With the QwikData 2 system, data logging can be started and stopped either automatically based on sensor values or manually with a switch(default configuration). If manual-logging is desired, a single pole on/off toggle switch must be installed in the vehicle and connected to the two logging control wires labeled "LOG SW" in the main harness. One wire should be connected to each terminal of the toggle switch. Data logging will start when the toggle switch is turned on (closing the circuit between the two wires) and stops when the switch is turned off. If the automatic data logging is configured the switch is not needed.

To enable manual log switch see Logging Table Enable Conditions in the Configuration section of your QwikData 2 Manual.

## **Digital Inputs Connections**

Digital channels (also referred to as Frequency) can be used to measure RPM, Speed, Frequency, Pulse Counts and Digital Events. The QwikData 2 Basic System has 1 Tach Input and 1 digital input. Harness connectors are labeled Tach Input and Freq. 2. The QwikData 2 Advanced system has 4 digital channel inputs. Harness connectors are labeled Tach Input, Freq. 2, 3, and 4. The Tach Input and Digital Inputs 2 thru 4 are hi speed digital input channels. Digital #5 - Pin 15 of the 34 pin Basic LCU connector and Digital #6 - pin 26 of the Advanced 26 pin connector can be wired to as low resolution digital inputs. This input acts as a counter each time a digital event occurs (the counter resets to zero each time the logger power is cycled).

For information regarding a Tach Input or Speed Sensor connections to a digital input refer to sections **Connecting a Tach Input**, and **Connecting a Reed Switch Speed Sensor** in this manual.

- Original QwikData Reed Switch Speed Sensors #91116 purchased before Sept.09 require a .33uF capacitor be soldered across the signal and ground wires inside the Switchcraft sensor connector (for example see **Connecting a Reed Switch Speed Sensor**).

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## **Auxiliary Outputs Connections**

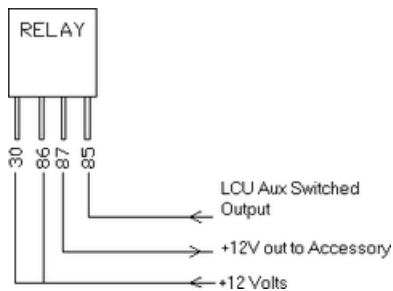
Auxiliary outputs are switched outputs controlled by the logger using Auxiliary Output channels 1 or 2 and a set of defined conditions for a specified logged channel.

Examples may be a dash lite activated by a channel programmed to alert a condition ie: RPM shift lite, low oil pressure warning, excessive fluid temperature, low or hi nitrous bottle pressure etc.

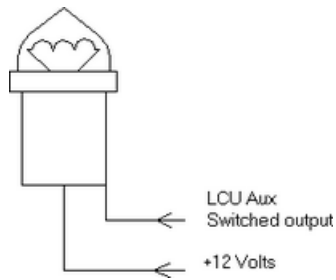
Auxiliary Output is rated at 1.5 AMP max. For triggers exceeding 1.5 AMP's output can be configured to activate a relay that controls another function ie: nitrous bottle heater or solenoid. When triggered the output from the harness will supply path to ground.

### **Auxiliary Output example diagrams**

Relay Circuit



Warning Lamp Circuit

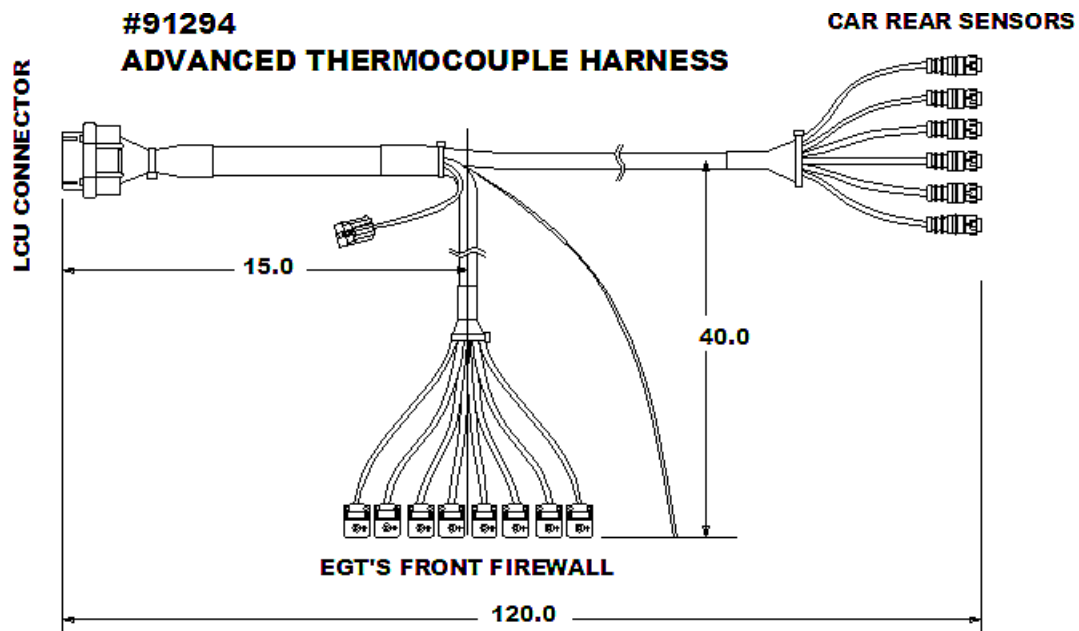
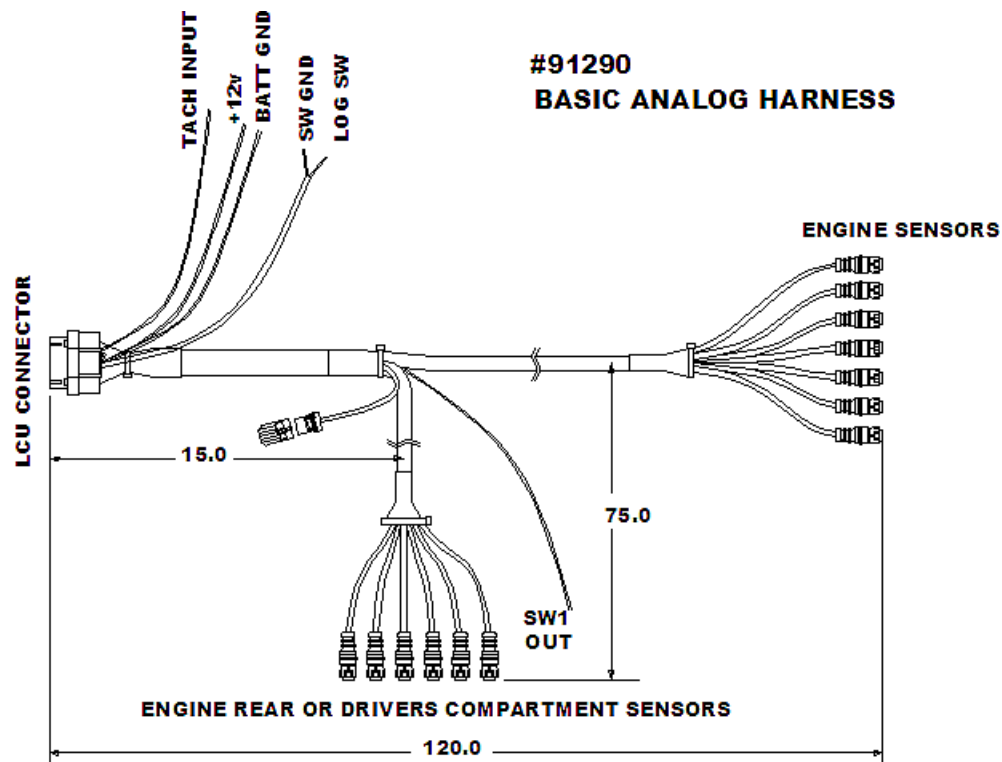


### **Note**

- All Auxiliary outputs switch path to ground when activated.

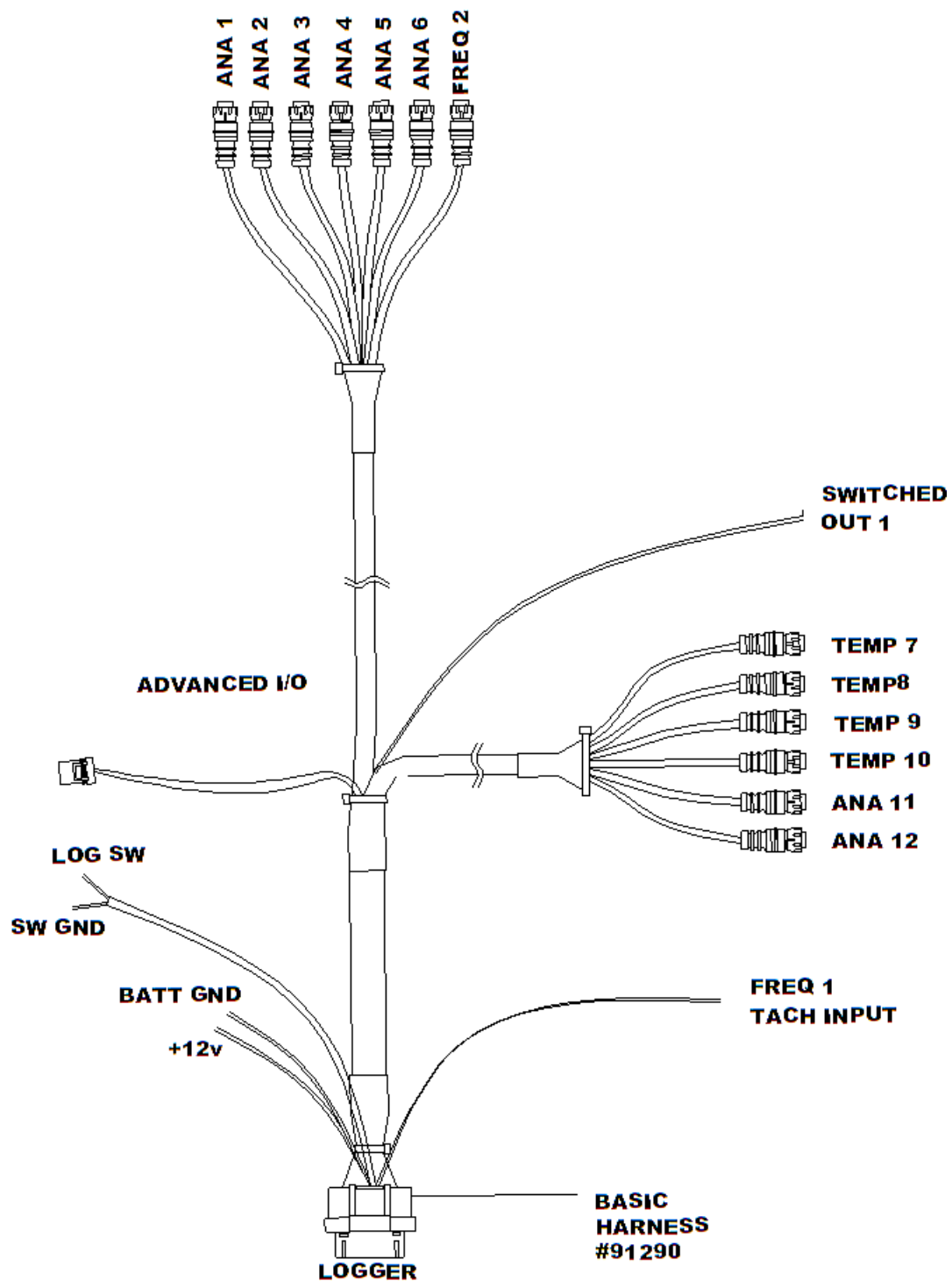


## Suggested Harness Routing

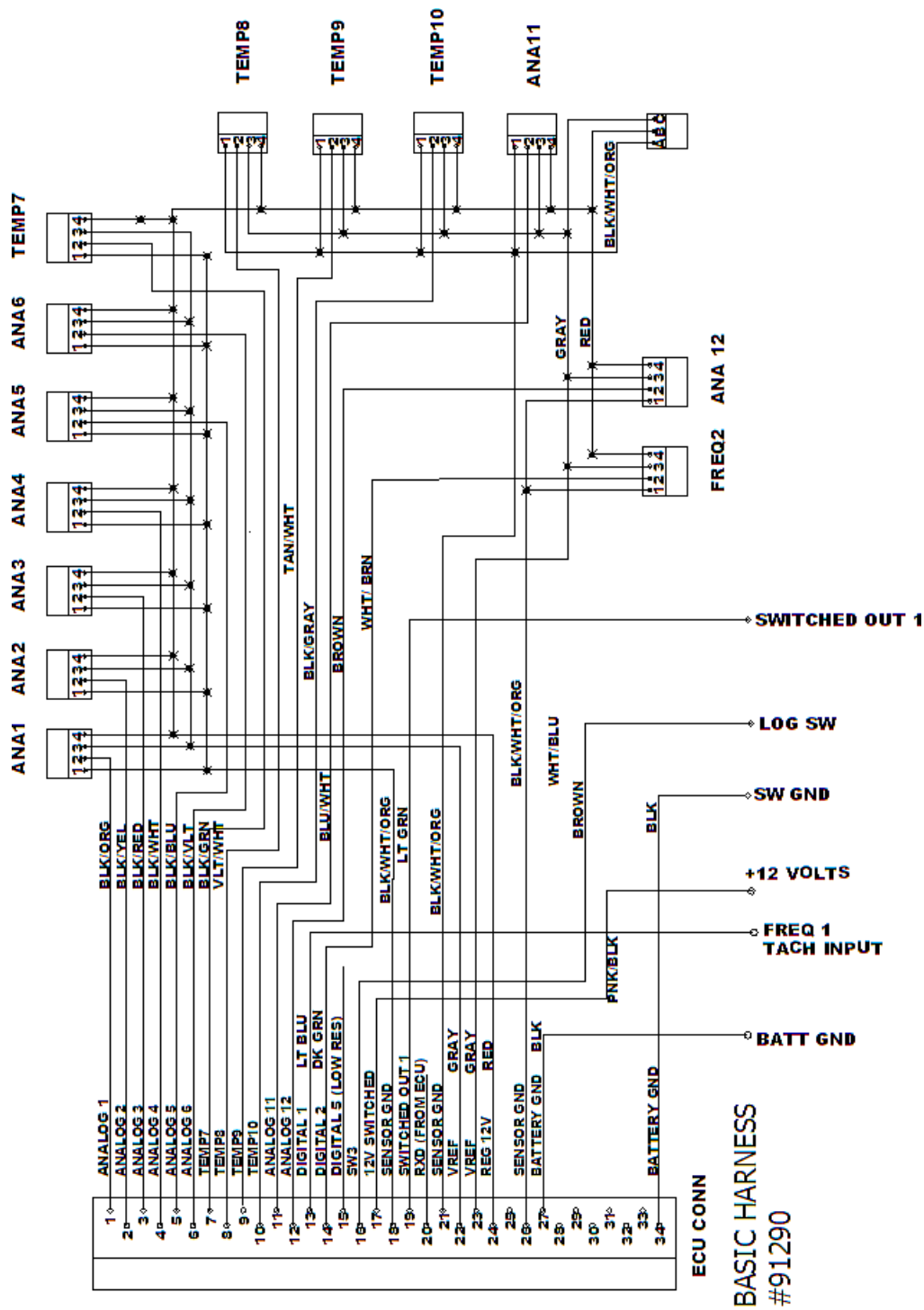




## #91290 Basic Analog Harness Details



#91290 Basic Harness Schematic



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## #91290 Basic Analog Harness LCU Connector pin assignments

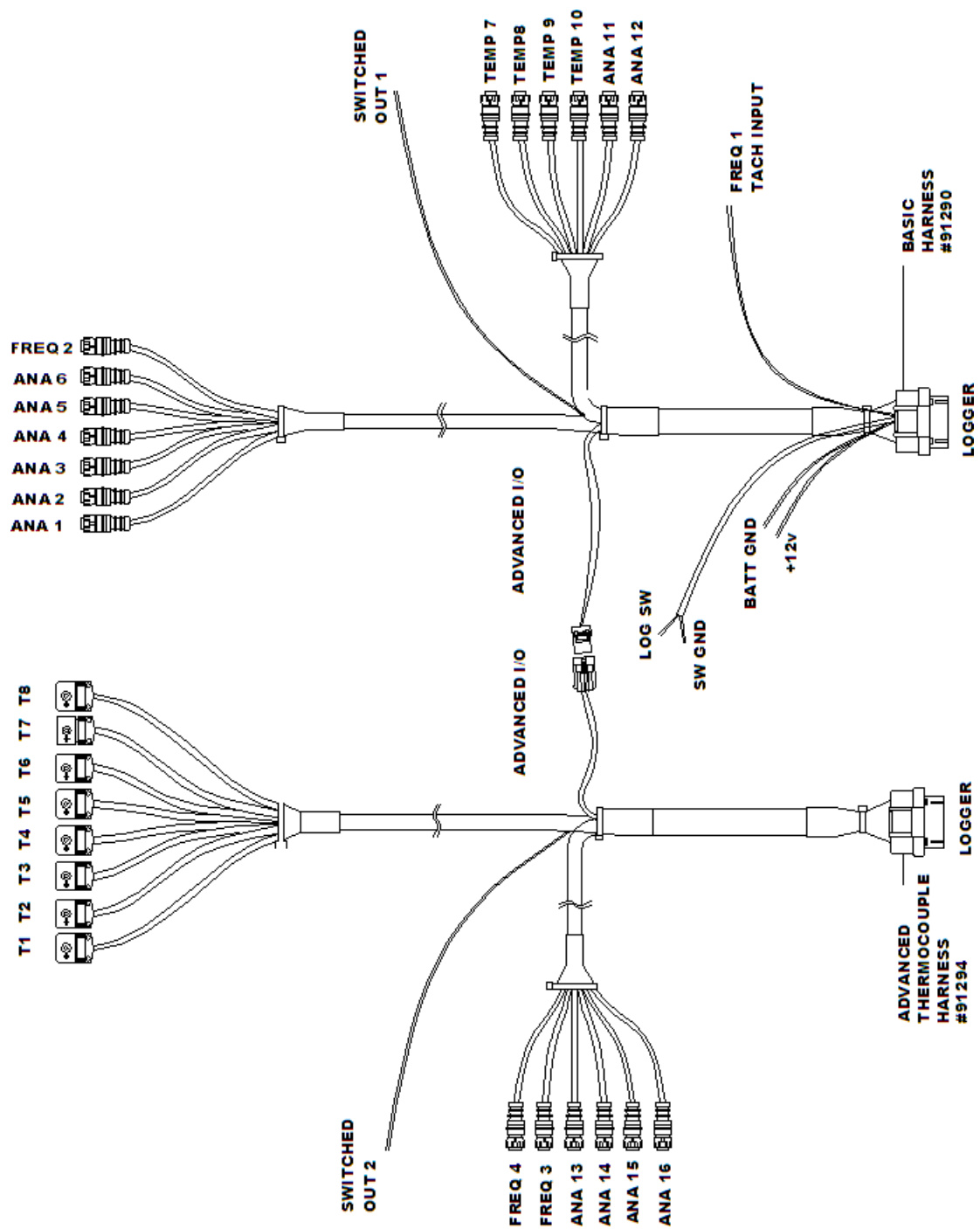
### 34 Pin LCU Connector

PIN	WIRE COLOR	FUNCTION	(Ch I.D)	PIN	WIRE COLOR	FUNCTION
1	BLK/ORG	ANALOG 1	(0004)	18	BLK/WHT/ORG	SENSOR GND
2	BLK/YEL	ANALOG 2	(0005)	19	LT GRN	SWITCHED OUT 1
3	BLK/RED	ANALOG 3	(0006)	20	N/C	RXD(FROM ECU
4	BLK/WHT	ANALOG 4	(0007)	21	BLK/WHT/ORG	SENSOR GND
5	BLK/BLU	ANALOG 5	(0008)	22	GRAY	VREF
6	BLK/VLT	ANALOG 6	(0009)	23	GRAY	VREF
7	BLK/GRN	TEMP 7	(0010)	24	RED	REG 12V
8	VLT/WHT	TEMP 8	(0011)	25	N/C	TXD(TO DASH)
9	TAN/WHT	TEMP 9	(0012)	26	BLK/WHT/ORG	SENSOR GND
10	BLK/GRAY	TEMP 10	(0013)	27	BLK	BATTERY GND
11	WHT/BLU	ANALOG 11	(0014)	28	N/C	
12	BROWN	ANALOG 12	(0015)	29	N/C	
13	LT BLU	FREQ 1	(0064) (TACH INPUT)	30	N/C	
14	DK GRN	FREQ 2	(0065)	31	N/C	
15	N/C	FREQ 5	(0068) LOW RESOLUTION	32	N/C	
16	BROWN	SW 3		33	N/C	
17	PNK/BLK	12V SWITCHED		34	BLK	BATTERY GND

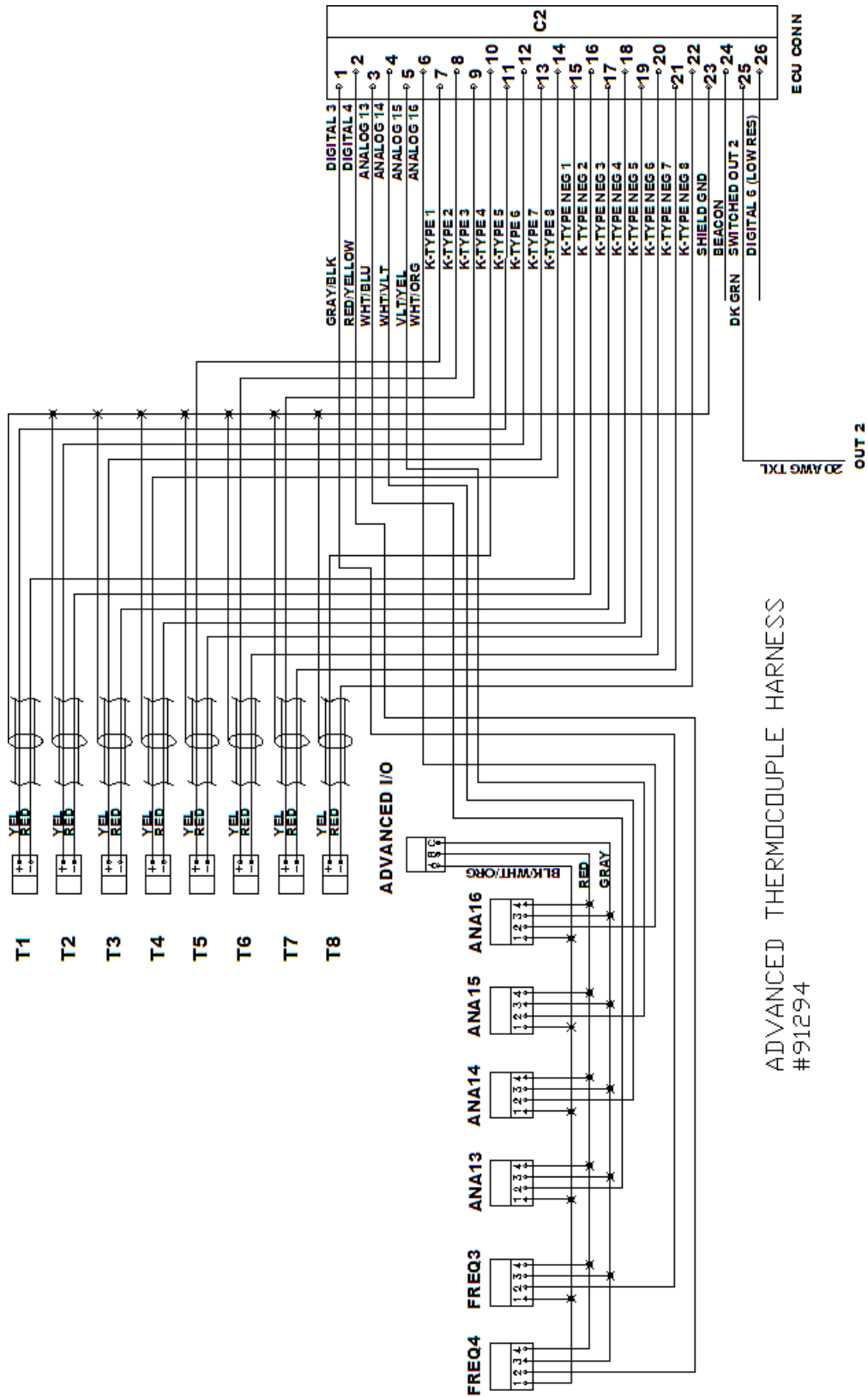
### #91290 Basic Analog Harness parts and vendor details

QTY	DESCRIPTION	MANUFACTURER	MANUFACTURER PART NUMBER
1	34 POSITION SUPER SEAL HOUSING	AMP	2-1437285-3
26	SOCKET TERMINAL, SUPER SEAL	AMP	3-1447221-5
1	HOUSING, METRI-PACK 150 SERIES	DELPHI	12110293
3	TERMINAL, FEMALE METRI-PACK 150 SERIES	DELPHI	12084200
3	CABLE SEAL, METRI-PACK 150 SERIES	DELPHI	12048087
1	TPA, METRI-PACK 150 SERIES	DELPHI	12052845
1	HOUSING, METRI-PACK 150 SERIES	DELPHI	12129615
3	CAVITY PLUG, METRI-PACK 150 SERIES	DELPHI	12059168
1	TPA, METRI-PACK 150 SERIES	DELPHI	12052845
13	EN3 MINI WEATHERTIGHT CONNECTOR	SWITCHCRAFT	EN3C4FC

## #91294 Advanced Thermocouple Harness Details



# #91294 Advanced Thermocouple Harness Schematic



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## #91294 Advanced Thermocouple Harness LCU Connector pin assignments

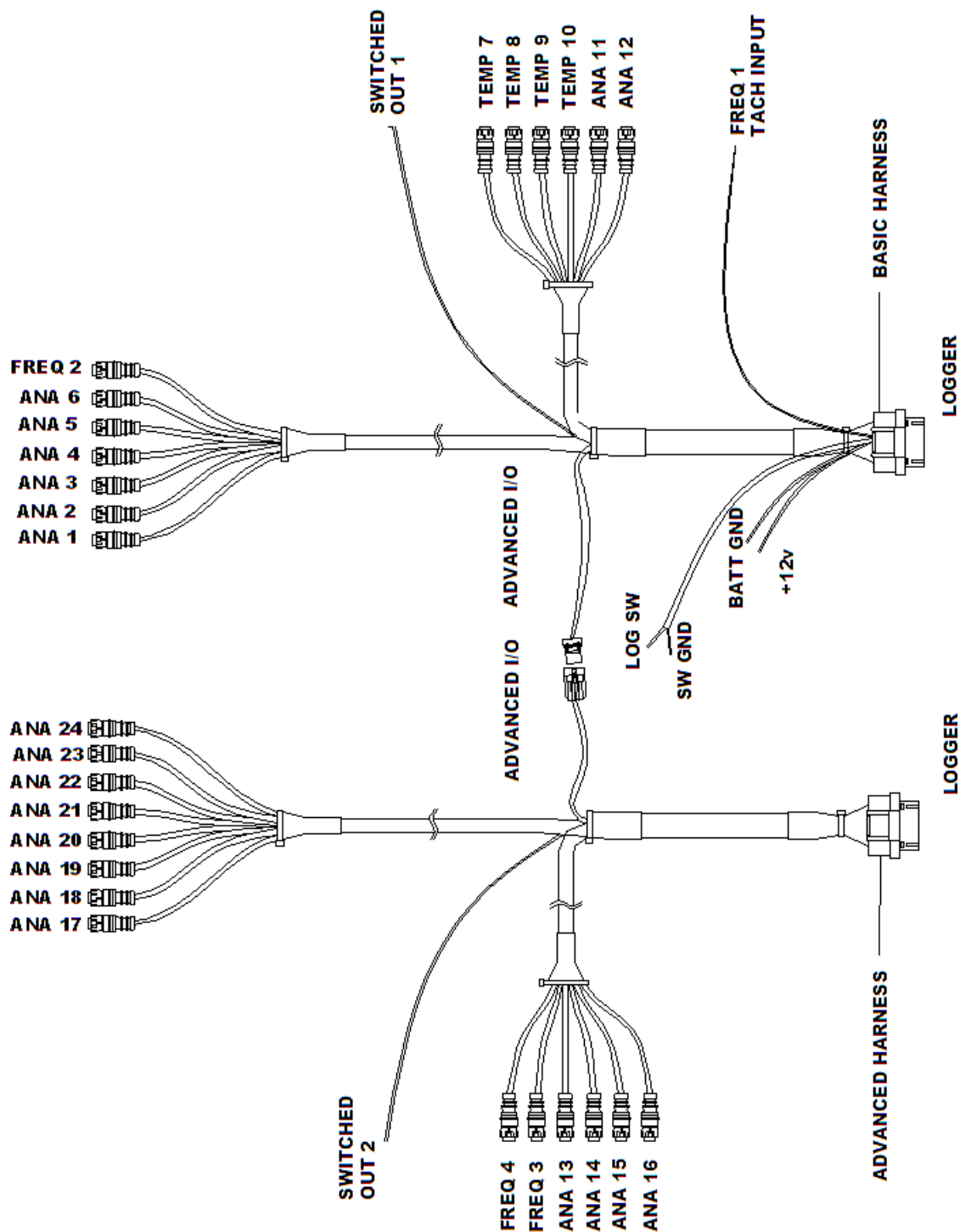
### 26 Pin LCU Connector

PIN	WIRE COLOR	FUNCTION (Ch I.D)	PIN	WIRE COLOR	FUNCTION (Ch I.D)
1	GRY/BLK	FREQ 3 (0066)	14	YEL	K-TYPE 8 (I.D0059)
2	RED/YLW	FREQ 4 (0067)	15	RED	K-TYPE NEG 1
3	WHT/BLU	ANALOG 13 (0016)	16	RED	K-TYPE NEG 2
4	WHT/VLT	ANALOG 14 (0017)	17	RED	K-TYPE NEG 3
5	VLT/YEL	ANALOG 15 (0050)	18	RED	K-TYPE NEG 4
6	WHT/ORG	ANALOG 16 (0051)	19	RED	K-TYPE NEG 5
7	YEL	K-TYPE 1 (0052)	20	RED	K-TYPE NEG 6
8	YEL	K-TYPE 2 (0053)	21	RED	K-TYPE NEG 7
9	YEL	K-TYPE 3 (0054)	22	RED	K-TYPE NEG 8
10	YEL	K-TYPE 4 (0055)	23	BLK	K-TYPE SHIELDS GRND
11	YEL	K-TYPE 5 (0056)	24	N/C	
12	YEL	K-TYPE 6 (0057)	25	DK GRN	SWITCHED OUT 2
13	YEL	K-TYPE 7 (0058)	26	N/C	FREQ 6 (I.D0069) LOW RESOLUTION

## #91294 Advanced Thermocouple Harness parts and vendor details

QTY	DESCRIPTION	MANUFACTURER	MANUFACTURER PART NUMBER
1	26 POSITION SUPER SEAL HOUSING	AMP	2-1437285-2
25	SOCKET TERMINAL, SUPER SEAL	AMP	3-1447221-5
1	HOUSING, METRI-PACK 150 SERIES	DELPHI	12129615
3	TERMINAL, MALE METRI-PACK 150 SERIES	DELPHI	12077628
3	CABLE SEAL, METRI-PACK 150 SERIES	DELPHI	12048087
1	TPA, METRI-PACK 150 SERIES	DELPHI	12052845
8	SUBMINI CONNECTOR ALLOY CODE K	OMEGA	SMPW-K-F
6	EN3 MINI WEATHERTIGHT CONNECTOR	SWITCHCRAFT	EN3C4FC

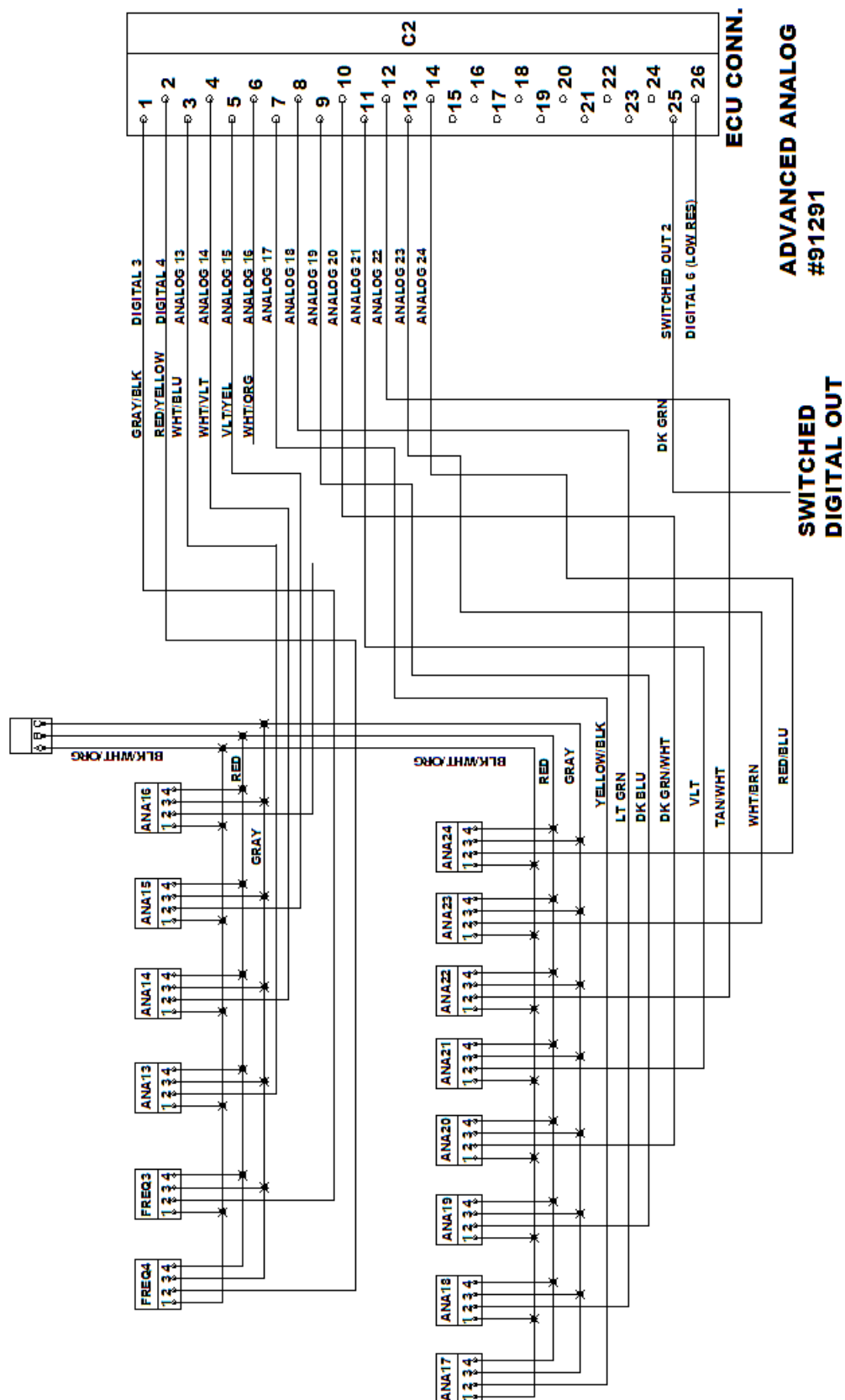
## #91291 Advanced Analog Harness Details





# #91291 Advanced Analog Harness Schematic

**ADVANCED I/O  
(CONNECTS TO BASIC  
HARNESS I/O CONNECTOR)**



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## #91291 Advanced Analog Harness LCU Connector pin assignments

### 26 Pin LCU Connector

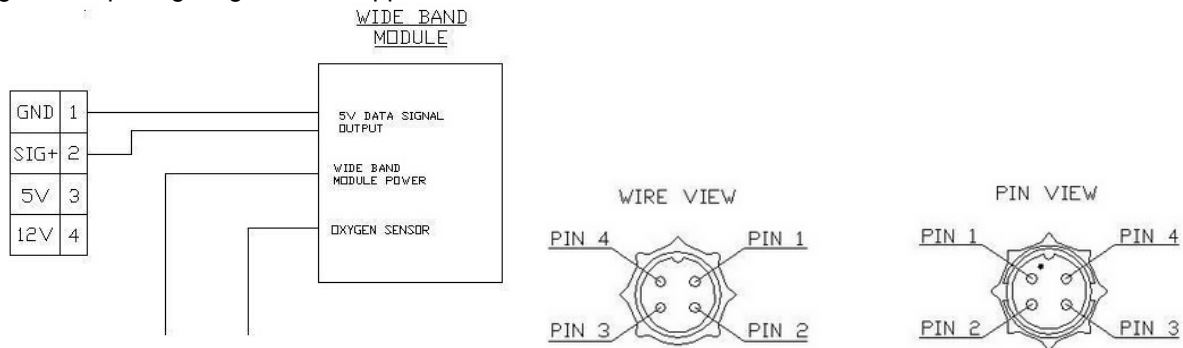
PIN	WIRE COLOR	FUNCTION (Ch I.D)	PIN	WIRE COLOR	FUNCTION (Ch I.D)
1	GRY/BLK	FREQ 3 (I.D0066)	14	RED/BLU	ANALOG 24 or CARD (I.D0059)
2	RED/YLW	FREQ 4 (I.D0067)	15	N/C	
3	WHT/BLU	ANALOG 13 (I.D0016)	16	N/C	
4	WHT/VLT	ANALOG 14 (I.D0017)	17	N/C	
5	VLT/YEL	ANALOG 15 (I.D0050)	18	N/C	
6	WHT/ORG	ANALOG 16 (I.D0051)	19	N/C	
7	LYLW/BLK	ANALOG 17 (I.D0052)	20	N/C	
8	LT GRN	ANALOG 18 (I.D0053)	21	N/C	
9	DK BLU	ANALOG 19 (I.D0054)	22	N/C	
10	DK GRN/WHT	ANALOG 20 (I.D0055)	23	N/C	
11	VLT	ANALOG 21 (I.D0056)	24	N/C	
12	TAN/WHT	ANALOG 22 (I.D0057)	25	DK GRN	SWITCHED OUT 2
13	WHT/BRN	ANALOG 23 (I.D0058)	26	N/C	FREQ 6 (I.D0069) LOW RESOLUTION

### #91291 Advanced Analog Harness parts and vendor details

QTY	DESCRIPTION	MANUFACTURER	MANUFACTURER PART NUMBER
1	26 POSITION SUPER SEAL HOUSING	AMP	2-1437285-2
16	SOCKET TERMINAL, SUPER SEAL	AMP	3-1447221-5
1	HOUSING, METRI-PACK 150 SERIES	DELPHI	12129615
3	TERMINAL, MALE METRI-PACK 150 SERIES	DELPHI	12077628
3	CABLE SEAL, METRI-PACK 150 SERIES	DELPHI	12048087
1	TPA, METRI-PACK 150 SERIES	DELPHI	12052845
14	EN3 MINI WEATHERTIGHT CONNECTOR	SWITCHCRAFT	EN3C4FC

## Connecting a Wide Band Lambda Sensor

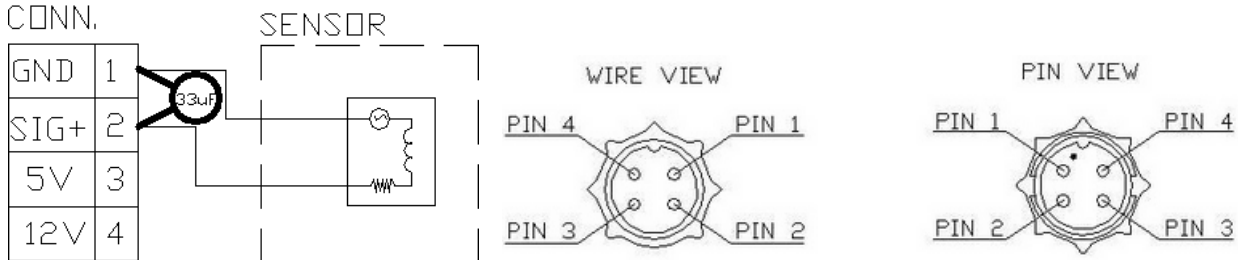
Most Wideband controllers have an analog output signal (0-5v) used for data logging or connecting to an engine management system. Connect this wire to pin #2 of the Analog Connector for the channel you are configuring. If a output signal ground is supplied follow manufacturers installation instructions.



## Connecting a Reed Switch Speed Sensor

Connect Wheel/Shaft Speed Sensor #91116 as shown below.

HARNESS  
CONN.



- Reed Switch Speed Sensor #91116 purchased before Sept.09 require a .33uF capacitor be soldered across the signal and ground wires inside the Switchcraft sensor connector.

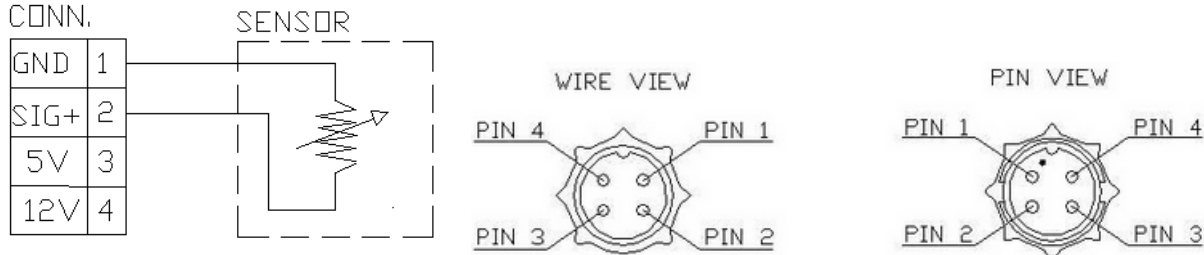
**Note:** QwikData 2 only accepts Reed Switch Speed Sensors or Hall Effect Type Speed Sensors.

## Connecting a Thermistor Sensor

Connect a RTD Thermistor sensor to an analog input as shown below.

- Channels #7,8,9, and 10 are configured for Thermistor Temperature Sensor inputs.

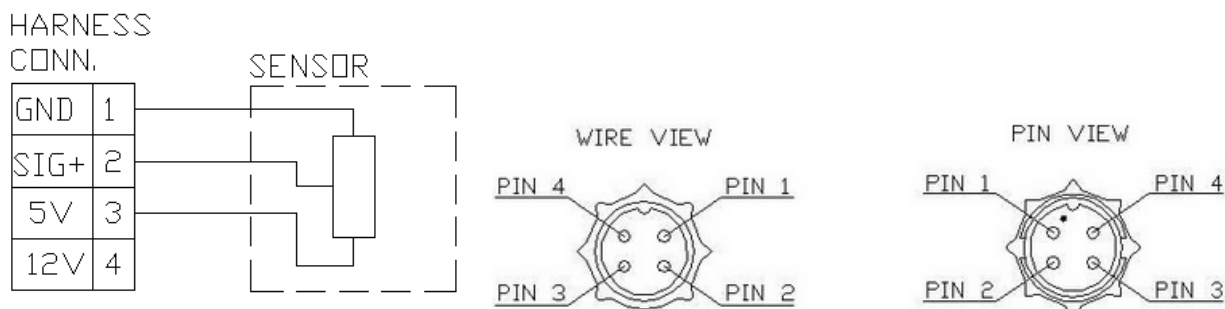
HARNESS  
CONN.



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## Connecting a Potentiometer

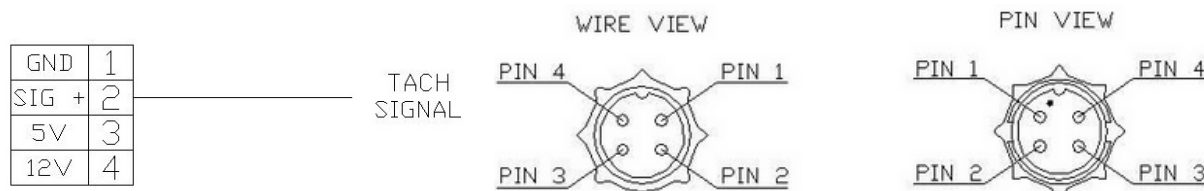
Connect a potentiometer sensor to a analog input as shown below.



## Connecting a Tach Input

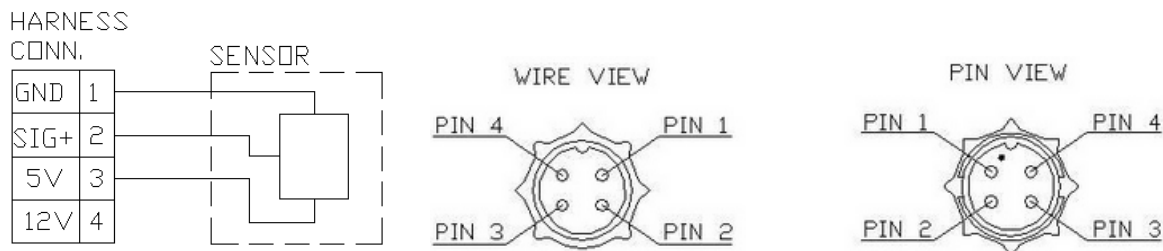
Digital Channel inputs can be configured to receive a tach signal for a RPM input. Most electronic ignitions provide a tach output. This wire should be connected to the Tach Input wire(Digital 1) on your Basic Harness.

**WARNING!!!: THIS INPUT MUST NOT BE CONNECTED DIRECTLY TO THE IGNITION COIL.**



## Connecting a Pressure Transducer

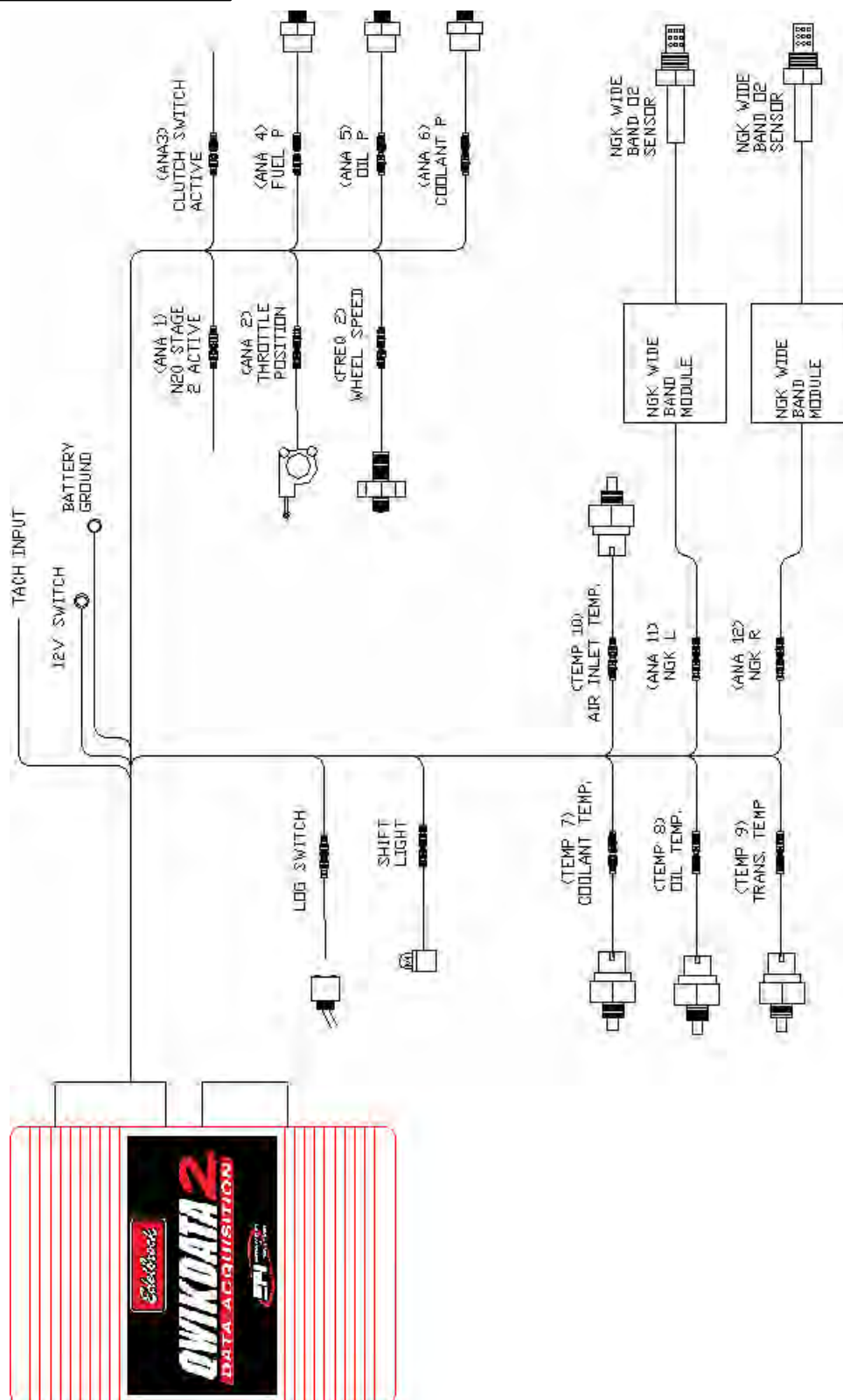
Connect 0-5volt output sensor (e.g. pressure transducer) to a analog input as shown below. Use Either the 5v or 12v excitation voltage as recommended by the sensor manufacturer. **5v excitation shown below.**



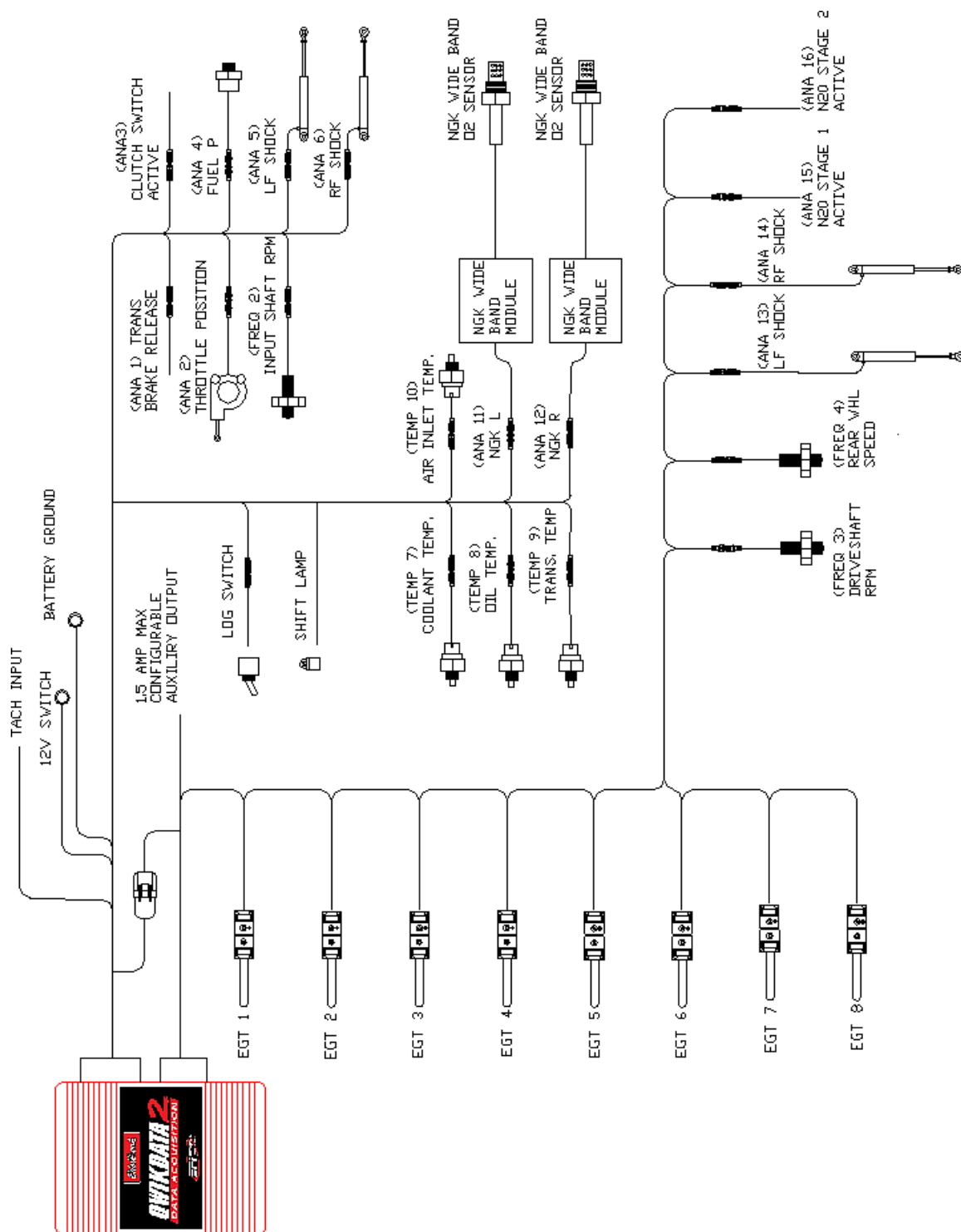
**NOTE: Only 0-5 Volt signals can be used. No 0-10 Volt or 0-12 Volt.**

## Typical Qwikdata 2 System Examples

### Basic System Example



## Advanced Thermocouple System Example







[illegible]



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