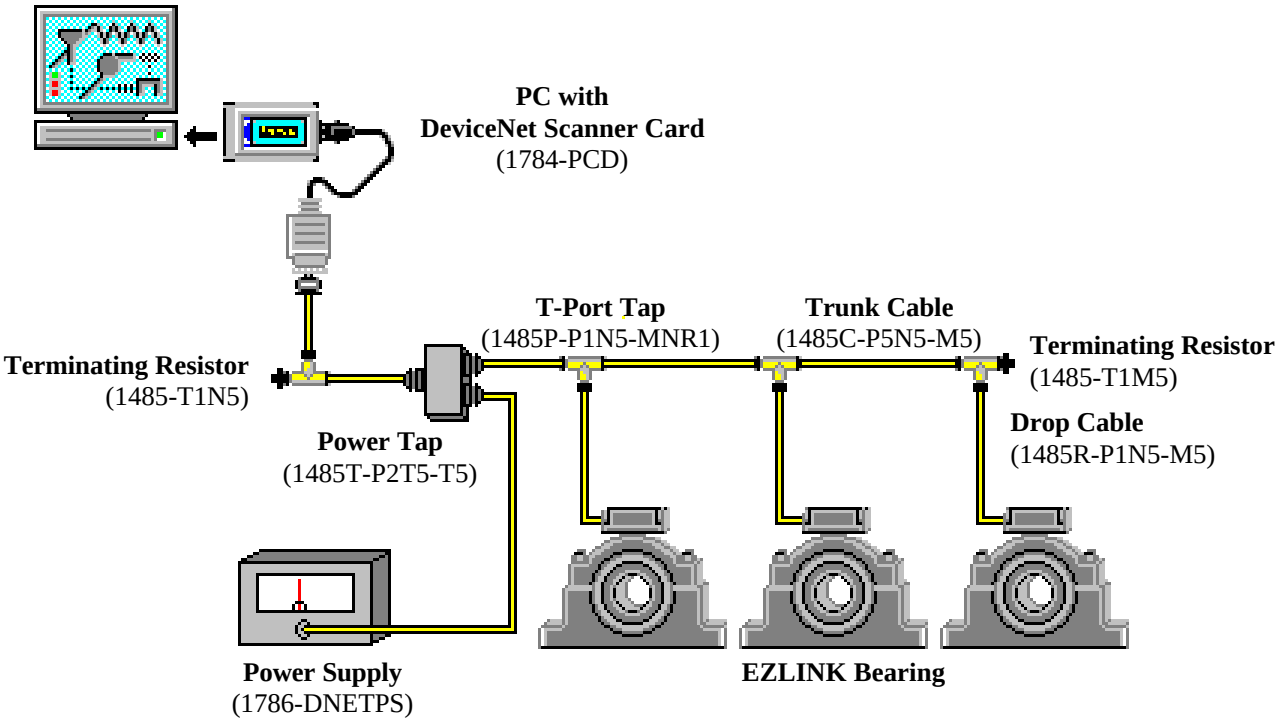


EZLINK DeviceNet System Components

As illustrated above, a typical EZLINK DeviceNet network consists of seven core components:

- *EZLINK Bearings and Gear Reducers*
  EZLINK modules mounted onto new Dodge bearings, speed reducers and gear boxes provide the best monitoring of your mechanical power transmission equipment.

- *PC with DeviceNet Scanner Card*
  Dodge recommends the use of the Allen-Bradley PCMCIA DeviceNet Adapter (1784-PCD).

- *Trunk Cable*
  Trunk cable is the backbone of the network. Thin trunk cable (6.9 mm) and think trunk cable (12.2 mm) configurations are available. We recommend Allen-Bradley predetermined thick cables 1485C-P*X*N5-M5 and thin cables 1485R-P*X*N5-M5 (Note: *X* = 1, 2, 3, 5, or 10m). If longer lengths are required, 1485C-P1-A*XXX* (thick) and 1485C-P1-C*XXX* may be ordered in lengths of 50, 150, and 300m but will require field attachable connectors (871A-TS5-N*XY*).

- *Drop Cable*
  Drop cables connect the EZLINK modules to the main trunk cable. We recommend Allen-Bradley drop cables 1485R-P*X*N5-M5 (*X*= 1, 2, or 3m).

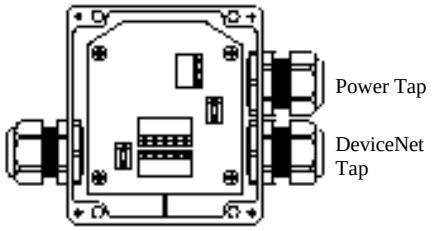
- *T-Port Tap*
  The T-Port Tap provides the connection point between the trunk line and the drop line. Dodge recommends the use of Allen-Bradley T-Port taps such as the 1485P-P1N5-MNR1.

- *Terminating Resistors*
  Without terminating resistors communication between the Control Device and the EZLINK modules will be unreliable. You will need both male and female terminating resistors such as the Allen-Bradley 1485-T1M5 and 1485-T1N5.

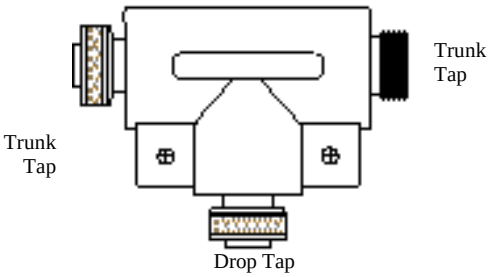
- *Power Supply and Power Tap*
  Provide power to all the EZLINK modules on the network. We recommend the Allen-Bradley power supply (1786-DNETPS) and power tap (1485T-P2T5-T5).

Network Setup

1. Install your PC.



2. Install the power supply near the PC. Connect the power supply to the Power Tap. Run a short length of trunk cable from the power tap toward the PC. Install a T-Port connector at the end of this trunk cable. Attach a terminating resistor to the unused T-Port tap. Connect a drop line to the bottom tap of the T-Port Tap and run this to the PC.



3. Run the trunk cable from the Power Tap to each of the EZLINK modules. If required, cut the trunk cable near the modules and install field attachable connectors. Note: Use one *male* and one *female* connector at each cut.

4. Connect each section of the trunk cable to the next section with T-Port Taps. Attach a terminating resistor to the unused end of the last T-Port Tap on the network

5. Attach a drop cable to each one of the T-Port Taps.

System Commissioning

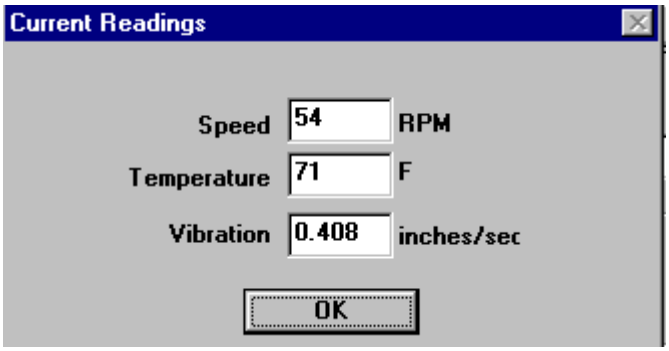
1. Attach one EZLINK module to its drop cable.

2. Turn on the PC. Start the Dodge EZLINK Monitoring software and wait for it to recognize the EZLINK module. (Note: if this process takes more than one minute there is probably a bad connection in the network). Select the "Node Configuration" screen from the "Window" menu.

3. Change the address of the EZLINK module by typing the new address in the "Current DeviceNet Address" field and clicking the "New Address" box as shown below.

4. Click the "Update" button.

5. Change the Operational Parameters for your process by typing the new value into the appropriate Alarm or Shutdown field. If you are uncertain of the typical speed, temperature, and vibration levels of your device, click the "Current Readings" button. A new dialog box like the one below will show these parameters for the current EZLINK module. Initially, you may want to set the alarm and shutdown limits 10% and 20% higher than the Current Readings.



6. If you have changed any parameters, click the "Update" button.

7. Connect a new EZLINK module to the network.

8. In the EZLINK Monitor software, change the "DeviceNet Address" field to 63. Click the "Insert" button. The software should read the current Operational Parameters from the new EZLINK module.

9. Repeat steps 3-8 for each EZLINK module on your network.

Vibration and Temperature Trending

The Vibration and Temperature Trending screens are the second and third windows available from the "Windows" menu. These screens plot the historical mean vibration level and temperature (vertical axis) against time (horizontal axis). The time base for these screens can be changed from the default of 8 hours either by clicking the Clock icon on the toolbar or by selecting "Change Time Scale" from the "View" menu.

Vibration Spectrum

The Vibration Spectrum screen is the fourth window available from the "Windows" menu. This screen plots the energy of vibration (vertical axis) against frequency (horizontal axis). To begin a frequency analysis, select "Sample Vibration" from the "Network" menu and specify the address of the EZLINK module to be analyzed. The number of samples remaining to be read from the module will appear in the upper right hand corner of the Vibration Spectrum plot for that module.

Node Status

The Node Status screen is the fifth screen available from the "Windows" menu. This screen graphically represents all the current readings available from an individual node. For example, the temperature sensed by the EZLINK module is represented with a thermometer. The red (shutdown limit exceeded), yellow (alarm limit exceeded), and green (operation within parameters) "lights" to the left of the graphic indicates the status of each parameter.

Network Status

The Network Status screen is the sixth window available from the "Windows" menu. This screen displays the current readings for all EZLINK modules on the network textually. If all parameters are within their limits the readings are displayed in green. If at least one parameter has exceeded its alarm limit the readings are displayed in yellow. If at least one parameter has exceeded its shutdown limit the readings for that module are displayed in red.

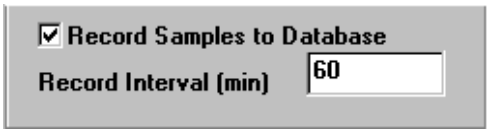
Database Tools

EZLINK Monitor Software includes database tools for long term trending over months, quarters, years, etc. The EZLINK Monitor software records sampled data to an ODBC compliant database (Microsoft Access). To enable or disable database recording:

1. Select "Data Collection" from the "Network" menu.

2. To enable the database make sure the "Database Recording" box is checked; otherwise clear the box.

3. Type in the recording interval, in one minute increments, between once per minute and once per day (1440 minutes). The example below shows database recording enabled once per hour.



4. Click "Update" to save the changes.