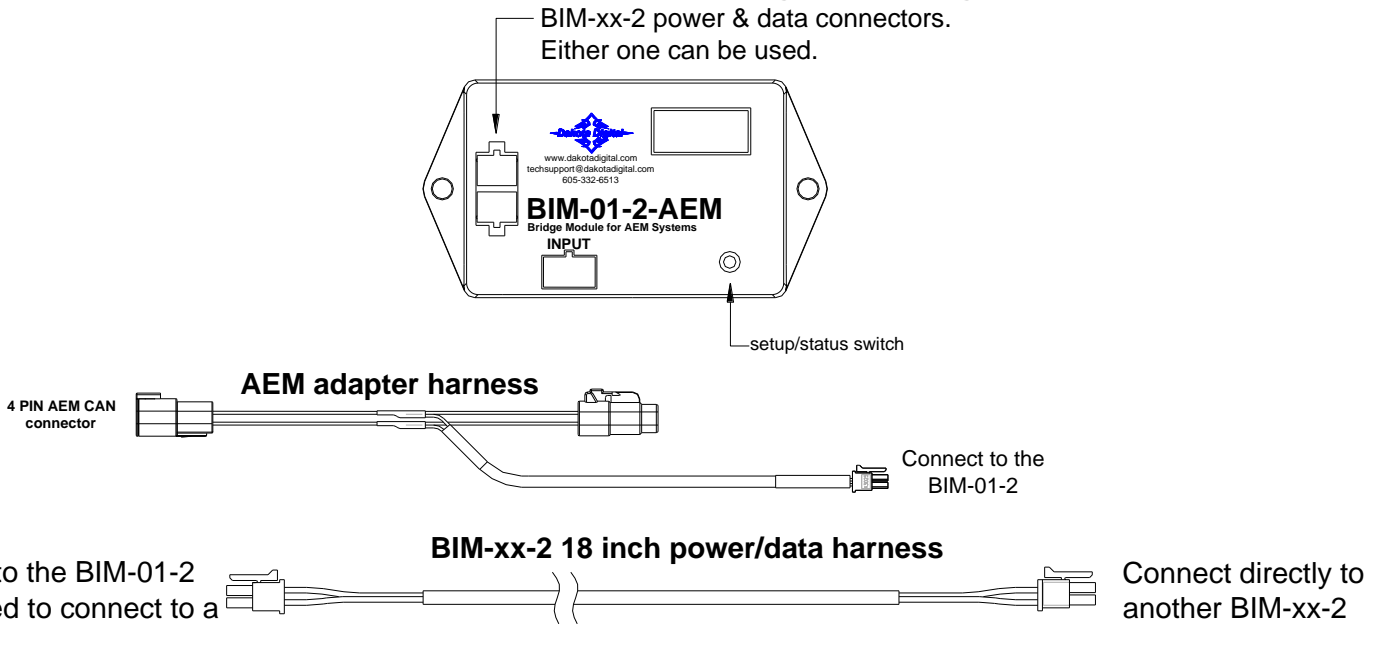




## BIM-01-2-AEM Bus Interface Module for AEM Engine Management



This Bus Interface Module is designed to read engine information from specific AEM CAN bus (AEMnet) enabled devices. These kits include Infinity ECU, Series 2 EMS or EMS-4. The module is connected to the AEM device through the 4-pin AEMnet connection plug on the main harness.

There are two interface (I/O) ports on the module. Either one can be connected to the gauge system or to another module, allowing several units to be daisy chained together. Do not connect the I/O port to anything other than a Dakota Digital gauge or BIM. Do not mount the module in the engine compartment; it should be mounted in interior of the vehicle.

The engine and transmission information that is available from the unit depends on the AEM module programming and add-ons. The possible values are: engine RPM, vehicle speed, engine coolant temperature, intake/manifold air temperature, oil pressure, fuel pressure, A/F ratio, MIL, trans temp and boost.

**Available readings: engine RPM, vehicle speed, engine coolant temperature, intake/manifold air temperature, oil pressure, fuel pressure, A/F ratio, MIL, trans temp and boost.**

## System Setup:

### AEM system setup

This unit is plug-and-play. Attach the included Y-harness to your AEMnet device. No further setup is required.

### AEM boost reading

This module is programmed to monitor boost(PSI). This is done by monitoring the MAP sensor. To ensure accuracy we calibrate the baseline barometric pressure from the MAP sensor when the device receives power and the engine is off. To enable this feature, you must enable the  $\beta\Sigma\tau$  (boost) option through the setup menu. With the unit off, press and hold the button on the BIM. Cycle the ignition to the on position then release the button. Press and release the button until  $\beta\sigma\tau$  (boost) is displayed. Press and hold to enter the menu. Press and release the button until  $\sigma\nu$  is shown. Press and hold to select.

### Display data usage

The following readings can each be used in place of dedicated sending units to the gauge control unit. These are individually selectable in the display system gauge setup menus.

\*Some gauge features require a minimum software revision or higher to be supported:

	Oil Pressure
VHX	VX04
VFD3	SE47
VFD3X	SE55

### VHX/VFD Setup:

#### Using speed from the BIM-01-2

- Hold the SW1 switch from the gauge system control box while turning the key on. The message display should show SETUP.
- Release SW1. The message display should show SPEED.
- Press and hold SW1. The message display should show SENDER. Release SW1.
- Press and release SW1 until BUS is displayed.
- Press and hold SW1 until DONE is displayed.

#### Using RPM from the BIM-01-2

- Hold the SW1 switch from the gauge system control box while turning the key on. The message display should show SETUP.
- Release SW1. Press and release SW1 until TACH is displayed.
- Press and hold SW1. The message display should show T CAL or ENGINE. Release SW1.
- Press and release SW1 until BUS is displayed.
- Press and hold SW1 until DONE is displayed.

#### Using engine temperature from the BIM-01-2

- Hold the SW1 switch from the gauge system control box while turning the key on. The message display should show SETUP.
- Release SW1. Press and release SW1 until WATER is displayed.
- Press and hold SW1. The message display should show SENDER. Release SW1.
- Press and release SW1 until BUS F or BUS C is displayed depending on your unit choice.
- Press and hold SW1 until DONE is displayed.

#### Using oil pressure from the BIM-01-2 (if available)

- Hold the SW1 switch from the gauge system control box while turning the key on. The message display should show SETUP.
- Release SW1. Press and release SW1 until OIL is displayed.
- Press and hold SW1. The message display should show SENDER. Release SW1.
- Press and release SW1 until BUS is displayed.
- Press and hold SW1 until DONE is displayed.

\*\*\*Intake/manifold air temp, Fuel PSI, boost and A/F ratio will be displayed in the message center if activated through the display menu setup.

## **HDX and RTX setup (Can also be completed using the Bluetooth app):**

### **Using speed from the BIM-01-2**

- HDX: With ignition on. Press and hold both switches to enter SETUP.
- RTX: With ignition off. Press and hold either switch, and turn ignition on to enter SETUP.
- Press and release either switch until SPEED is selected. Press and hold either switch to enter SPEED menu.
- Press and release either switch until INPUT is displayed. Press and hold either switch to enter INPUT menu.
- Press and release either switch until BIM is displayed. Press and hold either switch to select BIM.

### **Using RPM from the BIM-01-2**

- HDX: With ignition on. Press and hold both switches to enter SETUP.
- RTX: With ignition off. Press and hold either switch, and turn ignition on to enter SETUP.
- Press and release either switch until TACH is selected. Press and hold either switch to enter TACH menu.
- Press and release either switch until INPUT is displayed. Press and hold either switch to enter INPUT menu.
- Press and release either switch until CYLINDER is displayed. Press and hold either switch to select CYLINDER.
- Press and release either switch until BIM is displayed. Press and hold either switch to select BIM.

### **Using engine temperature from the BIM-01-2**

- HDX: With ignition on. Press and hold both switches to enter SETUP.
- RTX: With ignition off. Press and hold either switch, and turn ignition on to enter SETUP.
- Press and release either switch until WATER is selected. Press and hold either switch to enter WATER menu.
- Press and release either switch until INPUT is displayed. Press and hold either switch to enter INPUT menu.
- Press and release either switch until BIM is displayed. Press and hold either switch to select BIM.

### **Using oil pressure from the BIM-01-2 (if available)**

- HDX: With ignition on. Press and hold both switches to enter SETUP.
- RTX: With ignition off. Press and hold either switch, and turn ignition on to enter SETUP.
- Press and release either switch until OIL is selected. Press and hold either switch to enter OIL menu.
- Press and release either switch until INPUT is displayed. Press and hold either switch to enter INPUT menu.
- Press and release either switch until BIM is displayed. Press and hold either switch to select BIM.

### **Troubleshooting quick tips:**

While the BIM is operating, the dot in the upper left corner of the display will indicate the status. On steady indicates it is powered up but not receiving any BIM bus activity. Flashing indicates it is communicating on the BIM bus.

If the display shows "βυσ" then it is scanning to try and communicate with the AEM system bus but cannot get an answer. To see the sensor and channel status on the BIM display, press and hold the switch. The display will cycle through several screens. The first will show the bus type ("EΦ4" AEM). The next screens will indicate which (if any) extended data is available: "IAT" for intake/manifold temp, "EOIP" for engine oil pressure, "τφτ" for trans fluid temp.

### **To set or change the ID number:**

The ID will not normally need to be changed. The fuel PSI and A/F ratio readings both use bus ID's so if you have other BIM units connected along with this one there is a chance of ID conflicts. This can easily be resolved. If fuel PSI or A/F ratio is not showing up in the BIM setup menu on your system you may need to resolve an ID conflict. The following procedure will allow the BIM-01-2 to automatically select a new, unused ID.

- Hold the switch on BIM while turning the key on. The BIM will show the current software code.
- Release the switch.
- Press and release the switch until "Iδ" is shown on the display.
- Press and hold. "υπδ" will be shown while the BIM is scanning the bus for other BIM units.
- When you see "δvε" shown on the display release the switch.
- The BIM unit will now go back to normal operation.

\*\*\*Intake/manifold air temp, Fuel PSI, boost and A/F ratio will be displayed in the group screens if activated through the displays>>>group set menu setup.

<b>Troubleshooting guide</b>		
<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
o BIM will not light up at all	<ul style="list-style-type: none"> <li>• PWR wire does not have power.</li> <li>• Power/data harness is damaged.</li> <li>• Module is damaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect to a location that has +12V key-on power.</li> <li>• Inspect harness and repair or replace.</li> <li>• Return for service. (See Instructions below)</li> <li>• Connect to a different ground location</li> </ul>
o BIM display is scanning "βΥΣ"	<ul style="list-style-type: none"> <li>• AEM adapter harness is not connected</li> <li>• The AEM system is not compatible</li> <li>• The AEM is not powered on.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect the appropriate harness to the AEM CAN.</li> <li>• Verify compatibility.</li> <li>• Verify AEM system is powered on.</li> </ul>
o BIM has a steady dot lit	<ul style="list-style-type: none"> <li>• Interface cable is not connected</li> <li>• Interface cable is loose.</li> <li>• On VHX systems, the BIM display for this is disabled.</li> </ul>	<ul style="list-style-type: none"> <li>• Connect the supplied data cable between the BIM unit and the gauge control box.</li> <li>• Make sure both ends of the cable are seated.</li> <li>• Follow instructions in VHX manual to enable the BIM display screen.</li> </ul>
o BIM display shows "88:8"	<ul style="list-style-type: none"> <li>• Data cable is damaged.</li> <li>• Another module on the bus is damaged or connected improperly.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspect and replace the data cable.</li> <li>• Inspect other modules on the bus.</li> </ul>

## **SERVICE AND REPAIR**

DAKOTA DIGITAL offers complete service and repair of its product line. In addition, technical consultation is available to help you work through any questions or problems you may be having installing one of our products. Please read through the Troubleshooting Guide. There, you will find the solution to most problems.

**Should you ever need to send the unit back for repairs, please call our technical support line, (605) 332-6513, to request a Return Merchandise Authorization number.** Package the product in a good quality box along with plenty of packing material. Ship the product by UPS or insured Parcel Post. Be sure to include the RMA number on the package, and include a complete description of the problem with RMA number, your full name and address (street address preferred), and a telephone number where you can be reached during the day. Any returns for warranty work must include a copy of the dated sales receipt from your place of purchase. Send no money. We will bill you after repair.

### **Dakota Digital Limited Lifetime Warranty**

DAKOTA DIGITAL warrants to the ORIGINAL PURCHASER of this product that should it, under normal use and condition, be proven defective in material or workmanship for the lifetime of the original vehicle it was installed in, such defect(s) will be repaired or replaced at Dakota Digital's option.

This warranty does not cover nor extend to damage to the vehicle's systems, and does not cover diagnosis, removal or reinstallation of the product. This Warranty does not apply to any product or part thereof which in the opinion of the Company has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident. Dakota Digital assumes no responsibility for loss of time, vehicle use, owner inconvenience nor related expenses. Dakota Digital will cover the return standard freight once the product has been evaluated for warranty consideration; however the incoming transportation is to be covered by the owner.

This Warranty is in lieu of all other expressed warranties or liabilities. Any implied warranties, including any implied warranty of merchantability, shall be limited to the duration of this written warranty. No person or representative is authorized to assume, for Dakota Digital, any liability other than expressed herein in connection with the sale of this product.

**⚠ WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



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