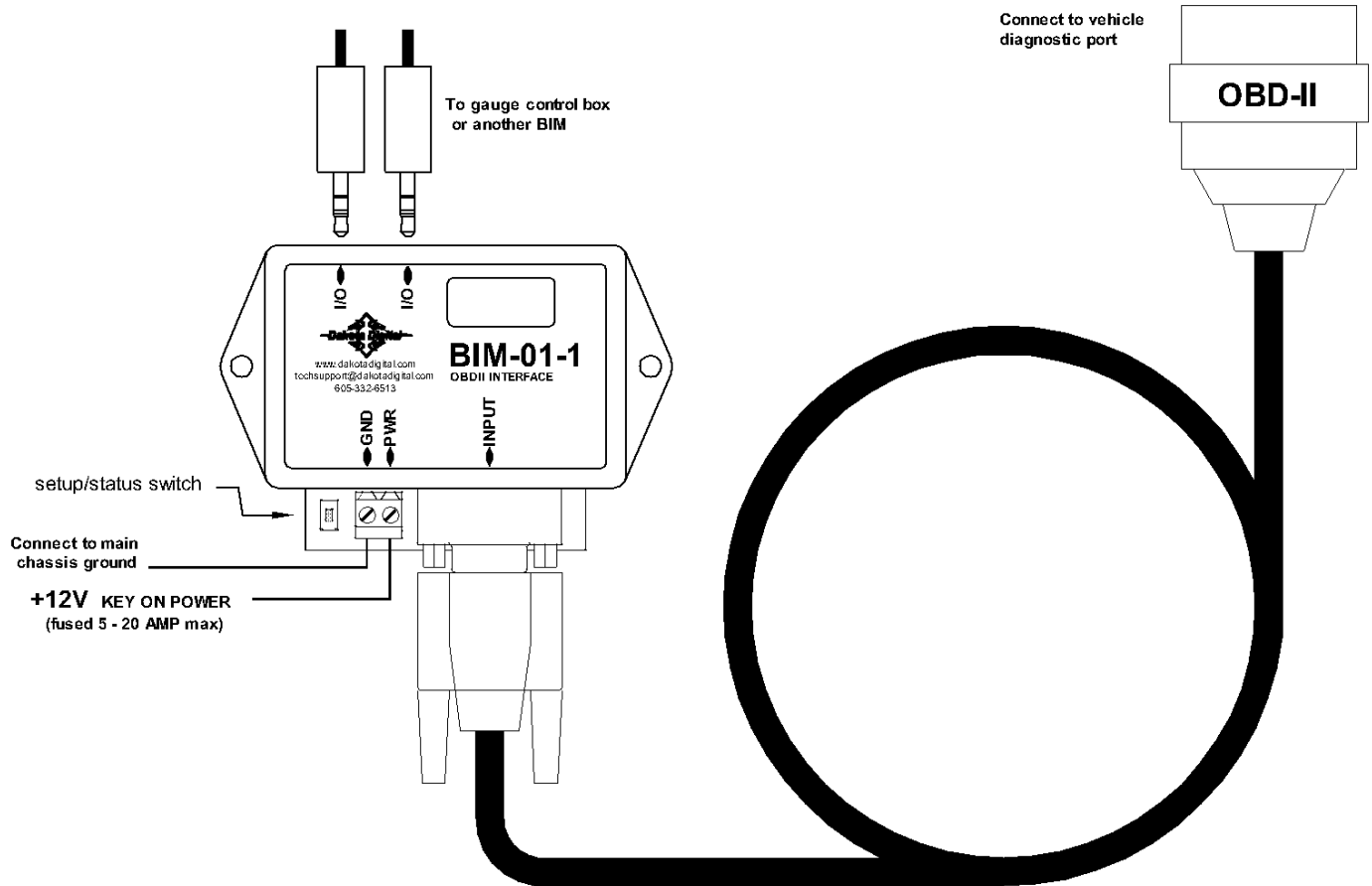




## BIM-01-1 Bus Interface Module for OBD-II vehicle interface



This Bus Interface Module has an input to read engine information from vehicles using the GM 1996-up OBD-II protocol, Ford 1996-up OBD-II protocol, some Chrysler 2000-up OBD-II protocol, or CAN OBD-II protocol. CAN OBD-II is used on all vehicles 2008 and newer and some vehicles from 2004 – 2008. 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 BIM-01-1 does not use one of the 16 available bus ID's like other Dakota Digital BIM units do. Speed and rpm data are transmitted and updated every 0.1 second. The remaining data is sent one at a time in sequence along with the speed and rpm. As an example on the first update speed, rpm, and engine temp would be sent. On the next update speed, rpm, and intake temp would be sent. This will continue with the other data that is available and then will start over again with speed, rpm, and engine temp.

The engine and transmission information that is available from the unit depends on the year, make, model, and options of the vehicle. Some of the possible values are: engine rpm, vehicle speed, engine coolant temperature, intake air temperature, transmission fluid temperature, transmission gear position, and ambient air temperature.

**Data that should always be available: RPM, speed, engine temp, intake temp, engine indicator(MIL)**

**Data that is transmission dependent: Transmission temp, transmission gear position**

**Data that is body control/ECM dependent: ambient air temp, engine oil pressure, fuel level**

## Display data usage

The RPM, speed, and engine temperature can each be used in place of connections to the gauge control unit. These are individually selectable in the display system gauge setup menus.

The transmission gear position will be displayed in the message center if it is available. This will automatically be displayed whenever the gear changes. If a GSS gear position sender is connected the GSS will override the BIM-01-1 data.

The malfunction indicator lamp (MIL) or service engine soon indicator will be activated from the data bus when there is an engine code set. This will not turn on the indicator for a lamp test function when the key is on, but the engine is not running. This indicator can be enable or disabled in the BIM-01 setup. Some gauge features require a minimum software revision or higher to be supported:

	Engine Indicator	Oil Pressure & Fuel Level
VHX	VX03	VX04
VFD3	SE45	SE47
VFD3X	SE54	SE55

The intake air temp, transmission temp, and ambient air temp will be displayed in the message center.

## Using speed from the BIM-01-1

- 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-01-1

- 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-01-1

- 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-01-1 (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.

## Using fuel level from the BIM-01-1 (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 FUEL 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.

### Enable or disable engine indicator status from the BIM-01-1

- Hold the switch beside the BIM terminal strip while turning the key on. The BIM display will show the current revision code while this is held.
- Release the switch. The display will show “- Id”.
- Press the switch. The BIM display will show the currently selected bus ID.
- Release the switch.
- Press and release the switch to change the setting from *B1*, *B2*, *F1*, or *F2*.
- Press and hold the switch to save the setting.
- The display show “Eng”. Release the switch.
- The display will show the current state or the engine indicator enable *On* (enable) or *OFF* (disable).
- Press and release the switch to change the state, press and hold to save and exit.
- The BIM will restart with the new settings.

When using the pre-CAN bus GM J1850 or Ford J1850 protocols the unit must have a unique ID to identify itself on the bus. By default this is set to use a gauge display panel bus ID and should not normally need to be changed. If there is some other module already using this ID, then another can be selected. Some Chrysler vehicles may require F1 or F2 ID's to be selected for proper operation. 61 and 62 are gauge ID's and F1 and F2 are scan tool ID's.

### To set or change the diagnostic bus ID numbers:

- Hold the switch beside the BIM terminal strip while turning the key on. The BIM display will show the current revision code while this is held.
- Release the switch. The display will show “- Id”.
- Press the switch. The BIM display will show the currently selected bus ID.
- Release the switch.
- Press and release the switch to change the setting from *B1*, *B2*, *F1*, or *F2*.
- Press and hold the switch to save the setting.
- The display show “Eng”. Release the switch.
- The display will show the current state or the engine indicator enable *On* (enable) or *OFF* (disable).
- Press and release the switch to change the state, press and hold to save and exit.
- The BIM will restart with the new settings.

### 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. A dot in the upper center indicates that there is an engine code set (MIL active).

If the display is sequencing through “-J-”, “-F-”, and “-C-” then it is scanning to try and communicate with the vehicle bus but cannot get an answer.

To see the sensor and channel status on the BIM display, press and hold the switch. If “BUS” is shown, the module cannot communicate with the vehicle. The display will cycle through several screens. The first will show the bus type (“J” for GM or Chrysler J1850, “F” for Ford J1850, “C” for CAN) and the number of control modules answering. The next screens will indicate which extended data is available: “*IRL*” for intake temp, “*EDP*” for engine oil pressure, “*FLP*” for fuel level, “*TFE*” for transmission temp, “*GP*” for gear position, and “*ARL*” for ambient air temp.

## Troubleshooting guide.

Problem	Possible cause	Solution
Sensor does not show on gauge readout. BIM will not light up at all.	PWR terminal does not have power. GND terminal does not have a good ground. Module is damaged.	Connect to a location that has power. Connect to a different ground location. Return for service. (see instructions)
Sensor does not show on gauge readout. BIM display is scanning "J", "F", "C"	OBD-II Interface cable is not connected. The vehicle bus is not compatible.	Connect the supplied OBD-II cable between the BIM unit and the vehicle diagnostic plug. Vehicles using the ISO 9141-2 protocol are not compatible with the BIM-01. This includes some Chrysler and many import vehicles.
Sensor does not show on gauge readout. BIM has a steady dot lit	Interface cable is not connected. Interface cable is loose. On VHX systems, the BIM display for this channel is disabled. Another BIM is set with the same channel IDs.	Connect the supplied 3.5mm data cable between the BIM unit and the gauge control box. Make sure both ends of the cable are seated in securely. Follow instructions in VHX manual to enable the BIM display screen. Test module works when connected to control box alone. Change ID's on one of the modules so each module uses unique IDs.
BIM display shows "BB:B"	Data cable is damaged. Another module on the bus is damaged or connected improperly.	Inspect and replace 3.5mm data cable. Inspect other modules on the data bus.

## 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 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.

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.



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