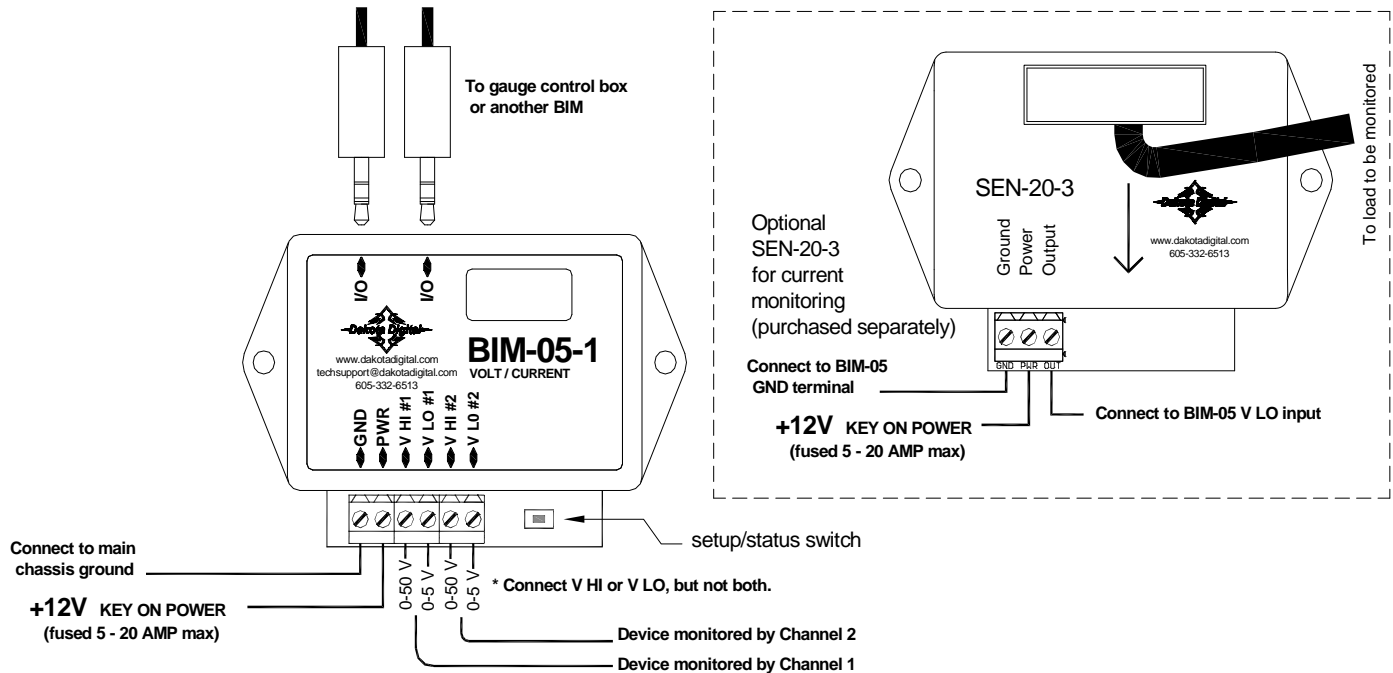




BIM-05-1

Bus Interface Module for voltage and current (Current sensors are sold separately)



This Bus Interface Module has inputs for up to two devices to be monitored. Each channel can be configured individually. 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.

Each sensor connected to the bus needs a unique ID number assigned to it. This module has inputs for two channels so it can use one or two ID numbers. Each of the two channels can be assigned an ID from 1 – 16, or turned off. The factory default ID numbers are 3 and 4 for the two inputs respectively. The factory default labels are VOLTS for both.

Labels available for each input are:

- VOLT - voltage input. This will display VOLT, V, or BIM VOLTAGE.
- CURRENT - SEN-20-3 sensor input. This will display AMPS, C, or CURRENT.

Specs for each input are:

	Part #	Input	Range	resolution	low warning	high warning
VOLT	none	V HI	0 – 50.0 V	0.1	0 – 31	10 – 41
VOLT	none	V LO	0 – 5.00 V	0.01	0 – 3.1	1.9 – 5.0
CURRENT	SEN-20-3	V LO	0 – 250 A	1	none	5 – 320

To set or change the 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 “[-”.
- Press the switch. The BIM display will show “[- 1”.
- Release the switch. The display will show the current ID for channel 1.
- Press and release the switch to change the setting from 1- 16 or OFF.
- Press and hold the switch to save the setting. The BIM display will show “[- 2”.
- Release the switch. The display will show the current ID for channel 2.
- Press and release the switch to change the setting from 1- 16 or OFF.
- Press and hold the switch to save the setting. The BIM will restart with the new settings.

The labels and warning points are set up through the gauge display system.**Only VFD3/3X controls with a plastic case support adding BIM's.****For VFD3, VFD3X, and VHX systems follow these steps:**

- If the V HI input is being used, make sure it has voltage applied to it during setup. The BIM unit auto-detects whether the V HI or V LO is being used by measuring the voltage on each. If both are off it will default to V LO.
- Make sure the BIM units are all connected to the gauge control box with the 3.5mm data cables.
- 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 BIM is shown on the message display.
- Press and hold SW1. The message display should show SCAN followed by the number of BIM channels detected. Release SW1.
- If 0 is shown, check all connections and then press and hold SW1 with SCAN shown to retry reading the modules.
- Otherwise, if any other number is shown, press and release SW1 until SETUP is shown.
- Press and hold SW1 until the speed display shows “-” or the message changes.
- Release SW1. On the VFD3 systems the message display will show the label assigned to the first channel found and the speed display will show “C” followed by the channel ID number. On the VHX systems the message display will show “CH” followed by the channel ID number on one line and the label currently assigned on the second line.
- Press and release SW1 until the desired channel ID number is shown.
- Press and hold SW1. The message display will show “LABEL”.
- Release SW1. The message display will show the label assigned to this channel.
- Press and release SW1 until the desired label is shown.
- Press and hold SW1. The message display will show “WARN”.
- Release SW1. The message display will show “L” followed by the current low warning point or will flash the warning point.
- Press and release SW1 to change the low warning point to the desired value.
- Press and hold SW1 until the speed display shows “-”.
- Release SW1. The message display will show “H” followed by the current high warning point or will flash the warning point.
- Press and release SW1 to change the high warning point to the desired value.
- Press and hold SW1. The message display will now show “DONE”.
- This can be repeated for additional channels, or the key can be turned off to exit setup.

For HDX systems follow these steps:

- Make sure the BIM units are all connected to the gauge control box.
- With the ignition on, press and hold both switches to enter SETUP. With external switches hold either one while turning the ignition on. Release the switches when SETUP is shown.
- Press and release either switch until BIM is selected. Press and hold either switch to enter BIM setup menu.
- Release the switch. A list of the BIM's found should be shown. If NONE FOUND is displayed then check connections to the BIM-05.
- Press and release either switch until BIM-05 is selected.
- Press and hold either switch to enter setup for this module.
- Release the switch. The menu will show FORMAT, LABEL, WARN LO, WARN HI, CALIBRATE, BACK. Any menu that does not apply to this BIM will be grey and cannot be selected.
- Use either switch to select the option you wish to change, (refer to the HDX manual for specifics).
- When you are finished select BACK to return to the BIM selection menu.
- When you are finished, select BACK to return to the BIM list menu, select BACK to return to the main menu, and then select EXIT SETUP to return to normal operation.

With HDX systems the setup can also be done with the Dakota Digital app for Apple and Android devices.

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 bus activity. Flashing indicates it is communicating on the bus.

To see the sensor and channel status on the BIM display, press and hold the switch. The display will cycle through three screens. The first will show the sensor input status. Each digit on the display will show the status for one of the channels. 'E' indicates there is a bus ID conflict on that channel ID. '-' indicates the sender is connected properly. If the input is turned off the digit will be blank.

The second screen will show the ID assigned to channel 1. The third screen will show the ID assigned to channel 2.

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.	Connect to a location that has power.
	GND terminal does not have a good ground.	Connect to a different ground location.
	Module is damaged.	Return for service. (see instructions)
Sensor does not show on gauge readout. BIM has a steady dot lit	Interface cable is not connected.	Connect the supplied 3.5mm data cable between the BIM unit and the gauge control box.
	Interface cable is loose.	Make sure both ends of the cable are seated in securely.
	On VHX systems, the BIM display for this channel is disabled.	Follow instructions in VHX manual to enable the BIM display screen.
Gauge lights up, but does not read correctly.	Another BIM is set with the same channel IDs.	Test module works when connected to control box alone. Change ID's on one of the modules so each module uses unique IDs.
	Loose connection on sensor wires.	Inspect and reconnect wires.
	Connector not seated on sensor.	Reattach the sensor plug, making sure the locking tab clicks in place.
	Channel sensor label setup is incorrect.	See "Setting sender setup" in the manual.
BIM display shows "BB-B"	Wrong input is being used.	Use V HI for 0-50V and V LO for 0-5V.
	Voltage or wiring problem in the vehicle wiring harness.	Check wiring harness for loose or damaged wires.
	Data cable is damaged.	Inspect and replace 3.5mm data cable.
	Another module on the bus is damaged or connected improperly.	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 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



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