BIM-01-2-FAST
Bus Interface Module for FAST EFI

BIM-xx-2 power & data connectors.
Either one can be used.

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BIM-01-2-FAST
Bridge Module for FAST EFI System

INPUT

setup/status switch

Adapter harness

2 PIN CAN connector

2 PIN CAN connector

394211

Connect to BIM-01-2

Connect to the BIM-xx-2

BIM-xx-2 Power/Data (extension) cable

394191 - 18"   (Optional 394192 - 72")

Connects to HDX, RTX, VFD, VHX, or BIM-xx-2
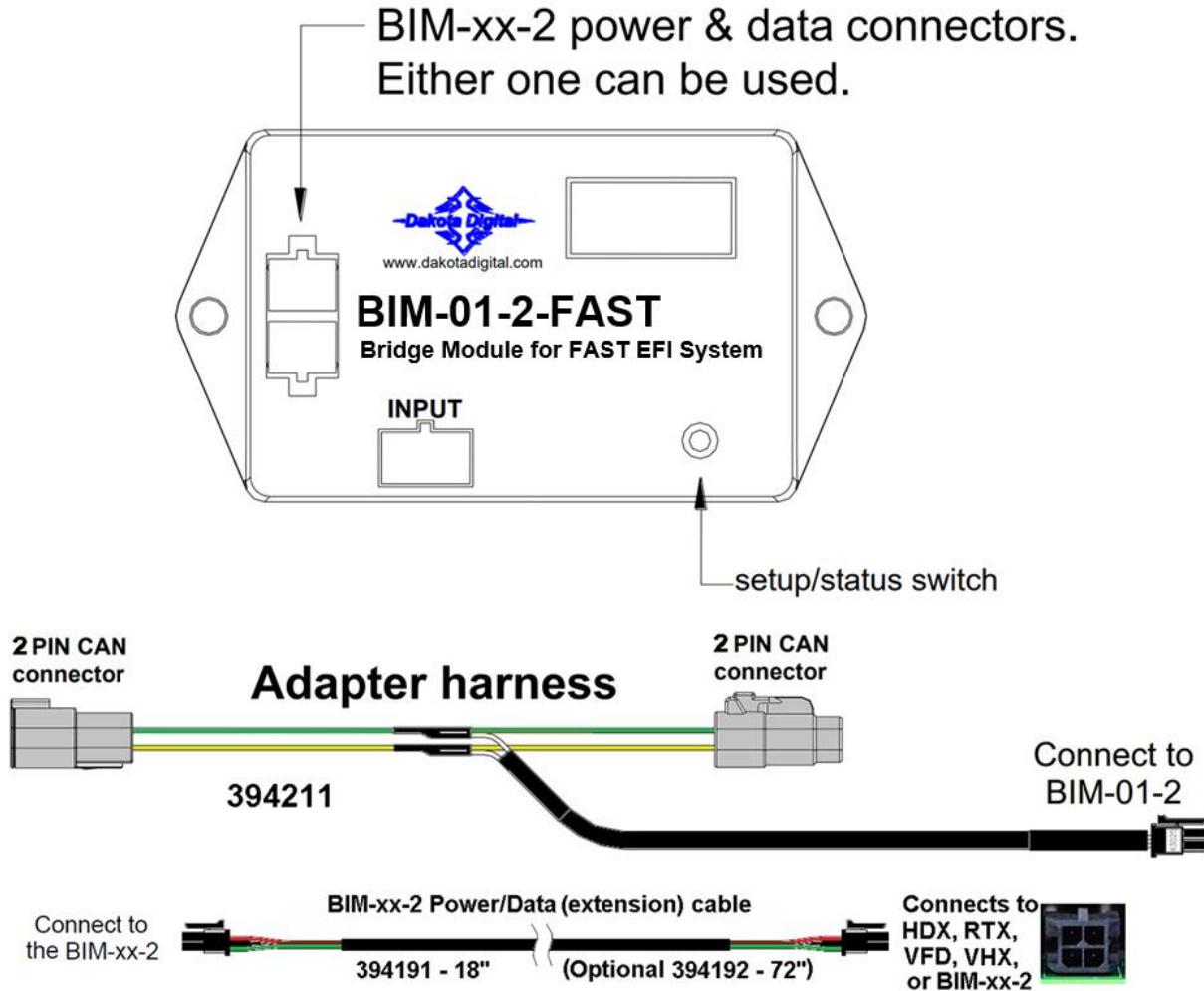
This Bus Interface Module is designed to read engine information from FAST XFI and EZ-EFI 2.0 systems as well as TCI EZ-TCU kits. FAST EZ-EFI kits are not compatible. This module is connected to the FAST/TCI kits through the included Y-adapter harness. This can be plugged in line with the dedicated CAN terminals on the EFI/TCU harness.

There are two interface (I/O) ports on the module. Either one can be connected to the instrument system or to another module, allowing several units to be daisy chained together. Cannot daisy chain with GPS-50-2.
Do not connect the I/O port to anything other than a Dakota Digital control box or BIM.
Do not mount the module in the engine compartment; it should be mounted in the vehicle's cabin.

The engine and transmission information that is available from the unit depends on the EFI module programming and add-ons.
Data that should be available: RPM, engine temp, Fuel pressure, A/F ratio, Oil pressure, Intake air temp, Boost

Data that is add-on dependent with the EZ-TCU: Gear position, Speed

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Table of Contents:

**A GPS-50-2 CANNOT be linked (daisy chained) to a BIM-01-2 with a BIM cable.
The two units cannot talk to the display control box at the same time.**

EFI system setup

This unit is plug-and-play. Attach the included Y-harness to your FAST EFI. No further setup is required with the FAST EFI itself.

VFD and VHX system will add extra readings to the message displays under the tach.
HDX and RTX need a group screen configured to show additional information, such as Boost and MAP PSI.

Display Setup

Setting up the display system will configure the instrument control box to read each input from either the terminals or through the BIM cable from the Bus Interface Module.
The BIM menu of the display will not find the BIM-01-2-FAST, but will find specific channels for Fuel Pressure, Air/Fuel Ratio, and Boost/Vacuum.

The following settings are for the basic information to be displayed with data from the BIM module.
Extra data that might be sent such as Intake Air Temp, Fuel Pressure, Air/Fuel Ratio or Boost, can be brought up in the message centers of the VFD3 and VHX system by toggling SW2 in normal operation of the vehicle.
Similar data that might be present will not automatically be shown in the HDX and RTX systems. That extra information must be placed in a group screen of your choice, in the HDX and RTX setup, or automotive app.

Display data usage
The following readings can each be used in place of dedicated sending units to the instrument system control box. These are individually selectable in the display system instrument setup menus.
*Some gauge features require a minimum software revision or higher to be supported:

	Oil Pressure
VHX	VX04
VFD3	SE47
VFD3X	SE55

VFD3 and VFD3X setup:

Entering the VFD3 setup is done by holding SW1 (I) and turning the ignition to "on", or "acc".
Once in setup, one can move between SPEED, TACH, VOLT, WATER, etc.… by tapping SW1 (I)
If you are setting multiple items, once done with one section you will automatically move onto the next item.

Obtaining speed from the BIM-01-2-FAST – Only with EZ-TCU added
- Hold the SW1 switch from the instrument system control box while turning the key on.
  - The speed display will show SEt and the message display will show SETUP.
- Release SW1. The displays should show SEt and SPEED, respectively.
- Press and hold SW1 for at least 3 seconds, until SEt changes to "-". The message display will show SENDER.
- Press and hold SW1 for at least 3 seconds, until SEt changes to "-". The speed display will show the current setting.
- Tap SW1 until SEt and BUS are displayed.
- Press and hold SW1 until SEt and DONE are displayed.
  - NOTE: The AUTO, auto calibration, is removed.
  - Speed can only be fine-tuned with the ADJUST mode at a standstill.
  - ADJUST now only alters the percentage of speed by +/- 25%.
    - Drive a known speed and calculate how far off the speed is in percentage.
      - GPS speed / displayed speed x 100
      - Sample - [60/50=1.2] [1.2x100 = 120] **120%**
    - Enter setup and go to ADJUST, tap SW1 to increment from 100% up to 125%.
    - After 125% the values will fall back to 75% and increment up again.
    - When the desired percentage is reached, hold SW1 until SEt changes to "-".
- Tap SW1 until SEt and DONE are displayed.
- Press and hold SW1 until "-" and DONE are display.
- Press and hold SW1 until DONE is displayed.

VFD3 Setup Continued:

Obtaining RPM from the BIM-01-2-FAST

- Hold the SW1 switch from the instrument system control box while turning the key on.
  - The speed display should show 5Et and the message display should show SETUP.
- Release SW1. Tap SW1 until 5Et and TACH are displayed.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The displays should show 5Et and T CAL.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The speed display will show the current setting.
- Tap SW1 until 5Et and BUS are displayed.
- Press and hold SW1 until "-" and DONE are displayed.
- Tap SW1 until 5Et and DONE are displayed.
- Press and hold SW1 until "-" and DONE are displayed.

Obtaining engine temperature from the BIM-01-2-FAST

- Hold the SW1 switch from the instrument system control box while turning the key on.
  - The speed display should show 5Et and the message display should show SETUP.
- Release SW1. Tap SW1 until 5Et and WATER are displayed.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The displays should show 5Et and SENDER.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The speed display will show the current setting.
- Tap SW1 until 5Et and BUS F (Fahrenheit) is displayed.
  - Tap SW1 once more for 5Et and BUS C (Celsius) if desired.
- Press and hold SW1 until "-" and DONE are displayed.
- Tap SW1 until 5Et and DONE are displayed.
- Press and hold SW1 until "-" and DONE are displayed.

Obtaining oil pressure from the BIM-01-2-FAST

- Hold the SW1 switch from the instrument system control box while turning the key on.
  - The speed display should show 5Et and the message display should show SETUP.
- Release SW1. Tap SW1 until 5Et and OIL are displayed.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The displays should show 5Et and SENDER.
- Press and hold SW1 for at least 3 seconds, until 5Et changes to "-". The speed display will show the current setting.
- Tap SW1 until 5Et and BUS are displayed.
- Press and hold SW1 until "-" and DONE are displayed.
- Tap SW1 until 5Et and DONE are displayed.
- Press and hold SW1 until "-" and DONE are displayed.

MAN #650587C

VHX Setup:

Entering the VHX setup is done by holding SW1 (I) and turning the ignition to "on", or "acc".
Once in setup, one can move between `SPEED`, `TACH`, `VOLT`, `WATER`, etc…. by tapping SW1 (I)
If you are setting multiple items, once done with one section you will automatically move onto the next item.

Obtaining speed from the BIM-01-2-FAST – Only with EZ-TCU added
- Hold the SW1 (I) switch from the instrument system control box while turning the key on.
    - The message display should show `SETUP`.
- Release SW1 (I) - LCD1 should show `SETUP SPEED`.
- Press and hold SW1 (I) for at least 3 seconds until `SPEED SENDER` is displayed.
- Press and hold SW1 (I) for at least 3 seconds until `SENDER` is displayed.
- Release the switch and `SENDER NORMAL` will be displayed.
- Tap SW1 (I) until `SENDER BUS` is displayed.
- Press and hold SW1 (I) until `DONE` is displayed.
    - NOTE: The `AUTO`, auto calibration, is removed.
    - Speed can only be fine-tuned with the `ADJUST` mode at a standstill.
    - `ADJUST` now only alters the percentage of speed by +/- 25%.
        - Drive a known speed and calculate how far off the speed is in percentage.
            - GPS speed / displayed speed x 100
            - Sample - [60/50=1.2] [1.2x100 = 120] **120%**
        - Enter setup and go to `ADJUST`, tap SW1 (I) to increment from 100% up to 125%.
        - After 125% the values will fall back to 75% and increment up again.
        - When the desired percentage is reached, hold SW1 (I) until `DONE` is displayed
- Tap SW1 (I) until `SPEED DONE` is displayed.
- Press and hold SW1 (I) until a big `DONE` is displayed.

Obtaining RPM from the BIM-01-2-FAST
- Hold the SW1 (I) switch from the instrument system control box while turning the key on.
    - The message display should show `SETUP`.
- Release SW1 (I) - LCD1 should show `SETUP SPEED`.
- Tap SW1 (I) until `SETUP TACH` is displayed.
- Press and hold SW1 (I) for at least 3 seconds until `TACH ENGINE` is displayed.
- Press and hold SW1 (I) for at least 3 seconds until `ENGINE` is displayed.
- Release the switch and `ENGINE 8` will be displayed.
- Tap SW1 (I) until `ENGINE BUS` is displayed.
- Press and hold SW1 (I) until `DONE` is displayed.
- Tap SW1 (I) until `TACH DONE` is displayed.
- Press and hold SW1 (I) until a big `DONE` is displayed.

Obtaining engine temperature from the BIM-01-2-FAST
- Hold the SW1 (I) switch from the instrument system control box while turning the key on.
    - The message display should show `SETUP`.
- Release SW1 (I) - LCD1 should show `SETUP SPEED`.
- Tap SW1 (I) until `SETUP WATER` is displayed.
- Press and hold SW1 (I) for at least 3 seconds until `WATER SENDER` is displayed.
- Press and hold SW1 (I) for at least 3 seconds until `SENDER DD F` is displayed.
- Release the switch and `SENDER DD F` will be displayed.
- Tap SW1 (I) until `SENDER BUS F` (Fahrenheit) is displayed.
    - Tap SW1 (I) once more for `SENDER BUS C` (Celsius) if desired.
- Press and hold SW1 until `DONE` is displayed.
- Tap SW1 (I) until `WATER DONE` is displayed.
- Press and hold SW1 (I) until a big `DONE` is displayed.

VHX Setup Continued:

Obtaining oil pressure from the BIM-01-2-FAST

- Hold the SW1 (I) switch from the instrument system control box while turning the key on.
  - The message display should show **SETUP**.
- Release SW1 (I) - LCD1 should show **SETUP SPEED**.
- Tap SW1 until **SETUP OIL** is displayed.
- Press and hold SW1 (I) for at least 3 seconds until **OIL SENDER** is displayed.
- Press and hold SW1 (I) for at least 3 seconds until **SENDER NORMAL** is displayed.
- Release the switch and **SENDER NORMAL** will be displayed.
- Tap SW1 (I) until **SENDER BUS** is displayed.
- Press and hold SW1 (I) until **DONE** is displayed.
- Tap SW1 (I) until **OIL DONE** is displayed.
- Press and hold SW1 (I) until a big **DONE** is displayed.

HDX and RTX setup:

HDX/RTX systems can be configured with the Dakota Digital app for Apple and Android devices

HDX and RTX Operations
- **HDX:** With the ignition key already on, press and hold both switches to enter SETUP, release when instructed.
  - If using the external rocker switch, hold SW2 (II) while turning the ignition on.
  - Release the switch when SETUP is shown.
  - Left switch on display is SW1, and right switch on display is SW2
- **RTX:** With the ignition off, press hold SW2 (II) while turning the ignition key on to enter SETUP
  - Release the switch when SETUP is shown.
- **BOTH:** When holding for an option, release the button when the screens says **"RELEASE"**
- **BOTH:** You may skip to whichever reading you'd like to configure below; they do not need to be done in order.
- **BOTH:** After making a selection, tap a switch and select BACK to save and return to the main menu, then select EXIT SETUP to return to normal operation.
- **BOTH:** SWI (left) moves up ↑ the menu list, SWII (right) moves down ↓ the menu list

Obtaining speed from the BIM-01-2-FAST – Only with EZ-TCU added
- Tap SWII (right) switch until SPEED is selected. Press and hold SWII (right) switch to enter SPEED menu.
- Tap SWII (right) switch until INPUT is displayed. Press and hold SWII (right) switch to enter INPUT menu.
- SIGNAL will be is displayed. Press and hold SWII (right) switch to enter SIGNAL menu.
- Tap right switch until BIM is displayed. Press and hold SWII (right) switch to select BIM.
- When SIGNAL is displayed again, tap switch until BACK is displayed, then hold to return to INPUT.
- When INPUT is displayed again, tap switch until BACK is displayed, then hold the switch to exit.
  - **NOTE**: The AUTO CAL, auto calibration, is not accessible.
  - ADJUST now only alters the percentage of speed by +/- 25%.
    - After the engine is running, enter setup and go to ADJUST.
    - While driving a known speed, SWI and SWII (left/right) can adjust speed.
      - *Percentage can also be adjusted without driving.*
    - Tap SWII (right) to increment up to 125%.
    - Tap SW1 (left) to decrement down to 75%.
    - The speed will be displayed in the LCD along with the percent chosen.
    - Once the speed is correct, hold either switches until RELEASE is displayed.
    - You may now continue to exit the setup menu.
  - The Dakota Digital Automotive app can also be used either while driving or not driving.

Obtaining RPM from the BIM-01-2-FAST
- Tap SWII (right) switch until TACH is selected. Press and hold SWII (right) switch to enter TACH menu.
- Tap SWII (right) switch until INPUT is displayed. Press and hold SWII (right) switch to enter INPUT menu.
- Tap SWII (right) switch until CYLINDER is displayed. Press and hold SWII (right) switch to select CYLINDER.
- Tap SWI (**left**) switch until BIM is displayed. Press and hold SWII (right) switch to select BIM.
- When INPUT is displayed again, tap until BACK is displayed, then hold the switch to exit.

Obtaining engine temperature from the BIM-01-2-FAST
- Tap SWII (right) switch until WATER is selected. Press and hold SWII (right) switch to enter WATER menu.
- Tap SWII (right) switch until INPUT is displayed. Press and hold SWII (right) switch to enter INPUT menu.
- Tap SWII (right) switch until BIM is displayed. Press and hold SWII (right) switch to select BIM.
- When INPUT is displayed again, tap until BACK is displayed, then hold the switch to exit.

Obtaining oil pressure from the BIM-01-2-FAST
- Tap SWII (right) switch until OIL is selected. Press and hold SWII (right) switch to enter OIL menu.
- Tap SWII (right) switch until INPUT is displayed. Press and hold SWII (right) switch to enter INPUT menu.
- Tap SWII (right) switch until BIM is displayed. Press and hold SWII (right) switch to select BIM.
- When INPUT is displayed again, tap until BACK is displayed, then hold the switch to exit.

BIM setup:

BIM menu table:

Menu	Options		Default	Notes
b5t	OFF		OFF	Enables boost reading (reads PSI from MAP sensor)
	On			
id	UPd			Update communications with other BIM modules attached
End				Exit Setup.

Enabling Boost:
The BIM-01-2-FAST has an option to enable boost readings if the car has turbocharger.

- Hold the switch on the BIM-01-2-FAST case while turning the key on. The BIM display will show the current revision code while this is held.
- Release the switch.
- Tap the switch until the display shows b5t (boost). Press and hold to enter this menu.
- When you see "---" on the display release the switch.
- The display will show the current boost state, oFF (disable) or On (enable).
- Tap the switch to change the state.
- To save setting press and hold the switch until you see "---" on the display, then release the switch.
- The display will show End. Press and hold the switch to exit setup or tap to choose another menu option.

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-AEM to automatically select a new, unused ID.

- Hold the switch on the BIM-01-2-FAST case while turning the key on. The BIM display will show the current revision code while this is held.
- Release the switch.
- Tap the switch until the display shows id (ID).
- Press and hold until you see "---" on the display, then release the switch.
- UPd will be shown.
- Press and hold until dnE is displayed.
- Release the switch, and the BIM unit will now go back to normal operation.

MAN #650587C

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 "bUS" then it is scanning to try and communicate with the EFI 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 ("EF2" FAST EFI). The next screens will indicate which (if any) extended data is available: " IAt" for intake/manifold temp, "EOP" for engine oil pressure.

HDX/RTX TIP: 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, or through the automotive app.

Troubleshooting guide:

Problem	Possible cause	Solution
BIM will not light up at all	• PWR wire does not have power. • Connect to a different ground location • Power/data harness is damaged. • Module is damaged.	• Connect to a location that has +12V key-on power. • Inspect harness and repair or replace. • Return for service. (See Instructions below)
BIM display is scanning "bUS"	• EFI adapter harness is not connected • The EFI system is not compatible • The EFI is not powered on.	• Connect the appropriate harness to the EFI CAN. • Verify compatibility. • Verify EFI system is powered on.
BIM has a steady dot lit	• Interface cable is not connected • Interface cable is loose. • On VHX systems, the BIM display for this is disabled.	• Connect the supplied data cable between the BIM unit and the instrument system control box. • Make sure both ends of the cable are seated. • Follow instructions in VHX manual to enable the BIM display screen.
BIM display shows "88:8"	• Data cable is damaged. • Another module on the bus is damaged or connected improperly.	• Inspect and replace the data cable. • Inspect other modules on the bus.

MAN #650587C

Notes:

SERVICE AND REPAIR

DAKOTA DIGITAL offers complete service and repair of its product line. In addition, technical support 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.

For additional support, please visit www.dakotadigital.com. A "**Product Support**" link will be found at the bottom of the home page.

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 a common carrier with tracking abilities.
- Be sure to include the RMA number on the package.
- 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 contact you for payment.

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.

MAN #650587C