

QUICK START GUIDE

DAKOTA DIGITAL GRAFIX INSTRUMENT CLUSTER

This guide is designed to get you up and running quickly with a minimal amount of options installed. It shows a typical and abbreviated wiring diagram as well as how to set up your speedometer, tachometer, and fuel sensor. A detailed description of all the wiring and connections can be found in the full instruction manual.

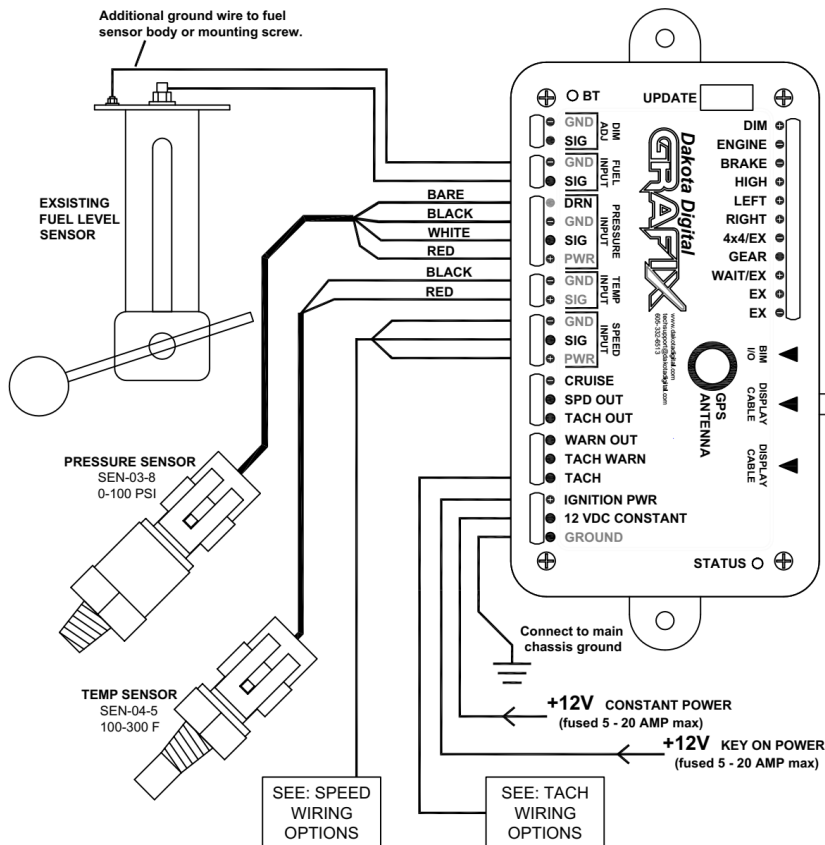
******* IMPORTANT NOTE! *******

This control box has an odometer preset option that is only available within the first 100 miles of driving. See "ODOMETER PRESET MENU" in main instruction manual for details.

- Install the supplied senders. (see sensor pack manual)
- Mount and wire the control box. (see diagram on this sheet or see manual for more detailed descriptions)
- Mount the Instrument Cluster into your dash. (see mounting instructions or manual)
- Setup the control box by selecting fuel sensor and programming speedometer
- Use the Control Knob to access menus and make setup selections

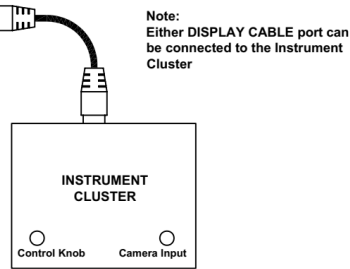
• Sender Installation

- Oil
 - Chevy small block engines will require a short pipe to clear the manifold. A brass 1/8" NPT pipe nipple with a 45 or 90-degree elbow from a hardware store will work.
 - LS engines have a location above the oil filter that may have a 1/8" NPT port, or one can be tapped.
- Water
 - We recommend mounting our temp sender in the water flow exiting the engine near the thermostat.
 - Cylinder head mounting locations tend to read higher.
 - LS engines provide a 12mm x 1.5 port in the passenger side cylinder head.
 - The supplied metric adapter and crush washer must be used.



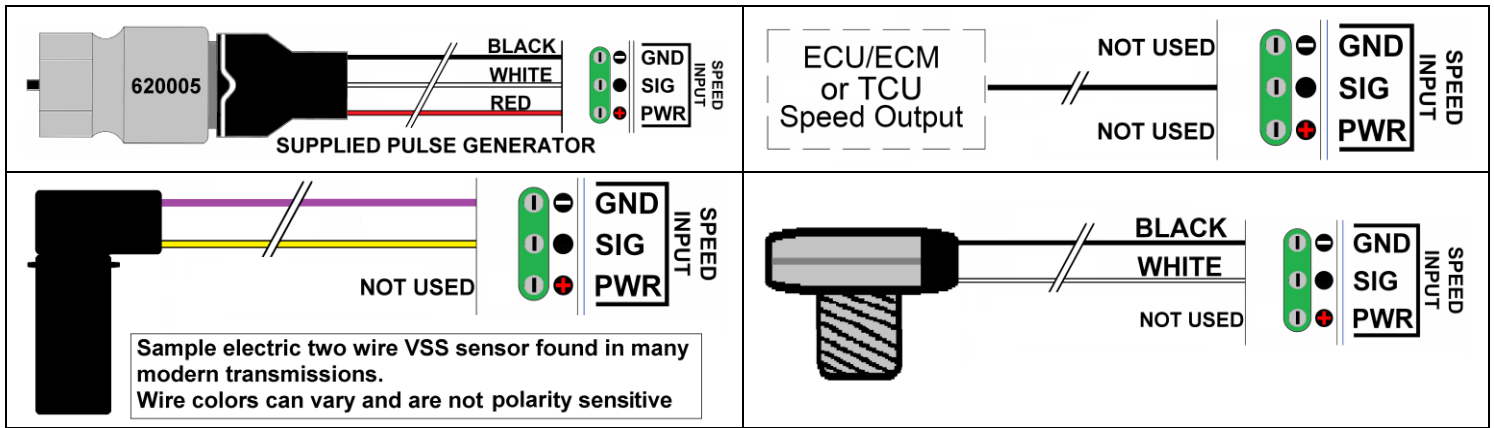
Quick Start Wiring Diagram

This drawing is a quick overview of the basic wiring for your new Dakota Digital GRFX system. Once completed all the basic functions should operate: speed, tachometer, fuel level, voltmeter, water temp, and oil pressure. For further wiring assistance, please read the remainder of the manual. Each function is described in detail along with some of the auxiliary inputs that include turn signal indicators, high beam indicator, check engine, etc.

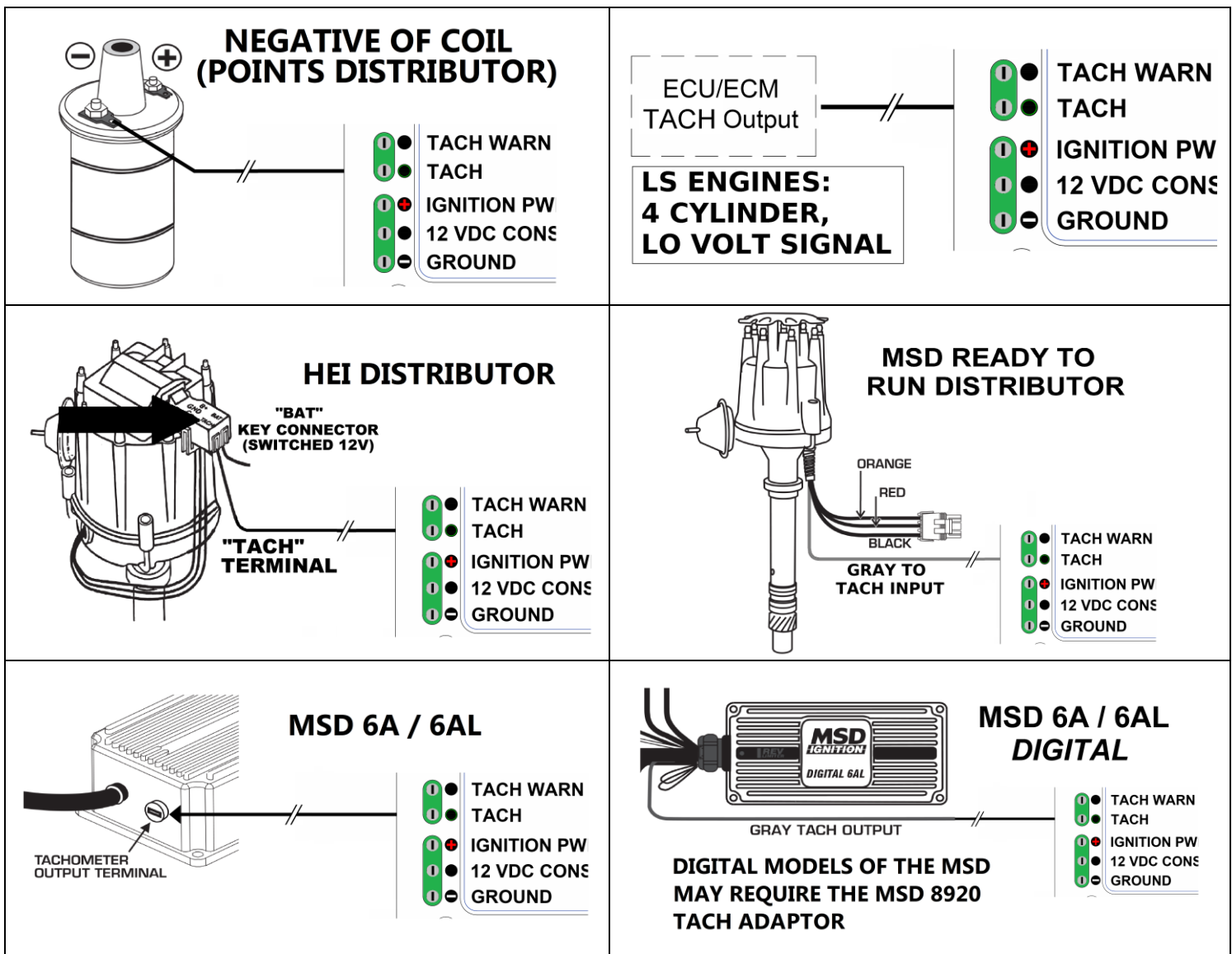


Note:
The user interface Control Knob is typically mounted on the Instrument Cluster

• **SPEED SENSOR WIRING OPTIONS**



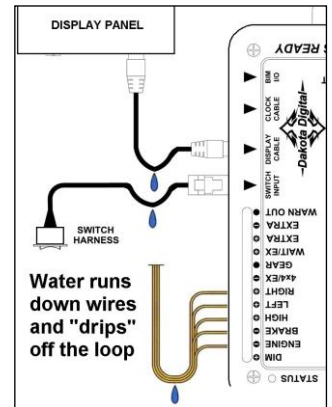
• **TACH WIRING OPTIONS**



- Diesel engines will require the SGI-100BT to obtain a valid tachometer signal

• Control Box Mounting

- The control box must be mounted inside the cabin of the vehicle
- Do not mount a coil or MSD ignition box inside the vehicle with the control box
 - The high voltage output of either device will interfere with electronics
- Do not mount the control box directly across from distributor on inside firewall
 - A high voltage points or HEI distributor can interfere with electronics
- Do not mount the box near the A/C ducts, to prevent condensation from harming the electronics
- Do not run straight wire leads / harnesses to the control box
 - A loop or bend in the wiring can help prevent any moisture damage
 - A leaky window or condensation can let moisture run into the box without a drip loop
 - See diagram to the right (reference only)



• Set up the control box to match your vehicle

- Locate the rotary interface knob on the Instrument Cluster
 - This interface allows the driver to change message displays while driving
 - Use of this interface is required to enter setup, set clock, reset trip meter and more
- Calibrate speedometer, for accurate speed regardless of gearing and tire size
- Adjust the tachometer to match the engine's number of cylinders.
- The fuel gauge must be set to match the sender in your tank. We provide 10 common sender options; if yours is not listed, the system can be programmed to a custom sender
- **A battery disconnect will not cause loss of settings, only the time for the clock.**

• Speedometer Calibration

- The setup procedure described below is **AUTO CAL** using any of the pictured VSS wiring options
 - You must have a known one mile (*or one kilometer*) run mapped out prior to starting
- **START** the car
- Tap Control Knob to display the MAIN MENU
- Rotate Control Knob clockwise (CW) to **SETUP** -> Tap to select and display SETUP menu
- Rotate Control Knob CW to **SPEED** -> Tap to display SPEED menu
- Rotate Control Knob CW to **AUTO CAL** -> Tap to display AUTO-CAL menu
- **TAP TO START** will be highlighted on the display, with a '0' below -> Tap Control Knob to begin calibration
- 'DRIVE 1 MILE' and a '0' will be displayed, with **TAP TO END** highlighted at the bottom
- Start driving the distance mapped out above, the **0** will begin to increment/count the speed pulses detected
- When the mapped mile (*kilometer if metric*) distance is reached -> Tap Control Knob to end and save
- If there are no errors detected, the menu will clear and the GRAFIX will return to normal operation
 - Note: Whenever MAIN MENU is displayed and no user interaction is detected for ~4 sec, the menu will timeout and clear, returning system to normal operation

• Tachometer Calibration

- Old school V-8 points or HEI systems: with or without a MSD box, will not need any setup
- Six and four cylinder engines need the cylinder count changed
- LS engines: signal from the ECM will read as a four cylinder, and it will be a low voltage input
 - Turn on the ignition
 - Tap Control Knob to enter MAIN MENU
 - Rotate Control Knob CW to **SETUP** -> Tap to display SETUP menu
 - Rotate Control Knob CW to **TACH** -> Tap to display TACH menu
 - The display will show **INPUT** highlighted -> Tap Control Knob to display TACH INPUT menu
 - The display will show **CYLINDER** highlighted -> Tap Control Knob to display TACH CYLINDER menu
 - The display will show the cylinder count with ***8** as the current setting (Factory default)
 - Scroll counterclockwise (CCW) until **4** is displayed -> Tap to select
 - The display will show TACH INPUT with **CYLINDER** highlighted
 - Rotate Control Knob CW to **TYPE** -> Tap to display TACH TYPE menu
 - The display will show ***12V HIGH** as the current setting (Factory default)
 - Rotate Control Knob CCW to highlight **5V LOW** -> Tap to select
 - The display will show TACH INPUT with **TYPE** highlighted
 - System is now configured to support an LS engine with an ECM
 - Rotate Control Knob CW to **BACK** -> Tap to exit or simply turn the key off

• Fuel Setup

- Turn on the ignition
- Tap Control Knob to enter MAIN MENU
- Rotate Control Knob CW to **SETUP** -> Tap to display SETUP menu
- Scroll CW to **FUEL** -> Tap to display FUEL setup menu and [current sender type]
- The display will show **INPUT** -> Tap to select display FUEL INPUT sender list
- The display will list several standard sending unit choices
- Use the Control Knob to scroll up or down to highlight the desired sender from the list below

Fuel Sender type	Menu	Empty R	Full R
User Programmed	MANUAL ADJ	User settable	User settable
GM 0-30 ohm (mid 60's-earlier)	GM 0-30	0 ohms	30 ohms
GM 0-90 ohm (mid 60's-late 90's)	GM 0-90	0 ohms	90 ohms
GM 90-0 ohm (63-67 Corvette)	63 VETTE	90 ohms	0 ohms
GM 40-250 ohm (late 90's-later)	GM 40-250	40 ohms	249 ohms
GM 250-40 ohm	GM 250-40	249 ohms	40 ohms
FORD 73-10 ohm (earlier -late 80's) (Also works for most Chrysler/Jeep)	FORD 73-10	73 ohms	10 ohms
FORD 20-150 ohm (late 80's-later)	FORD 20-150	20 ohms	150 ohms
VDO 10-180 ohm	VDO 10-180	10 ohms	180 ohms
SW/SUN 33-240	SW 240-33	240 ohms	33 ohms
ASIA 112-4 ohm (various imports)	IMPRT 112-4	112 ohms	4 ohms
OBD Port Interface	BIM	Bus detected	Bus detected

- Once the desired menu item is highlighted -> Tap Control Knob to select
 - The fuel needle and/or reading will respond to the sender selected
- Rotate Control Knob CW to **BACK** -> Tap to exit or simply turn the key off

See full installation manual for custom fuel sender calibration in the MANUAL ADJ mode

• Clock Setup

- Turn on ignition
 - (Note: Clock visibility on a system depends on system configuration)
- Tap Control Knob to enter MAIN MENU
- Rotate Control Knob CW to **SETUP** -> Tap to display SETUP menu
- Rotate CW to **CLOCK** -> Tap to display CLOCK menu and [current time]
- The display will show **MANUAL** -> Tap knob to enter CLOCK setup
- The 'HOUR' position will be flashing and a 1-12 list will be displayed with current hour **#** highlighted
- Scroll to the desired hour -> Tap to select hour value and proceed to minute setup
- 'MINUTE' position will be flashing and a 0-59 list will be displayed with current minute **#** highlighted
- Scroll to desired minute -> Tap to select minute value
- Display will return to the SETUP menu with **CLOCK** highlighted
- Rotate Control Knob CW to **BACK** -> Tap to exit or simply turn the key off

• Dakota Digital Automotive Bluetooth App

- The free app for Apple and Android devices can be used to setup all the features
- The GRAFIX system **MUST** be in Setup mode before changing settings
 - Only Androids **must** pair to GRAFIX **before** opening the app

⚠ 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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