



## All-In-One S2K Dash Converter

Part number: KTD-S2K-CON

Features:	Parts included with full kit:
<ul style="list-style-type: none"><li>• Works for both AP1 and AP2 cluster swaps</li><li>• This all in one unit converts 3 signals:<ul style="list-style-type: none"><li>• 1) <b>Speed</b> - Converts speed signal from gear-type and magnetic to the digital signal needed for the S2K Cluster</li><li>• NOTE: Once converted the speed signal remains adjustable a further 25% +/- for very accurate speedo calibration.</li><li>• 2) <b>Coolant Temp</b> - Converts the temp signal to read properly on the S2K cluster. This is preset in the unit but can be adjusted if needed.</li><li>• 3) <b>Fuel Level</b> - Allows manual adjustment to the fuel gauge on the S2K cluster to match the gas tank on the swap vehicle. Adjustments are made via a small brass dial located on the bottom of the unit.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• All In One S2K converter unit</li><li>• 8-wire pigtail with clip to wire converter into vehicle.</li><li>• 4 wire to USB adapter for programming.</li></ul> <p><b><u>NEW FEATURE</u></b> Works with K-Series Two Wire Temp Sensor</p>

You can download the application [HERE](http://www.k-tuned.com/aio.exe) (<http://www.k-tuned.com/aio.exe>).



## WIRING INSTALLATION:

The K-Tuned S2K converter was designed to be installed on the interior of the car behind your S2K dash cluster. The unit is needed to properly calibrate and display the correct speed, coolant temp and fuel gauge readings on your S2K cluster swap. Our unit will be connected to the wires on the S2K cluster harness. If you have bought or are buying an S2K cluster, we suggest that you buy it complete with the plugs as it will greatly simplify the installation process.

**NOTE: K-Tuned has NOT provided instructions for the complete dash wiring required for an S2K cluster swap in X vehicle. Due to the many vehicles that people are doing this cluster swap in, it is best if you complete most of the wiring using the cluster wiring diagrams specific to the vehicle you are working on. This info is available on the internet for several applications. In these instructions, we have ONLY shown the required connections that need to be made to install our S2K Converter. All wire colors mentioned are for the S2K plugs and the K-Tuned 8-pin wire harness.**

## WIRING FOR THE AP1 S2000 CLUSTER (2000-2003):

**NOTE:** The AP1 Cluster has 4 plugs on the back. For installation of our dash converter you will only be connecting to wiring located on plug B (12 pin) and plug C (20 pin). Do not make any connections on plugs A (14pin) and D (16 pin)

- 1) Tap the RED wire (12V ignition) on the K-Tuned harness into pin B4 which is a solid yellow wire.
- 2) Tap the BLACK wire (ground) on the K-Tuned harness into pin B8 which is a solid black wire.
- 3) Locate the blue/white wire on pin C3 and cut it, leaving space on each side to make connections. Connect the BLUE wire on the K-Tuned harness to the cluster side. Then connect the WHITE wire on the K-Tuned harness to the vehicle side.
- 4) Locate the yellow/green wire on pin C7 and cut it, leaving space on each side to make connections. Connect the ORANGE wire on the K-Tuned harness to the cluster side. Then connect the GRAY wire on the K-Tuned harness to the vehicle side. **NOTE: You can use the single wire D/B Series Sensor or two wire K-Series Sensor.**
- 5) Locate the yellow/black wire on pin C8 and cut it, leaving space on each side to make connections. Connect one of the BROWN wires on the K-Tuned harness to the cluster side. Now connect the last brown wire to the vehicle side. The connections on these brown wires can be reversed without causing any problem.

### AP1 Cluster Plug B

1	2		3	4	5
6	7	8	9	10	11
					12

### AP1 Cluster Plug C

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

## WIRING FOR THE AP2 S2000 CLUSTER (2004-2009):

NOTE: The AP2 Cluster only has 2 plugs on the back. For installation of our dash converter you will be connecting to wiring located on both plugs. Plug A (22 pin) and plug B (30 pin).

- 1) Tap the RED wire (12V ignition) on the K-Tuned harness into pin A9 which is a solid yellow wire.
- 2) Tap the BLACK wire (ground) on the K-Tuned harness into pin A17 which is a solid black wire.
- 3) Locate the blue/white wire on pin B7 and cut it, leaving space on each side to make connections. Connect the BLUE wire on the K-Tuned harness to the cluster side. Then connect the WHITE wire on the K-Tuned harness to the vehicle side.
- 4) Locate the yellow/green wire on pin B5 and cut it, leaving space on each side to make connections. Connect the ORANGE wire on the K-Tuned harness to the cluster side. Then connect the GRAY wire on the K-Tuned harness to the vehicle side **NOTE: You can use the single wire D/B Series Sensor or two wire K-Series Sensor.**
- 5) Locate the yellow/black wire on pin B10 and cut it, leaving space on each side to make connections. Connect one of the BROWN wires on the K-Tuned harness to the cluster side. Now connect the last brown wire to the vehicle side. The connections on the brown wires can be reversed without causing any problem.

### AP2 Cluster Plug A

1	2	3	4	5			6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21	22

### AP2 Cluster Plug B

1	2	3	4	5	6	7			8	9	10	11	12	13	14	
15	16	17	18	19	20	21	22		23	24	25	26	27	28	29	30

## WIRING FOR OTHER UNIVERSAL APPLICATIONS:

As already mentioned above, K-Tuned does not have detailed instructions for all applications. Below is a list of the wires and functions which can be helpful for universal applications:

RED WIRE: 12V+ Connect to an ignition switched 12V source. (Valid Supply Range is +5V to +14.4V)

BLACK WIRE: GROUND Connect to ground source.

WHITE WIRE: Speedo Input - Receives the uncorrected speed signal.

BLUE WIRE: Speedo Output - Output the corrected speed signal.

GRAY WIRE: Temperature Input - Receives the uncorrected temp signal. (Voltage Should Not Exceed 3.3V)

ORANGE WIRE: Temperature Output - Output the corrected temp signal

**NOTE: The Honda single wire dash temp sensor must be used. Honda Part # 37750-PH2-014 or K-Tuned Part # KTD-18-CTS. Do not connect to the ecu 2 wire sensor.**

BROWN WIRE: Fuel - 100 ohm Variable Resister Lead 1

BROWN WIRE: Fuel - 100 ohm Variable Resister Lead 2

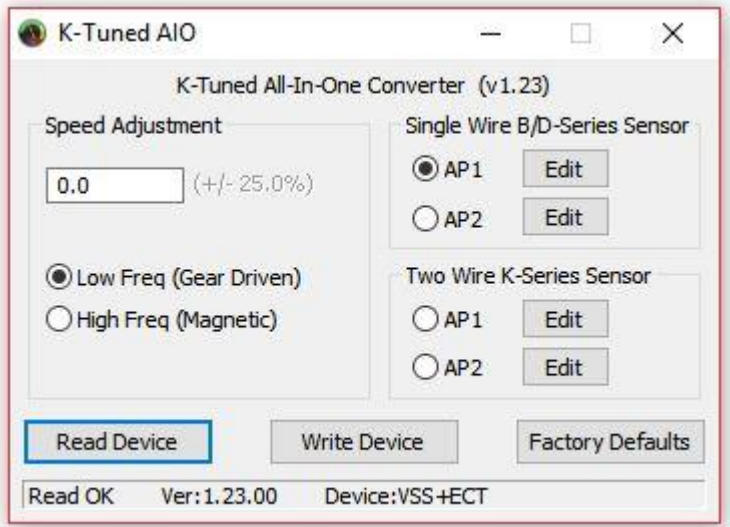
NOTE: The two BROWN wires for the fuel gauge correction are connected to a simple adjustable resistor. The input and output were not specified because the connection can pass through the resistor in either direction without any problem.

## PROGRAMMING THE DEVICE:

You can download the application [HERE](http://www.k-tuned.com/aio.exe) (<http://www.k-tuned.com/aio.exe>).

- 1) Go to the download link provided above.
- 2) Please note you may receive a warning from your computer. You can trust the application and continue with the download.
- 3) Once the download is complete. Double click on the downloaded file (**aio.exe**)

### Programming the unit



- 1) Plug Device into a Windows based computer using provided USB adapter cable.
- 2) Wait for drivers to be automatically installed (if this is the first time unit has been plugged in)
- 3) Press the “Read Device” button. Two sections will appear. Speed Adjustment and Temperature Type.
- 4) Speed Adjustment - Select the Low Freq. (Gear Driven) or High Freq. (Magnetic) setting to match the input VSS signal that is coming into the S2K cluster.
- 5) Temperature Type Select the desired AP1/AP2 mode to match the cluster you are installing in the section that matches your temp sensor (Single Wire or Two Wire)
- 6) Adjust Speed Correction Percentage if desired. (See details below)
- 7) Press “Write Device” button, and wait for write to complete to save changes back to device.
- 8) Unplug USB adapter from device. The unit is now ready to be plugged into the vehicle.

## ADJUSTING THE SPEED CORRECTION PERCENTAGE:

NOTE: The unit comes preset with default settings that should be quite accurate on cars with a 23” tall (205 50R15) tire. However, if you notice your speedo is off you can accurately dial it in by up to 25% +/- To adjust this unit accurately you must first obtain an accurate correction percentage as shown in the example below.

An example - GPS reads 55 mph but your speedo is displaying 60 mph.



By doing the following calculation:  $((55 / 60) \times 100) - 100$ . This will give you a correction percentage of -8.3 (negative value) With the unit now plugged into your computer via the USB cable simply enter -8.3 into the adjustment box and click "Write Device" to save the data in the converter.

$$\left[ \left( \frac{\text{Speed on GPS}}{\text{Speed on Cluster}} \right) \times 100 \right] - 100 = (\text{Value to be entered into VSS Converter})$$