

# SHOCK TRAVEL SENSOR INSTRUCTIONS

Overview:

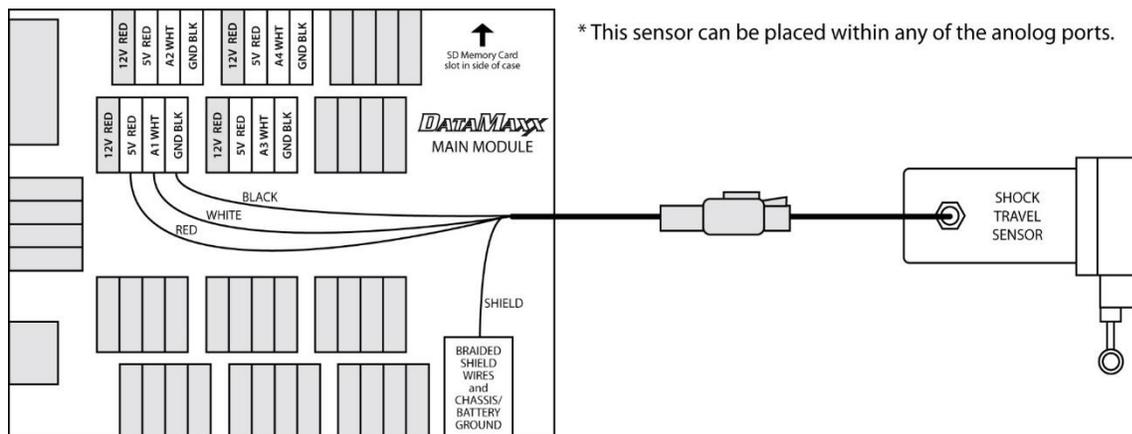
The suspension position transducer is designed to measure suspension movement during the entire data acquisition recording period, however for drag race purposes we are primarily interested in the suspension movement immediately following the initial launch.

Part Numbers:

#8051 Shock Travel Sensor Kit 4" or 8"

Installation:

Installation of the shock travel sensor will be significantly different on every installation. For proper mounting we recommend speaking with your chassis builder for the best way to accomplish this. Keep in mind that you want to position the sensor in a way that allows you to jack up the car without needing to disconnect the sensor. Jacking the car up with the sensor attached, and not properly centered, will cause the sensor to rip apart and be unrepairable.



Dip Switch:           RTD – OFF  
                                   GND – ON

### Calibration:

After installing your shock travel sensor you will need to tell the computer and the *DATA*MAXX what type of sensor it is. You will also need to know which Module and analog channel that you have plugged it into.

#### To Calibrate:

- Follow the Initial Calibration instructions in the Software section, OR:
- Record a short 5 second test log file, and download the log file correctly using the SD button.
- Select Edit, then Properties. You are now in the Channel Properties area.
- Find the "Analog" channel line that you installed the sensor on, follow it to the right, and click on the finger pushing a red button.
- Change the "Channel Name" to whatever you would like.
- From the "Type of Sensor" drop down list, choose "Custom", and then hit the "Configuration" button to the right of the "Type of Sensor" drop down list.
- Select the "Calibration Builder" tab and then select the check box to use the calibration builder.
- Change the decimals points to 1 and make sure that Direct Voltage is selected.
- Add the following values to the calibration table:
  - If using a 4" shock travel sensor:

▪ Low Voltage: 0.035	Low Reading: 4
▪ High Voltage: 4.984	High Reading: 0
  - If using an 8" shock travel sensor:

▪ Low Voltage: 0.035	Low Reading: 8
▪ High Voltage: 4.984	High Reading: 0
- Select Ok, then Ok again, to get back to the channel properties.
- Click on the filter button for the "Shock Travel Sensor", and select the check box to "Automatically zero reading just before launch".
- Select the "All in One View Preferences", and change the shock channel's zone to 6.
- When you are done, select OK, and then "Send Config to DataMaxx".

### Testing:

To test the suspension position sensor, bounce the suspension up or down and verify that the reading changes.

### Troubleshooting:

If your shock travel sensor is not reading or working correctly please follow the following steps.

- Verify The Calibration: Record a short 5 second log file, and download to your computer using the SD button in the DataMaxx software and save to an event. Once the log file is open, select Edit, then Properties. Find the channel in question, and verify that the calibration is either “Shock Travel 4” or “Shock Travel 8”. If it is not, follow the calibration instructions for the “Shock Travel Sensor” in the manual. If the calibration is correct, “Check the Hardware Settings”.
- Check Hardware Settings: The first step is to visually confirm which channel the sensor in question is physically going to. If this is not the same as the calibration, then re-calibrate. If the sensor is going to the channel you thought, then we need to first make sure that the sensor is plugged into the 5V reference voltage terminal and not the 12V one. If that is correct, we then need to make sure that the corresponding RTD dip switch is OFF and that the GND is on. Refer to the back of your lid to determine which dip switch corresponds to which channel.
- Verify Output Voltage: After the calibration and hardware settings have been verified, we need to check the voltage on the white signal wire terminal. To do this, take your volt meter, connect the ground to one of the four ground posts in the DataMaxx and place the red volt meter lead to the white signal wire screw terminal. If the voltage is within .5v to 4.5v then the sensor is working correctly and your calibration is incorrect. Re-calibrate the sensor per the calibration instructions in the Shock Travel Sensor section and follow the Testing procedure. If the sensor is reading a flat 0V, be sure to set your volt meter so that it will read a tenth of a volt, if you do not see a decimal point then your voltmeter setting needs to change. If your volt meter is reading a tenth of a volt and yet the sensor is reading a flat 0v, your sensor itself is broken and needs to be replaced. If the sensor is reading above the expected voltage, then there is an open connection between the DataMaxx and the sensor, “Check the Extension Cable”.
- Check the Extension Cable: The first thing in verifying your extension cable and connection is to check that the wires are still connected well where they go into the connector. To do this, gently tug on the black, red and white wire where it goes into the connector. If it comes out easily then you need to replace your extension cable—if it does not, then you need to re-terminate your wires. To do this, simply unscrew the black, red and white wire where it goes into the analog channel. Visually inspect the ends of the wire to ensure that you were not crimping down on the insulation. Then re-terminate the wires back in their appropriate terminals.

# MICRO SHOCK TRAVEL CALIBRATION

## INSTRUCTIONS

First mount in optimal location. Run cable back to either the Main module or expansion Analog module. Select an analog channel to use and terminate the black and white wires in the appropriate place. The red wire will go to the 5V RED reference voltage.

To calibrate the unit, record a short 5 second test run and open it using the DataMaxx software. Right click on any of the sensor names to the left and select "Properties" to bring you to the channel properties. Find the analog channel you have installed the shock travel sensor into, look to the right, and press the button of a finger pushing a red button. This will bring you to that specific channels calibration. Change the name to whatever you like, and from the drop down list choose "CUSTOM."

To the right of the word custom, push the button with an image of a finger pushing a red button. Change the decimal points to 2, the units to in, and select direct voltage. Then copy the information below into the calibration table (Make sure to use semi-colons).

Custom Calibration for Micro Epsilon Shock Travel Sensor

0;0;

380;1;

2827;6;

4995;10.5;