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## **SERIAL DATA AND ANALOG OUTPUT OPTIONS INSTRUCTIONS**

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### **SERIAL DATA COLLECTION (RS-232 Optional feature)**

#### **OVERVIEW**

1. Instruments outfitted with the optional RS-232 feature support serial data. The Serial Data option includes a RS232 cable assembled with a male, DB9 connector (allows serial communication using a 9-pin connector). An optional USB to DB9 adapter is available for an additional charge. (See cover photo.)
2. Your data receiving device (PC) will require a “software wedge” in order to upload data from the instrument and there are many of these programs to choose from, including “freeware” programs. Tensitron has had very good success with the program “putty” (putty.com)
3. The data can be fed to your receiving device either continuously or from the internal data storage in the meter via “Single Point”. Note: the STX meter does not send data continuously but does upload internally stored data.

#### **METER SETUP AND SETTINGS**

This assumes you have purchased the Serial Output option.

1. Power on the meter
2. Scroll down to Setup, press Enter.
3. Scroll down to LCD Refresh Rate, press Enter.
4. Scroll down to select the appropriate Refresh Rate for your needs and press Enter. It must be either: 1Hz + Serial, 2Hz + Serial or 5Hz + Serial.
5. Press Escape till the meter turns off.

All meters collect either Single Point or Continuous data points.

#### **STORING DATA INTERNALLY INTO THE METER**

1. See the Operating instructions for the meter for more detail.
2. Turn the meter on, engage it to your tensioned material and push the STORE button.
3. STORE as many data points as you need. The meter will store hundreds of data points internally.

4. See your Single Point data log to see your stored data (See Figure 3).

## PC SETUP and SETTINGS

This section assumes that you will be using the software wedge “putty”.

See Figure 1

### Configuring the USB to DB9 adapter.

1. Connect the 9-pin connector with the USB adapter and allow your computer to download and install the necessary drivers.
2. After the drivers have installed verify which “Com Port” the adapter is using by going to your computer’s “Device Manager” (can be found by going to: Control Panel – System – Device Manager-Ports). (Figure 4.)

### Configuring “Putty” on your PC.

1. Download “putty” to your PC and open the program.
2. Select the Category “Serial”
3. Specify the Serial line (COM1 or other).
4. Set the Speed to 9600
5. Set Data bits to 8
6. Set Stop bits to 1
7. Set Parity to None
8. Set Flow Control to None
9. Select the Category “Session”
10. Select the Connection type to “Serial”
11. Select the Session name (for example, we will use “Serial test”)
12. Select “Load”
13. Select “Open” (You should see a screen like Figure 2)

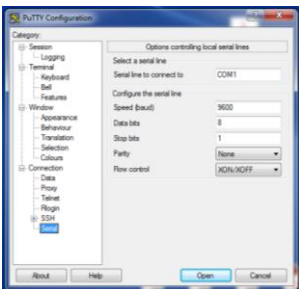
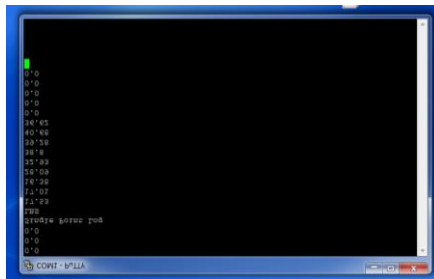


Figure 1



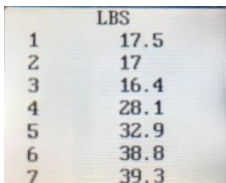
## UPLOADING STORED DATA FROM THE METER

### SINGLE POINT UPLOAD:

1. Open Putty (if it is not already open)
2. Select the Session name (for example, we will use "Serial test")
3. Select "Load"
4. Select "Open" (You should see a screen like Figure 2)
5. Using your mouse, pick the Putty screen.
6. Plug the Serial Cable into the Serial Port on the meter.
7. Type a lower case "s".
8. The Putty screen should show "Single Point Log" and all the data points from the internally stored data log. See Figure 2.
9. Copy and Paste the selected data points to your spreadsheet.
10. If you wish, save your Putty session data file using the SAVE button on the Putty Configuration / Session screen.

### CONTINUOUS DATA POINT UPLOAD:

1. Open Putty (if it is not already open)
2. Select the Session name (for example, we will use "Serial test")
3. Select "Load"
4. Select "Open" (You should see a screen like Figure 2)
5. Using your mouse, pick the Putty screen.
6. Plug the Serial Cable into the Serial Port on the meter.
7. You should immediately see the Putty screen uploading tension values. You will see Zero's till you apply a load to the meter where you will then see the tension loads.
8. After you have logged your tension data points, Copy and Paste the selected data points to your spreadsheet.
9. If you wish, save your Putty session data file using the SAVE button on the Putty Configuration / Session screen.



	LBS
1	17.5
2	17
3	16.4
4	28.1
5	32.9
6	38.8
7	39.3

Figure 3

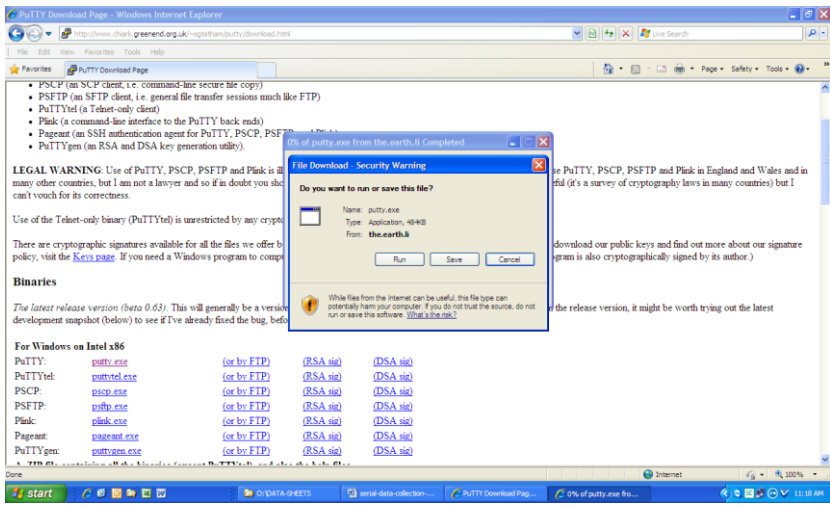
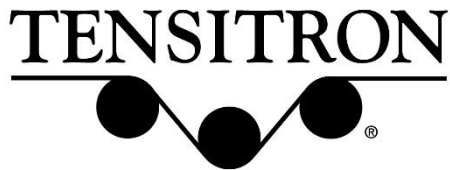


Figure 4

## ANALOG OUTPUT OPTION (Optional feature)

1. Instruments outfitted with the Analog Output feature (designated with an “-A” in the part number) have output values that are selectable between: 0 – 5 VDC or 4 – 20 mA. Connect the Analog Output Cable to receptacle located on the bottom side of instrument. Connect output leads to the analog input of your measurement or control device. The Red lead is Voltage +, the White lead is mA, and the Black lead is Ground. From the Setup Menu select: “Analog Output” and choose between “Analog Output Current” or “Analog Output Voltage.” Once selection is made press “Enter.”
2. Calibration of Analog Output (Optional feature)  
From the Setup Menu select: “Calibrate Analog” and then adjust the tension value to indicate when the instrument reads maximum current or voltage. Press “Enter.”





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