

Data Logging using HyperTerminal and SCPI Commands on the 8000 Series Gauss/Tesla Meters

ABSTRACT

This application note describes the process to implement simple data logging with the 8000 Series Gauss/Tesla meter using Windows HyperTerminal[®] and SCPI commands via the RS-232 communications port.

1 Establishing the Connection to the Meter

Follow the instructions found in the 8000 Gauss/Tesla Instruction Manual “Remote Operation” section to connect the meter’s RS-232 port to the computer. Note that the interface is designed to connect directly to the computer’s D-Sub 9 serial port with a straight-through cable.

Note: If the host computer is not equipped with a serial port, a USB to Serial converter or other device can be used. Follow the instructions included with that device to install the drivers and complete the setup of the port. Make note of the COMM Port designation as this will be needed later.

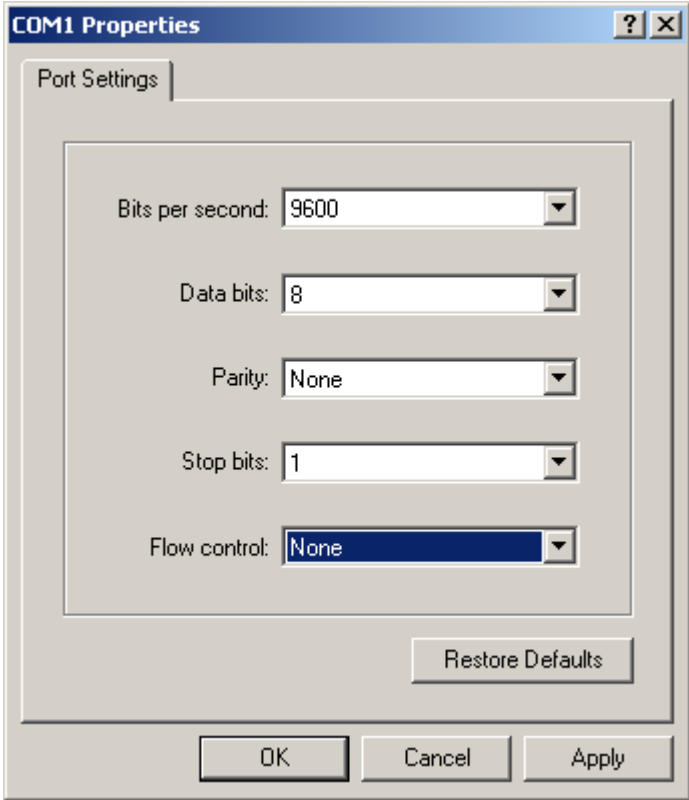
Once the meter is connected to the host computer open a HyperTerminal session, usually found in “All Programs\Accessories\Communications, and start a new connection. Enter an appropriate connection name such as 8000 Gaussmeter, and hit ‘OK’.



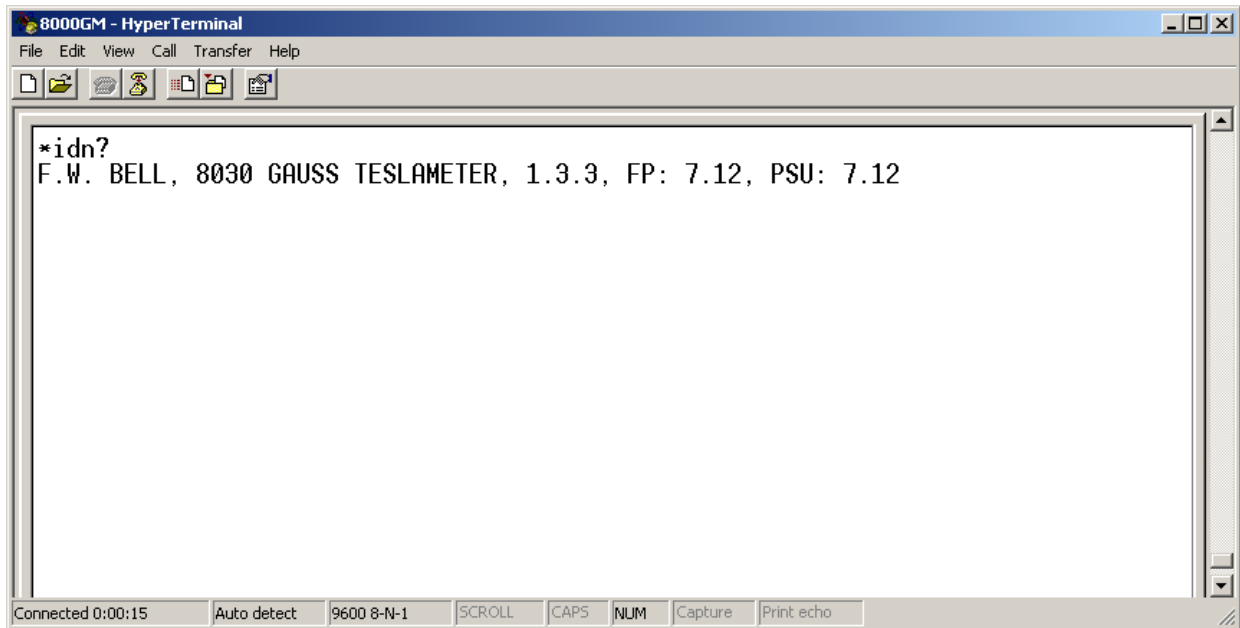
In the 'Connect To' window, navigate to the 'Connect using:' pull-down and select the COMM port to which you've previously connected the meter, and hit 'OK'.



In the COM1 port properties window, edit the settings to match the example shown below and hit 'Apply', then 'OK'. These settings can also be found in the 8000 instruction manual.



The HyperTerminal window should now be active and the cursor will be blinking. Now type “*idn?” in the window and hit the Enter key. The meter will respond with its identification information, indicating that the connection has been established and is active. If this response is not seen, verify the hardware connections and the previous settings and repeat before continuing.

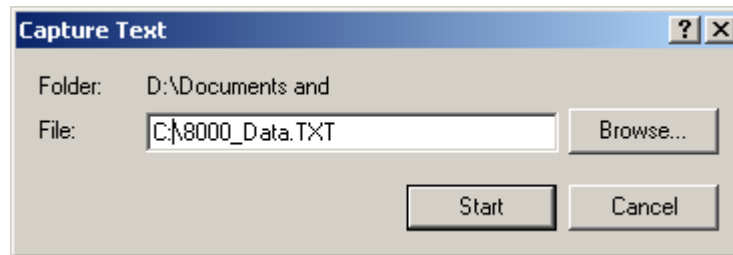


After connection to the meter is established, any of the SCPI commands described in the meter’s instruction manual can be used to provide remote access to both settings and measurements.

Saving the named connection in HyperTerminal will store these settings so that any future connections to the meter can be established by loading that connection the next time HyperTerminal is opened.

2 Using HyperTerminal to Log Data by Capturing a Text File

Using the HyperTerminal menu bar, select 'Transfer' and 'Capture Text', this will bring up the Capture Text dialog box. Enter the location and file name or browse to the location of a file where you would like to capture and store the data.



Hitting the Start button will start the capture and storage of all text entered or received from the HyperTerminal to the designated storage file. If multiple starts are used with the same file name the new data will be appended to the end of the file.

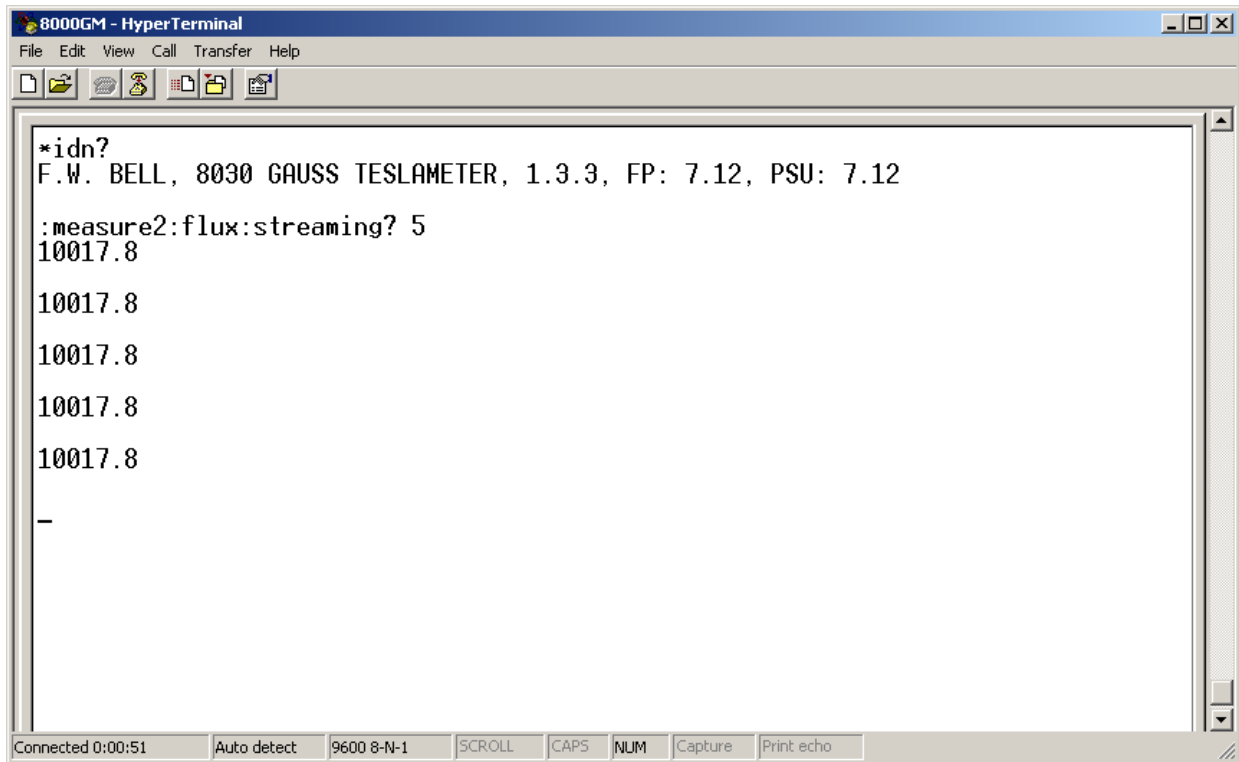
Hit Start, and type the following command into the HyperTerminal window:

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:MEASure<#>:FLUX:STReaming? <n>
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Where <#> is the probe channel number for the requested measurement and <n> is the number of seconds that you would like the 8000 meter to stream the current flux density measurement. Refer to the 8000 Series Instruction Manual for more information regarding SCPI message format.

Note that the rate at which the measurements are streamed is controlled by the meter's Update Rate setting. This setting can be changed by navigating the meter's menu system Main\Display\Update Rate.

Four settings are possible for the data stream and display rate: 5 samples per second, 2 samples per second, 1 sample per second, and 1 sample every 2 seconds.



After acquisition of the data, HyperTerminal text logging must be stopped by selecting the Transfer/Capture Text menu and selecting Stop. The data will now be accessible in the previously entered text file saved on the computer and can be viewed with Notepad or any other text file program, or imported into most spreadsheet programs.

