INSTROTECH
INSTRUMENTATION AND PROCESS CONTROL

Model 1684 Tank Level Systems – Water, Foam and Diesel Tank Sensors

Configuring Sensor Points for LED Displays and Switched Outputs

1 - Connect the special USB-Serial Cable to the Sensor to be configure with the DIN43650 cable connector. USB-RS232 cables have 3 cores and USB-RS485 cables have 4 cores wired inside the cable connectors.

2 - Connect the USB connector to a PC or Laptop, or Android Smartphone with an added OTG cable. The USB-Serial Cable boosts the 5 VDC supply of a USB port to 10 VDC to power the Sensor. The red LED under the cable connector lights when power is applied.

3 - For Windows operating systems, use Terminal Emulation software, such as the free version of "232analyzer" or similar to set the Sensor level points:

https://download.cnet.com/232Analyzer/3000-2086_4-10435364.html

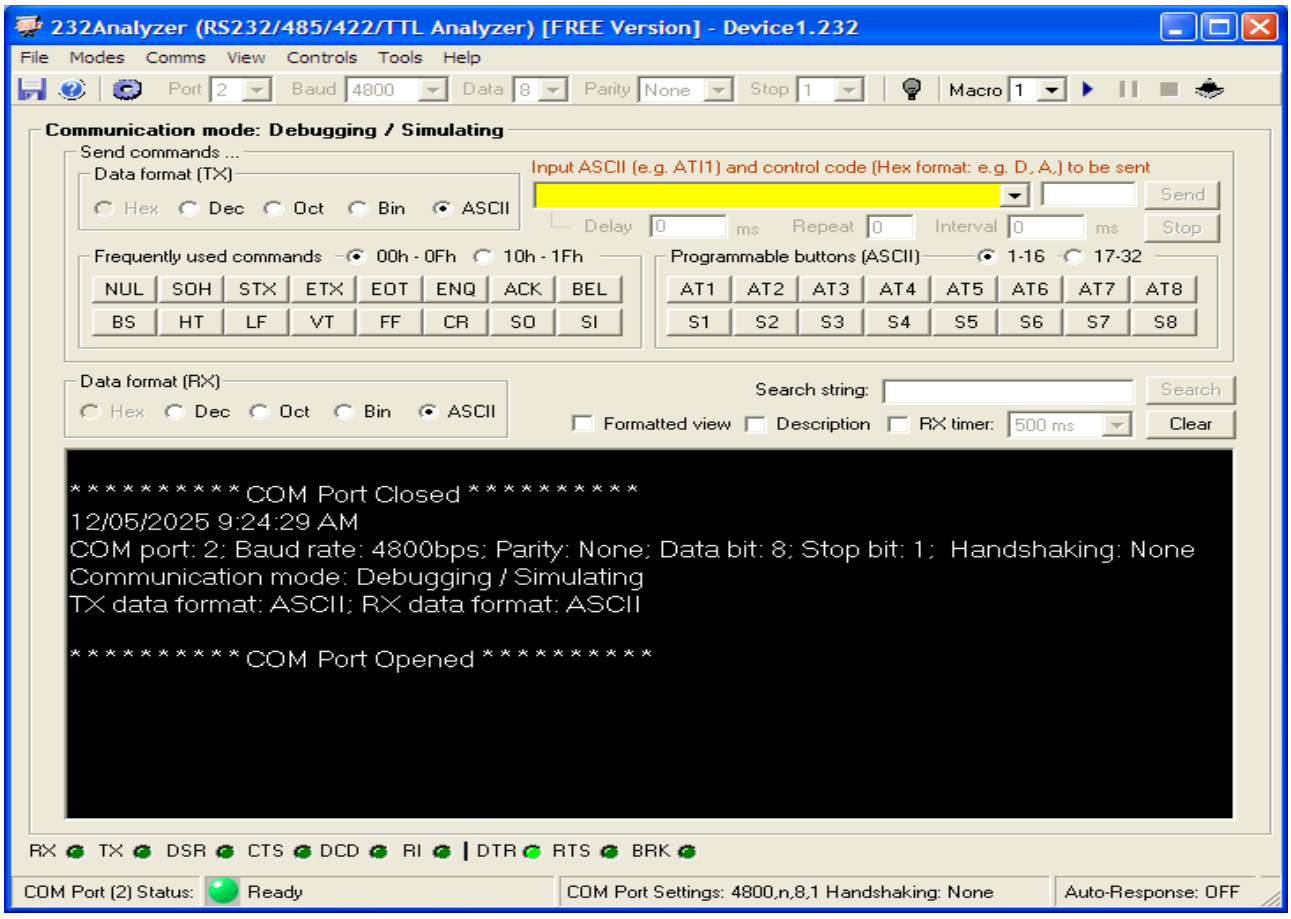
4 - For Android operating systems, use the free "FTDI UART Terminal" app to set the Sensor level points:

https://play.google.com/store/apps/details?id=com.ftdi.j2xx.hyperterm

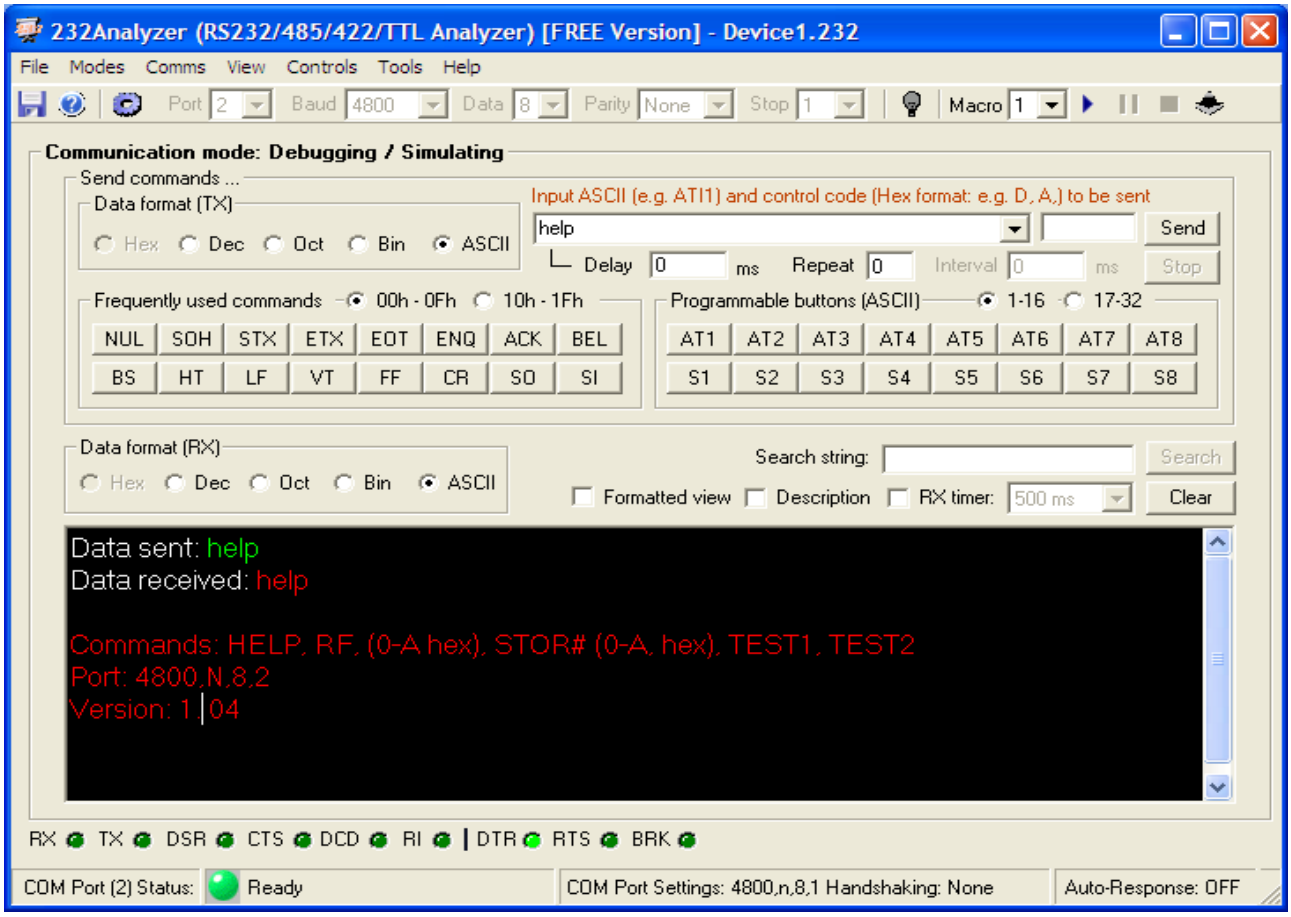
5 - Set the COM port Properties to:

Baud: 4800 Data: 8 Parity: None Stop bits: 1

6 - Set communication mode data formats, TX and RX, to **ASCII**, then connect the relevant port.

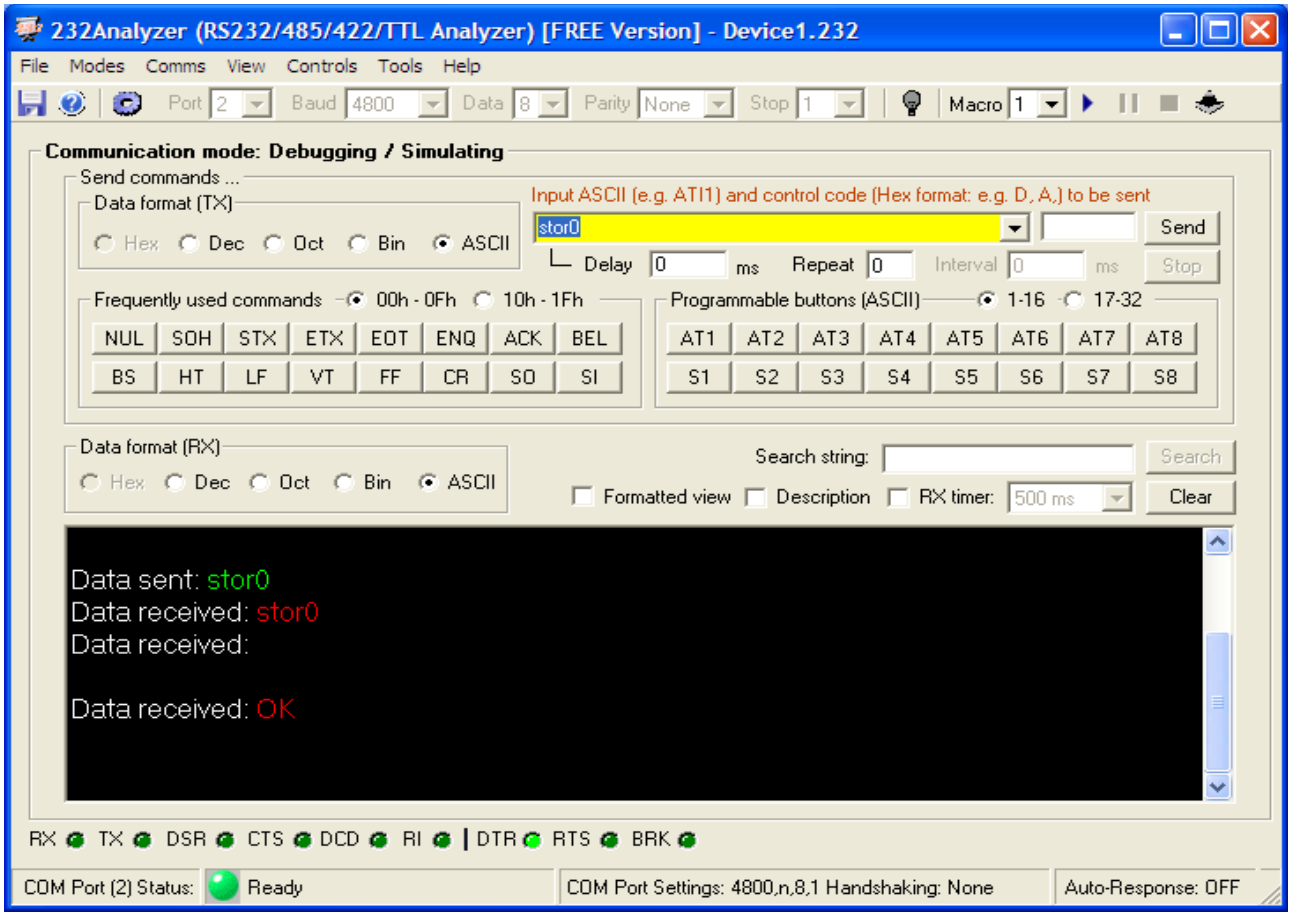


7 - To check communications with the Sensor, type '**help**' or '**HELP**'.
The Sensor replies as shown below:



8 - '**storX**' is used to set levels, '**rX**' is used to read the frequency at these levels in Hexadecimal, '**rf**' reads the frequency at the current level, '**test1**' reads the frequency at 80 times per minute, and '**test2**' at 30 times per minute for test and logging purposes. The commands are not case sensitive, so either upper or lower case may be used. '**X**' denotes the relevant level, ie, 0, 1, 2, 3, or 4, in 5-level systems, or 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9, in 10-level systems.

9 - To set the lowest level, position the Sensor at the required level and type '**stor0**' to set the lowest level, Level 1, or Empty, or Low. The Sensor returns '**OK**' as acknowledgement for each level when set in sequential order, as shown below:



10 - Repeat this step for all the next levels. '**stor1**' = Level 2, or 1/4, '**stor2**' = Level 3 or 1/2, '**stor3**' = Level 4 or 3/4, and '**stor4**' = Level 5 or Full (or up to '**stor9**' for 10-level % systems).

11 - Allow for any internal tank overflow outlets or safe fill level when setting the top Full level.

12 - Any level may be reset at any time without resetting or affecting any other level.

NOTE

After re-setting any level/s, the remote Display Controller must upload the new settings from the Sensor. To allow that, switch off the power. Reconnect the Sensor to the system cable connector. Switch on the power. The top LED of the Display will flash on and off while it reads the new settings from the Sensor. Do NOT interrupt the power while the Display reads the new settings for the first time. Within 10 seconds the Display will show the current level/s with the relevant number of LED's lit.

For systems with multiple Displays, after re-setting any levels, toggle the power Off and then On again to initialise the Slave Display/s.
