

Microstat Series Digital Electronic Micrometers USB 2.0 Data Output



MICROSTAT USB OUTPUT

The Microstat micrometer range has a serial data output which is USB 2.0 compatible and has drivers for the Windows Operating System which provide a virtual RS232 port for access by legacy software..

When your Microstat is connected to an active USB port on your computer a small 'M' appears in the display to show it is aware of the USB connection and is ready to accept commands.

Please note that, since USB is a 'Plug and Play' interface and Windows loads and unloads device drivers only as needed, you should always connect your Micrometer to the computer BEFORE starting the software that will use it.

USE WITH MS EXCEL

When you have installed the MicrostatXL 3 software (below) you can enter data from your micrometer directly into an Excel spreadsheet at the touch of a button.

1. Connect your Microstat to your computer using the USB cable provided.
2. Create a spreadsheet from the template in the MicrostatXL 3 download.
3. Highlight a cell, or range of cells and click the Measure button in the spreadsheet.
4. Press the Microstat's Data Entry button (yellow) to fill each selected cell in turn with data.

INSTALLING THE SOFTWARE

1. Download the MicrostatXL 3 software from www.digitalmicrometers.co.uk (follow the links for Micrometers and Accessories) and extract the files to a folder on your hard disk. (We'll call this the Download folder.)
2. Connect your micrometer to a free USB port on your computer.
3. Windows will discover it and want to load 2 drivers, USB Serial Port and USB Serial Converter. You may have to tell it where to find these drivers, ie. The Download folder.
4. Test the installation by running the program Mstat.Exe from the Download folder. This should find your connected Microstat and display live data from it on the screen.

If you want to use your Microstat with Microsoft Excel continue...

4. Run the program Setup.Exe from the Download folder and follow the on screen instructions. You will need to know the folder where your Excel templates are stored. You can find this by running Microsoft Word (!), choosing Tools – Options, and looking in the File Locations tab for the User Templates folder or the Workgroup Templates folder.

The Download folder contains a Documents subfolder. Open Main.htm in there for more details and instructions for using the Excel templates.

VIRTUAL RS232 INTERFACE

When the two drivers have been installed (above) your computer will appear to have an extra COM port, eg. COM3 or COM5 etc.

RS232 parameters are as follows...

9600 baud,
8 data bits
1 stop bit
no parity
no flow control

Each time you transmit a '?' your Microstat will send back 12 bytes of binary data. If you send a '0' the Microstat will reset.

Note that you can use Windows Hyper - Terminal or similar to test this but the data sent back is in binary form, not ASCII text so Hyper Terminal will not display readings correctly.

DATA FORMAT

The 12 byte data packet contains the following...

- Bytes 0-3: raw measured value (32b signed integer)
- Byte 4: Raw status byte...
b0: D (yellow) button
b1: Z button
b2: C button
b3: S button
b4: Error (raw error bit)
b6: in/mm (0=mm, 1=in)
b7: not used – always 0
- Byte 5: not used – always 0.
- Bytes 6-9: Display (cooked) value (32b signed integer)
- Byte 10: Cooked status byte...
b0: Comparator mode
b1: Limit Mode
b2: Tolerance Mode
b3: Stats mode
b4: Error (shown in display)
b5: in/mm (0=mm, 1=in)
b6: not used - always 0
b7: display invalid (eg. showing a message)
- Byte 11: Cooked display content...
b0}
b1} display content - see below
b2}
b3-7 = not used: all zero
- b0-2 indicate the current display contents
In Limit mode...
b0: 1=hi, 0=lo
In Tolerance mode...
b0 = Upper tol exceeded
b1 = Lower tol exceeded
In Stats mode b0-2 are a number...
0 = live data
1 = count
2 = average
3 = std dev
4 = range
5 = highest
6 = lowest
In any other mode the display content byte can be ignored and should be all zeroes.

DIGITAL MICROMETERS LTD

122 Townhead Road

Sheffield

S17 3GB

United Kingdom

tel 08452 757 007

<http://www.digitalmicrometers.co.uk>

email: sales@digitalmicrometers.co.uk