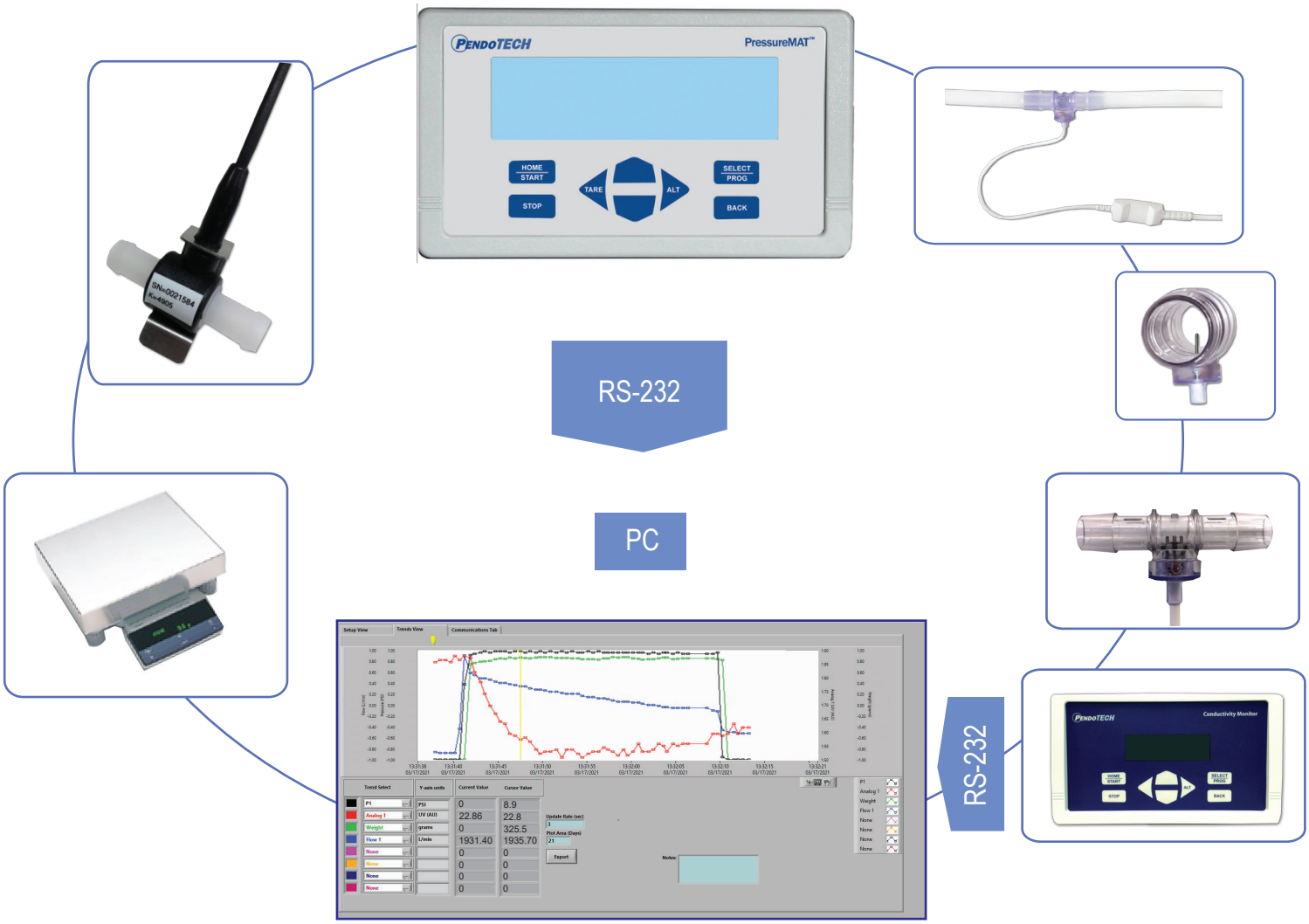
PENDOTECH
Adding Value To Your Process

PressureMAT® & CMONT Data Acquisition Software

The PendoTECH PressureMAT® (PMAT) monitor/transmitter that is used to read PendoTECH's Single Use Pressure Sensors™ comes with a data port as a standard feature for serial communication. PendoTECH has created a customized software package to trend the data real-time and also log the data in a comma-separated values (CSV) file format. The software is compatible with all PressureMAT models and can optionally perform calculated values useful for filtration applications, such as DeltaP and trans-membrane pressure (TMP). One scale with an RS232 output can also be integrated with the software to monitor weight and perform additional calculations, such as estimated flow or flux. Furthermore, the PendoTECH Conductivity/ Temperature Sensor Monitor (CMONT) also has a data port that allows for connection to the software, in conjunction with a PressureMAT or independently. This software also supports OPC server integration.



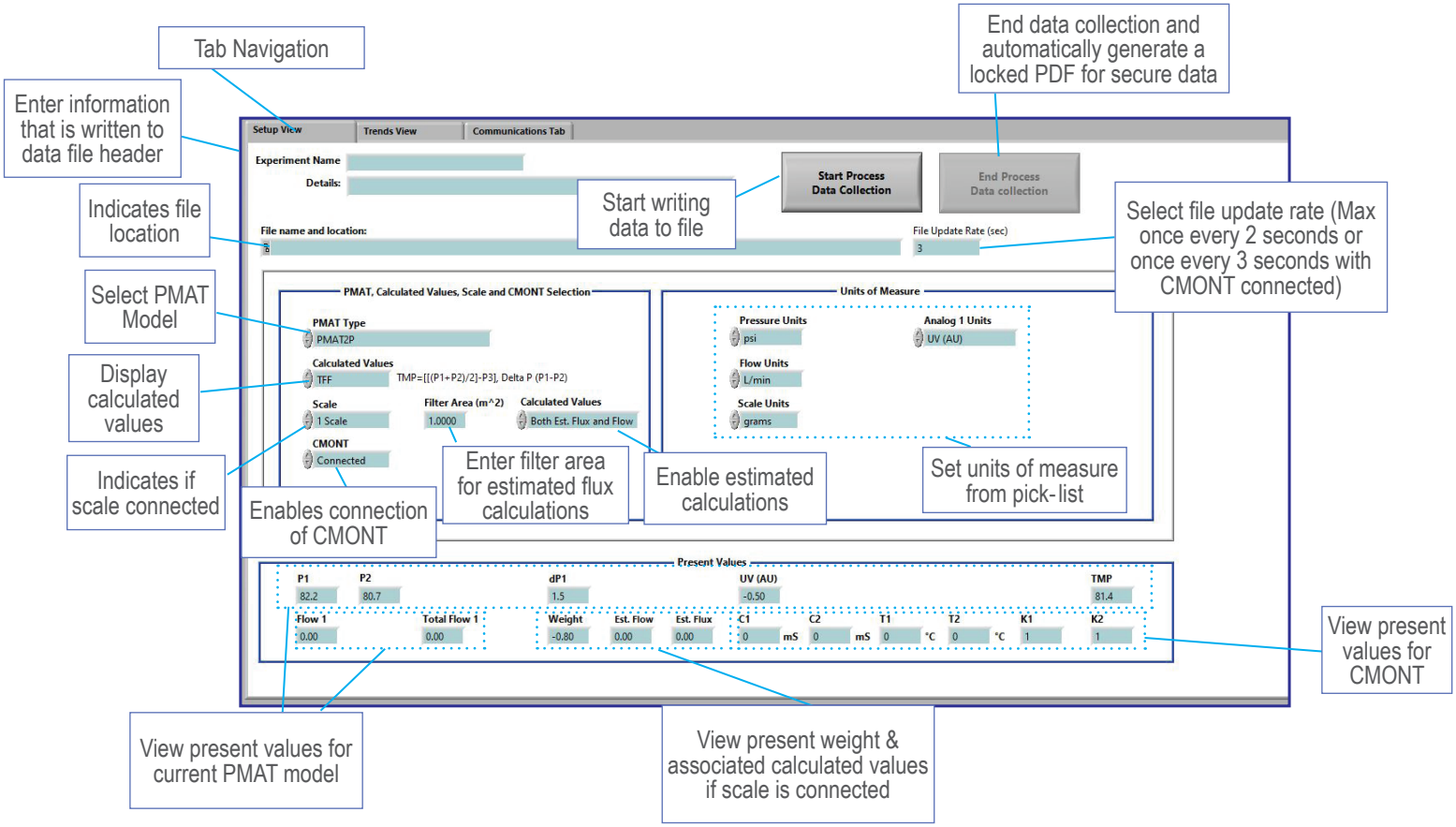
PendoTECH's PMAT-PLUS models, which have special flow meter pulse-frequency input(s), analog input(s), or both, can also be logged on the software. Models with flow meter inputs are able to report and trend both flow rate and flow totalizing directly on the software. Likewise, models with an analog input port can be used to read a variety different sensors via its sensor transmitter such as the PendoTECH Temperature Sensor, UV Sensor, or Turbidity Sensors. In fact, any sensor can be connected via a 4-20mA transmitter and its data can be logged simultaneously with the pressure and flow data.

Overview

The PressureMAT can be connected to a PC port via either a serial port (9 pin) or USB or most frequently via the included serial to USB dongle. The software has a Setup View tab to make selections based on the PMAT model and process details. This tab is also used to configure the data collection settings and connect a scale or the CMONT. The Trends view tab allows data to be viewed real-time and is loaded with features to customize the data view. It can is also be used to write notes to the datafile or export a subset of data. Lastly, there is a Communications Tab for troubleshooting connections, altering the scale communication settings, and closing the program. All data in the program can also be published to an OPC library for collection to an OPC client such as a data historian.

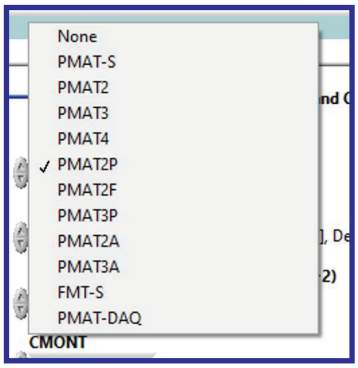
Setup View

The setup view is used to enter information specific to the PMAT model, as well as to select calculated values for specific applications. Data collection from a scale and associated calculated such as estimated flow or flux are also activated here. The units of measure must be set up here to match the units on the PressureMAT and scale. In the top section, information can be entered that is specific to an experiment. This information is written to the header of the data file when data collection is started. The file update rate is also selected here. Once the “Start Process Data Collection” button is pressed and the file is named and saved, all of the inputs on this view are locked until data collection is ended. When the “End Process Data Collection” is pressed, datalogging will stop and a locked PDF of the CSV file will automatically be generated.

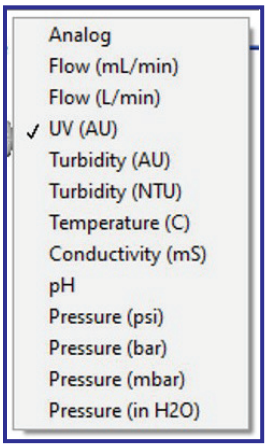


The PMAT model and units are selected by pick-lists. These units are then used for the trends view and used in the column headers of the data files to indicate the units of the values in each column.

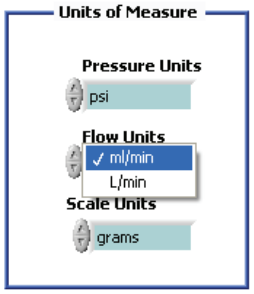
Select Model



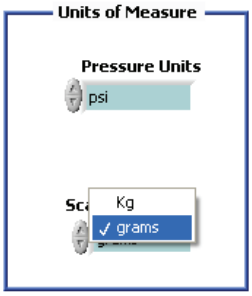
Analog Units



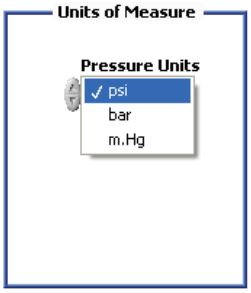
Flow Units



Weight Units

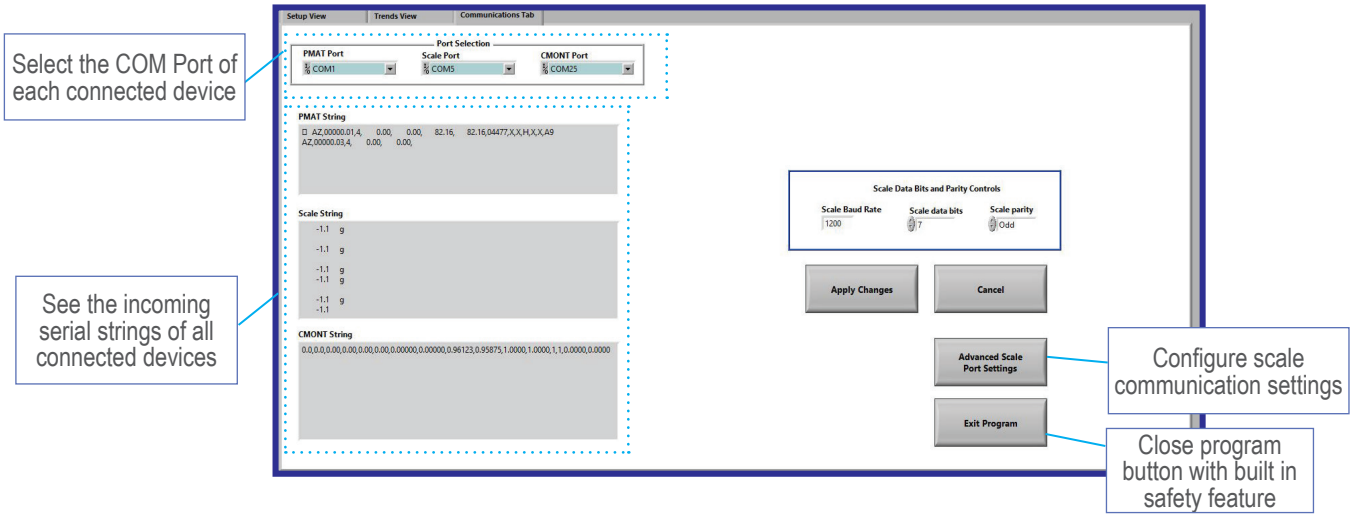


Pressure Units



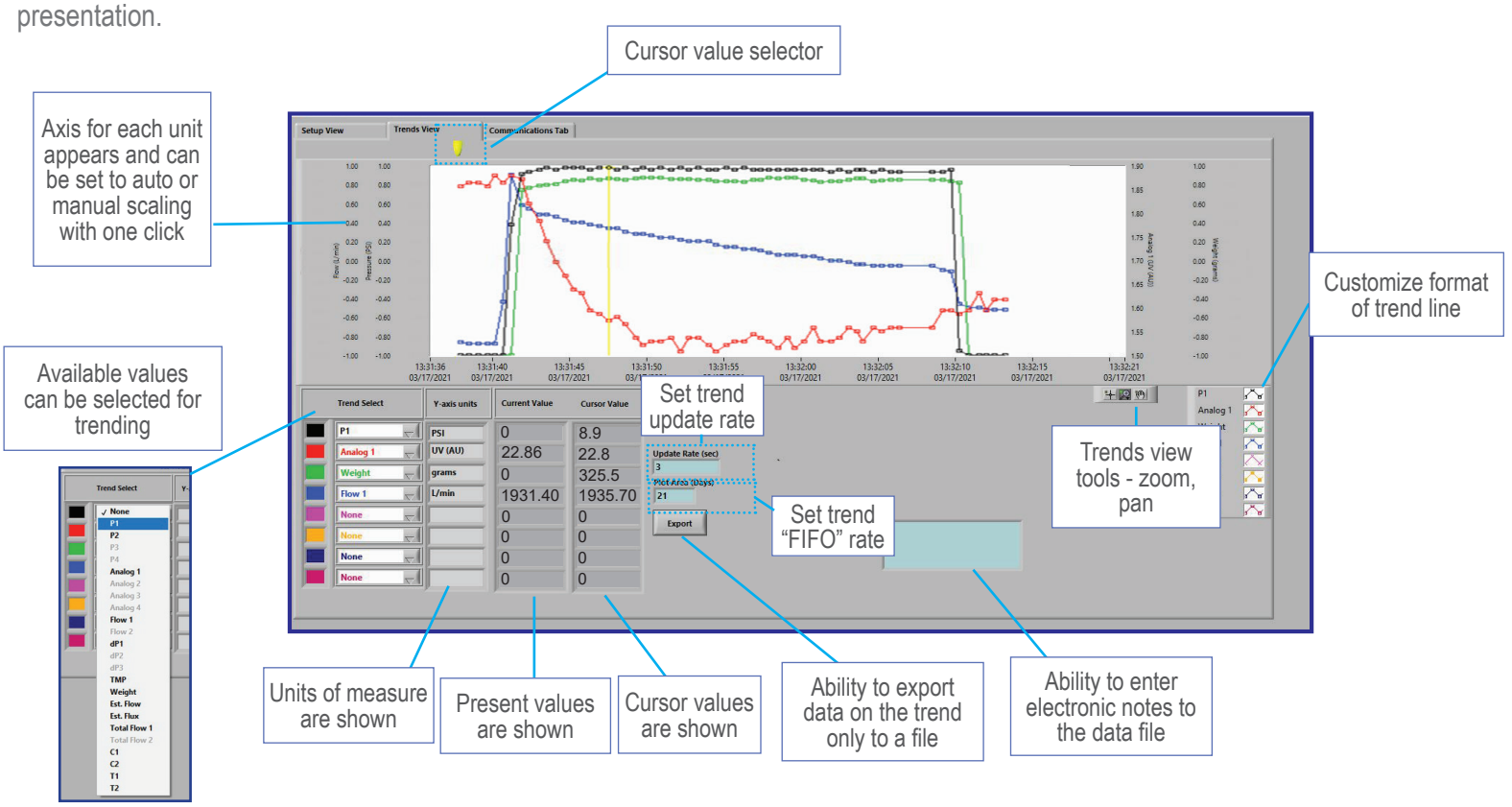
Communication Tab

The Communications Tab is useful for troubleshooting connection issues and setting up a scale. The COM ports for each device can be selected in the drop down menus at the top. The COM Port number of each device can be identified in your PC's device manager. The string captured from each device also appears here, which is useful for diagnosing the connection status. The scale communication settings can also be modified here. The software is compatible with scales with a baud rate ranging from 1200 to 19200. Lastly, this tab houses the exit program button. The software has a built in safety function to prevent the user from accidentally closing out of the program while data collection is in progress.



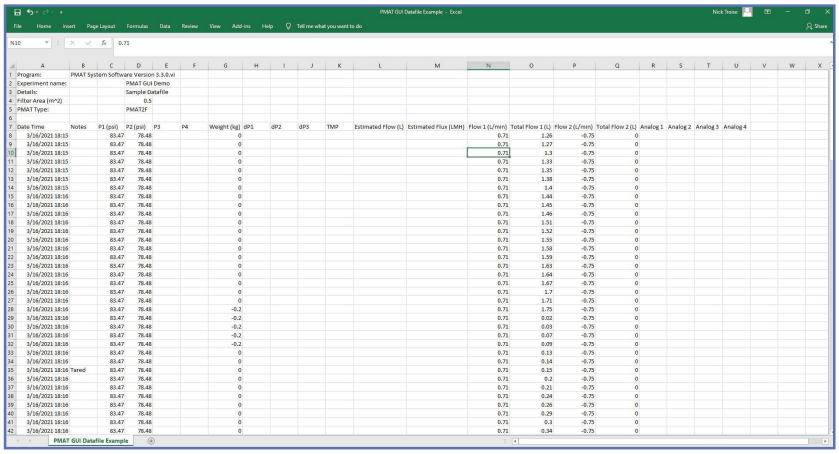
Trends View

The Trends view has the flexibility to allow customization of the dataset to meet any customer requirements. The pick lists allow you to display any of the data of interest captured by the PMAT, CMONT, or calculated by the software. At any time during data collection items can be added and removed from the plot area. It features auto-scaling options for all axes or manual scaling by simply typing mix/max values at an axis scale. The cursor tool is useful to compare older data versus present. Electronic Notes may be entered here, which will write the note to the data file with the current timestamp. The trends view features are highlighted below which is shown with a PMAT2P with temperature as the analog input, TFF and scale calculations enabled, and a CMONT connected . The plot with legend may also be copied as a picture for immediate placement into a report or presentation.



Data File

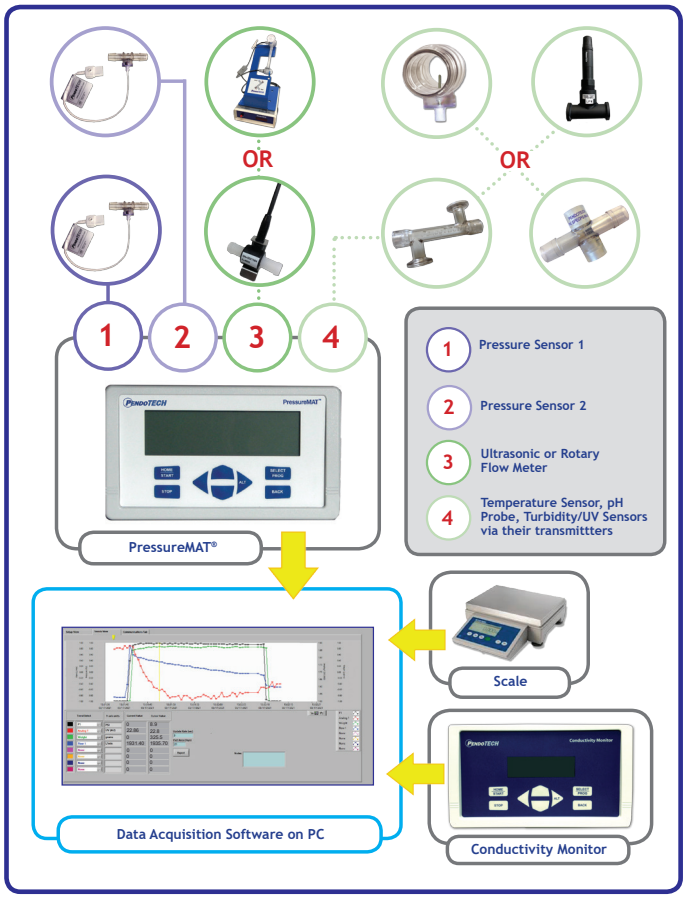
The file may be located in any directory and is created when the "Start Process Data Collection" button is clicked. The data is written to a CSV file that is locked by the software until the "End Process Data Collection" button is pressed. The data is captured at the frequency selected by the File Update Rate on the Setup View. The max sampling rate is once every 2 seconds (or once every 3 seconds if a CMONT is connected). Once the "End Data Collection" button is pressed, the software will stop data collection and automatically create a secure PDF (locked for editing) from the CSV file. A sample CSV file is shown. The notes column is only populated at the timestamp the note was entered to make it easily identifiable.



Application

The PressureMAT-Plus models allow process values to be read directly into the PressureMAT and all the data can be collected and trended real-time. Parameters including pressure, flow, weight, UV absorbance, conductivity, temperature, TMP, etc. can be recorded simultaneously. The PressureMAT and the PC Software give the capability to quickly and easily create a custom configured Data Acquisition and Trending system. It is excellent for basic laboratory experiments, scale-up development projects, filtration studies and relaying information to OPC servers. Extensive technical support for setting up and using the software is available. University customers are also eligible for a free copy of the software with the purchase of a PMAT.

For PressureMAT info go to www.pendotech.com/pressuremat



PressureMAT-Plus Model 2P - quickly and easily enables creation of custom-configured process trending and data acquisition system.

PMAT STAND

Ordering Information

Part Number	
PMATP-GUI	Data Acquisition and Trending Software for PressureMAT and CMONT with 2 USB/serial cables to connect to a PC Compatible with PCs with Windows 7 to Windows 10, with minimum of 2GB RAM and processor of 2 GHz or faster; Must have at least 2 free USB ports (1X for PMAT, 1X for CMONT) Scale setting must be set to: RS232 communication protocol, with default settings: 1200 baud, 7 data bits, ODD parity, 1 stop bit, NO HANDSHAKE. Continuous data output. (Communication settings configurable in software, but scale must automatically print data without stability) Scale output pins: Pin 2: Tx Pin 3: Tx Pin 5: GND

For warranty information see our website at http://www.pendotech.com/warranty