VT Analyze

Visualizing Software for VT-PM604

Volterra Techniks LLP

Contents

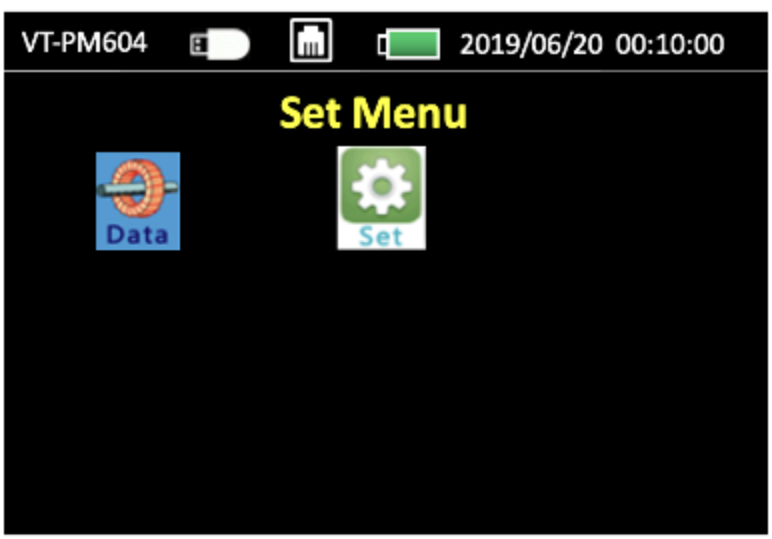
1. Introduction and System Overview

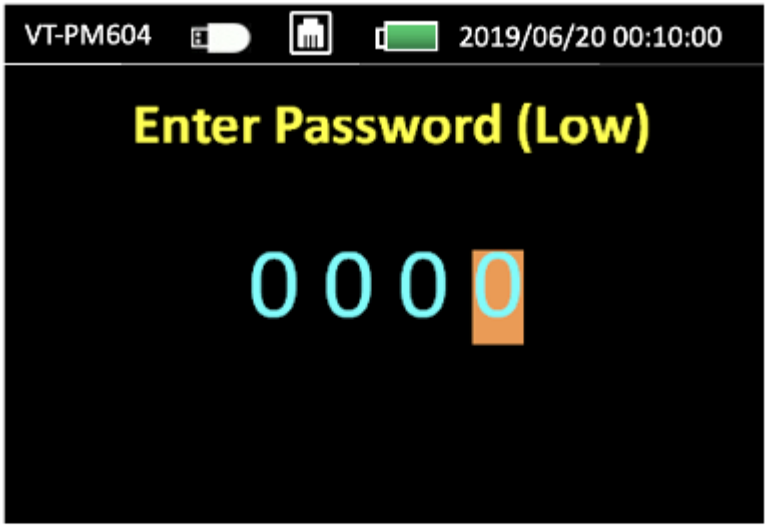
The Volterra Analysis Web Portal (https://vt-analyze.volterrat.com/) is the high-level analytical companion to the VT-PM604 Power Quality Analyzer. While the VT-PM604 hardware performs rigorous real-time diagnostics and captures data to its 30GB internal memory, the portal serves as the primary engine for post-session analysis. The portal is designed to transform raw .csv data logs into professional, actionable visualizations and comprehensive reports. Crucially for plant maintenance and engineering teams operating in restricted IT environments, the portal is a no-installation, browser-based tool, requiring only a modern web browser to process complex power quality data into audit-ready documentation.

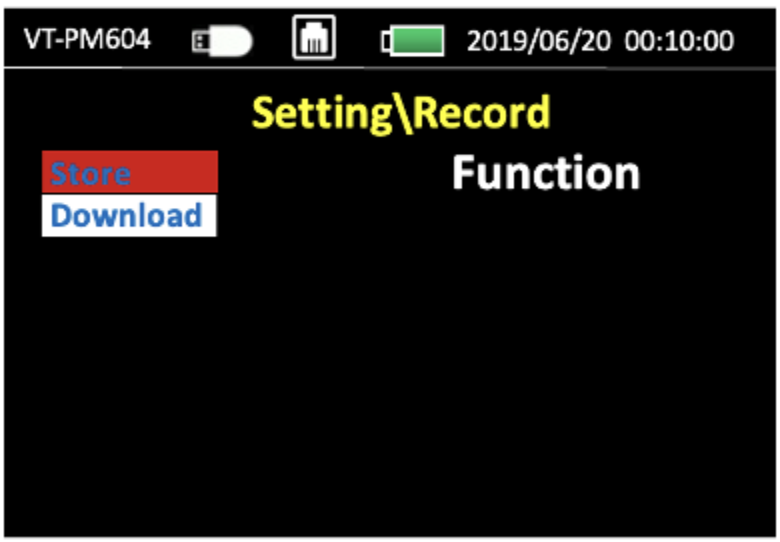
2. Data Preparation: Exporting from VT-PM604

To facilitate analysis, data must first be exported from the VT-PM604 internal memory to a USB flash drive. Follow these precise steps to ensure data integrity:

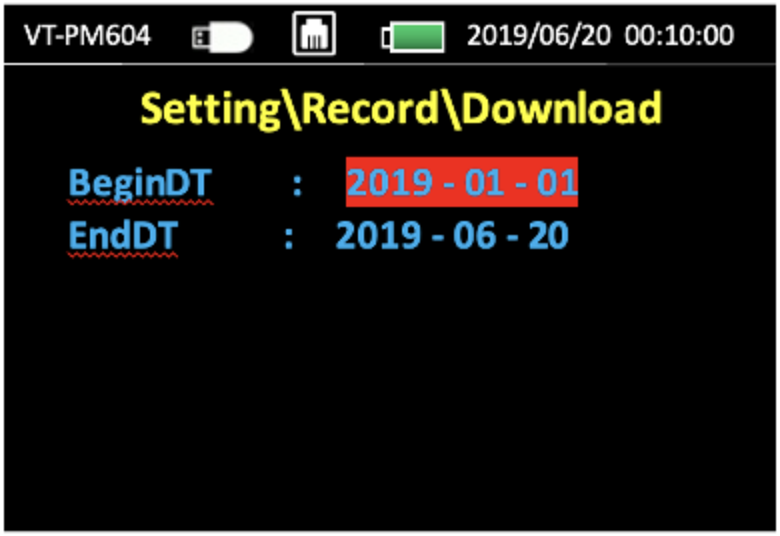
1. **Insert Media:** Insert a compatible USB flash drive into the USB port on the VT-PM604.
2. **Navigation Path:** Navigate to the record interface via the following path: Menu -> Set (Enter Password) -> Record.







3. **Set Parameters:** Within the Record interface, navigate to Download. Define the time period for data download.



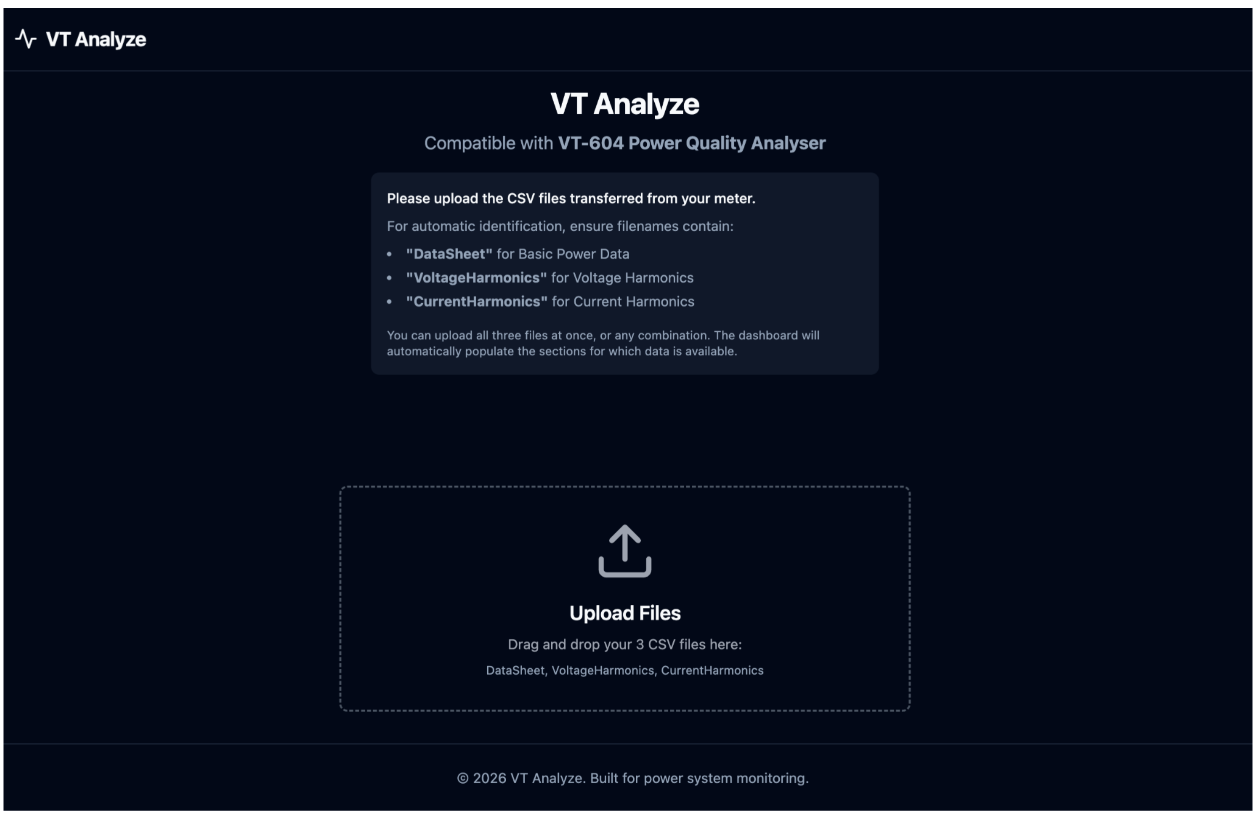
4. Finally, within the Download interface, press Enter to initiate the export. Visual Indicators for USB Status:

- **White Icon (USB Disk Shape):** Indicates the drive is recognized and ready. This icon is distinct from the rectangular RJ45 icon used for LAN.
- **Green Icon (USB Disk Shape):** Indicates a data download is currently in progress.
- **Icon Disappears:** The download is complete; it is now safe to remove the flash drive.

3. Accessing and Uploading to the Web Portal

VT Analyze is a web-based application designed to visualize and analyze data collected from your VT-604 Power Quality Analyzer. It provides interactive charts and summaries for various power metrics, including voltage, current, frequency, power, and harmonics. Access the portal by navigating to: https://vt-analyze.volterrat.com/

The interface provides a simplified drag-and-drop area or a file-selector for importing data from your USB drive.



IMPORTANT: DATA INTEGRITY WARNING: Do not rename the exported .CSV files.
The web portal relies on the specific naming convention generated by the VT-PM604 (e.g., "DataSheet_3425889002_3P4W_20260124.csv", "VoltageHarmonics_3425889002_20260124.csv", "CurrentHarmonics_3425889002_20260124.csv"). These naming strings are used by the portal's

parsing engine to route data points to the correct visualization tabs and calculation modules. Renaming these files will cause parsing failures.

Tip: You don't need all three files to use the app. If you only have the basic "DataSheet", the app will still function, but the specific harmonics detailing sections will remain hidden.

4. Navigating the Dashboard

Once your data is loaded, you can navigate through different analysis sections available within the dashboard. On the left side of the dashboard, you will find a navigation menu with the following available sections (depending on the data uploaded):

1. **Session Information**: Start Time, End Time, Total Duration, and the Log Interval between data points, a summary grid displaying Total Apparent Energy (KVAh), Total Active Import (KWh), and Total Active Export (KWh) consumed during the recorded session
2. **Voltage and Current Profile**: Time-series charts for Voltage (V) and Current (A).
3. **Frequency Profile**: Time-series chart for Frequency (Hz).
4. **Power Profile**: Charts for Active Power (W), Reactive Power (Var), Apparent Power (VA), and Power Factor.
5. **Harmonics Overview**: High-level overview of Voltage THD (%) and Current THD (%).
6. **Voltage Harmonics Details**: Detailed charts for the 3rd, 5th, 7th, and 9th voltage harmonics.
7. **Current Harmonics Details**: Detailed charts for the 3rd, 5th, 7th, and 9th current harmonics.

Click on any section name to view the corresponding charts.

Phase Selection

Located within the navigation menu area is the Phase Selector. By default, all available phases from the uploaded data files are displayed on the charts. You can toggle individual phases on or off by clicking the checkboxes for Phase A, Phase B, and Phase C.

The charts will instantly update to reflect your selection, allowing you to isolate and analyze specific phases.

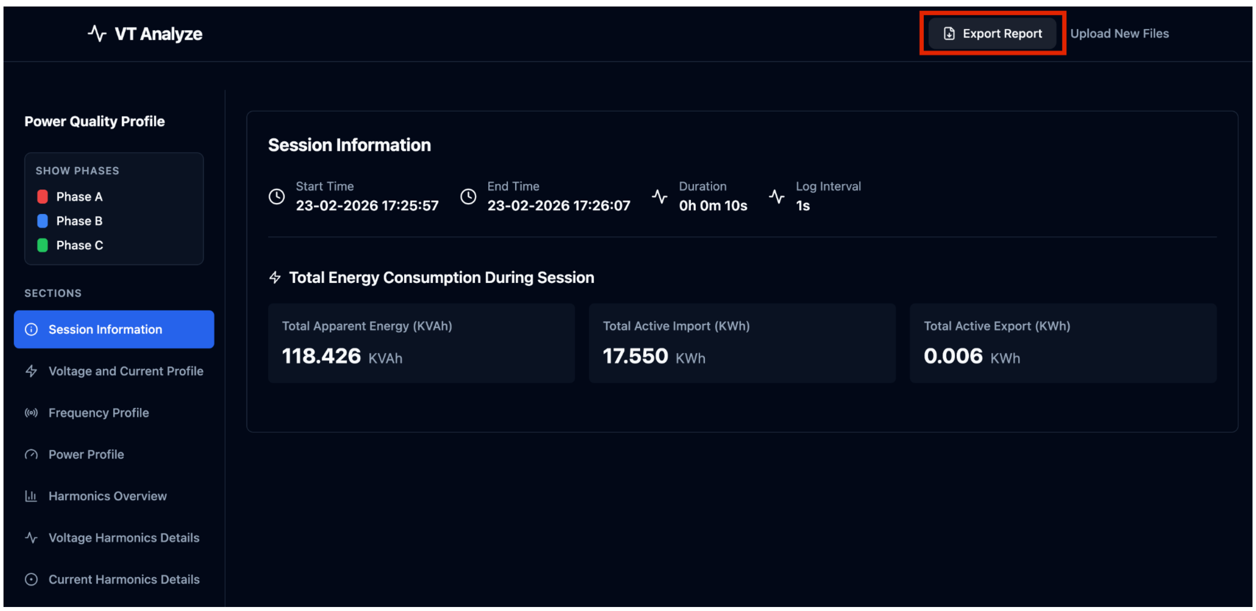
Interactivity

Hover over data points on the lines to see exact values at specific timestamps.

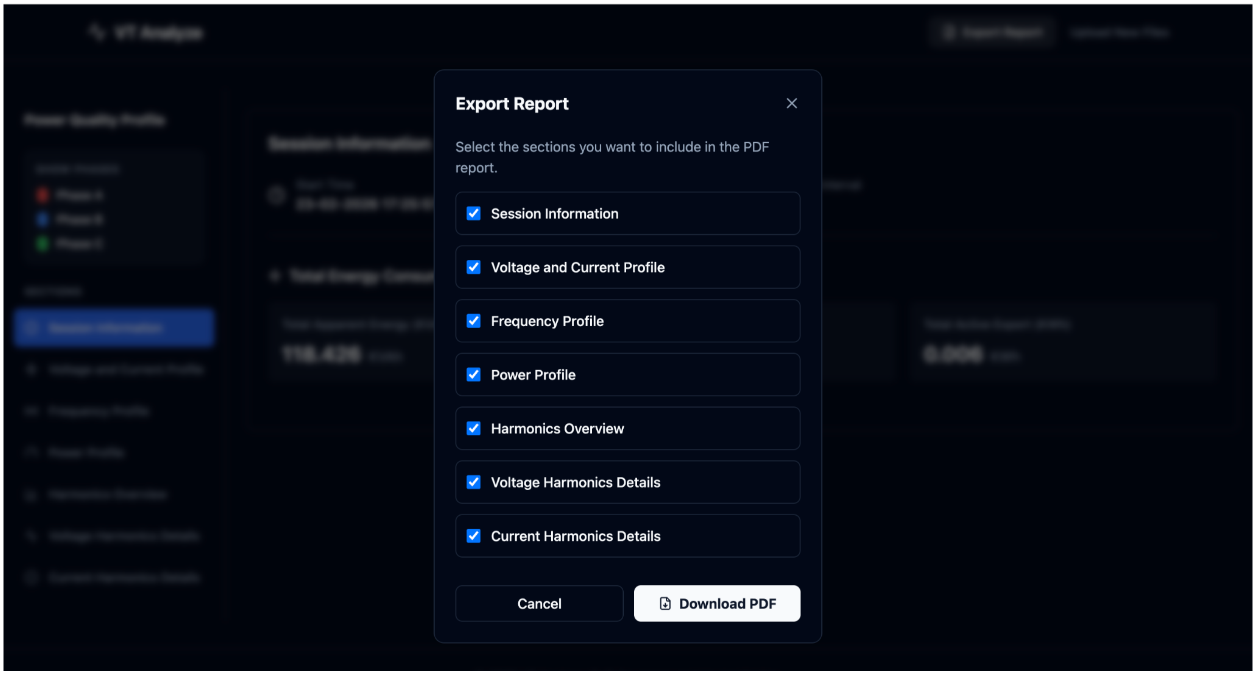
5. PDF Report Generation

VT Analyze allows you to easily export your findings into a professional PDF report. Follow below steps to download your report:

1. Ensure the data you want to export is currently loaded in the dashboard with the correct phases selected
2. Click the "Export Report" button located in the top right corner of the header.



3. An Export Options modal will appear. Here, you can select exactly which sections you want to include in your final PDF report by checking or unchecking the boxes. Click “Download PDF” to proceed.



4. A loading indicator will appear at the bottom of the screen. Once complete, the PDF file (VT_Analyze_Report.pdf) will automatically download to your device.

6. Troubleshooting and Data Integrity

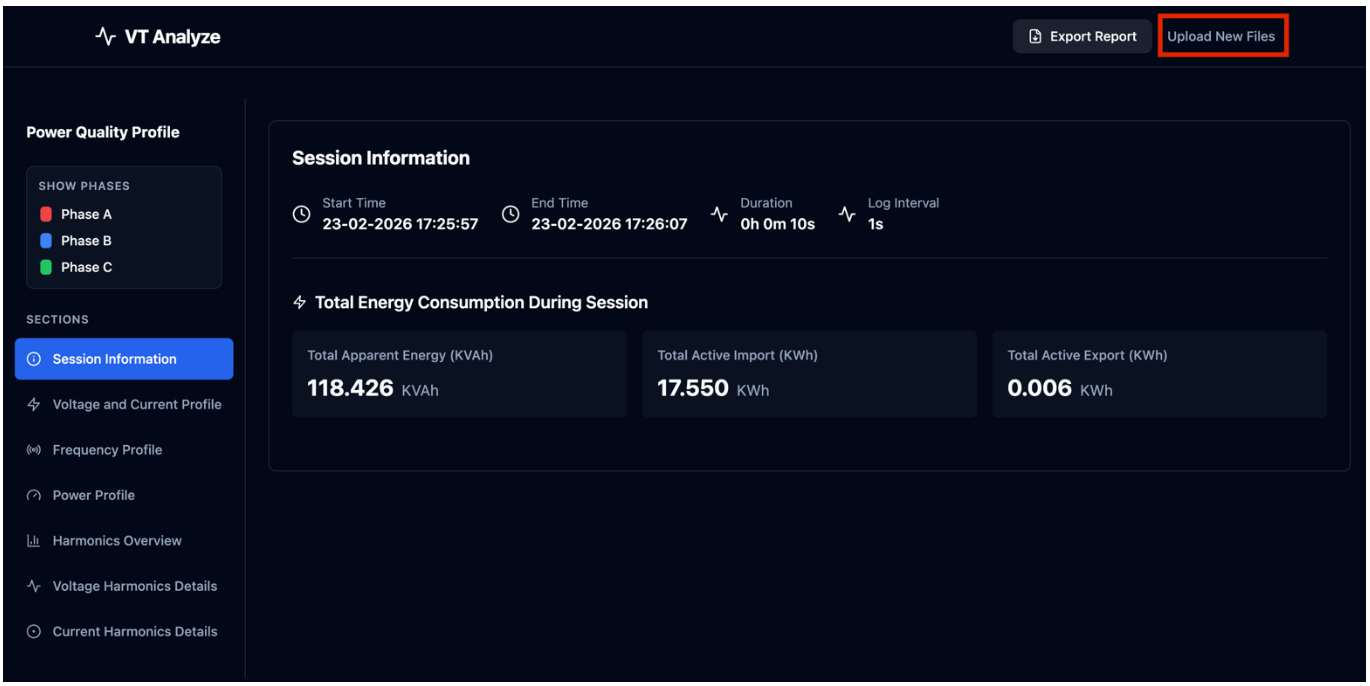
Inaccurate visualizations are typically the result of incorrect hardware configuration during the logging session. Consult this checklist if data appears erroneous:

- **Physical Probe Direction**: For Flexible Rogowski Current Probes, verify that the arrow on the side of the probe points toward the load. If the direction is reversed, the portal will display incorrect power readings.
- **Wiring Mode Mismatch**: Ensure the Wiring Mode (e.g., 3PH4W vs 3PH3W) selected in the meter settings matches the actual physical installation.
- **Current Settings (FSA)**: Ensure the FSA (Full Scale Amperage) for Rogowski coils or the Primary/Secondary ratios for CTs were correctly set to match the probes used.
- **Phase Mismatch**: Confirm that voltage and current probes were matched to the same corresponding phases (VA with IA, etc.).

7. Uploading New Files

If you wish to analyze a different set of data:

1. Click the "Upload New Files" button in the top right corner of the header.



2. This will clear the current dashboard and return you to the initial upload screen.

For Technical Support: For technical assistance regarding the web portal or data interpretation, please contact our engineering team:

- Email: contact@volterrat.com
- Web: www.volterrat.com