

SIEMENS



FAQ • 10/2016

Visualizing trends and raw data in X-Tools

SIPLUS CMS1200 SM 1281, SIPLUS CMS X-Tools



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1 Introduction

Valid measured variables and characteristic values (vRMS, aRMS, speed) are automatically stored as trends in RUN mode within SM 1281. Minimum, maximum, and average values are recorded for every measured variable or characteristic value.

The SM 1281 stores raw data of recorded vibration signals to WAV files.

Using the software SIPLUS CMS X-Tools, you can visualize trends on your PC and calculate spectra from the recorded raw data.

NOTICE A CMS X-Tools Professional license is required.

2 Visualizing trends in X-Tools

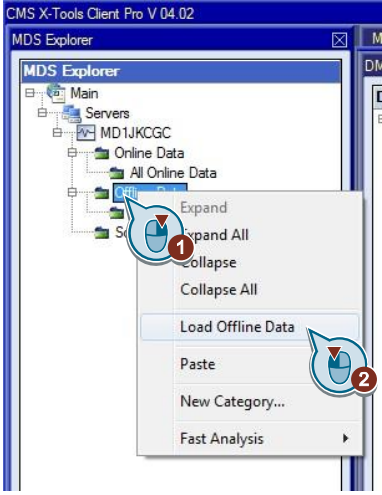
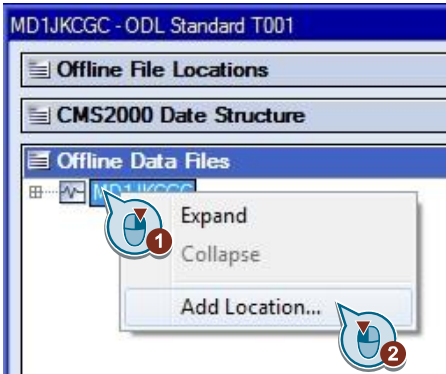
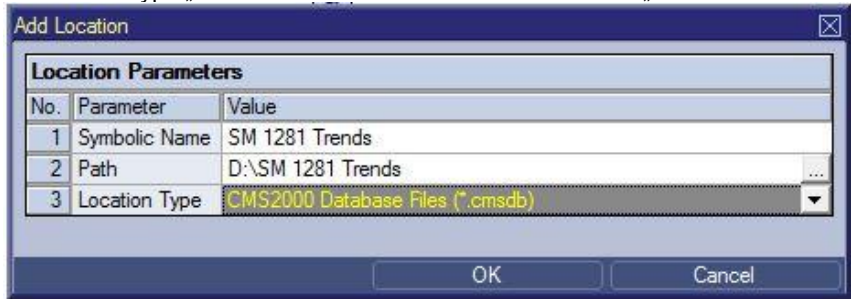
2.1 Downloading trends

Table 2-1 Downloading trends

| | Action |
|----|---|
| 1. | Open the web server of the SM 1281. |
| 2. | Open „ Save and restore“ from the navigation. |
| 3. | Click „Trends > Save to PC ...“. |

2.2 Importing trends in X-Tools

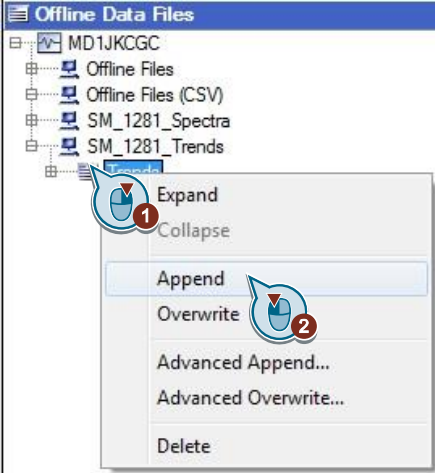
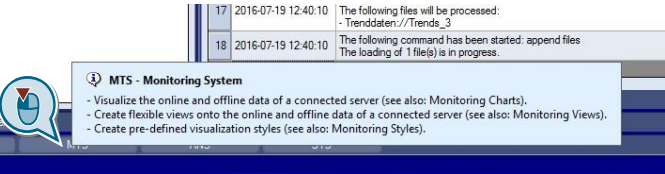
Table 2-2 Importing trends in X-Tools

| | Action |
|----|--|
| 1. | Open CMS X-Tools. |
| 2. | <p>Right-click „Offline Data” in the „MDS Explorer” and select „Load Offline Data”.</p>  |
| 3. | <p>Right-click on the server name in the „Offline Data Loader” and select „Add Location...”.</p>  |
| 4. | <p>Choose a symbolic name, path (storage location of SM 1281 trends) and select the location type „CMS2000 Database Files”¹⁾. Confirm with „OK”.</p>  |

¹⁾ The trend database structures of SM 1281 and CMS2000 are identical. Because of that, the X-Tools location type is unchanged.

2.3 Loading and displaying trends

Table 2-3 Loading and displaying trends

| | Action |
|----|---|
| 1. | <p>Right-click a trend file „MDS Explorer” and select „Append“.</p>  |
| 2. | <p>Click on „MTS – Monitoring System”.</p>  |

2 Visualizing trends in X-Tools

| Action | |
|--------|---|
| 3. | <p>Drag & drop the desired values in the newly opened window.</p>  <p>In the „MTS“ the values are visualized.</p>  |

3 Calculating spectra with the Fast Analysis model in X-Tools

3.1 Downloading the raw data

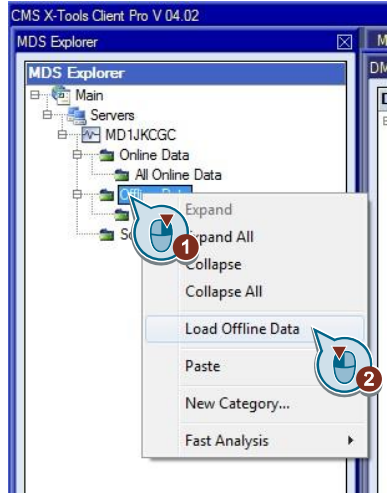
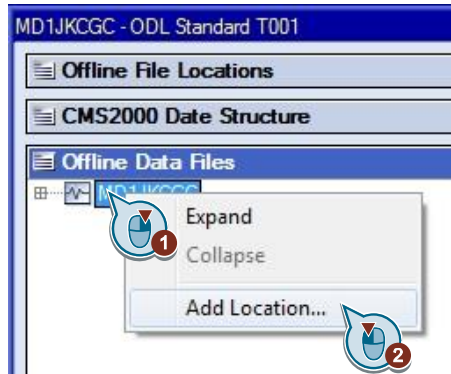
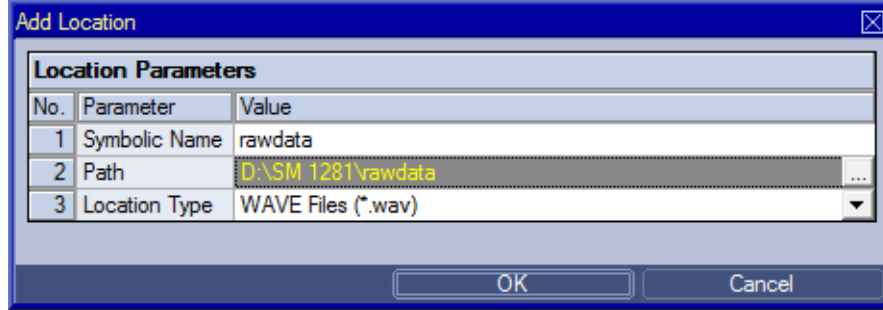
Table 3-1 Downloading the raw data

| | Action |
|----|---|
| 4. | Open the web server of the SM 1281. |
| 5. | Open „ Save and restore“ from the navigation. |
| 6. | Select the raw data and click „Save to PC ...“. |

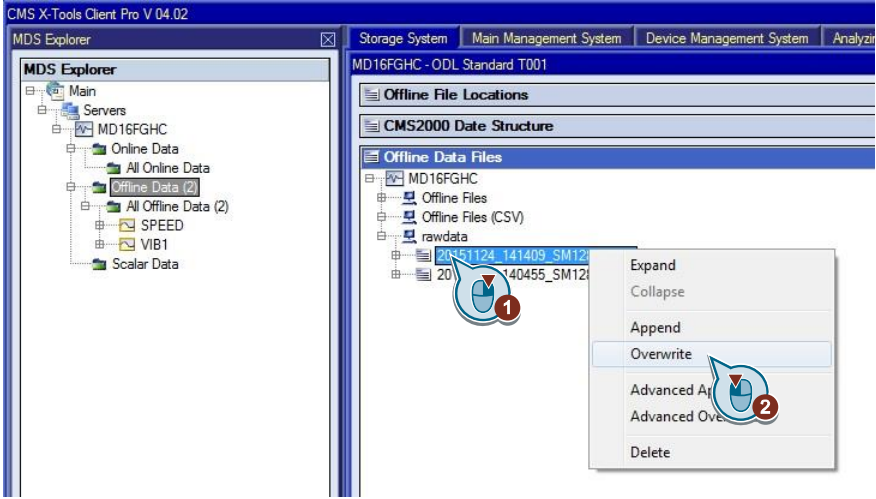
The screenshot shows the Siemens web interface. On the left is a navigation menu with categories like 'Monitoring results', 'Monitoring settings', 'Administration', and 'Help & Contact'. The main content area is titled 'Save and restore' and contains several sections: 'Download results' (with buttons for Trends, Messages, Fingerprints, and Raw data records), 'Download settings' (with buttons for Monitoring parameters, Device parameters, and Bearing types), and 'Download software license information' (with a button for Readme_OSS). Red callouts with numbers 1 and 2 highlight the 'Save to PC...' buttons for 'Raw data records' and 'Monitoring parameters' respectively.

3.2 Importing raw data in X-Tools

Table 3-2 Importing raw data in X-Tools

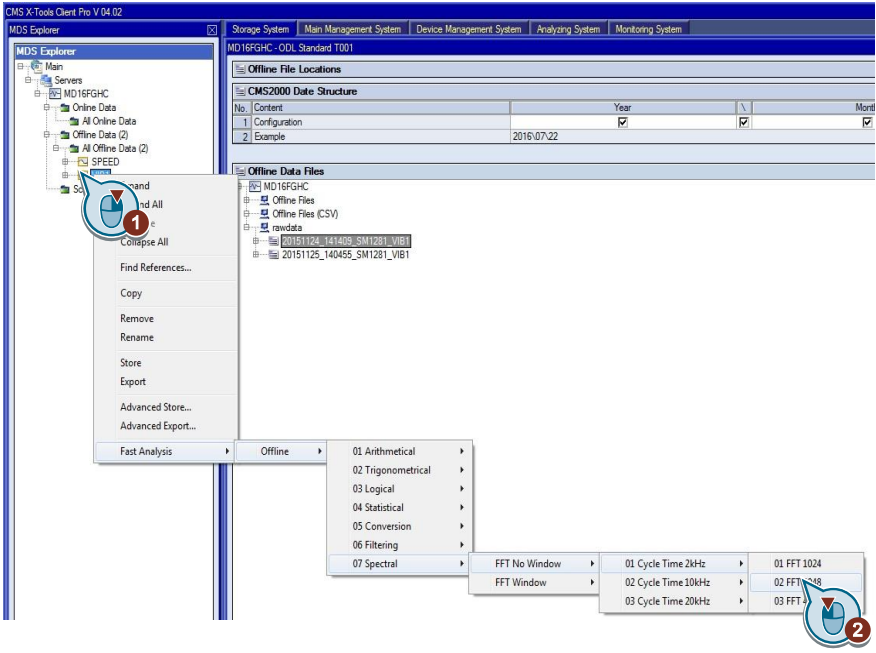
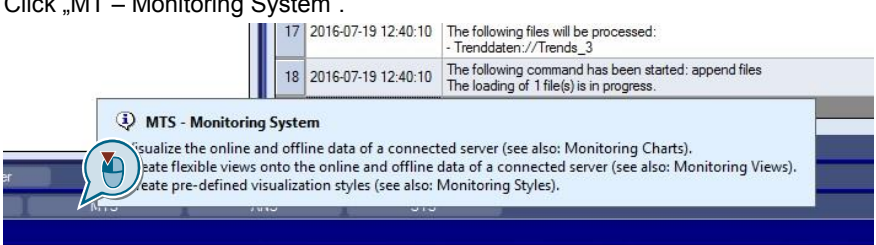
| | Action | | | | | | | | | | | | |
|-----|--|--------------------|-----------|-------|---|---------------|---------|---|------|--------------------|---|---------------|--------------------|
| 1. | Open CMS X-Tools. | | | | | | | | | | | | |
| 2. | Right-click „Offline Data” in the „MDS Explorer” and select „Load Offline Data”. | | | | | | | | | | | | |
| |  <p>The screenshot shows the 'MDS Explorer' window with a tree view containing 'Main', 'Servers', and 'MD1JKGC'. Under 'MD1JKGC', there are 'Online Data' and 'All Online Data' folders. A context menu is open over the 'Offline Data' folder, with options: 'Expand', 'Expand All', 'Collapse', 'Collapse All', 'Load Offline Data', 'Paste', 'New Category...', and 'Fast Analysis'. Red callouts '1' and '2' point to the 'Offline Data' folder and the 'Load Offline Data' menu item respectively.</p> | | | | | | | | | | | | |
| 3. | Right-click on the server name in the „Offline Data Loader” and select „Add Location...”. | | | | | | | | | | | | |
| |  <p>The screenshot shows the 'MD1JKGC - ODL Standard T001' window. It has sections for 'Offline File Locations', 'CMS2000 Date Structure', and 'Offline Data Files'. A tree view under 'Offline Data Files' shows the server 'MD1JKGC'. A context menu is open over the server name with options: 'Expand', 'Collapse', and 'Add Location...'. Red callouts '1' and '2' point to the server name and the 'Add Location...' menu item respectively.</p> | | | | | | | | | | | | |
| 4. | Choose a symbolic name, path (storage location of SM 1281 raw data) and select the location type „WAVE Files”. Confirm with „OK”. | | | | | | | | | | | | |
| |  <p>The screenshot shows the 'Add Location' dialog box with a table of location parameters:</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Symbolic Name</td> <td>rawdata</td> </tr> <tr> <td>2</td> <td>Path</td> <td>D:\SM 1281\rawdata</td> </tr> <tr> <td>3</td> <td>Location Type</td> <td>WAVE Files (*.wav)</td> </tr> </tbody> </table> <p>Buttons for 'OK' and 'Cancel' are visible at the bottom.</p> | No. | Parameter | Value | 1 | Symbolic Name | rawdata | 2 | Path | D:\SM 1281\rawdata | 3 | Location Type | WAVE Files (*.wav) |
| No. | Parameter | Value | | | | | | | | | | | |
| 1 | Symbolic Name | rawdata | | | | | | | | | | | |
| 2 | Path | D:\SM 1281\rawdata | | | | | | | | | | | |
| 3 | Location Type | WAVE Files (*.wav) | | | | | | | | | | | |

3 Calculating spectra with the Fast Analysis model in X-Tools

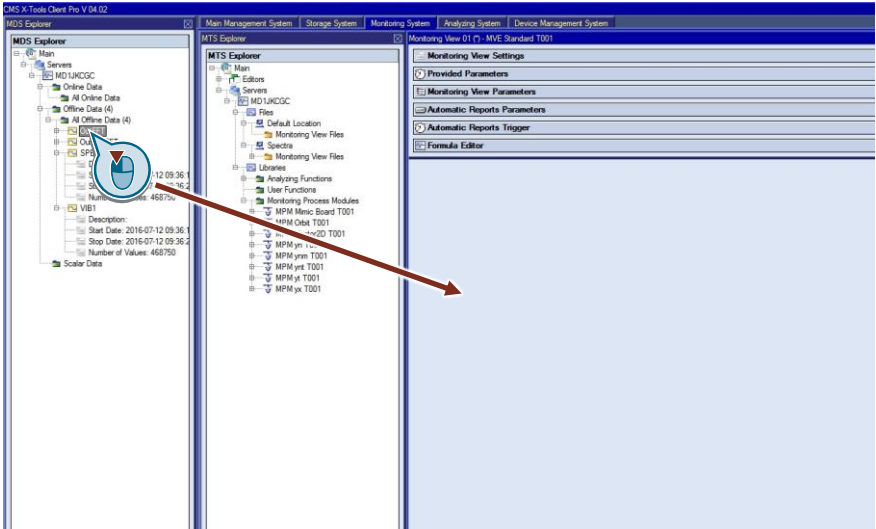
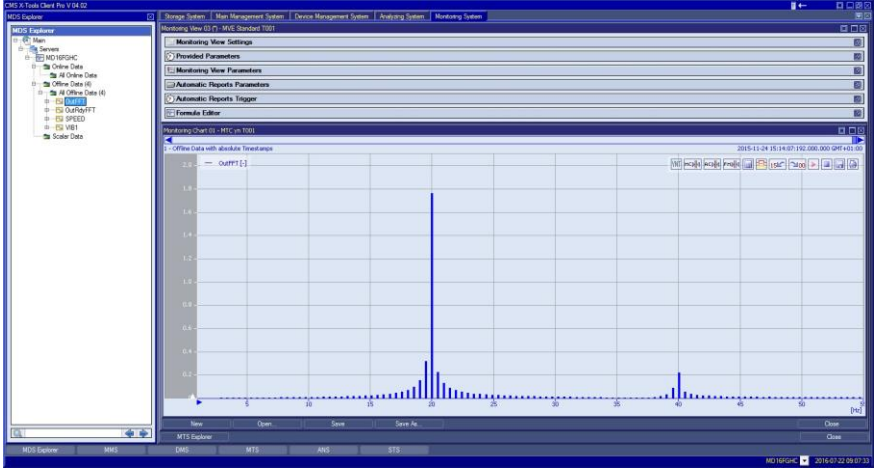
| Action | |
|--------|---|
| 5. | <p>Right-click the desired file under „Offline Data Files“ and select „Overwrite“.</p>  <p>The signals appear in the „MDS Explorer“ under „Offline Data“.</p> |

3.3 Calculating and displaying the spectra with „Fast Analysis”

Table 3-3 Calculating and displaying the spectra with „Fast Analysis”

| | Action |
|----|---|
| 1. | <p>Right-click the VIB Signal in the „MDS Explorer” and select the desired spectral analysis under „Fast Analysis”.</p>  |
| 2. | <p>Click „MT – Monitoring System”.</p>  |

3 Calculating spectra with the Fast Analysis model in X-Tools

| Action | |
|--------|--|
| 3. | <p>Drag & drop the calculated frequency spectrum „OutFFT“ to the newly opened window.</p>  <p>The screenshot shows the X-Tools Client Pro V.04.02 interface. On the left, the 'MDS Explorer' tree view shows a folder named 'OutFFT' under 'All Offline Data (4)'. A blue arrow points to this folder, and a red arrow indicates it being dragged towards the 'MTS Explorer' on the right. The 'MTS Explorer' shows a tree view with various monitoring modules, including 'MFM Obs T001', 'MFM ym T001', 'MFM ym T001', 'MFM ym T001', and 'MFM ym T001'. The right-hand side of the interface contains several configuration panels: 'Monitoring View Settings', 'Provided Parameters', 'Monitoring View Parameters', 'Automatic Reports Parameters', 'Automatic Reports Trigger', and 'Formula Editor'.</p> |
| | <p>In the „MTS“ the frequency spectrum is now displayed.</p>  <p>The screenshot shows the X-Tools Client Pro V.04.02 interface with the 'MTS Explorer' active. The 'Monitoring View Settings' panel is visible on the right. The main area displays a 'Monitoring Chart (0) - MTC in T001'. The chart shows a frequency spectrum plot with a prominent peak at approximately 20 Hz. The x-axis is labeled 'Frequency [Hz]' and ranges from 0 to 50. The y-axis is labeled 'Amplitude [mV]' and ranges from 0 to 2.0. The plot title is 'Offline Data with absolute Transforms' and the data series is 'OutFFT []'. The chart includes standard plot controls like zoom, pan, and save.</p> |