

# Fluke Energy Analyze Release Information

---

## Table of Contents

Revision History .....	2
Fluke Energy Analyze Plus V3.5 .....	2
Fluke Energy Analyze Plus V3.4.1 .....	2
Fluke Energy Analyze Plus V3.4 .....	3
Fluke Energy Analyze Plus V3.3 .....	4
Fluke Energy Analyze Plus V3.2.1 .....	5
Fluke Energy Analyze Plus V3.2 .....	5
Fluke Energy Analyze Plus V3.1.1 .....	5
Fluke Energy Analyze Plus V3.1.0 .....	6
Fluke Energy Analyze Plus V3.0.1 .....	8
Fluke Energy Analyze Plus V3.0.0 .....	8
Fluke Energy Analyze Plus V2.3 .....	9
Fluke Energy Analyze Plus V2.2 .....	9
Fluke Energy Analyze Plus V2.1 .....	10
Fluke Energy Analyze Plus V2.0 .....	10
Fluke Energy Analyze V1.2 .....	11
Fluke Energy Analyze V1.1 .....	12
Fluke Energy Analyze V1.0 .....	13
FAQ .....	13

## Revision History

### Fluke Energy Analyze Plus V3.5

- Fixed an issue that caused FEA+ to stop working while exporting data sets from Fluke 1730 instruments.
- Improved connected devices selection on the Data Download panel will default to the last selected device.
- Improved table design for reports.
- New: option to show minimum and maximum curve points – new menu entry in chart trace context menu.
- New: option to toggle showing notes as small boxes with indices, or showing note's text.
- New: reworked PQ+Study/PQHealth view to show separate bars for defined limits for each parameter. Bars will either be green (within limit) or red (exceeding limit). This removes the need to show amber bars.
- New: data shown in the PQHealth view is also presented as a table view. Select the view type from the Graph Options menu to the right. Table cells can be copy/pasted to other applications.
- New: added a live data chart under the "Connection Verification" tab of the Instrument Setup function. Clicking on the chart freezes updates and shows cursors and text readouts to the left of the strip chart. Data continues to capture in background, and refreshes when releasing the mouse button.
- New: standard compliance reports contain PASS/FAIL indications on all parameters for which a limit is given. A summary section shows results of all tested parameters.
- New: added Norwegian (FoL) standard compliance evaluation, and reporting.
- Improved: Project Manager tab informs of channel mapping (voltage and current channels), as well as current channel inversion status that has been adjusted for the session loaded. The same information is also available in reports.
- Improved: added an option to scale mains signaling voltage readings (MSV event details) in % of nominal voltage.
- New: "Distortion Power" added to the parameter list for "Advanced" views.

### Fluke Energy Analyze Plus V3.4.1

- Fixed an issue in PQ+Study/PQHealth/Summary view that caused EN51060, GOST, NETCODE evaluation to show incorrect results for quantities that are evaluated utilizing only one percentile (e.g. limit is given for 100% of values, but not for the 95<sup>th</sup> percentile). In these cases, the limit evaluation always passed. The issue was introduced with rev 3.4.
- Fixed a wrong translation to German on the Advanced tab.
- Fixed missing default or custom logos in reports.
- Fixed X-axis labels for THD if "Voltage 3s" is displayed. Rev 3.4 showed "A THD" when it should show "V THD" in PQ+Study/Harmonics.
- Fixed display of "I<sub>L</sub>" in the Limit Settings sidebar under PQ+Study/PQHealth/Summary for GOST. Showing I<sub>L</sub> or I<sub>SC</sub> applies to IEEE519 evaluations only.

- Improved installer execution. The installer will now automatically detect a previous installation of FEA+ and update that installation without changes to the actual location.  
If you need to modify the install location, please uninstall the current instance(s) of FEA+ and run the installer after uninstalling finished; if no active installation is detected, rev 3.4.1 installer will provide an option to override the default installation target location.  
Admins/Advanced Users: you can always override the default behavior by calling the installer from CLI utilizing '/DIR' and '/GROUP' parameters.

Example:

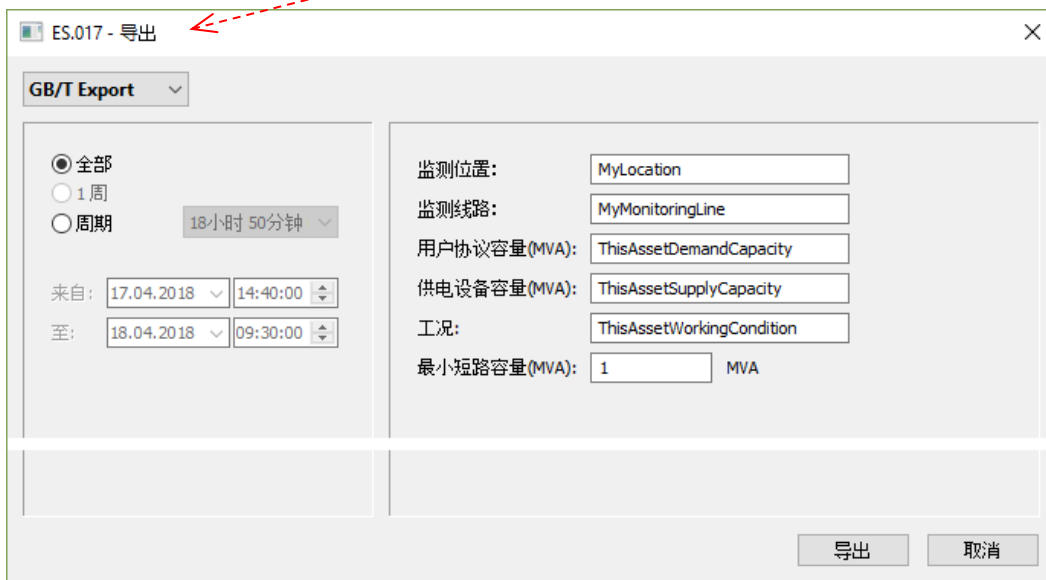
```
FEA_V3.4_1_Install.exe /DIR="C:\Program Files (x86)\Fluke\FEA341" /GROUP="\Fluke"
```

... this will install Energy Analyze to the directory given by the /DIR parameter and place a shortcut into a start menu group called "Fluke".

## Fluke Energy Analyze Plus V3.4

- Improved line spacing in detached cursor hint texts for locales that utilize non-Latin character sets.
- Improved: detached cursor text now also shows time range selections.
- Improved: the instrument setup panel occasionally opened in the background on Windows 10.
- Fixed an issue that caused Energy Analyze to stop working when trying to connect to an instrument at an unknown IP address / name.
- Disabled importing data from unsupported instruments.
- Fixed display of limit lines in ANSI, ITIC, and CBEMA event tolerance evaluation. A previous change rendered these lines invisible.

- **New:** option to export data to a GB/T14549 (reporting for China power utilities) compliant Excel-formatted report. Users utilize the *export* widget (Project Manager tab) on the header line of the session that contains the data to be used.



Known issues: see rev 3.0.0, below.

## Fluke Energy Analyze Plus V3.3

- **Fixed** storing sample files during installation. Two sample files now available in FEA+' data directory.
- **Fixed** typos in French and German language.
- **Fixed** flagging feature for events that occur on single phases in a poly-phase topology.
- **Improved** color settings. Users can choose to apply customizable colors to min/max traces in plots.
- **Improved:** do not show the full file path in footers of exported reports.
- **Improved:** occasionally standard name references were truncated the exported reports.
- **Improved** scale labels of vertical axes showing % readings. Previous revisions showed milli-%.
- **New:** View configurations in Advanced tab can be stored to a file and reused.
- **New:** Users can add limit lines to plots on Advanced tab.
- **New:** Added evaluation of current harmonics per T.O.R. – D2.

As part of this change, limits configuration in the graph options section under

PQ+Study/PQHealth has been modified – press the ‘...’ button to modify limit configuration for IEEE519 and the new TOR compliant evaluation.

- **New:** FEA+ supports data exports that comply with NeQual (Switzerland) requirements.

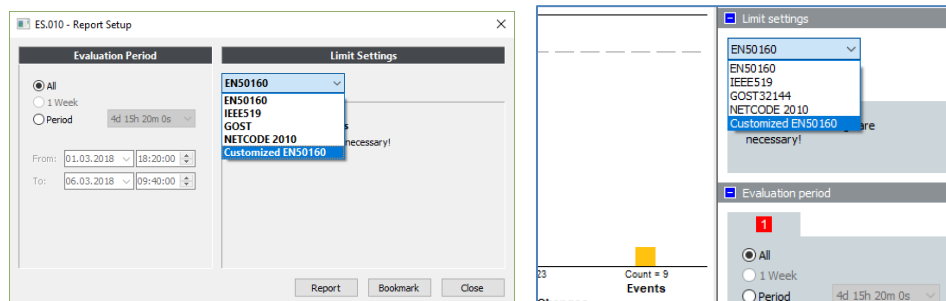
Known issues: see rev 3.0.0, below.

## Fluke Energy Analyze Plus V3.2.1

- **Improved** French translations.
- **Fixed** an issue that caused FEA+ to stop working when creating bookmarks from views that have no cursors (tabular views, calendar view).

## Fluke Energy Analyze Plus V3.2

- **New:** color settings can be stored to file for sharing.
- **New:** cursors can be hidden (for nicer reports).
- **New:** cursor readouts can be plotted to the right of graphs or on top additionally to showing read-outs as movable bubble text next to the corresponding cursor line.  
Read-outs have been extended to show delta-values for all instances that utilize dual cursor lines (i.e. time-series charts).
- **New:** FEA+ rev 3.2 installs a new directory that contains limit templates in xml format. Users can edit these custom limit templates, import them into compound analysis files, and so apply customized limits to statistical evaluation. Recommended procedure:
  - Locate the “CustomLimits” directory in the Fluke\EnergyAnalyze folder. The default installation for single users (option “private for this user” checked during installation) creates this folder in the current user’s “documents” folder.
  - Select a suitable template file (\*.xml) based on the type (e.g. IEEE 519, EN50160, ...) of evaluation desired. Create a copy of this file, rename and open it in a text editor.
  - Change the text in the <Name> section. FEA+ will show this name as an option in standard selections with the Quick-Reports dialog and PQ+Study/PQHealth/Summary view.
  - Import the new limit set into FEA+: with an analysis file (.fca) loaded, select “Custom Limits Definitions” from the File menu. Select “Add” and pick the limit file you edited.
  - Use your custom limit set with PQHealth or Quick-Reports



## Fluke Energy Analyze Plus V3.1.1

- **Improved** installation procedure ‘for all users’. A component required for the “Instrument Setup” feature.

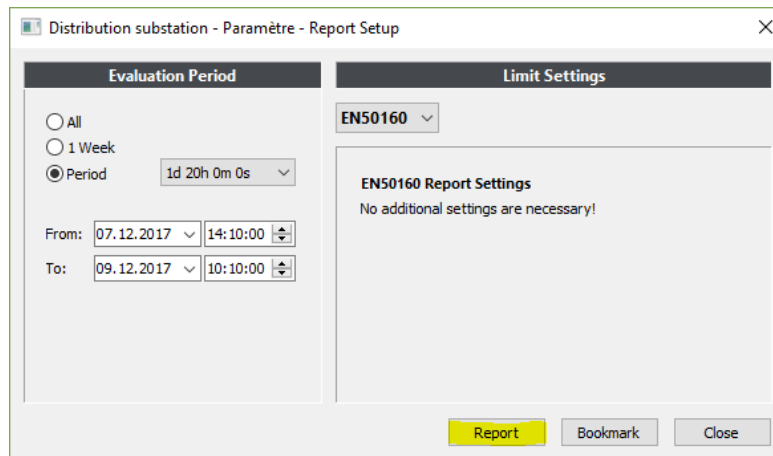
- Improved: “Instrument Setup” correctly shows memory consumed on the attached 174x instrument.
- Improved the checkbox “align to 10min boundary”. Occasionally this checkbox had no effect.

## Fluke Energy Analyze Plus V3.1.0

- New: added support for evaluation of Mains Signaling Voltages. Instrument can be configured to log voltage amplitudes at two custom-defined frequencies. A new event trigger allows definition of thresholds, resulting events are listed for detail evaluation in Energy Analyze. MSV logging data is available for exports and reports.
- New: the “Connection Verification” tab at “Instrument Setup” now also shows a phasor diagram along with live readings of phase angle relations and fundamental voltage and current readings.
- New: the instrument can be configured to log two additional parameters. Users can decide to either utilize analogue AUX inputs located at the instrument’s front panel, or connect up to two Fluke FC modules (BLE). Configuration also includes an option customize scaling and units for data from the additional channels.
- New: added GOST 33073-2014 compliant reporting. Users need to obtain a license in order to utilize this function. An option “GOST” is provided at the report-widget on the “Project Manager” tab for data from all enabled instruments.
- New: added Dutch “NetCode” compliant reporting. An option “NetCode” is provided at the report-widget on the “Project Manager” tab.
- Improved: session timing on the “Logging” tab under “Instrument Configuration” lets users apply the desired aggregation intervals and check the resulting maximum logging period.
- Improved: trace colors in the calendar graph view always match the reference frame color set in the calendar overview table.
- Improved: Flicker and Mains Signaling logs are shown in separated tabs under PQ+Study. The new views can become bookmarked and added to customized reports.
- Improved: reports utilize the decimal character specified in the system locale settings.
- Improved: now using more informative default bookmark names in section headers. It is still recommended to custom-name bookmarks before creating them. This will make reporting of many items more readable.
- Improved: optimized colors of the “High Contrast” color scheme for readability. Improved utilization of this color scheme on the “Advanced” tab to avoid two traces of a custom defined plot to have the same color.
- Improved: in “Graph Options”, separated “min/max” into two checkboxes so users can show minima, or maxima, or both.
- Changed: added a checkbox “Align to 10min boundary” to the “Recording Period” section under “Logging” tab in “Instrument Setup”.  
Placing a tick mark there ensures the instrument will take at least 1008 10min intervals if “1 week” duration is selected, and so prevent too short EN510160 compliant logging sessions. The session planning feature will be further improved with the next revision of FEA+.
- Changed: previous revisions of Energy Analyze used to attach standard-compliance reports to bookmarks created from the “PQHealth” view. With the new “Report” function on the “Project

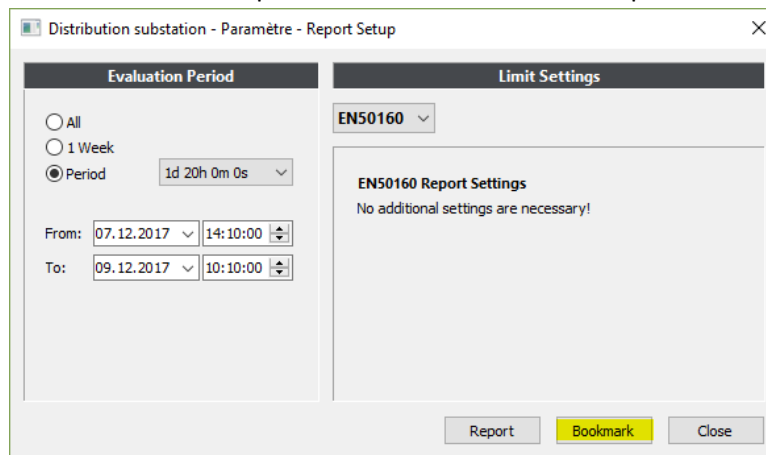
Manager” tab, bookmarked “PQHealth” views **no longer** create standard reports. Instead, the “Report” widget on the “Project Manager” tab offers two workflows –

- a) Directly export a standard-compliance report from the widget function



Click “Report” to directly create a standard-compliance report document utilizing the output-format selected under “Settings/Report Output Format”. The resulting report contains information from the *summary* and *session* items, and the results from statistical evaluation.

- b) Create a standard-report bookmark for use in the report tab.



Click “Bookmark” and find the standard-compliance report-item under the “Report” tab in the left column. Amend the item to your needs by using it along with other bookmarked report items on the space to the right. Bookmarked report items can be e.g. detail graph views, detail event views, PQSummary overview, etc.

Solved issues:

- Some occasions of FEA+ have issues accessing default data locations. This may manifest in error messages when trying to access Calendar View, or saving downloaded data to the target directory.
- Full assessment of Mains Signaling Voltage levels, including derived events, will be published with a subsequent release of instrument firmware and FEA+.

- 1742 users should access Flicker data from the Advanced tab. 1746/48 users can access Flicker data from the PQ+Study/PQHealth-summary view.

Known Issues: see rev 3.0.0, below.

### Fluke Energy Analyze Plus V3.0.1

- Corrected data path handling in installer and EnergyAnalyze Plus. This solves an issue with unresolvable data path evaluation that occurred in new FEA+ 3.0.0 installations.
- Improved En50160 statistics calculation.

Known Issues: see rev 3.0.0

### Fluke Energy Analyze Plus V3.0.0

- New: support for Fluke 1742/46/48 Firmware rev 1.0.1
  - Export of data to PQDIF.
  - Quick reports from Project Manager tab.
  - Extended session- and instrument-information on PM tab.
  - Extended parameter set 1746/48.
  - New PQEvent functions – Rapid Voltage Changes, Waveform Deviation.
  - Extended EN50160 and IEEE519 PQHealth Summary views and reports.
  - 1742/46/48 Instrument Setup.
  - Increased resolution for cursor-readouts in events detail recording views.

Known Issues:

- Windows Device Manager may show failed installation of 173x and 174x serial port drivers. This is **not an issue** for Energy Analyze Plus, because these instruments do not use serial port communication.
- Energy Analyze may show duplicate entries of found 174x instruments in dropdown selectors (data download, instrument setup). This occurs if several connections are possible, e.g. by WiFi, USB cable and Ethernet.
- Translations are incomplete – some text items are displayed in English language when a different language is selected. This also affects reports.
- ~~Some occasions of FEA+ being unable to access data locations. This may manifest in error messages when trying to access Calendar View, or saving downloaded data to the target directory—issue is not fully understood yet.~~
- FEA+ may not be able to find instruments if these are connected to a different LAN segment than the PC running FEA+.
 

FEA+ utilizes below listed ports. Please contact your IT specialist for assistance on routing issues. The installer will by default attempt to add exceptions to the PC's firewall, network policy may prevent these exceptions.

  - 18571 (UDP), and 18572 (TCP) for device discovery and communication.
  - 443 (HTTPS) for all activities related to Instrument Setup.



- ~~Creating pdf documents from the report preview window fails. Select “PDF” as desired report print output format from FEA+ Preferences menu to work around.~~
- ~~Full assessment of Mains Signaling Voltage levels, including derived events, will be published with a subsequent release of instrument firmware and FEA+.~~
- ~~1742 users should access Flicker data from the Advanced tab. 1746/48 users can access Flicker data from the PQ+Study/PQHealth summary view.~~
- Over-/underdeviation data is available from the Advanced tab.
- Unbalance readings are available from the Advanced tab, only.
- The Advanced tab does not honor color scheme settings.

### Fluke Energy Analyze Plus V2.3

- New Feature: support for Fluke 1732/34 Firmware rev 2.1
- New Feature – download data from an instrument even if it is locked. FEA+ does not support changing the screen lock code.
- Improved instrument identification in download and set-time panels.
- Improved export to csv.
- Improved storing/restoring of bookmarks.
- Corrected calculation of THD results.
- Corrected input of energy cost schemes.
- Changed communication through USB cable to utilize Ethernet-over-USB style of transfers (RNDIS). This approach works around an issue encountered with the previously utilized mode under Windows 10. **IMPORTANT:**
  - Users of 1732/34/36/38 who have FEA+ rev 2.2 (or earlier) already installed MUST choose to remove 173x USB drivers during installation of revision 2.3!
  - Users of 1730 must who have FEA+ rev 2.2 (or earlier) already installed, need not re-install Fluke 1730 drivers, but can choose an option to leave drivers unchanged.

#### Known issues:

- It may take up to 90 seconds for Windows to provide required functionality for Energy Analyze to communicate with an instrument attached by USB cable.
- Windows’ Device Manager may show an unknown CDC device after connecting 173x instruments to the USB port (Windows7); this device is not used.

### Fluke Energy Analyze Plus V2.2

- New Feature: support for Fluke 1730 Firmware rev 1.3
  - Improved handling of time stamps from instrument firmware results in millisecond resolution. Backward compatible with data collected using previous firmware revisions of 1730, these do not support millisecond resolution in time stamps.
- Improved FEA+ UI to fully support non-Latin character sets. This removes a character corruption issue.
- Disabled showing firmware update information if the connected instrument has the latest state firmware installed.

- Change order of tabs under “PQ+ Study” to show “Harmonics” view by default when first opening a new session. FEA+ rev 2.1 by default showed the feature “Harmonics Limit Evaluation” which requires a firmware license.
- Disabled “phase-to-phase” selection for nominal voltage input in single phase topologies on “Load Study/Demand Table” view.
- Removed context menu from “PQ+ Study/PQHealth” views erroneously enabled in rev 2.1

Known issues: see revision 2.1, below.

## Fluke Energy Analyze Plus V2.1

- New Feature: support for Fluke 1738 instrument
  - Extended “PQ+ Study” tab to support analysis according to EN 50160 and IEEE 519.
  - IEEE 519 based analysis allows users to correct instruments settings  $I_{SC}$  and  $I_L$ .
  - Extended report functionality to provide all relevant data in pdf/rtf reports.
  - Extended Events tab to support event RMS profile and wave-shape plots. Modified Event List view to show hierarchical structure of “combined events” and components.
  - Extended export function to handle new datasets.
- Added support for licensed features “1736/Upgrade”, “IEEE 519”, “WiFi Infrastructure”.
- Extended information shown on “Project Manager” tab.
- Extended “Advanced” tab to handle new data.
- Improved Version lookup and compare.

Known issues:

- Adding a high-resolution image on the 'Project Manager' tab will show distorted colors. Pictures are printed properly in reports, though!
- Reports created in Japanese language result in large .pdf files (font embedding).

## Fluke Energy Analyze Plus V2.0

- New Feature: support for Fluke 1736 instrument
  - Added “PQ+ Study” tab to support analysis of “Events” and harmonic content recorded by the 1736.
  - Added neutral line current to selectors on existing “Energy Study” and “Load Study” tabs.
  - Added voltage unbalance selector to “Energy Study/V, A, Hz, THD” view.
- New Feature: use the “Advanced” tab to create custom defined graphs. This tab allows you to compare data series in one graph beyond the combinations available from the “Energy Study”, “Load Study” and “PQ+ Study” tabs. You can also export data used within the custom graph using the table view.
- New Feature: FEA+ looks up availability of Firmware (1730 and 1736) and Software updates and informs users accordingly. Users can disable this function and decide to check for updates at their discretion using “Help/Updates”.
- New Feature: go to “Settings/Report Logo” and select the FLUKE or a custom logo for reports.
- Fixed: Energy Analyze 1.2 occasionally stopped working when comparing multiple sessions in “Calendar” view.

- Improved: The “Auto Scale” context menu item in graph views sometimes produced erroneous results.

## Fluke Energy Analyze V1.2

- New Feature: “Time-range tables” and “Graph views” can be shown concurrently. Pull time-range table up to do this. Use blue expand/collapse icons to switch views.
- New Feature: “Download data” from instrument using a Wi-Fi connection. FEA 1.1 and previous connected to instruments through USB, only.
- New Feature: Show “inductive/capacitive loads” or “load direction” with Power Factor results in graphs and tables.
- New Feature: “Customize trace colors” – users can pick custom colors to be used for individual traces on plots.
- New Feature: “Create reports in .rtf” – Rich text format has been added as a choice for report output formats (menu ‘Setting/Report output format/...’).
- New Feature: “Project Manager” shows extended session information (transducer ratio, time zone adjusted on instrument when logging, ... )
- New Feature: Exported data contains time zone information.
- New Feature: If a session description is truncated on the “data download” panel, point to that entry and get the full description shown in a tool tip.
- New Feature: Bookmark items can be renamed from within the report tab.
- Improved: Users can open a .fel file (e.g. received USB thumb drive contents by email) from the file-open dialog and do not have to use the file download panel any more.
- Improved: Option to choose data logged within trend or demand interval for graph view under Energy Study/Demand tab. Additionally to the data source (trend or demand), the drop-down selection lets you define aggregation intervals to be applied to all shown data. A function that automatically re-calculates data to a common aggregation interval for all shown sessions is also offered in order to help comparing data that was (erroneously) logged at different interval lengths.
- Improved: Working with notes – text input box can be resized.
- Improved: Working with zoom in graph views – occasionally the zoom rectangle was not shown.
- Improved: Occasionally, time-range tables were not shown correctly after restarting FEA.
- Improved: Last shown graph views were not restored properly when restarting FEA.
- Improved: Collapsed/expanded state of table views were not restored properly when restarting FEA.
- Improved: Readability of axis (x and y) labeling in all graph views.
- Improved: FEA memory management has been reworked leading to slightly faster starting, lower memory and OS resource consumption.
- Fixed: Calculation and display of Power Factor results.
- Fixed: Recalculation of volts, amps, and estimated apparent power to different aggregation intervals.

- Fixed: FEA occasionally stopped working when a large session file was shown at high granularity in calendar tab (e.g. months-long logging shown in hours).

## Fluke Energy Analyze V1.1

- New Feature: “Add Notes” to graphs. Notes can be attached to a curve point or become placed on the graph area. Notes that are anchored with a curve will be prefilled with clear-text readings of the corresponding curve point and will only be printed in reports if they are visible at the time of creating the report item. Notes that are placed on the graph area (not anchored with a curve point) will remain visible regardless of the adjusted zoom levels and will always be printed in reports. Notes can be edited, removed, or moved/attached, select either action from a context menu (right-mouse button click on a note).
- New Feature: “Add Image” accepts generic .jpg images.
- New Feature: Instrument screen shots are shown and can be loaded from the data download dialog. Data on the instrument can be after downloading from the same dialog.
- New Feature: Users can adjust what data to export when using the ‘Export’ widget in the ‘Project Manager’ tab.
- New Feature: the ‘Settings’ widget in the ‘Project Manager’ tab can be used to correct/adjust scaling parameters for AUX channels, and to enter cost of energy parameters.
- New Feature: use ‘Synchronize time...’ from the ‘Settings’ menu to adjust the instrument time. This function is not available during logging.
- New Feature: Time range tables can be viewed concurrently with graph views; tables are switched off if no time range is selected.
- Added Japanese UI translation.
- Improved: display of icons on the ‘Calendar’ tab after removing sessions from a project.
- Improved: occasional data corruption caused by removing sessions.
- Improved: application stability with different date/time format settings.
- Improved: corrected display of Power Factor min/max values.
- Improved: multiple limit lines were shown when only one was expected.

### Known issues:

- Adding a high-resolution image on the 'Project Manager' tab will show distorted colors. Pictures are printed properly in reports.
- If notes are placed in close proximity on a curve they will overlap. Zooming out can cause notes to become hidden. All notes are printed OK according to the actual visibility in reports.
- The state of table views may become distorted – i.e. some tables may be shown in collapsed state though they should be shown in expanded state. Reopening the analysis file resets this error.
- Reports created in Japanese language result in large .pdf files (font embedding).
- Energy Analyze Help will give information related to V1.0 – new help topics will be made available at [www.fluke.com](http://www.fluke.com) shortly.

# Fluke Energy Analyze V1.0

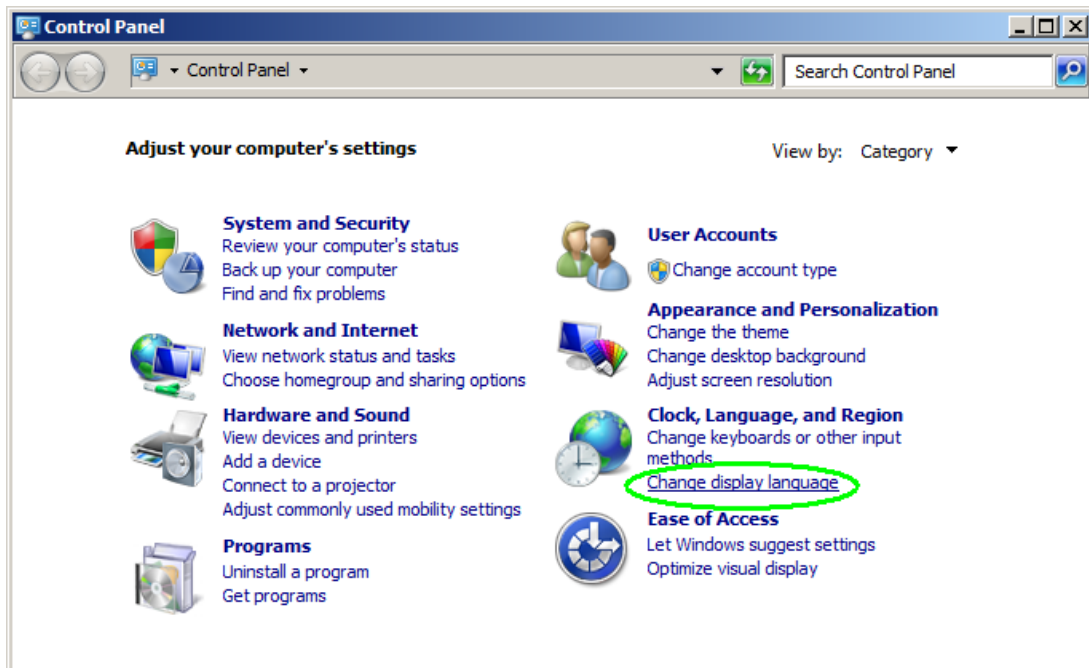
Initial Release

## FAQ

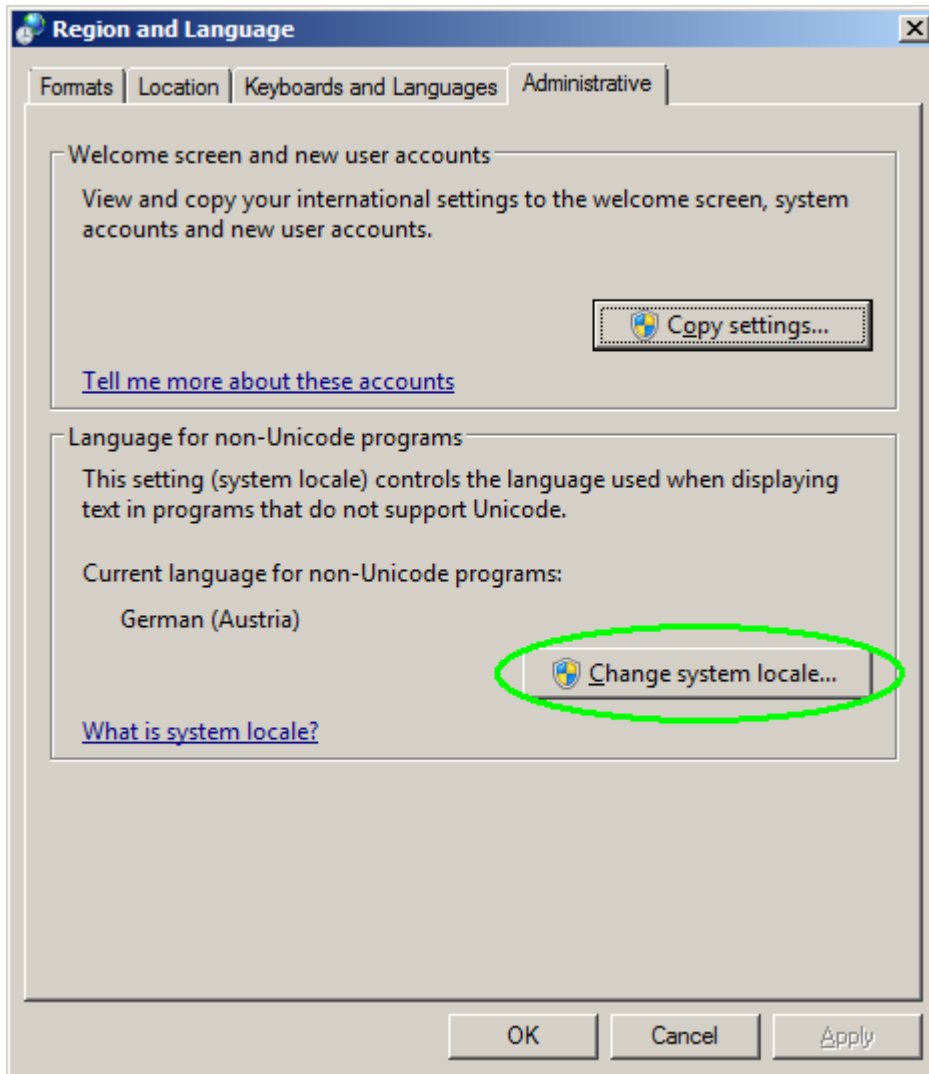
- **Q:** Fluke Energy Analyze shows question marks (?) on graph legends and cursor readouts. How can I get proper readings?

**A:** Make sure the “Language for non-Unicode programs” is adjusted to the language you want to use Fluke Energy Analyze with. On Windows 7, the setting is adjusted as follows (you need administrative rights to change the setting):

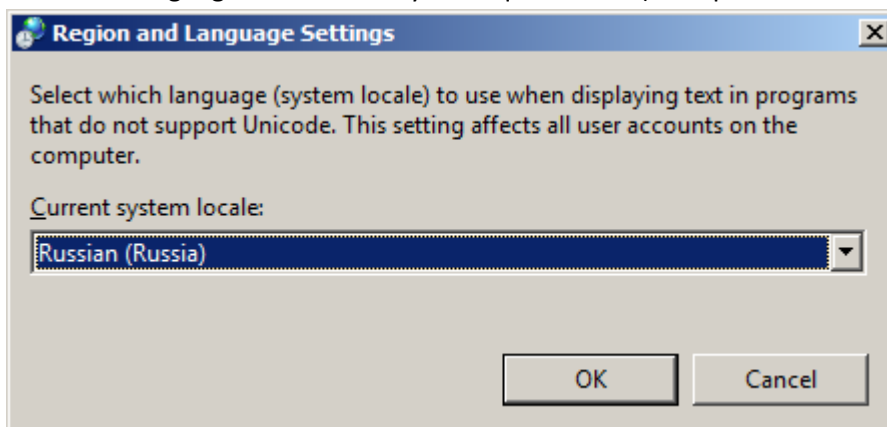
From the Control Panel, select “Change display language”



Go to the “Administrative” tab and click “Change system locale...”



Select the language that matches your requirements (example here: Russian)



Click "OK" – you may need to reboot your PC for the adjustment to take effect.

- Q: Reports in Korean or Simplified Chinese language do not contain show invalid characters. How can I create a report (.pdf file) in these languages?

A: The Fluke Energy Analyze report writer expects the fonts "Microsoft YaHei" for Simplified Chinese, and "Malgun Gothic" for Korean to exist, which may not be the case if running Windows

XP. If reports do not show reasonable texts in these languages under Windows XP, the mentioned fonts need to be obtained from the links given below:

“Malgun Gothic”: <http://www.microsoft.com/en-us/download/details.aspx?id=10490>

“Microsoft YaHei”: <http://www.microsoft.com/en-us/download/details.aspx?id=14577>

- Q: I have got two or more Fluke 1730 Energy Loggers connected to my PCs USB ports and want to download data concurrently. Does Fluke Energy Analyze support this?

A: Fluke Energy Analyze allows the connection of several instruments at the same time, but cannot download data from these concurrently; you need to select one unit after another as “Source”.

There is a weakness that occasionally can cause malfunction if multiple units are attached at the same time. If this occurs, the instruments (USB sticks) are not listed on the “Source” dropdown selector, and you need to temporarily disconnect unused instruments (or USB sticks) as a workaround.

- Q: I tried loading data from the instrument using a Wi-Fi connection to the instrument, but FEA does not show or fill the “download data” panel.

A: FEA relies on the operating system to qualify a Wi-Fi link as “available”, and shows the panel only after having access to an ‘available’ Wi-Fi connection. The time this takes may depend on other applications running on the same computer. It is recommended to enable the “Connect automatically” option (Network and Sharing Center) when connecting to a 1730 device for the first time. This will speed up subsequent connections and also avoid having to repeatedly input the WPA2 security key.