

IECSoft v2.7 (build 73) Release Notes

The following is a complete list of the standards and amendments included in v2.7:

- IEC61000-3-2:2018 + AMD1:2020
- IEC61000-3-2:2018
- IEC61000-3-2:2014
- IEC61000-3-3:2013 + AMD1:2017 + AMD2:2021
- IEC61000-3-3:2013 + AMD1:2017
- IEC61000-3-3:2013
- IEC61000-3-11:2017
- IEC61000-3-11:2000
- IEC61000-3-12:2011 + AMD1:2021
- IEC61000-3-12:2011
- IEC61000-4-11:2020
- IEC61000-4-11:2004 + AMD1:2017
- IEC61000-4-11:2004
- IEC61000-4-13:2002 + AMD1:2009
- IEC61000-4-14:1999 + A1:2001 + A2:2009
- IEC61000-4-17:1999 + A1:2001 + A2:2009
- IEC61000-4-28:1999 + A1:2001 + A2:2009
- IEC61000-4-29:2000
- IEC61000-4-34:2005 + A1:2009

- BSEN61000-3-2:2019 + AMD1:2021
- BSEN61000-3-2:2019
- BSEN61000-3-2:2014
- BSEN61000-3-3:2013 + AMD1:2019 + AMD2:2021
- BSEN61000-3-3:2013 + AMD1:2019
- BSEN61000-3-3:2013
- BSEN61000-3-11:2019
- BSEN61000-3-11:2001
- BSEN61000-3-12:2011
- BSEN61000-4-11:2020
- BSEN61000-4-11:2004 + AMD1:2017
- BSEN61000-4-11:2004
- BSEN61000-4-13:2002 + AMD1:2009
- BSEN61000-4-14:1999 + A1:2004 + A2:2009
- BSEN61000-4-17:1999 + A1:2004 + A2:2009
- BSEN61000-4-28:2000 + A1:2004 + A2:2009
- BSEN61000-4-29:2001
- BSEN61000-4-34:2007 + A1:2009

- JIS C-61000-3-2:2019
- JIS C-61000-3-2:2005 + A1:2008 + A2:2011

Significant Changes:

All Standards

- Awaiting stability options removed. The category dropdown box has been changed to display the standard editions for the currently selected standard authority (IEC/BSEN/Other). All standards are now listed in numerical order with the most recent edition including amendments listed first for each standard.
- All modes now have the ability to save locked or unlocked excel export reports.

- Added the ability to clear the excel export save location for all modes.
- Font size of export titles is now 15 to allow the extended titles to fit the page.
- A slightly smaller than standard font size is now used for the standard mode selection buttons.
- Excel export locations now use “wchar_t” which allows non-English characters to be used.

Harmonic Standards

- BSEN61000-3-2:2019+A1:2021 / IEC61000-3-2:2018+A1:2020 Class C tests use the updated table 2 limits (Power factor no longer used).
- BSEN61000-3-2:2019+A1:2021 / IEC61000-3-2:2018+A1:2020 Class C tests, the method used to calculate POHC is now included in the report.
- BSEN61000-3-2:2019 / IEC61000-3-2:2018 / JIS-C-61000-3-2:2019 test modes all include a New “Class C-THD” test option with limits $\geq 5W$ and $\leq 25W$.
- THD is now coloured in the harmonics Real Time display when a Class C-THD test is selected.
- Added a status bar description for THD that includes its limits when a Class C-THD test is selected.
- Added a status bar description for PASS/FAIL that includes THD as one of the possible failures.
- BSEN61000-3-2:2019 / IEC61000-3-2:2018 / JIS-C-61000-3-2:2019 - Class C-Waveform tests now have a lower limit of 5W.
- The WFA test button is now only available when the appropriate Harmonic Class C-Waveform test is selected. It is now disabled for all other Harmonic test modes.
- The WFA mode now only works on phase 1, an info tooltip has been added to explain the reasons why the test isn't run on phase 2 and phase 3, even in 3-phase mode.
- WFA now attempts to prevent itself from detecting noise as genuine waveform peaks.
- In the event of a Class C-Waveform test failing the WFA test but passing all other tests, only the report for phase 1 will display a WFA failure.
- The WFA test setup updated to set noise filter to 9kHz. This allows better noise detection by ensuring the most relevant data is included in the waveform.
- For all harmonic tests, the voltage range dropdown box when using an external source now only has two options. These are “Above 150Vrms L-N” and “Below 150Vrms L-N”, these correspond to the 1kV and 300V ranges for the PPA.
- JIS-C-61000-3-2:2019 Class D – Fridge mode is now enabled for JIS test modes.
- Update to recognise the N4A18/30/67/100 when connecting to the measure IM test and connecting to the source after loading in an N4LIEC file.
- Measure IM updated to use the scale factor/input/range/offset that you set during harmonic setup.
- Corrected an issue with the Max current THD value displayed on excel and PDF reports for harmonics tests. Previously, if there was only one test performed the Max current THD value displayed would be 0.
- The max current THD on the Excel and PDF reports updated to display the peak value instead of the average value.
- The key at the bottom of the Harmonic Repeatability tab in the excel report now includes an explanation of why results below 5mA are starred (*)
- Additional measures taken to clear the communications buffers between test restarts in harmonics-mode tests that failed the “ready to start” sanity checks, preventing old data from causing complications on subsequent test attempts.
- All Harmonic modes updated to ensure that the Excel Export reports all include the phase being tested in the document header and the report results.
- Harmonic PDF report layouts have been updated so that Repeatability, Source and Harmonics tables are no longer placed at the bottom of their respective pages.

Flicker Standards

- BSEN61000-3-3:2013+A1:2019 / IEC61000-3-3:2013+A1:2017 & BSEN61000-3-11:2019 / IEC61000-3-11:2017: Inrush may be used for the measurement of Dc and Tmax.
- BSEN61000-3-11:2019 / IEC61000-3-11:2017. Ztest steady state voltage range is now between 2% and 9%.
- Flicker reports that have a ztest exception now display a "Pass*" result.
- Flicker test modes: added the option to ignore PST limits.
- Inrush pre-tests now allow the user to set current range.
- Inrush pre-tests now allow the user to select the scale factor and shunt value when the external current ranges are used.
- Inrush current and ripple for Inrush pre-tests now displayed in the Excel & PDF reports.
- The source settings are now included on the front page of a flicker reports.
- Flicker modes updated to allow the importing of inrush only n4lic files. Previously the n4lic files were expected to include PST results data.
- Flicker test modes: It is now possible to export incomplete flicker tests provided at least one PST has been completed.
- Flicker PST Values are now forced to 3 significant figures in excel exports.

EMC Standards

- It is no longer necessary to turn the source off for the test to be considered complete for BSEN/IEC61000-4-11, 61000-4-13, 61000-4-14, 61000-4-17, 61000-4-28, 61000-4-29 and 61000-4-34
 - This means you can swap between tests in one EMC mode without turning the source off.
 - The only time the source turns off now is: when you press "Source Off", when you exit to any setup pages, or close the window.
- Moved the source on/off and source status display to just below the main title/subtitle on the testing screen for BSEN/IEC61000-4-11, 61000-4-13, 61000-4-14, 61000-4-28, 61000-4-29 and IEC61000-4-34.
- The source on/off buttons and source status are now visible in the schedule screen for BSEN/IEC61000-4-11, 61000-4-13, 61000-4-29 and 61000-4-34 modes.
- You can now use the export function for BSEN/IEC61000-4-11, 61000-4-13, 61000-4-14, 61000-4-17, 61000-4-28, 61000-4-29 and 61000-4-34 without turning the source off.
- You can now cancel tests for BSEN/IEC61000-4-11, 61000-4-13, 61000-4-14, 61000-17, 61000-4-28, 61000-4-29 and 61000-4-34 without turning the source off.
- You can now reset BSEN/IEC61000-4-11, 61000-4-13, 61000-4-14, 6100-4-17, 61000-4-28, IEC61000-4-29 and IEC61000-4-34 tests from the testing screen without returning to the schedule or turning the source off.

- BSEN/IEC61000-4-11:2020. Voltage Variations are no longer an optional part of the standard.
- BSEN/IEC61000-4-11 & 4-34 tests have been renamed from "Voltage Dips, Interruptions and Immunity Testing" to "Voltage Dips, Interruption and Variations Immunity Testing" on the test selection buttons and reports.
- BSEN/IEC61000-4-11/4-34: Update to Source firmware to allow the correct phase angles to be set for phase-phase Dip tests.
BSEN/IEC61000-4-11/4-34: testing sequence titles are now split into two rows; the first one shows what class the test is and what sequence we are on (as well as how many sequences are in this configuration) and the second one shows the test dip/peak, duration and starting phase angle.
- BSEN/IEC61000-4-11/4-34: Added the ability to set the starting phase angle in the custom sequence window (can be set from 0 to anything below 180 degrees).

- BSEN/IEC61000-4-11/4-34 Negative half-cycle dips/interrupts/variatioins now no longer note that they are negative half-cycle sequences, instead their starting phase angle is increased by 180 degrees.
- BSEN/IEC61000-4-11/4-34: The starting phase angle is now displayed on the overview and schedule for each line of the sequence.
- BSEN/IEC61000-4-11/4-34: When creating a custom sequence, if you enter an invalid value in one of the fields, the message you get will now tell you in which field the mistake is, as well as which sequence-line.
- BSEN/IEC61000-4-11/4-34: Added an information box that displays a tooltip explaining how phase offset works for 3ph dips test in the custom sequence window.
- BSEN/IEC61000-4-11/4-34 3-phase modes now include a "Phase series" option. This allows the user to select whether dips are performed on Ph-Ph and Ph-N or just Ph-Ph for each configuration.
- BSEN/IEC61000-4-11/4-34 3-phase overview and schedule screens now display if Ph-Ph + Ph-N or just Ph-Ph tests are to be performed.
- BSEN/IEC61000-4-11/4-34 3-phase tests, we now show all 6 phases that can be run underneath the test description on the testing screen when doing a dips test. They represent the phases that can be tested (Ph1-Ph2, Ph2-Ph3, Ph3-Ph1, Ph1-N, Ph2-N, Ph3-N), and greys out any that aren't being run, it also highlights the phase that is currently being run.
- BSEN/IEC61000-4-11: Tests will now warn the user when auto-running multiple sequences that the next sequence will change voltage/frequency.
- BSEN/IEC61000-4-11/4-34 overview and schedule screens now also display the phase angle for each individual sequence.
- BSEN/IEC61000-4-11/4-34 testing screens now display the phase angle for the sequence displayed in the test description.
- BSEN/IEC61000-4-11/4-34 Excel and PDF reports now include phase-series and phase angle.
- BSEN/IEC61000-4-11 and 4-34: n4lvdi files have been updated.
- BSEN/IEC61000-4-11 and 4-34: Update to the controlling of the source when selecting "run-all" tests.

- BSEN/IEC61000-4-14 and BSEN/IEC61000-4-28 modes have had their setup pages updated to the style used for other EMC modes

- BSEN/IEC61000-4-17 tests have been renamed from "Ripple on DC Input power port Immunity testing" to "Ripple on DC Immunity Testing" on the test selection buttons and reports.
- BSEN/IEC61000-4-17 mode no longer features a 3-phase test mode. There are now 3 test options: 1-phase - full wave, 3-phase – half wave and 3-phase – full wave. These modes are all used to generate ripple on phase 1.
- The Clear button for BSEN/IEC61000-4-17 has been removed, because resetting is now on the start test button (when the test is complete).

- BSEN/IEC61000-4-28 / 4.29: It is now possible to cancel the test partway through

- BSEN/IEC61000-4.29: The reset button has been removed, and you can now reset the test by pressing the start button when the test is complete
- BSEN/IEC61000-4-29 tests have been renamed from "Voltage Dips, Interruptions and Variations on DC Input" to "Voltage Dips, Interruptions and Variations on DC Immunity Testing" on the test selection buttons and reports.

IECSoft v2.7.1 Release Notes

The following updated Standard is now included:

- IEC61000-3-3:2013 + AMD1:2017 + AMD2:2021 + COR1:2022

Other updates:

- The latest Flicker Standard test modes can now use the inrush dc/tmax results instead of the main tests' dc/tmax results. The highest values for each parameter are displayed in the report.
- The Excel report now displays the correct PST results rather than duplicating the PLT results. Note: There was no issue with the results displayed in the software window or in the PDF reports.
- Range selection updated to ensure the correct range is displayed in the software when stepping through the setup screens. The software and excel / PDF reports now always display the Range set on the instrument.
- "Minimum Current" has been renamed to "Peak Current Range" for excel and pdf exports for all harmonics and flicker tests.
- The dropdown Category options no longer include the Edition number to simplify the selection of the correct version of the standard.
- N4Liec files for flicker tests containing partly completed tests can now be loaded into the software. Note: a minimum of one PST test must have been completed.
- Software updated to prevent the possibility of a crash occurring when performing Flicker testing using the LAN configuration. This could happen if a second software product was used with LAN configuration selected whilst the IECSoft test was running.