

e-Design DOC

Release Notes

Release 3.7.19 – 30/09/2019

- Reviewed Tmax XT UL curves

Release 3.7.11 – 4/02/2019

- Bugfix: Emax2 UL 3600A curves database update

Release 3.7.10 – 24/01/2019

- Bugfix: Adding a Scenario changes coordination relations
- Bugfix: Bug in Scenarios
- Bugfix: exporting drawing data int txt file
- Bugfix: Export of user defined motor considers only a subset of needed data
- Bugfix: Changing default internal temperature in options has no effect on the default switchboard
- Bugfix: invalid file saved
- Bugfix: S / I switches get reversed when opening a file
- Bugfix: Selectivity check: limit 'granted level' to min Icu of breakers

Release 3.7.6 – 20/08/2018

- Bugfix: unable to get cable data from inconsistent drawings
- Bugfix: discrimination report does not work properly
- Bugfix: RCB for XT1 restored
- Bugfix: Computing DOC2 projects, sometimes sources (Power supply, Transformers and Generators) are wrongly marked in Orange.
- Bugfix: some DOC2 Project files cannot be edited
- Bugfix: Using wrong temperature for calculating the Iz value IEC60092

Release 3.7.3 – 05/06/2018

- Bugfix: Same fuselinks listed several times when fusegears is inside motor-feeder
- Bugfix: Reports of LV devices now includes switches too
- Bugfix: Adjusted cables oversizing factors in motor-feeders
- Bugfix: Discrimination CB->Fuse sometimes cannot be removed

Release 3.7.2 – 20/04/2018

What's new

- New load-flow computational mode, preserving rated power factor at loads.
- Selectivity with more parallel upstream feeders is now possible
- New switch-disconnectors selection (no more switch-disconnectors which cannot be protected)
- Review the interpolation algorithm for curves: no more errors in case of duplicated records
- Minimum Iz/IB factor (ruling cable oversizing) is now considered even in checks and not only during dimensioning
- Minimum short-circuit current with more parallel cores: all the cores are now considered computing impedance of the cable (before: only one core was considered, to simulate the worst possible situation).
- Star-delta motor feeder: proper IB (\ln of motor/ $\sqrt{3}$) is now considered even in Curves
- Fixed wrong Poles in some MCBs
- T5N 630 PR222 DS-LSI: G function available
- now IS2 flanges and plinth selection are separated
- add preassembled and anti-sismic version for the IS2 plinths
- new release H1400 and H1600 of IS2 columns
- E power INLINE 2 added to Italian market
- E power available also for Tanzania and Kenya markets

Release 3.5.14 – 26/02/2018

What's new in Single Line Diagram

- Updated Tmax XT UL curves
- Added Tmax XT4 EKIP E-LSIG

- Fixed tolerances of following trip units: Ekip LSI, Ekip LSIg, Ekip Dip, Ekip Touch, Ekip Hi-Touch, Ekip G Touch, Ekip G Hi-Touch

Release 3.5.13 – 24/01/2018

What's new in Single Line Diagram

- Selectivity check between LLL and LL breakers fails : minor issue reported about selectivity between LLL upstream and LL downstream
- Breaking capacity of S200 now up to 240/415V: breaking capacity of S200 was declared at 230/400V instead of 240/415V.
- Fixed curves crash on startup
- Curves UL Voltage default set to 480V
- Fixes in Tmax XT UL Curves (R3 and R7 ratings)
- Added RC222/4 for Tmax T4 250
- Removed the "standard" textbox from the switch selection mask

Release 3.5.11 – 20/09/2017

What's new in Single Line Diagram

- Fixed program crash when arrival starts with CB
- Fixed selectivity value in curves does not match the one at the current voltage
- Fixed selectivity limits when reference voltage is changed
- Fixed global settings not stored for new projects (only if invoked from wizard)
- Changed sorting mechanism in selecting motor coordinations (now aligned with SOC)
- Fixed crash in curves
- Fixed program crash when a new short circuit calculation time
- Removed the "standard" textbox from the switch selection mask

Release 3.5.9 – 19/07/2017

What's new in Single Line Diagram

- Bugfix: missing selectivity with T5 L 630 PR223EF
- Enabled System pro E power in Nigeria
- Curves : checkboxes are now radio buttons 'Checks' list

- Curves: better distinguishing the active Objects vs Relations, inactive list items greyed out
- Motor coordinations: implemented a quick check for voltage, motor power, current, starter type and pattern to notify users that the combination could not be verified using actual ABB SOC coordination tables
- In motor feeders "3P" or "2P" devices are forced
- Bugfix: export data from Curves had problems

Release 3.5.8 – 01/06/2017

What's new in Single Line Diagram

- Updated curves for UL Version (Emax 2 and Tmax XT)
- Added MMS MS165 and MO165 and related motor coordination tables
- Added mini contactors B and related motor coordination tables
- Bugfix: unexpected crash when computing files
- Bugfix: Medium voltage devices not selected in specific conditions
- Bugfix: export data from Curves had problems

Release 3.5.6 – 18/04/2017

What's new in Single Line Diagram

- **Hotfix:** Medium Voltage circuit breaker automatic selection was not working properly after last update, fixed now.

Release 3.5.5 – 04/04/2017

What's new in Single Line Diagram

- Fixed wrong translations in English Fusegear mask
- Added Thermal overload Relay T16 data and related motor coordination tables
- Default temperature for MV Cables overhead is set to 30°
- Fixed XT1 C 160 Ipeak curve
- Reduced the number of invalid positions where the Probe can be inserted
- Fixed Ipeak of Emax2 in some particular cases
- OTC in DOC: report not found
- Fixed small error in Report of Lv CB settings
- Added few icons in the quick access toolbar

- In motor coordination involving Fuses as short circuit protection devices, DOC is not able to protect the cable. Fixed.
- Fixed several crashes during computation
- Fixed DOC locking the edit of Fuse Links
- Fixed crash recalling a custom labels configuration
- Curves will now show always the maximum short circuit current flowing into live conductors independently from the type of chart
- Conductor (Cu/Al) is added to reports
- Fixed Ekip Touch, $G I_2 t = k$, wrong function

What's new in Switchboard Configurator (where available)

- Best management of segregations, when they are overlapping to the kits
- Now available the depth 900 with external rear cable container depth 300 for W300 and 1250
- new products management on the front: S200M UC, SU200, S280 (80 and 100A), DS201-202, OT160 A, F200 B, E290 and similar, new OVR
- Fixed the bill of material about: lateral flanges, IP30 accessories, side by side kits and number of plinth
- Improved PE bars mask
- Improved of form 4b solution based on the P2-P1-P0 concept
- Total plate also in 2b form board

Release 3.5.3 – 08/02/2017

What's new in Single Line Diagram

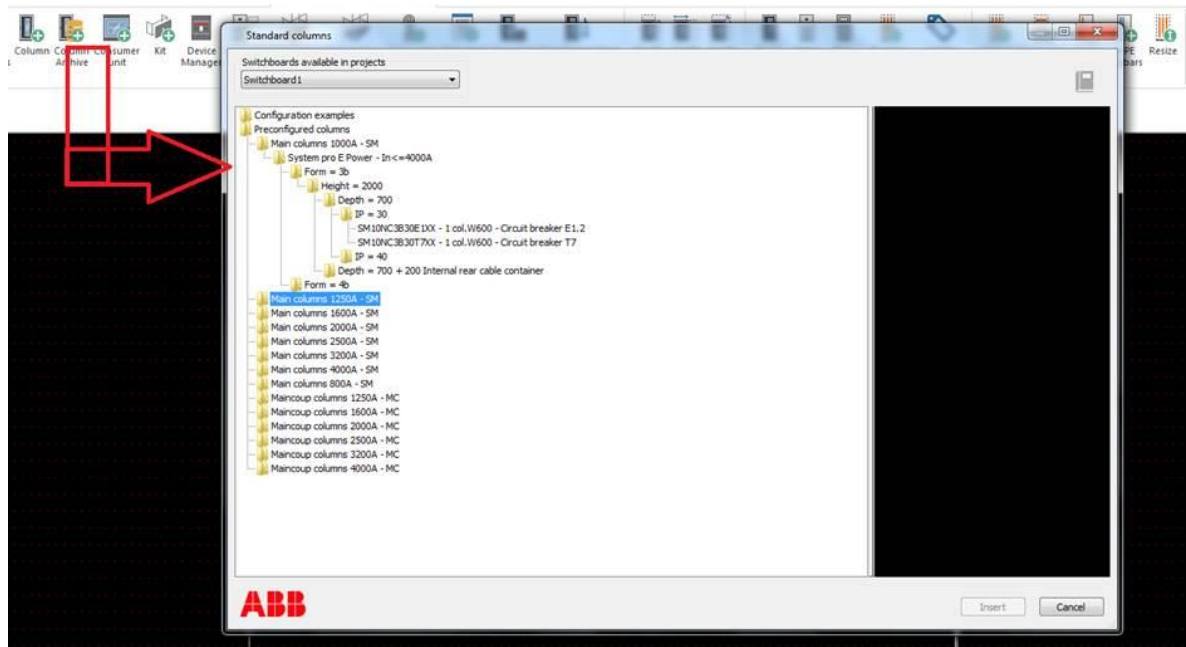
- Integration with SOC Motor coordinations: added 2 new motor coordination types (ACB without contactor and MMS without contactor). The two new types are available in the motor feeders area on the ribbon bar.
- Most of the motor coordinations have been restored and now are able to give a calculated solution
- Added Turkish localization
- Fusegear mask english translations fixed

Known Bugs

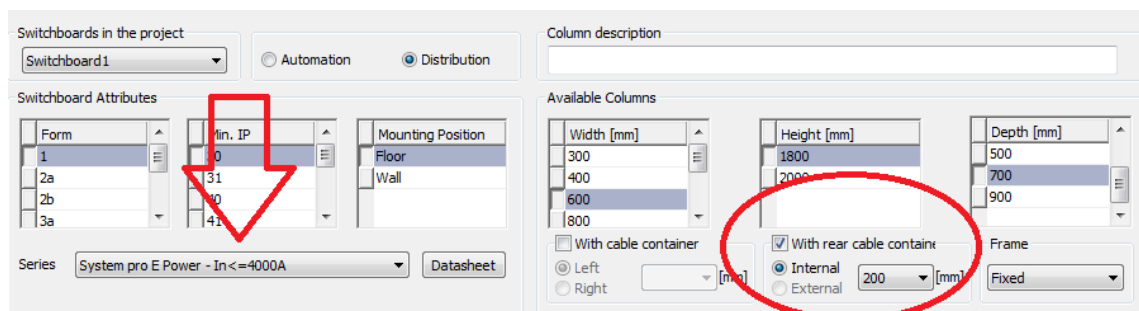
- In motor coordination involving Fuses as short circuit protection devices, DOC is not able to protect the cable. Going to fix this soon.

What's new in Switchboard Configurator (where available)

- 350 and more preconfigured columns (h=2000, F3b and F4b main and main coup functionality) on the standard columns context



- Possibility to manage the rear cable container like normal option of E Power board with 500 or 700 or 900 depth (this option is present also on the wizard function, for the automatic draw of the board)



- Drawing Performance improved

Release 3.4.4 – 01/02/2017

Fixed Bugs

- Added AF and AS contactors to database
 - New Fuse links curves for let-through energy and peak (we have now more points to draw them)
 - Fixed wrong chart size in Curves when Font size is greater than 100%
 - Fixed program crash when opening IEC60255 L curve for 3-poles breakers
 - In “set labels” command, we have fixed the wrong entries for switch disconnectors
 - Device Manager language set to English when local language is not available
 - Fixed startup errors when starting DOC in Ukrainian language
-

Release 3.4.3 – 17/11/2016

Fixed Bugs

- Improved the kits scrolling and management, during its insertion (new kits or copy-paste result)
 - Now the double-click is OK for any modular on the front: all appear as selected in the devices mask
 - During the manual device insertion on the board the first kit suggested is the one with the most simple features among those available
-

Release 3.4.2 – 28/10/2016

Fixed Bugs

- Fixed startup bug not showing the ribbon bar
 - Fixed crash on print manager
 - Fixed Db initialization for country Denmark
 - Fixed crash on opening N-PE document
 - Fixed switchboard accessories missing from DOC to CAT
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Thanks everyone who reported bugs and enhancements to software.tools@it.abb.com

Release 3.4 – 14/10/2016

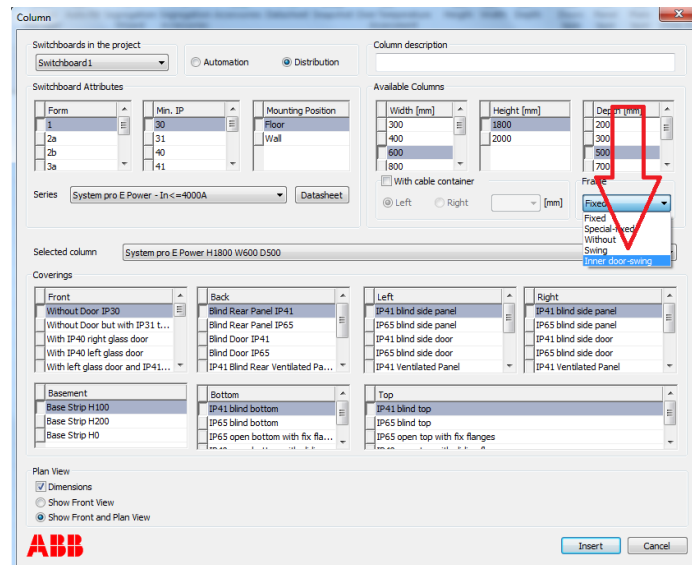
What's new in Single Line Diagram

- Emax2: Implemented all types of Overload Functions (L)
 - Implemented Second I function for Emax2 (2I)
 - Look and feel upgraded to Office 2016 style
 - Implemented database initialization by country to speed up product selection
-

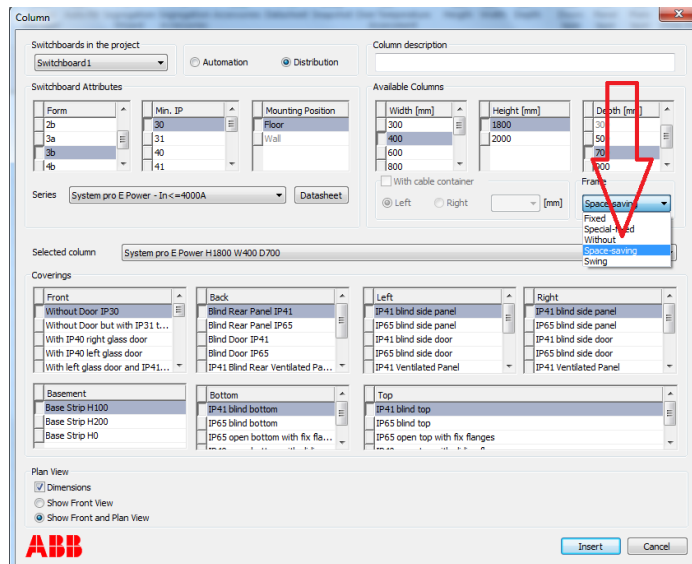
- Updated Chinese translations
- DOC depends now from OTC, since the functionalities have been decoupled
- DOC and Curves database are now merged for easier maintenance

What's new about System pro E power

- Management of “Swing” frame and H1800-2000mm plates



- “Save-space” column management



Fixed Bugs

- Fixed some incompatibilities with DOC2 projects (.abbdoc files)
- Fixed performance issues during disconnector selection

Thanks everyone who reported bugs and enhancements to software.tools@it.abb.com.

Release 3.3.3 – 07/07/2016

Fixed Bugs

- Bug Fix in curves color change
- Fixed user manuals links
- Default values for cables are now applied also to macros

Release 3.3.1 – 12/04/2016

What's new in Single Line Diagram

- Updated Chinese and Brazilian-Portuguese translations

Fixed Bugs

- Fixed single-core multi-core cable setting

Release 3.3 – 17/03/2016

What's new in Single Line Diagram

- Implemented short circuit automatic protection for Medium Voltage cables; two new reports are available
 - *List of MV Cables*
 - *Protection of MV Cables*
- Implemented the selectivity between Circuit breakers and Fuses according to [SOC](#) tables

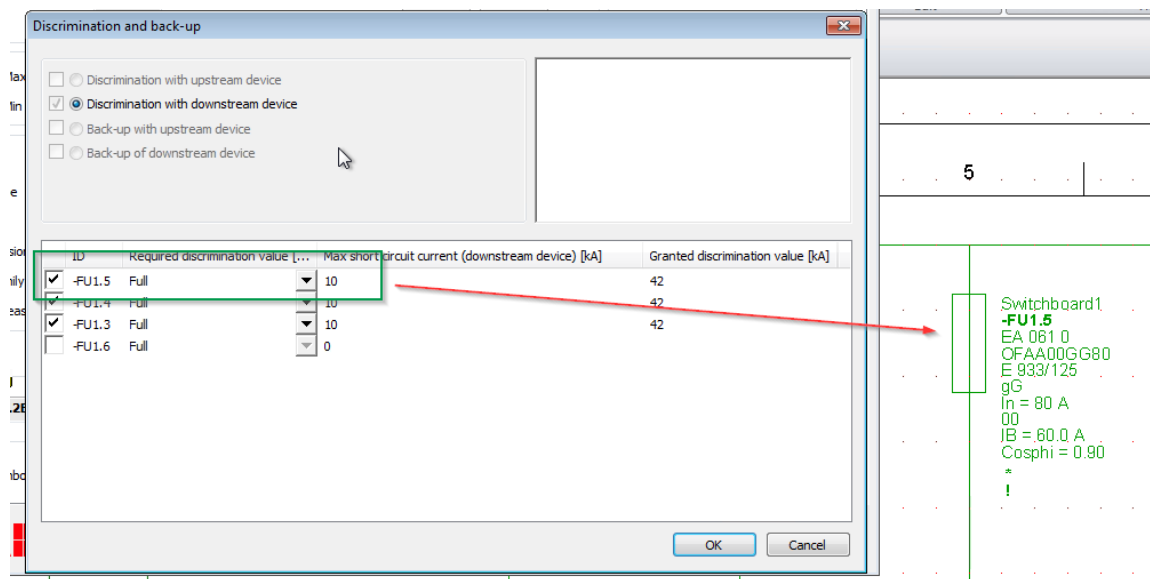


Figure 1 - Selectivity with Fuses

- Continues in DOC the integration with [SOC](#) (Selected Optimized Coordination): all the footnotes included into coordination tables are now shown in reports and in the main drawing

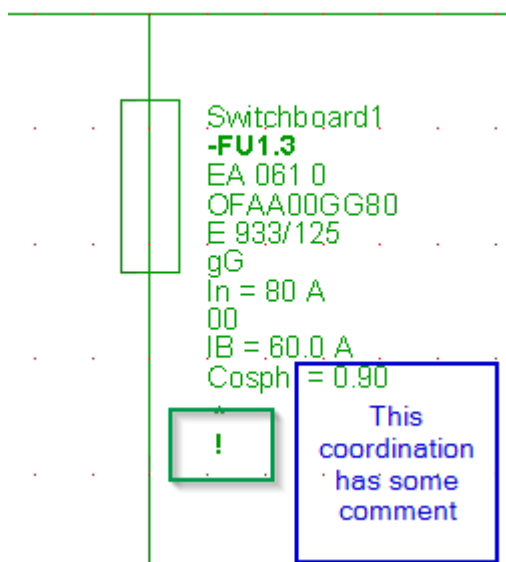


Figure 2 - The exclamation mark (!) means that this coordination has some comment/footnote. The comment is shown into the Reports

- New fields are now available in the feeder fast input mask: cable method of installation and cable type. Those settings are persistent in the current session and can be saved for future projects

The 'Feeder properties fast input' dialog box is shown with the following settings:

- Switchboard: Switchboard1
- Phases: LLLN
- Distribution system: TN-S
- Description: (empty text box)
- Generic load:
 - Rated current: I_n 16.0375 [A]
 - Rated power factor: $\cos\phi_n$ 0.9
 - Active power: P_n 10 [kW]
- Cable:
 - Length: (empty text box) [m]
 - Single-core (selected)
 - PVC (selected)
 - Cu (selected)
 - Installation method: 11
- Buttons: Show always (checked), Details, OK

Figure 3 - New settings in the fast input mask

- Improvements in masks in general: no popups will be shown anymore when mandatory input is required

The 'Feeder properties fast input' dialog box is shown with the following settings:

- Switchboard: Switchboard1
- Phases: LLLN
- Distribution system: TN-S
- Description: (empty text box)
- Generic load:
 - Rated current: I_n 16.0375 [A]
 - Rated power factor: $\cos\phi_n$ 0.9
 - Active power: P_n 10 [kW]
- Cable:
 - Length: (empty text box) [m]
 - Single-core (selected)
 - PVC (selected)
 - Installation method: 11
- Buttons: Show always (checked), Details, OK

An error popup is displayed over the 'OK' button:

Feeder properties fast input
Requires number greater than 0.01!

Figure 4 - No more popups when forgetting a setting

- Implemented new option “Use electronic trip units only for currents for Ib up to”: this new option forces DOC to select electronic trip units above a predefined load current. This option is available into DOC Options -> Circuit Breakers

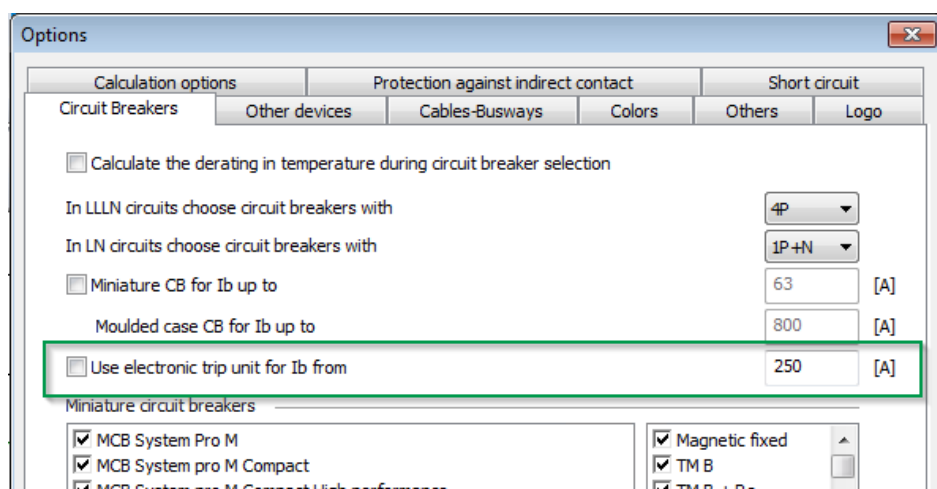


Figure 5 - New options for circuit breakers

- Implemented the possibility to Import / Export Motors, Trafos and Generators databases
- Implemented the possibility to import a user defined database for Busways

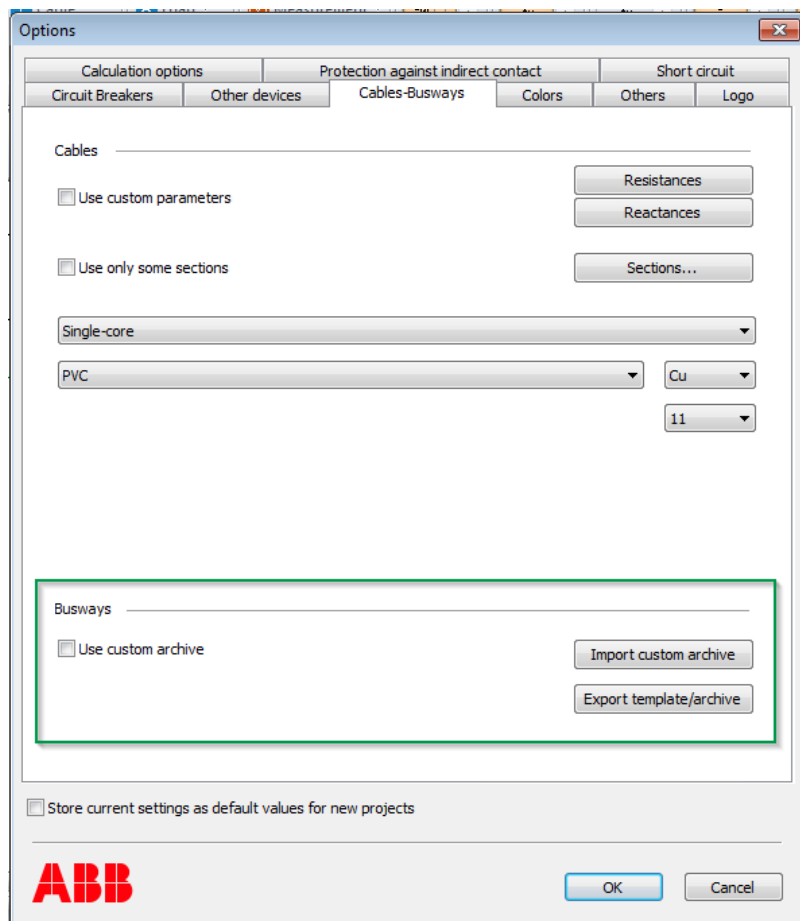


Figure 6 - Busways database can be customized in DOC Options

What's new about System pro E power

- Implemented new command "Column Archive": this new command lets users to insert "predefined" columns into the actual switchboard. This archive is provided and updated by ABB and includes new columns for **Combiline** and **Inline II**.

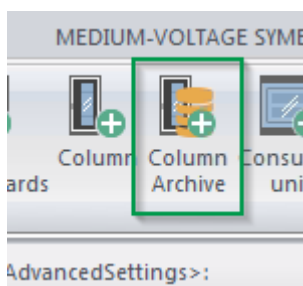


Figure 7 - New column from Archive command

Fixed Bugs

- Fixed adding a generator on top of an existing cable

- Fixed some options not persisted between different projects
- Fixed descriptions for Switch-Fuses
- Fixed descriptions of Switch-Disconnectors not appearing in the main drawing after automatic selection
- Fixed export of DXF files in folders with <blanks> in the folder name
- Added the “all possibilities” option in Fusegear mask
- Minor issues

Thanks everyone who reported bugs and enhancements to software.tools@it.abb.com.

Release 3.2.6 – 04/02/2016

Fixed Bugs

- Medium voltage relays not visible in certain conditions, now fixed
- Command “Insert Datasheet” from the circuit breaker mask was not working, now fixed
- Fixed possibility to insert “0” as rated current or rated power of a load. A value greater than “0” is required

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.2.5 – 19/01/2016

Fixed Bugs

- Fixed scale factor of Fuse Links peak curves

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.2.4 – 12/01/2016

Fixed Bugs

- Fixed crash when selecting Emax and Tmax breakers in switchboard configurator

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.2.3 – 18/12/2015

What's new about System pro E power

- improvements in the functionality of automatic segregation of 3b and 4b forms
 - improved the automatic segregation of busbar systems, in particular the horizontal ones
- Introduced new mask for a detailed management of segregation accessories
 - all the segregation codes are displayed on each column, busbar or kit and contextualized so that it's easier to understand position and the functionality
 - Each segregation code can be easily added / modified / deleted via a specific connection to CAT
 - Automatic replacement of PLVS/PRVS segregation partial height with the full height
- Improvements on the management of busbars systems
 - In the busbar system design phase DOC performs a compatibility test between busbars and front-mounted device; only compatible bars are shown to users
- Availability and management of new total H1600-1800-2000 plates (they can be installed also without frame)
 - All automation devices (contactors, motor starters, etc. ...) can be mounted on the new plates

What's new in Single Line Diagram

- Updated Chinese Translations
- Updated Polish Translations
- Added link to TUEV certification for DOC in the INFO area
- Improved performance when doing free selection of breakers

Fixed Bugs

- Fixed multi page export for AutoCAD (only on previous installations)
- For Switches, introduced the "All possibilities" option for selecting whatever type of switch
- In the 9-columns drawing, switch-disconnector data were not reported in the corresponding column, now they are
- Fixed quick access toolbar when changing language
- Fixed program crash when adding a new page
- User description 2 now added to reports
- Switchboard datasheet now correctly translated
- Fixed errors displaying special Spanish characters
- Advanced options, Cables, use only some Resistances: fixed wrong behavior when saving this setting for new projects

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.2.1 – 6/11/2015

Fixed Bugs

- Fixed wrong query behavior when selecting Trafos, Generators and Motors

Thanks everyone who reported at software.tools@it.abb.com.

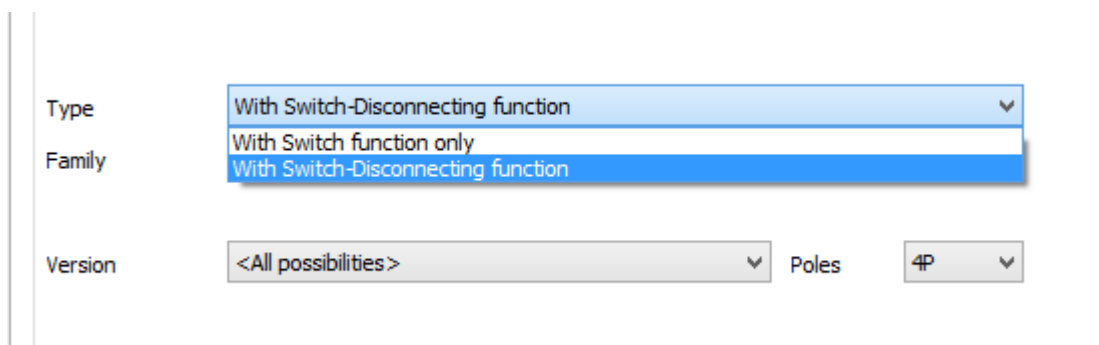
Release 3.2.0 – 21/10/2015

What's new about E power

- Implemented Automatic Segregation Wizard: with a simple procedure, users are now able to realize System Pro E power segregated switchboards in form 2a, 3a, 3b and 4b. See how to use the new command [here](#).

What's new in Single Line Diagram

- Disconnector symbols renewed according to the Disconnector type. Introduced the choice of “type of Disconnector” in the selection mask



Type	With Switch-Disconnecting function
Family	With Switch-Disconnecting function
Version	<All possibilities>
Poles	4P

Figure 8 - Disconnector selection: New Selection Type

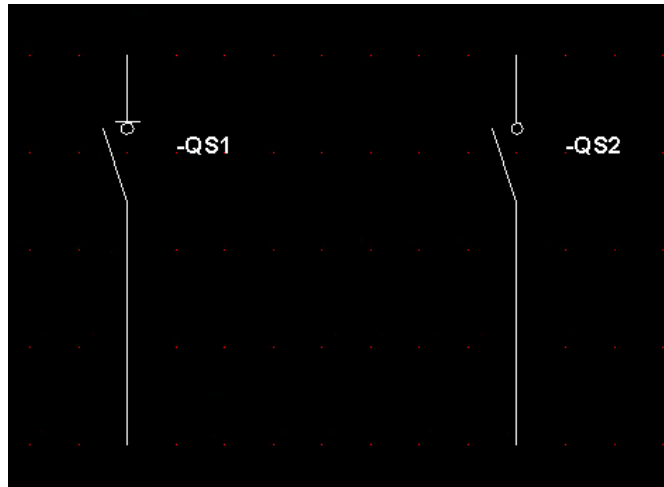


Figure 9 - Switch Disconnecter and Switch symbols

- Improved Export for AutoCAD: Single Line Diagram exports pages in different pages in AutoCAD (no more layers). AutoCAD 2015 file format supported.
- Selectivity and backup tables updated according to ABB Selected Optimized Coordination (SOC).
- Extended the ability to exclude product families to other devices. Before this feature was limited to Circuit Breakers only.

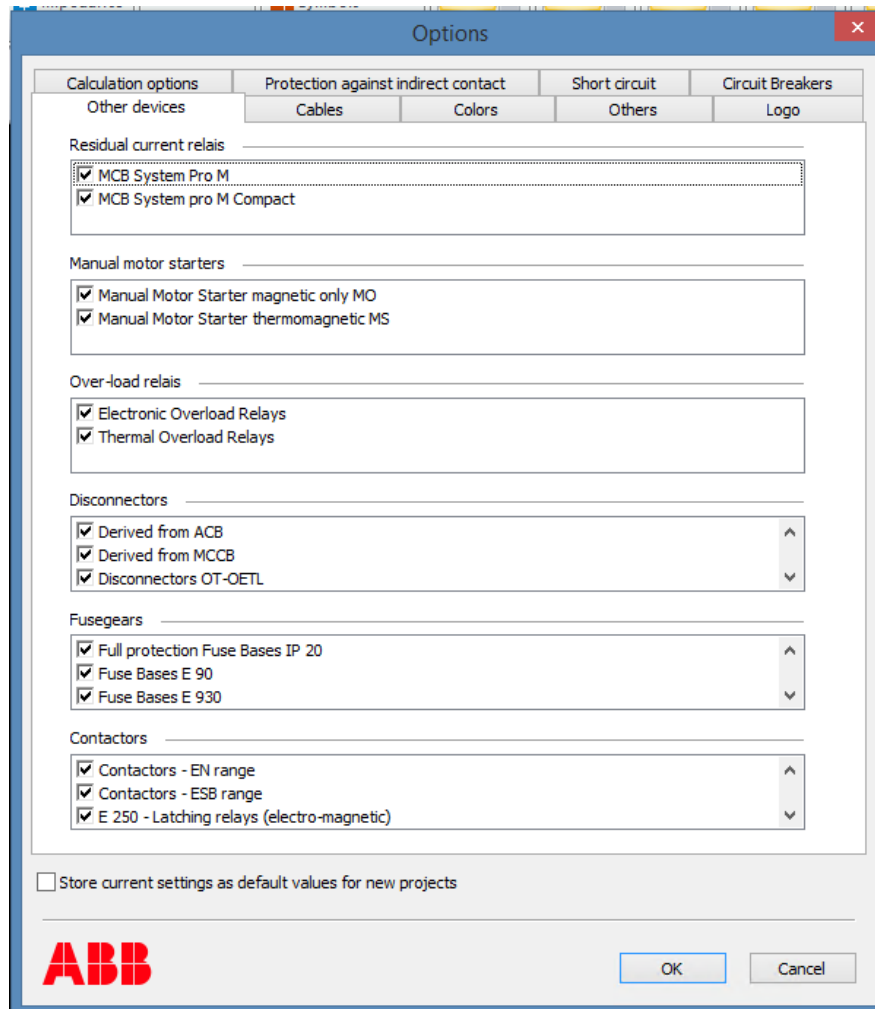


Figure 10 - Selection of Product Families extended to non Circuit Breakers devices

- DOC highlights obsolete product families in the free selection. Obsolete product families are by default not automatically selected but DOC keeps the possibility to select them in the Free Selection mask

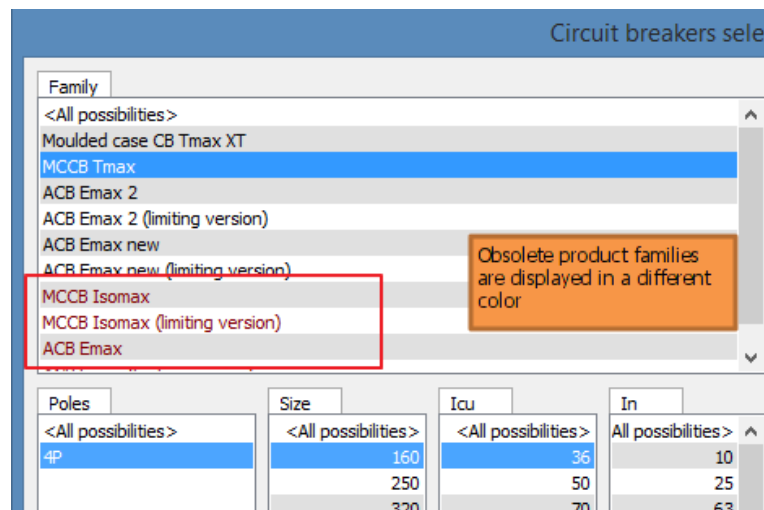


Figure 11 - Highlighted obsolete product families

- Introduced new report for Busbars
- Introduced new report for Motors
- Curves user interface completely renewed. See [Curves \(stand alone version\) release notes](#) for further details.

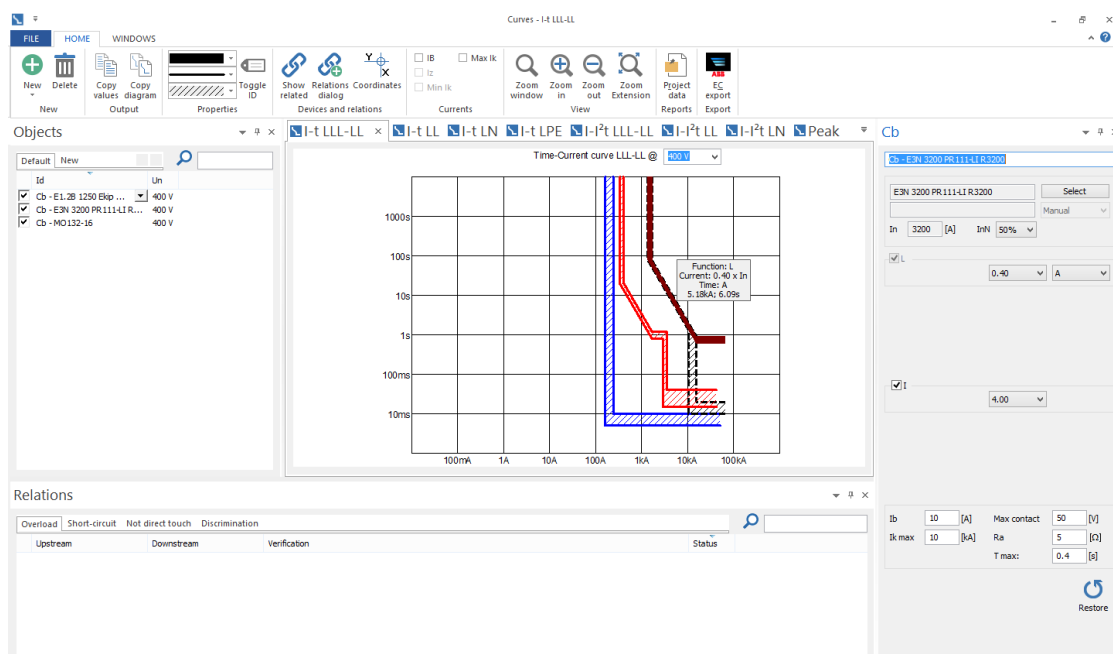


Figure 12 - New Curves User Interface

Fixed Bugs

- Label “**” indicating selectivity relations added to free drawings.

- Fixed the possibility to add labels for Fusegears.

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.1.2 – 07/09/2015

Fixed Bugs

- Fixed DOC calculation crash in specific cases involving Medium Voltage components
- Fixed DOC calculation crash in specific cases involving multiple Scenarios

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.1.1

What's new about E power

- Major improvements in the busbars system draw
 - It's now possible to insert an horizontal system also in presence of different frames
 - Right vertical bars appear well placed in the context of the E power column
- New solution for INOX version: DOC limits the using of stainless steel components for applications with $I_n > 4000A$, which implies a huge cost saving on the entire configuration
- Management of scaled busbars holders: it's now possible to insert, on the internal or external cable container, flat or shaped bars using the scaled busbars holders
- Other minor improvements

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.1.0

What's new

- Protection against indirect contact IEC 60364-4-41: Circuit breakers disconnection times vary depending on the circuit type (final vs not final and exceeding 32A or not)

- Capacitor banks protection and connections: changed according to std. IEC 60831-1, cap. 34
(Protective devices and connections should be designed to carry 1.3 times the rated current of the bank, and the capacitance can be 1.1 the rated capacitance, so a factor of $1.3 \times 1.1 = 1.43$ must be considered in the dimensioning)
- How DOC chooses the type of node for generators: in presence of the distribution net, which is the prevalent power source, all the generators are set as P-Q nodes. On the other hand, in case of standalone installations, the generator with the highest rated power is set as P-V node, and the eventual other generators are set as P-Q nodes
- Cables with Integrated Functional Endurance: applies only to the VDE 0298-4 standard: in the calculation for cables with Integrated Functional Endurance, it is assumed that the fire temperature can only occur in a section of the cable. The other cable sections are exposed to normal room temperature
- Updated Italian and Spanish translations
- New column E power $W=1250$ for E6.2 Emax2
- Management of Cuponal busbars system
- Other minor improvements about E power (new kits and new codes)

What's New in Curves 3.1

- See [Curves Release Notes](#)

Fixed Bugs

- In print preview, vertical scrollbar appears when zooming, in addition to the horizontal scrollbar
- Measurement and control objects can now be connected to busbars showing the detail mask
- Minor fixes

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.0.0 Build 0037

Fixed Bugs

- Fixed slow kit mask loading
- Minor Fixes.

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.0.0 Build 0036

Fixed Bugs

- Fixed minor bugs.

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.0.0 Build 0035

What's New

- Limit curves axis to reasonable decades and avoid numbers scientific notation
- Added German User Manual
- Fuses and FuseGears db updated
- Tmax XT curves updated
- S700 K for the German market restored
- New Busways database
- Fusegear mask renewal
- IP and wizard improvements (Italy only)
- Other minor improvements.

Fixed Bugs

- MV calculation crashes
- Add Emax2 MS
- Ekip Connect integration
- Fixed minor bugs.

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.0.0 Build 0032

What's New

- Updated technical documentation concerning switchboard segregation;
- Improved G function drawing;
- MV symbols rearranged and improved;
- MV devices visible in scenarios management;
- Improved Emax2 data in coordination table;
- Choose the drawing according to the power supply in project definition wizard;
- Minor improvements.

Fixed Bugs

- 'Modify' function generates an exception in certain conditions;
- Horizontal busbar drawing generates an exception in certain conditions;
- Updates overwrite personal settings;
- Fixed minor bugs.

Thanks everyone who reported at software.tools@it.abb.com.

Release 3.0.0.0028

Fixed Bugs

- Fixed minor bugs.
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Release 3.0.0.0026

What's New

- Added “Segregation for circuit breakers” document into “Info → Technical documentation”;
- Added “System pro *E* power segregations” document into “Info → Technical documentation”;
- Restored ‘Insert logo’ command;
- Added mask ‘Segregation codes’ for editing and customizing the column codes list automatically provided by the application algorithm;
- Enlarged switchboard datasheet;
- Updated Unisec Medium voltage switchboard Typical units Library;
- Updated Medium voltage devices database;
- Devices selection masks provides prices when, through CAT, a pricelist is associated to the project file;
- Improved performances in Enclosure Configuration Wizard;
- Minor improvements.

Fixed Bugs

- Fixed some snap wrong behaviors;
 - Fixed some busbar wrong drawing behaviors;
 - Fixed some column change dimensions wrong behaviors;
 - Fixed some change layer wrong behaviors;
 - Fixed some Move command wrong behaviors;
 - Fixed some insert front panel products drawing wrong behaviors;
 - Fixed page numbering error in printouts;
 - Segregation algorithm ignores PE busbars and horizontal busbars shorter than 10 cm;
 - Fixed minor bugs.
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Release 3.0.0.0022

What's New

- Availability System Pro *E* power Form 2a, 3a, 3b, 4b;
- Minor improvements.

Fixed Bugs

- Fixed minor bugs.
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Release 3.0.0.0020

What's New

- Availability System Pro *E* power Form 2b;
- Multiple-insertion possible in kit for several MCCBs vertical installation;
- Spanish localization improvements;
- Minor improvements.

Fixed Bugs

- The switch fuse cannot be unlocked from the mask;
 - Changing layout issues;
 - Modifications in I²k of MV power supply are not persistent;
 - Custom values for discrimination level issues;
 - Improved the devices signing algorithm when duplicated;
 - Shaped bars appear only on System Pro *E*Power IP65;
 - Fixed minor bugs.
-

Release 3.0.0.0018

What's New

- Added Mistral consumer units series in the enclosure configuration tool;
- Completed System Pro *E* power Form 1 product codes subset;
- Added Insert logo functionality;
- Minor improvements.

Release 3.0.0.0016

What's New

- Ekip Connect module integration;
- Minor improvements.

Fixed Bugs

- Can't open the backup project file;
 - Plant configurations mask doesn't show the product description;
 - Error when clicking on device manager if custom "Desktop Display Scaling" is set;
 - Error during the import phase of a generator from xls file;
 - The copy switchboard function fails the page numbering;
 - Double click on device mounted in a switchboard: Device Manager mask opens but the right device is not selected;
 - "Other Devices" section is missing;
 - Over temperature calculation module doesn't report Switchboard name in the printouts;
 - Error when Modify Configuration is invoked from Device manager;
 - Error when sometime Device manager is called in Windows 8.1;
-