2019 Series Update 1

This package includes all updates for Electro Graphics 2019 Series products.

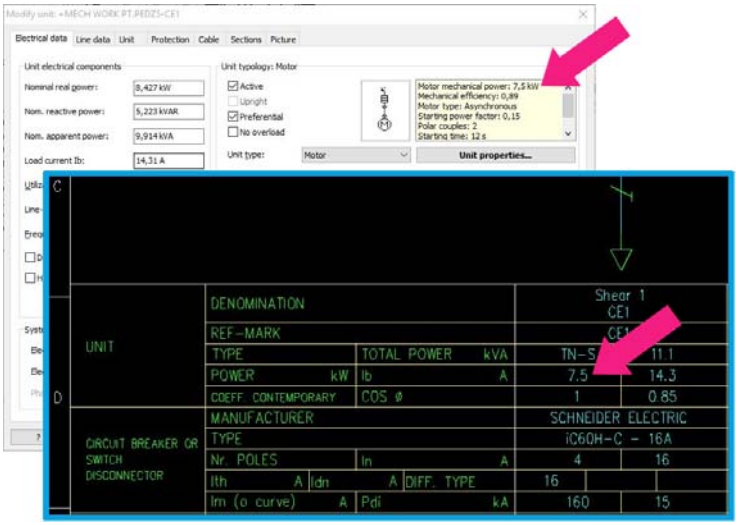
Following a description of the new features and corrections.

CADelet, iDEA, Eplus

Single-line diagram

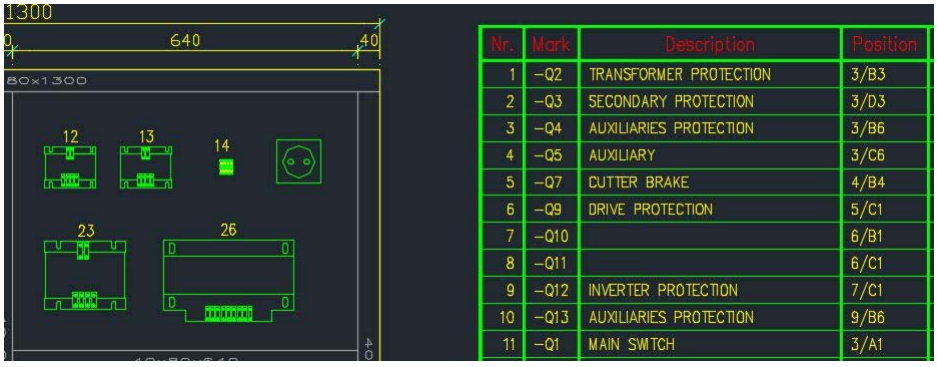
• Fixed a issue on terminal boards drawing (DIMO11 command) in a single line diagram realized in Ampère: in some cases the name of units downstream of the connected terminals were not reported.

• For *Motor* type units, the *Power* value shown in the units diagram table is now the *Mechanical power* of the motor instead of the *Nominal* Real Power.



Panel layout – Panel summary table

Fixed the report of protection devices on the panel summary table. In the case of coupled elements (ex. MT+D) all the accessories of the composition were not reported.



Nr.	Mark	Description	Position
1	-Q2	TRANSFORMER PROTECTION	3/B3
2	-Q3	SECONDARY PROTECTION	3/D3
3	-Q4	AUXILIARIES PROTECTION	3/B6
4	-Q5	AUXILIARY	3/C6
5	-Q7	CUTTER BRAKE	4/B4
6	-Q9	DRIVE PROTECTION	5/C1
7	-Q10		6/B1
8	-Q11		6/C1
9	-Q12	INVERTER PROTECTION	7/C1
10	-Q13	AUXILIARIES PROTECTION	9/B6
11	-Q1	MAIN SWITCH	3/A1

Terminals

Fixed failure on compiling terminals in *Cablo* after the analysis of the wiring diagram. The case could occurred if the option *Terminal pin = wire number* was active and it forced to execute the analysis again.

Connectors: profile and table

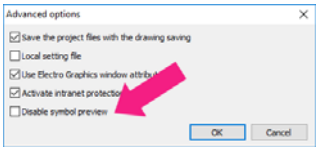
Fixed a issue on connector profile drawing and on connector table drawing. In the case of identification of components by *Mark+Location+Function*, the wire number was not reported.

Symbols library

Fixed the lack of display in the map of the symbols library of some libraries such as *P&ID Library - ISA Standard*, *NEMA standard Library.*

Preview of dwg blocks

Some cases of errors have emerged in the automatic preview of dwg blocks associated to profiles and symbols in the materials database; typically on Windows 7 systems with particular configurations.
Given their randomness, to disable automatic preview an option has been introduced in Preferences -> Graphical environment preferences -> General and click the Advanced button.



You can always preview the block from the editing window of the article of material.

Multi-way terminals

The limit of 8 connection pins in multi-way terminals has been removed: multi-way terminals can now be defined in the *Terminals and connectors* database without limits on the number of connections.

Insert Eplan macro

Fixed a issue in the execution of the *Insert Eplan macro* function when it is run on a drawing with no sheets.

Verify of minimum plant equipment

The *Check of the minimum plant equipment* function has been updated to CEI 64-8 part 3.

Two new types of rooms have been added:

• *Bedroom: requires a power socket and a lamp less than the Generic room type.*

• *Bathroom, washing machine not provide: requires a power socket less than the Bathroom type.*

For rooms *Corridor* and *Entrance* type the standard requires a different equipment when the length of the room is more than 5 meters; the function now also fulfills this regulatory request.

Online tools Properties (EgProp)

Fixed misalignment between selection and cursor position of the mouse, for the Disable attribute command, accessible from the contextual menu, in the case the symbol was previously selected.

Vario

Fixed a issue on reporting the sheet which a macro belongs to; this occurred if the identification of components was by *Mark+Location+Function*.

PLC management

Drawing Plc operands in distributed mode

The Plc operands drawing in distributed mode now compiles two additional data read from the Plc Units database.

• Description assigned to the single pin of the slot;

• Connector reference assigned to the single pin;

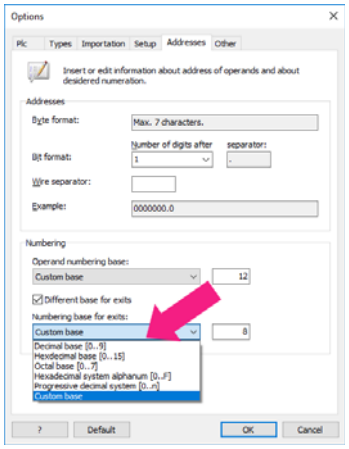
This data must be compiled in the database, in the Properties window of the Plc unit, in the *Pin Management* tab; for any other information see the Plc reference guide available in PDF in the Manuals folder inside the 2019 Series installation DVD, “Plc" chapter, "Plc Units Database" paragraph.

For the purpose of reporting the above information in drawings, the attributes with the label DES_Cn and RIF_Cn must be present in the block of the operand used for the drawing, where n is the progressive pin index (ex.: *DES_C1*, *RIF_C1*, *DES_C2*, *RIF_C2*, *DES_C3*, *RIF_C3*,...).

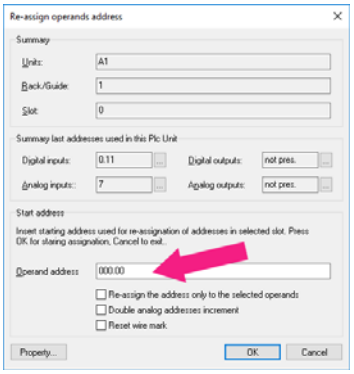
New Plc addresses management

In the PLC management, some improvements have been made in order to update the editor to new types of PLC that have a system of addresses that previously could not be assigned automatically; see for example some types of Plc card of the Omron manufacturer.

• The possibility of setting a different numbering operands base for inputs and outputs has been introduced; the settings are available in the Options window, which opens from the Tools menu, in the Addresses tab, the Numbering box.



• When executing the command *Reassign operands address*, the byte’s formatting of the address is adapted to what the user entered when filling in the address of the starting operand.



This allows to obtain sequences of addresses as in the following table.

INPUTS	OUTPUTS
000.00 ..... 000.11 001.00 ..... 001.05	100.00 ..... 100.07 101.00 ..... 101.07

• When inserting operands relating to a slot in the project, the sort index is already set as configured in the database.

Compile operand pins

Correction of the pin update of a Plc slot in the project, by executing the command *Compile operand pins*, executed after a modification to the pin configuration made in the Plc Unit database. Previously, Auxiliary operands could not be updated correctly.

Import from Excel sheet to materials database

When importing lists of items appropriately formatted on a spreadsheet to the materials database, the data relating to the path of the document associated with the item was corrected. This resolves cases in which the name of the attached document without the file path was imported.

Ampère line

Grid balancing

The Grid *balancing* function, in the case of grid with rings lines, now considers possible balancing nodes in the rings if they are electrically opened; so the balancing conditions are now extended; nodes belonging to rings were previously not considered as possible balancing points.

Electric system consistency check

• The *E01–Electric system consistency* check has been improved. Now the consistency check of a unit system is extended to the units connected in ring branches having a concordant power flow.

• Improved management of Consistency checks between electrical systems upstream and downstream of a unit, in order to avoid inconsistent reports.

Short-circuit relay check

The *E23-Short-circuit relay* check has been improved. Now the magnetic release check is excluded, when the critical fault current (Imagmax) is the Line-to-earth and a residual current releaser can intervene.

Optimizers

When importing projects for photovoltaic systems made in Solergo, also the power optimizers in the panels are now recognized.

The following information is now included in the electrical data of the photovoltaic panel type unit:
• Presence of a power optimizer;
• Maximum optimizer output current;
• Weighted efficiency;

In grid with optimizers, the working voltage at the output of the optimizer is a function of the power supplied by the photovoltaic modules connected to it, the weighted efficiency and the maximum output current; this value is variable within a range due to the variable production of the modules.

Ampère considers the most onerous conditions for the calculation of the cable section and calculates the value of the optimizers' output voltage considering the Maximum optimizer output current.

American Standards NFPA 70: NEC

Now it is possible to use separate PE for multi-core cables also on American Standards NFPA 70: NEC networks.

Power supply data

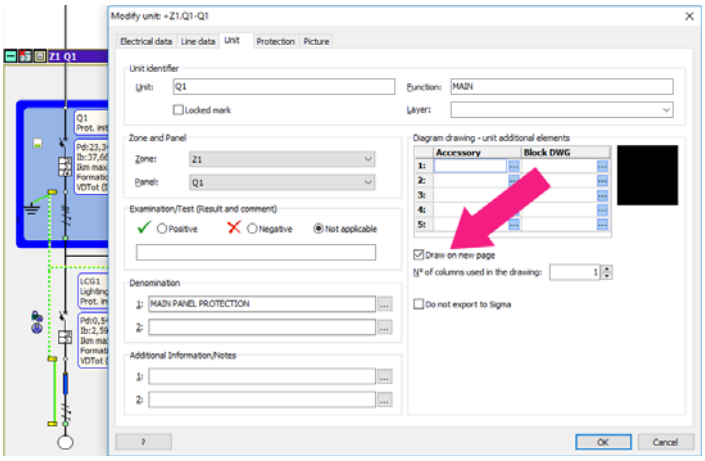
Fixed reading of the Homopolar reactance values present in the power supply data of medium voltage plants with neutral isolated when the project is opened.

Autotransformers

Correct inconsistency that could occur in the calculation of autotransformers reactance in the presence of high values of short circuit losses.

Multi-sheet single-wire diagram

In the drawing of the single-wire diagram of an electrical grid elaborated in Ampère it is possible to set that any units must be the first in a new sheet. Such units could be for example the general unit of a panel.
To this end, the option *Draw on new page* has been added in the *Edit data* window, *Unit* page.



For *Motor* type units, the *Power* value shown in the units diagram table is now the *Mechanical power* of the motor instead of the *Nominal Real Power.*

Panel layout drawing

The following corrections and improvements have been made in the panel layout drawing editor.

• Fixed the movement of the coupled devices in guide; in particular, such devices, if placed near the end of the guide so as to exceed their maximum length, that is, if the length of the free guide is sufficient only for the first block, both blocks are not positioned to avoid separating them. Previously, in these conditions, the positioning of the first block could take place.

• The panel summary table now includes the paired devices also.

• The location filled in the sheet title block data is now preceded by the prefix '+' (character identifying the locations) in accordance with what happens in the drawing of the single-wire diagrams.

• Fixed the scale of the attributes on blocks inserted from the Profiles database.

Calculation model for UPS with isolation transformers

Fixed special case of calculation of the homopolar current, with correct “separation” of the upstream-downstream network on UPS units with isolation transformer and downstream IT system.

Earth fault calculation with LV/MV or UPS transformer

Fixed special case of earth fault calculation, in the presence of LV/MV or UPS transformers, with inverse power flows.

VD calculation respect to In current

Fixed the calculation of the voltage drop respect to In current, considering the internal impedance of the protection devices, (active option "Consider internal protection impedances from Devices" in "Calculation setup").

Cables report

Fixed printout of the cable K^2S^2 value; if the exponential value was greater than 9 the value was not complete.

Protections settings report

Fixed cases of failure on displaying the Protections settings report.

Trip settings

Fixed case of error opening the Trip settings window.

PDF Calculation report

Fixed an error message occured during the execution on the *Create PDF* command of the calculation report.

Database Update from previous versions

Implemented recovery of unit models (Ampère line) defined in previous versions.

EGlink

Assign circuit type

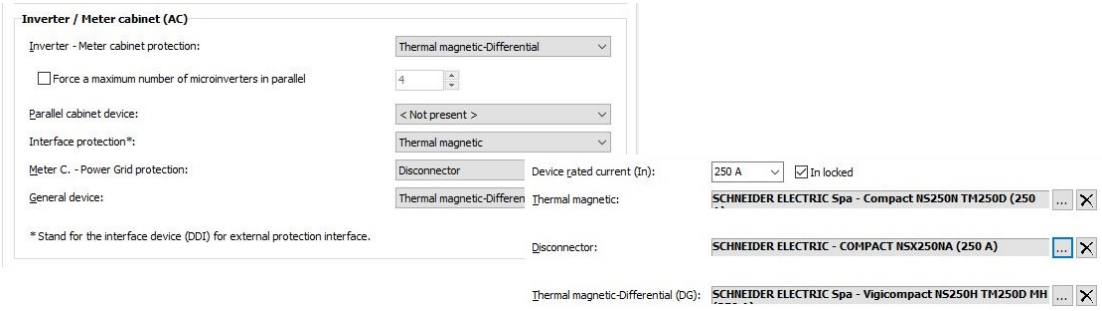
The Assign circuit type function has been added to the Revit units tree context menu. It allows to assign to all the terminal circuits downstream of the assigned distribution unit one of the 3 types of circuit available (Circuit with concentrated load, Circuit with barycentric load or Circuit with distributed load).

Note. The command is available only if a distribution unit (panel) is selected and if a .upe file related to the Revit project has not yet been created. After creating the .upe file, the command is only available for new Revit units still without a related Ampère unit.

Solergo

Item code assignment for the Meter C. – Power Grid protection device

Implementation of the article code assignment for the protection device defined in the cables section on the Meter C. – Power grid tab, with data on the electrical diagram.



Determination of the maximum number of optimizers that can be associated with an inverter

Improved function that determines the choice of the maximum number of optimizers that can be associated with an inverter, with a consequent increase in the possible compatible solutions. Now, in order to respect the maximum power input limit to the inverter, the maximum input voltage is considered instead of the rated one.