

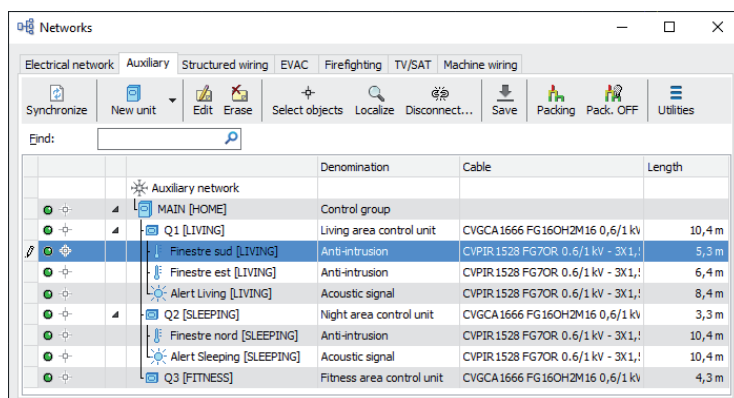
## Software for electrical and photovoltaic engineering

### CADelet, iDEA, Eplus - Electrical CAD

- Eplus and iDEA are based on the new AutoCAD OEM 2021 engine.
- CADelet supports AutoCAD 2022.
- Improved quality of PDF files with size optimization.
- New user interface in the job order and project configuration manager.
- New dictionary management, language extension and unlimited number of dictionaries.
- Management of non-western languages even in customizable documents.
- Bilingual symbols legend and sheets list.
- Simplification of the management of wire returns.
- New properties in the customization of wire numbering.
- Increased the attributes that can be defined by the operator and management in all the diagram documents.
- New terminal management functions in the various phases of insertion on the diagram.
- New PLC user interface with ribbon bar.
- Parameter profiling in exporting PLC data to a spreadsheet.
- New settings for concentrated drawing of PLC cards.
- Location and function on boards and racks.
- Operand-actuator connection tables.
- Assignment of Area and Plant information to the elements of the topographic diagram.
- Definition of the elevation levels of the work planes.
- New references for the drawing of the cable conduits.
- Graphic representation linked to the type of cable

conduits with summary legend.

- Network management: design of generic auxiliary networks, TV / SAT and machine cabling.
- Data network: setting of patch panels and ports for distributors and data network sockets.
- Use of the new Ampère project file format, optimized for all system engineering functions.
- Customization of the summary tables (list of symbols, cable holders, cables) on the active elements of the current AutoCAD layout window.
- Visibility of summary tables linked to the status of the current AutoCAD layout.



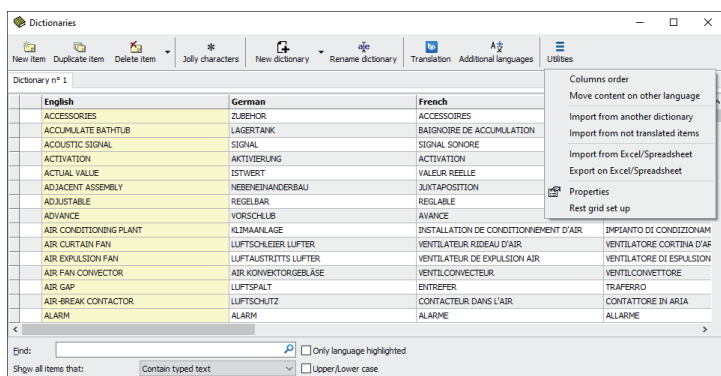
Find:	Denomination	Cable	Length
<b>Auxiliary network</b>			
MAIN [HOME]	Control group		
Q1 [LIVING]	Living area control unit	CVGCA 1666 FG16OH2M16 0,6/1 kv	10,4 m
Finestre sud [LIVING]	Anti-intrusion	CVPIR 1528 FG70R 0,6/1 kv - 3X1,1	5,2 m
Finestre est [LIVING]	Anti-intrusion	CVPIR 1528 FG70R 0,6/1 kv - 3X1,1	6,4 m
Alert Living [LIVING]	Acoustic signal	CVPIR 1528 FG70R 0,6/1 kv - 3X1,1	8,4 m
Q2 [SLEEPING]	Night area control unit	CVGCA 1666 FG16OH2M16 0,6/1 kv	3,3 m
Finestre nord [SLEEPING]	Anti-intrusion	CVPIR 1528 FG70R 0,6/1 kv - 3X1,1	10,4 m
Alert Sleeping [SLEEPING]	Acoustic signal	CVPIR 1528 FG70R 0,6/1 kv - 3X1,1	10,4 m
Q3 [FITNESS]	Fitness area control unit	CVGCA 1666 FG16OH2M16 0,6/1 kv	4,3 m

### Cablo - Wiring harness

- Interfacing with Autodesk Inventor for exporting the list of electrical wiring.
- Translation of all documents on the basis of an unlimited number of dictionaries.
- Auto-complete function of the terminal block on which a cable is connected.
- Further possibilities for editing and connecting cables on terminal board and diagram.
- Extension and updating of terminals, cables and accessories archives.

### Tabula - Bill of materials

- New user interface with ribbon bar.
- Translation of all documents on the basis of an unlimited number of dictionaries.



English	German	French
ACCESSORIES	ZUBEHÖR	ACCESSOIRES
ACCUMULATE BATHTUB	LAGERTANK	BAISNOIRE DE ACCUMULATION
ACOUSTIC SIGNAL	SIGNAL	SIGNAL SONORE
ACTIVATION	Aktivierung	ACTIVATION
ACTUAL VALUE	ISTWERT	VALEUR REELLE
ADJACENT ASSEMBLY	NEBENANLAGE	JOINTAPOSITION
ADJUSTABLE	REGELBAR	REGLE
ADVANCE	VORSCHUB	AVANCE
AIR CONDITIONING PLANT	KLIMANLAGE	INSTALLATION DE CONDITIONNEMENT D'AIR
AIR CURTAIN FAN	LUFTSCHLEIER LÜFTER	VENTILATEUR RIDEAU D'AIR
AIR EXHAUSTION FAN	LUFTAUSTRITTS LÜFTER	VENTILATEUR DE EXHAUSTION AIR
AIR FAN CONNECTOR	AIR KÖNNKONTAKTOR	VENTILKONNECTEUR
AIR GAP	LUFTSPALT	TRAFERBO
AIR-BREAK CONTACTOR	LUFTSCHUTZ	CONTACTEUR DANS L'AIR
ALARM	ALARME	ALARME

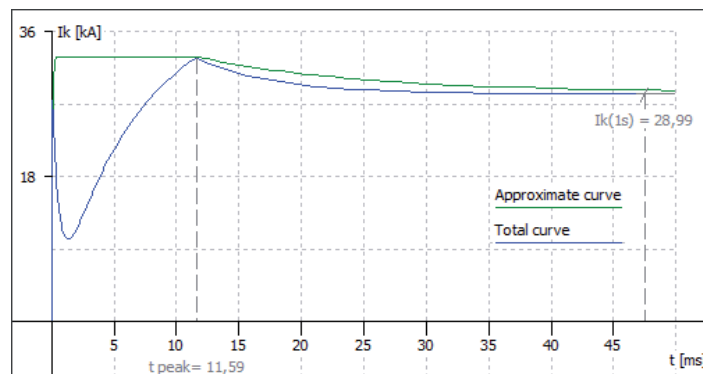
- Multiple shapes for elements distributed on the switchboard.
- Design and export of material tables with bilingual descriptions.
- Grouping and printing of documents by function.
- Update of archives and MeTel manufacturer files.

## Ampère line - Electrical grid calculation

- New project file format to optimize and simplify data sharing.
- Management of the regulation steps on the currents and times of the protections, with indication of the regulation tolerances.
- Definition of the making capacity of protections.
- Further possibilities for managing secondary laying of units.
- Extension of the auxiliary circuits definable in the units.
- Possibility of using ground cables in parallel.
- Analysis during the transient of the short circuit currents in AC, according to IEC 60909.
- Calculation of DC short-circuit currents according to IEC 61660-1 steady state and transient.
- Determination of the approximate fault current curve according to the IEC 61660-1 standard.

Protection	I>	I>> I>>>	Neutro	Io>	Io>>	Regulations	I²t	Limitation	Coefficients	Material
Function	Type	Tol. [%]	Value	Minimum	Max	Adjustment	Step	Steps		
Threshold I	LR	0	Parameter	0.4	1	Steps		0.4 0.5 0.6 0.7 0.8 0		
Time LR	LR	0		0.5	24	Steps		0.5 1 2 4 8 12 16 20		
Threshold C		± 10	Parameter	1.5	10	Steps		1.5 2 2.5 3 4 5 6 8 1		
Time CR		± 0		0.05	0.4	Steps		0.05 0.1 0.2 0.3 0.4		
Threshold I		± 10	Parameter	2	15	Steps		2 3 4 6 8 10 12 15		
Threshold	In<400	± 10	Parameter	0.3	1	Steps		0.3 0.4 0.5 0.6 0.7 0		
	400<In<12	± 10	Parameter	0.2	1	Steps		0.2 0.3 0.4 0.5 0.6 0		
	In>1250	± 10	Absolute	500	1200	Steps		500 640 720 800 880		
Time T2		± 0		0.02	0.4	Free Discrete Steps		0.02 0.1 0.2 0.3 0.4		

- Verification of the making capacity of both AC and DC protections according to IEC 60947-2.
- Management and verification of the long-delay trip curve of homopolar protections.
- Selectivity: representation of the release tolerance band in electronic protections.
- Selectivity: management of the adjustment steps in the setting of the protections releases.
- Protection calibration document with reporting of the adjustment parameters.
- Pre-analysis and selection of protections with possible backup filiation.



- Multiple assignment of protections with backup filiation.
- ELink - additional connection parameters with Ampère units data.
- ELink - interface revision with ribbon bar and improvement of processing speed.
- ELink - integration with BIM 360 and workset.

## Solergo - Photovoltaic engineering

- Energy communities and collective self-consumption.
- Comparison of the economic return of several projects or plants on a spreadsheet.
- General improvement of the produced documentation and management of watermarks.
- Generation of the 3D model of the installation site from Google satellite images with extrusion and solid modeling functions.
- Definition of laying areas and obstacles on the 3D model.
- Preview on the 3D model of the energy performance on the various laying areas.
- Analysis of losses due to shading deduced from a 3D model.
- Rendering of the photovoltaic system with report in relation to the generated images.
- Extension and updating of the modules and inverters databases.

