

2016

EPLAN Electric P8

KHỞI ĐỘNG CÙNG EPLAN

Hướng dẫn chi tiết thiết kế điện sử dụng phần mềm EPLAN Electric P8 từ cơ bản đến nâng cao.

M.T.T.LONG
0988244014
25-May-16



MỤC LỤC

I.	KHỞI ĐỘNG EPLAN:	11
1.	Tạo 1 dự án mới:	12
2.	Mở 1 dự án đã có sẵn:	21
II.	MENU BAR:	23
1.	Project:	23
1.1.	Management...:	24
1.2.	Multi-user monitor:	24
1.3.	New:	24
1.4.	New (Wizard):	24
1.5.	Open:	24
1.6.	Close:	24
1.7.	Copy:	24
1.8.	Delete:	24
1.9.	Rename:	24
1.10.	Send by e-mail:	24
1.11.	PPE:	24
1.12.	Zip:	24
1.13.	Unzip:	24
1.14.	Back up:	24
1.15.	Restore:	26
1.16.	Organize:	27
1.17.	Properties:	28
1.18.	Print.. (Ctrl+P):	28
1.19.	Print attached documents..:	29
1.20.	Exit (Ctrl+F4):	29
2.	Page:	29
2.1.	Navigator (F12): Ân hiện cửa sổ page:	30
2.2.	New... (Ctrl+N):	31
2.3.	Open:	31
2.4.	Close:	31
2.5.	Previous page (Page Up):	31
2.6.	Next page (Page Down):	31
2.7.	Copy from/to...	31

2.8.	Rename:	31
2.9.	Comments navigator:	31
2.10.	Page macro: Tạo/ Chèn trang vẽ mẫu.....	31
2.11.	Import:	32
2.12.	Export:	33
2.13.	Number:.....	33
2.14.	Number supplementary fields....:	33
2.15.	Number of pages/Page name per property:	33
3.	Layout space:.....	33
3.1.	Navigator:.....	34
3.2.	New ...:	34
3.3.	Open:	34
3.4.	Close:.....	34
3.5.	Export:	34
4.	Edit:	34
4.1.	Cancel action (ESC):	34
4.2.	Undo list:	34
4.3.	Undo (Ctrl + Z):	34
4.4.	Redo (Ctrl+Y):	34
4.5.	Redo list:.....	34
4.6.	Cut (Ctrl+X):.....	35
4.7.	Paste (Ctrl+V):	35
4.8.	Duplicate (D):.....	35
4.9.	Move (V):.....	35
4.10.	Rotate (Ctrl+R):.....	35
4.11.	Mirror:	35
4.12.	Delete (Delete):	35
4.13.	Delete placement (Alt+Delete):.....	35
4.14.	Select:	35
4.15.	Graphic:	35
4.16.	Copy format:.....	35
4.17.	Assign format:	35
4.18.	Create window macro (Ctrl+F5): Tạo mẫu thiết kế	35
4.19.	Create symbol macro (B): Tạo mẫu thiết bị	36
4.20.	Other:.....	37

4.21.	Text:.....	38
4.22.	In table (Ctrl+Q): Mở khung thông tin cho các đối tượng được quét.	38
4.23.	Non-function –specific properties...:.....	38
4.24.	Properties (Ctrl+D):.....	38
5.	View:	44
5.1.	Redraw (F5):.....	45
5.2.	Zoom:	45
5.3.	Back:.....	45
5.4.	Forward:	45
5.5.	Invisible elements (U):.....	45
5.6.	Insertion points (I):.....	45
5.7.	Revision markers:.....	46
5.8.	Paths:	46
5.9.	Empty text boxes:.....	46
5.10.	Property names:.....	47
5.11.	Minimum font size:	47
5.12.	Connection point direction:	47
5.13.	Cable conductor:.....	47
5.14.	External targets:.....	47
5.15.	Potential tracking:.....	47
5.16.	Net tracking:	47
5.17.	Move contents (model view):.....	47
5.18.	Grid (Ctrl+Shift+F6):	47
5.19.	Cross-cursor for element selection:.....	47
5.20.	Scroll bar:	47
5.21.	Workbook:.....	47
5.22.	Graphical preview:	47
5.23.	Workspace...:.....	47
5.24.	Graphical format:	47
5.25.	Text format:	47
6.	Insert:.....	47
6.1.	Symbol... (Insert):.....	48
6.2.	Window macro (M): Mở mẫu thiết kế.....	48
6.3.	Symbol macro (Ctrl+Insert): Mở mẫu thiết bị.....	48
6.4.	Device... (Alt+Insert):	48

6.5.	Connected functions:	48
6.6.	Graphic:	48
6.7.	Dimensioning:	50
6.8.	Special text:	50
6.9.	Operational sequence sheet:	50
6.10.	Bundle connection point:.....	50
6.11.	Connection symbol:.....	50
6.12.	Connection / Distributors:	50
6.13.	Cable definition (Shift+F5):	50
6.14.	Shield (Shift+F6):.....	50
6.15.	Connection definition point (Shift+F7):.....	50
6.16.	Potential connection point:	50
6.17.	Net definition point:	50
6.18.	Terminal strip definition:.....	50
6.19.	Distributed terminal:.....	50
6.20.	Plug definition:.....	50
6.21.	Part definition point:.....	50
6.22.	Path function text... (Ctrl+T): \emptyset	50
6.23.	Box / Connection point / mounting panel:	50
6.24.	Placeholder object:	51
7.	Project data:	52
7.1.	Structure identifier management...: Quản lý cấu trúc của bản vẽ (chương/ mục)	53
7.2.	Devices:.....	53
7.3.	Terminal strips:.....	56
7.4.	Plugs:	57
7.5.	PLC:	57
7.6.	Cables:	59
7.7.	Connections:.....	59
7.8.	Parts/Devices:	59
7.9.	Project options:	59
7.10.	Placeholder objects:.....	59
7.11.	Messages:	60
7.12.	Symbols:	60
7.13.	PPE list processing...:	60
8.	Find:	60

8.1.	Find... (Ctrl+F):	60
8.2.	Show results:	60
8.3.	Use list of results 2	60
8.4.	Insert into list of results (Ctrl+I):.....	60
8.5.	Previous entry (Ctrl+Shift+V):.....	60
8.6.	Next entry (Ctrl+Shift+F):.....	60
8.7.	Go to:.....	60
8.8.	Synchronize selection:.....	60
9.	Options:.....	60
9.1.	Properties (global):	60
9.2.	Increment... (S):.....	60
9.3.	Coordinate input... (P):.....	61
9.4.	Relative coordinate input... (Shift+R):.....	61
9.5.	Move base point (O):.....	61
9.6.	Snap to grid:	61
9.7.	Object snap:.....	61
9.8.	Quick snap (Q):	61
9.9.	Design mode:.....	61
9.10.	Consider groupings:	61
9.11.	Smart connect:	61
9.12.	Direct editing:.....	61
9.13.	Mini toolbars:	61
9.14.	Input box:	61
9.15.	Toolbars:.....	61
9.16.	Shortcut keys...	61
9.17.	External programs...:	66
9.18.	Layer management...:	66
9.19.	Settings...:	66
10.	Utilities:	66
10.1.	Reports: Xuất file báo cáo	67
10.2.	Edit properties externally:	70
10.3.	Automated processing:	70
10.4.	Update path designations:.....	70
10.5.	Synchronize:	70
10.6.	Exchange symbols single line < -- > multi line:.....	70

10.7.	Change of standard.....	70
10.8.	Revision control:	70
10.9.	Parts:.....	72
10.10.	Master data:	73
10.11.	EPLAN PPE master data:	82
10.12.	Generate macros: Tạo mẫu từ bản vẽ cad.....	82
10.13.	Translator :	82
10.14.	Defined working sections:.....	82
10.15.	Rights managements:	82
10.16.	Data transfer:	82
10.17.	Add-ons:	82
10.18.	API add-ins ..:	82
10.19.	Scripts:.....	82
10.20.	System messages:	82
11.	Window:	82
11.1.	Cascade:.....	82
11.2.	Tile horizontally:	82
11.3.	Tile vertically:	82
12.	Help:	82
12.1.	Contents...:.....	82
12.2.	Index...:.....	82
12.3.	Find...:.....	82
12.4.	Tip of the day:	82
12.5.	EPLAN on the web:	82
12.6.	EPLAN support on the Web:.....	82
12.7.	News about EPLAN on the web:.....	82
12.8.	About...:.....	82
III.	STANDARD TOOLBAR:	82
	 : New project, Open project, Close project	83
	 Print (Ctrl+P)	83
	 Settings:	83
	Setting>User>Management>Directories: Thay đổi đường dẫn mặc định.....	98
		101

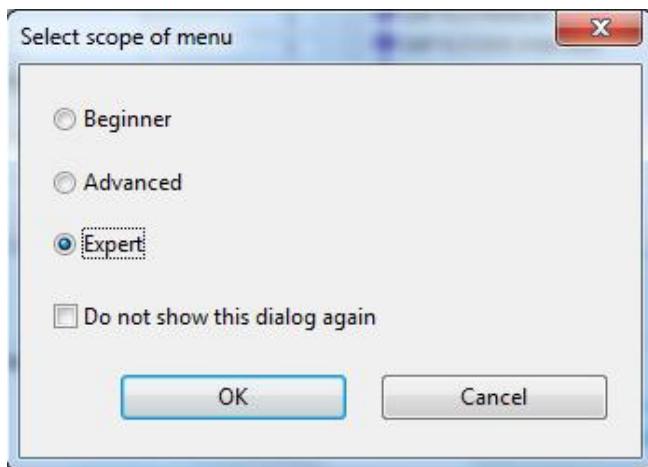
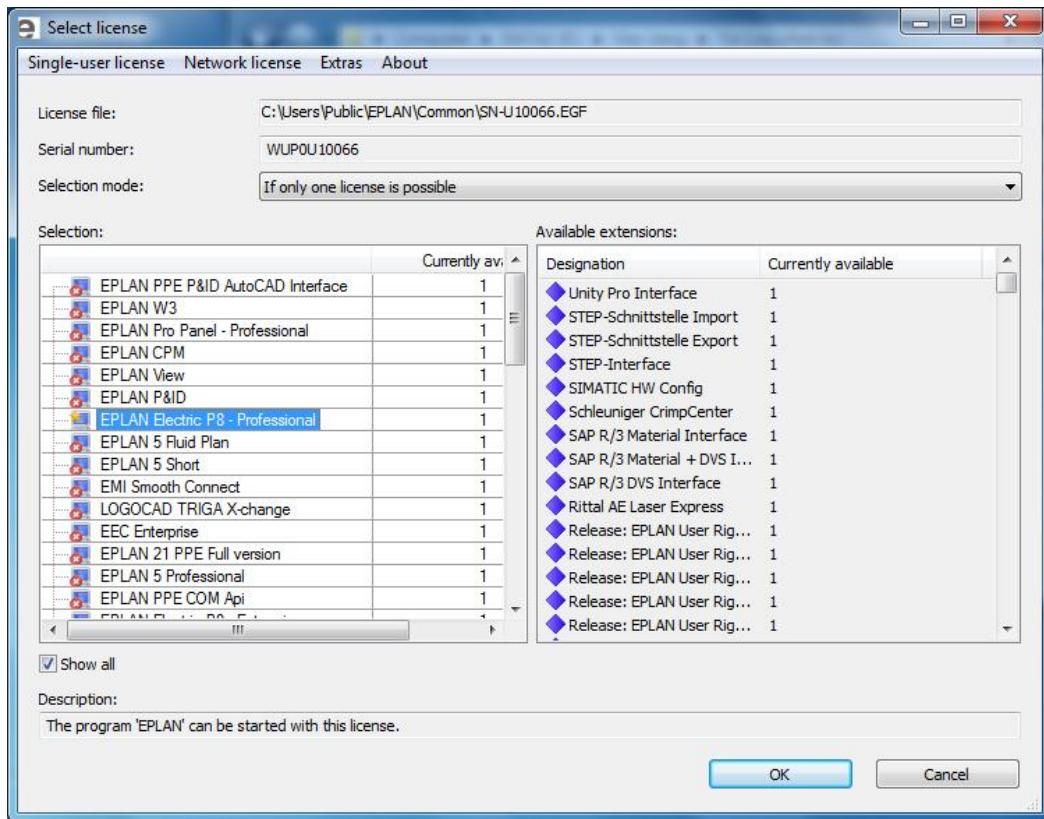
	Workbook on/off : Tắt mở thanh bar của bản vẽ.....	101
	Grid (Ctrl+Shift+F6):Mở chế độ măc lưới	102
	Snap to grid on/off:Bắt điểm lưới.....	102
	Align on grid:Di chuyển đối tượng (được bôi đen) về điểm lưới gần nhất.....	102
	Object Snap on/off:Bắt điểm (Khi dùng các lệnh vẽ đường thẳng, di chuyển, lệnh nhân bản...).....	102
	Design mode on/off:Bắt điểm gốc của đối tượng	102
	Smart connect : Kết nối thông minh, khi di chuyển các kết nối vẫn được giữ theo.	102
	Direct Editing : Sửa đổi chữ tại chỗ.....	102
	Distributed terminal : Dùng vẽ các terminal nguồn phân phối.....	103
	Cable definition (Shift+F5): vẽ cáp nhiều lõi.....	103
	Shield (Shift+F6) : Vẽ dây Shield	103
	Connection definition point: đánh dấu dây	103
	Parts management; part master data; External programs: Bảng danh sách thiết bị	103

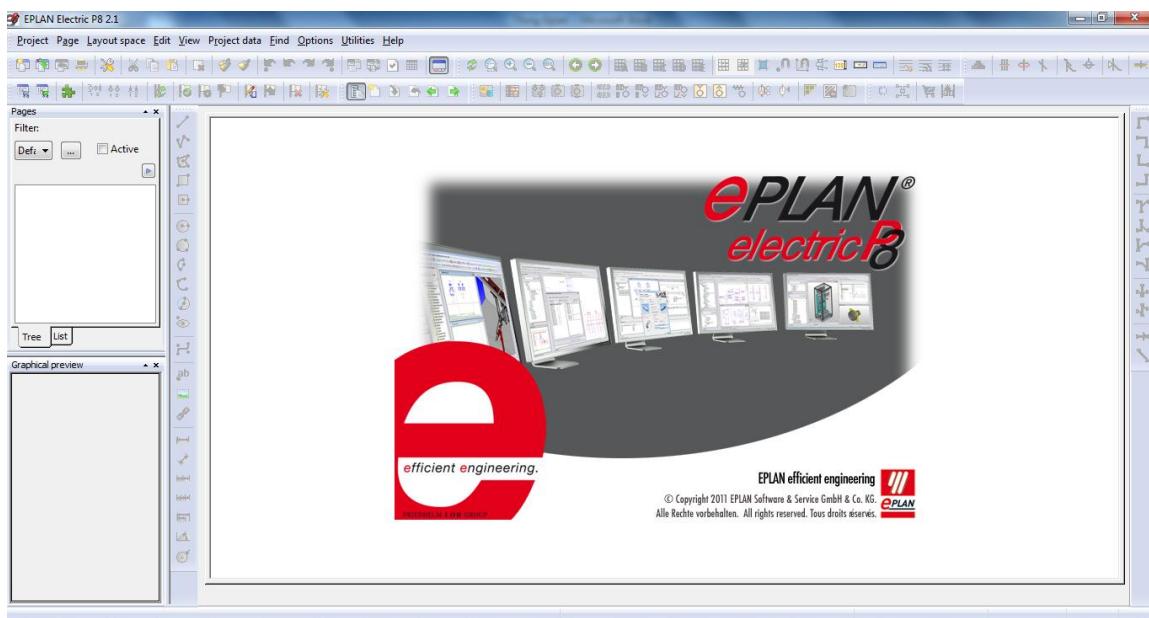
	Number devices; Number terminals; Number pins: Đánh số thiết bị, số terminal, số chân thiết bị	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	103
	107
IV. DRAW TOOLBAR:		103
	: Line (Ctrl+F2)	106
	: Polyline (L)	106
	: Polygon	106
	: Rectangle (R)	106
	: Rectangle through center	106
	: Circle (K)	106
	: Circle through 3 points	106
	: Arc through center (Ctrl+G)	106
	: Arc through 3 points	106
	: Sector	106
	: Ellipse (E)	106
	: Spline	106
	: Text (T)	106
	: Image file	107

	: Hyperlink	107
	: Linear dimension (Ctrl+Shift+A)	108
	: Aligned dimension	108
	: Continued dimension	108
	: Incremental dimension	108
	: Baseline dimension	108
	: Angular dimension	108
	: Radius dimension	108
	= Angle down, right (F3).....	109
	= Angle down, left (F4).....	109
	= Angle up, right	109
	= Angle up, left (F6)	109
	= T-node, down (F7)	109
	= T-node, up (F8)	109
	= T-node, right (F9)	109
	= T-node, up (F10)	109
	= Jumper (Shift+F8).....	109
	= Double junction	109
	= Interruption points (Shift+F4) : Nối dây;	109
	= Diagonal connection	109
V. KINH NGHIỆM:	109
1.	Copy 1 đối tượng từ trang này sang trang khác và vẫn giữ đúng vị trí tọa độ so với trang đó:	109
2.	Copy nhanh:	110
3.	Để làm mờ chữ DRAP giữa bản vẽ:	110
4.	Khi mất file gốc của khung tên → không thể chỉnh sửa được khung.	110
5.	Ân báo trùng địa chỉ:	110

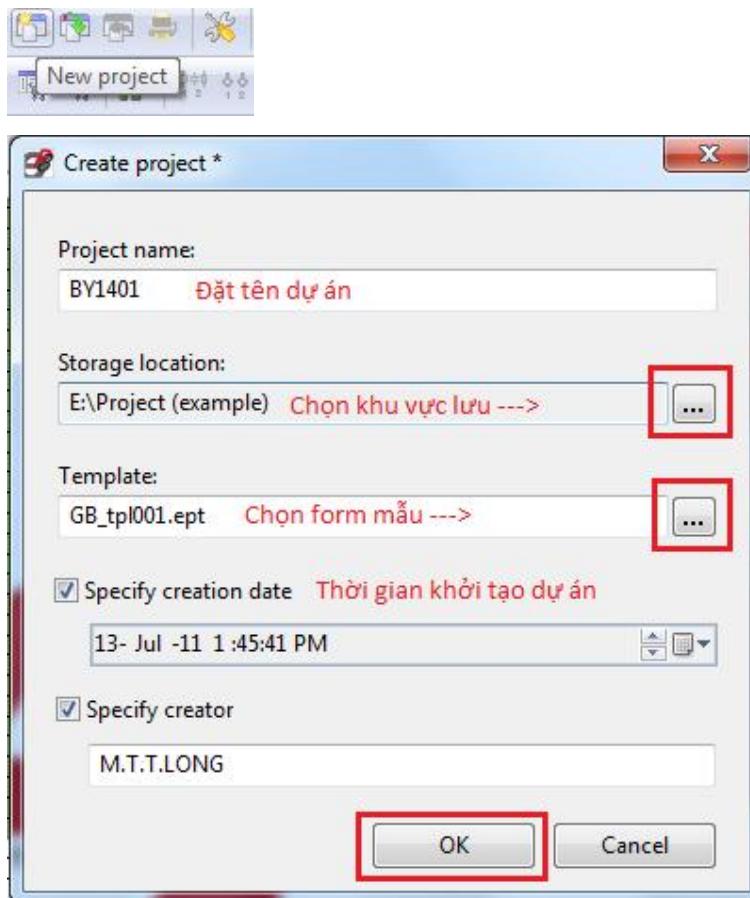
6.	Làm thay đổi màu nền:	110
7.	Tách các thành phần trong cùng 1 symbol:	110
8.	Chọn đối tượng:	110
9.	Copy nhiều trang, đồng thời muốn sửa só trang đồng loạt:	110
10.	Mở tới trang tiếp theo của tín hiệu:	111
11.	Thêm tiếp điểm phụ cho CB, MCB:	112
12.	Sử dụng tiếp điểm phụ cho CB, MCB:	113
13.	Quay chiều hướng đối tượng:	114
14.	Chọn đồng loạt các đối tượng giống nhau:	114
15.	Tạo trang vẽ Layout 2D:	115
VI.	Lỗi:	118
1.	S247130 : Lỗi thiếu file, hỏng file:	118
2.	Thư viện sau khi sửa bị lỗi, không thể update được:	119
3.	Chữ đúng kích thước mà to bất thường:	119

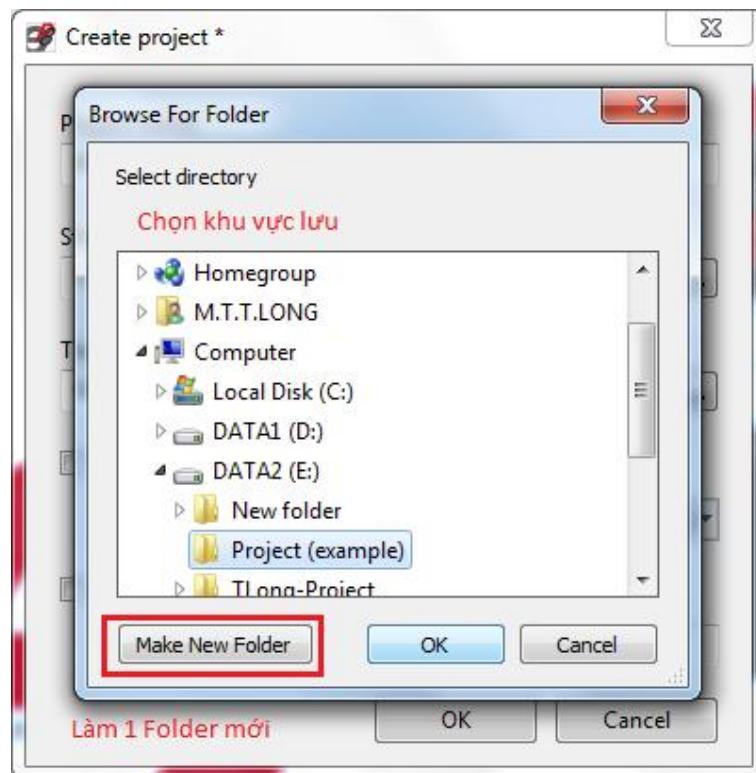
I. KHỞI ĐỘNG EPLAN:

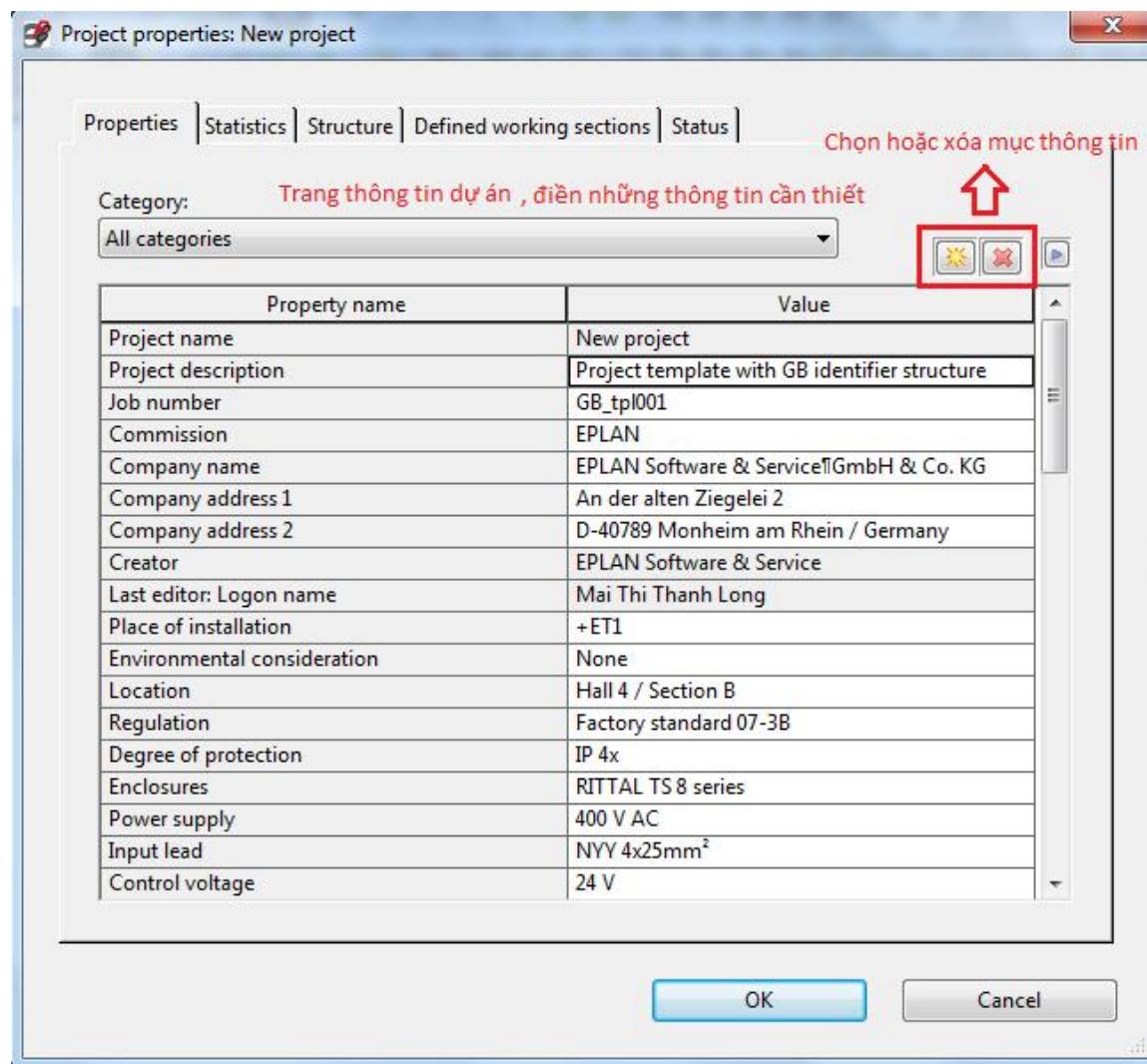


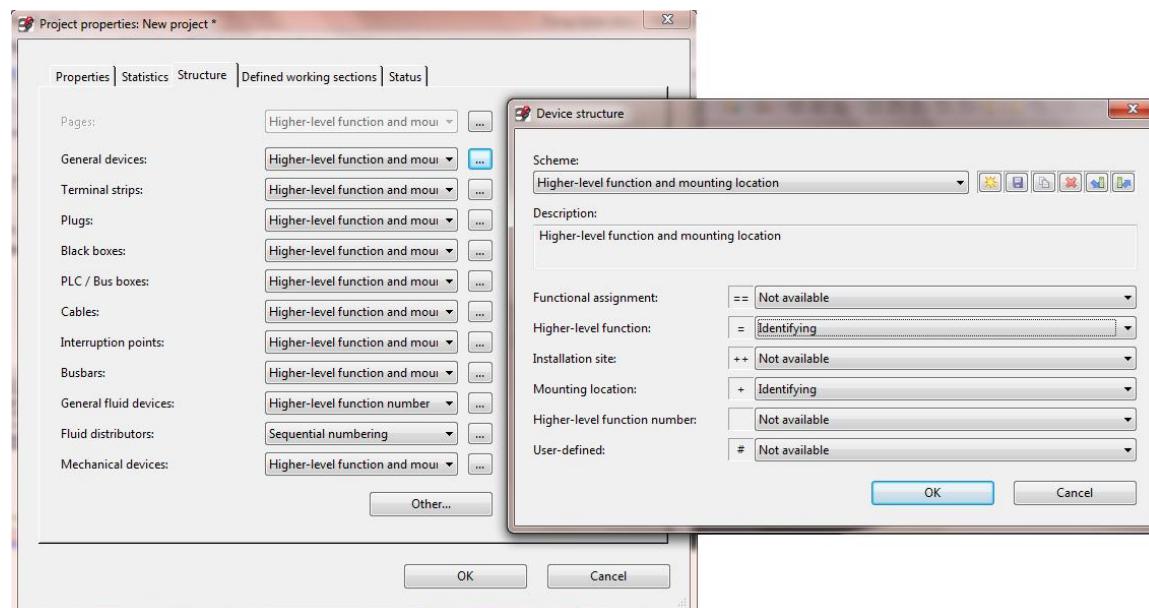
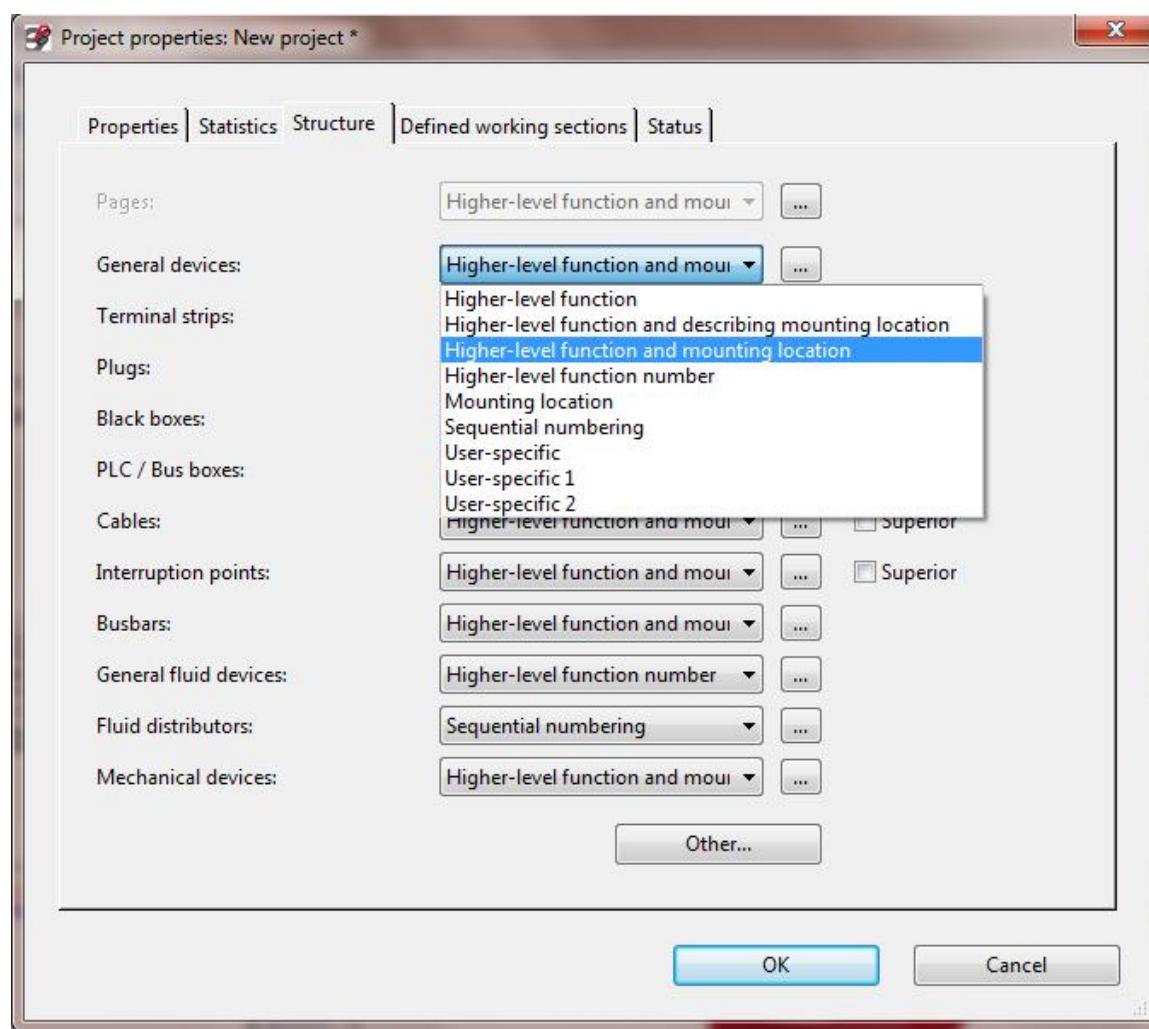


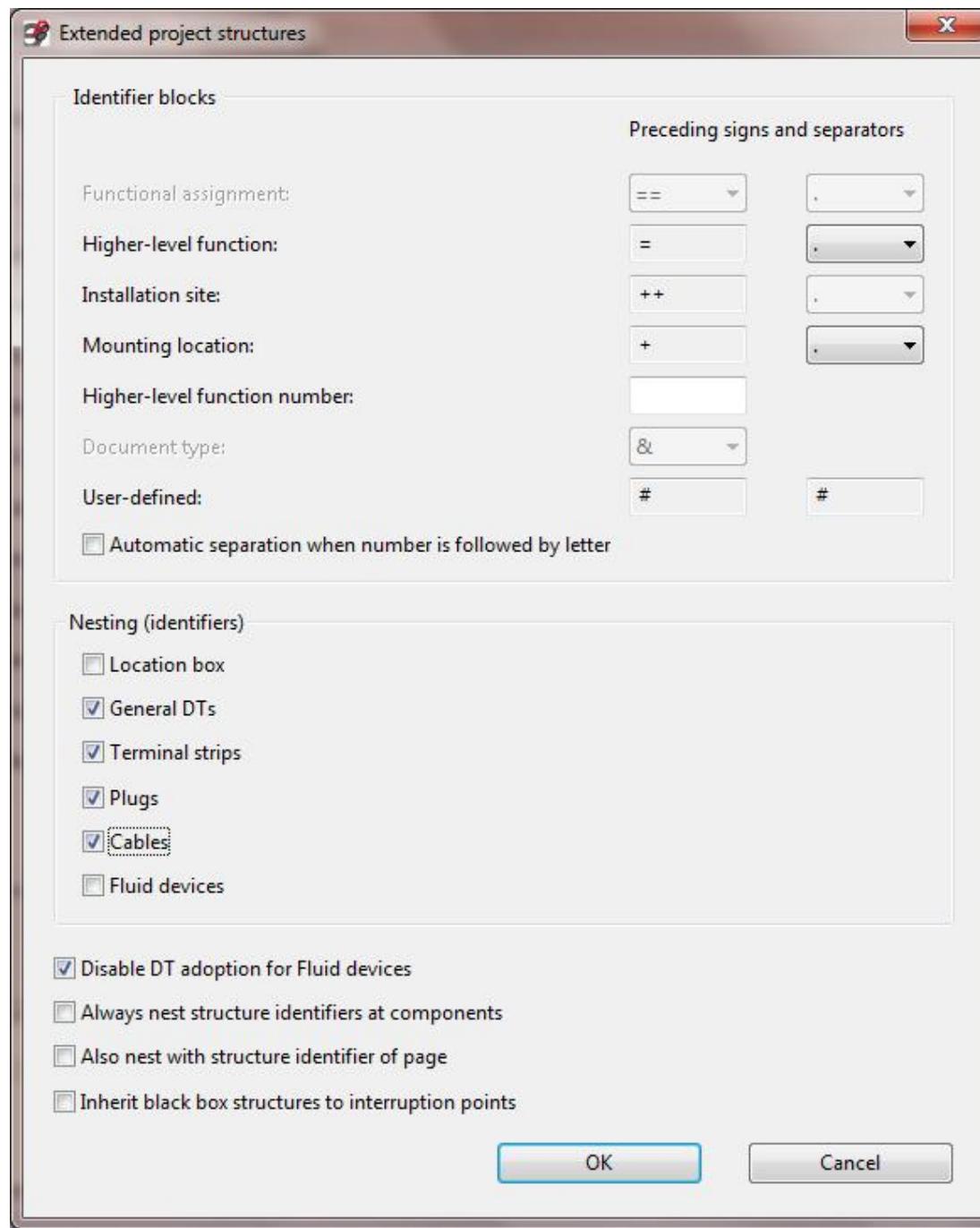
1. Tạo 1 dự án mới:



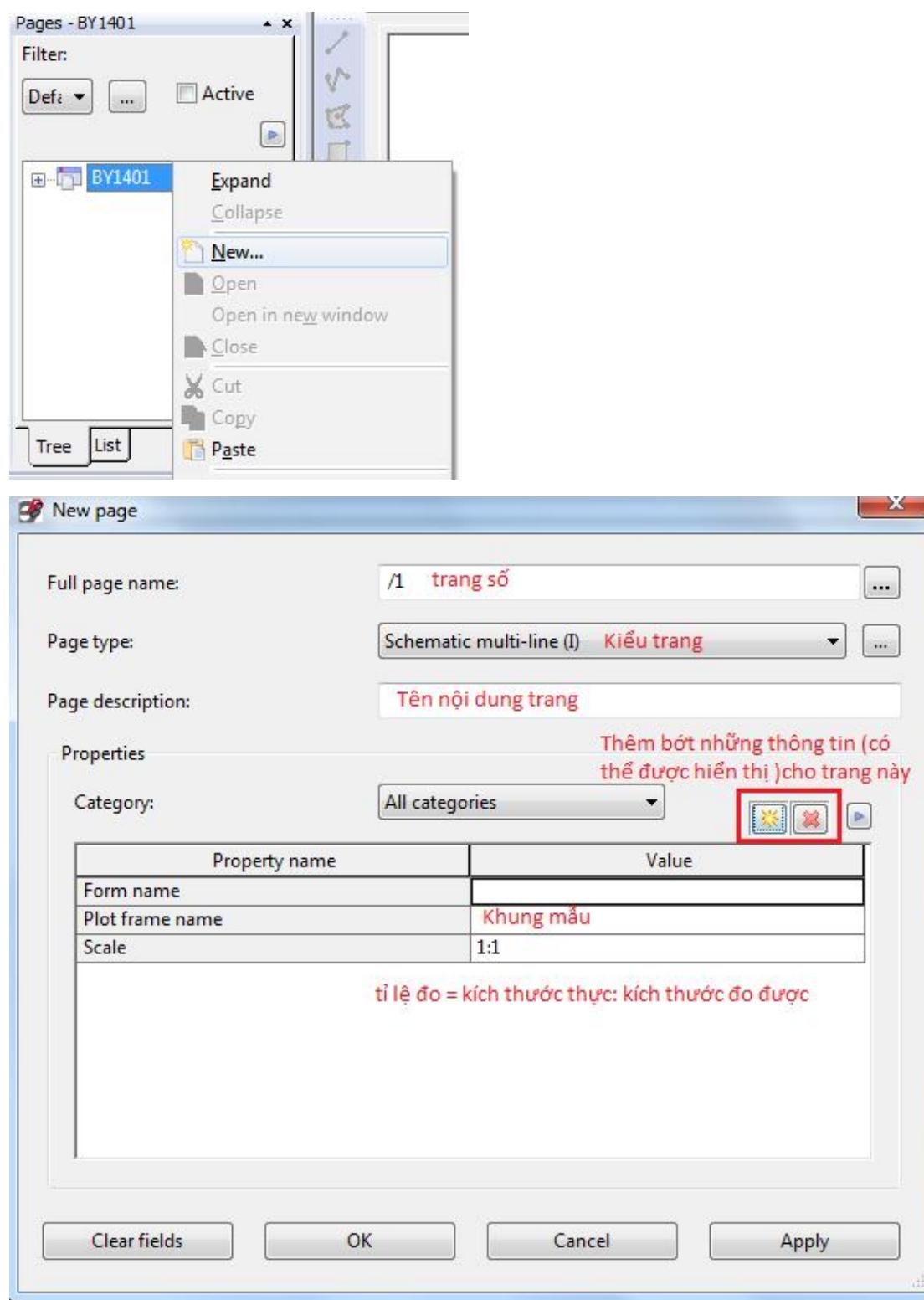


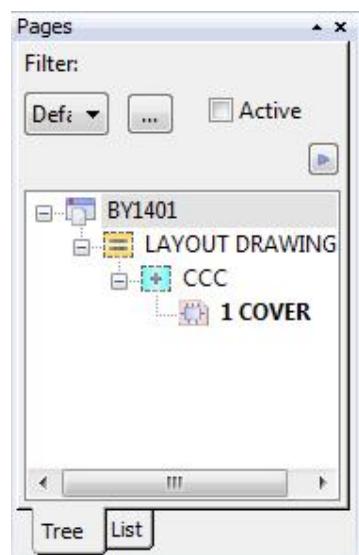
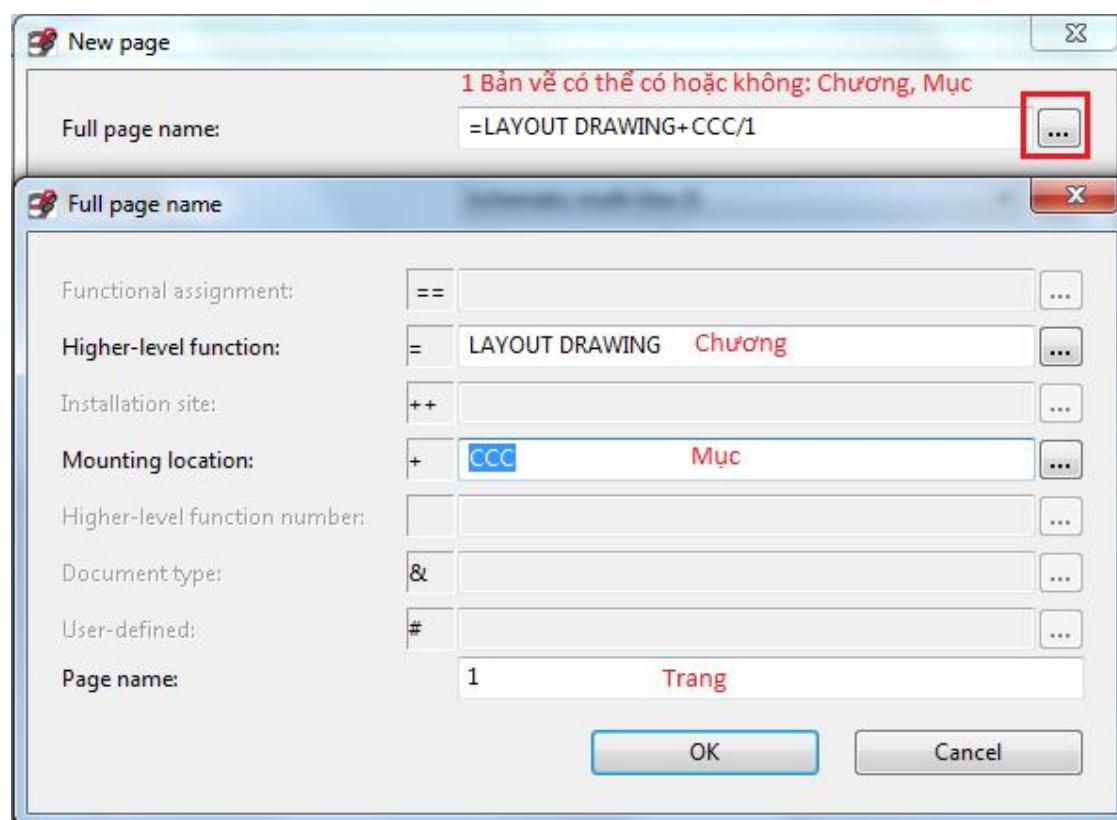




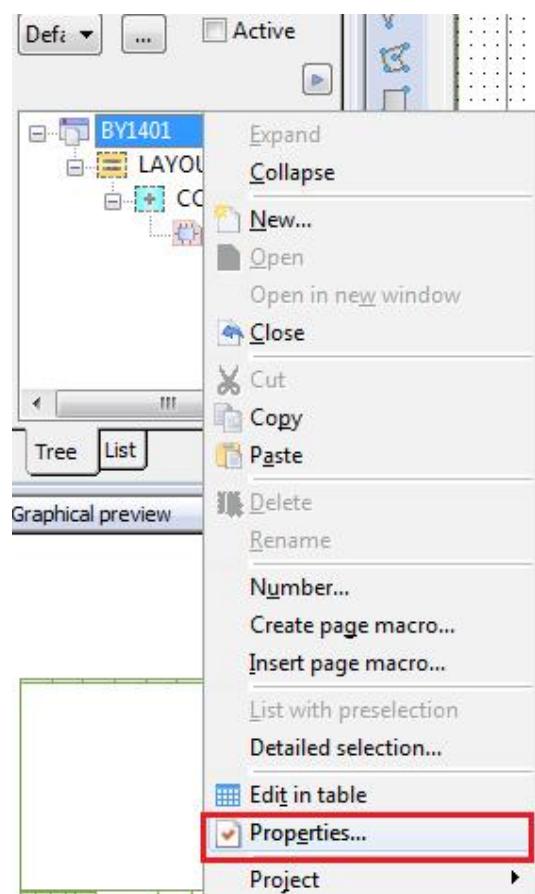


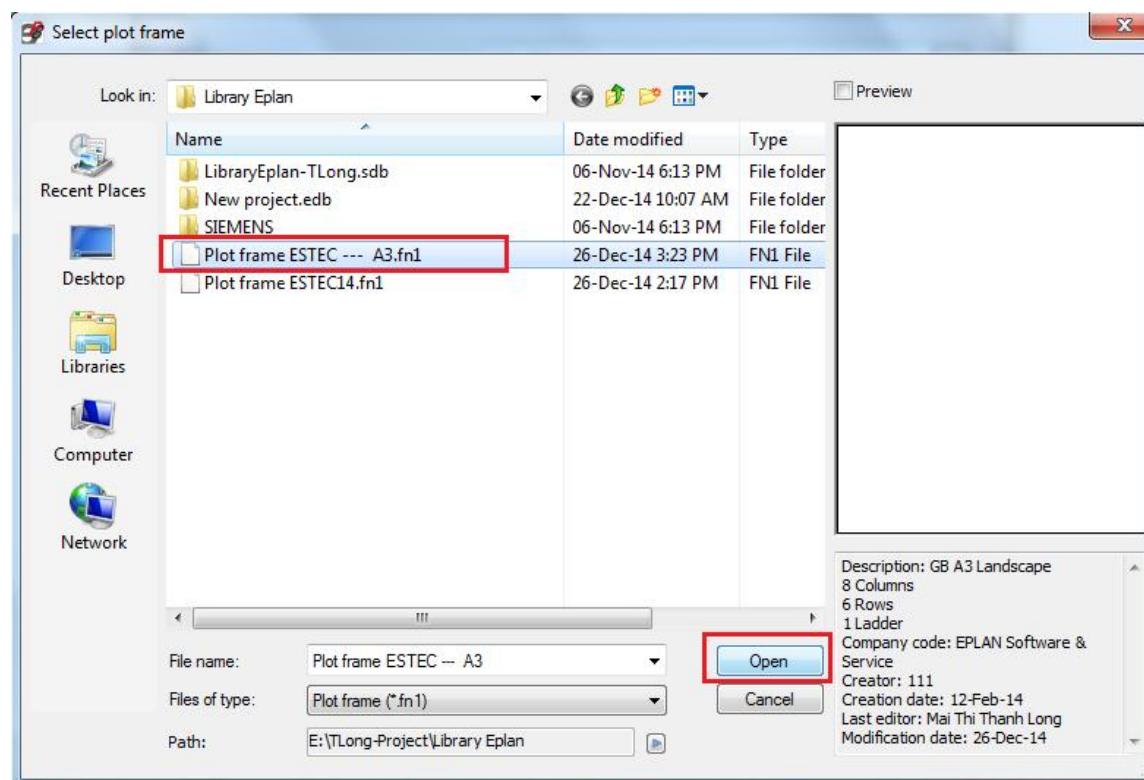
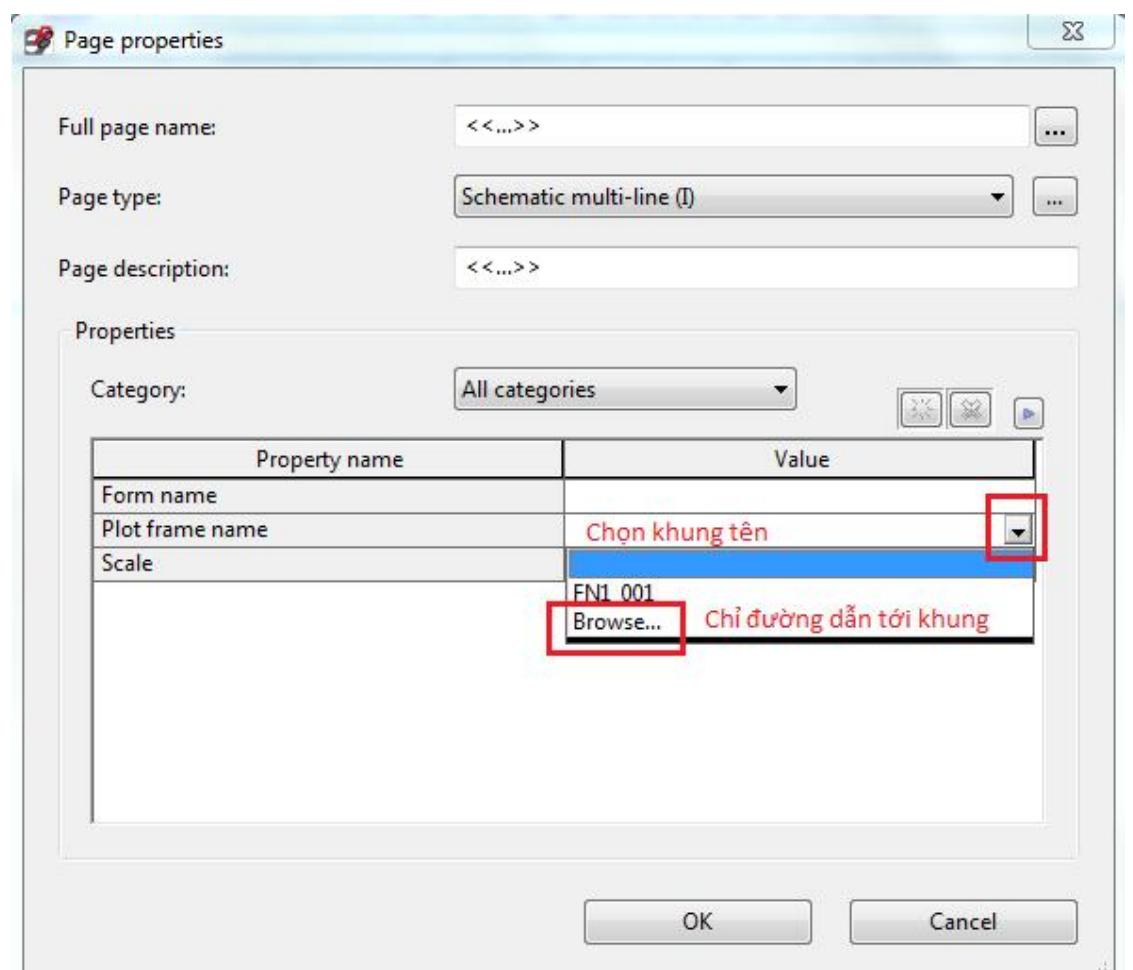
- Tạo trang:



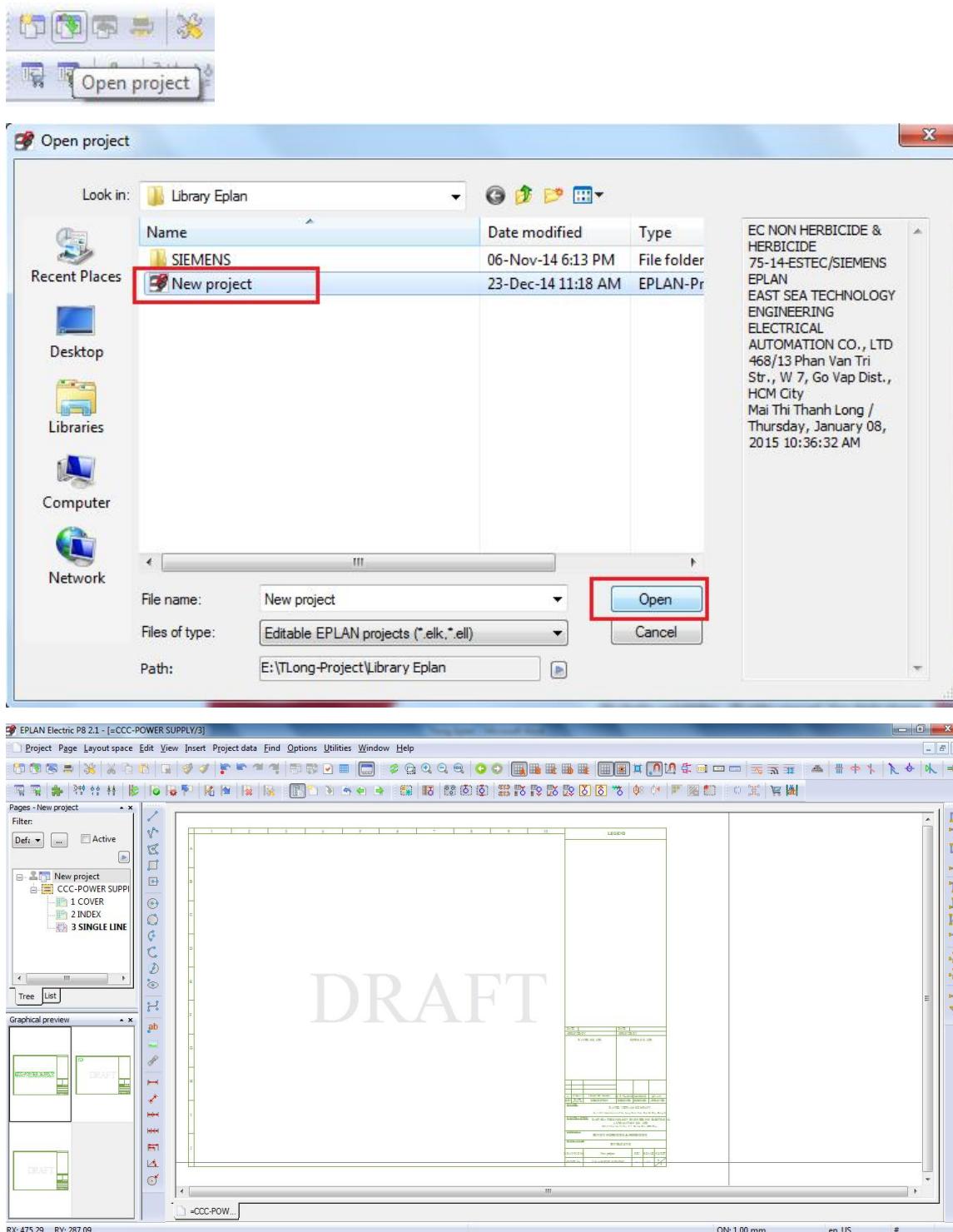


Chọn khung:

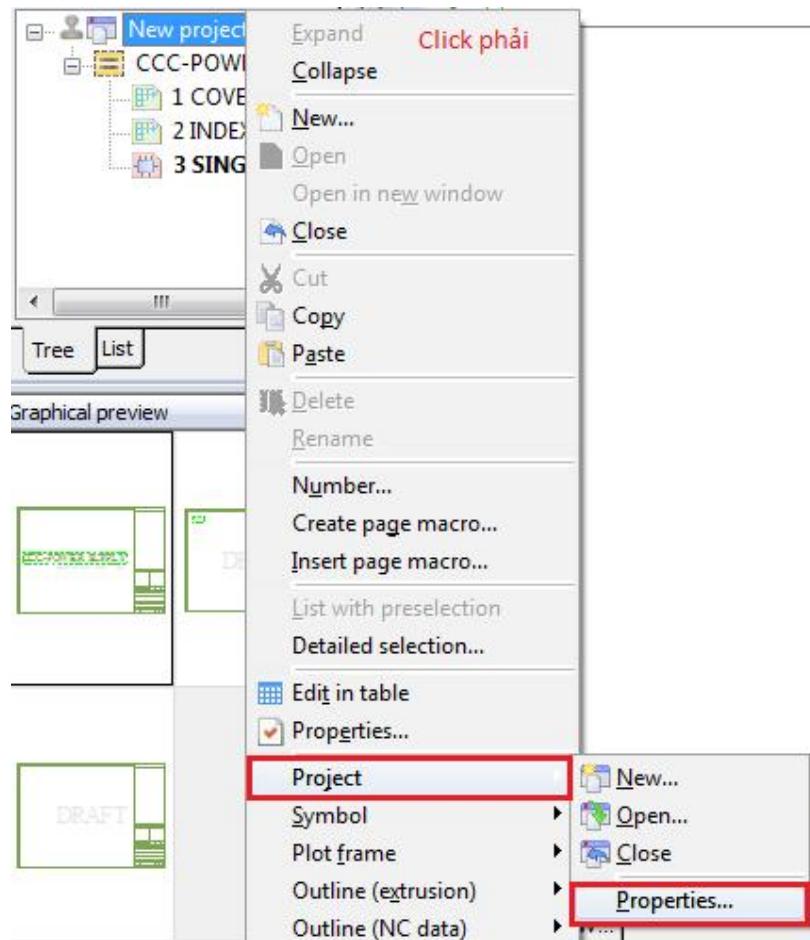


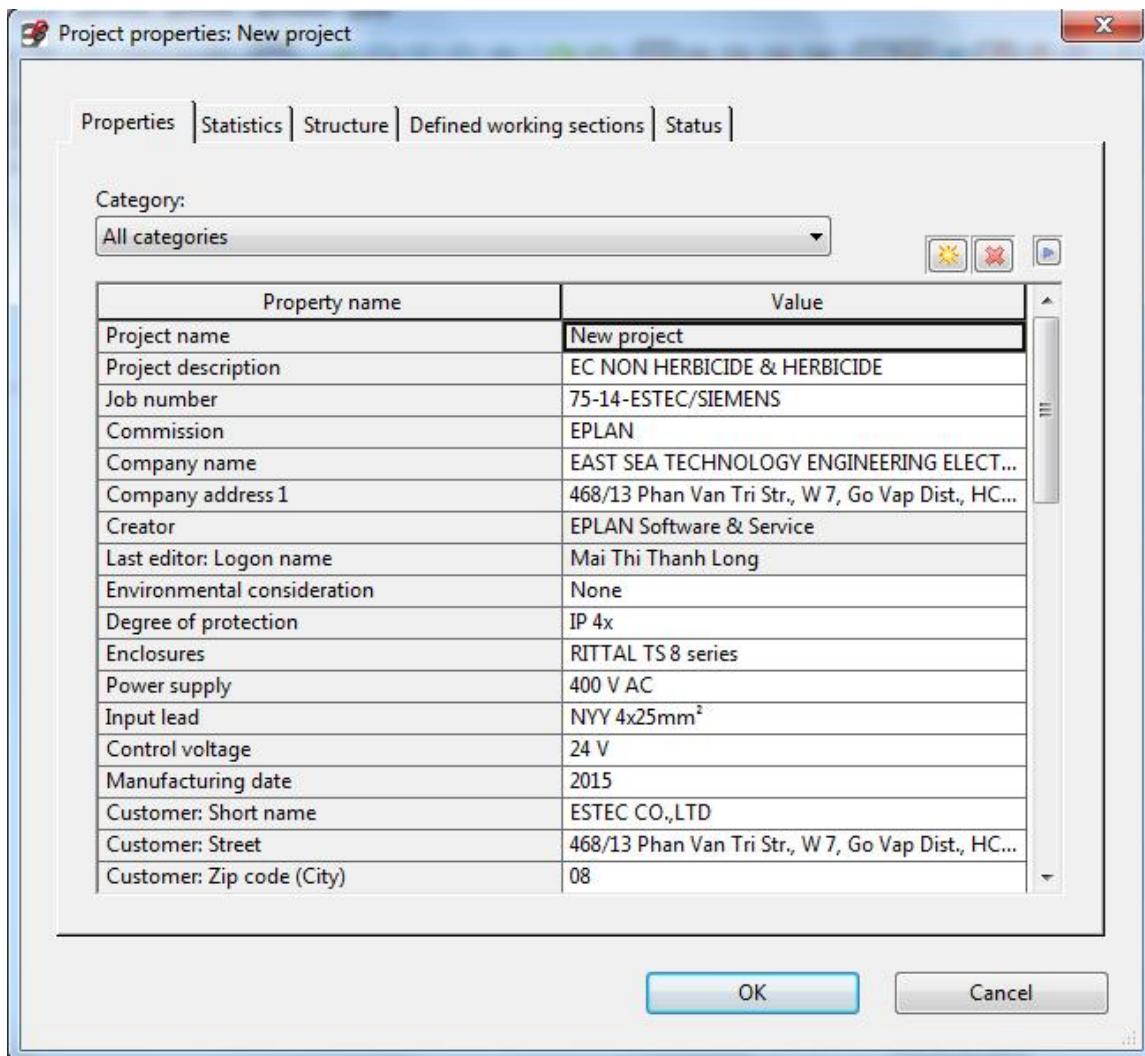


2. Mở 1 dự án đã có sẵn:

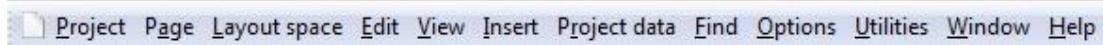


- Mở thông tin dự án:

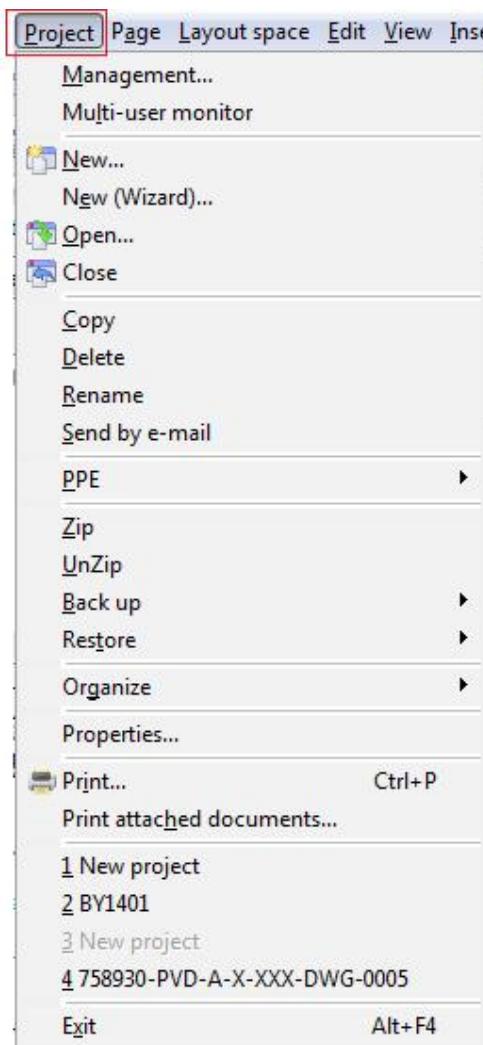




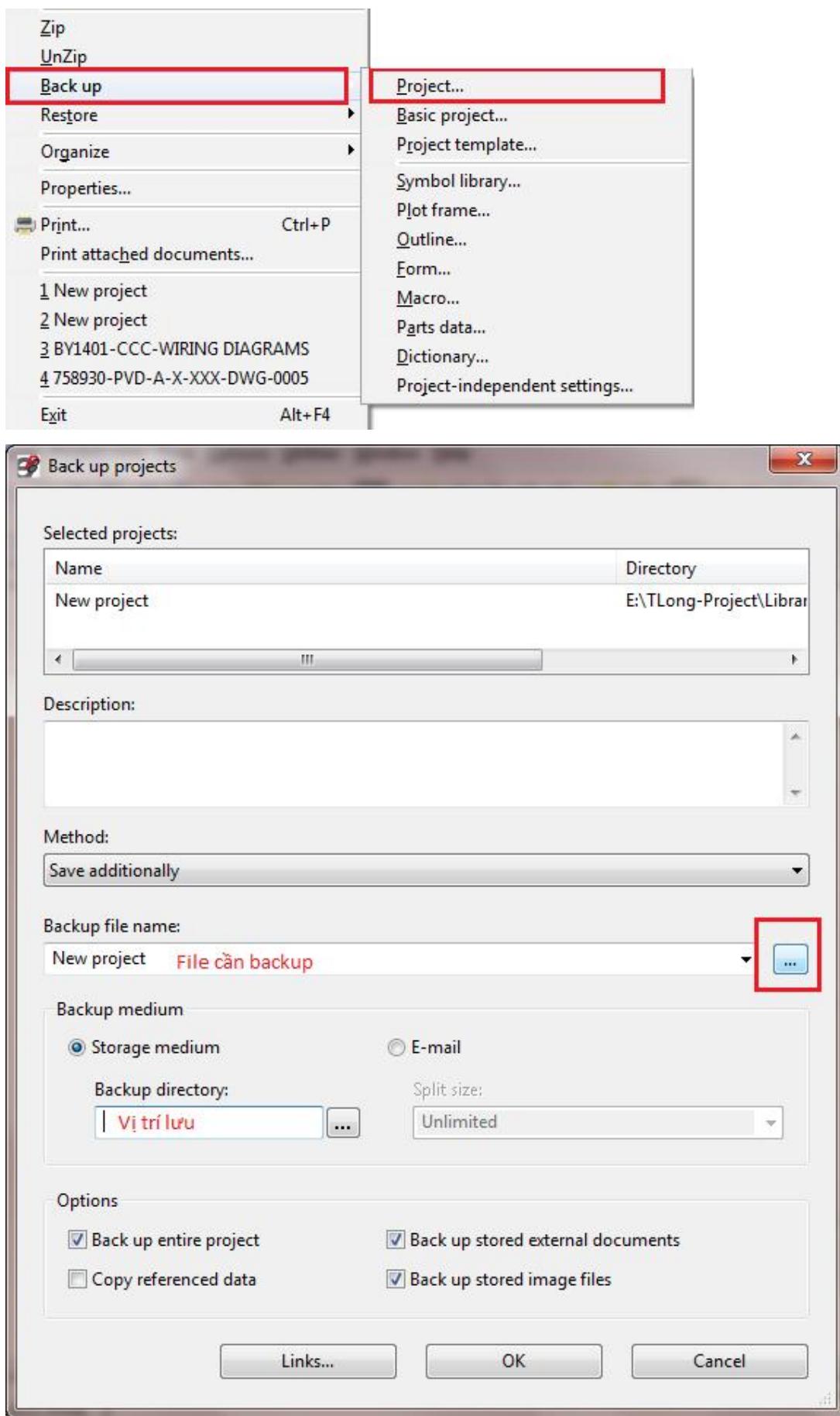
II. MENU BAR:



1. Project:



- 1.1. Management...:
- 1.2. Multi-user monitor:
- 1.3. New:
- 1.4. New (Wizard):
- 1.5. Open:
- 1.6. Close:
- 1.7. Copy:
- 1.8. Delete:
- 1.9. Rename:
- 1.10. Send by e-mail:
- 1.11. PPE:
- 1.12. Zip:
- 1.13. Unzip:
- 1.14. Back up:



➤ File sau khi back up :

Projects: *.zw1

Basic projects with master data: *.zx1

Project templates: *.zx2

Symbol libraries: *.zw2

Plot frames: *.zw3

Forms: *.zw4

Macros: *.zw5

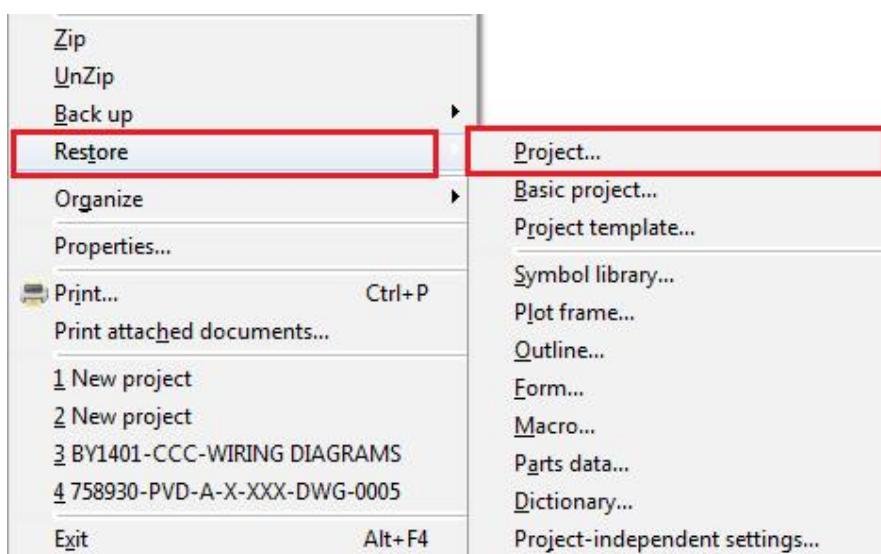
Parts data: *.zw6

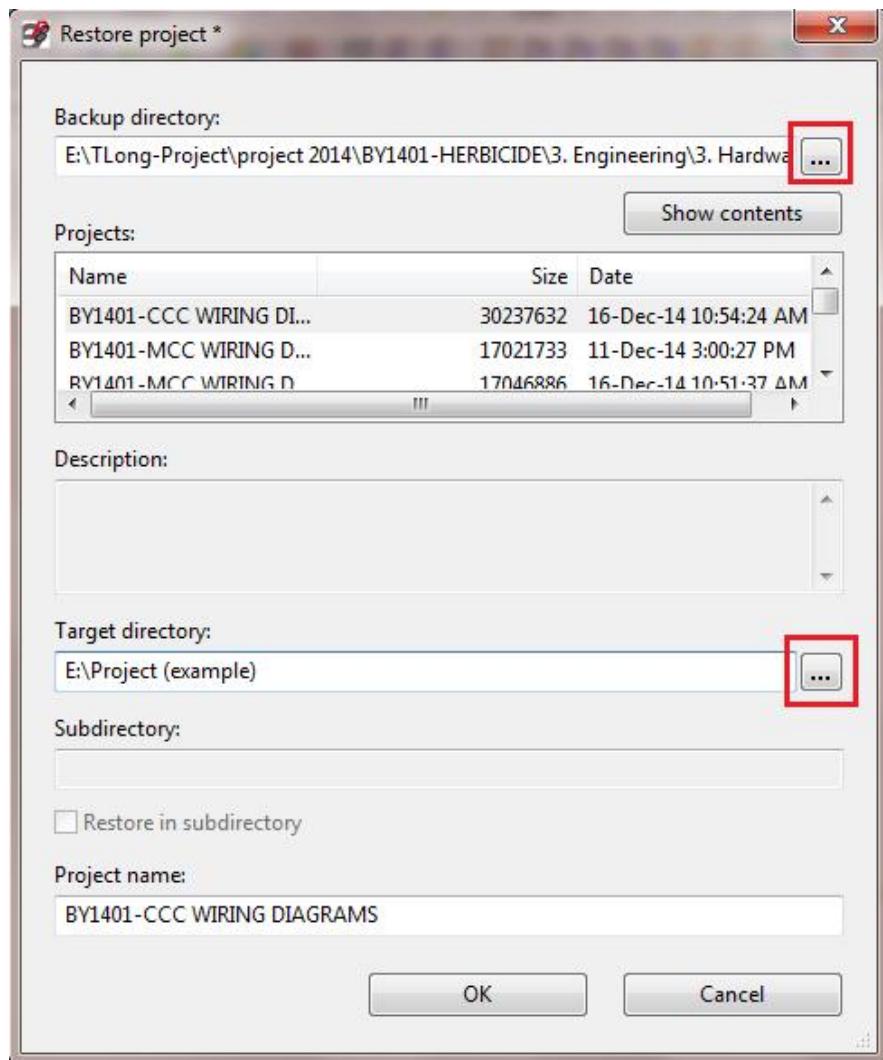
Dictionaries: *.zw7

User, workstation data: *.zw8

Outlines: *.zwa.

1.15. Restore:

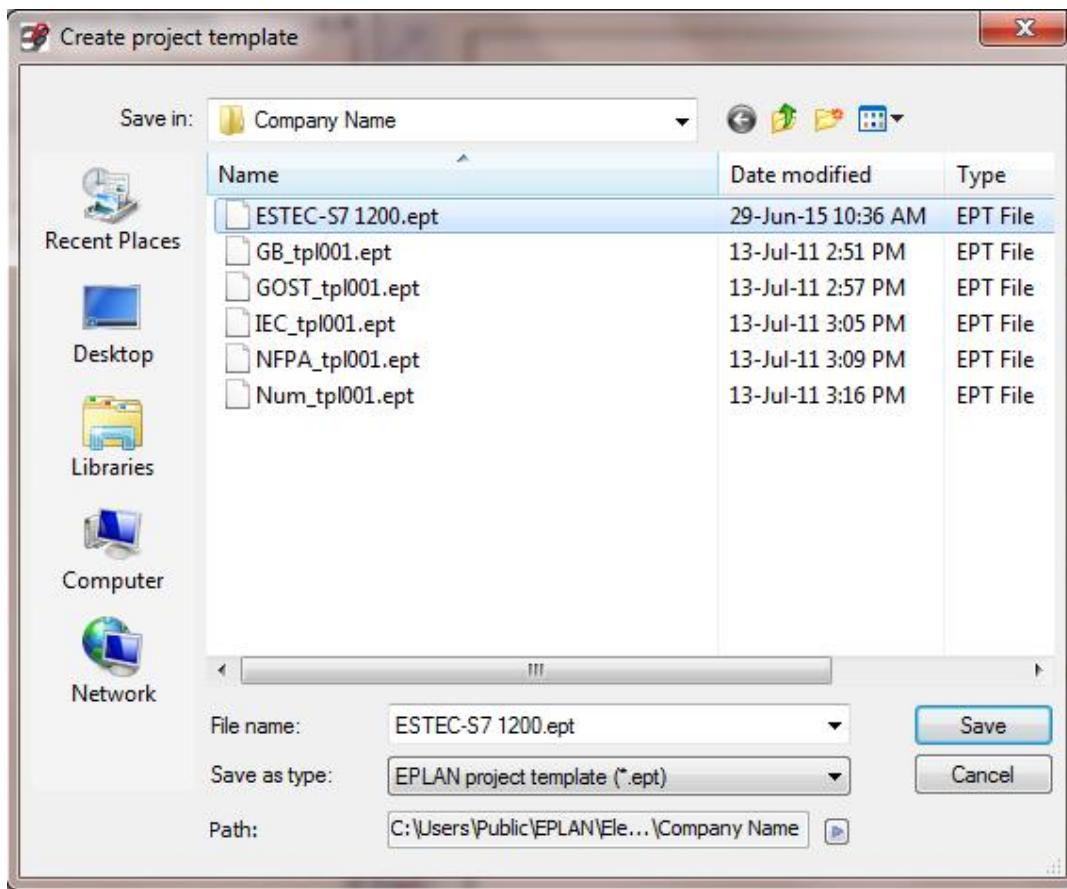




1.16. Organize:

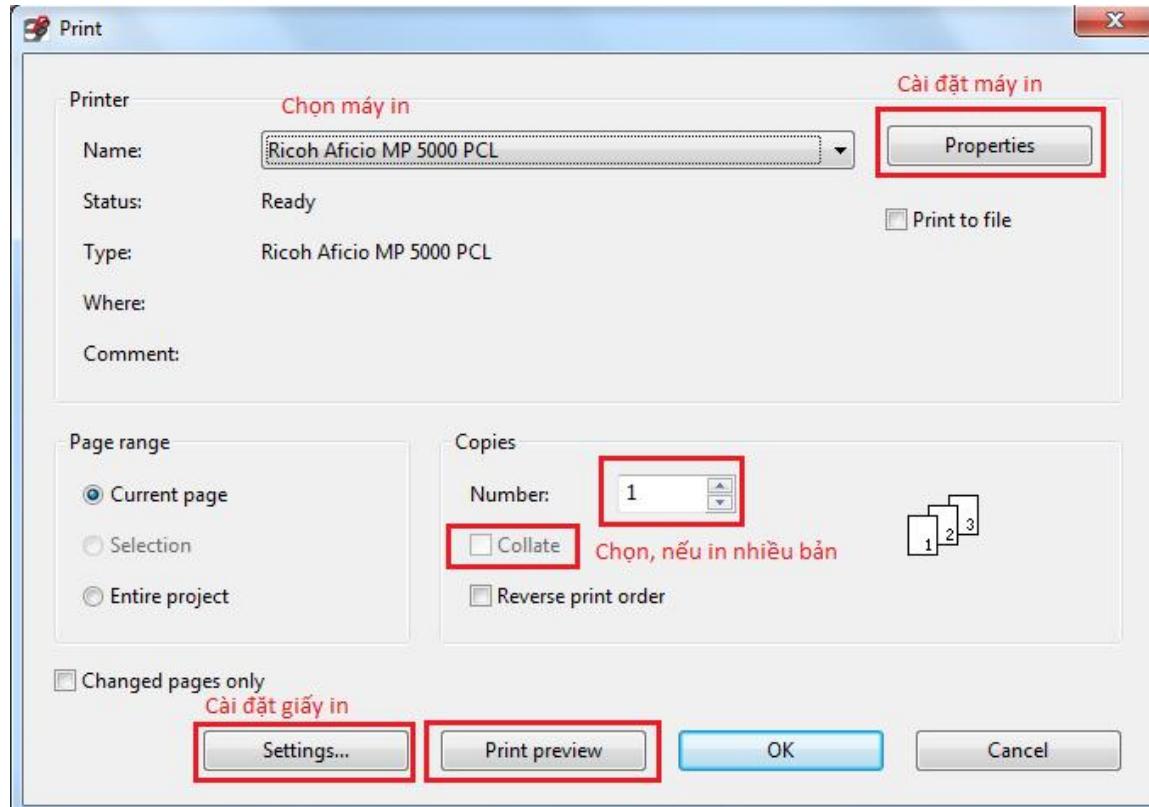
Tạo mẫu dự án:

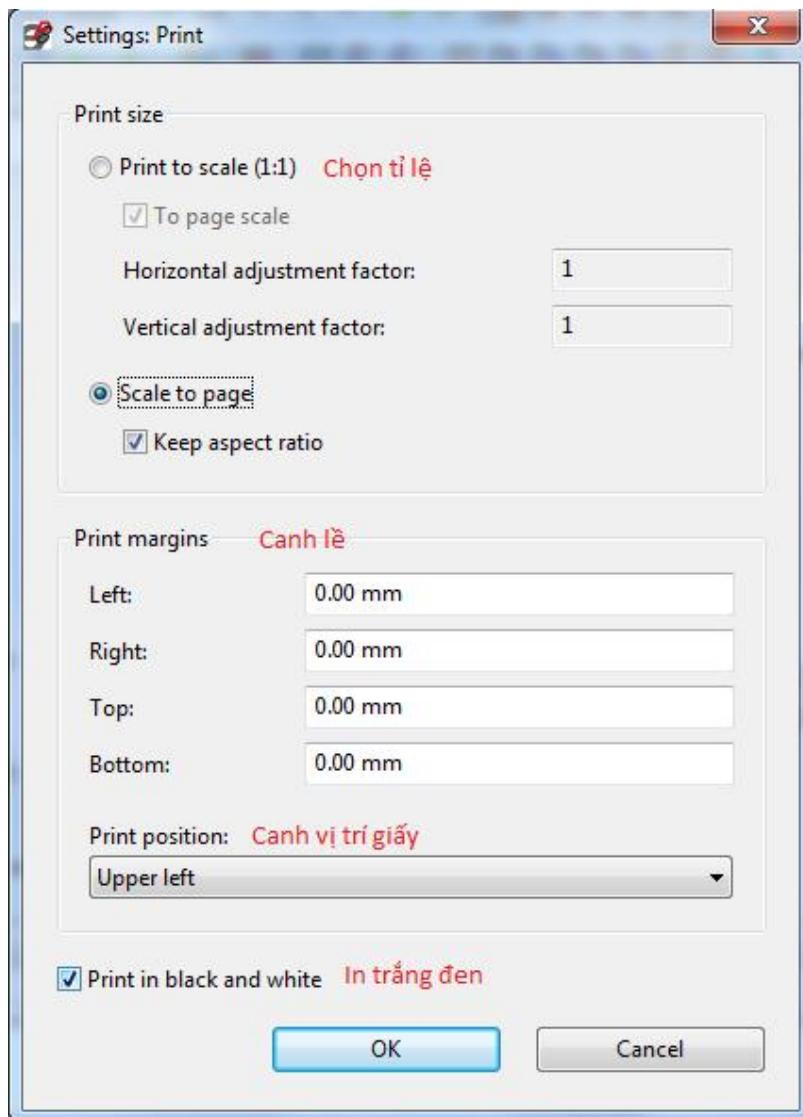
Project/ Organize/ Create project template



1.17. Properties:

1.18. Print.. (Ctrl+P) :

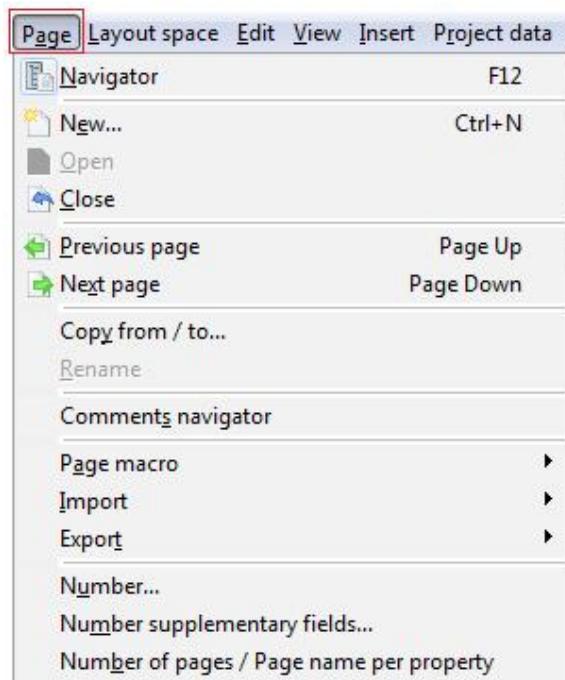




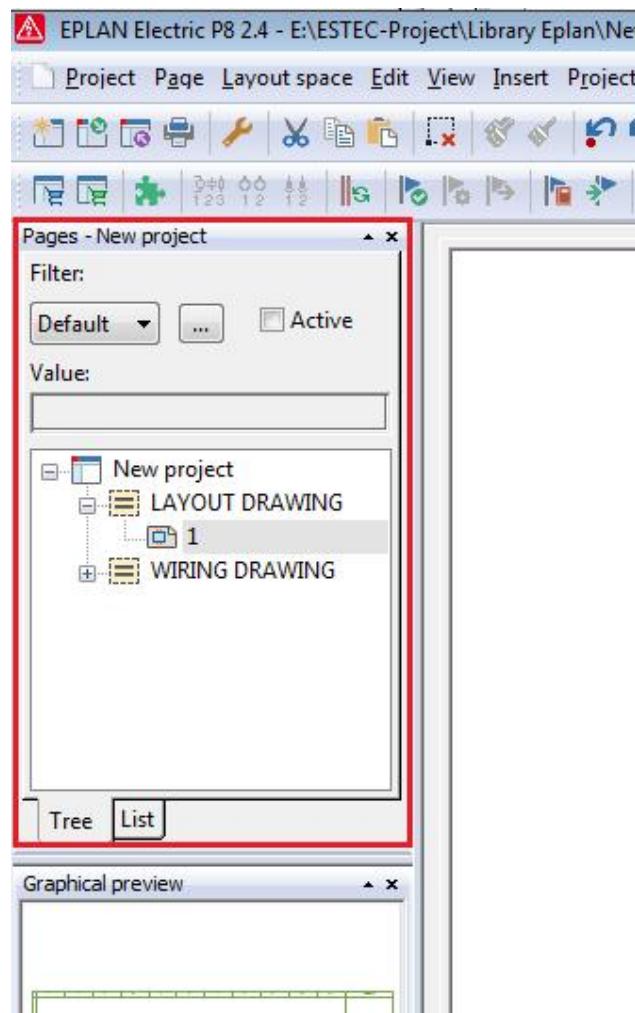
1.19. Print attached documents...:

1.20. Exit (Ctrl+F4):

2. Page:

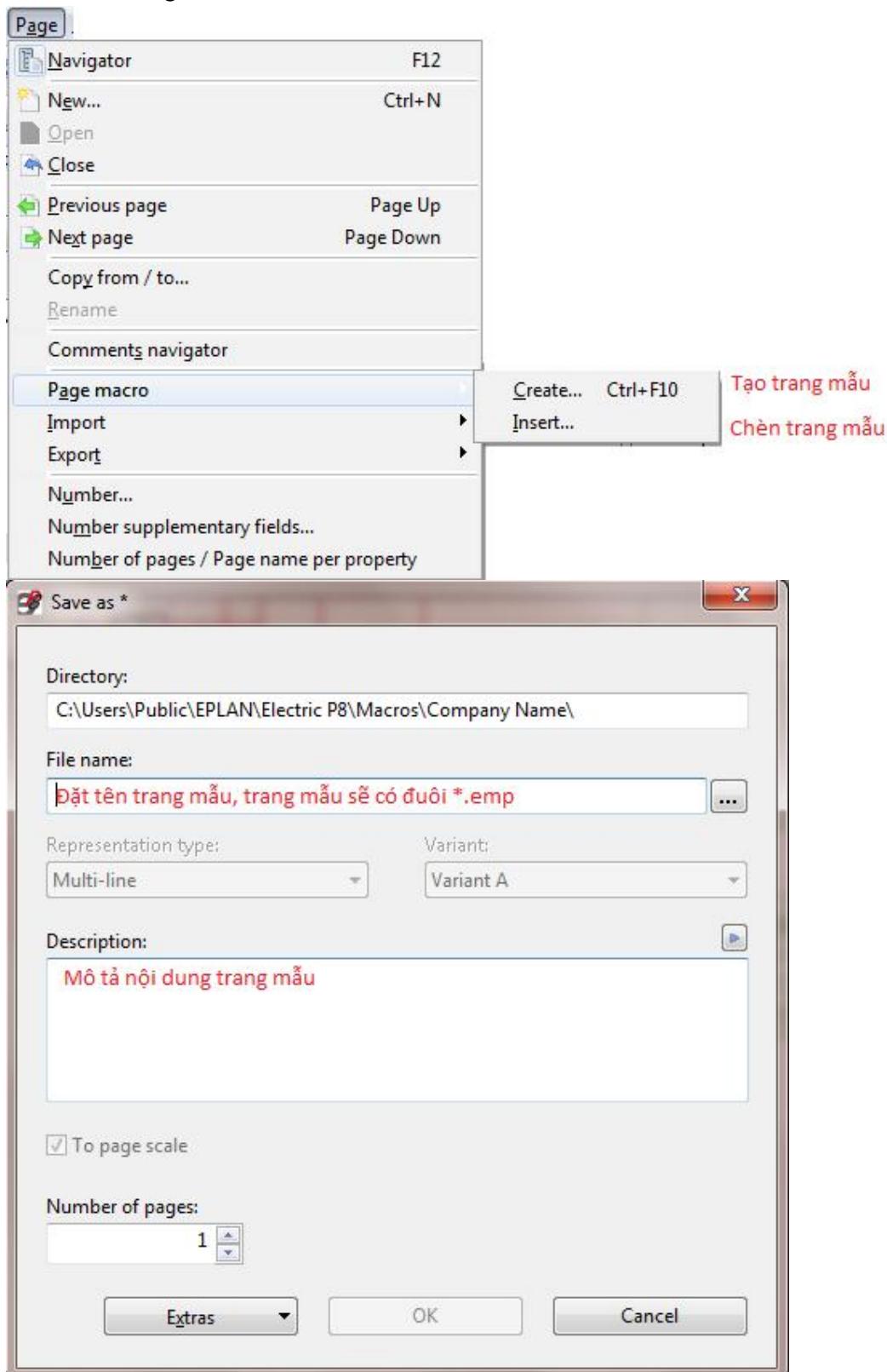


2.1. Navigator (F12): Ân hiện cửa sổ page



- 2.2. New... (Ctrl+N):
- 2.3. Open:
- 2.4. Close:
- 2.5. Previous page (Page Up):
- 2.6. Next page (Page Down):
- 2.7. Copy from/to...
- 2.8. Rename:
- 2.9. Comments navigator:
- 2.10. Page macro: Tạo/ Chèn trang vẽ mẫu

Click chọn trang muốn làm mẫu.



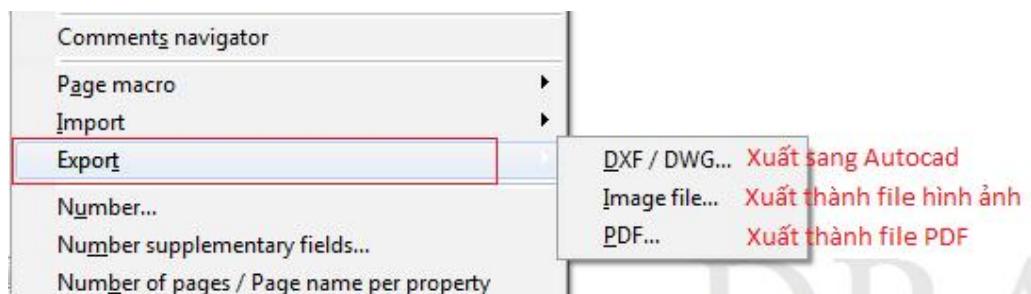
2.11. Import:



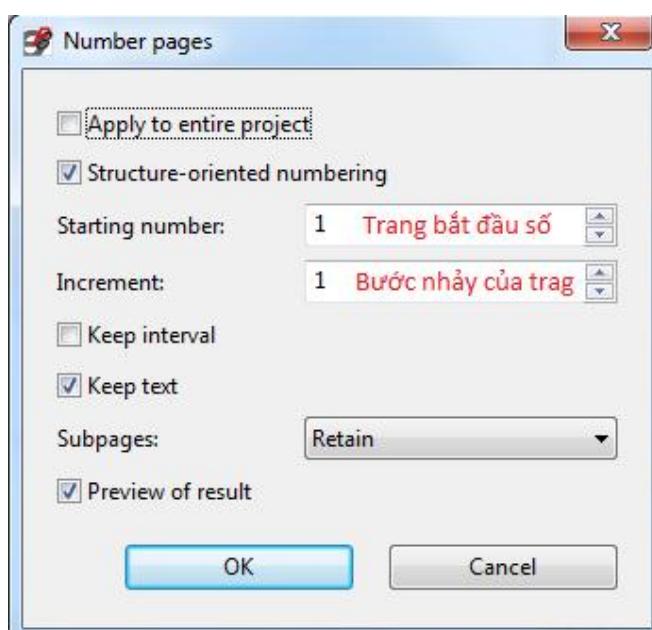
2.12. Export:

Xuất bản vẽ sang file Autocad/ File hình ảnh/ File PDF.

Page/Export:



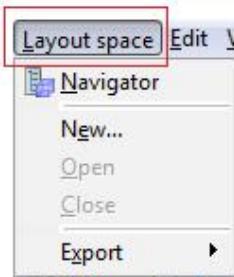
2.13. Number:



2.14. Number supplementary fields...:

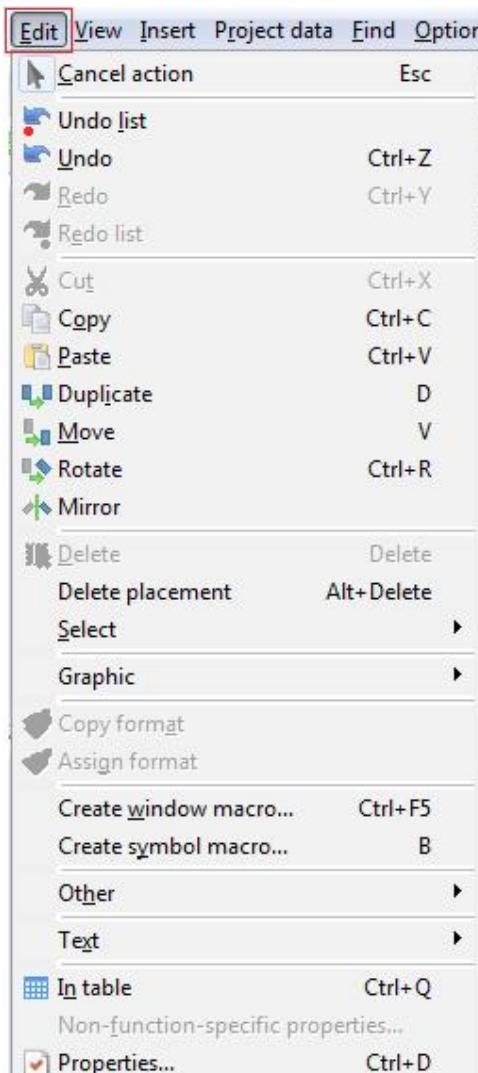
2.15. Number of pages/Page name per property:

3. Layout space:



- 3.1. Navigator:
- 3.2. New...:
- 3.3. Open:
- 3.4. Close:
- 3.5. Export:

4. Edit:



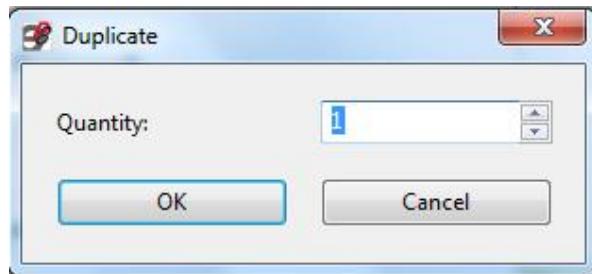
- 4.1. Cancel action (ESC):
- 4.2. Undo list:
- 4.3. Undo (Ctrl + Z):
- 4.4. Redo (Ctrl+Y):
- 4.5. Redo list:

4.6. Cut (Ctrl+X):

4.7. Paste (Ctrl+V):

4.8. Duplicate (D):

- Bôi đen vùng đối tượng muốn nhân bản.
- Nhấn phím D ↴
- Nhấp chuột chọn vị trí (khoảng cách) so với đối tượng hiện hữu.
- Nhập số lượng cần nhân bản:



4.9. Move (V):

4.10. Rotate (Ctrl+R):

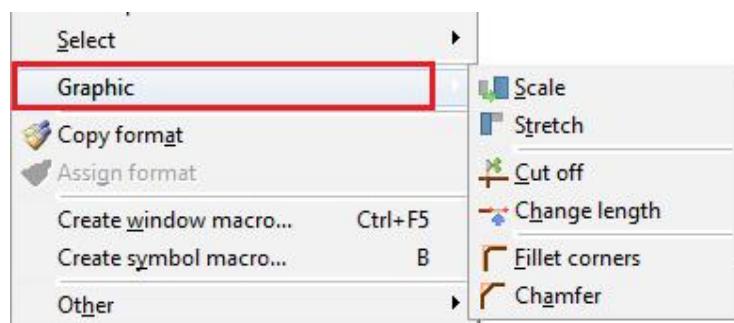
4.11. Mirror:

4.12. Delete (Delete):

4.13. Delete placement (Alt+Delete):

4.14. Select:

4.15. Graphic:

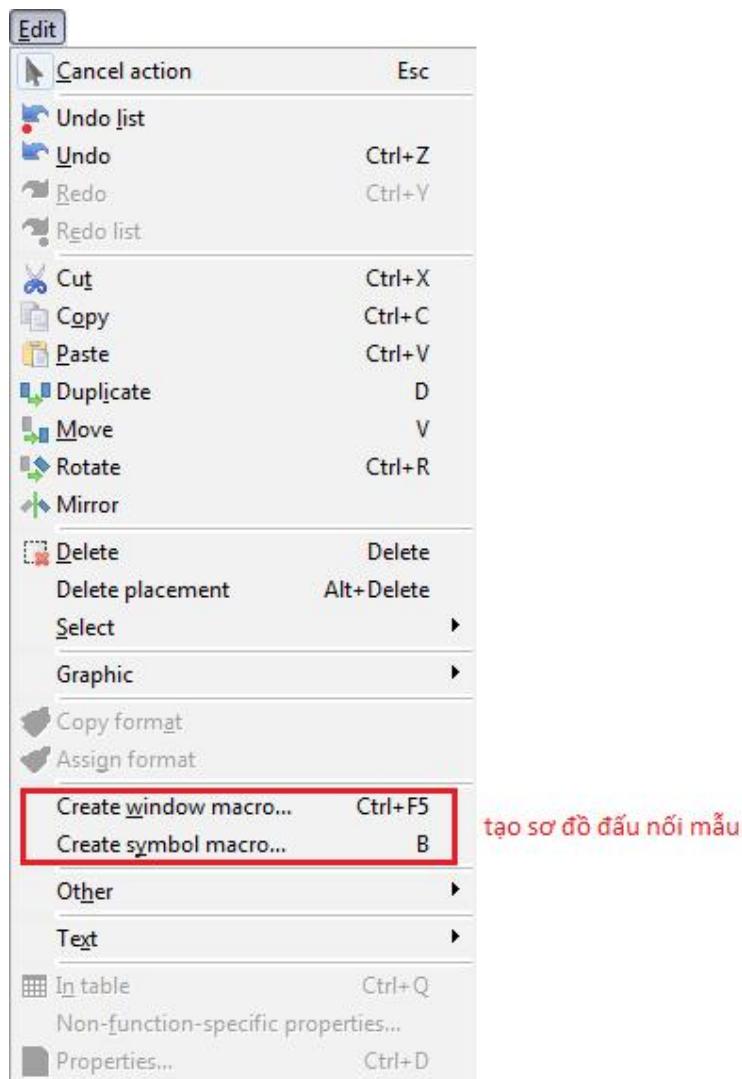


4.16. Copy format:

4.17. Assign format:

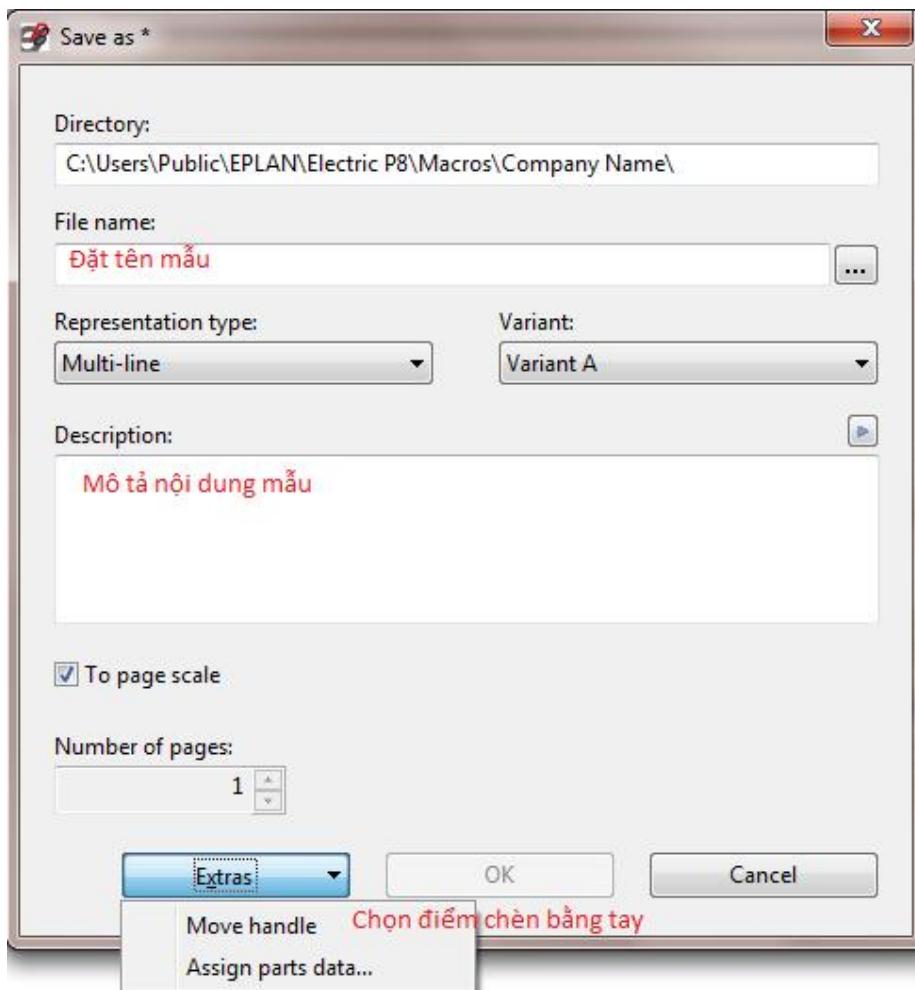
4.18. Create window macro (Ctrl+F5): Tạo mẫu thiết kế

- Quét khu toàn bộ sơ đồ muốn làm mẫu.



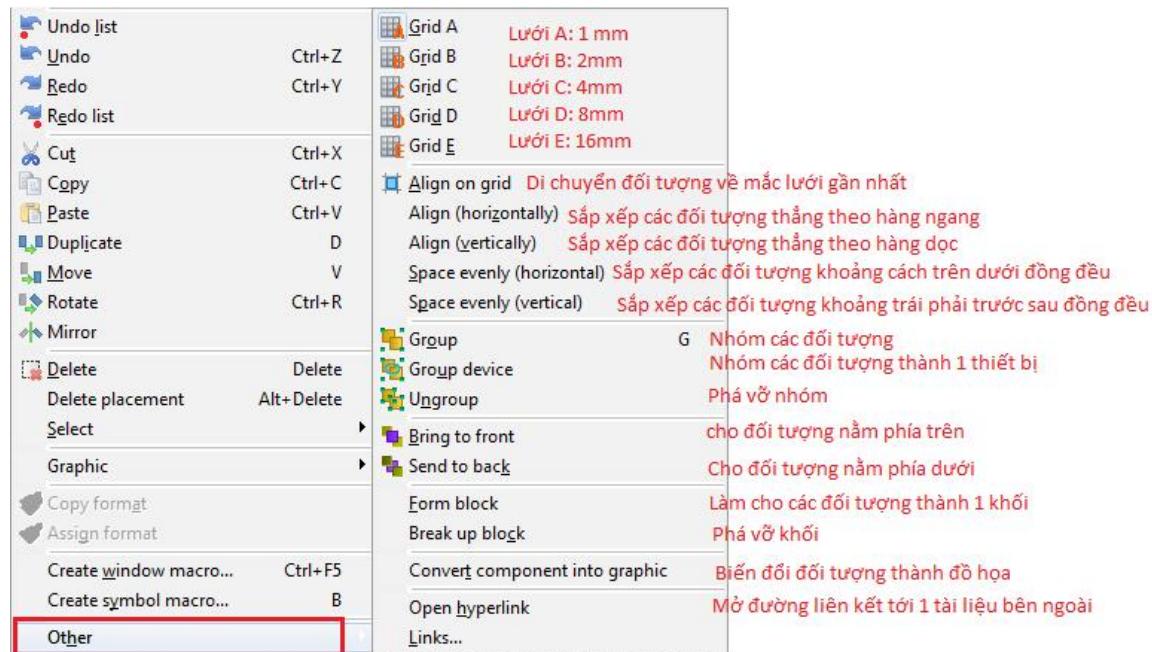
Có thể dùng cách: insert>box/connection point/mounting panel>Macro box
Quét khu vực muốn tạo mẫu.

- 4.19. Create symbol macro (B): Tạo mẫu thiết bị

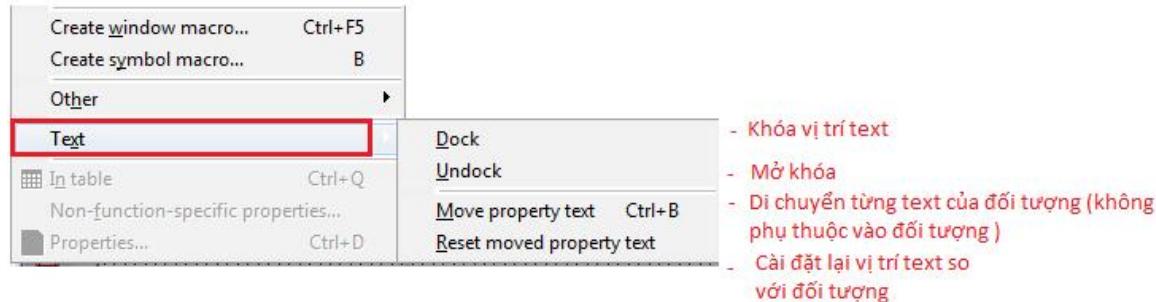


4.20. Other:

Edit/ Other:



4.21. Text:



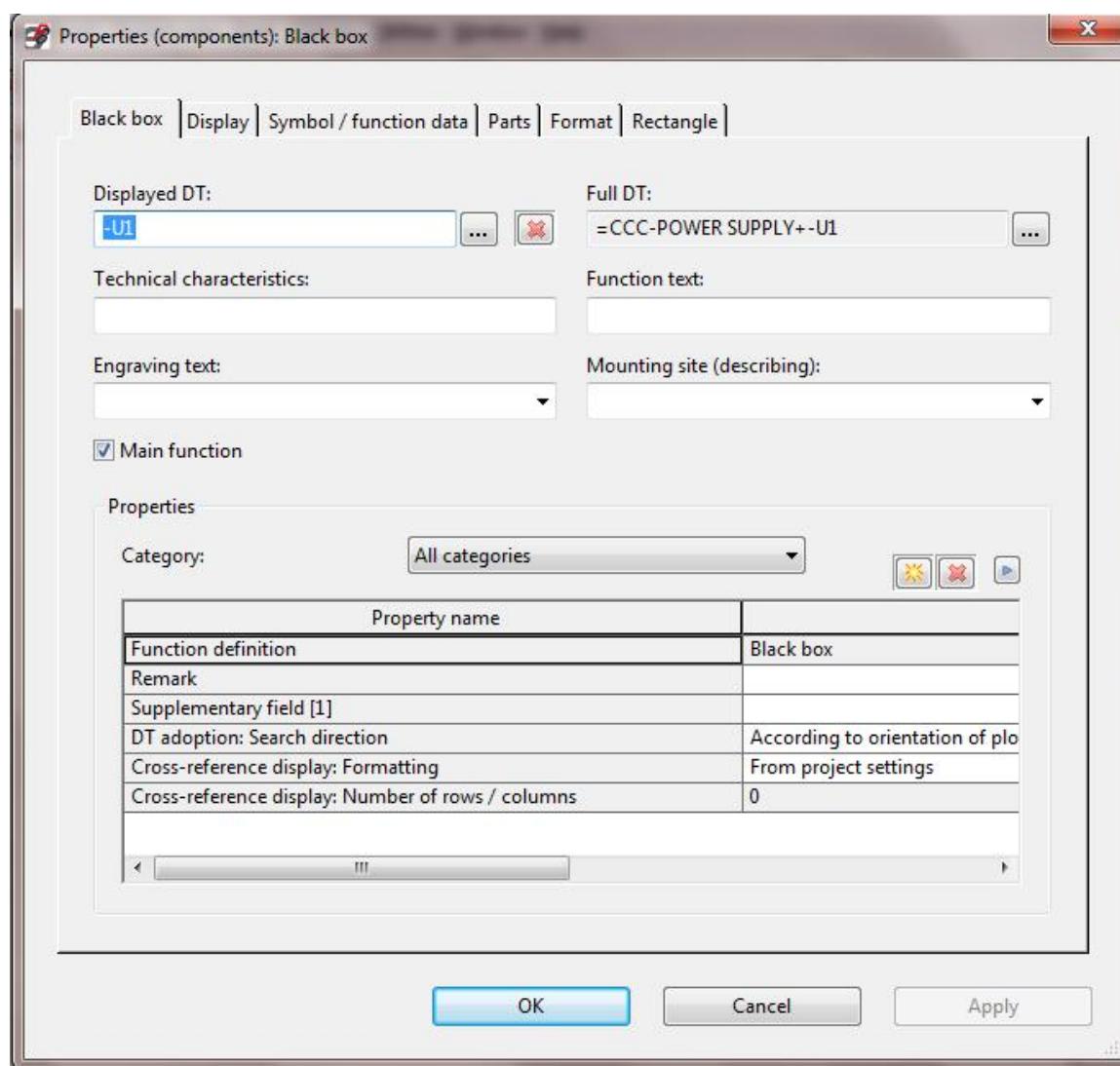
4.22. In table (Ctrl+Q): Mở khung thông tin cho các đối tượng được quét.

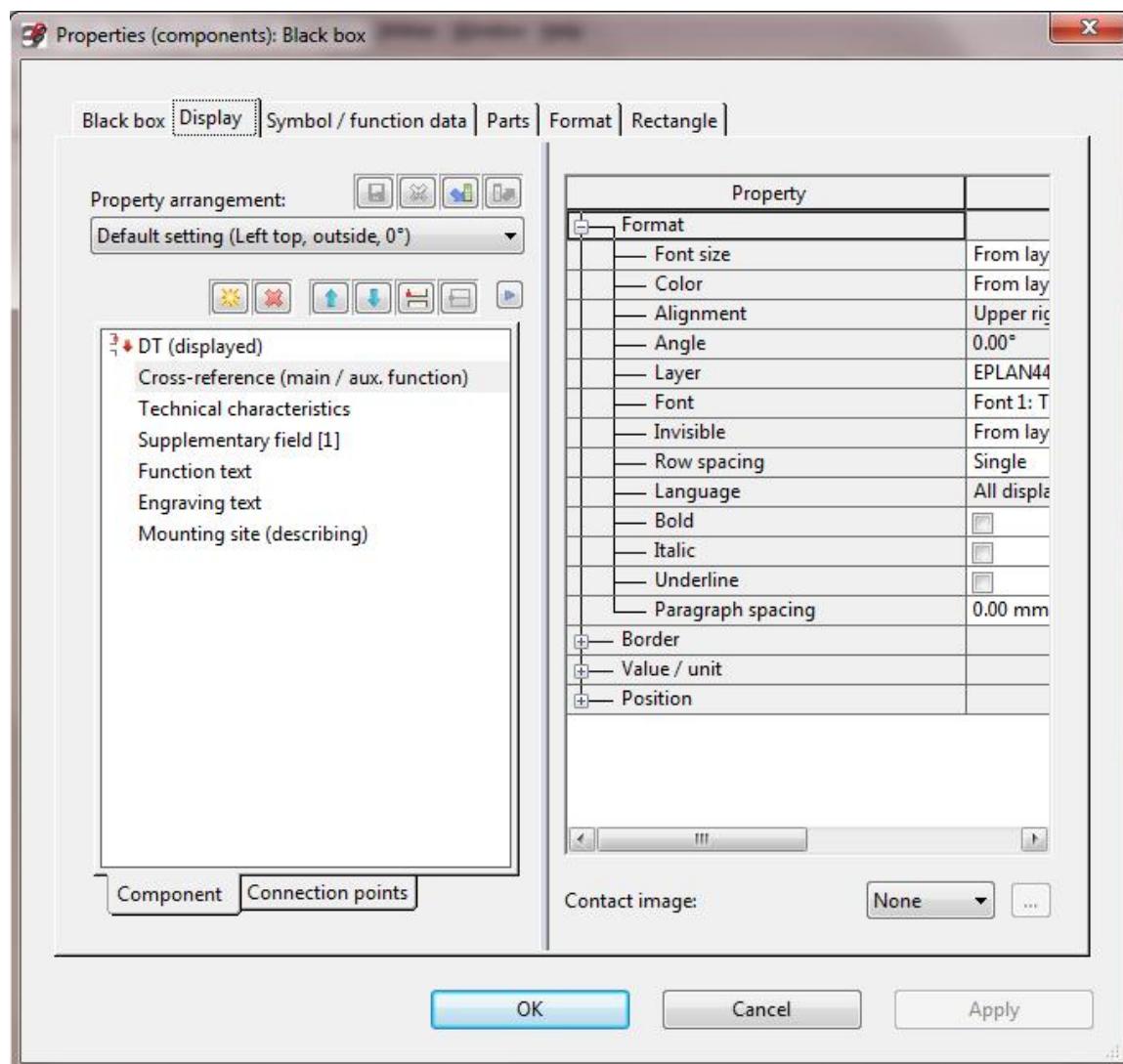
Có thể copy các thông tin (địa chỉ chân...) vào excel để sửa hàng loạt rồi copy paste lại.

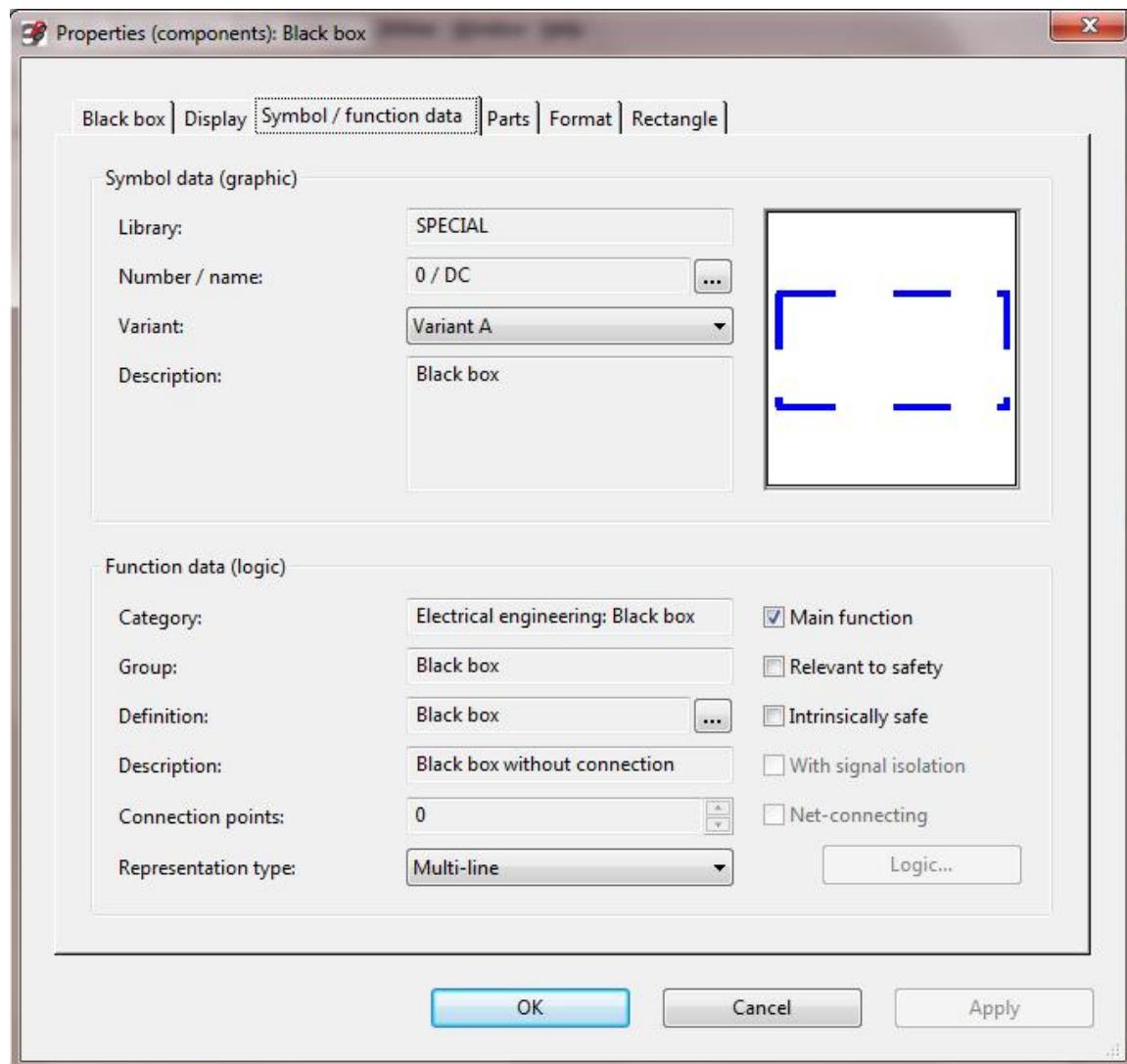
Row	Name (ide...)	Connectio...	Terminal / ...	Function d...	Main function	Represent...	Item num...	Item num...	Part numb...	Part numb...	Number of...	Number of...	Part: Desi...	Part: Desi...	Part: Desi...	Part: Desi...	Function text	Function t...
1	=CCC-PO...				PLC box	✓		GES7 32...			1	0					Digital Inp...	Digital Inp...
2	=CCC-PO...	1			PLC con...												/	/
3	=CCC-PO...	2			PLC con...												/	/
4	=CCC-PO...	3			PLC con...												/	/
5	=CCC-PO...	4			PLC con...												/	/
6	=CCC-PO...	5			PLC con...												/	/
7	=CCC-PO...	6			PLC con...												/	/
8	=CCC-PO...	7			PLC con...												/	/
9	=CCC-PO...	8			PLC con...												/	/
10	=CCC-PO...	9			PLC con...												/	/
11	=CCC-PO...	10			PLC con...												/	/

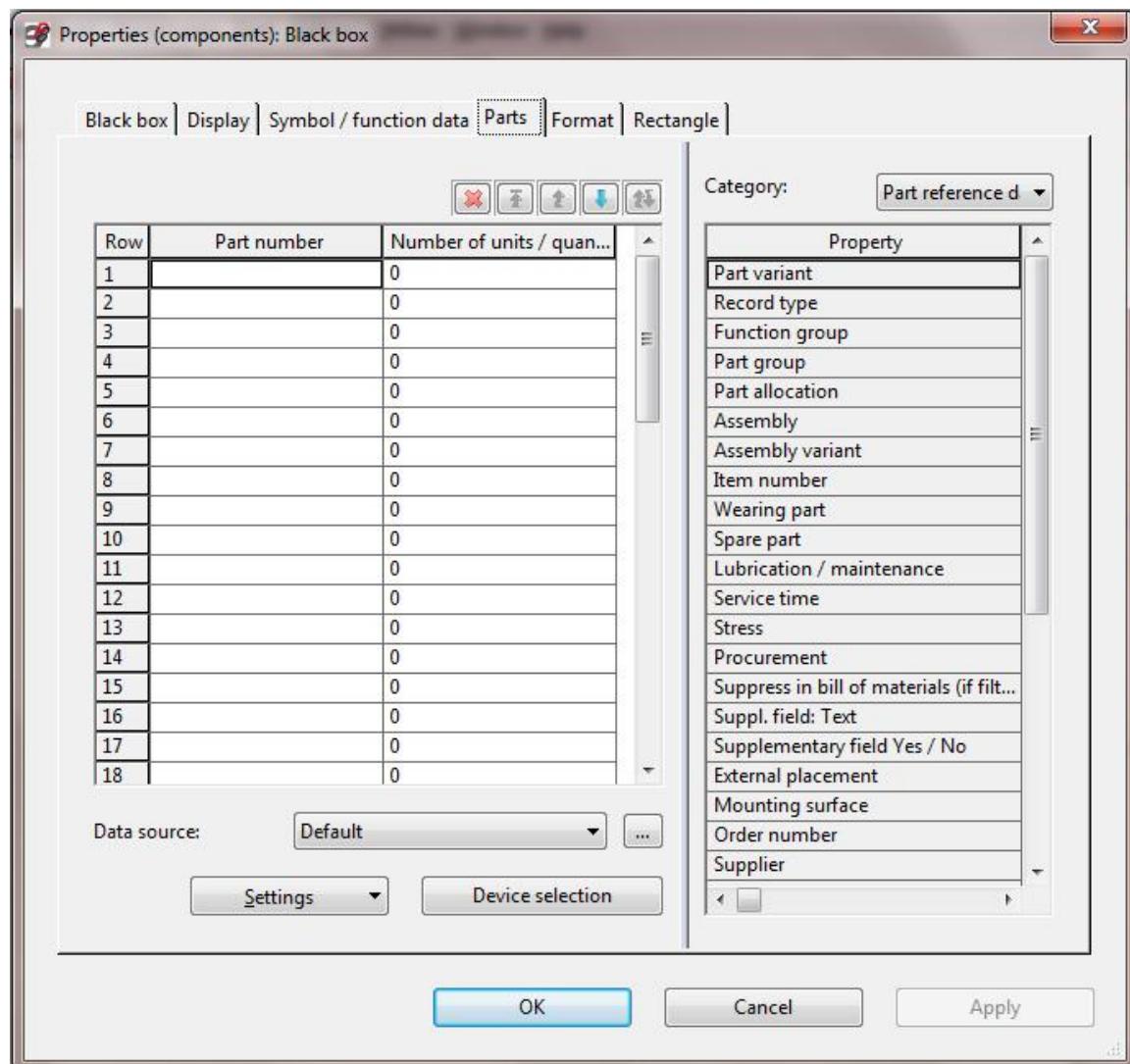
4.23. Non-function –specific properties...:

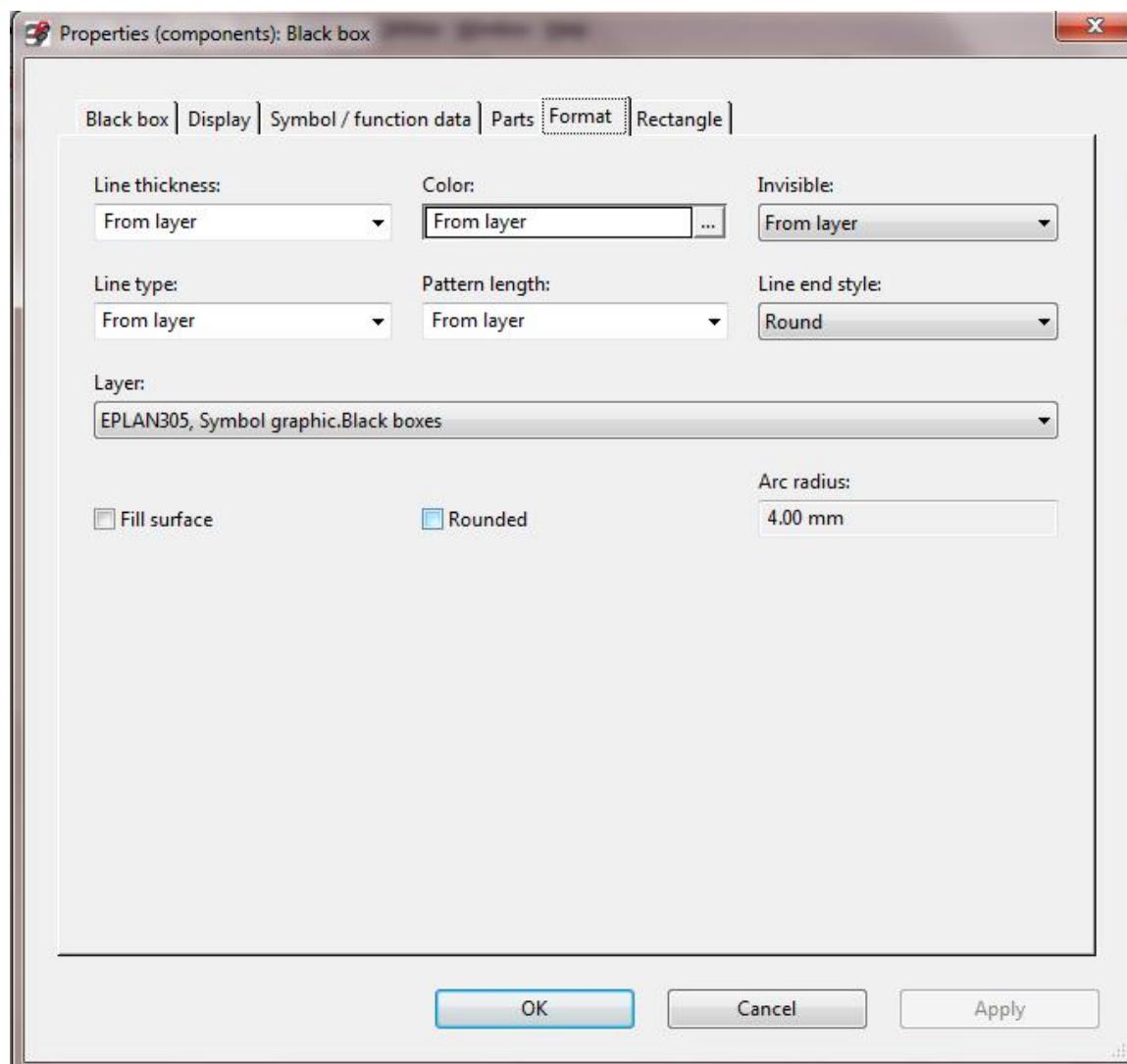
4.24. Properties (Ctrl+D):

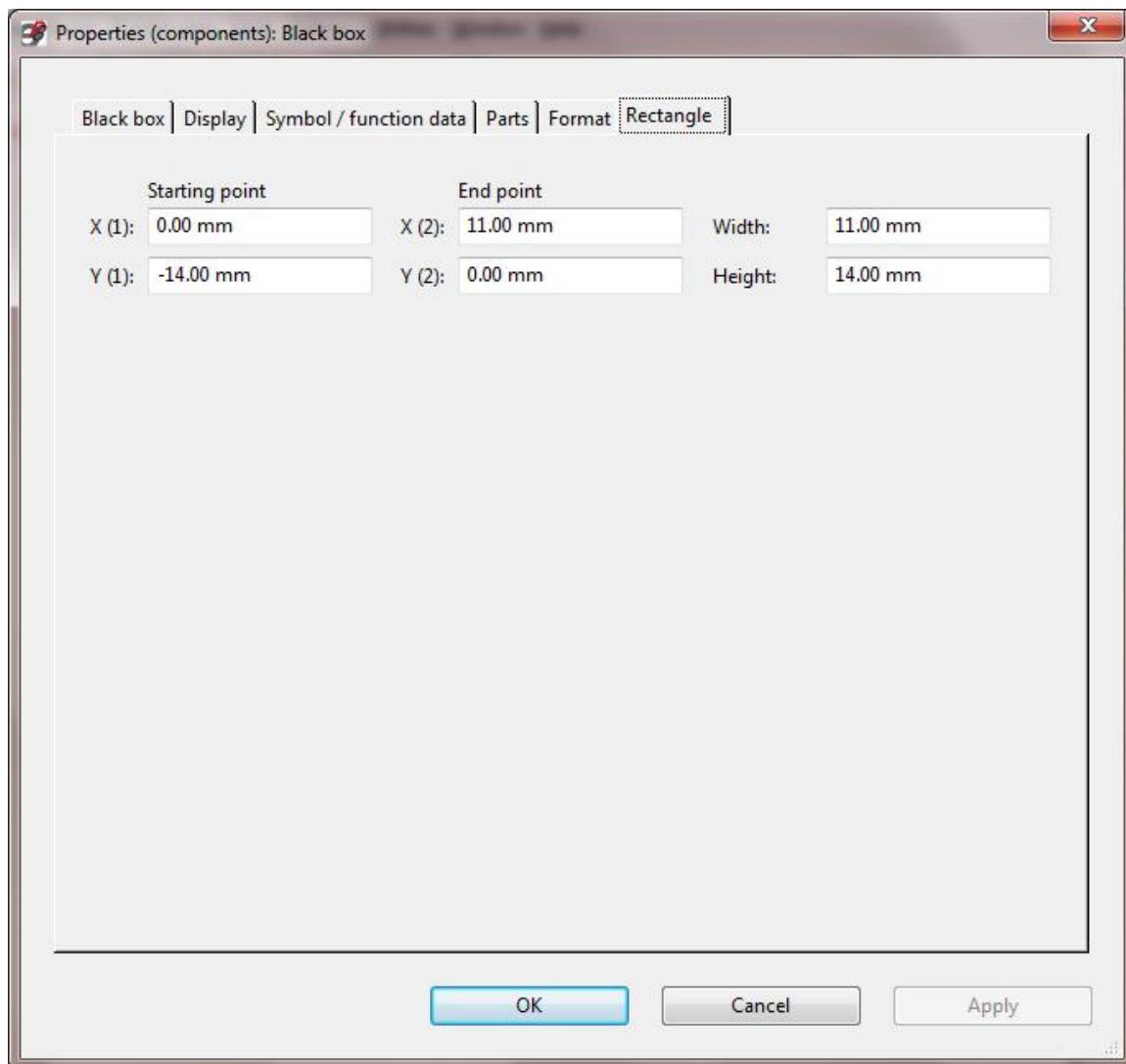




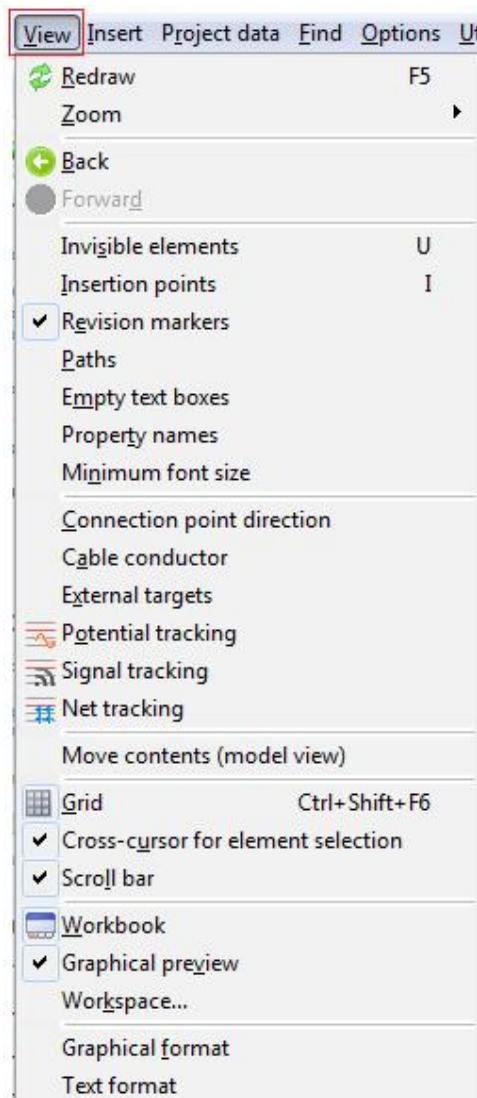






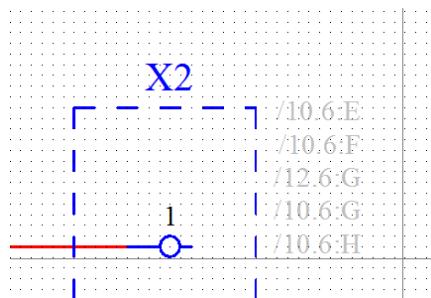


5. View:



- 5.1. Redraw (F5):
- 5.2. Zoom:
- 5.3. Back:
- 5.4. Forward:
- 5.5. Invisible elements (U):

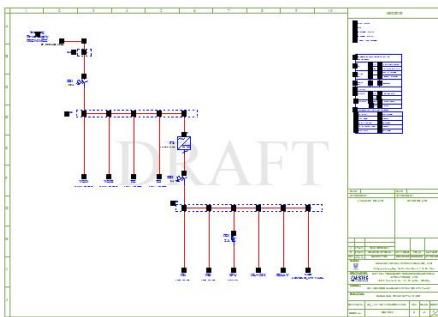
Ẩn hiện các chữ ẩn, điểm ẩn....



- 5.6. Insertion points (I):

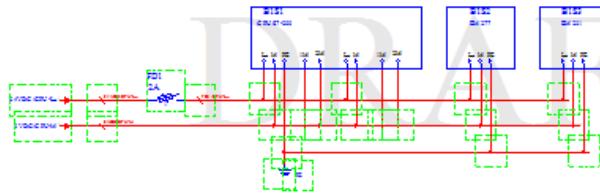
Displaying Insertion Points, the insertion points are highlighted from the symbols

and text by a black square.: Ân hiện các điểm gốc của các đối tượng



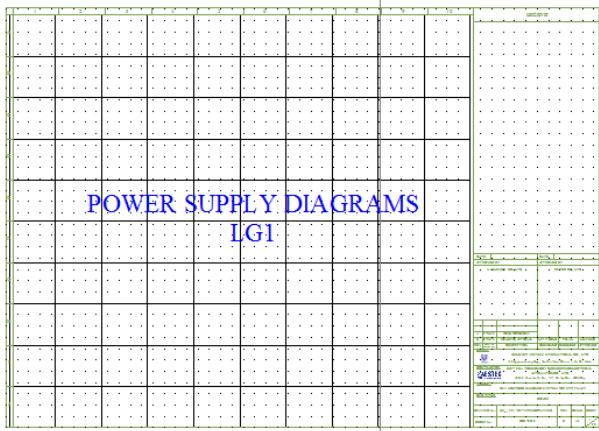
5.7. Revision markers:

Displaying or Hiding Revision Markers : Ân hiện dấu (Markers) chỉ thị sự thay đổi trong các phiên bản Revision



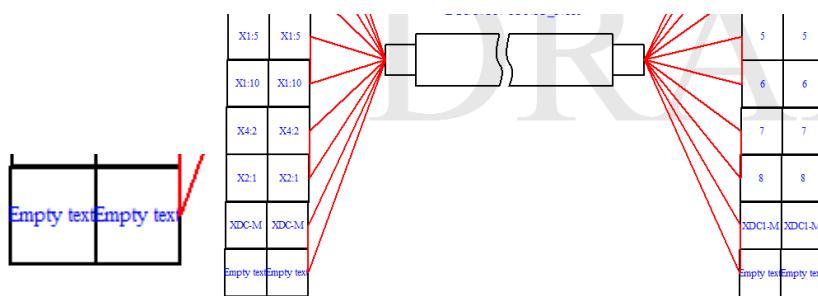
5.8. Paths:

Chia các tọa độ XY



5.9. Empty text boxes:

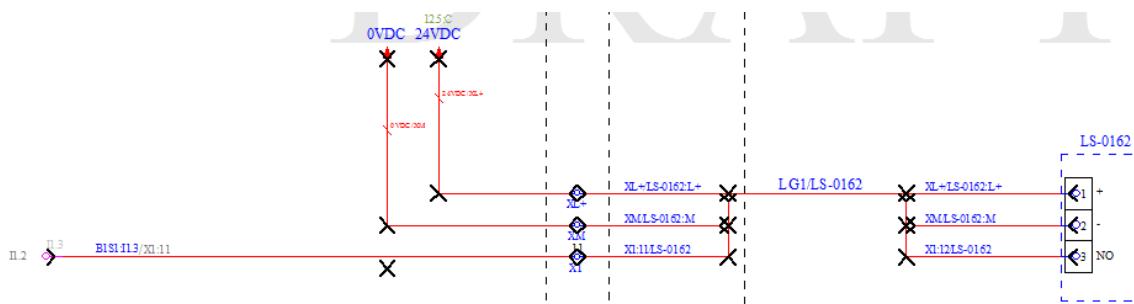
The empty texts are displayed using the string "Empty Text": Thay thế những text rỗng bằng chữ: Empty Text.



5.10. Property names:

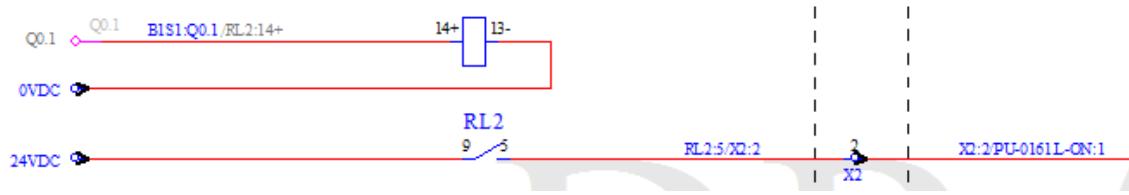
5.11. Minimum font size:

5.12. Connection point direction:



5.13. Cable conductor:

5.14. External targets:



5.15. Potential tracking:

5.16. Net tracking:

5.17. Move contents (model view):

5.18. Grid (Ctrl+Shift+F6):

5.19. Cross-cursor for element selection:

5.20. Scroll bar:

5.21. Workbook:

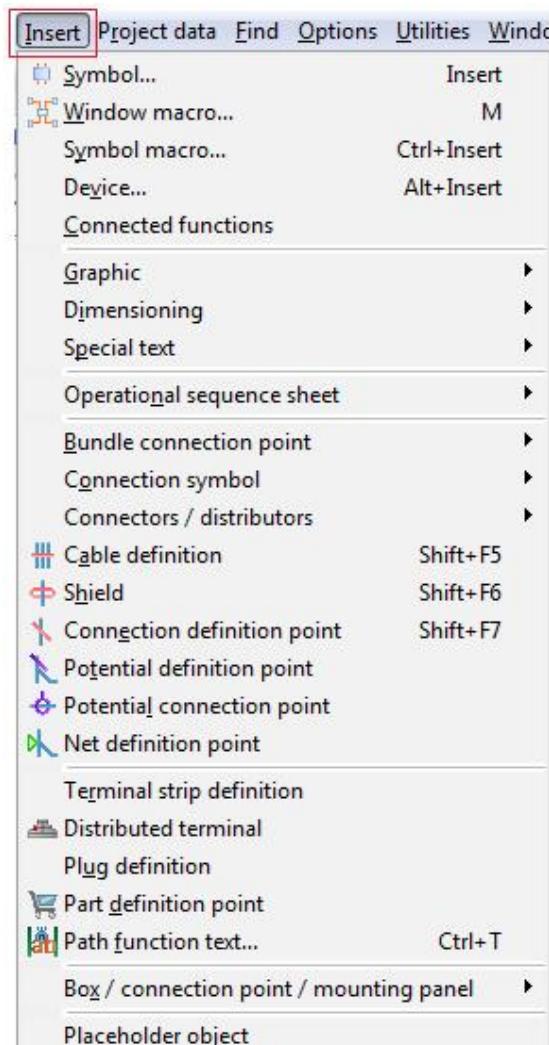
5.22. Graphical preview:

5.23. Workspace....:

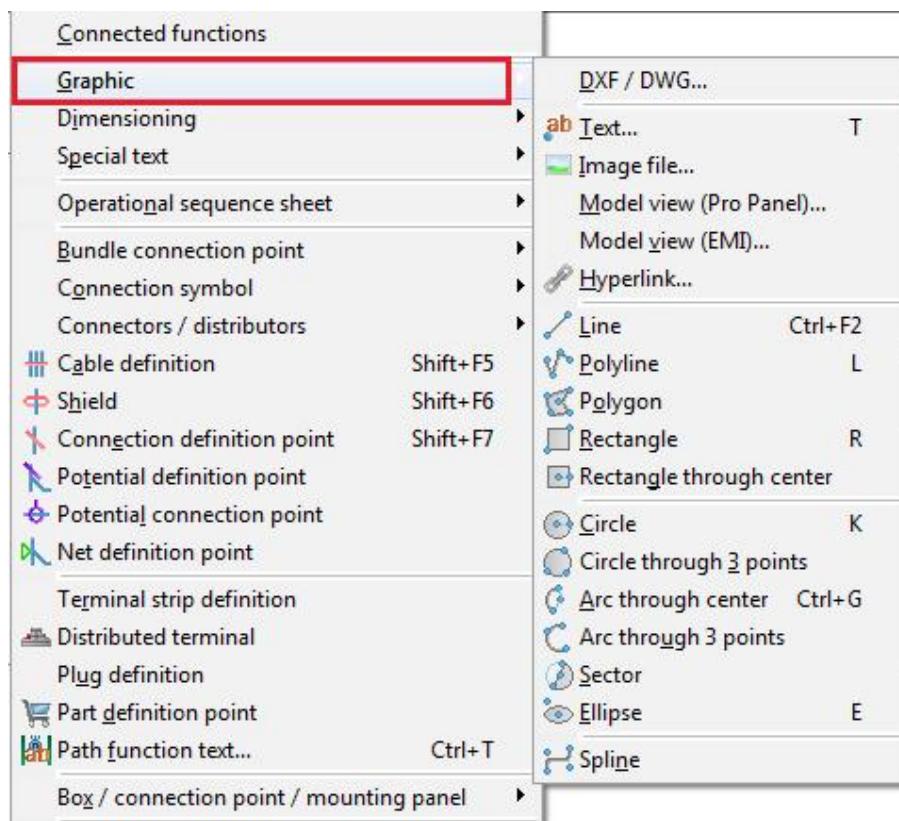
5.24. Graphical format:

5.25. Text format:

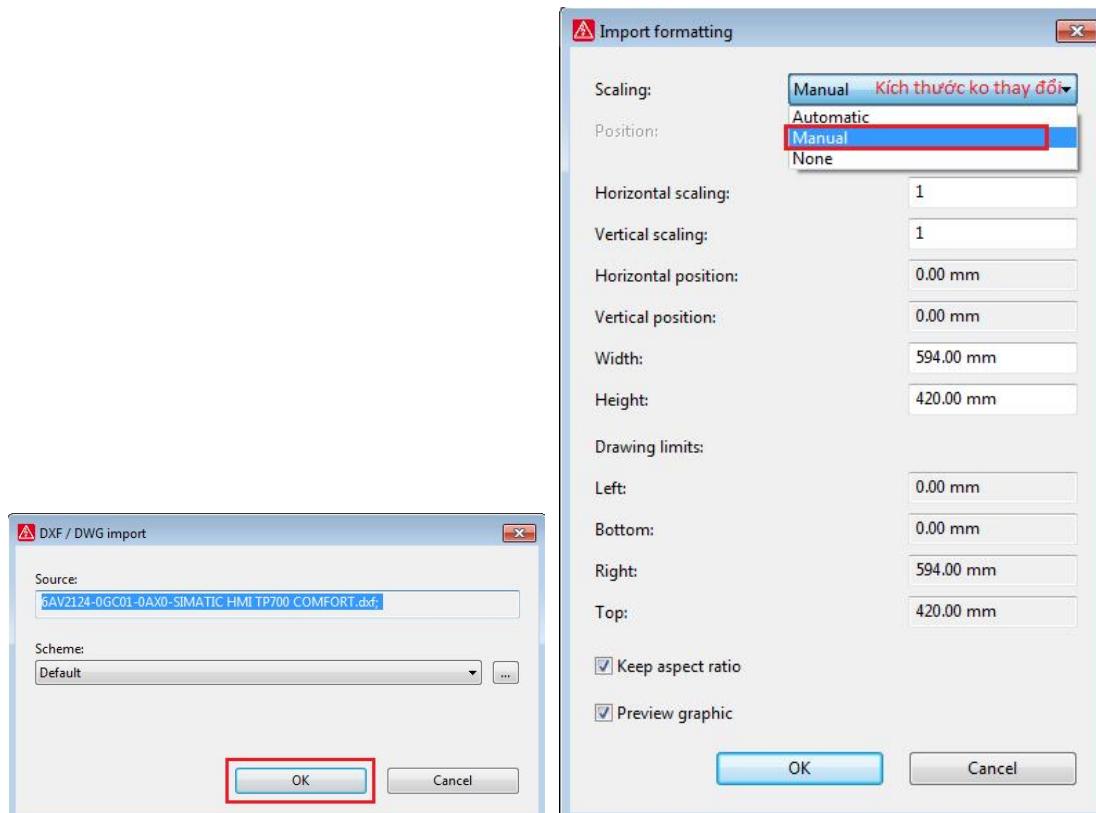
6. Insert:



- 6.1. Symbol... (Insert):
- 6.2. Window macro (M): Mở mẫu thiết kế
- 6.3. Symbol macro (Ctrl+Insert): Mở mẫu thiết bị
- 6.4. Device... (Alt+Insert):
- 6.5. Connected functions:
- 6.6. Graphic:

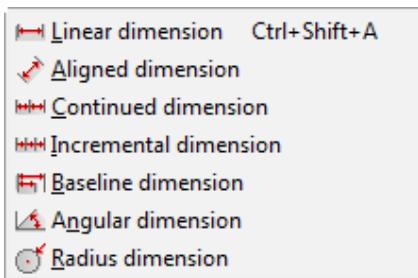


- Insert/ Graphic/DXF/DWG... : chèn file Autocad.



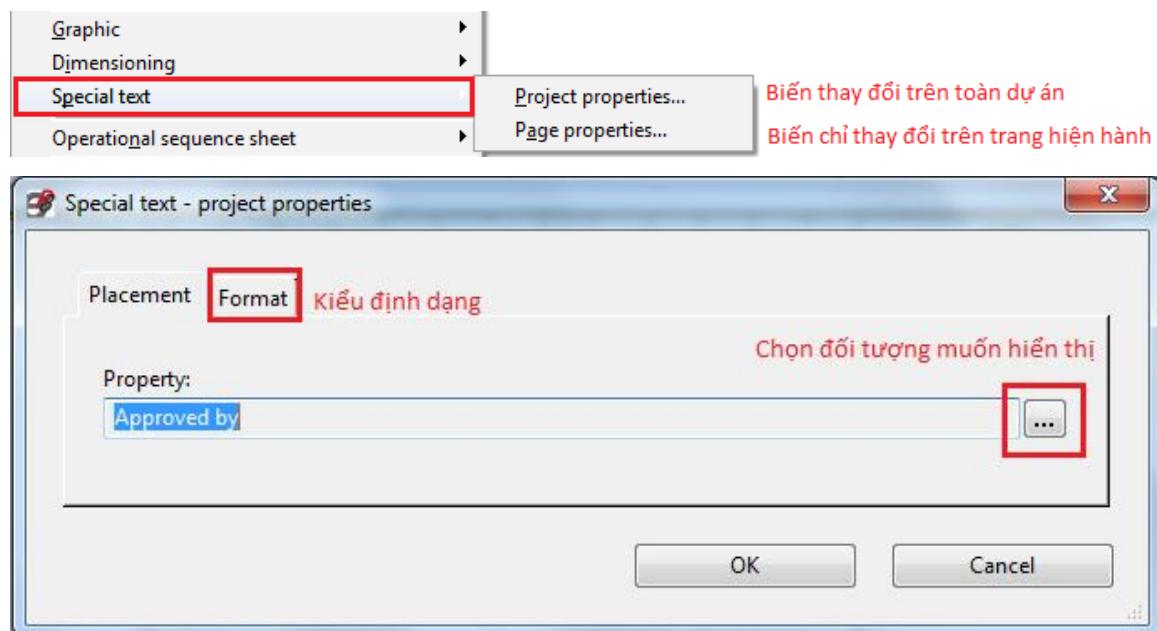
- Insert/Graphic/Image file: Chèn hình ảnh.
- Insert/Graphic/Hyperlink...: Chèn đường dẫn

6.7. Dimensioning:



6.8. Special text:

Insert / Special text : Chèn biến đặc biệt



- Nhập chọn vị trí cần chèn biến.

6.9. Operational sequence sheet:

6.10. Bundle connection point:

6.11. Connection symbol:

6.12. Connection / Distributors:

6.13. Cable definition (Shift+F5):

6.14. Shield (Shift+F6):

6.15. Connection definition point (Shift+F7):

6.16. Potential connection point:

6.17. Net definition point:

6.18. Terminal strip definition:

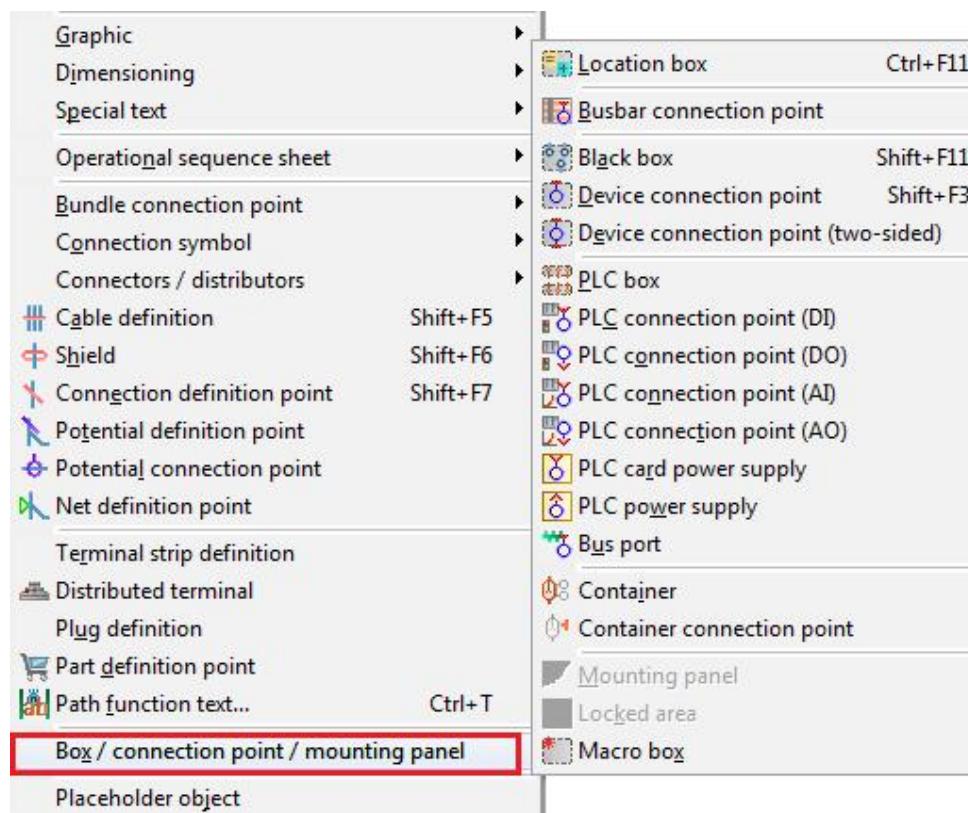
6.19. Distributed terminal:

6.20. Plug definition:

6.21. Part definition point:

6.22. Path function text... (Ctrl+T): Ø

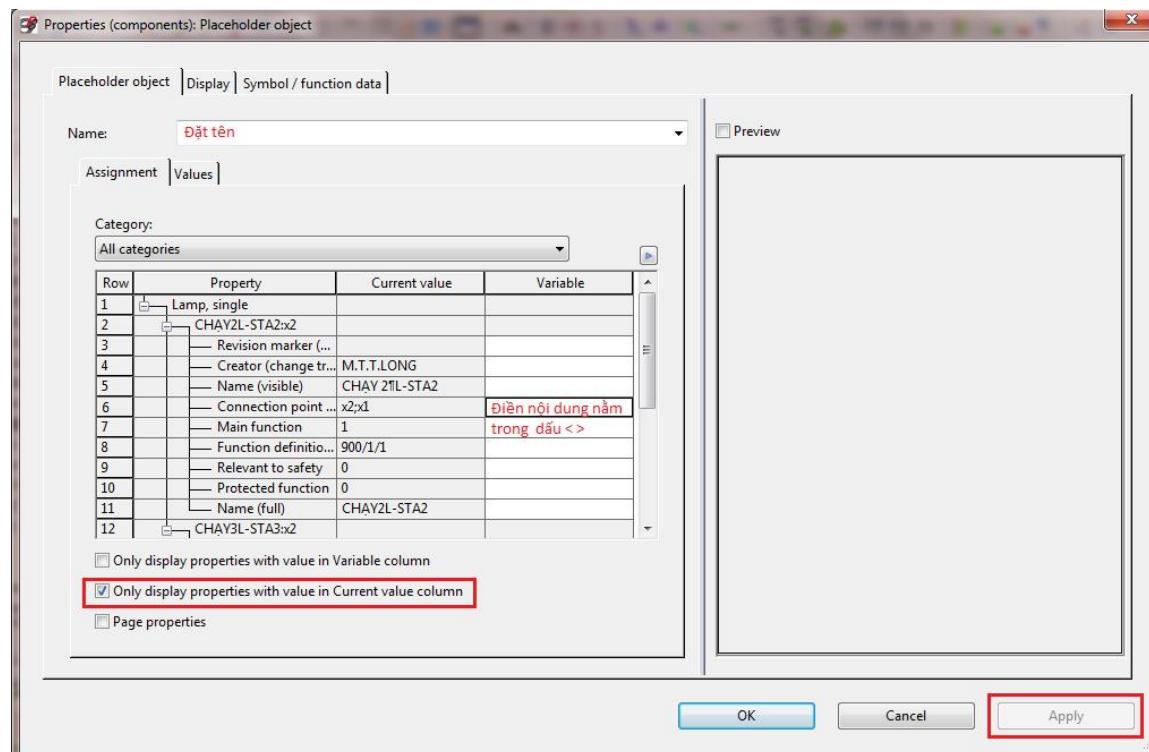
6.23. Box / Connection point / mounting panel:

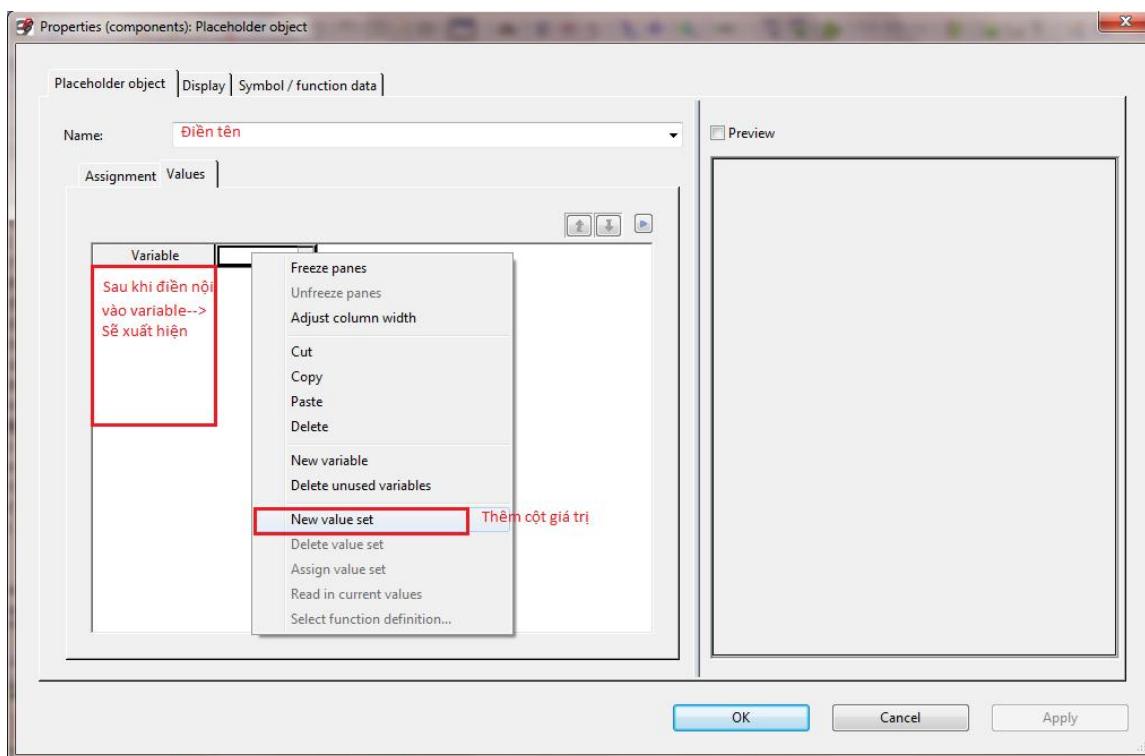


6.24. Placeholder object:

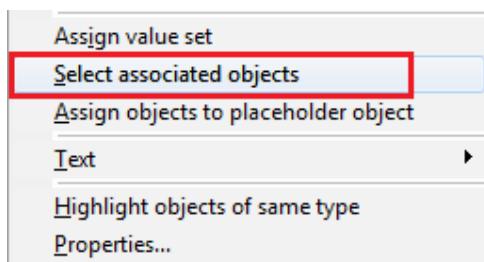
Chọn thiết bị.

Insert>Placeholder Object>

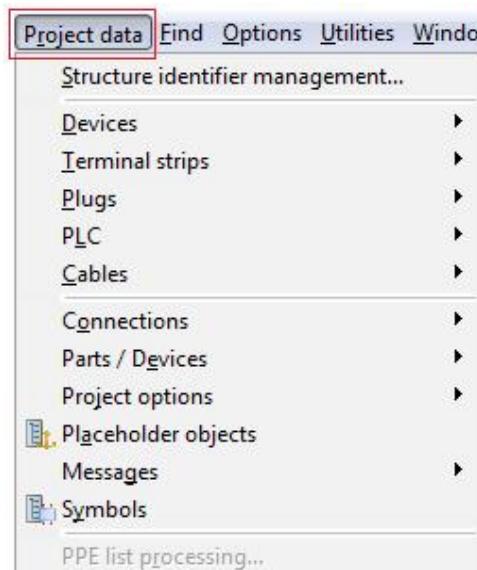




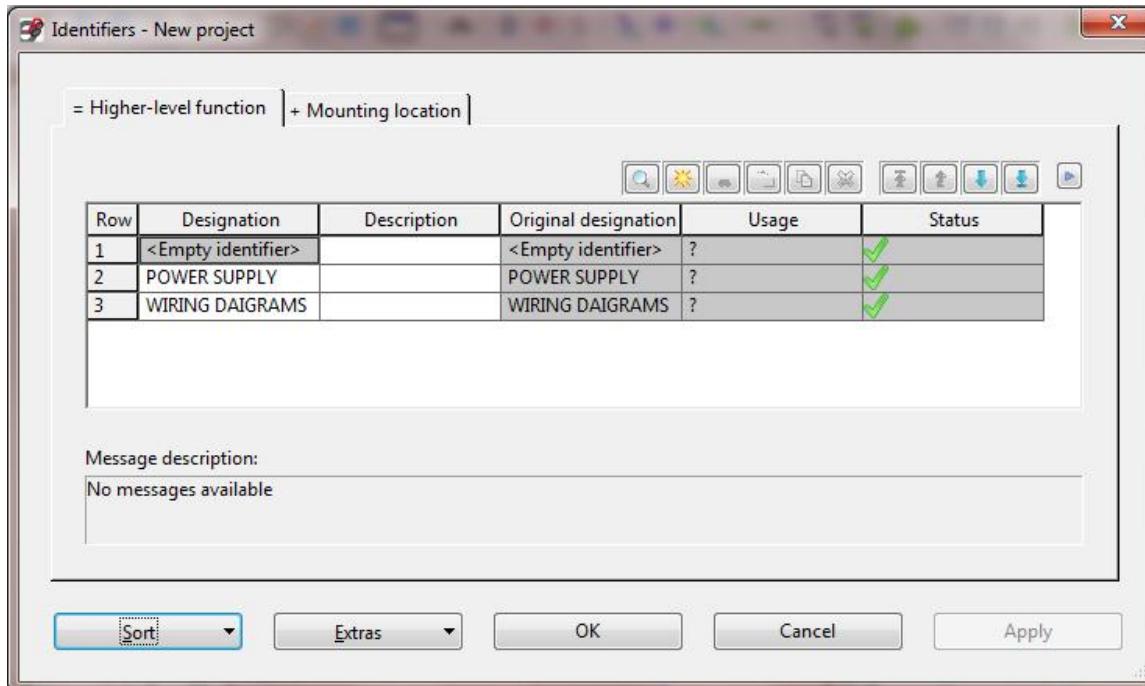
Click phải vào chọn Select associated object: Xuất hiện các thiết bị thuộc



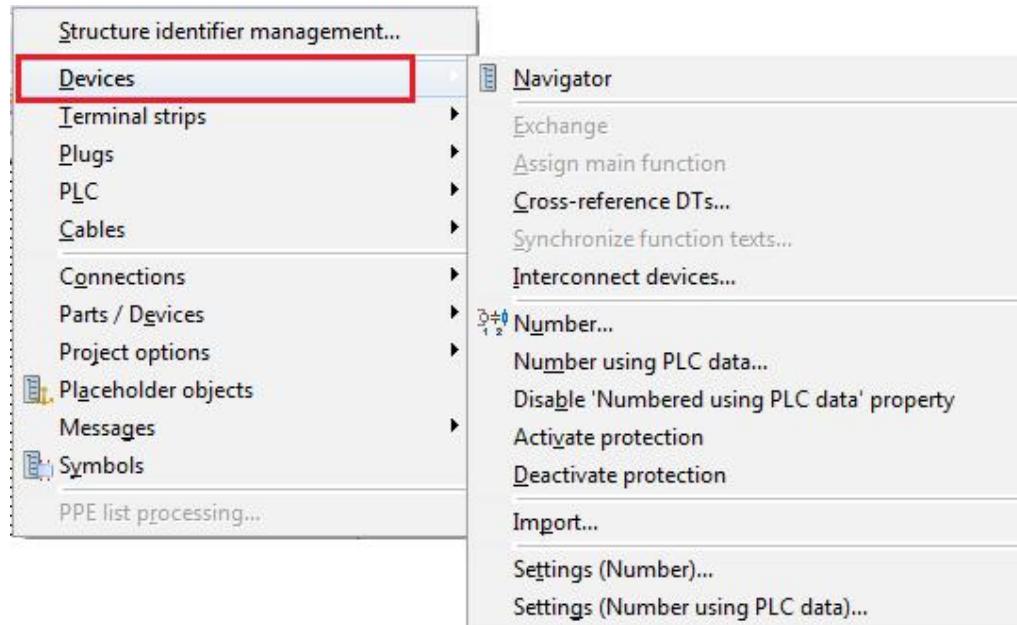
7. Project data:



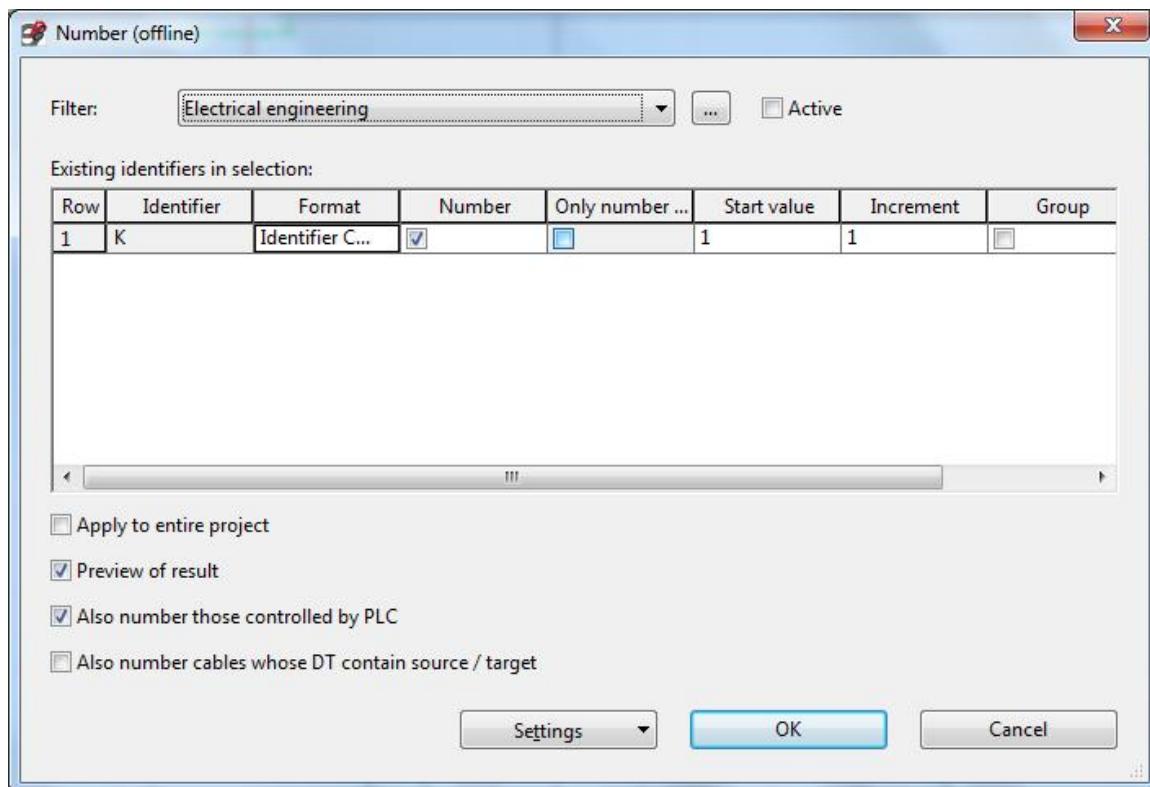
7.1. Structure identifier management...: Quản lý cấu trúc của bản vẽ (chương/mục)

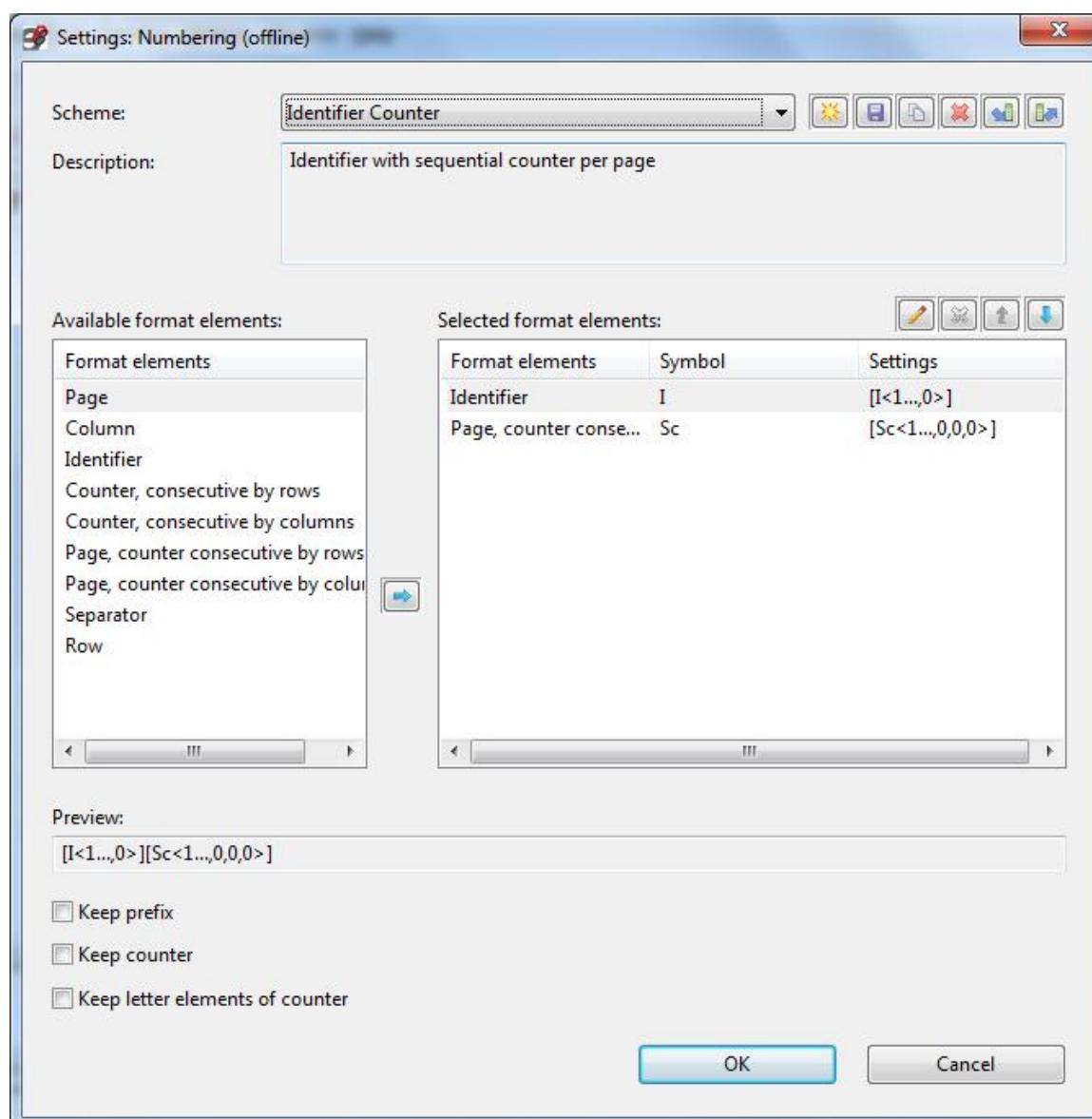


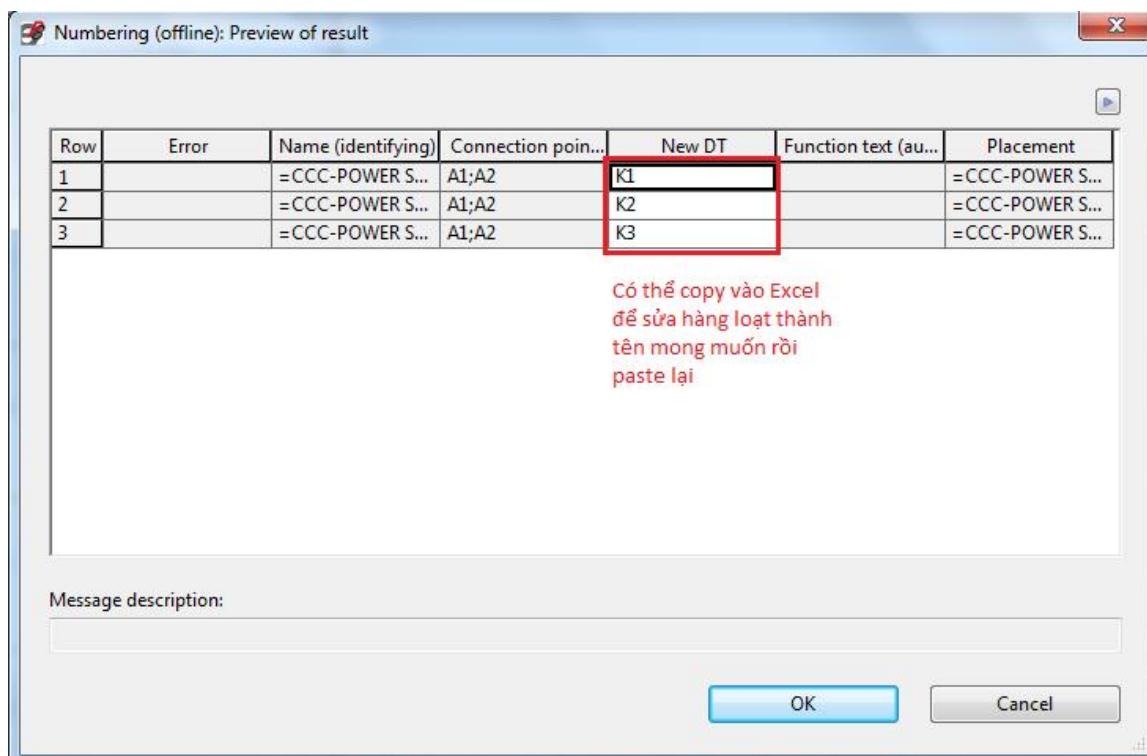
7.2. Devices:



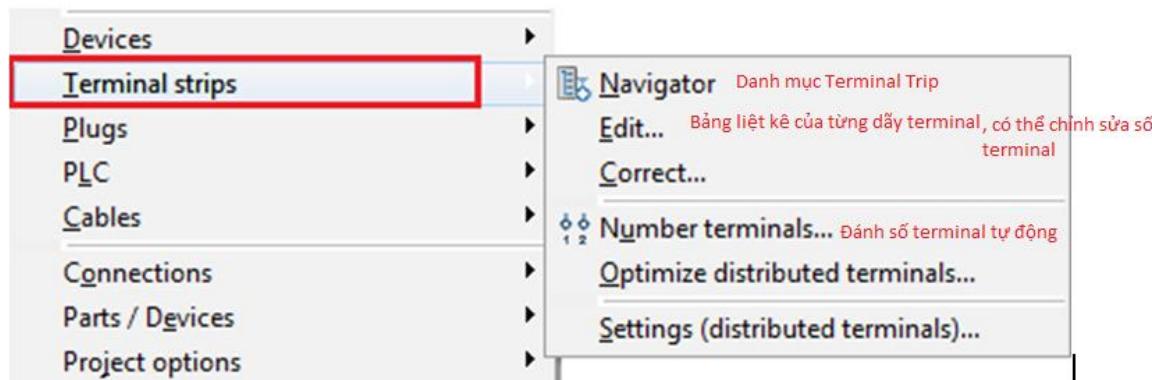
Project data/ Devices/ Number...: Đánh số thứ tự cho các thiết bị cùng chủng loại
(Vd: Các thiết bị mang tên K, sau khi đánh số xong, chúng ta sẽ có K1, K2, K3...)





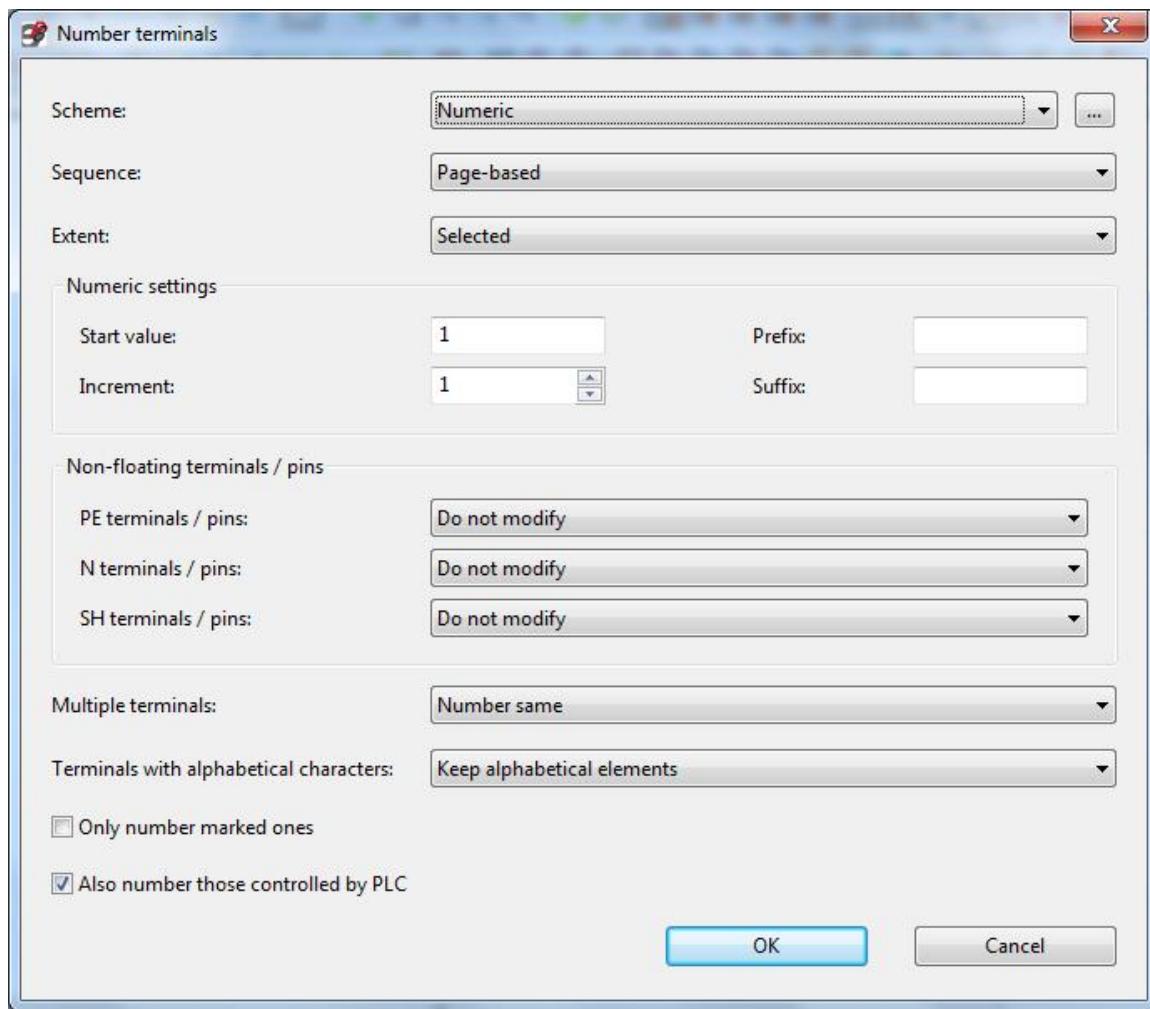


7.3. Terminal strips:



Đánh số thứ tự Terminal:

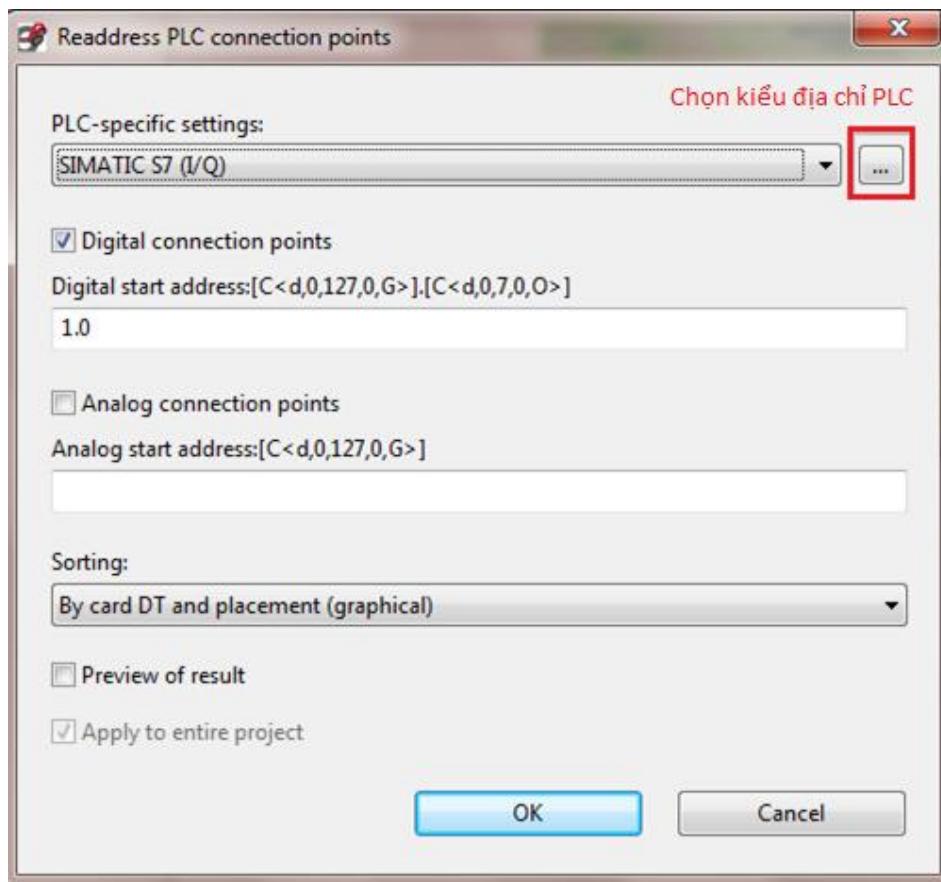
- Bôi đen loại terminal muốn đánh số/ hoặc chọn dãy terminal từ danh mục Terminal Trip khi chọn **Navigator**.
- Project data/ Terminal strips/ Number terminal...
- Tự động đếm tất cả các Terminal cùng tên.

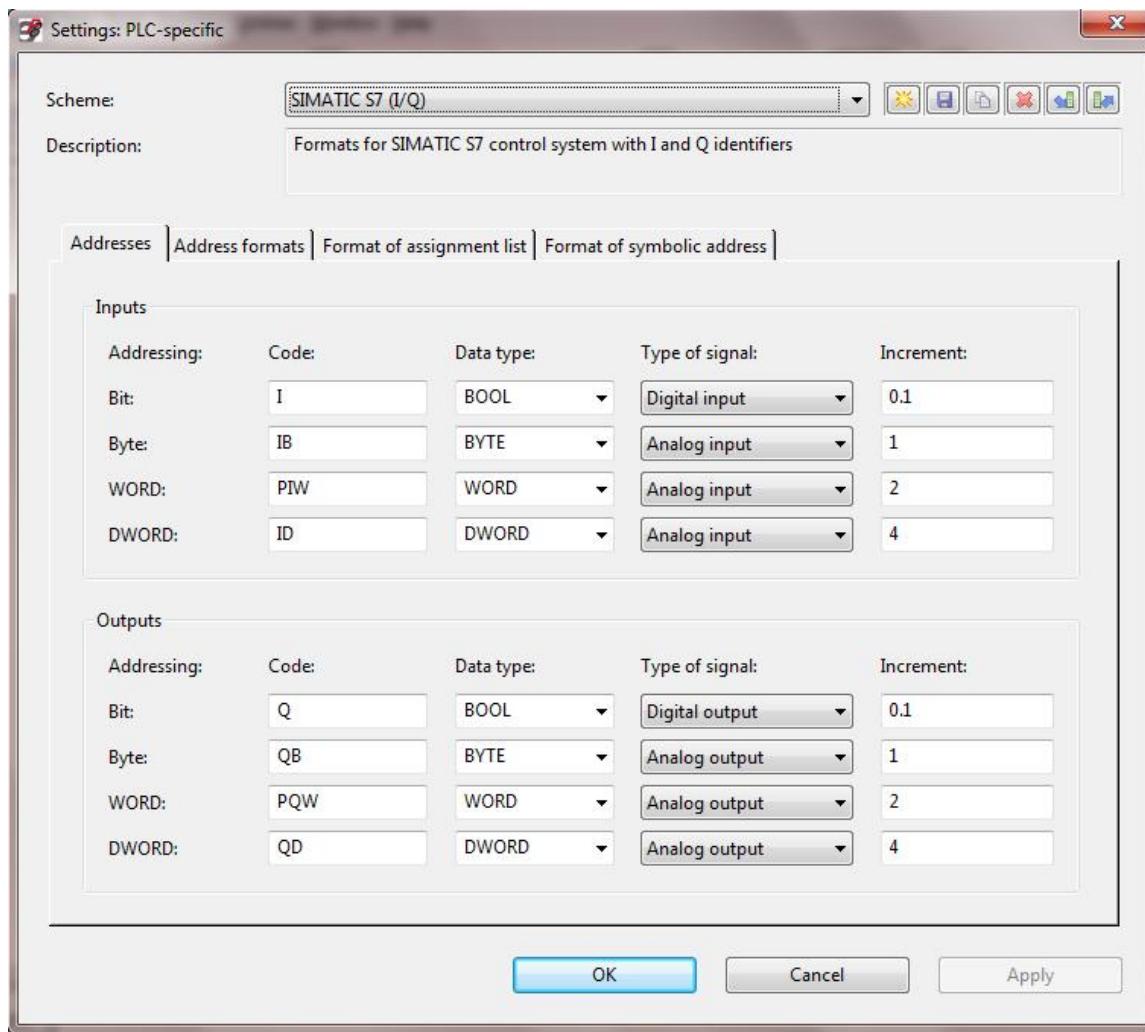


7.4. Plugs:

7.5. PLC:

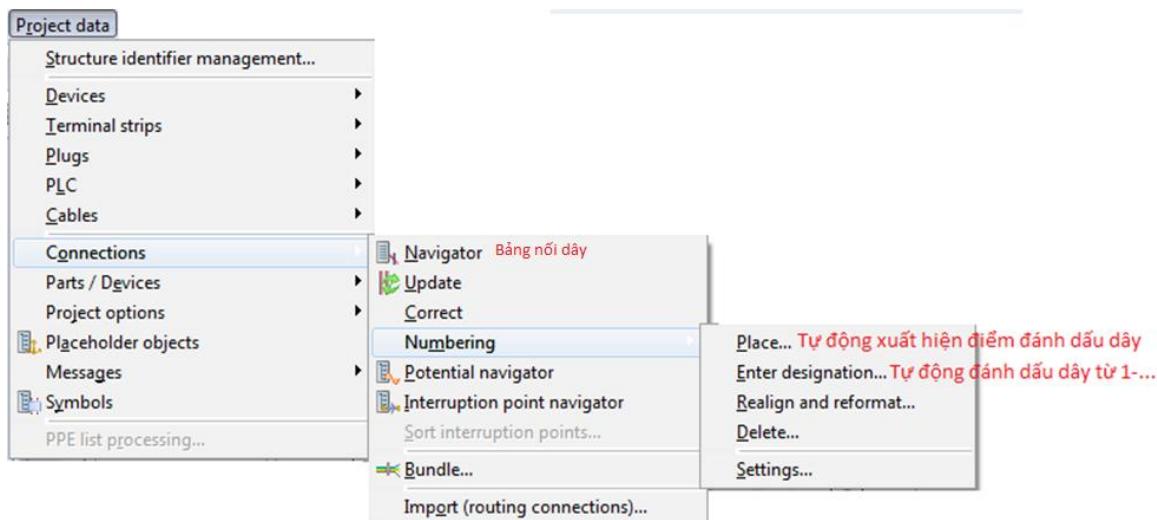
- Tự động nhảy địa chỉ PLC:
- Quét chọn chân PLC
- Project data/ PLC/ Address





7.6. Cables:

7.7. Connections:



7.8. Parts/Devices:

7.9. Project options:

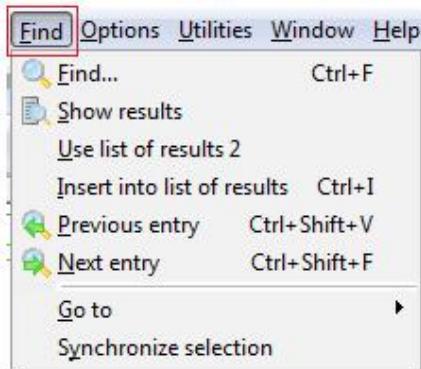
7.10. Placeholder objects:

7.11. Messages:

7.12. Symbols:

7.13. PPE list processing....:

8. Find:



8.1. Find... (Ctrl+F):

8.2. Show results:

8.3. Use list of results 2

8.4. Insert into list of results (Ctrl+I):

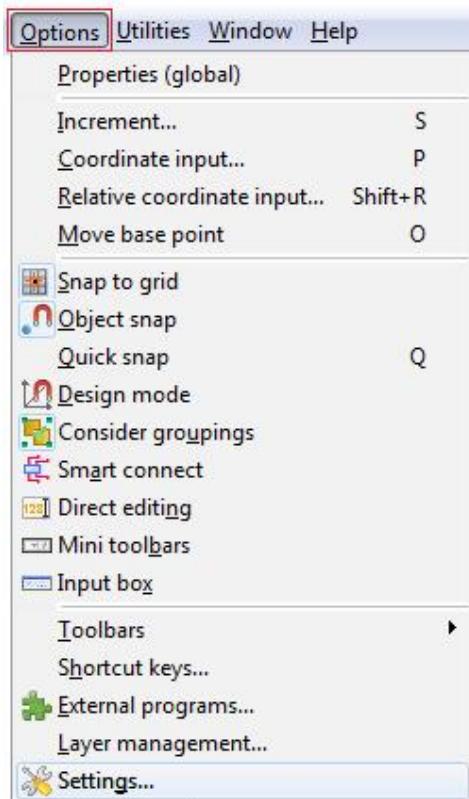
8.5. Previous entry (Ctrl+Shift+V):

8.6. Next entry (Ctrl+Shift+F):

8.7. Go to:

8.8. Synchronize selection:

9. Options:

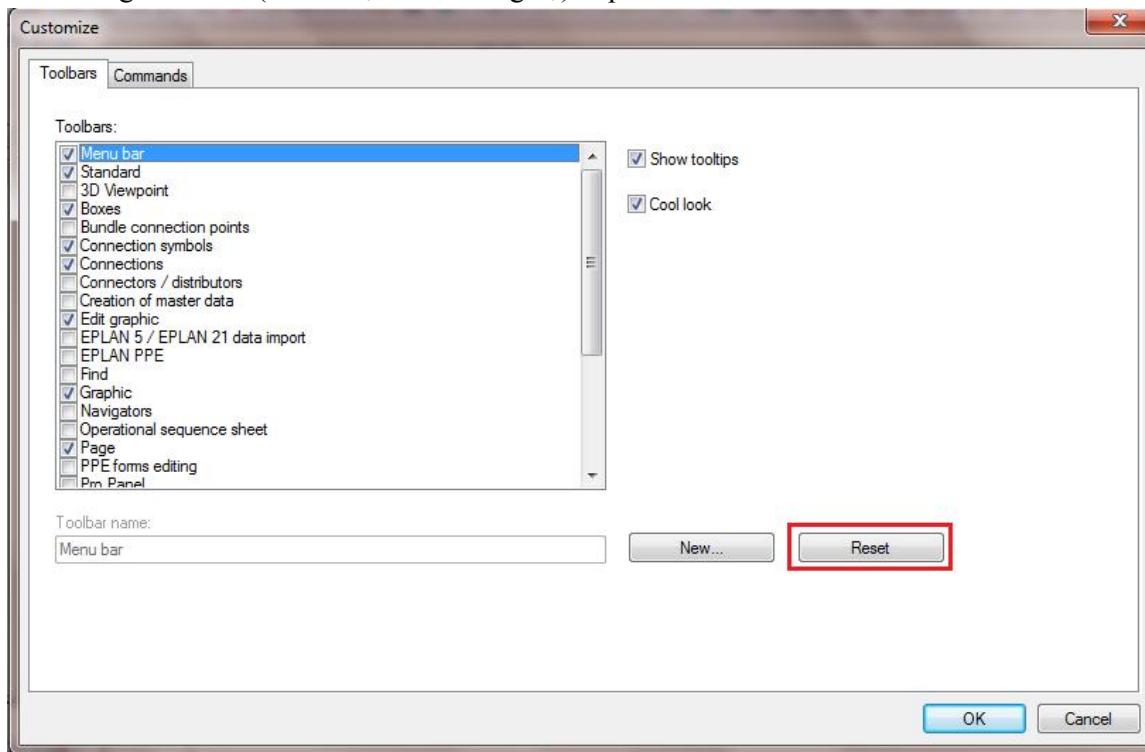


9.1. Properties (global):

9.2. Increment... (S):

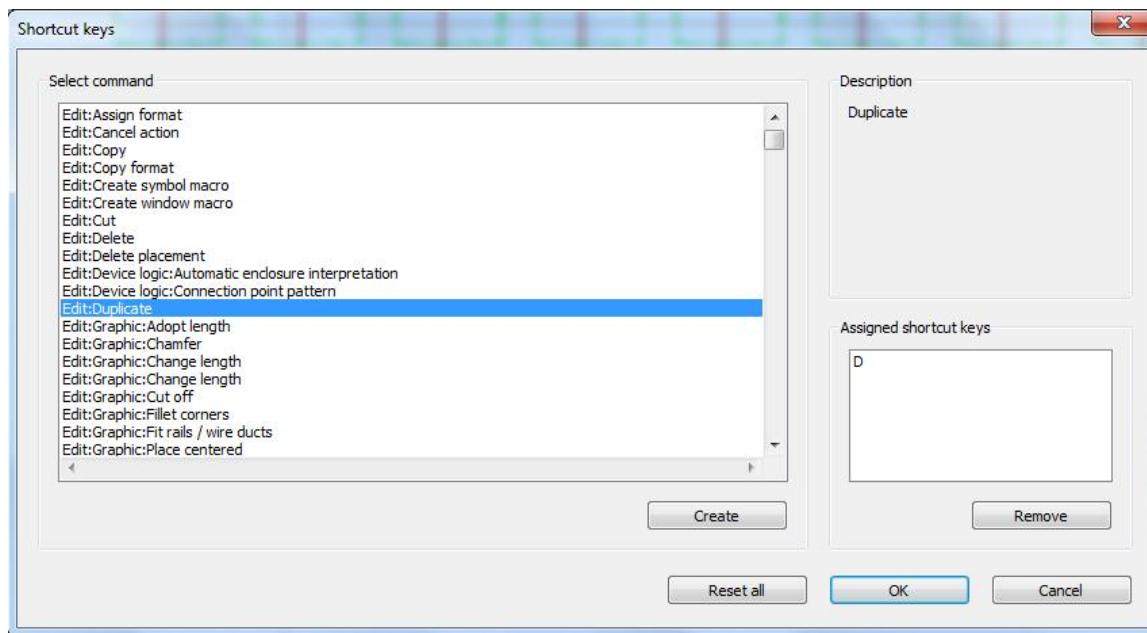
- 9.3. Coordinate input... (P):
- 9.4. Relative coordinate input... (Shift+R):
- 9.5. Move base point (O):
- 9.6. Snap to grid:
- 9.7. Object snap:
- 9.8. Quick snap (Q):
- 9.9. Design mode:
- 9.10. Consider groupings:
- 9.11. Smart connect:
- 9.12. Direct editing:
- 9.13. Mini toolbars:
- 9.14. Input box:
- 9.15. Toolbars:

Activating Toolbars (Kích hoạt thanh công cụ): Options > Toolbars > Customize



- 9.16. Shortcut keys...

Danh sách phím tắt: Options/ Shortcut keys...



Command	Shortcut Keys	Description
Edit/Cancel action	ESC	Cancel action
Edit/Copy	Ctrl+C	Copy
Edit/ Create Symbol macro	B	Create Symbol macro
Edit/Create Window macro	Ctrl+F5	Create Window macro
Edit/Cut	Ctrl+X Shift+Delete	Cut
Edit/Delete	Delete	Delete
Edit/Delete placement	Alt+Delete	Delete placement
Edit/Duplicate	D	Duplicate
Edit/Graphic/Adopt length	H	Adopt length from placed components
Edit/Graphic/Place Centered	J	Place Centered between 2 components
Edit/In Table	Q	Edit function data in table
Edit/Move	V	Move
Edit/Other/Group	G	Group highlighted elements

Edit/Paste	Ctrl+V	Paste
Edit/Properties	Ctrl+D	Properties
Edit/Redo	Ctrl+Y	Restore previous state
Edit/Rotate	Ctrl+R	Rotate
Edit>Select/All	Ctrl+A	Select all
Edit>Select/Page	Ctrl+M	Select current page
Edit/Text/Move/Property text	Ctrl+B	Move property text
Edit/Undo	Ctrl+Z Alt+Backspace	Undo last action
Edit/Find	Ctrl+F	Enter search term
Find/Go to/Counterpiece	F	Go to associated counterpiece
Find/Go to/Cross-referenced function/ Backward	Alt+Page up	Go to previous result list entry
Find/Go to/Cross-referenced function/ Forward	Alt+Page down	Go to next result list entry
Find/Go to/Graphic	Ctrl+J	Go to selected function in the graphic
Find/ Insert into list of results	Ctrl+I	Insert into list of results
Find/Next entry	Ctrl+Shift+F	Find next entry
Find/Previous entry	Ctrl+Shift+V	Find previous entry
Insert/Box-Connection point-Mounting panel/Black box	Shift+F11	Insert black box
Insert/Box-Connection point-Mounting panel/Device connection point	Shift+F3	Insert device connection point
Insert/Box-Connection point-Mounting panel/Location box	Ctrl+F11	Insert location box
Insert/Cable Definition	Shift+F5	Insert cable definition

Insert/Connection definition point	Shift+F7	Insert Connection definition point
Insert/ Connection symbol/Angle (down, left)	F4	Insert angle down, left
Insert/ Connection symbol/Angle (down, right)	F3	Insert angle down, right
Insert/ Connection symbol/Angle (up, left)	F6	Insert angle up, left
Insert/ Connection symbol/Break point	Ctrl+Shift+U	Interrupt connection
Insert/Connection symbol/ Interruption point	Shift+F4	Insert interruption point
Insert/Connection symbol/jumper	Shift+F8	Insert jumper
Insert/Connection symbol/T-node (down)	F7	Insert T-node with function down
Insert/Connection symbol/T-node (left)	F10	Insert T-node with function left.
Insert/Connection symbol/T-node (right)	F9	Insert T-node with function right
Insert/Connection symbol/T-node (up)	F8	Insert T-node with function up
Insert/ Device	Alt+Insert	Insert device
Insert/Dimensioning/Linear dimension	Ctrl+Shift+A	Insert linear dimension
Insert/Graphic/Arc through center	Ctrl+G	Draw arc through center
Insert/Graphic/Circle	K	Draw circle
Insert/Graphic/Ellipse	E	Draw ellipse
Insert/Graphic/Line	Ctrl+F2	Draw line
Insert/Graphic/Polyline	L	Draw polyline
Insert/Graphic/Rectangle	R	Draw rectangle

Insert/Graphic/Text	T	Add text
Insert/Path function text	Ctrl+T	Insert path function text
Insert/Shield	Shift+F6	Insert shield
Insert/Symbol	Insert	Insert symbols in symbols library
Insert/Symbol macro	Ctrl+Insert	Insert symbol macro
Insert/Window macro	M	Insert Window macro
Options/Change handle	A	Select a new handle
Options/ Change rotation angle	Ctrl+Shift+R	Change rotation angle
Options/ Coordinate input	P	Open coordinate input
Options/Increment	S	Enter cursor increment
Options/Move base point	O	Specify new coordinate base point
Options/Placement options	Ctrl +W	Define placement options
Options/Quick snap	Q	Quick snap on/off
Options/ Relative coordinate input	Shift+R	Open relative coordinate input
Page/Navigator	F12	Show/ Hide page navigator
Page/ New	Ctrl+N	Create page
Page/Next page	Page down	Open next page
Page/Macro/Create	Ctrl+F10	Create page macro
Page/Previous page	Page Up	Open previous page
Project/ Exit	Alt+F4	Exit application
Project/Print	Ctrl+P	Print
View/Grid	Ctrl+Shift+F6	Show grid
View/Insertion point	I	Show insertion points
View/Invisible elements	U	Show invisible elements

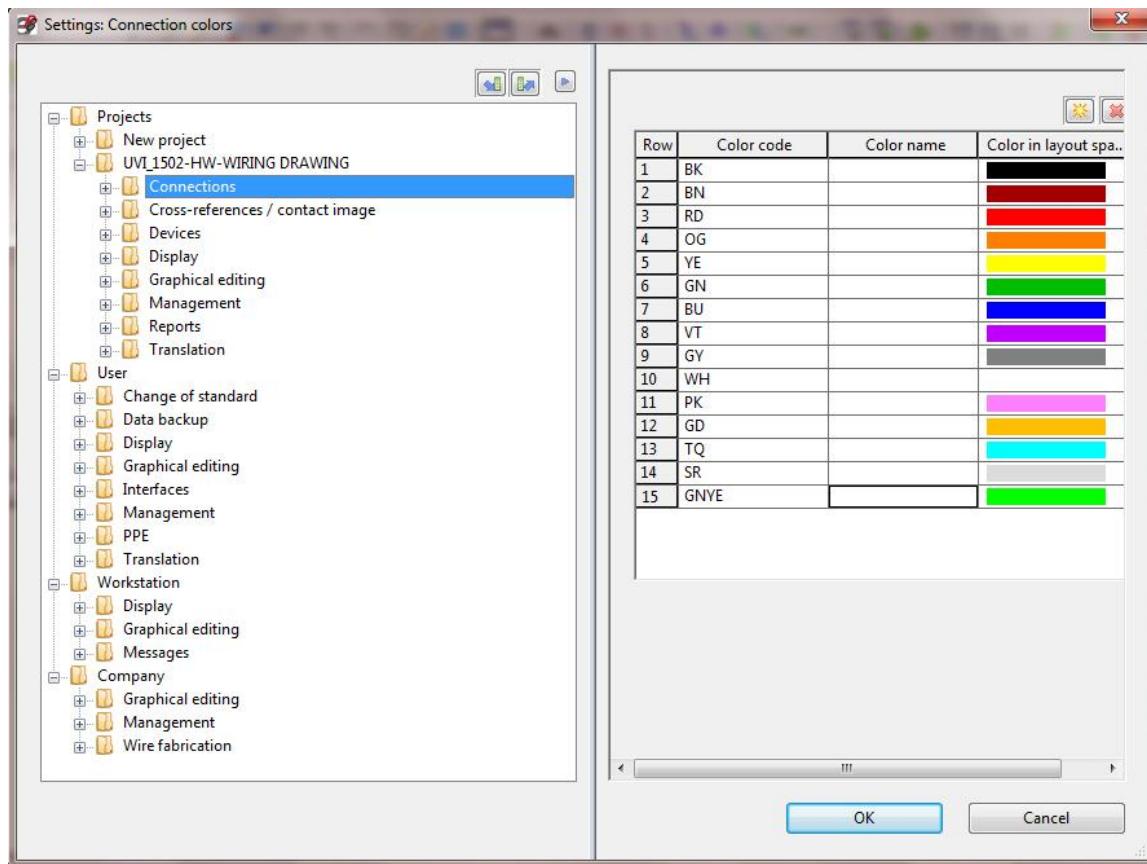
View/Redraw	F5 Ctrl+Enter	Redraw screen
View/Zoom /100%	Alt+3 Alt+Num 3	Zoom 100%
View/Zoom/Window	Z	Open zoom window

Dịnh hướng con trỏ theo 1 phương nhất định, con trỏ trực giao (Orthogonal Function):
nhấn phím “<”

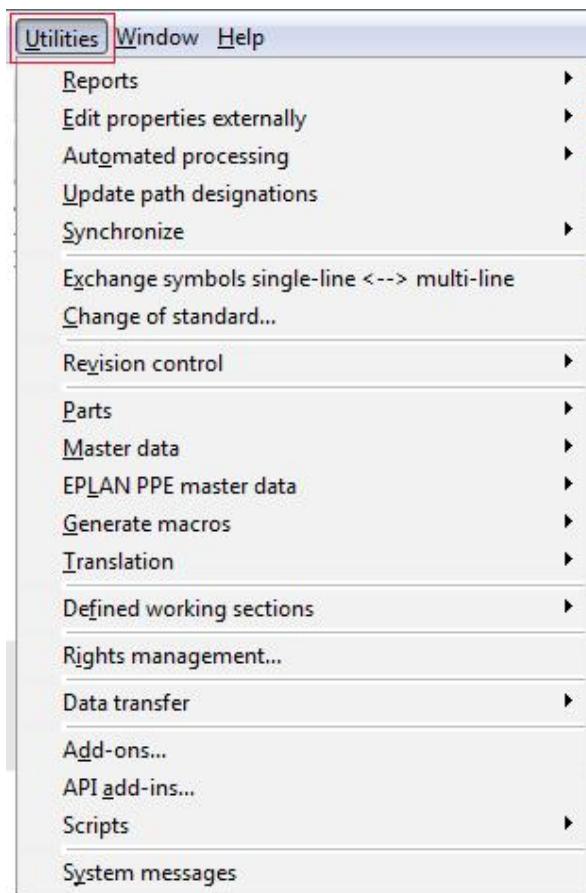
9.17. External programs...:

9.18. Layer management...:

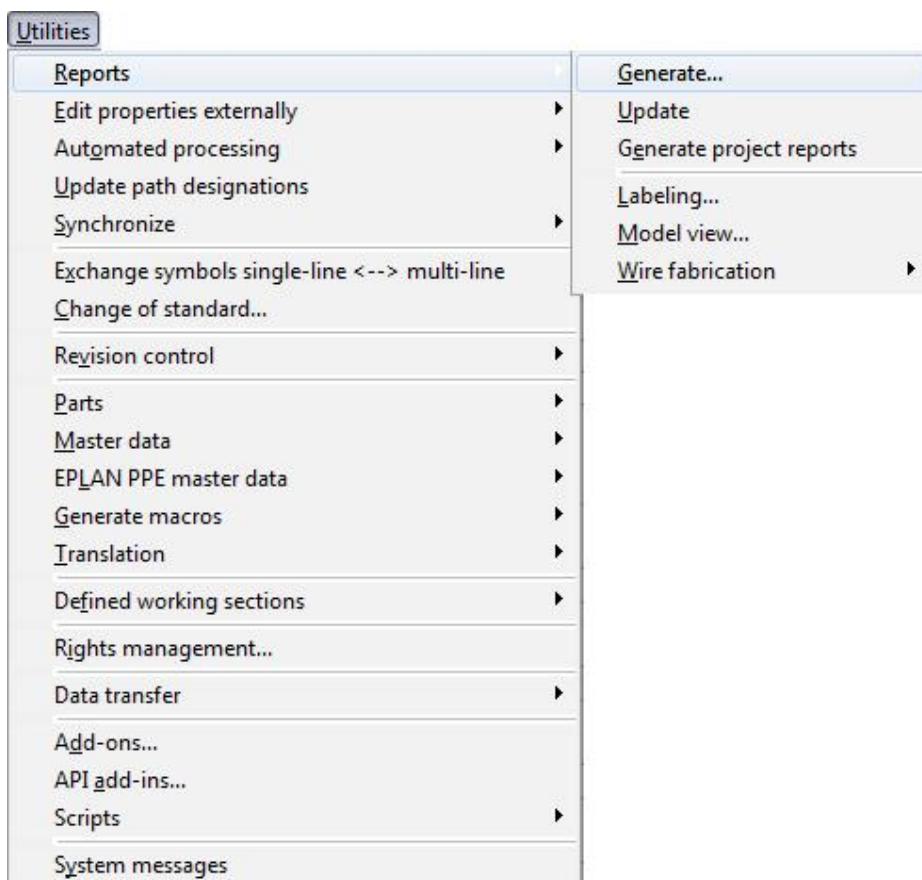
9.19. Settings...:



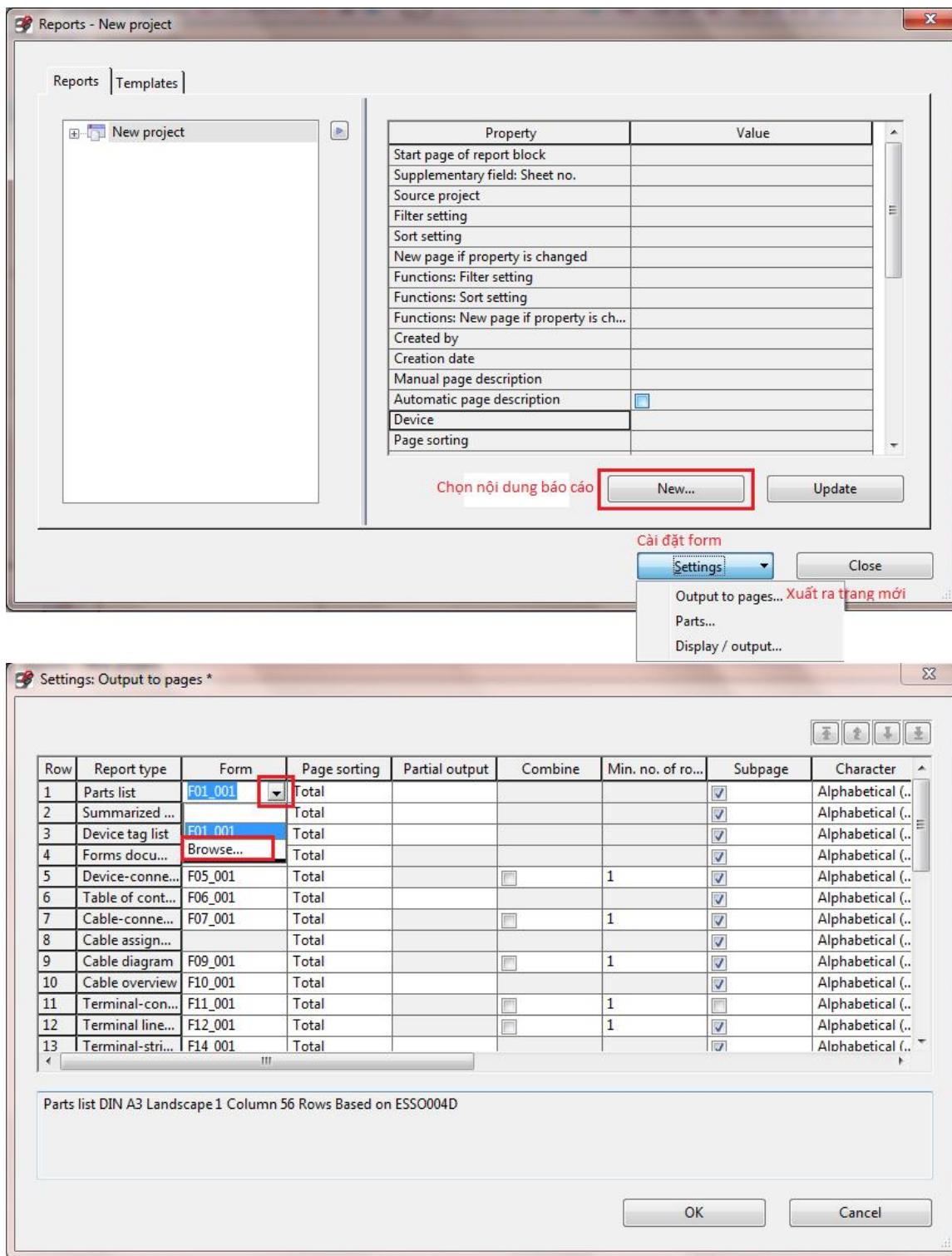
-
10. Utilities:

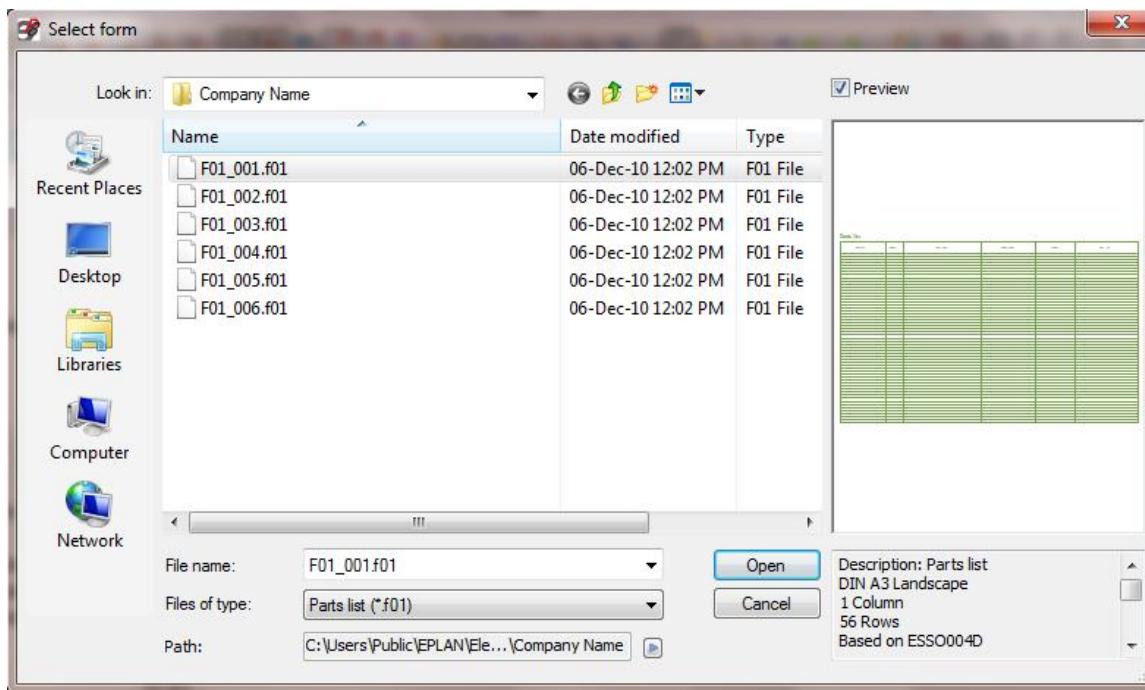


10.1. Reports: Xuất file báo cáo

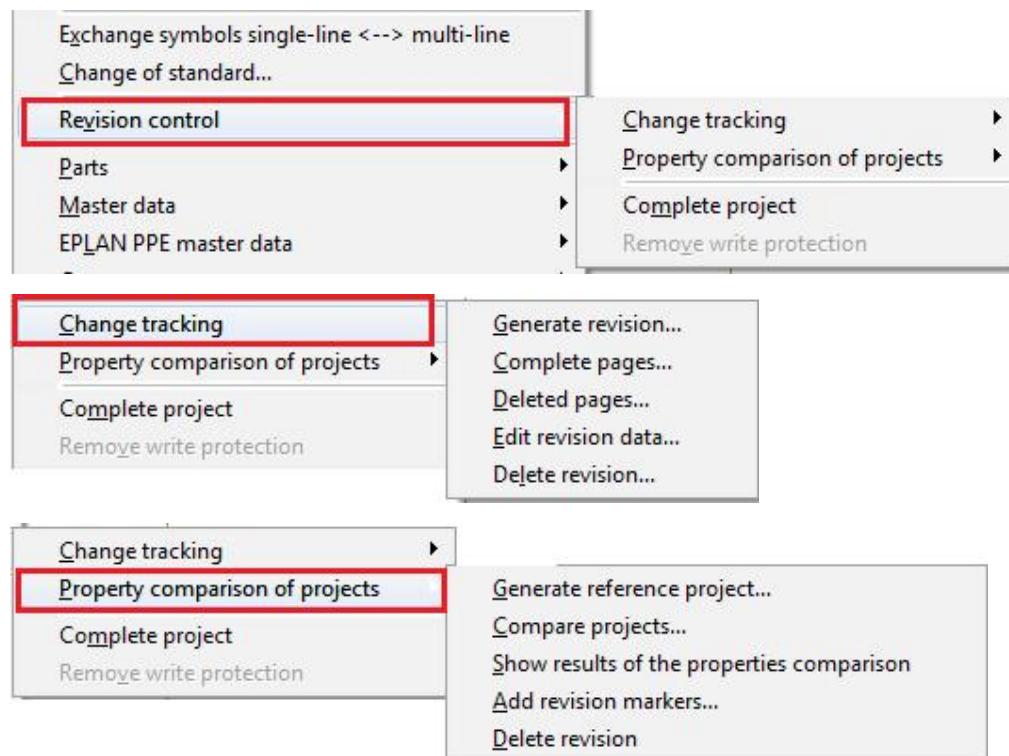


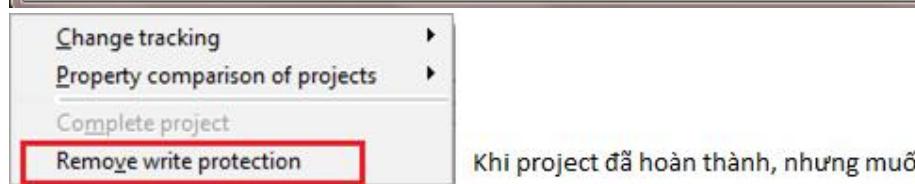
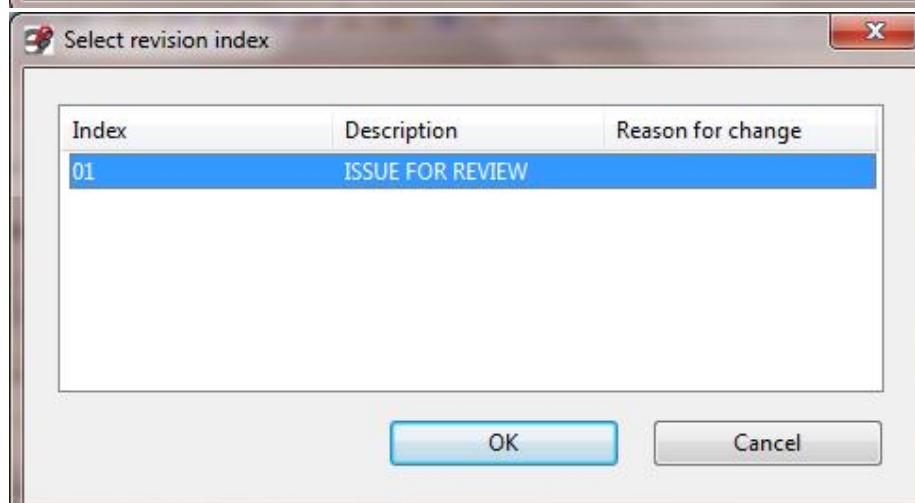
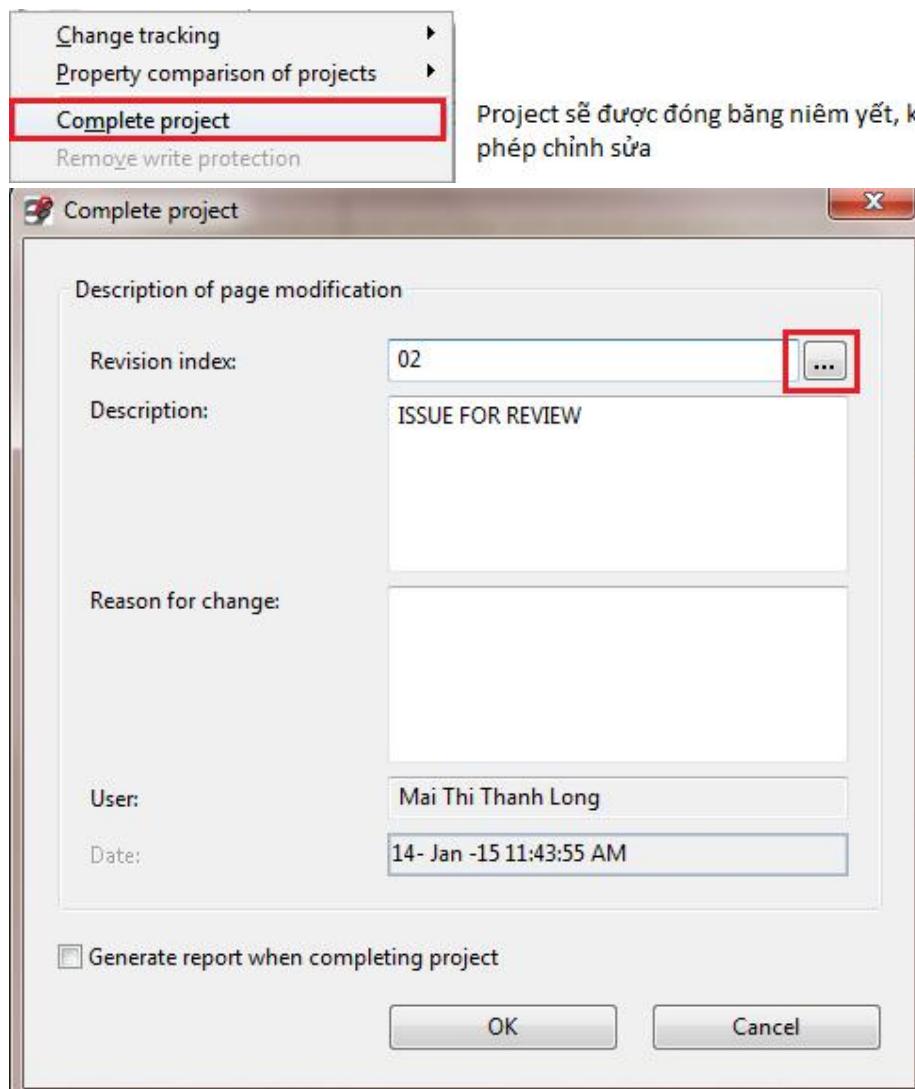
Utilities>Reports>Generate...





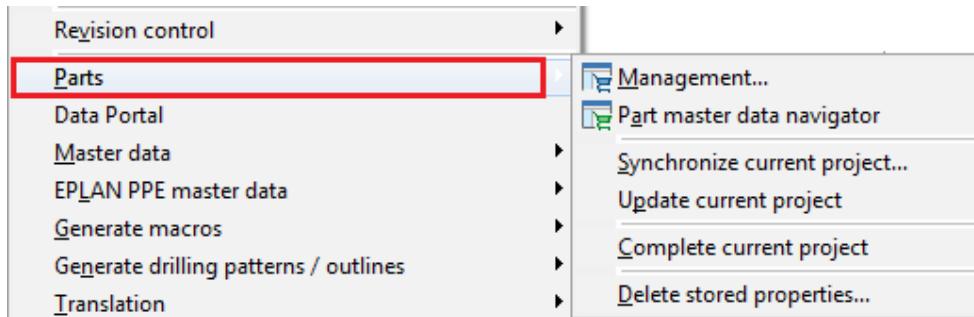
- 10.2. Edit properties externally:
- 10.3. Automated processing:
- 10.4. Update path designations:
- 10.5. Synchronize:
- 10.6. Exchange symbols single line <--> multi line:
- 10.7. Change of standard...:
- 10.8. Revision control:



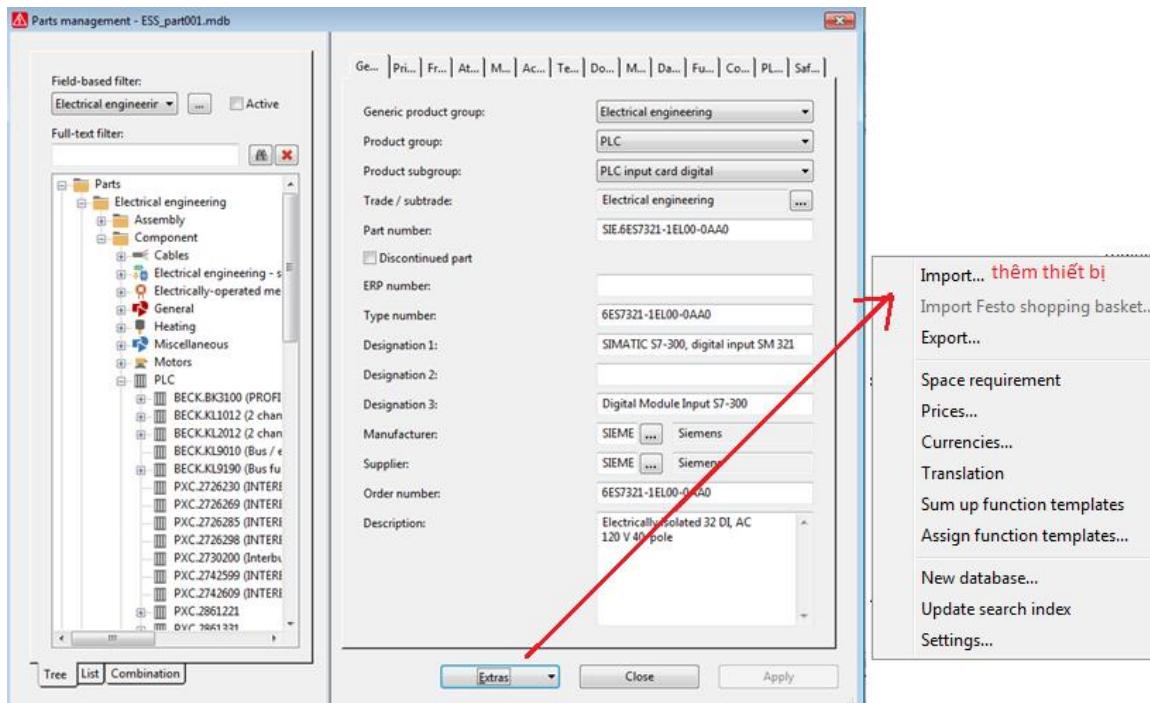


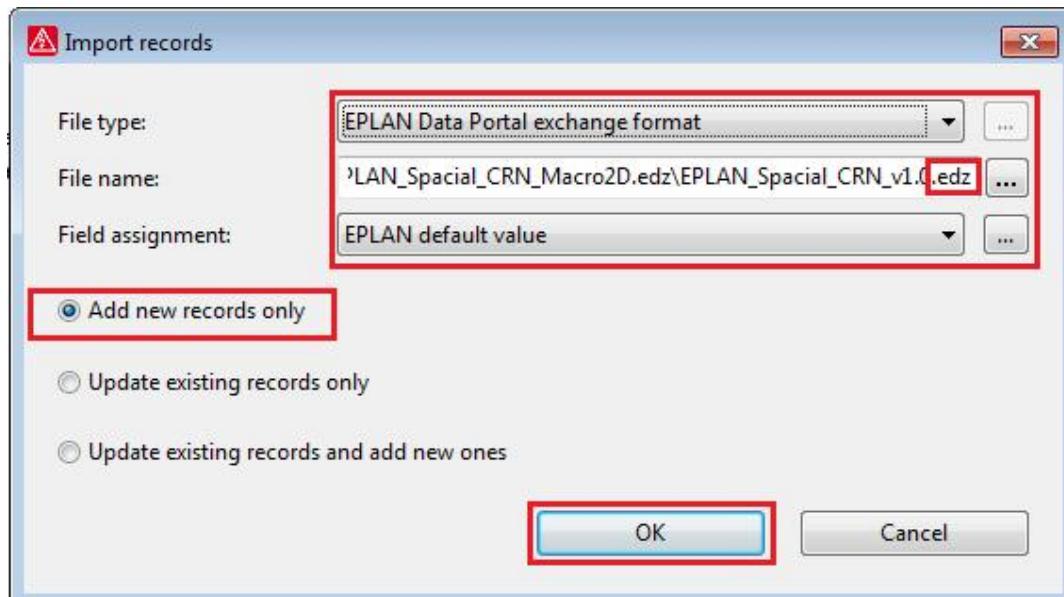


10.9. Parts:



Utilities/ Parts/ Management.../ Extras/ Import : thêm / xuất thiết bị *.edz

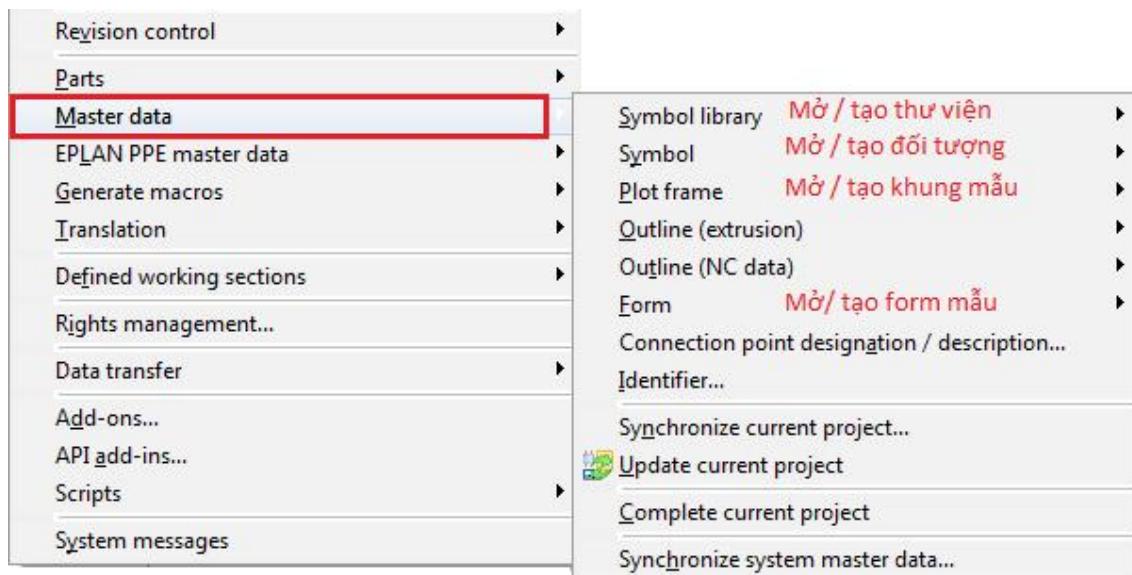




- File type: EPLAN Data Portal exchange format
- File name: tìm đường dẫn tới thư viện thiết bị *.edz
- Field assignment: Eplan default value
- Add new records only
- OK

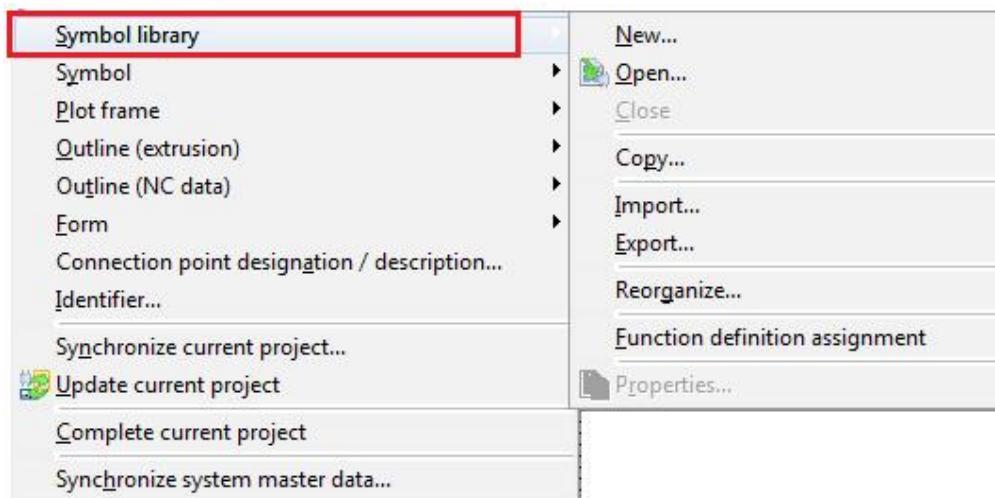
10.10. Master data:

Utilities /Master data:

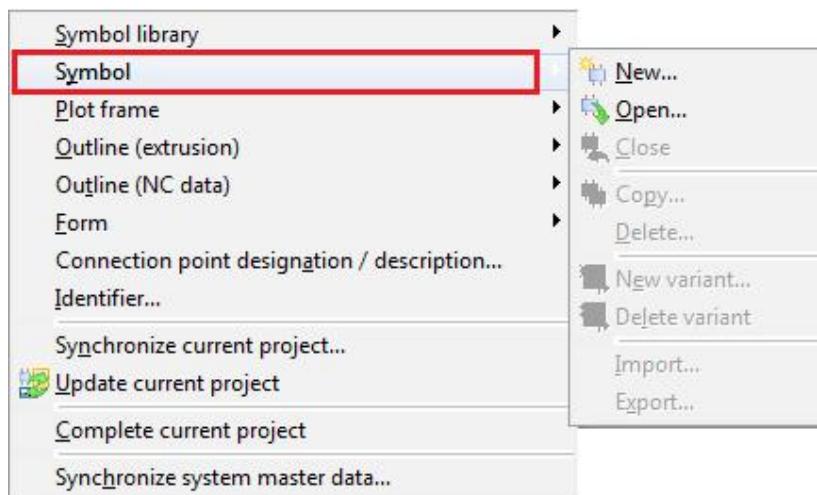


Utilities /Master data/Symbol library:

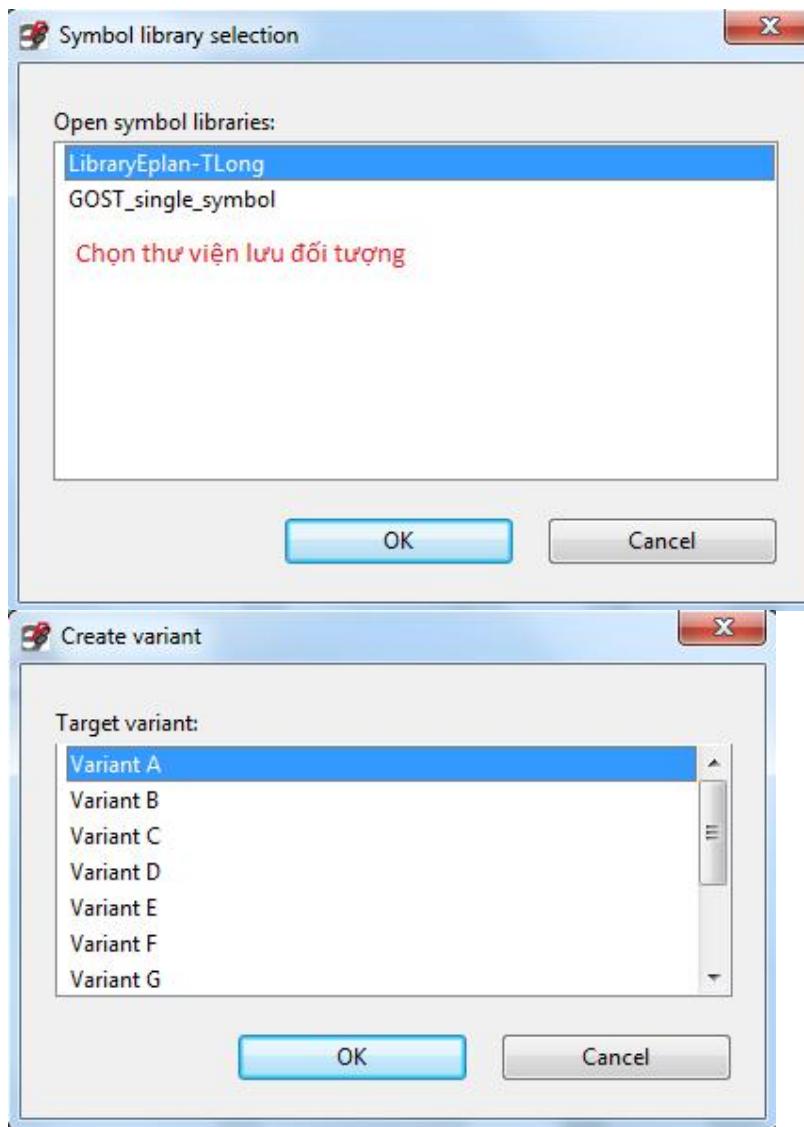
- New: Tạo thư viện mới.
- Open: Mở thư viện.

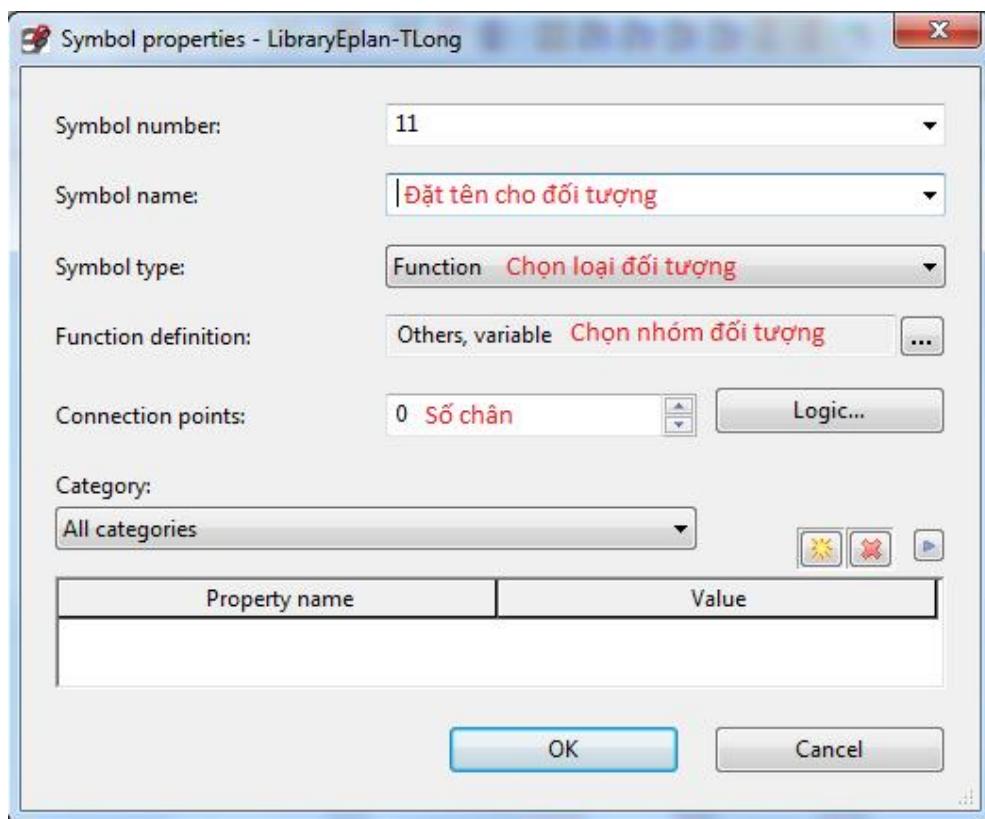


Utilities /Master data/Symbol: Tạo hoặc chỉnh sửa đối tượng.

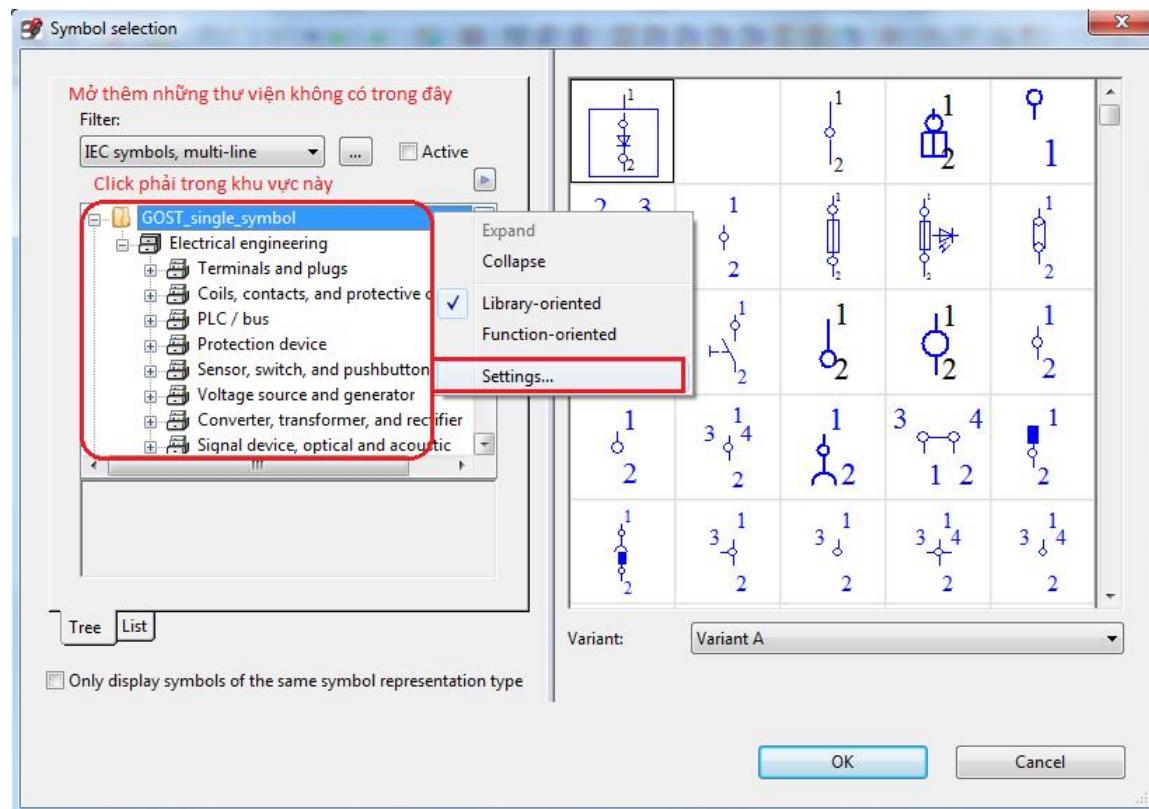


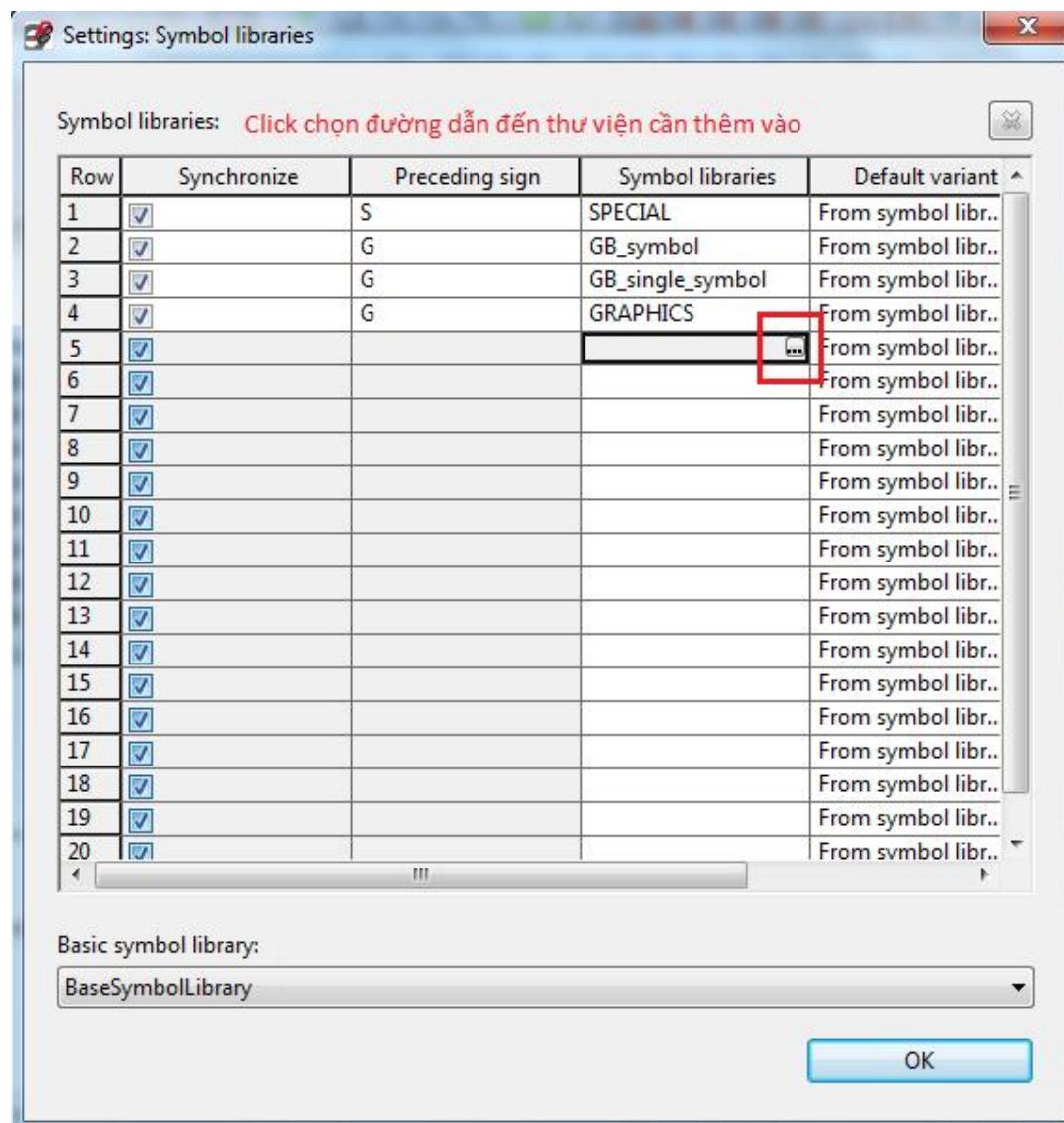
- New: Tạo đối tượng mới.



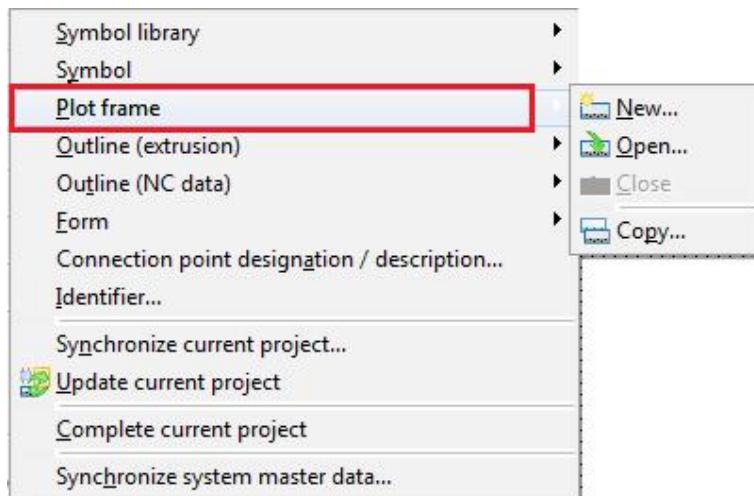


- Open: Mở để chỉnh sửa đối tượng đã có.





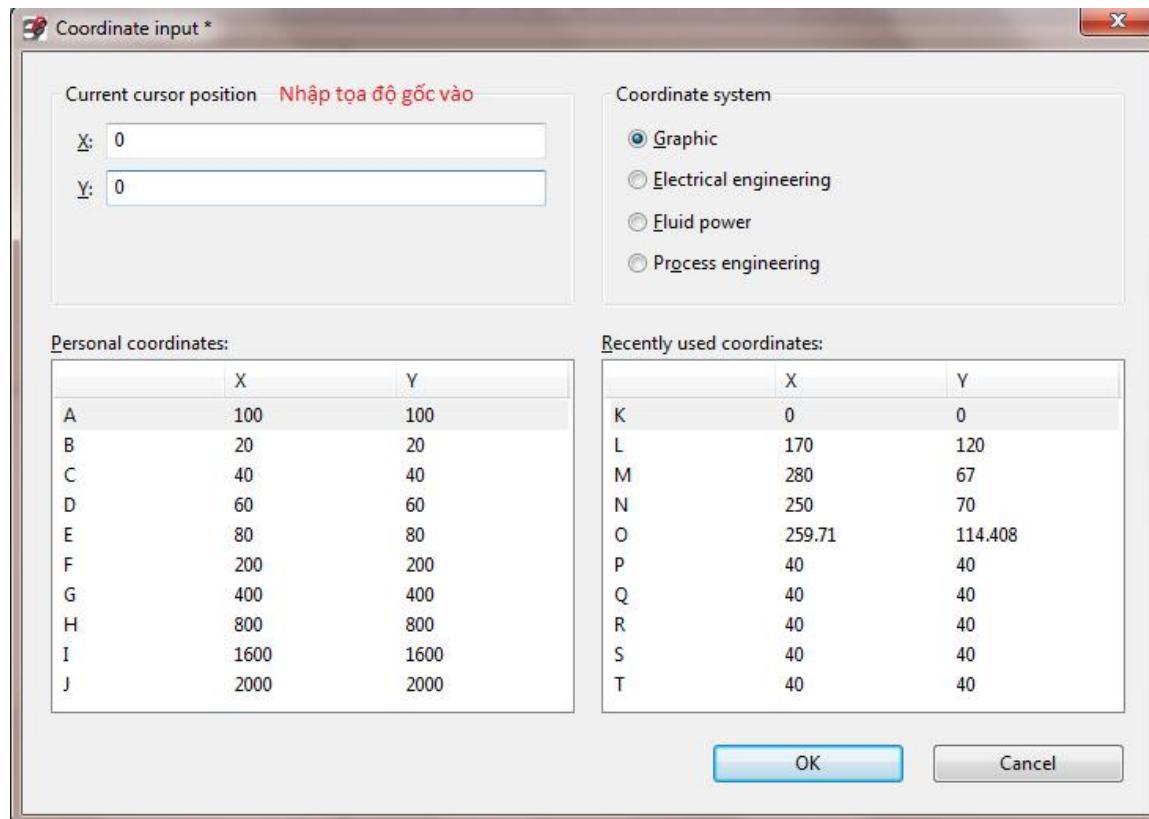
Utilities /Master data/Plot frame: Tạo hoặc chỉnh sửa khung bản vẽ



Xác định gốc tọa độ:

O ↴

P ↴

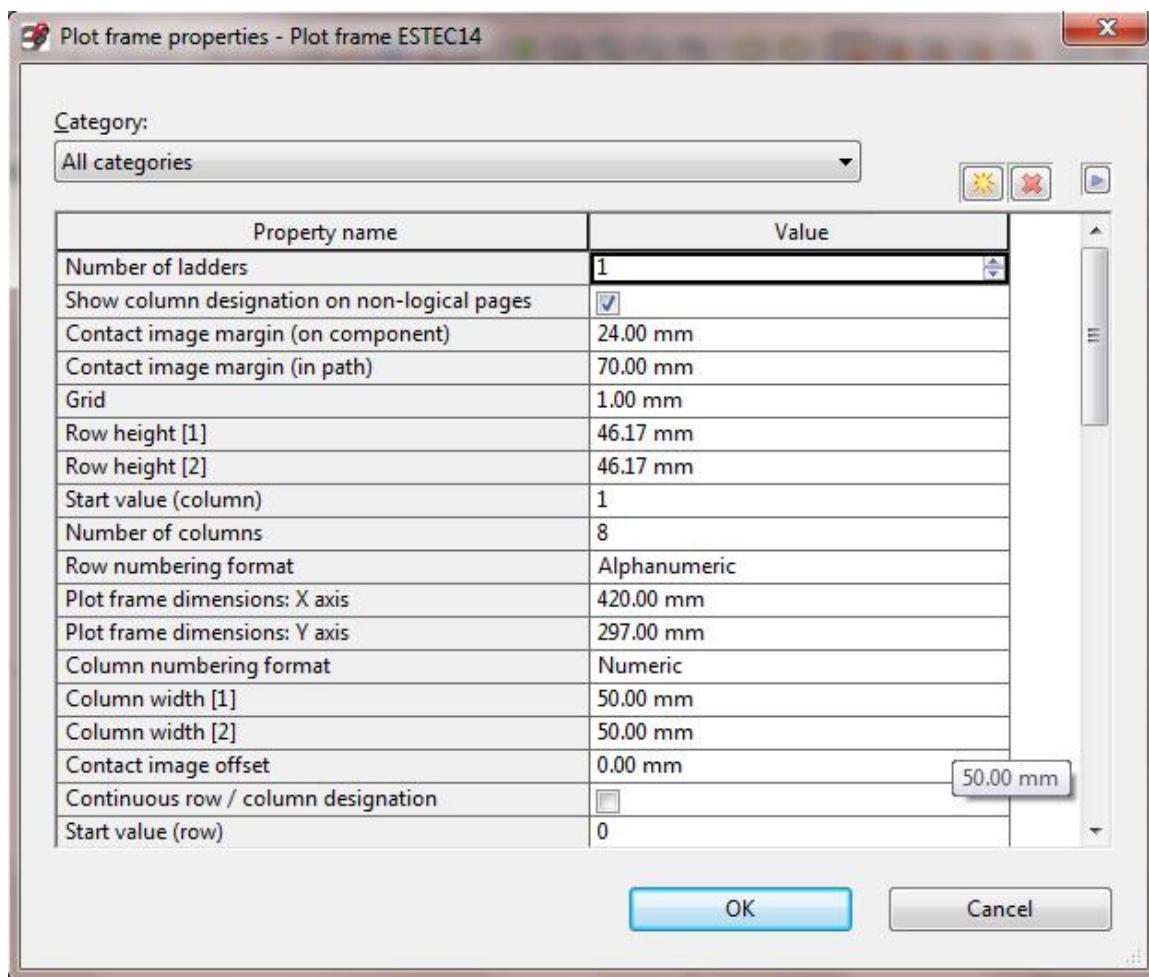


tại xác định được điểm gốc của
tọa độ (0,0)

Xác định vùng khung:

Ctrl+M ↴

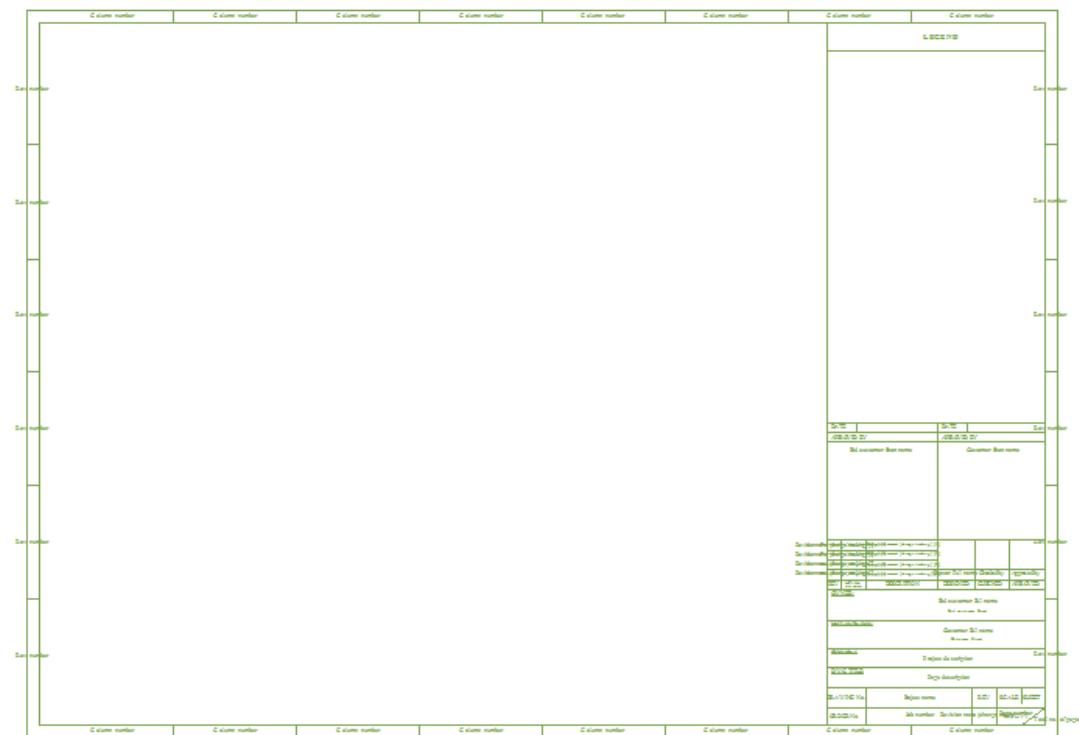
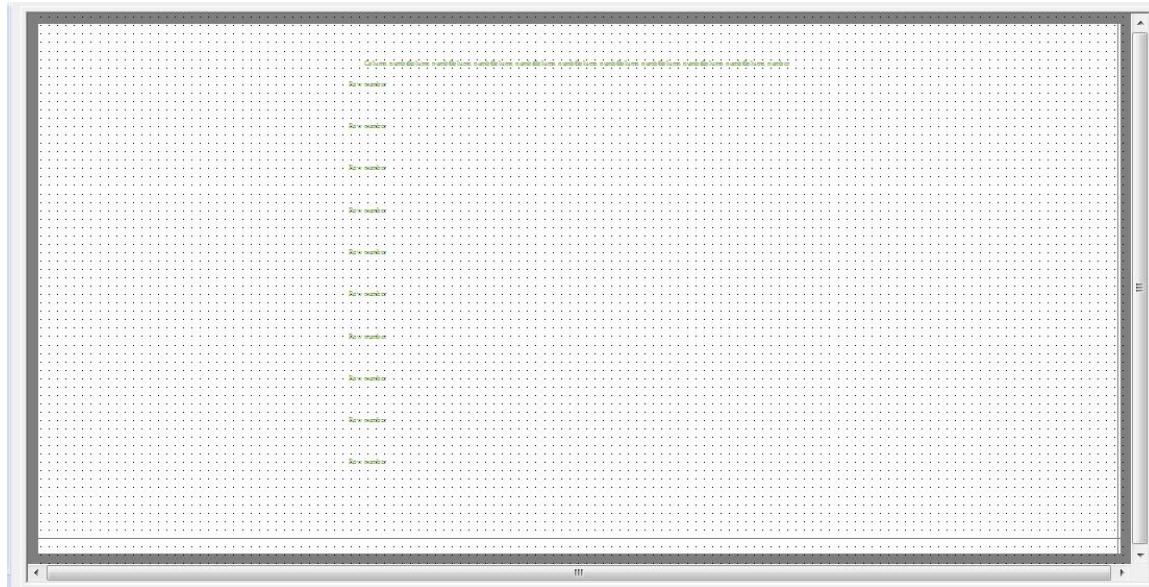
Ctrl+D ↴



Điền thông tin xác định dòng cột tham chiếu:

- Tọa độ gốc:
- Grid of offset X: 0mm
- Grid of offset Y: 0mm
- Number of ladders: 1 (số nhãn hiển thị)
 - Kích thước khung:
 - Plot fram dimension: X axis: 410
 - Plot fram dimension: Y axis: 297
 - Giá trị:
 - Start value (column): 0 (Số bắt đầu cột, 0 nếu là số, 1 nếu là chữ)
 - Number of column: 10 (số cột)
 - Column numbering format: Kiểu định dạng cột (số hoặc chữ)
 - Column width [1]: khoảng rộng của cột 1
 - Column width [2]: khoảng rộng của cột
 -
 -
 - Column width [10]: khoảng rộng của cột 10
 - String for column designation [1]: A (hiển thị của cột 1)
 - String for column designation [2]: B (hiển thị của cột 2)
 -

- Tương tự cho dòng:
- Ok
 - Xác định lại vị trí dòng cột:
- Utilities/ Place column and row text again.



Dùng các đường line để vẽ khung, lệnh text để thêm chữ.

Insert >special text > Project properties/ page properties: Chèn thêm các biến thay đổi trên toàn dự án hoặc trên mỗi trang.

10.11. EPLAN PPE master data:

10.12. Generate macros: Tạo mẫu từ bản vẽ cad.

Utilities> Generate macros> Form DXF/DWG

10.13. Translator :

10.14. Defined working sections:

10.15. Rights managements:

10.16. Data transfer:

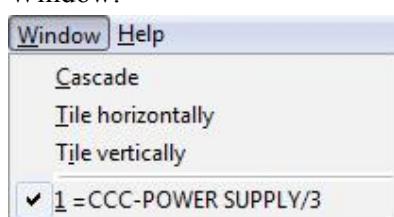
10.17. Add-ons:

10.18. API add-ins...:

10.19. Scripts:

10.20. System messages:

11. Window:

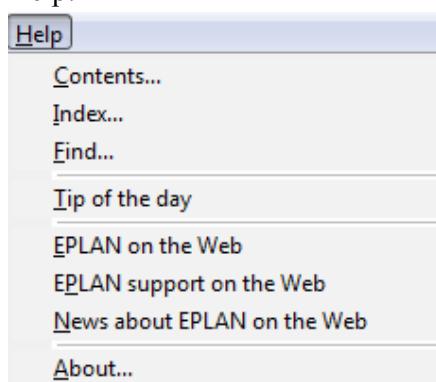


11.1. Cascade:

11.2. Tile horizontally:

11.3. Tile vertically:

12. Help:



12.1. Contents...:

12.2. Index...:

12.3. Find...:

12.4. Tip of the day:

12.5. EPLAN on the web:

12.6. EPLAN support on the Web:

12.7. News about EPLAN on the web:

12.8. About...:

III. STANDARD TOOLBAR:





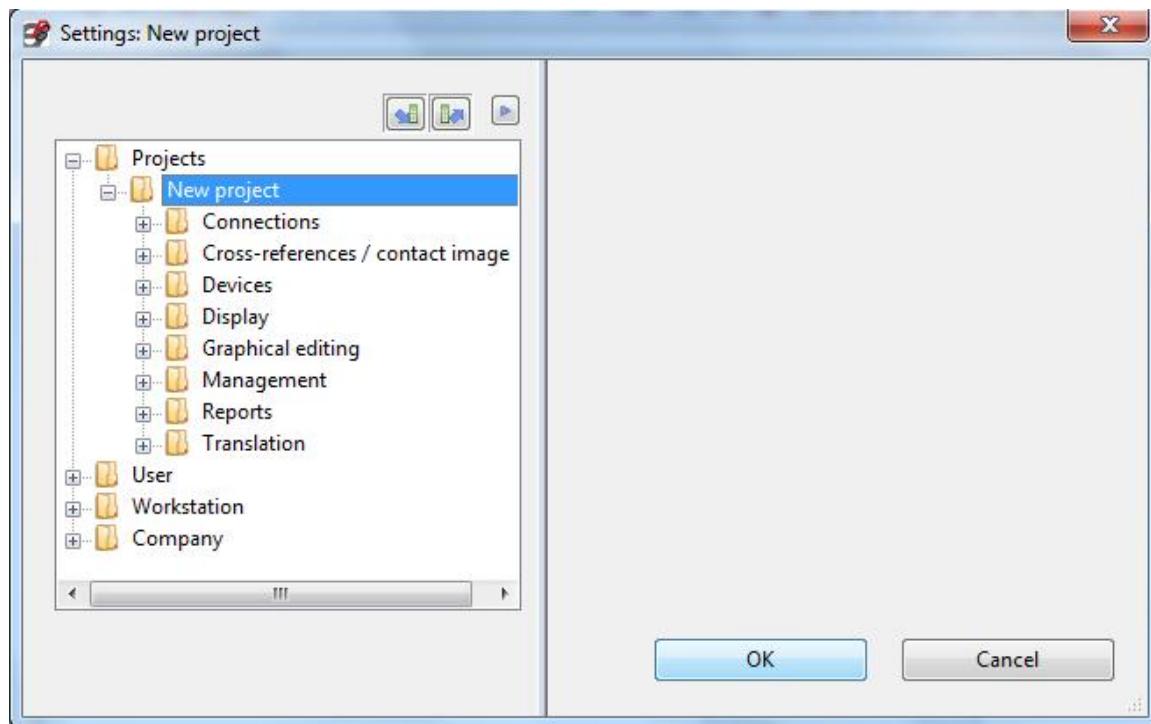
: New project, Open project, Close project



Print (Ctrl+P) :



Settings:



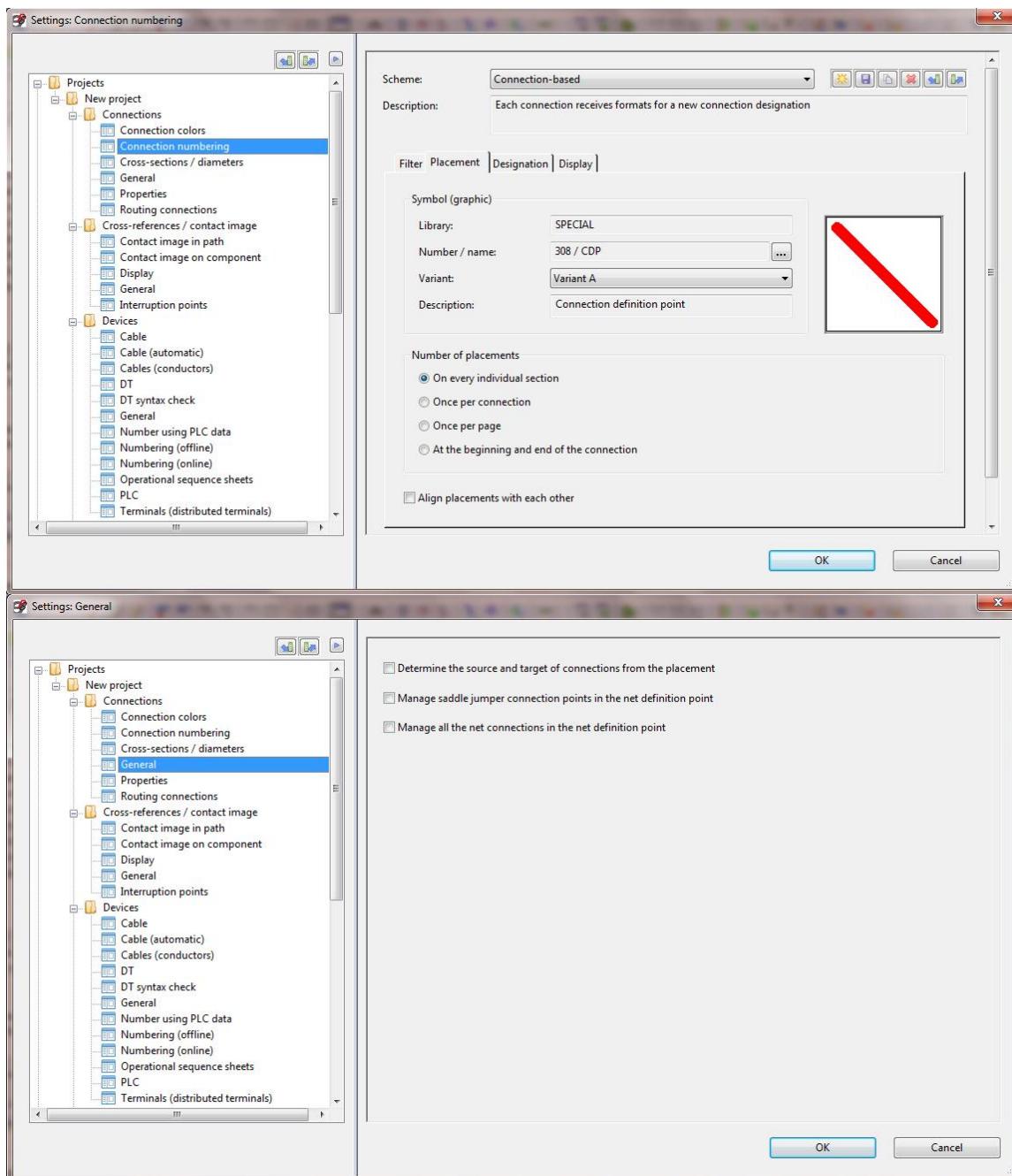
The image displays two overlapping EPLAN software dialog boxes. The top dialog is titled "Settings: Connection colors" and shows a list of connection types on the left and a color-coded table on the right. The bottom dialog is titled "Settings: Cross-sections / diameters" and also shows a list of connection types on the left and a table on the right.

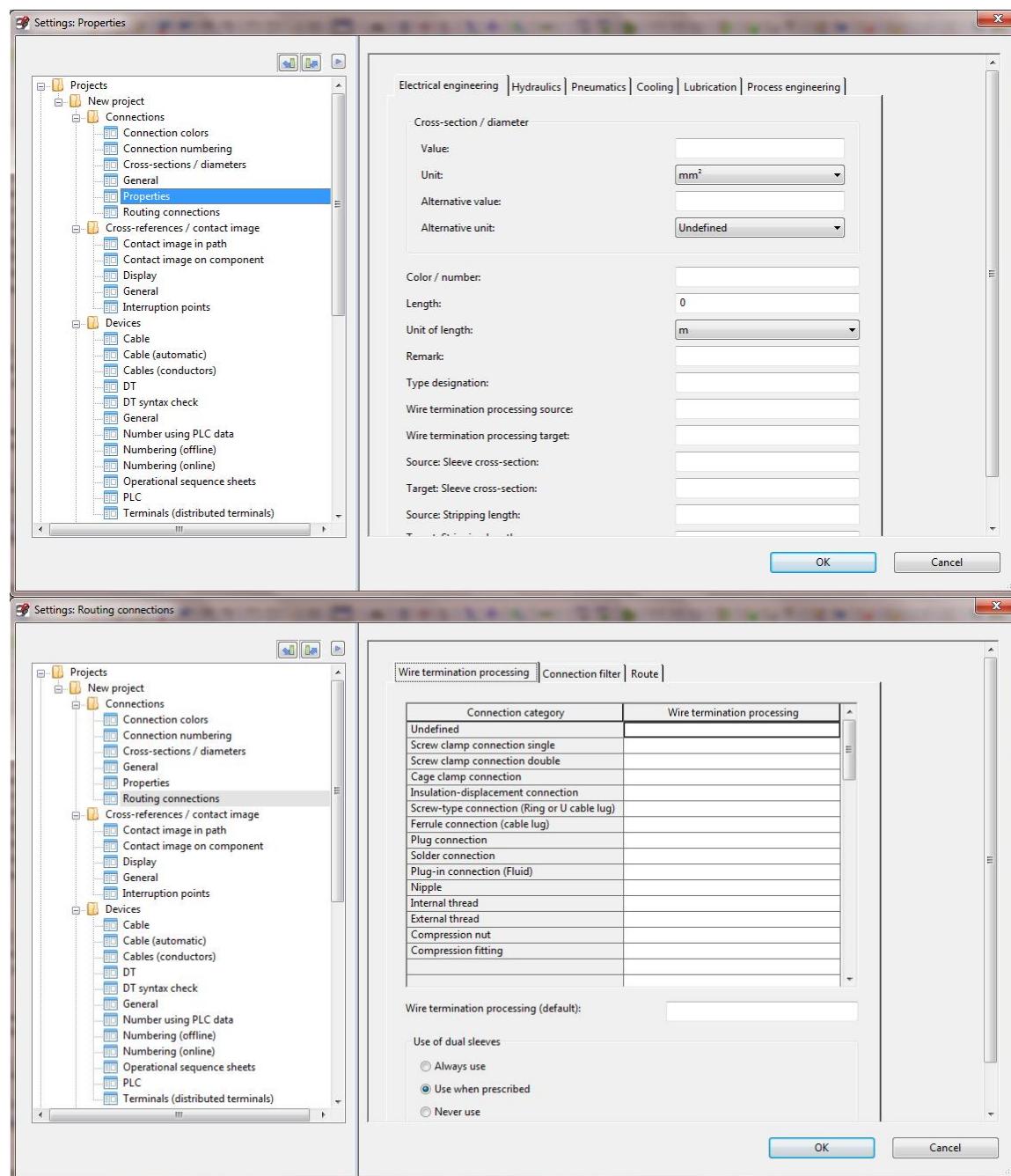
Settings: Connection colors

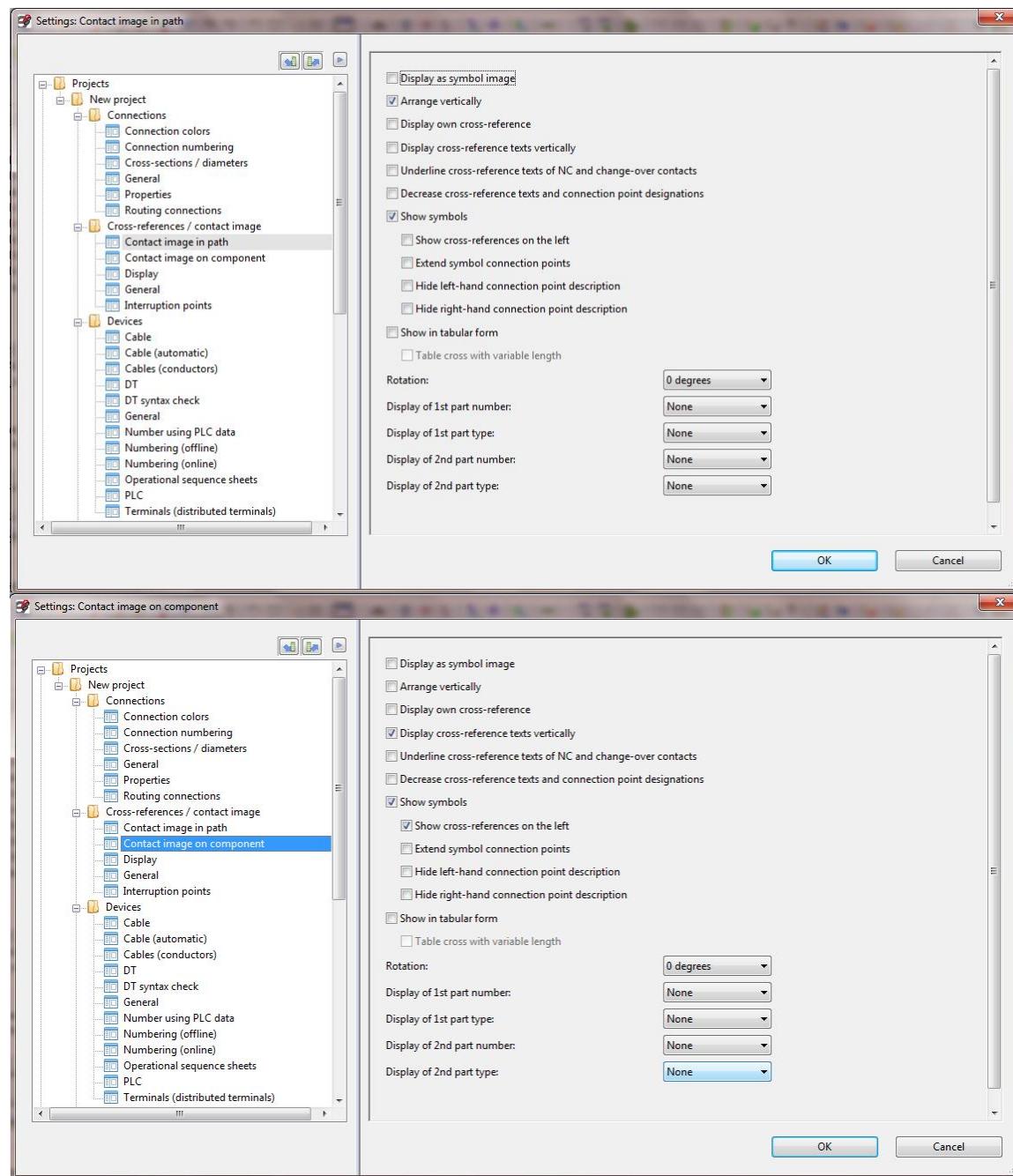
Row	Color code	Color name	Color in layout spa...
1	BK		
2	BN		
3	RD		
4	OG		
5	YE		
6	GN		
7	BU		
8	VT		
9	GY		
10	WH		
11	PK		
12	GD		
13	TQ		
14	SR		
15	GNYE		Green

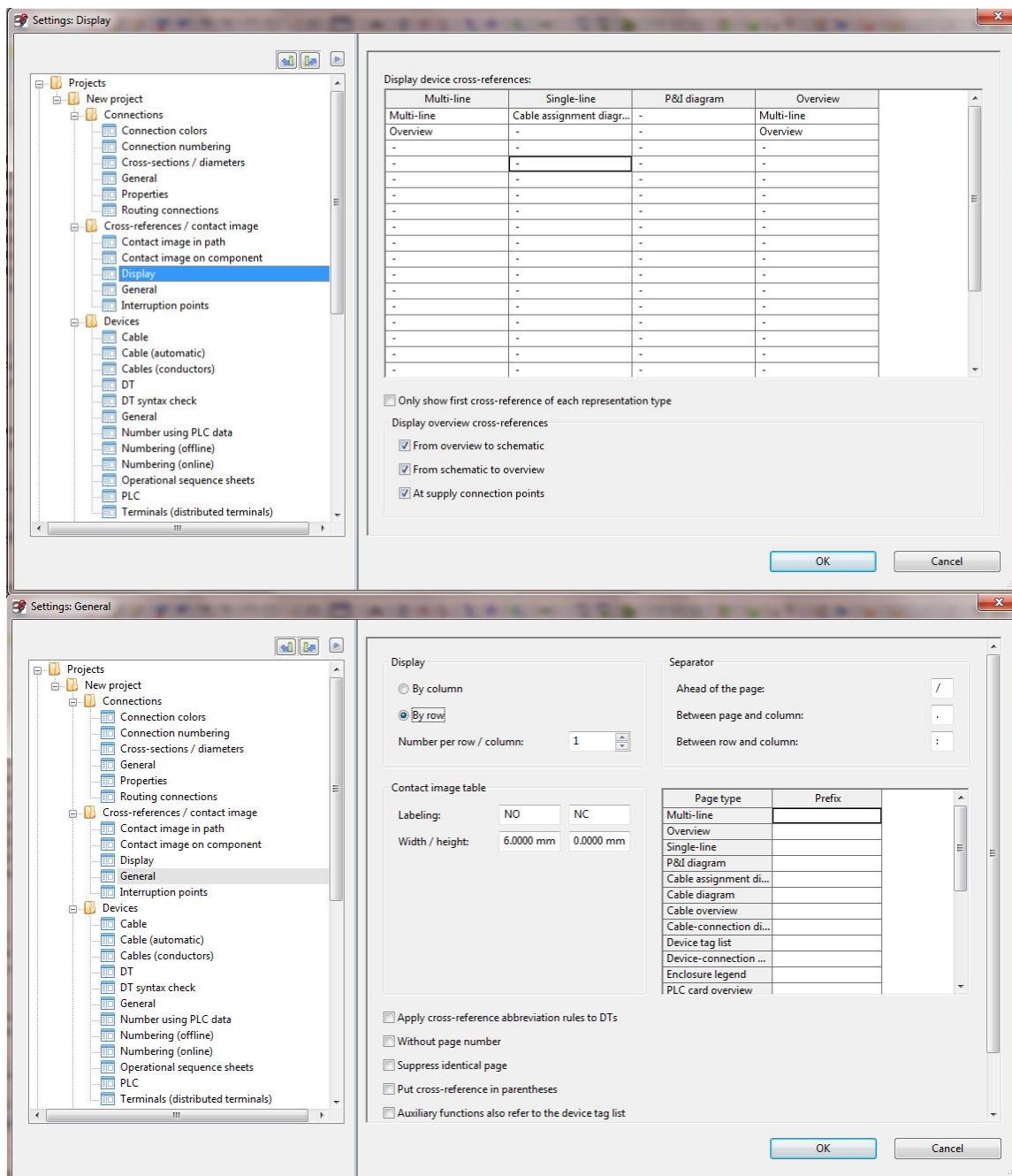
Settings: Cross-sections / diameters

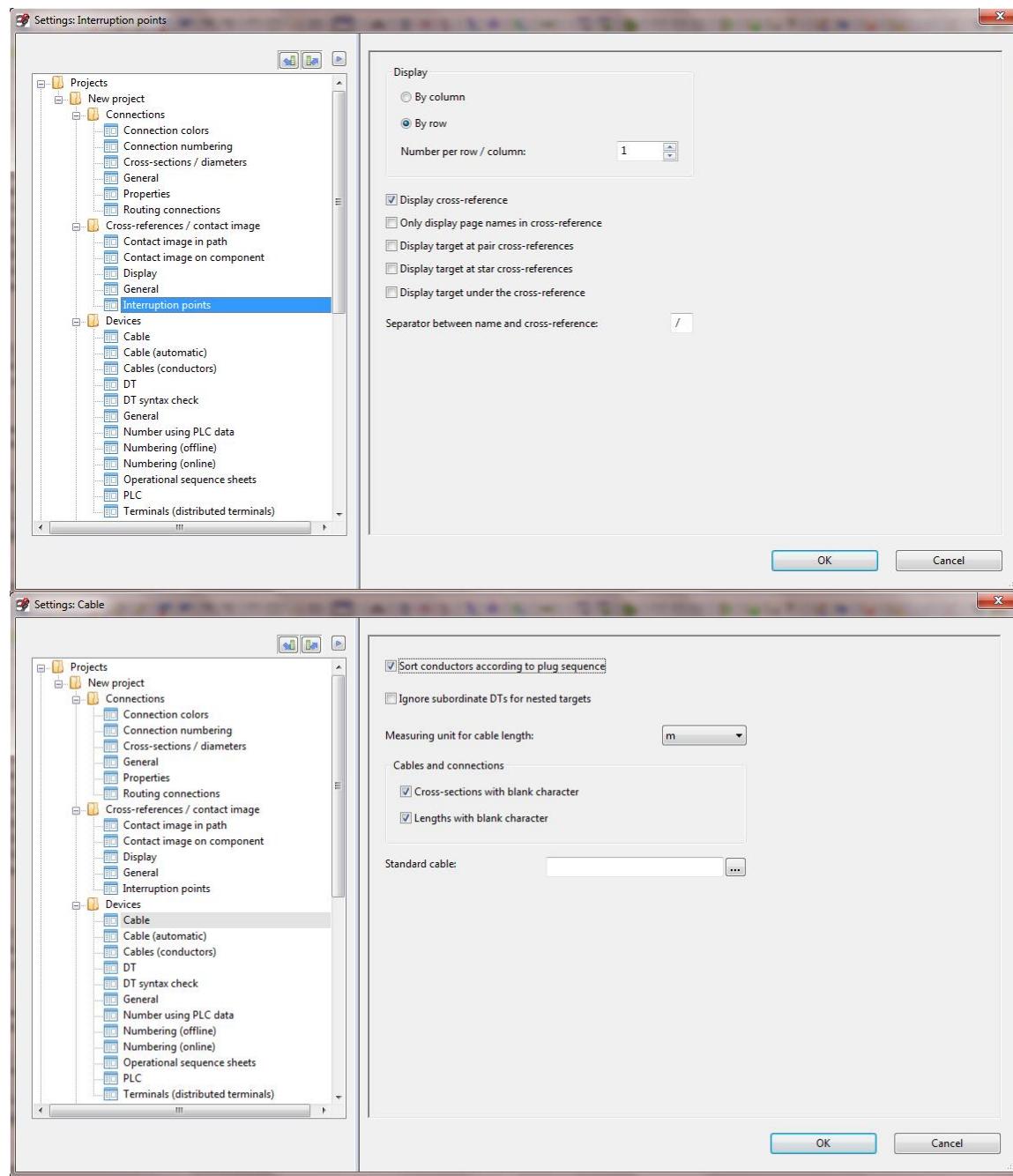
Row	Cross-section / diameter	Unit
1	0,25	As in project
2	0,34	As in project
3	0,5	As in project
4	0,75	As in project
5	1	As in project
6	1,5	As in project
7	2,5	As in project
8	4	As in project
9	6	As in project
10	10	As in project
11	16	As in project
12	20	As in project
13	35	As in project
14	50	As in project

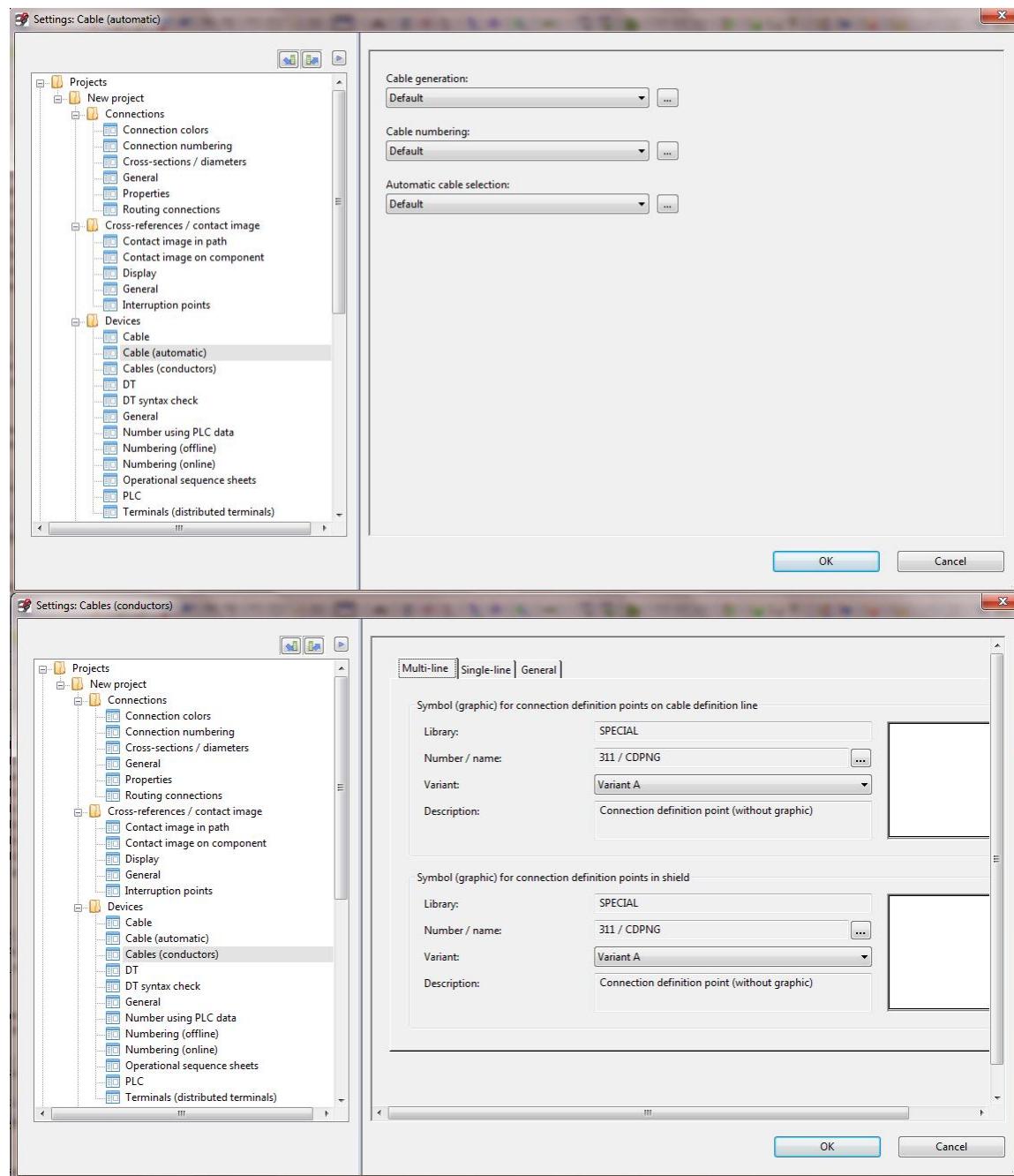


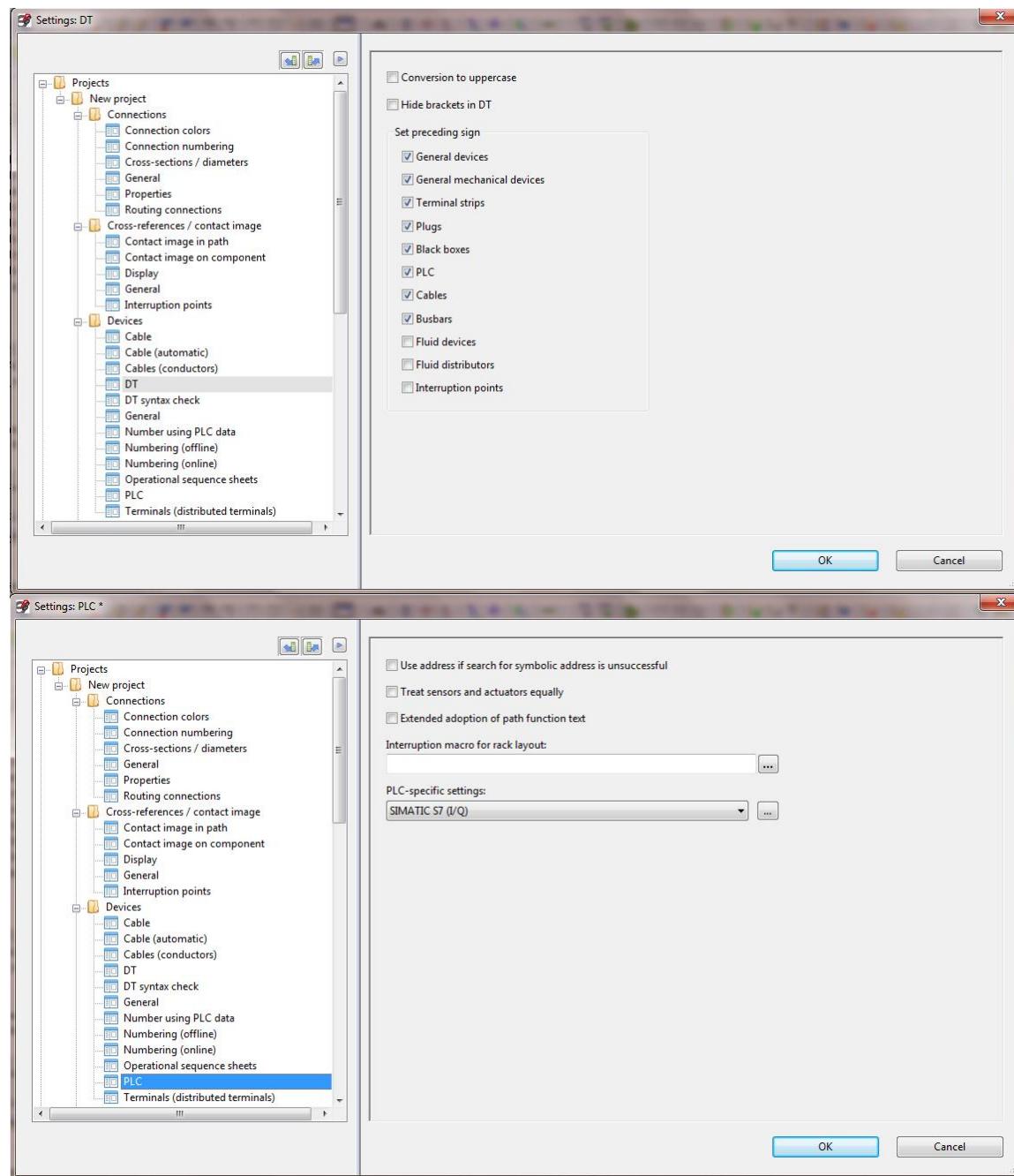


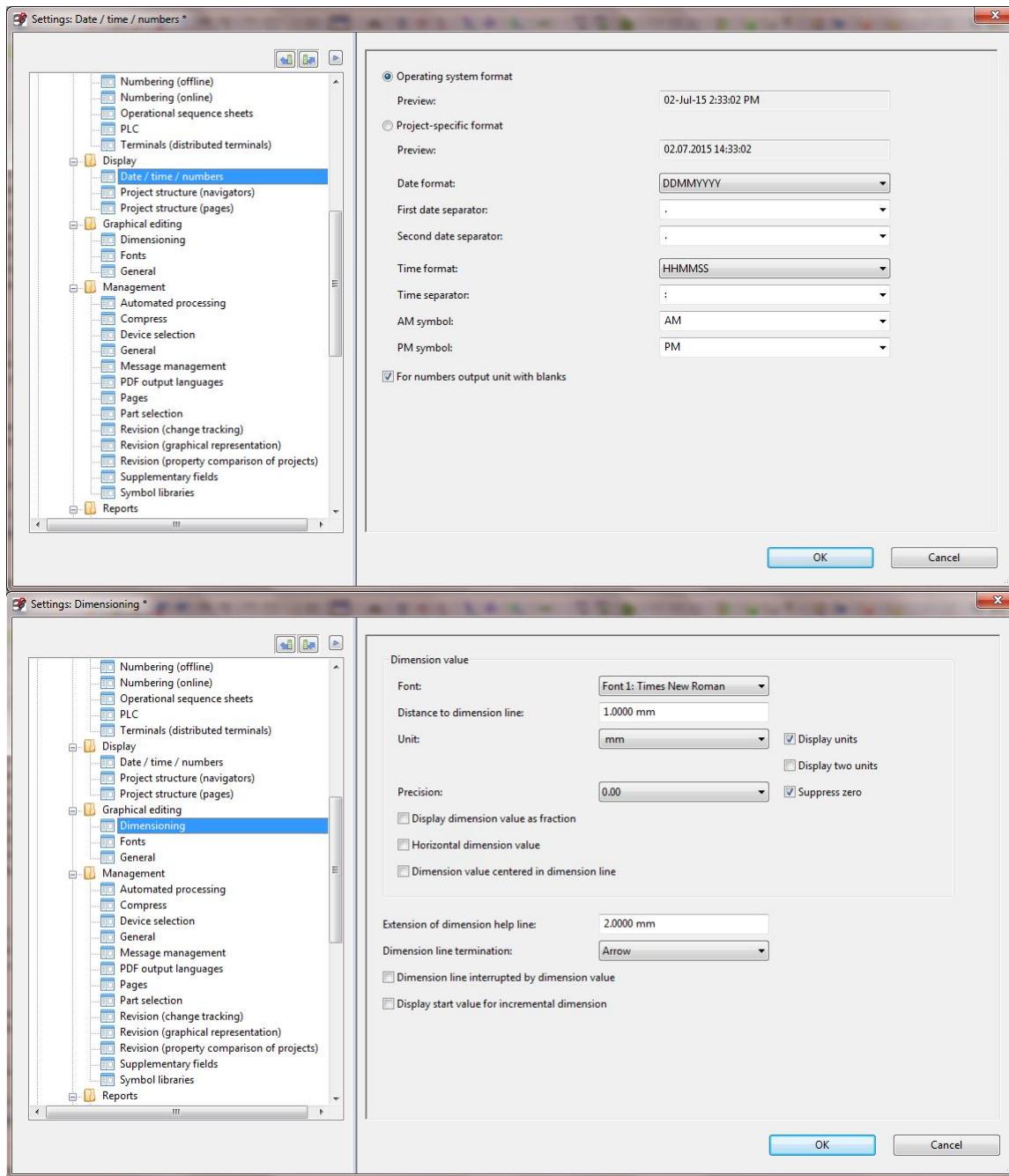


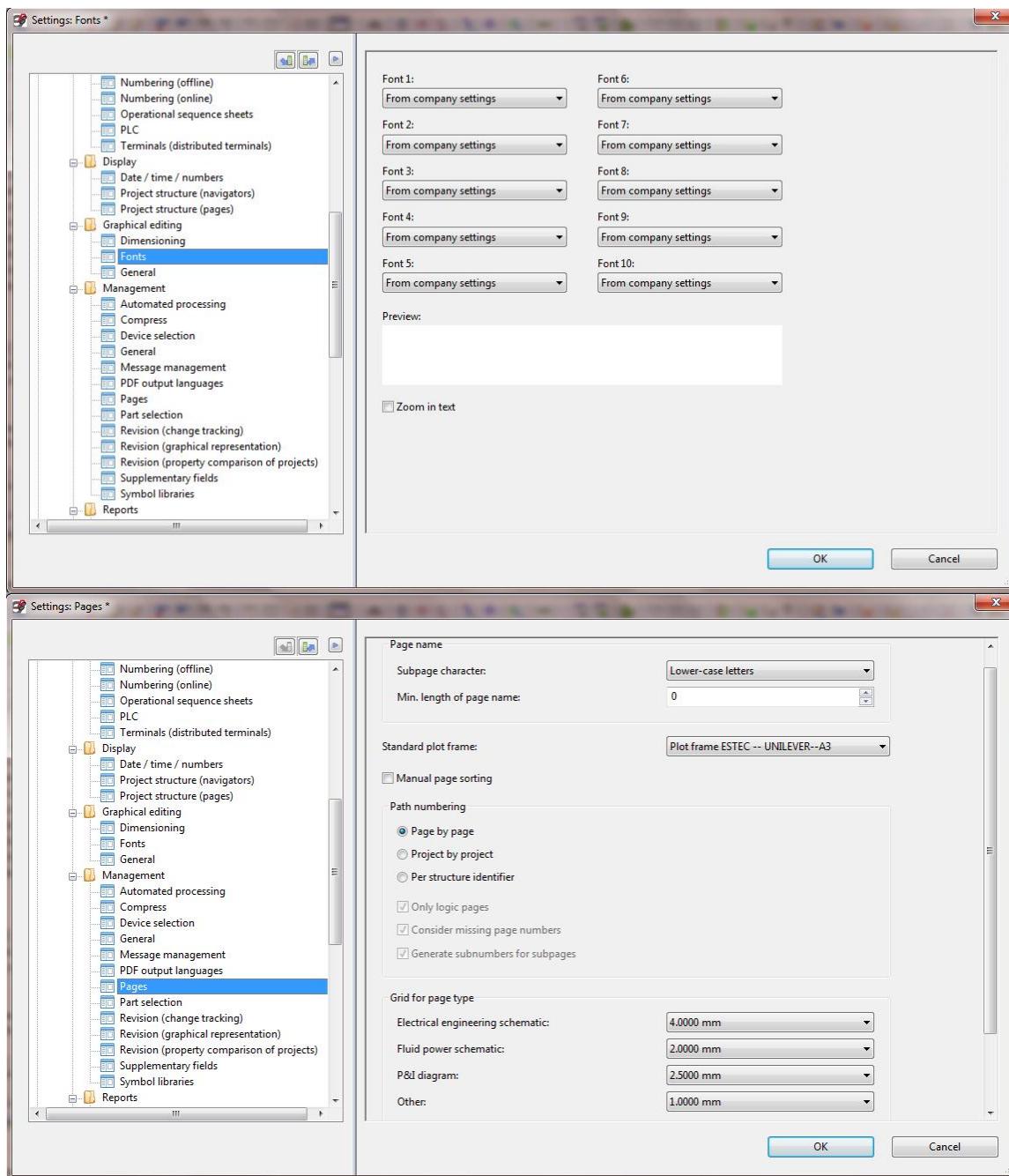


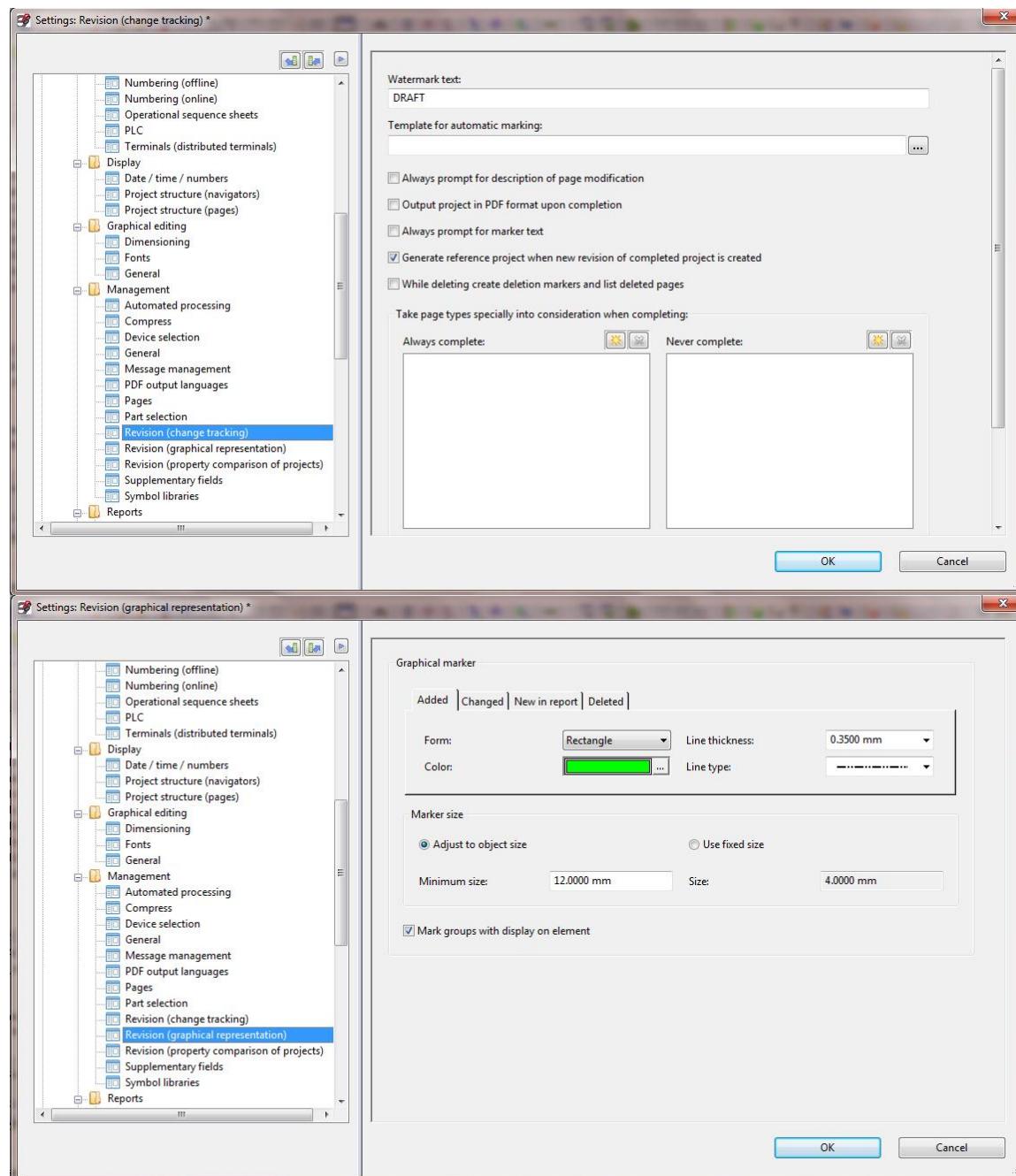












Settings: Symbol libraries *

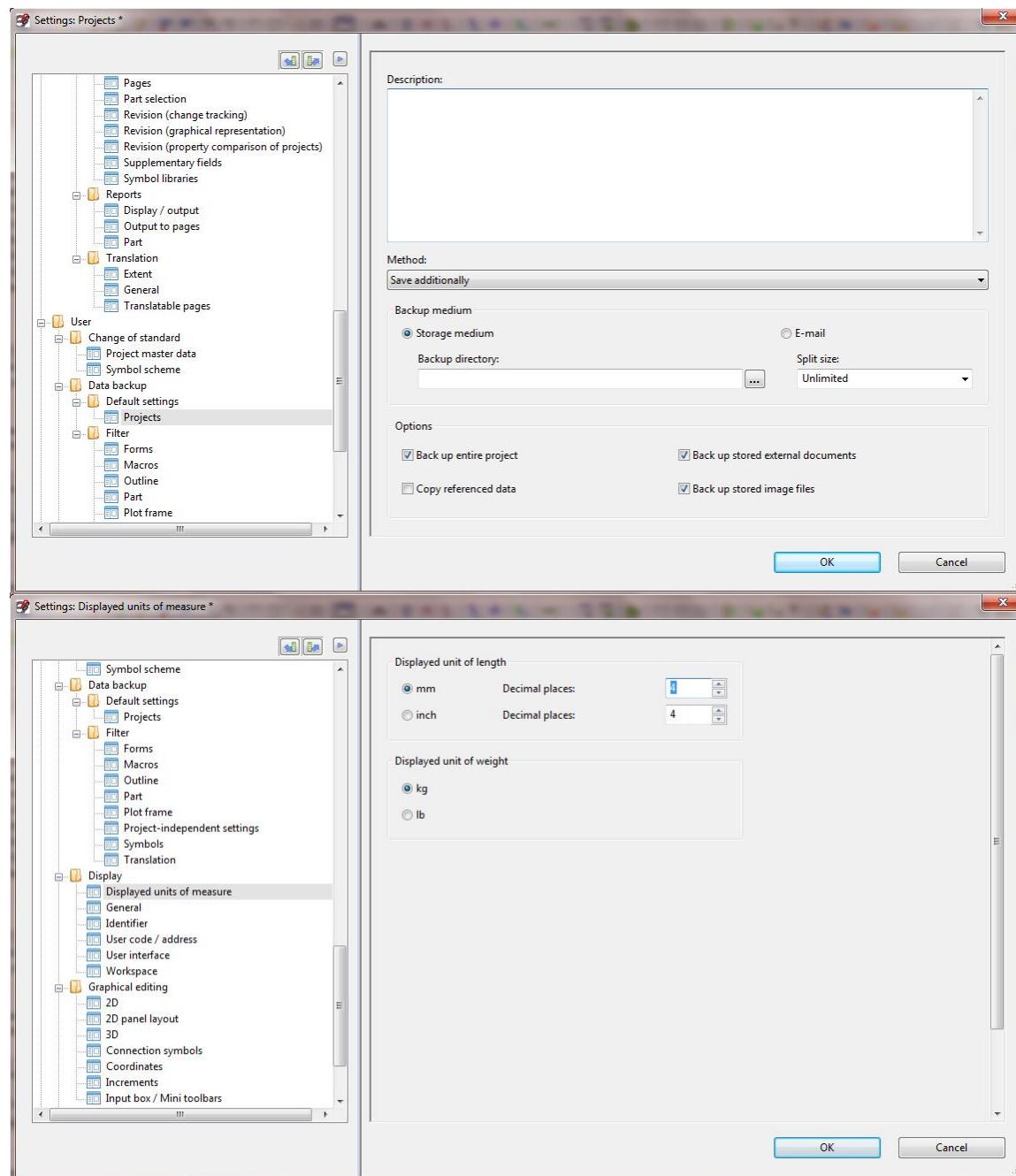
Row	Synchronize	Preceding sign	Symbol libraries	Default variant
1	<input checked="" type="checkbox"/>	S	SPECIAL	From symbol libr...
2	<input checked="" type="checkbox"/>	G	GB_symbol	From symbol libr...
3	<input checked="" type="checkbox"/>	G	GB_single_symbol	From symbol libr...
4	<input checked="" type="checkbox"/>	G	GRAPHICS	From symbol libr...
5	<input checked="" type="checkbox"/>	I	IEC_symbol	From symbol libr...
6	<input checked="" type="checkbox"/>	I	IEC_single_symbol	From symbol libr...
7	<input checked="" type="checkbox"/>	L	LibraryEplan-TLong	From symbol libr...
8	<input checked="" type="checkbox"/>	N	NFPA_symbol	From symbol libr...
9	<input checked="" type="checkbox"/>			From symbol libr...
10	<input checked="" type="checkbox"/>			From symbol libr...
11	<input checked="" type="checkbox"/>			From symbol libr...
12	<input checked="" type="checkbox"/>			From symbol libr...
13	<input checked="" type="checkbox"/>			From symbol libr...
14	<input checked="" type="checkbox"/>			From symbol libr...
15	<input checked="" type="checkbox"/>			From symbol libr...
16	<input checked="" type="checkbox"/>			From symbol libr...
17	<input checked="" type="checkbox"/>			From symbol libr...
18	<input checked="" type="checkbox"/>			From symbol libr...
19	<input checked="" type="checkbox"/>			From symbol libr...
20	<input checked="" type="checkbox"/>			From symbol libr...

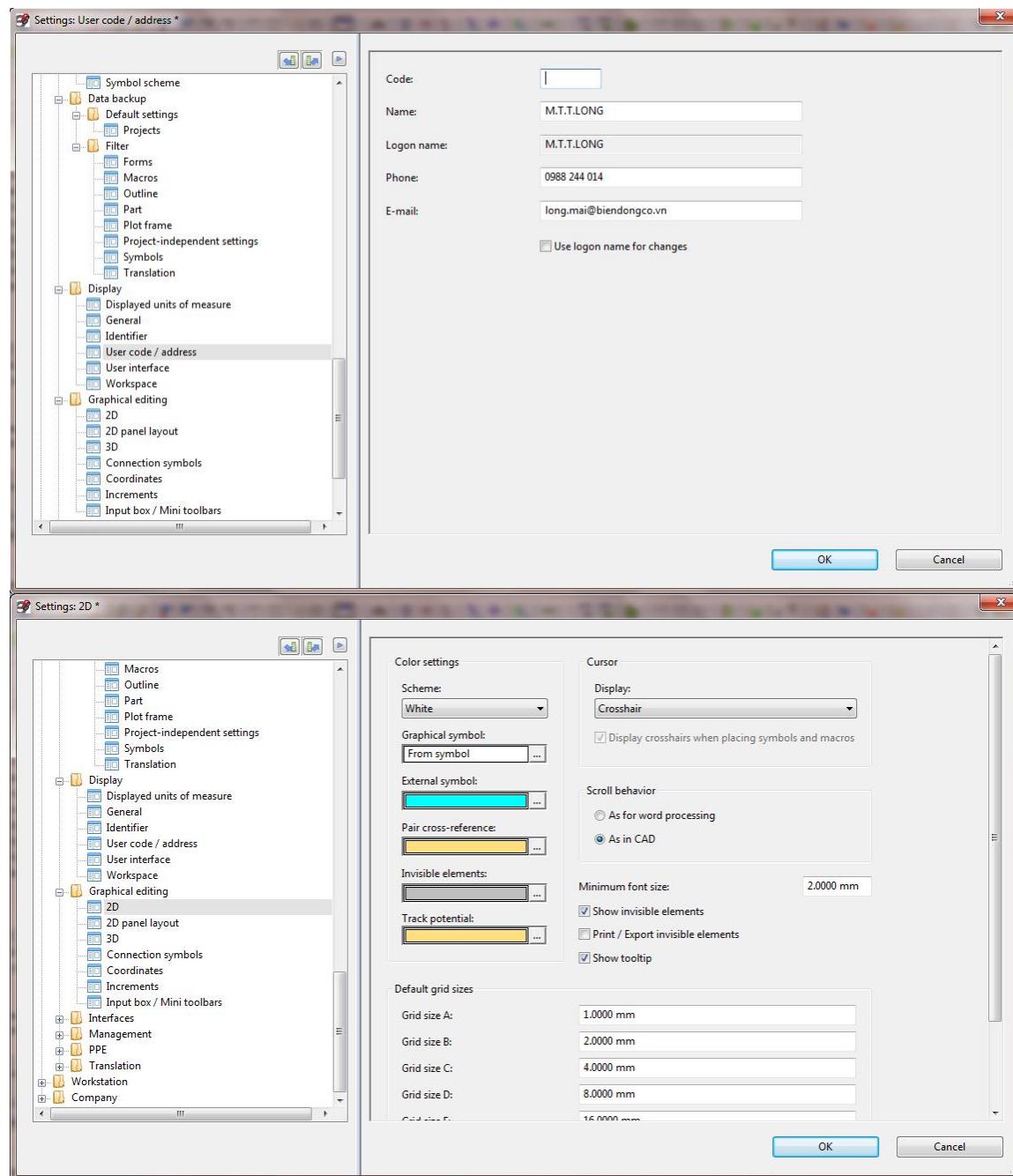
Basic symbol library:
BaseSymbolLibrary

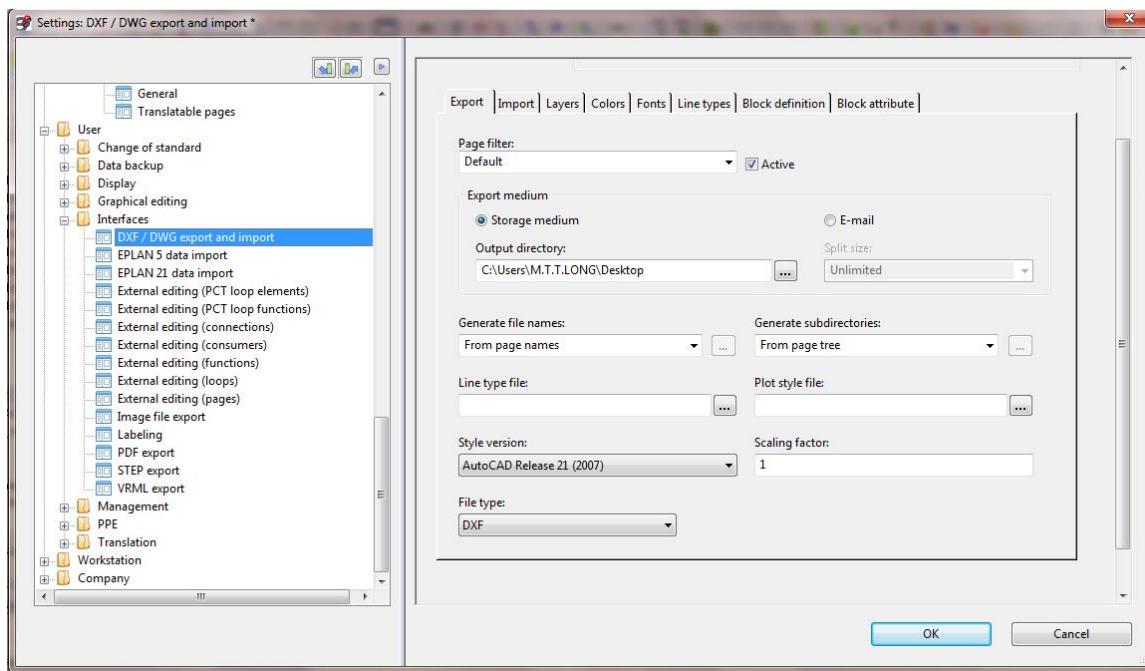
Settings: Output to pages *

Row	Report type	Form	Page sorting	Partial output	Combine	Min. no. of ro...	Subpage
1	Parts list	F01_001	Total			<input checked="" type="checkbox"/>	
2	Summarized ...	F02_001	Total			<input checked="" type="checkbox"/>	
3	Device tag list	F03_001	Total			<input checked="" type="checkbox"/>	
4	Forms doc...	F04_001	Total			<input checked="" type="checkbox"/>	
5	Device-conne...	F05_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
6	Table of cont...	F06_001	Total			<input checked="" type="checkbox"/>	
7	Cable-conne...	F07_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
8	Cable assign...		Total			<input checked="" type="checkbox"/>	
9	Cable diagram	F09_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
10	Cable overview	F10_001	Total			<input checked="" type="checkbox"/>	
11	Terminal-con...	F11_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
12	Terminal line...	F12_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
13	Terminal-stri...	F14_001	Total			<input checked="" type="checkbox"/>	
14	Terminal diag...	F13_001	Total	<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	
15	Plot frame do...	F15_001	Total			<input checked="" type="checkbox"/>	
16	Potential over...	F16_001	Total			<input checked="" type="checkbox"/>	
17	Revision over...	F17_001	Total			<input checked="" type="checkbox"/>	

Parts list DIN A3 Landscape 1 Column 56 Rows Based on ESS004D

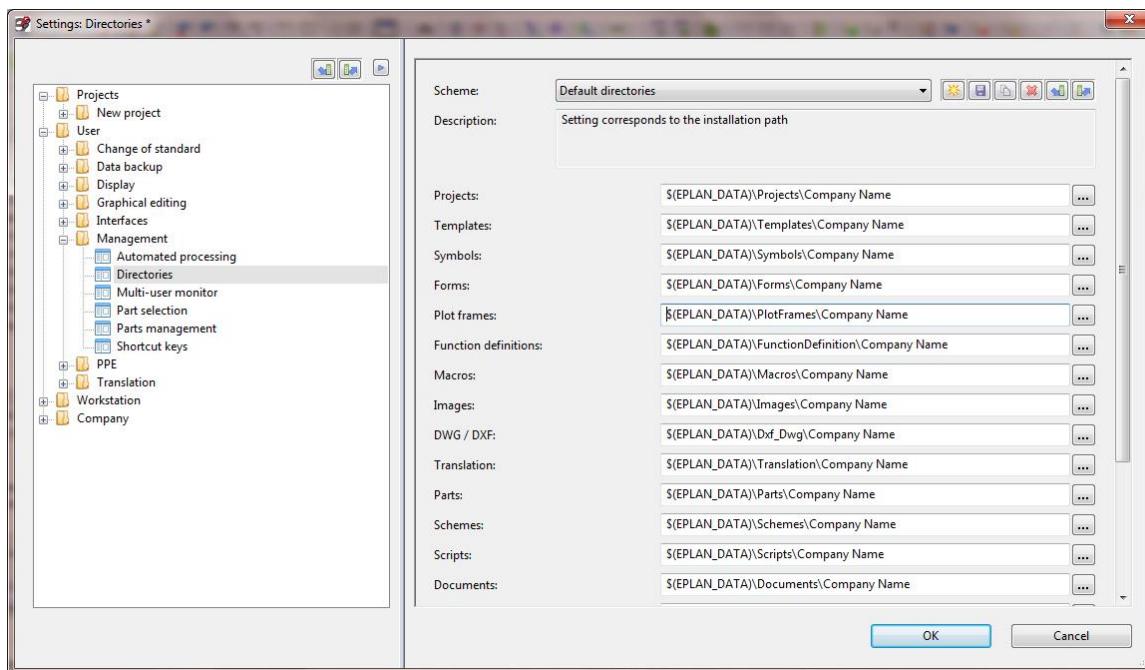


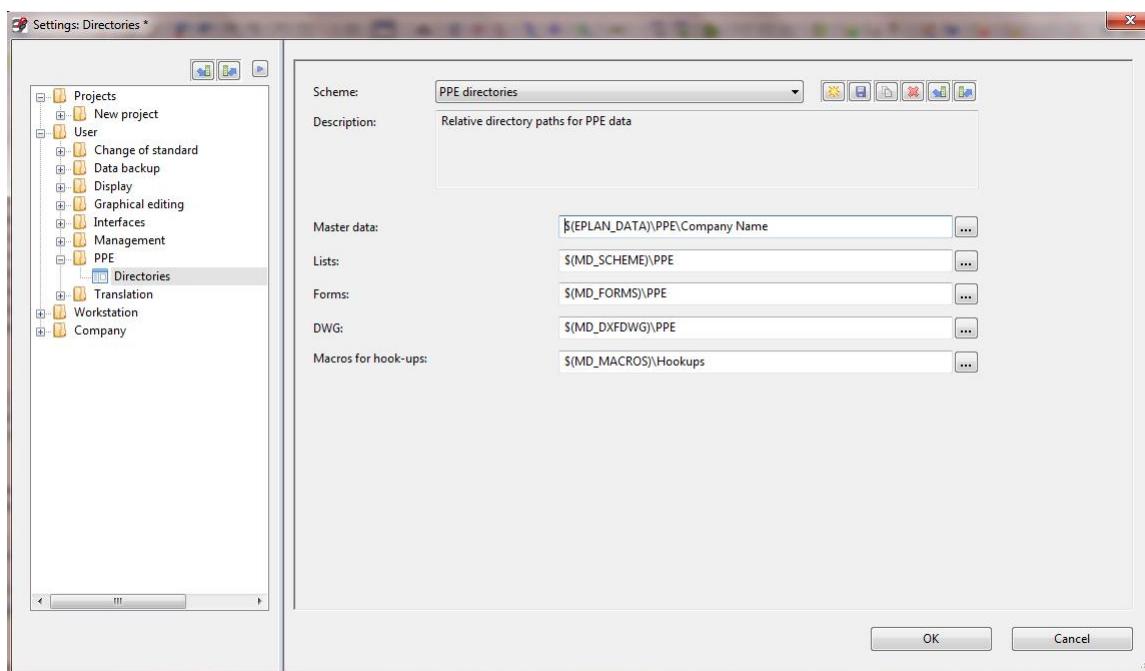
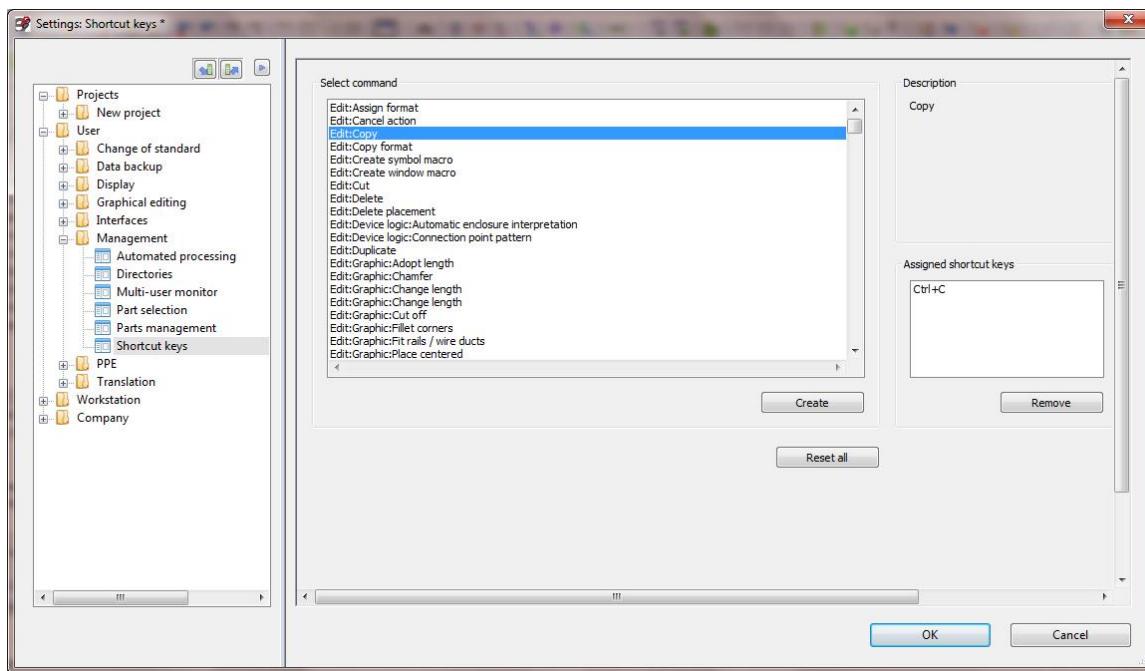


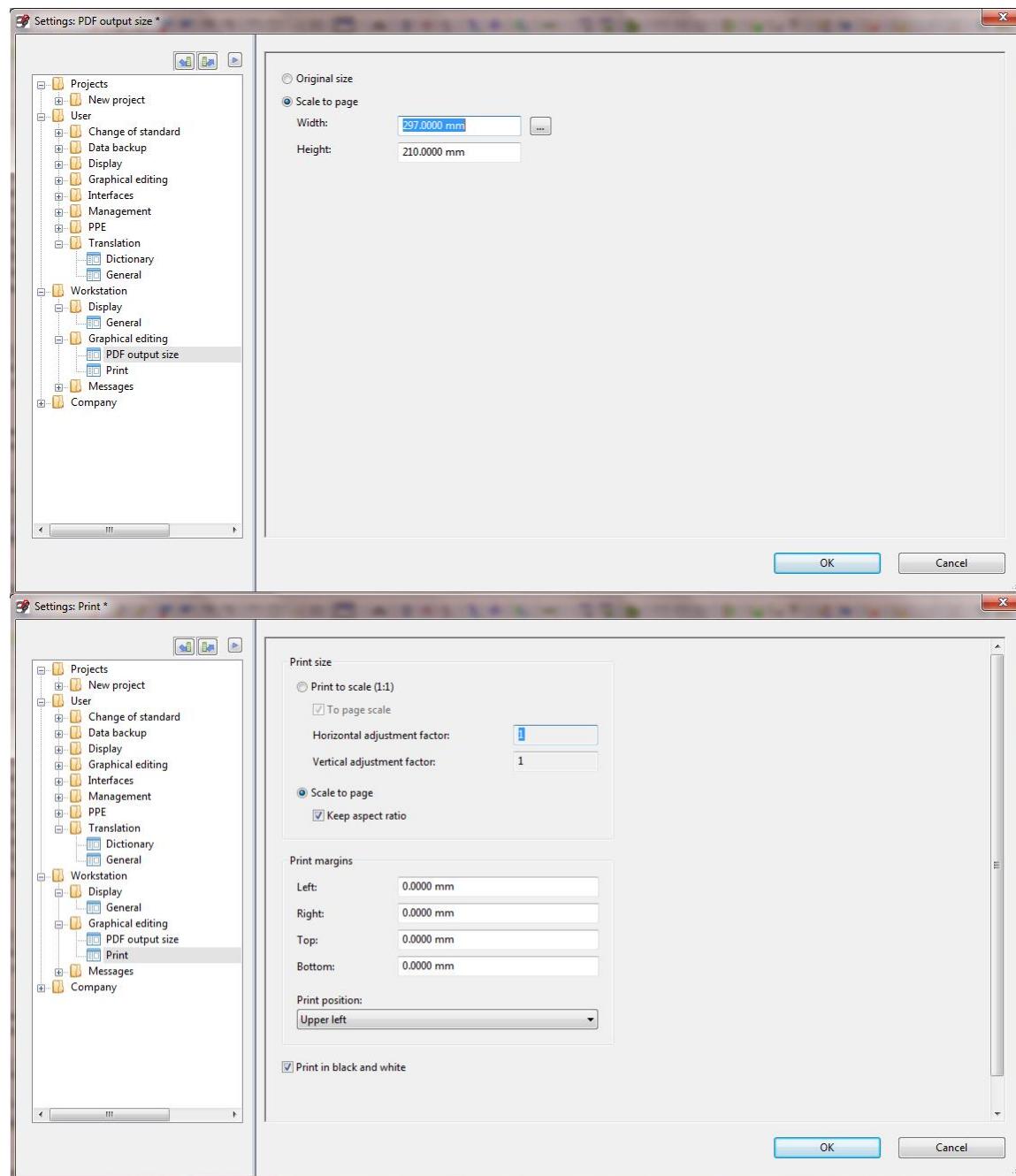


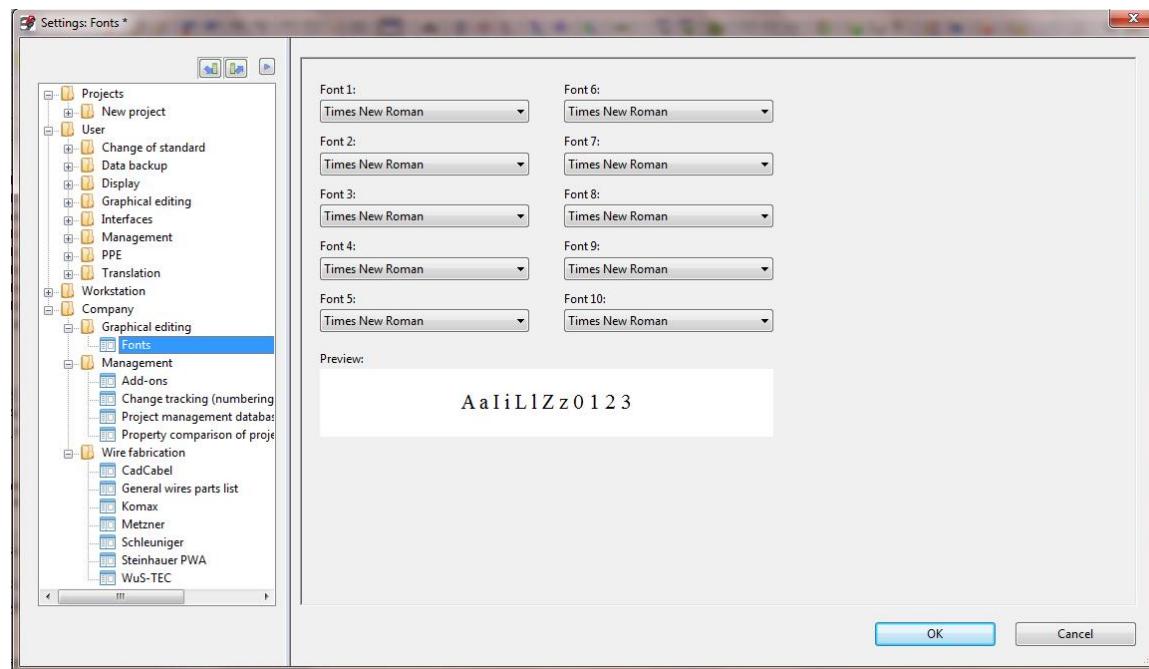
Setting>User>Management>Directories: Thay đổi đường dẫn mặc định

Khi Tạo dự án mới nó sẽ tự động tìm templates, plot frames ... theo đường dẫn mặc định.









Workbook on/off : Tắt mở thanh bar của bản vẽ





: Bước nhảy của măc lưới



Grid (Ctrl+Shift+F6):Mở chế độ măc lưới



Snap to grid on/off:Bắt điểm lưới



Align on grid:Di chuyển đối tượng (được bôi đen) về điểm lưới gần nhất.



Object Snap on/off:Bắt điểm (Khi dùng các lệnh vẽ đường thẳng, di chuyển, lệnh nhân bản...)



Design mode on/off:Bắt điểm gốc của đối tượng



Smart connect :Kết nối thông minh, khi di chuyển các kết nối vẫn được giữ theo.



Direct Editing :Sửa đổi chữ tại chỗ



Show/ hide mini bar:



Input box on/off:



Distributed terminal : Dùng vẽ các terminal nguồn phân phối



Cable definition (Shift+F5): Vẽ cáp nhiều lõi



Shield (Shift+F6) : Vẽ dây Shield



Connection definition point: đánh dấu dây



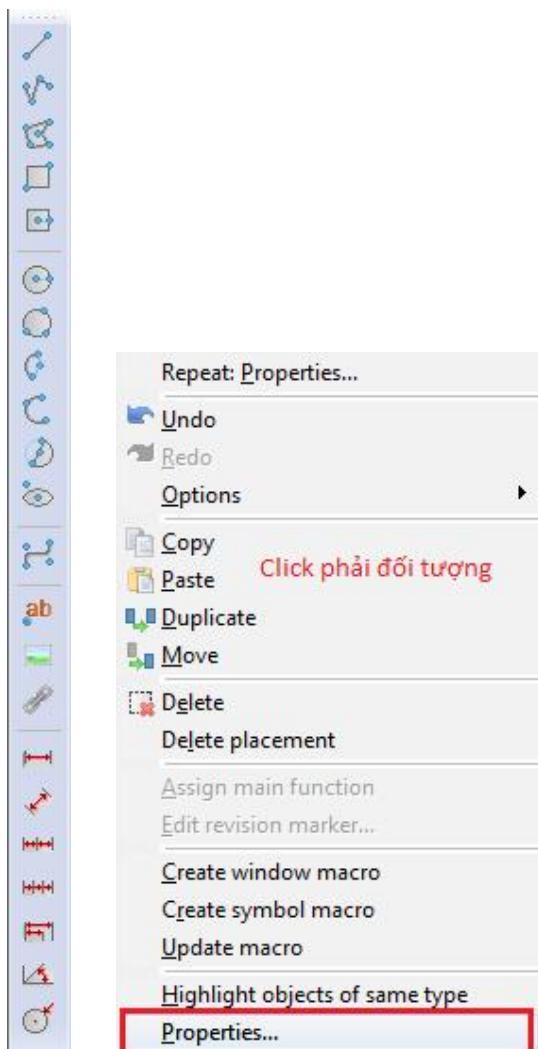
Parts management; part master data; External programs: Bảng danh sách thiết bị



Number devices; Number terminals; Number pins: Đánh số thiết bị, số terminal, số chân thiết bị

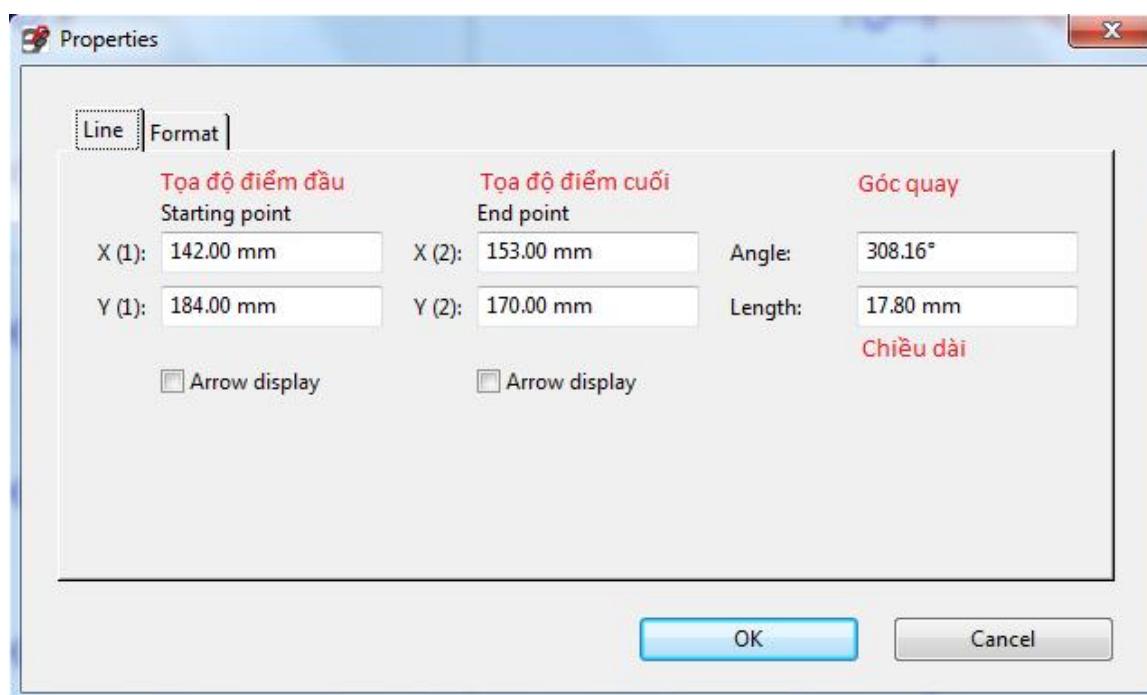


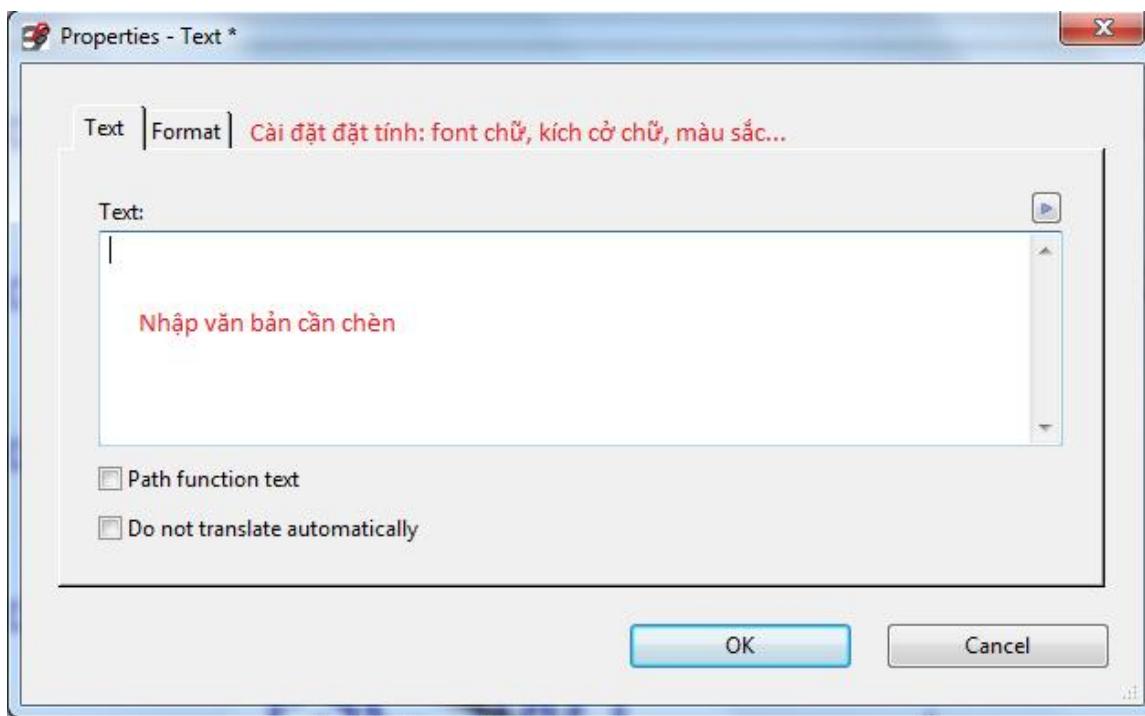
IV. DRAW TOOLBAR:

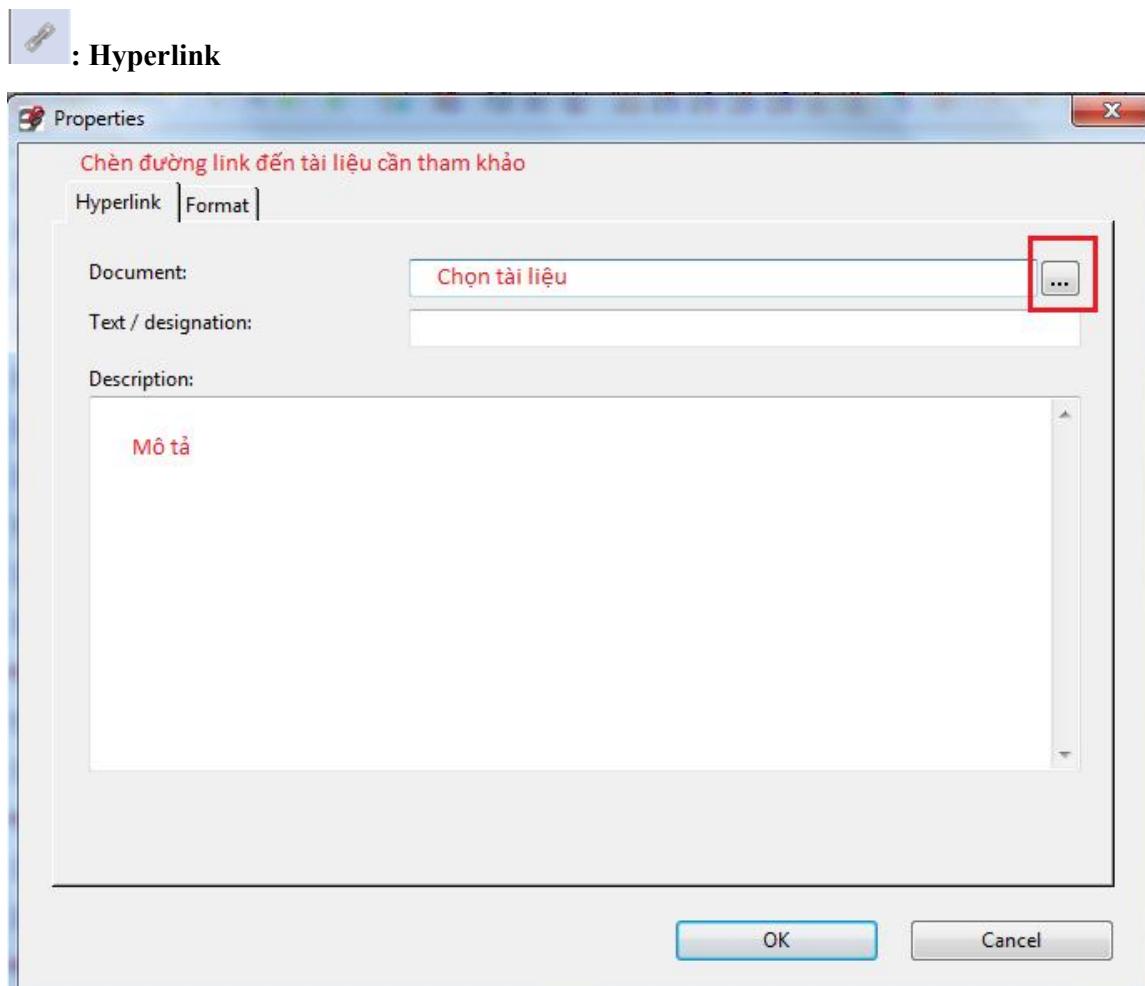
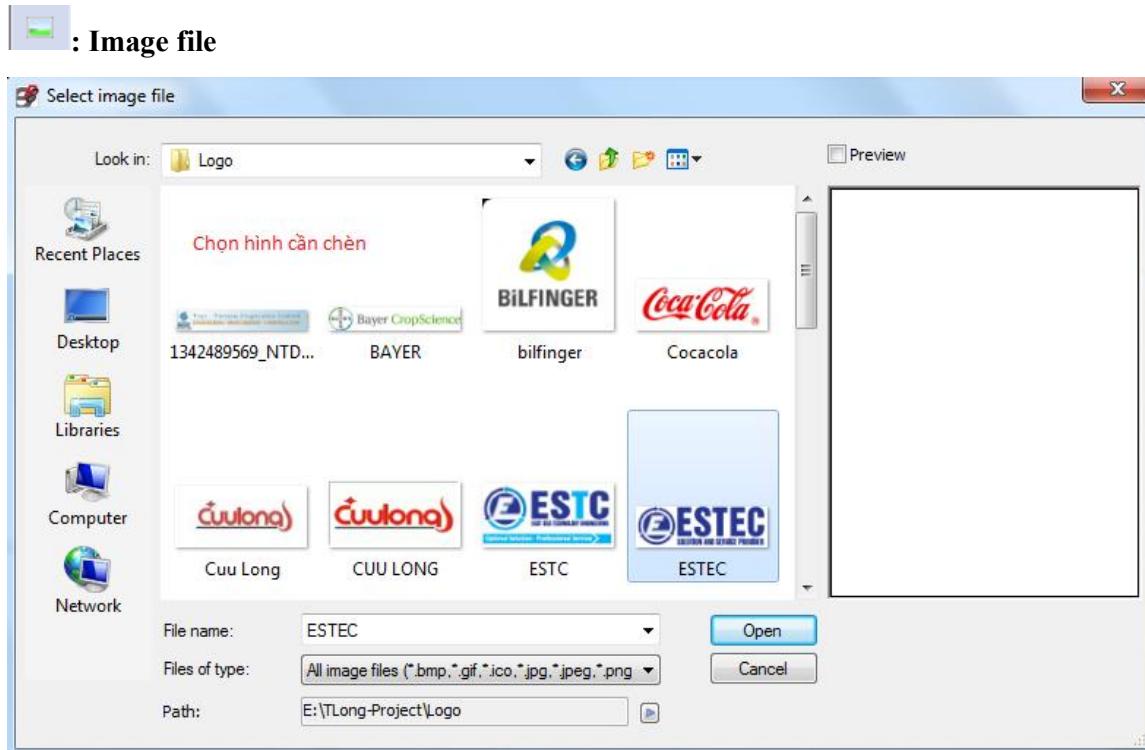


Click phải vào đối tượng, chọn Properties:

- Quan sát được thông tin của đối tượng: Tọa độ điểm đầu, tọa độ điểm cuối, góc quay, chiều dài, độ cao, chiều rộng, bán kính.....
- Format: Điều chỉnh đặc tính cho đối tượng.



 : Line (Ctrl+F2) : Polyline (L) : Polygon : Rectangle (R) : Rectangle through center : Circle (K) : Circle through 3 points : Arc through center (Ctrl+G) : Arc through 3 points : Sector : Ellipse (E) : Spline : Text (T)



 : Linear dimension (Ctrl+Shift+A)

 : Aligned dimension

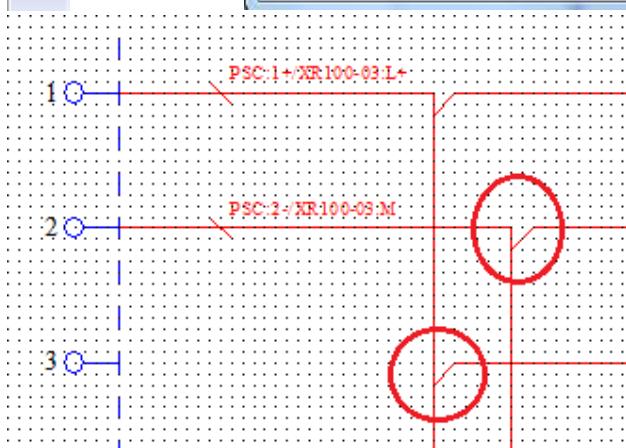
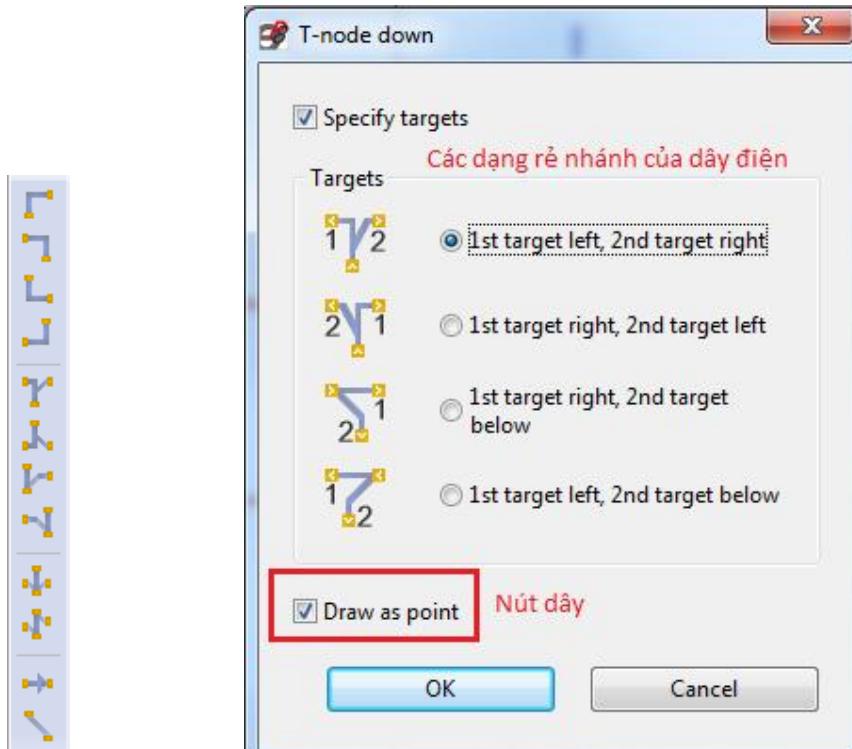
 : Continued dimension

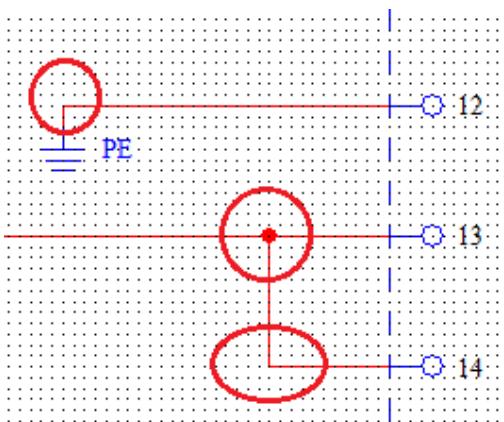
 : Incremental dimension

 : Baseline dimension

 : Angular dimension

 : Radius dimension





= Angle down, right (F3)

= Angle down, left (F4)

= Angle up, right

= Angle up, left (F6)

= T-node, down (F7)

= T-node, up (F8)

= T-node, right (F9)

= T-node, up (F10)

= Jumper (Shift+F8)

= Double junction

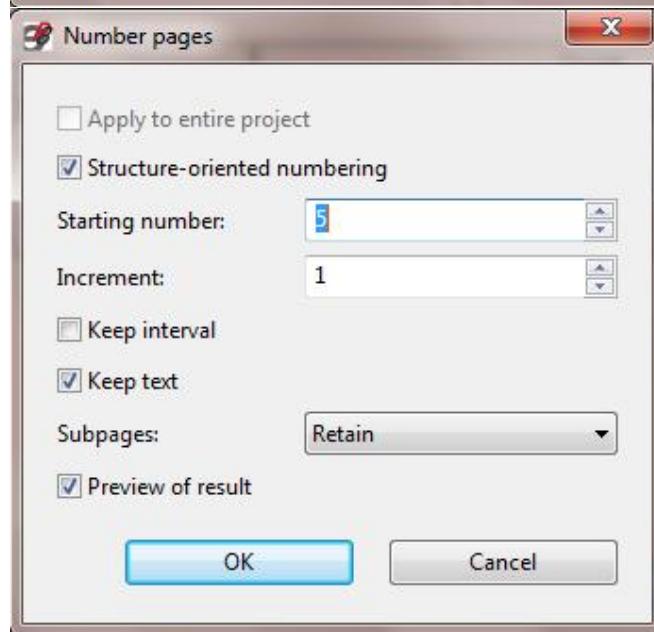
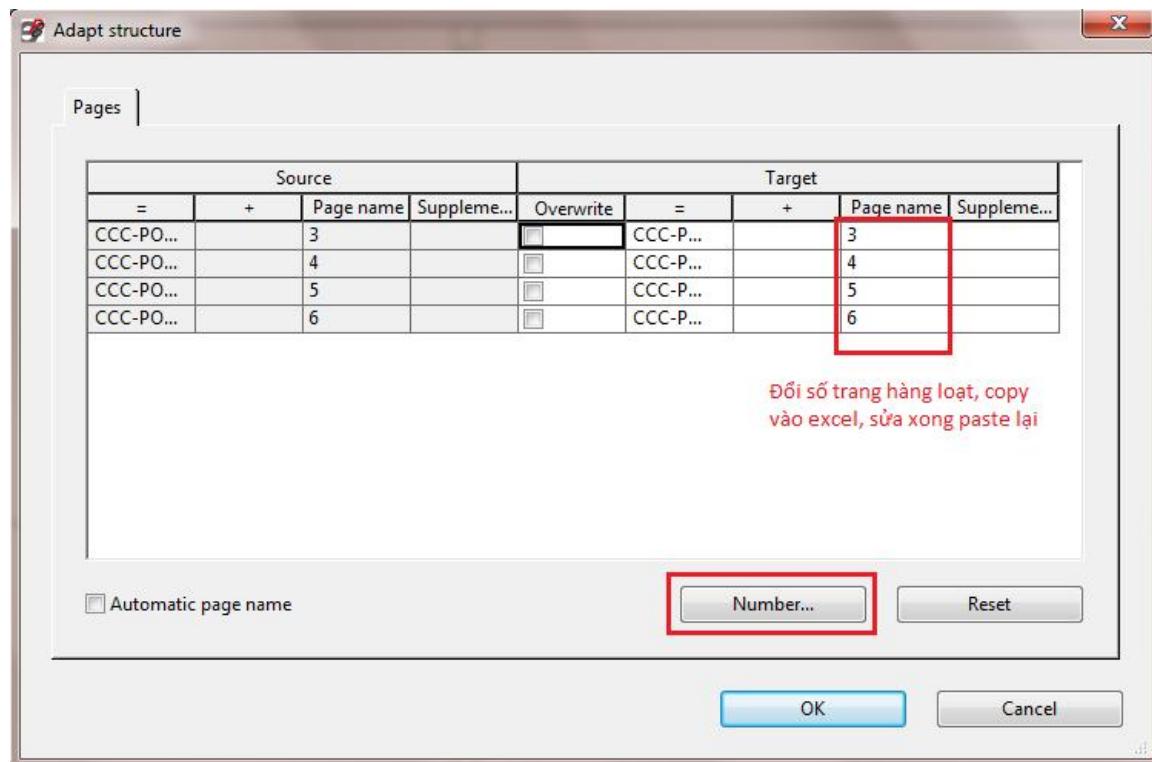
= Interruption points (Shift+F4) : Nối dây;

= Diagonal connection

V. KINH NGHIỆM:

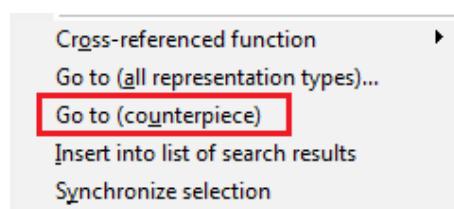
1. Copy 1 đối tượng từ trang này sang trang khác và vẫn giữ đúng vị trí tọa độ so với trang đó:
 - Bôi đen các đối tượng
 - Ctrl + C
 - Nhấn phím: Page up / Page down : đến trang cần paste.
 - Ctrl+V

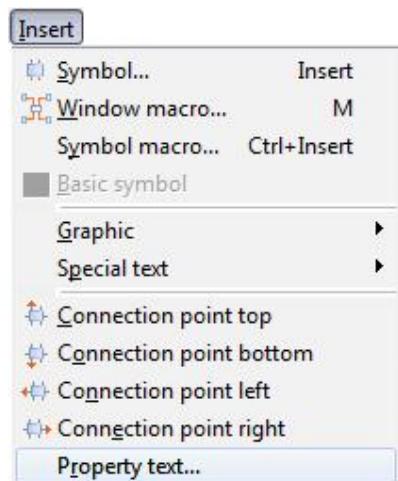
- Nhấn phím X Y: paste đối tượng đúng vị trí XY so với tọa độ cũ của đối tượng.
- 2. Copy nhanh:
Ctrl+đồng thời click chọn hình rồi kéo di chuyển tới vị trí muốn đặt .
- 3. Để làm mất chữ DRAP giữa bản vẽ:
- Utilities/Revision control/Complete Project
(Khi xuất hiện chữ GRAP đối với những dự án có dùng chức năng Revision (phiên bản), chỉ cần hoàn thành dự án thì chữ GRAP (bản nháp) sẽ biến mất)
- 4. Khi mất file gốc của khung tên → không thể chỉnh sửa được khung.
Khôi phục lại khung tên:
- Chọn 1 trang bất kỳ trong Eplan có chứa khung.
- Xuất ra file Autocad: Page/ Export/ DXF/DWG
- Mở file Autocad chỉnh sửa theo ý muốn xong lưu lại.
- Tạo khung mẫu mới trong Eplan: Utilities/ Master data/Plot frame/New
- Đặt tên, chọn khu vực lưu và save lại.
- Chèn bản vẽ Autocad lúc này vào: Insert/Graphic/DXF/DWG
- Chọn lại khung mẫu cho toàn bộ dự án: click phải vào dự án, Page properties/ Plot frame name/ Chọn đến vị trí khung mới tạo.
- Xác định vị trí cho khung: Xem khung mới có lệch so với bản vẽ không. Xác định khung mới lệch so với bản vẽ bao nhiêu bước nhảy. Sau đó vào phần chỉnh sửa khung: Utilities/ Master data/Plot frame/ Open/ Mở khung . Quét toàn bộ khung , V, di chuyển tới vị trí đúng số bước lệch. Xong , tắt khung.
- Update lại khung cho bản vẽ, lưu ý phải đổi tên khung thành tên mới, bản vẽ mới update.
- 5. Âm báo trùng địa chỉ:
- Nhấn double click , Display (component)/Cross-reference (configurable)/Format/Invisible/yes.
- 6. Làm thay đổi màu nền:
- Option/ Setting/User/Graphical editing/ 2D: Color setting Scheme: White
- 7. Tách các thành phần trong cùng 1 symbol:
- Double click vào đối tượng
- Properties/ Display
- Chọn text muốn tách → Non-dock 
- 8. Chọn đối tượng:
- Quét từ trái sang phải: Phải quét hết đối tượng
- Quét từ phải sang trái: Chỉ cần quét 1 phần đối tượng tự động chọn toàn bộ đối tượng.
- 9. Copy nhiều trang, đồng thời muốn sửa só trang đồng loạt:
- Nhập chọn trang.
- Shift chọn trang cuối cùng (nếu muốn chọn 1 loạt)/ Ctrl chọn trang (nếu muốn chọn trang riêng lẻ)
- Click phải, copy, paste:



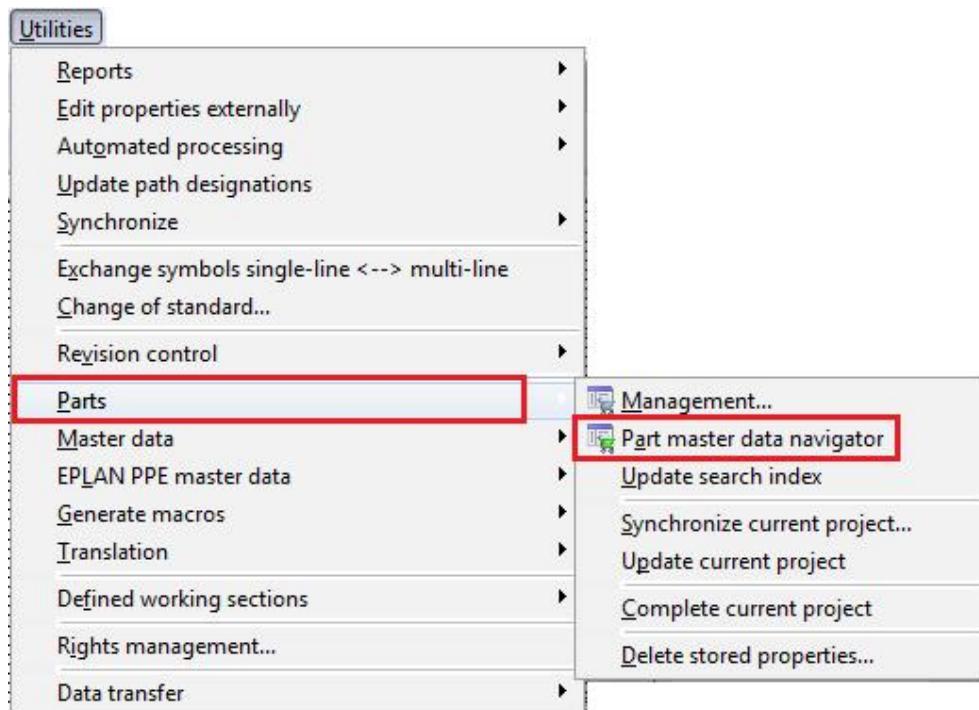
10. Mở tới trang tiếp theo của tín hiệu:

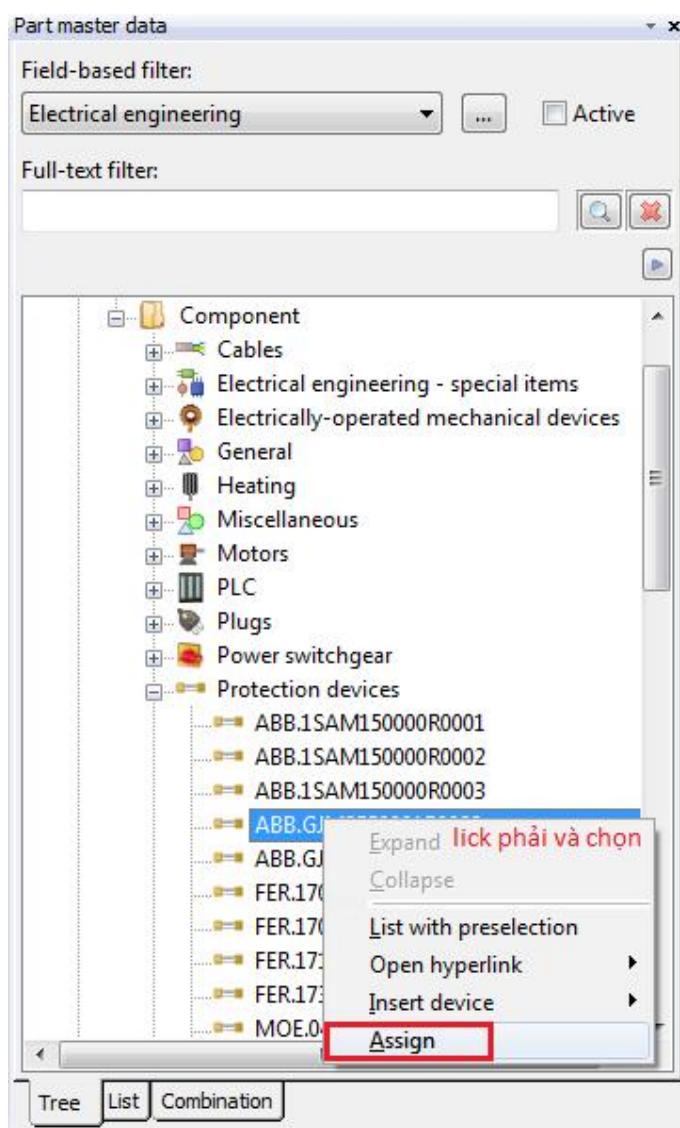
Lick phải vào tín hiệu/ go to (counterpiece)



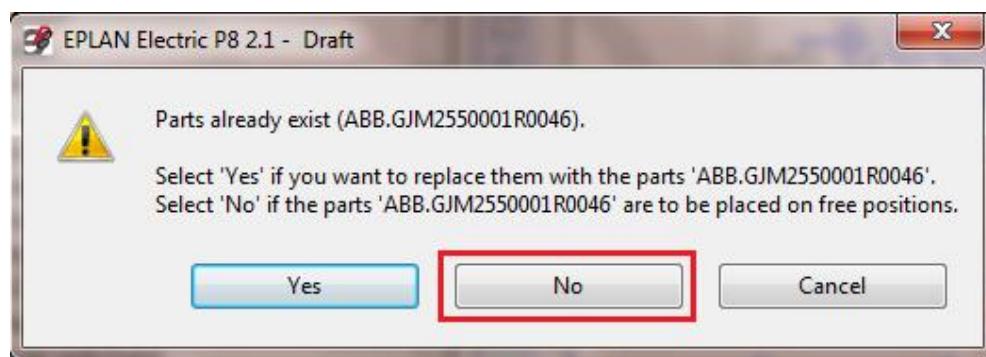


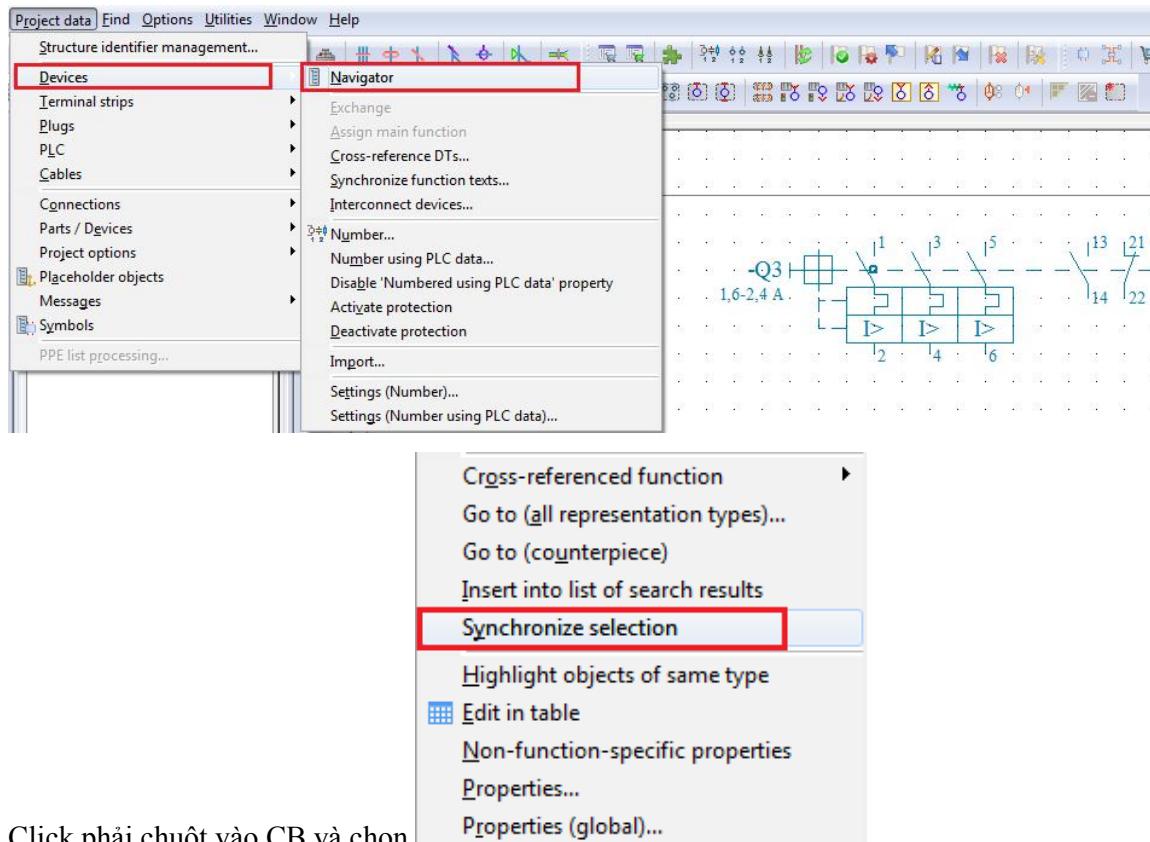
11. Thêm tiếp điểm phụ cho CB, MCB:



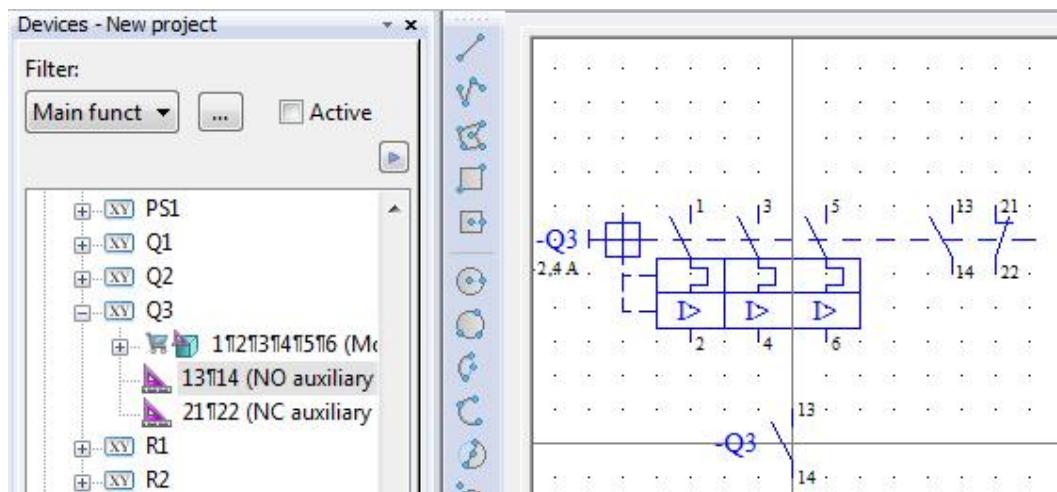


Dùng chuột click vào CB, MCB cần thêm.





Click phải chuột vào CB và chọn

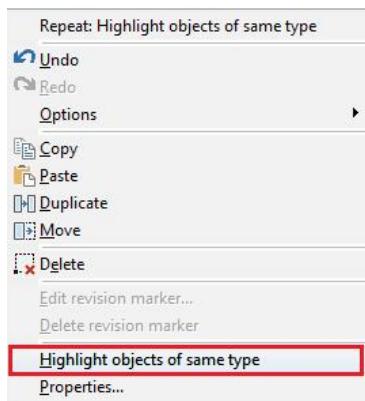


13. Quay chiều hướng đối tượng:

Nhấn phím Tab để quay chiều đối tượng hoặc CTRL+ di chuyển chuột vòng tròn về hướng muốn đối tượng muốn xoay.

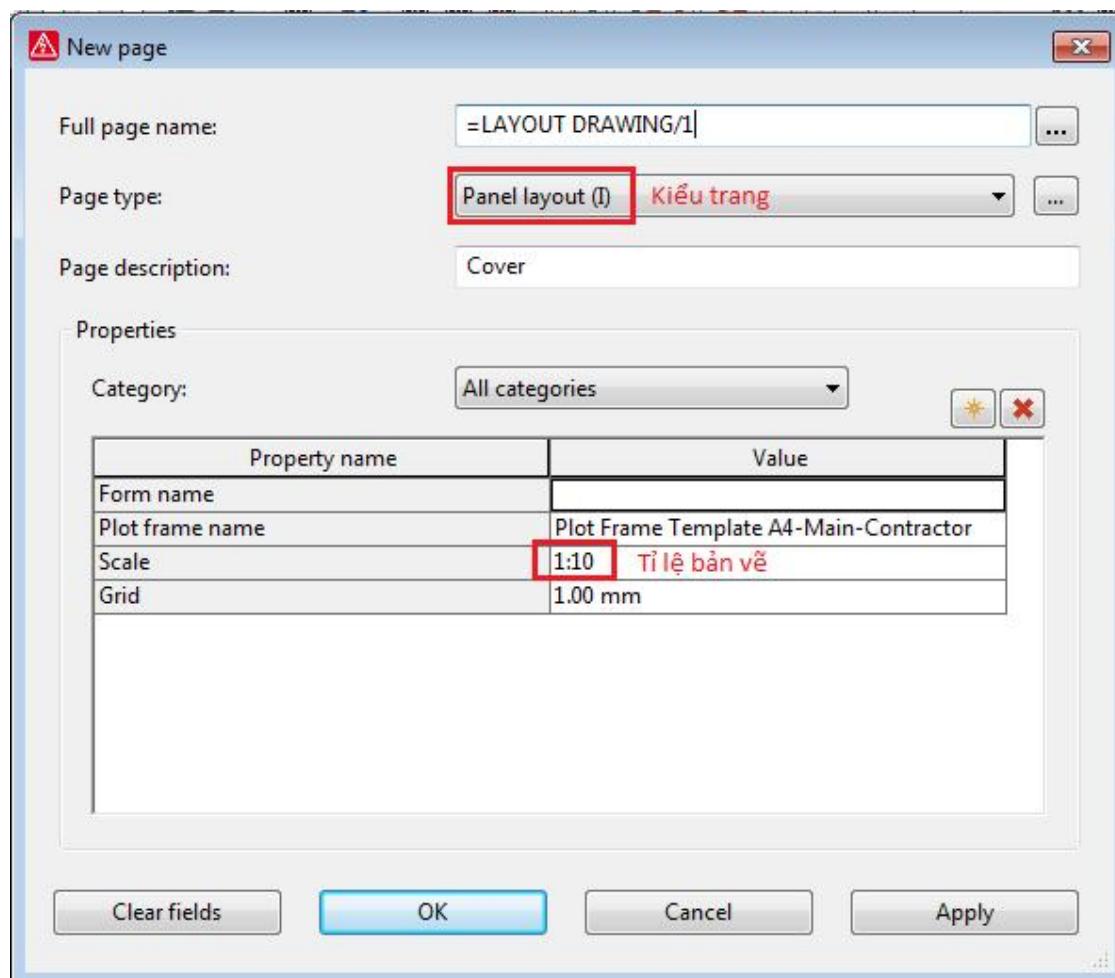
14. Chọn dòng loạt các đối tượng giống nhau:

Mục đích để sửa chữa định dạng màu sắc kích thước,lick phải đối tượng chọn

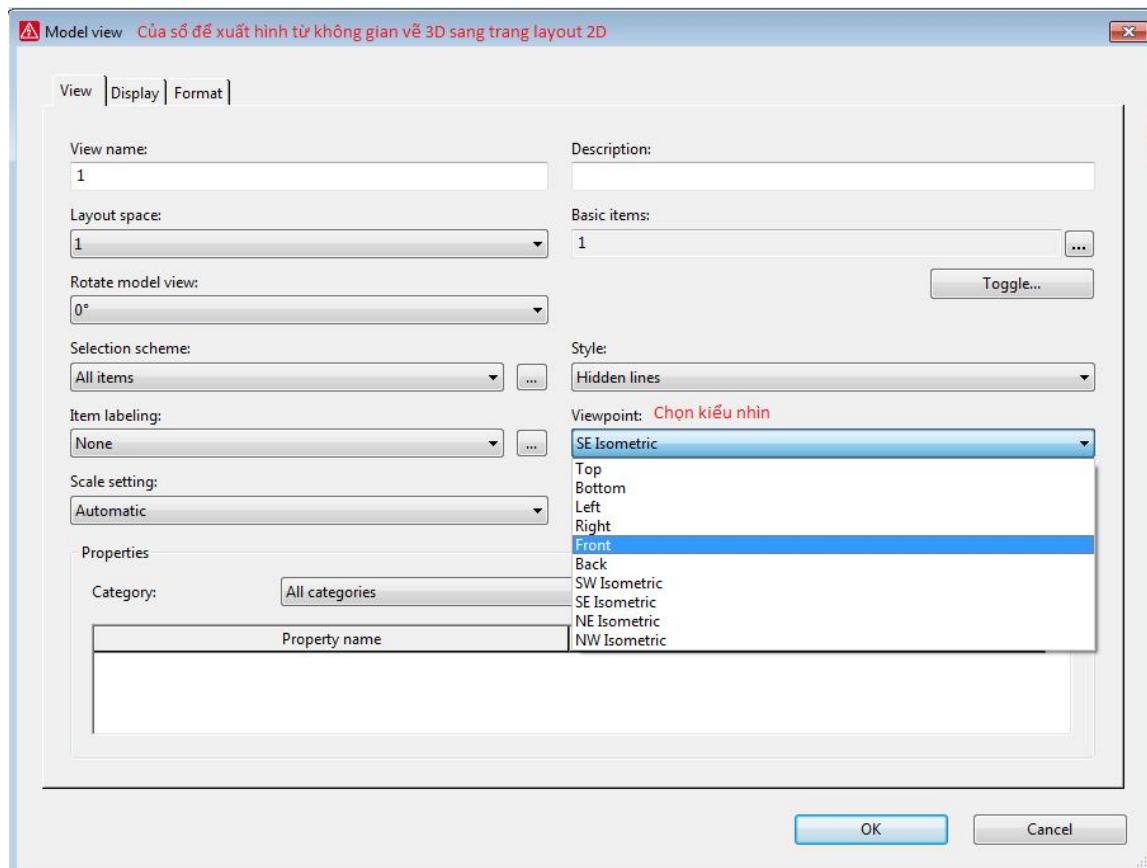


15. Tạo trang vẽ Layout 2D:

- Lick phải vào dự án/ New

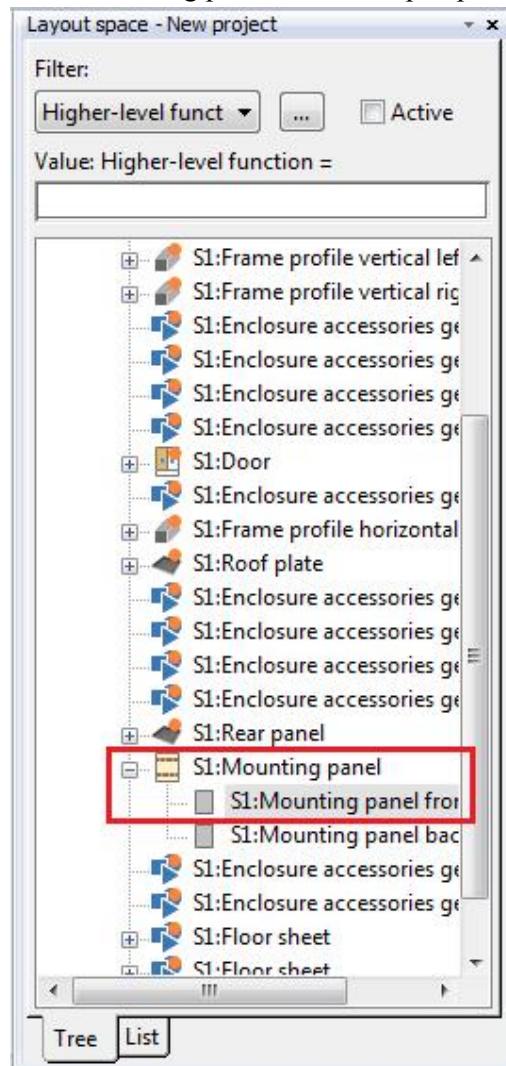


Insert/ Graphic/ Model view...: Tạo cửa sổ để lấy hình từ không gian vẽ 3D sang.



- Layout space/ Navigator

Chọn mounting panel front để sắp xếp thiết bị lên:

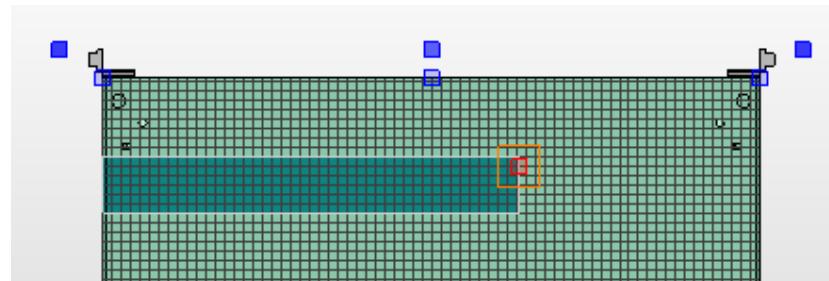
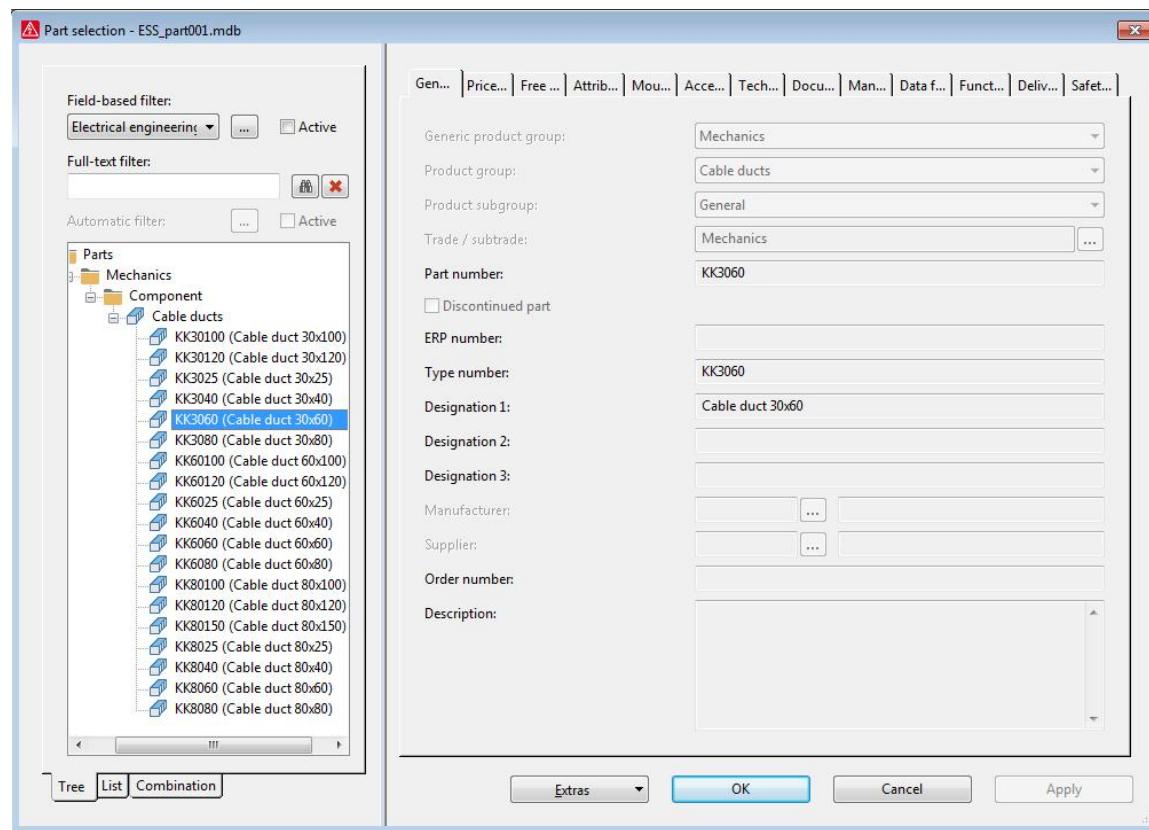


Lick phải trong khu vực công cụ/



Object snap on/ off: chọn bắt điểm

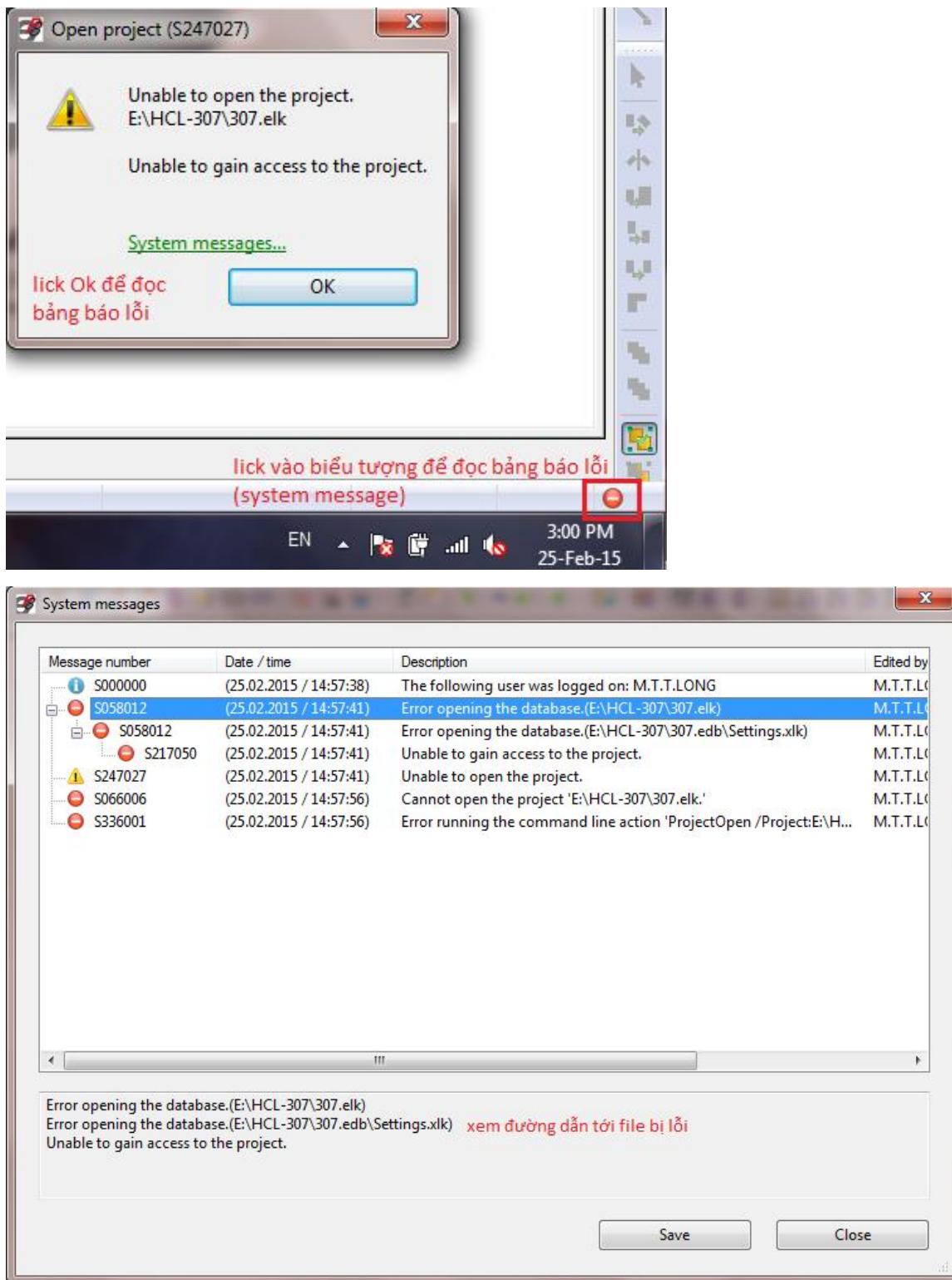
Wire duct : vẽ máng đi dây



Mounting rail: vă thanh rail

VI. Lỗi:

1. S247130 : Lỗi thiếu file, hỏng file:



Với lỗi mất file settings.xlk : chỉ cần vào những dự án cũ khác, copy file setting.xlk bỏ vào là ok.

2. Thư viện sau khi sửa bị lỗi, không thể update được:
 - Tắt Eplane.
 - Vào Folder Project đang làm copy thư viện ra (thư viện luôn có trong file project)
 - 3. Chữ đúng kích thước mà to bất thường:

Chỉnh lại kích thước chữ về 1mm

