Revit and ElectricalOM Synchronisation Training Course for Electrical Design Professionals

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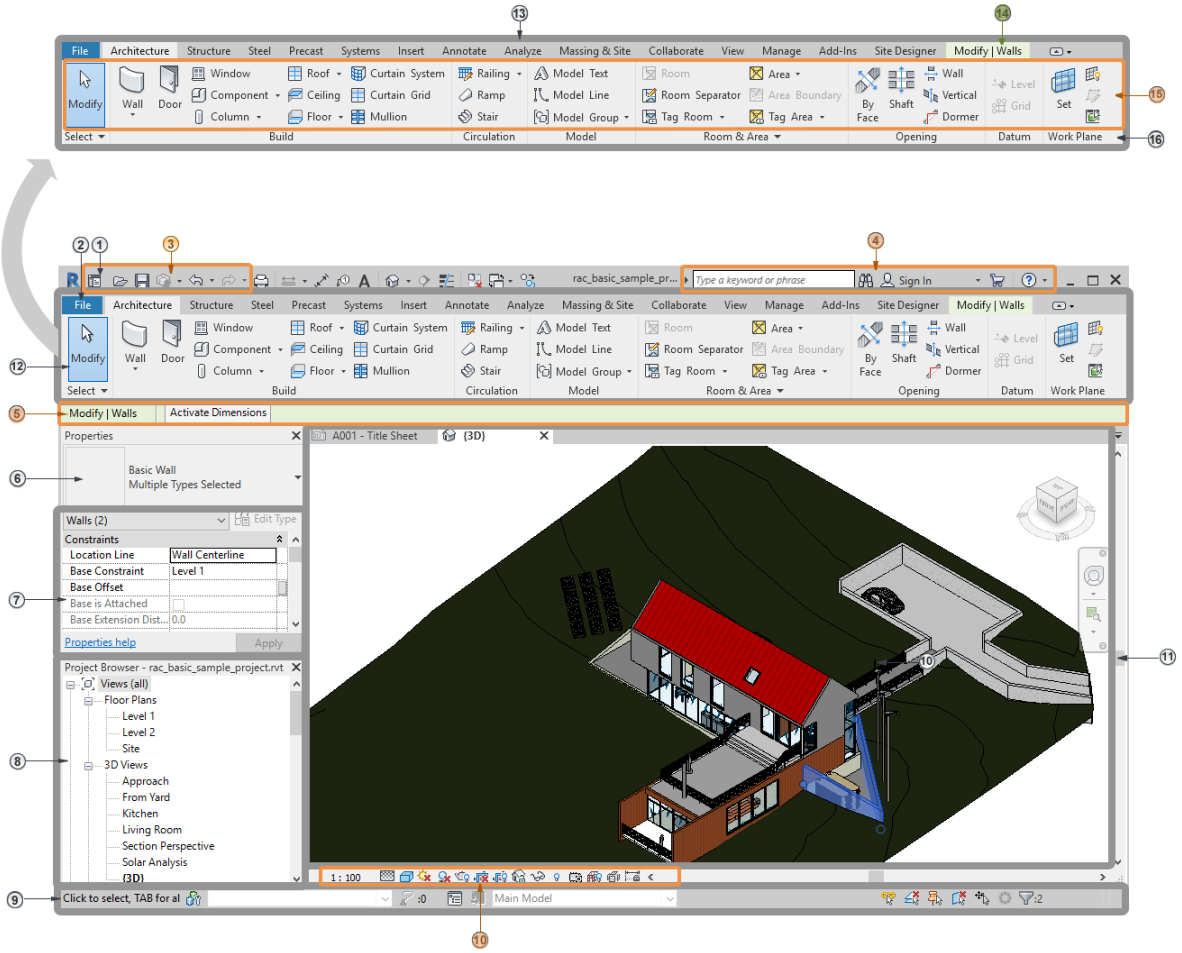
Table of Contents

1. Introduction

- For this course we will need Revit and ElectricalOM. This course is intended for Revit Electrical Design Professionals.
- We will learn how to Collaborate with Revit Architecture and AutoCAD files,
- Link and import models,
- Configure distribution systems and electrical connectors,
- Model electrical fixtures, panels, wiring and electrical circuits,
- Synchronise Revit Electrical Model with ElectricalOM.

2. Revit User Interface and Revit ElectricalOM Synch Tool

- Use Revit Add-in and Revit Menu in ElectricalOM
- Revit Get Started Guide
- Revit Keyboard Shortcuts
- Revit Properties Palette, Project Browser and System Browser
- Parts of the Revit User Interface

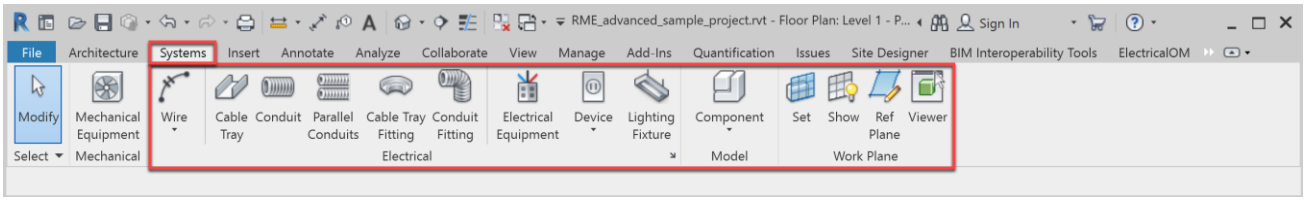


Note: Your ribbon may look different if you created a user profile and tabs/tools were hidden. It may also look different if you used the User Interface section of the Options dialog to revise the ribbon.

1	Revit Home
2	File tab
3	Quick Access toolbar

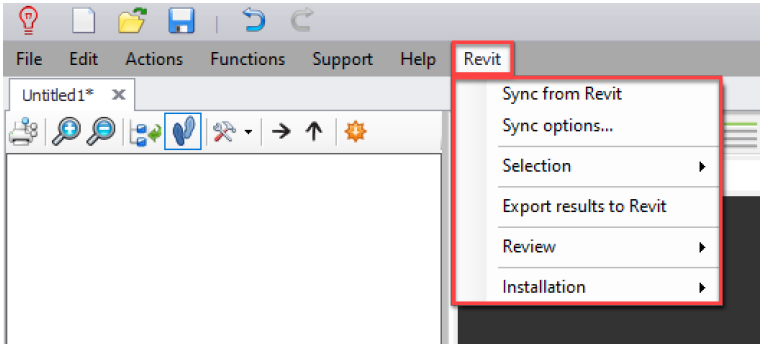
4	InfoCenter
5	Options Bar
6	Type Selector
7	Properties palette
8	Project Browser
9	Status bar
10	View Control Bar
11	Drawing area
12	Ribbon
13	Tabs on the ribbon
14	A contextual tab on the ribbon, providing tools relevant to the selected object or current action
15	Tools on the current tab of the ribbon
16	Panels on the ribbon

- Revit Electrical Systems

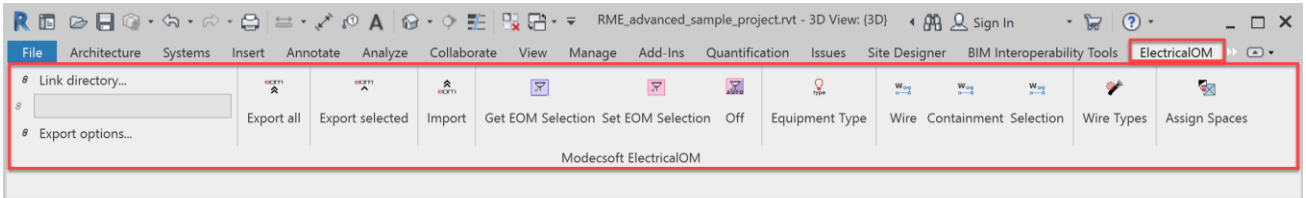


- Autodesk Revit Synchronisation with ElectricalOM

ElectricalOM Revit Synch Tool Menu



Revit ElectricalOM Add-in



- ElectricalOM Online Manual
- ElectricalOM Tutorial - Quick Start

3. Collaboration in Revit

3.1 Import AutoCAD files into Revit

- Open a Floor Plan ⇨ Insert Tab ⇨ Link CAD ⇨ Current View Only ⇨ Apply ⇨ Select CAD underlay and Pin it ⇨ Explore Selection Control Toolbar ⇨ Select CAD and Explore Draw Order and Query ⇨ VG (Visibility and Graphics) ⇨ Imported Categories ⇨ Arc Floor Plan (Layers)
- From Project Browser ⇨ Explore Revit Links ⇨ Right Click Manage Links ⇨ CAD Formats
- Go to View Tap ⇨ Drafting View ⇨ Locate in the Project Browser the Drafting View ⇨ Edit Discipline/Sub-Discipline ⇨ Insert Tab ⇨ Import CAD ⇨ ZA (Zoom All)
- Go to Insert Tab ⇨ Insert from File ⇨ Insert Views from File ⇨ Locate CAD File with Blocks ⇨ Select Specific Views ⇨ Locate Them ⇨ Change Discipline/Sub-Discipline ⇨ Drag them into your Sheets

3.2 Link Revit

- Got to Insert tap ⇨ Link Revit ⇨ Internal Origin to Internal Origin ⇨ Pin Underlay ⇨ Edit Type ⇨ Room Bounding ⇨ From Selection Control Bar Select Pin
- Manage Tab ⇨ Additional Settings ⇨ Halftone/Underlay
- Bring the Structural Model ⇨ Repeat Link Revit Process
- VG ⇨ Revit Links ⇨ Display Settings ⇨ Custom ⇨ Model Categories

3.3 Copy levels and set up monitoring

- Open South Elevation ⇨ VG ⇨ Revit Links ⇨ Uncheck Structural Link
- Edit scale ⇨ Visibility Control Bar ⇨ Align Levels
- Collaborate Tab ⇨ Copy/Monitor ⇨ Select Link ⇨ Architectural Model ⇨ Monitor
- Copy Levels ⇨ Enable Multiple Checkbox ⇨ Use CTRL Key ⇨ Click Finish (Options Bar) ⇨ Finish (Ribbon) ⇨ Align Levels

3.4 Create floor plans

- View Tap ⇨ Plan Views ⇨ Floor Plan ⇨ Edit Type ⇨ View Template Applied ⇨ Electrical ⇨ Discipline ⇨ Sub-Discipline
- Select a Floor View (from Project Browser) ⇨ Properties ⇨ View Template ⇨ Assign View Template/Create

3.5 Create Fire Alarm Views

- Select a Plan View ⇨ Go to Properties ⇨ Create new Sub-Discipline Fire Alarm ⇨ VG ⇨ Turn ON/Off Items ⇨ Apply
- Right Click on a Fire Alarm View ⇨ Create View Template from View ⇨ Provide a Name ⇨ OK ⇨ Go to Properties ⇨ View Template ⇨ Click "None" and Apply the New One
- Go to View ⇨ View Templates ⇨ Manage View Templates ⇨ Select the Specific Template ⇨ Uncheck View Scale and View Range
- Multi-Select the Other Ceiling Plans ⇨ Go to Properties ⇨ View Template ⇨ Click "None" and Apply the New One (Fire Alarm)

3.6 Coordinate review

- After changes have been applied in the Architecture Model ⇨ Go to South Elevation ⇨ Click the link model ⇨ Monitor Coordination Review ⇨ Action

3.7 Use worksheets for collaboration

- Collaborate Tab ⇨ Collaborate ⇨ Within your network Save Model
- Collaborate Tab ⇨ Worksets ⇨ Editable ⇨ Borrowers ⇨ from Properties select Worksets
- From the view control toolbar ⇨ Worksharing Display ⇨ Settings
- Working on a Team Project
- Create a Local Copy of a Central Model
- Worksets
- Workflow: Collaborating with Revit Models

3.8 Creating and applying filters

- VG ⇨ Filters Tab ⇨ Edit New ⇨ New Categories ⇨ Electrical Fixtures ⇨ Filter Rules ⇨ Circuit Number ⇨ "is less than 1"
- Add Filter ⇨ Override Lines ⇨ Red ⇨ Apply
- Add New Sockets in the Floor Level Without Circuit and notice the colour difference

4. Revit Elements

4.1 Differentiate system and component families

- System Family (walls, floors, roofs, stairs)
- Hosted (Component) Family (MEP families)
- Family Types (types of the same family)

4.2 Create a new family type

- Open a Ceiling View ⇨ Systems Tab ⇨ Lighting Fixtures ⇨ Edit Type ⇨ Duplicate ⇨ Rename ⇨ Edit Type Parameters ⇨ 600 x 1200 mm
- In the Project Browser ⇨ Families ⇨ Lighting Fixtures ⇨ Plain Recessed Lighting Fixture ⇨ Family Types ⇨ Click and Drag and Drop or Double click to edit family type properties

4.3 Edit family connectors

- Revit Families ⇨ New ⇨ Generic Model ⇨ Create Tab ⇨ Family Category and Parameters ⇨ Electrical Equipment/Fixture ⇨ Extrusion ⇨ Circle ⇨ Finish ⇨ 3D View ⇨ Create Tab ⇨ Electrical Connector ⇨ Select the Top Face
- Select Elec Connector ⇨ Properties ⇨ Electrical Data ⇨ Load into Project ⇨ Select the Equipment ⇨ Create a Circuit (Power) ⇨ Go to Systems Tab ⇨ Wire Circuit

5. Revit Modelling

5.1 Electrical Systems

- Go to Systems Tab ⇨ Explore the Electrical Tools on the Systems tab of the ribbon ⇨ Click the small pointing down arrow ⇨ Review Electrical Settings
- Go to Manage Tab ⇨ MEP Settings ⇨ Electrical Settings ⇨ Review Electrical Settings
- Revit Electrical Systems

5.2 Add Spaces and Space Schedule

- Go to a Floor Plan ⇨ Select the Revit Link ⇨ Edit Type ⇨ Room Bounding – Make Sure is On
- Analyze Tab ⇨ Space ⇨ Select a Room ⇨ Select Space ⇨ Properties ⇨ Find Room Name & Number
- Analyze Tab ⇨ Space ⇨ Place Spaces Automatically ⇨ Space Naming ⇨ Names and Numbers ⇨ Apply
- View Tab ⇨ Schedules/Quantities ⇨ Spaces ⇨ OK ⇨ From Spaces Add Name & Number, From Room Add Name & Number ⇨ Sorting/Grouping ⇨ Select Sort by Number ⇨ Select and Delete Spaces without Name ⇨ Select Name from Schedule ⇨ Space is Highlighted in the Model

5.3 Add and modify sockets

- Select a Floor plan ⇨ Systems ⇨ Device ⇨ Placement (Place on a Vertical Face) ⇨ Electrical Fixture ⇨ Edit Type ⇨ Right click on the fixture ⇨ Create Similar
- Select different family type ⇨ GFCI ⇨ Edit Type ⇨ Delete Label ⇨ Add TG ⇨ Edit Family ⇨ File ⇨ Save As ⇨ Family ⇨ Edit Label ⇨ Add Type Mark ⇨ Load into Project ⇨ Change Tag Family Type ⇨ Select Receptacle ⇨ Edit Type ⇨ Add Type Mark

5.4 Add and modify panels

- Go to Analyze Tab ⇨ Space ⇨ Place Spaces Automatically ⇨ Space Naming
- Systems Tabs ⇨ Electrical Equipment ⇨ Select Family Type ⇨ Place Board ⇨ Edit Type ⇨ Panel Name ⇨ Right Click ⇨ Create Similar
- Select Board ⇨ Edit Family ⇨ Review Connectors

5.5 Add and modify circuits

- Select an Elec Fixture from a floor plan ⇨ Power ⇨ Select Panel ⇨ Edit Circuit ⇨ Add to Circuit ⇨ Select Finish
- Hover above a Receptacle ⇨ Hit Tab Key to see wiring
- Select Elec Fixture ⇨ Electrical Circuits ⇨ Edit Circuit ⇨ Properties ⇨ Check Load Name
- Right Click in the Drawing Area ⇨ Browsers ⇨ System Browser

5.6 Add panel schedules

- Select a Panel ⇨ Create Panel Schedules ⇨ Use Default Template ⇨ Move Up/Down Circuits ⇨ Assign Spare/Space ⇨ Rebalance Loads
- In the Project Browser ⇨ Panel Schedules
- Manage Tab ⇨ Panel Schedule Templates ⇨ Edit Template

5.7 Add and modify lighting fixtures

- Select a Ceiling Plan ⇨ Systems Tab ⇨ Lighting Fixture ⇨ Select the Default Family Type ⇨ Place on Face ⇨ Hit Space Bar to rotate Lighting Fixture
- Right Click on a Lighting Fixture ⇨ Create Similar ⇨ Load Family ⇨ Emergency Lighting (wall/ceiling mounted)
- On the quick Access Toolbar ⇨ Section ⇨ Cut a Section ⇨ Double Click the Section to Open it up ⇨ See the Ceiling and Wall Mounted Fixtures
- Manage Tab ⇨ Snaps ⇨ Review Snap Options

5.8 Add and modify switches

- Select a Ceiling Plan ⇨ Systems Tab ⇨ Devices ⇨ Lighting ⇨ Select Family Type ⇨ Put switches on walls ⇨ Select and Copy Switches

5.9 Create and modify lighting circuits

- Select Ceiling Plan ⇨ Select Lighting Fixture ⇨ Move ⇨ SI (Snap Intersection) ⇨ Uncheck Constrain
- Select Lighting Fixture ⇨ Power ⇨ Select Panel ⇨ Edit Load Name (Electrical Circuit Properties)
- Select Lighting Fixture ⇨ Electrical Circuits ⇨ Edit Circuit ⇨ Add to Circuit ⇨ Select Lighting Switch
- Check Equipment in the System Browser

5.10 Create and modify switching systems

- Select Ceiling Plan ⇨ Select Lighting Fixture ⇨ Switch ⇨ Select Switch ⇨ Hover over Switch ⇨ Tab Key ⇨ Check Switch Circuit
- Edit Switch System ⇨ Add More Lights to the Switch Systems ⇨ Finish Editing System

5.11 Add and modify conduit

- Select a Floor Plan ⇨ Systems ⇨ Review Electrical Settings ⇨ Systems Tab ⇨ Conduit ⇨ Edit Diameter & Elevation ⇨ Select Conduit Type from Properties ⇨ Edit Type ⇨ Draw Conduit ⇨ Open 3D View ⇨ Edit view details ⇨ Add Parallel Conduits
- Right click on the panel ⇨ Draw Conduit from face ⇨ Finish ⇨ Draw Conduit
- Cut a section
- Create Similar Conduit ⇨ Draw Conduit on Existing Conduit ⇨ Automatically Adds a Junction Box

5.12 Use cable trays

- Select a Floor Plan ⇨ Systems ⇨ Review Electrical Settings ⇨ Cable Tray Settings ⇨ Systems Tab ⇨ Cable Tray ⇨ Select Cable Tray Type from Properties ⇨ Edit Width, High, Elevation ⇨ Draw Cable Tray ⇨ Create Similar ⇨ Select a Spot in the Middle ⇨ Adds Automatically a Fitting
- Set Detail Level to Fine ⇨ Notice CT appearance

5.13 Create distribution system

- Select a Floor Plan ⇨ Systems Tab ⇨ Electrical Equipment ⇨ Select Family Type ⇨ Single Phase Panel ⇨ Place it on the Wall ⇨ Edit Type ⇨ Number of Poles ⇨ 3
- Go to Electrical Settings ⇨ Distribution Systems ⇨ Add ⇨ 120/208 Delta, Three, Delta, 4, 120, 208, Click OK
- Select Panel ⇨ Distribution System ⇨ 120/208 Delta

5.14 Add and modify security/fire alarm devices

- Right Click on a Ceiling Plan ⇨ Duplicate View with Detailing ⇨ Rename to “Ceiling Security” ⇨ from Properties set Sub-Discipline to Security ⇨ VG ⇨ Uncheck Lighting ⇨ Apply
- About Duplicating Views in Revit
- Systems Tab ⇨ Device ⇨ Security ⇨ Load Security Device ⇨ Go to Electrical, MEP, Info and Comm, Security ⇨ Security Alarm
- Place Security Alarm ⇨ From Quick Access Toolbar ⇨ 3D View ⇨ Click on Camera ⇨ Properties ⇨ Discipline ⇨ Coordination ⇨ Edit View Control Toolbar
- From Ceiling Security ⇨ Select Device ⇨ Edit Family ⇨ Select 3D Part ⇨ Review Visibility Settings ⇨ Project Browser ⇨ Views ⇨ Floor Plan ⇨ Select Symbol (Family Nested in a Family), Edit Family ⇨ VG ⇨ Annotation ⇨ Uncheck Dimensions

5.15 Add and modify wiring

- Select a Floor Plan ⇨ Edit View Control Toolbar ⇨ VG ⇨ Uncheck Lighting ⇨ Apply ⇨ Systems Tab ⇨ Electrical Settings ⇨ Review Wire Settings
- Hover above a Receptacle ⇨ Hit Tab Key ⇨ Select it ⇨ Select Arc/Chamfered Wire (Automatic Wires)
- Select a Ceiling Plan ⇨ Systems Tab ⇨ Wire ⇨ Arc, Spline, Chamfered Wire ⇨ Select the Midpoint of the Fixture ⇨ Draw Wire

5.16 Check circuits and disconnects

- Go to 3D View ⇨ Manage Tab ⇨ Inquiry Panel ⇨ Review Warnings
- Go to Analyze Tab ⇨ Check Systems ⇨ Select Check Circuits ⇨ Select Show Disconnects ⇨ Cable Tray, Electrical
- Go to Manage Tab, Inquiry Panel ⇨ Review Warnings
- Go to Analyze Tab ⇨ Check Systems ⇨ Select Check Circuits ⇨ Select Show Disconnects ⇨ Uncheck All

6. Views and Sheets

6.1 Apply new templates

- Select a Ceiling Security View ⇨ VG ⇨ Edit Visibility Column ⇨ Apply
- Right Click on Ceiling Security View ⇨ Create View Template from View ⇨ Name Plan View "Security Plan" ⇨ OK ⇨ V/G Overrides Model ⇨ Edit ⇨ OK
- Properties ⇨ View Template ⇨ Security Plan ⇨ Uncheck View Scale ⇨ Apply
- View Tab ⇨ View Templates ⇨ Manage View Templates ⇨ OK
- Right Click on Ceiling Security View ⇨ Duplicate View with Detailing ⇨ Properties ⇨ View Template ⇨ None ⇨ VG ⇨ Turn Everything On ⇨ Right Click on Ceiling Security Copy View ⇨ Apply Template Properties ⇨ Security Plan ⇨ OK

6.2 Add text and dimensions

- Select a Floor Plan ⇨ Zoom in to Electrical Room ⇨ View Tab ⇨ Callout ⇨ Manage Tab ⇨ Object Styles ⇨ Annotation Objects ⇨ Callout Boundary ⇨ Edit it ⇨ Apply
- Open Callout ⇨ Properties ⇨ View Template ⇨ None ⇨ Change Scale ⇨ Edit Visibility Control Toolbar ⇨ VG ⇨ Floor ⇨ Override Patterns ⇨ Uncheck Visible
- From the Quick Access Toolbar ⇨ Aligned Dimension ⇨ Edit Type ⇨ Text Width Factor ⇨ 0.8 ⇨ Pick two points in the Drawing Area to place Dimension
- Select Dimension twice ⇨ Dimension Text ⇨ Suffix ⇨ Type a Suffix
- From the Quick Access Toolbar ⇨ TEXT (TX) ⇨ Select TEXT Family Type ⇨ Edit Type ⇨ Edit Leader and Width Factor ⇨ Two Segments ⇨ Insert Leader ⇨ Select Leader ⇨ Add Arrow
- Annotate Tab ⇨ Dimensions are Located there as well ⇨ Dimensions drop down ⇨ Dimension Types

6.3 Tagging elements

- Go to a Floor Plan ⇨ TG ⇨ Wire ⇨ Move TG ⇨ Select TG ⇨ Edit Family ⇨ Select Label ⇨ Edit Label ⇨ Add Panel ⇨ Suffix ", " ⇨ Apply ⇨ Edit Type ⇨ Set Width Factor to 0.8 ⇨ Apply ⇨ Load into Project and Close ⇨ Don't Save Changes ⇨ Overwrite Existing
- Open Callout ⇨ Properties ⇨ View Name ⇨ Electrical Room ⇨ TG a Panel ⇨ Enable Leader ⇨ Select TG ⇨ Edit Type ⇨ Change Leader Arrowhead ⇨ Apply ⇨ Copy
- TG a Conduit ⇨ Systems ⇨ Electrical Settings ⇨ Conduit Settings ⇨ Edit Conduit Size Suffix

7. Revit ElectricalOM Synch Tool

- The Autodesk Revit ® - ElectricalOM synchronization tool provides Electrical Engineers and Designers the flexibility to synchronize their Revit Electrical Data with ElectricalOM allowing BS 7671 Calculations to be applied in the Revit Model and also to Auto-Create Schematic Diagrams of the panels' circuitry.
- Autodesk Revit Synchronization with ElectricalOM

7.1 Install Revit ElectricalOM Synch Tool

- From ElectricalOM's Main Menu ⇨ Revit Menu ⇨ Installation ⇨ Select the Revit version you use ⇨ Restart Revit/Open Revit ⇨ ElectricalOM Add-in now should appear in Revit

7.2 Revit & ElectricalOM Synchronisation

- From Revit ⇨ ElectricalOM Add-in ⇨ Click on Link Directory ⇨ Make New Folder (on your local drive, cloud service or company server) ⇨ Select OK ⇨ Export Options (Check/Uncheck Circuit Spaces) ⇨ Select Export All
- From Revit ⇨ ElectricalOM Add-in ⇨ Export Selected ⇨ Expand tree network view ⇨ Users can export part of the network from the Revit model ⇨ Users can change the circuit kind from the drop down menu in the ElectricalOM Kind section ⇨ Select Set to apply changes ⇨ Select the origin of the network or a Sub-Distribution to export ⇨ Export

- From ElectricalOM ⇨ Revit Menu ⇨ Synch Options (Exclude/Include information from the Revit Model to be synchronised with ElectricalOM) ⇨ Select OK ⇨ Revit Menu ⇨ Sync from Revit ⇨ Select Link Directory ⇨ Select OK
- From ElectricalOM ⇨ Use the "Tree Network View" or the "Drawing Area" to explore the Electrical Network synchronised with the Revit Electrical model
- From ElectricalOM ⇨ In the Drawing Area ⇨ Select a Distribution Circuit ⇨ Right Click to access the "Actions Menu" ⇨ Schematic Functions ⇨ Leave compacted mode (to see the final circuits of the board) ⇨ You can select the whole electrical network and uncompact your boards as well
- From ElectricalOM, to edit your circuits ⇨ Access the Circuit Edit/Circuit Details Tab and apply electrical changes on your circuits
- From ElectricalOM ⇨ Revit Menu ⇨ Export results to Revit ⇨ Return to Revit ⇨ ElectricalOM Add-in ⇨ Click Import ⇨ Now all circuits changes from ElectricalOM are shared with Revit
- Revit - ElectricalOM Synchronisation
- Revit - ElectricalOM Quick Demo

7.3 Revit & ElectricalOM Automatic Selections

- From Revit, if you followed all the steps of **Section 7.2** ⇨ ElectricalOM Add-in ⇨ Turn ON Auto Get/Set from the Automatic Selection Buttons ⇨ Return to ElectricalOM ⇨ Revit Menu ⇨ Selection ⇨ Enable Auto Get/Set
- Now both environments are in total synchronisation; therefore, whatever electrical system is selected in any of the environments it will be highlighted/selected in the other (like the functionality of the System Browser in Revit).
- Revit - ElectricalOM Automatic Selections
- From the highlighted circuit in the drawing area of Revit, as a result of the selection in ElectricalOM ⇨ Select the Electrical Circuits Tab in Revit ⇨ Properties ⇨ Review the electrical properties of the circuit
- To disable Automatic Selection, simply turn off the Auto Get/Set functionality in both environments.

7.4 Revit & ElectricalOM Panel Schedules

- From Revit ⇨ Project Browser ⇨ Panel Schedules ⇨ Double click to open a panel schedule ⇨ Relocate circuits (using the Move Up/Down/Across Tools) ⇨ Assign a Spare Circuit/Space
- To create new circuits or relocate any circuits, all changes must be applied firstly in Revit and then be synchronised with ElectricalOM by following the steps of **Section 7.2** (electrical data is only obtained from the Revit model not the other way around).

7.5 Revit & ElectricalOM Wiring Path

- From Revit ⇨ Project Browser ⇨ Select a Plan View ⇨ Select Electrical Circuits ⇨ Modify Tab ⇨ Selection Box (BX) ⇨ Select the Electrical System from the 3D Section Box View ⇨ Electrical Circuits Tab ⇨ Edit Path ⇨ Review Length and Circuit Path ⇨ Cancel Editing Path ⇨ Esc
- Select the Electrical System from the 3D Section Box View ⇨ Go to ElectricalOM Add-in ⇨ Click the Wire Button ⇨ Select Floor ⇨ Define the Elevation of the Cable ⇨ Enable/Disable Ring Circuit ⇨ OK ⇨ Esc
- Select the Electrical System from the 3D Section Box View ⇨ Electrical Circuits Tab ⇨ Edit Path ⇨ Review Length and Circuit Path Again ⇨ Cancel Editing Path ⇨ Esc
- From the Properties ⇨ Uncheck Selection Box to enable the 3D View of the whole model
- Revit - ElectricalOM Wiring Path

7.6 Revit & ElectricalOM Spaces

- From Revit ⇨ Open a Floor Plan View ⇨ Click on the "X" mark in a Space ⇨ Properties ⇨ Space Type ⇨ Review electrical data of the different spaces defined in Revit (Lighting and Power) ⇨ OK/Cancel

- From the Floor Plan View ⇨ Select a Panel ⇨ ElectricalOM Add-in ⇨ Assign Spaces ⇨ Select different spaces from the Floor Plan View to assign them to the panel ⇨ Review the information from the ElectricalOM Panel Spaces dialogue that appears (area, power, lighting) ⇨ Esc ⇨ Select ElectricalOM Add-in ⇨ Export ALL
- Return to ElectricalOM ⇨ Revit Menu ⇨ Sync Options ⇨ Review the last three options for the "Load Densities Values" (Enable/Disable them accordingly)
- From ElectricalOM ⇨ Revit Menu ⇨ Sync from Revit ⇨ OK ⇨ Search the Panel Name from the Search Bar (at the bottom right-hand corner) ⇨ Access the Circuit Edit ⇨ Load Densities ⇨ Review the Spaces and Load Density Values obtained from Revit ⇨ Select the Load Densities option from the load section in the calculations area on the left ⇨ Apply Changes
- With this functionality, the user can size the main conductors of the Panel Boards based on the assigned spaces in the Revit Model without considering any loads from the final circuits. This is particularly useful during the early-stage design of a project (especially for large buildings).
- Revit - ElectricalOM Spaces

7.7 Revit & ElectricalOM Equipment Types

- From Revit 2022 ⇨ Project Browser ⇨ Panel Schedules ⇨ Double click on a panel name ⇨ Select Multiple Circuits or just one Circuit from the Panel Schedule ⇨ ElectricalOM Add-in ⇨ Equipment Type ⇨ Create a New Category/Add New Equipment Types ⇨ ElectricalOM Add-in ⇨ Export All
- For earlier versions of Revit to add Equipment Types, select particular circuits from a Floor Plan View or use the System Browser (then follow previous steps) and then export all to ElectricalOM.
- From ElectricalOM ⇨ Revit Menu ⇨ Sync from Revit ⇨ OK ⇨ Search the Circuit Name from the Search Bar (at the bottom right-hand corner) ⇨ Access the Circuit Edit ⇨ Other Details Tab ⇨ Review the Equipment Type obtained from the Revit Model ⇨ Apply Changes
- From ElectricalOM ⇨ Main Menu ⇨ Functions Menu ⇨ Equipment Types ⇨ Review the options available for Equipment Types and apply them accordingly
- ElectricalOM - Equipment Types

8. Bonus Material - Revit Workflow

8.1 Creating sheets

- From Project Browser ⇨ Sheets ⇨ Right Click ⇨ New Sheet ⇨ A1 Metric (or Load ⇨ Titleblocks) ⇨ OK ⇨ Drag and Drop Plan Views ⇨ Double Click to Open Floor View ⇨ From View Control Bar ⇨ Click Show Crop Region (Similar to Viewport in AutoCAD) ⇨ Crop Extra Area ⇨ Hide Crop Region ⇨ Go Back to Sheet ⇨ Position the Viewport and View Title
- Edit Labels in Titleblock ⇨ Type Protect Details ⇨ Esc ⇨ Create New Sheet ⇨ Go to Manage ⇨ Project Information ⇨ See all Project Details
- Click on a Titleblock ⇨ Edit Family ⇨ Select Label ⇨ Edit Type ⇨ Reduce Font Size ⇨ Load into Project ⇨ Overwrite the existing version

8.2 Printing sheets

- Go to File ⇨ Print ⇨ Print ⇨ Select Printer Name (PDF) ⇨ Selected views/sheets ⇨ Uncheck Views ⇨ Then Click Setup ⇨ Save as ⇨ Then Print

8.3 Creating schedules

- Go to View Tab ⇨ Schedules ⇨ Schedules/Quantities ⇨ Select Category ⇨ Electrical ⇨ Select Available Fields ⇨ Create Schedule ⇨ From Properties ⇨ Sorting/Grouping

8.4 Using phasing

- Select a Floor Plan ⇨ Manage Tab ⇨ Phases ⇨ Insert Phase After Existing, Demolition, New Construction ⇨ Apply ⇨ Duplicate Floor View ⇨ Rename Copy Demolition

- Open Original Floor Plan ⇨ Select Multiple Equipment (Use Filter) ⇨ From Properties ⇨ Phasing ⇨ Phase Created set to Existing
- Open Copy Floor View ⇨ From Properties ⇨ Phasing ⇨ Phase set to Demolition ⇨ From the Drawing Area Select Items ⇨ Properties ⇨ Phasing ⇨ Phase Demolition set to Demolition

8.5 Working with text

- Go to a Floor View ⇨ From the Quick Access Toolbar (or Annotate Tab) select Text (TX) ⇨ Select Family Type (e.g. 2.5 mm Arial) ⇨ Edit Type ⇨ Select from Leader Section ⇨ Tow Segment Text ⇨ Insert Leader/Text
- Select leader ⇨ Edit Type ⇨ Edit Leader Arrowhead ⇨ 15deg ⇨ Apply ⇨ Click on the Leader ⇨ Add Left Side Straight Leader

8.6 Working with dimensions

- Select a Floor Plan View ⇨ From the Quick Access Toolbar (or Annotate Tab) Click on the Dimension Button (DI) ⇨ Select Wall Faces Option ⇨ Place Dimension ⇨ Esc ⇨ Select Dimension ⇨ Edit Type ⇨ Review Parameters

8.7 Looking at mechanical settings

- Go to Systems Tab ⇨ Click on the little arrow to Open Mechanical Settings ⇨ Review Settings

8.8 Simple modify techniques

- Open a Floor View ⇨ Go to Systems ⇨ Select Duct ⇨ Draw a Piece of Duct ⇨ Draw Another Piece of Duct with different elevation ⇨ Esc ⇨ Select Modify Command ⇨ Trim/Extend ⇨ Esc
- Right Click and Create Similar ⇨ Draw Duct ⇨ Edit Diameter ⇨ Type A + L (Align) ⇨ Hover over and Click Tab (to select align face) ⇨ Align to Center Point
- Select Duct ⇨ Click Array Button (A + R) ⇨ Specify Number ⇨ Select Option Last ⇨ Apply ⇨ (you can select all and ungroup them)

8.9 Making and controlling revisions

- Open a Sheet ⇨ View Tab ⇨ Select Sheets Issues/Revisions ⇨ Add Revisions ⇨ Date, Description ⇨ Apply
- From the Sheet View ⇨ Got to Annotate Tab ⇨ Revision Cloud ⇨ From Properties Select Revision ⇨ Draw Revision Cloud ⇨ Finish Edit Mode ⇨ Esc
- TG ⇨ Load Tag ⇨ Annotations, Revision Tag ⇨ Modify Tag ⇨ Enable Leader ⇨ Place Tag ⇨ Esc ⇨ Create Similar
- Go to View Tab ⇨ Select Sheets Issues/Revisions ⇨ Enable Issued

9. Export Revit Model into Navisworks

- Navisworks is used for clash detection and advanced coordination.
- Open a 3D View ⇨ Go to Add-Ins Tab ⇨ External Tools ⇨ Navisworks 2020 ⇨ Autodesk Online Viewer ⇨ Upload File
- Exporting from Revit to Navisworks
- Free Autodesk Viewers
- Navisworks 2020 Learning
- Download a free Navisworks 3D viewer

10. Conclusion

- All the Electrical Design Professionals after completing this course must be able to fully utilise Revit Electrical and the Revit ElectricalOM Synchronisation Tool along with the ElectricalOM core software confidently, as well as they must be able to do their own research and study to find any information they may need in order to complete their projects.

MODECSOFT
Engineering Software

For more information regarding ElectricalOM, please visit
our website by scanning or clicking on the QR code below.

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