



KNX Engineering Simulator

USER MANUAL

ETS6 Project Preparation, Import, Wiring and Simulation

Official Simulator: sim.knxdubai.com

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1. About This Manual

This manual explains the complete user workflow for the KNX Engineering Simulator: preparing the project in ETS6, importing the exported KNX project, building the simulation workspace, wiring devices and utilities, running tests, and sending diagnostic data to support when required.

Important: ETS6 remains the engineering source of truth. Device parameters, communication objects, group addresses and object associations are configured in ETS6. The simulator executes and visualises the engineering contained in the exported .knxproj file.

2. Before You Start

- Use ETS6 to create and engineer the KNX project.
- Download the required .knxprod product catalogue directly from the official simulator website: sim.knxdubai.com.
- Create the ETS project first, then import the downloaded catalogue into ETS6.
- After engineering is complete, export the project as a .knxproj file.
- A valid simulator account is required to sign in and access the workspace.

3. Quick Workflow

1. Download the required .knxprod catalogue from sim.knxdubai.com.
2. Create a new project in ETS6.
3. Import the downloaded product catalogue into ETS6.
4. Add the KNX devices and configure their parameters.
5. Create the required group addresses and link the communication objects.
6. Save and export the ETS project as .knxproj.
7. Sign in to the simulator and load the exported .knxproj file.
8. Review the detected devices and continue to the workspace.
9. Add utility devices, complete wiring, validate the workspace and test the project.



ETS6 Workflow — Prepare the Project

Download the product catalogue from sim.knxdubai.com, then prepare your ETS6 project for simulation.



Figure 1 - ETS6 workflow: from catalogue download to .knxproj export.

4. Prepare the Project in ETS6

4.1 Download the Correct Product Catalogue

Open sim.knxdubai.com and use the Catalogue section to find the required supported product. Download the KNXPROD file provided for that product. Using the catalogue version published by the simulator helps keep ETS product data aligned with the simulator product profile and improves simulation accuracy.

Version matching: Do not substitute a different product application or catalogue version merely because the device name appears similar. Parameters and communication objects can differ between application versions.

4.2 Create the ETS6 Project

In ETS6, create a new project before importing the product catalogue. Configure the normal project structure required for your exercise or installation.

4.3 Import the .knxprod Catalogue

After the project has been created, import the downloaded .knxprod file into ETS6. Once the import is complete, add the required KNX products to the project from the ETS catalogue.

4.4 Configure Devices and Group Addresses

Engineer the project as you would for a real KNX installation. The simulator reads the resulting project configuration, so the quality of the simulation depends on the ETS engineering.

- Assign the required individual addresses.
- Set the product parameters and enable the required functions.
- Create the group-address structure for lighting, shading, HVAC, general functions and other project areas.
- Link the correct communication objects to the relevant group addresses.
- Configure status / feedback objects where applicable.
- Configure switching, dimming, blind/shutter, scenes, HVAC, timers and other functions required by the project.

In the ETS workflow illustration, the final group-address entries (for example 0/0/1, 0/0/2 and 0/0/3) are shown in red, matching the intended ETS visual representation used in this manual.

4.5 Save and Export the Project

Save the ETS project and export it as a .knxproj file. This exported file is the project file that must be loaded into the KNX Engineering Simulator.

After any ETS change: If you later change parameters, group addresses or object associations, save the ETS project, export a new .knxproj file, and load the updated file into the simulator again.

5. Sign In and Load the KNX Project

5.1 Sign In

Open the official simulator at sim.knxdubai.com and sign in with the username/email and password registered for your account.

5.2 Load the .knxproj File

In the KNX Project Simulation area, select or load the .knxproj file exported from ETS6. The simulator reads the project and checks the discovered devices against the supported simulator catalogue.

During project processing, allow the project and catalogue information to finish loading. The device summary shows how many devices were detected and which devices are supported by the current simulator catalogue.

5.3 Review Detected Devices

Before continuing, review the detected project devices. Supported products are shown as supported; products that are not available in the simulator catalogue are identified separately. If the project is correct, use Continue to Workspace.

Reset Device Layout: Use Reset Device Layout when you intentionally want to restore the device layout for the imported project before entering the workspace. It is different from resetting the live simulation state inside the workspace.

KNX Engineering Simulator — Login & Import Project

Sign in, load your KNX project, review detected devices, and continue to the workspace.

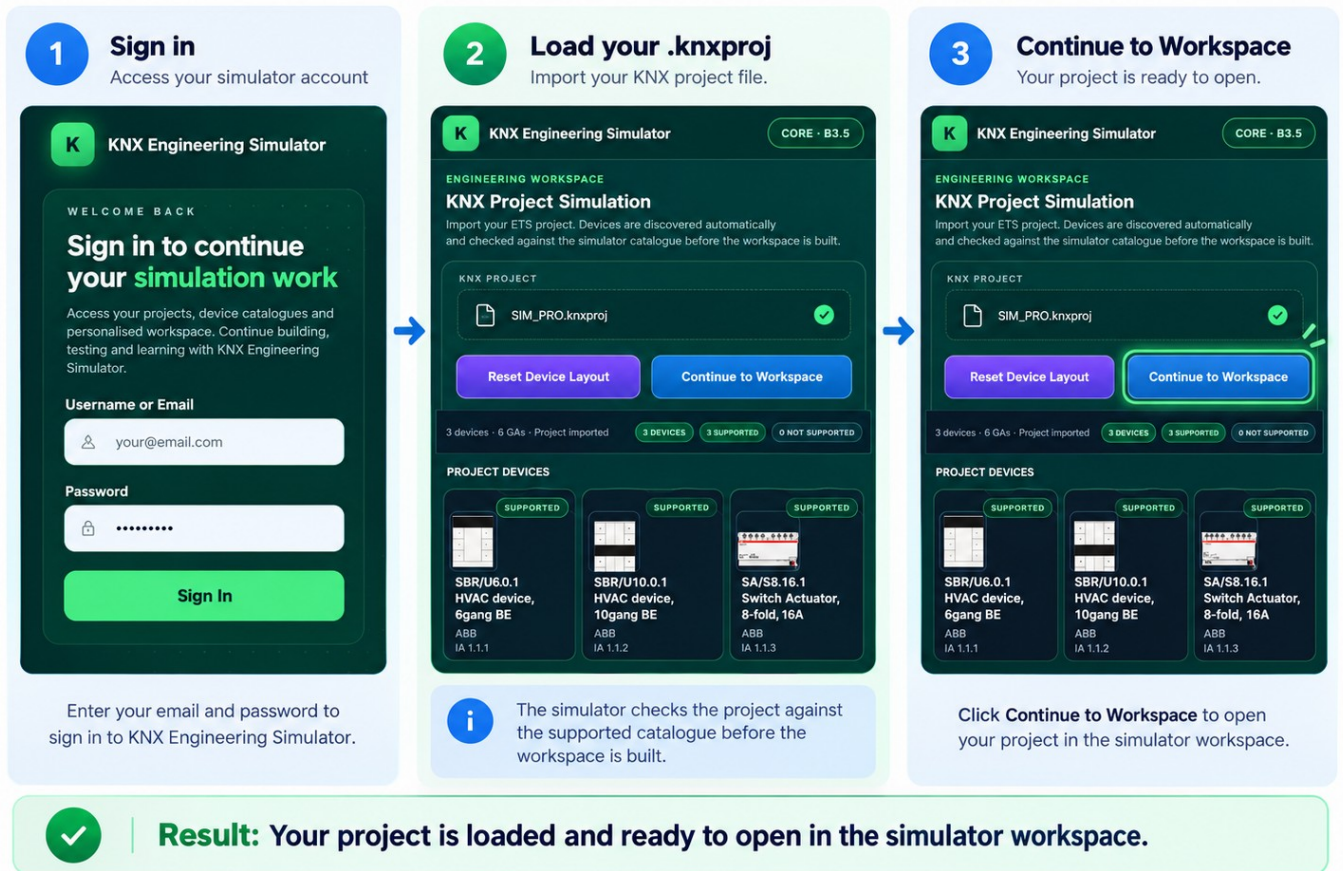


Figure 2 - Sign in, load the .knxproj project and continue to the workspace.

6. Workspace Overview

The workspace is the main simulation environment. KNX project devices, utility devices, power sources and connections are placed on the canvas so the behaviour of the ETS-engineered project can be tested visually.

Default state: Running The workspace starts in RUNNING mode by default. Use the bottom control bar when you need to stop, restart, reset or lock the workspace.

Workspace Overview – Run the Simulation

Understand the workspace, wiring canvas, and the main controls used during simulation.

1 Workspace Canvas

Where devices, utilities, and connections are arranged.

2 Top Add-Utility Buttons

Add power sources and utility devices to the workspace.

3 Bottom Controls

Control the simulation and workspace:

Run Start the simulation.	Stop Stop the simulation.	Reset Reset the simulation state.	Reset Layout Restore the default workspace.	Unlock/Lock Unlock or lock the workspace.	Full Screen Toggle full screen view.	Running Shows the current simulation status.
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4 Support / Diagnostic

Use Support / Diagnostic to send support data; if needed, the team will contact the user through the email already registered in the account.

Result: You know the main workspace areas and simulation controls.

Default state: Running

Figure 3 - Workspace canvas, utility controls, simulation controls and Support / Diagnostic.

6.1 Top Add-Utility Buttons

The top utility area provides the devices and sources required to build the physical side of the simulation. Depending on the current simulator version and project, available items can include:

- 220V Source
- MCB
- KNX PSU
- Light
- Valve
- FCU
- Blind
- Light DIM
- External Temperature
- 2-Gang Push Button
- 2-Gang ON/OFF Switch

The same area also includes workspace actions such as Clear Connections and Validate. Use Validate after creating or changing connections to check whether the workspace is ready for the intended simulation.

7. Add Utilities and Complete the Wiring

7.1 KNX Bus Connections

Connect KNX-capable devices to the KNX bus / KNX PSU as required by the workspace. KNX connections are visually distinct from mains power connections. The KNX bus path represents the communication medium used by devices to send and receive KNX telegrams.

7.2 230V Power Connections

Add a 220V source and the required protective or switching elements, then connect the relevant Live and Neutral paths to utility loads. The wiring should follow the logical electrical path of the circuit being simulated.

7.3 Utility Devices

Control	Purpose
Light	Represents a switched lighting load. Use this name in the simulator; the utility is Light, not Lamp.
Light DIM	Represents a dimmable lighting load and visualises brightness changes.
Blind	Represents a blind/shutter load for UP, DOWN, STOP and position-related tests.
FCU	Represents a fan-coil unit for HVAC control and fan-stage tests.
Valve	Represents a heating or cooling valve output.
External Temperature	Provides an environmental temperature value for relevant KNX functions.
2-Gang Push Button	Provides momentary physical contacts for input simulation.
2-Gang ON/OFF Switch	Provides maintained ON/OFF contacts for input simulation.
KNX PSU	Provides the KNX bus power context required by the simulated installation.
MCB / 220V Source	Provides the mains supply path and basic protective/power elements for the simulated circuit.

7.4 Connection Workflow

10. Add the required utility devices from the top toolbar.
11. Position KNX devices and utilities on the canvas.
12. Connect KNX bus terminals where required.
13. Connect 220V Live and Neutral paths to powered equipment and loads.
14. Connect actuator outputs to the intended utility loads.
15. Use Validate to check the current workspace connections.
16. Correct any invalid or incomplete connections before testing.

8. Simulation Controls

The bottom control bar is used to control the running state and layout of the simulation. The exact labels visible in the current interface include the following:

Control	Purpose
RUN	Starts or resumes the live simulation.
STOP	Stops live simulation processing while keeping the workspace available for inspection.
RESET	Resets the simulation state. Use this when you want to return runtime behaviour to its initial state without rebuilding the workspace layout.
RESET LAYOUT	Restores the workspace layout when you intentionally want to rebuild or return the layout to its default arrangement.
UNLOCK ALL / LOCK ALL	Unlocks or locks workspace elements. Lock the finished layout to avoid accidental movement while testing.
Full Screen	Toggles a full-screen workspace view for larger projects, training or presentations.
RUNNING status	Shows the current simulation state. The workspace normally starts in Running mode.
SUPPORT / DIAGNOSTIC	Collects and sends diagnostic/support data for technical review.

Reset vs. Reset Layout: RESET is for the simulation state. RESET LAYOUT is for the visual workspace arrangement. Use the one that matches the problem you are trying to correct.

9. Run and Test the Project

Once the workspace is validated and running, interact with the simulated devices as you would in a KNX installation. Commands are generated according to the ETS project configuration and are routed through the project group addresses to the related devices and functions.

9.1 Typical Signal Flow

A typical switching test follows this logical sequence:

17. Operate a KNX push button or an input utility.
18. The configured communication object sends the KNX command.
19. The telegram is transmitted to the assigned group address.
20. The receiving actuator function processes the command.
21. The actuator output changes state.
22. The connected utility load, such as Light, reflects the new state.
23. If a status / feedback object is configured, the corresponding status telegram can be sent back to the bus and used by other devices.

9.2 Functions You Can Test

- Switching and toggle functions
- Dimming and brightness feedback
- Blind / shutter UP, DOWN, STOP and position functions
- Scene Recall and Scene Store where supported by the engineered project
- HVAC, fan stages, setpoint and valve functions
- Binary input functions using utility push buttons and switches
- Timing functions and status / feedback behaviour
- Other supported KNX functions defined by the project and product catalogue

9.3 When the Result Is Not What You Expect

First confirm the ETS engineering, then confirm the physical workspace. A valid KNX command cannot produce the expected final effect if the target object is not associated correctly, the relevant device is unsupported, or the required utility wiring is incomplete.

10. Support / Diagnostic

If you encounter an unexpected behaviour, use Support / Diagnostic from the simulator after reproducing the issue. The simulator sends the technical support data required for investigation.

- You do not enter an email address again in the Support / Diagnostic workflow.
- The support team receives the submitted diagnostic/support data and reviews the reported state.
- If additional information or follow-up is required, the support team contacts the user through the email address already registered with the simulator account.
- For best results, reproduce the issue first and then send the support data so the captured state is relevant to the reported problem.

Support email: support@sim.knxdubai.com

11. Basic Troubleshooting

Control	Purpose
A device is not shown after project import	Confirm that the device exists in the exported .knxproj, the correct catalogue/application is used, loading completed, and the product is supported by the simulator.
A push button does not send the expected command	Check the ETS parameter, active communication object and group-address association.
A utility does not operate	Check both the KNX engineering and the workspace wiring. Verify that the correct output is connected to the intended utility.
Status is not returned	Check the ETS status/feedback object and its group-address association.
The project changed in ETS6	Export a new .knxproj file and load the updated project into the simulator.
The workspace layout is incorrect	Use Reset Layout when appropriate, then rebuild or reposition the workspace.
The live state must be restarted	Use Reset for simulation state, or Stop and Run as required.

12. Recommended Practice

- Always start from the correct simulator-published KNXPROD catalogue.
- Create the ETS6 project before importing the required catalogue.
- Engineer parameters and communication objects carefully; do not rely on the simulator to correct an incorrectly engineered ETS project.
- Review detected devices before entering the workspace.
- Validate the workspace after wiring changes.
- Lock the layout after the workspace is arranged to avoid accidental changes during testing.
- Use Support / Diagnostic after reproducing a problem when technical assistance is required.

13. More Training Resources

Additional training videos and practical demonstrations are available on the official YouTube channel. Use these videos together with this manual for visual examples of project preparation, wiring, device interaction and testing.

Official simulator page: sim.knxdubai.com

Support: support@sim.knxdubai.com

Engineering principle: ETS6 is the engineering source. The KNX Engineering Simulator is the environment used to load, visualise and test the engineered project.