

XR PLEX

E W (E l e c t r i c a l W o r k s)



Educational AR/VR simulator for helping license acquisition and nurturing the Electrical Craftsman.

XR PLEX Feature

It is a software that allows you to learn the electric circuits and do wiring practices for the goal of Electrical Craftsman license.



01

With the smart learning contents based on 3D and VR technologies, you can virtually arrange the electrical components and make wiring connections.

02

Through virtual simulation practices, you can get to know more about electrical components and sequence diagrams, thus being able to prepare electrician qualification exams.

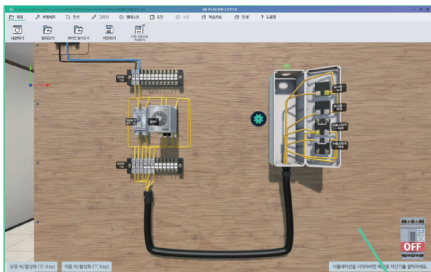
03

More efficient study and learning can be pursued through virtual creation of the same environment for qualification test sites.

04

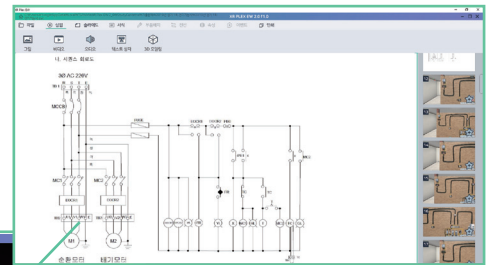
Virtual simulation through the PC makes it possible to do practices in a untact manner or a face-to-face manner.

XR PLEX Basic screen configuration



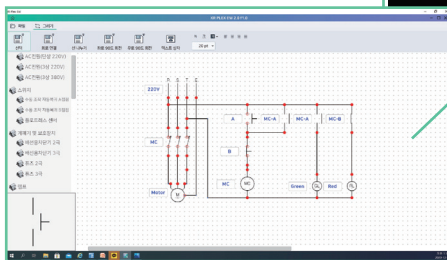
Wiring practice

Freely arrange circuits and check the configured circuits through simulation.



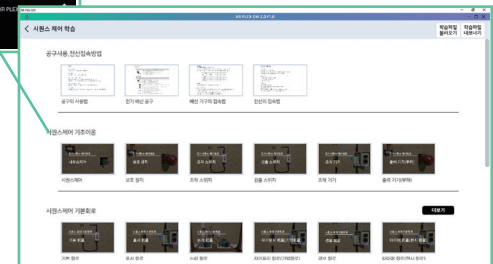
Learning creation

Learning materials can be easily created in the PowerPoint slide format.



Drawing creation

Users can directly create drawings necessary for circuit practice.



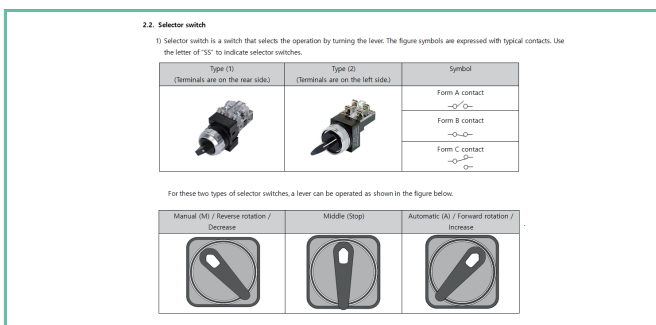
Theoretical study

Easy to learn about circuits through the library of essential data on basic circuits.

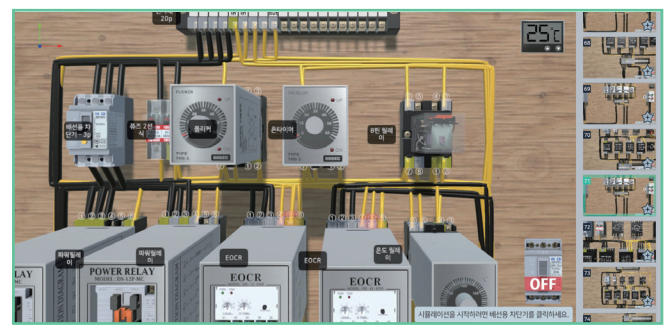
XR PLEX Detailed configuration

Learning creation

- It is possible to directly create learning materials for lecture in the slide format.
- You can easily create audiovisual materials by insert images, 3D modeling, video, sound, text and animation effects.
- The animation function makes it possible to create materials for step-by-step practices.
- 3D modeling type parts can be inserted, so it is easy to explain the shape and operation method of the actual components.



Slide method / Insertion of image and text



Step-by-step learning can be implemented for beginners.

Theoretical study

- You can easily learn about electrical circuits through essential data on basic circuits.
- It provides the same questions and drawings from the previous electrician qualification tests, thus increasing the adaptability to your test.
- Basic learning materials : 26 types in total

- ① Sequence control basic theory : 6 types ② Sequence control basic circuit : 9 types
 ③ Sequence control circuit practice: 4 types ④ Previous questions from the electrician qualification tests (2008 ~ 2019) : 7 types

I. Electrical Sequence Control Circuit

1. Sequence control

A sequence is the order in which an action occurs. The sequence control refers to a control in which each operation is sequentially performed according to a predetermined order or a predetermined logic. That is, it means that the starting, stopping, and operation change of a machine or device are sequentially controlled according to the sequence of each step according to a predetermined sequence or a certain control target value.

1.1. Sequence control terminology

The operation statuses according to the type of switches are described as follows.

- Pushbutton

Control	Description
ON	Form A contact - Contact state when the button is pressed. Form B contact - Non-contact state when the button is pressed.
OFF	Form A contact - Non-contact state when the button is pressed. Form B contact - Contact state when the button is released.
- Retaining switch (selector/humbler)

Control	Description
ON	Retention of the contact state
OFF	Retention of the non-contact state

Learning materials of sequence control theory

Electrician qualification exam (2nd regular season in 2008)

Test objective	Craftman Electricity	Task	Water supply control circuit
◆ Test duration 1) Standard time: 4 hours 2) Extension time: 30 minutes (if needed)			
1. Requirement ※ Using the materials provided, complete the installation indicated on the drawing within the time limit according to the internal installation method.			
1) Common (1) Power method: Three-phase 3-wire type 220V (2) Installation method: Ⓢ PE conduit Ⓢ CD flame-retardant (non-flammable) conduit			
2) Operating state: Power ON : WL is RL.			
(1) When the selector switch (SS) is on Manual (M) mode - The lamp L2 lights up. - When the FR1 pushbutton is switched on, the motor (M) runs, the lamp L2 goes off, and the lamp L1 lights up. - When the FR2 pushbutton is switched on, the motor (M) stops, the lamp L2 lights up, and the lamp L1 goes off.			
(2) When the selector switch (SS) is on Automatic (A) mode (expectative actions) - The motor (M) runs, and the lamp L1 lights up. - When water is drained from the water tank (E1, E2, E3), the motor (M) runs and the lamp L1 lights up.			

Previous questions from the electrician qualification tests

Detailed configuration

① Various practice environments

Power specifications: single-phase 220V, three-phase 220V / 380V

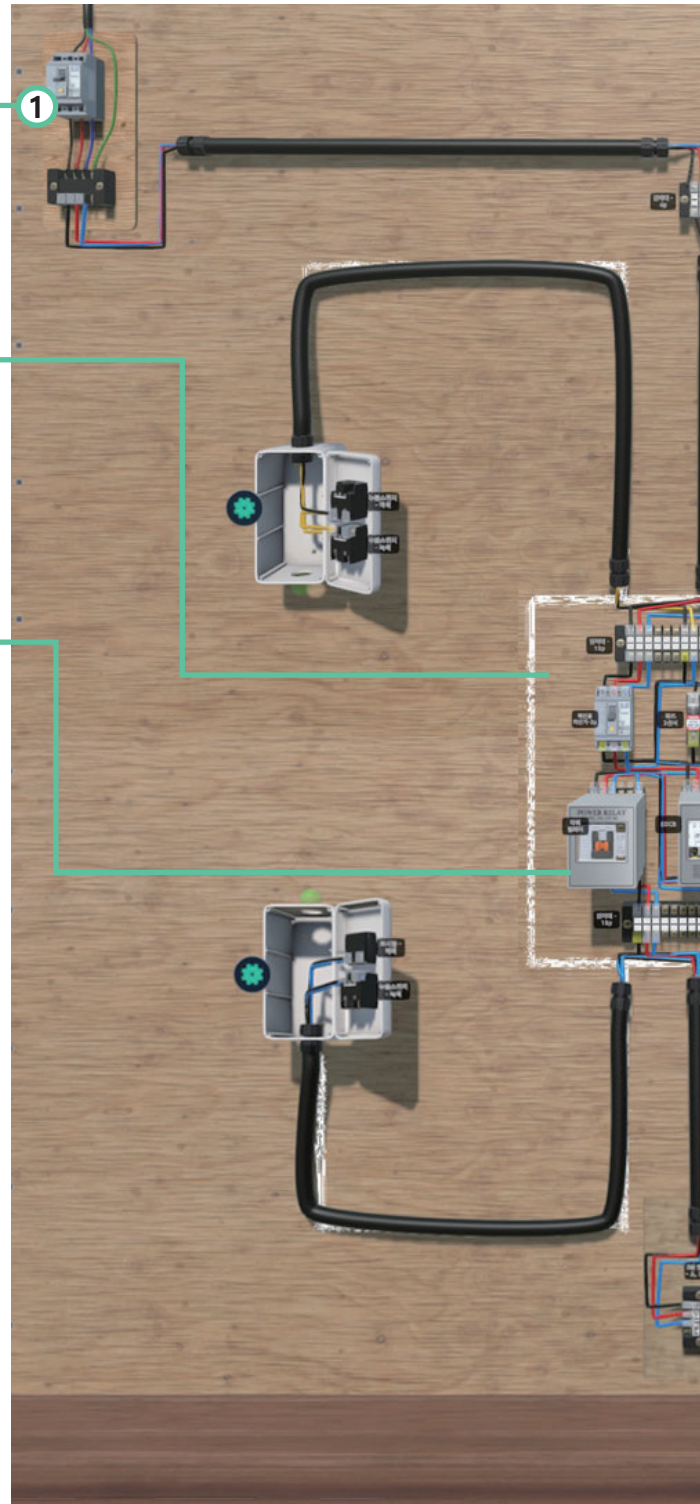
② Control panel design/creation function

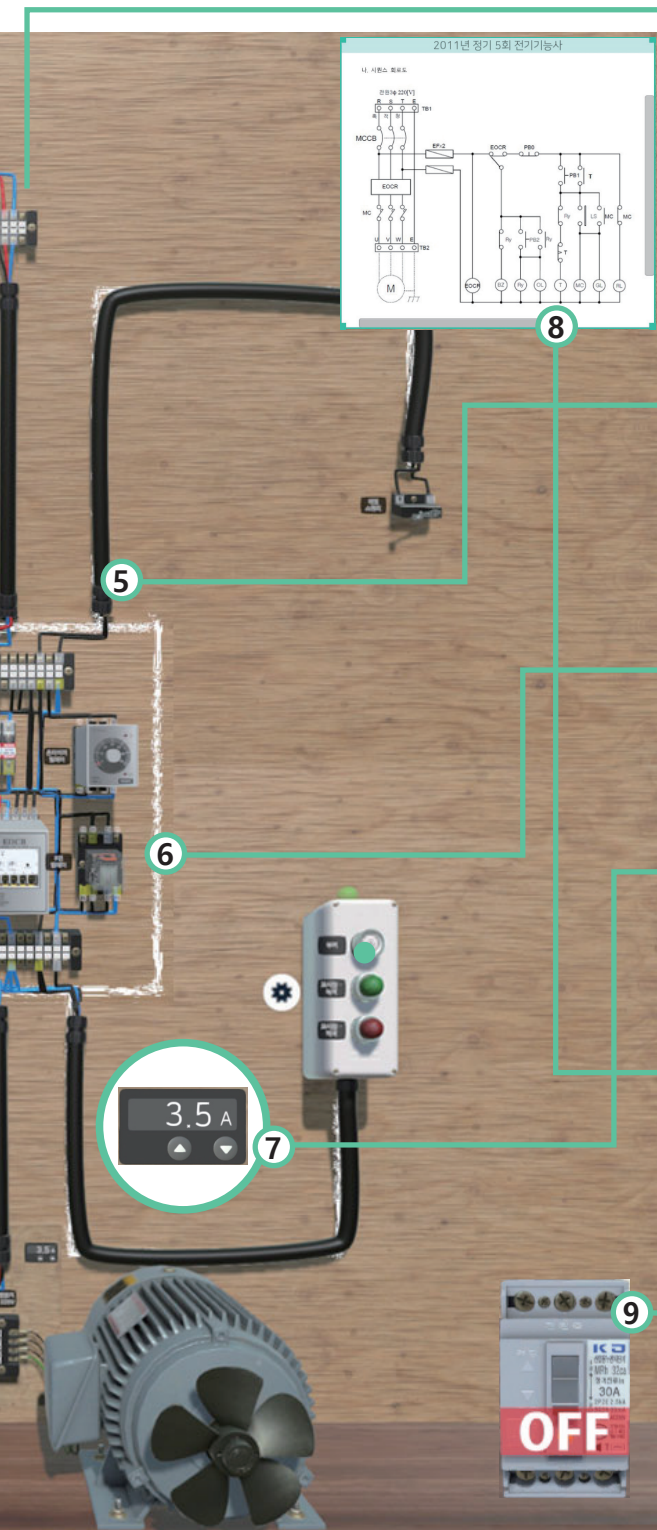
It has a function of designing and creating a control panel. The control panel created on the work board, can be retrieved and simulated.

③ 3D parts library

More than 60 types of virtual components⁴ are provided in the 3D format which makes it identical to the real life components and wiring connections.

- List of available components
- Circuit breaker and fuse : 4 types
- Terminal block : 7 types (rotatable)
- Control box : 4 types (rotatable)
- Pushbutton switch : 5 types
- Lamp type switch : 5 types
- Selector switch and toggle switch : 4 types
- Other switches (limit, emergency) : 2 types
- Indicator lamp : 5 types
- Other devices (emergency bell, emergency light, buzzer) : 3 types
- Relay : 13 types
- Electric motor : 6 types





④ Wire selection and wiring function

Possible to select wire color and thickness suitable for usage

- Wire color: black, red, blue, yellow, green, white
- Wire thickness: 1.55Q, 2.05Q, 3.05Q

⑤ Pipe selection and plumbing function

Possible to engage in plumbing works for usage

- Type of pipes : PVC (black), PVC (white), corrugated pipe (black), corrugated pipe (white)

⑥ Drawing function

It has a sketch function for parts placement and wiring connections.

⑦ Part property change function

It is possible to check the properties of parts and to change them and practice

⑧ Study materials import function

You can practice by checking the desired learning materials and images through a separate window.

⑨ Simulation function

Turn on the simulation function to check the operation status of the actual circuits.

XR PLEX VR function



It is possible to practice virtual reality through a VR device and obtain the same effect as practicing using the real life components.

The VR device and the PC work together so that the circuit created on the PC can be implemented on the VR device, and the circuit created with the VR device can be implemented on the PC. .

XR PLEX Recommended Specifications

Software

OS	Windows 7 or later
CPU	Intel i5 6th generation or later
HDD	2 GB or more
RAM	8 GB or more
Graphics card	NVIDIA GTX 660 or higher

VR device

OS	Window 10
CPU	AMD RYZEN / Intel 5th Gen i5 or higher
RAM	8 GB or more
Graphics card	NVIDIA GTX 1060 or higher
Port in use	Windows 7 or later

대리점

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※ Specifications and appearances are subject to change without prior notice to improve the performance of this product.

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