CADvizor 2025

User's Guide

[Library Module]

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1 Library

CADvizor Library is a database system that provides efficient management and access to material data required for design. You can register and inquire the attribute information of each part, and help search and utilize the desired data. You can also save and manage drawing templates for easy creation of standardized design drawings. Each part has its own data field and begins the description of the part-specific data components in the following sections.

Library data components

Describes the key terms used in CADvizor. Describe each part of wire, cable, connector, terminal, seal, device, etc. and summarize the data field list and its meaning. A value with a * after the field name is a mandatory value that must be entered when registering the part.

Wire

* required item

Item	Item	Description
Part Number *	Part Number	Enter the unique identification number Material_CSA_Color given to the product by the manufacturer as the default : AVSS_0.3_Gr
Internal Number *	Internal Number	Identification number used within the company
Manufacturer	Manufacturer	a manufactured company
Description	Description	Details and supplementary descriptions of wires
Weight	Weight	Weight per Unit Length Example : 0.1 (g/m)
Cost	Cost	Unit price per unit length Currency units are not set separately Example: 150 (Won/m)
Material *	Material	Materials used to make wires e.g. AESSXF , AVSS for wires
Color *	Color	Display using abbreviations pre-registered in the color list as color values for wires Example: R
Outer Diameter (ODR)	External diameter	Total outer diameter of wire (including insulation and protective layer) Example: 1.5 (mm)
Cross-Sectional Area * (CSA)	cross-sectional area	Examples of cross-sectional areas of wire conductors: 0.75 (mm^2)
American Wire Gauge	AWG	Thickness of wire according to US wire gauge standard Example: 18 (AWG)
Allowable Current	allowable current	Safely tolerable acceptable current Example: 10(A)
Contact Resistance	contact resistance	Resistance value between contact points Example: 0.005 (ohms)
Unit Resistance	unit resistance	Resistance per unit length and the resistance value of the part itself Example: 0.02 (ohms/m) or 0.02 ohms

Cable

* required item

Item	Item	Description
Part Number *	Part Number	Unique identification number given to the product by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Manufacturer	Manufacturer	a manufactured company
Description	Description	Detailed and supplementary descriptions of cables
Material *	Material	Examples of materials used to make cables: AESSX F
Color *	Color	Show cable color values using abbreviations pre-registered in the color list Example: R
Outer Diameter (ODR)	External diameter	Total outer diameter of cable (including insulation and protective layer) Example: 1.5 (mm)
Group name	Group Name	Group name of user-specified cable 예: Twist, Shield, TwistShield

Connector

* required item

Part Number *	Part Number	Unique identification number given to **the product** by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Customer Number	Customer Number	Identification number given by the customer
Series	Series	Product line or series name
Number Of Cavities	Number of cavities	Number of cavities on the connector Example: 18
Sub Type *	Detailed Type	Detailed Type - General: different input values for each cavity - Multi (multiple): Multiple cavity input values equal - Earth (ground type): connector for ground terminals Example: General
Manufacturer	Manufacturer	a manufactured company
Description	Description	Detailed and supplementary descriptions of connectors
Cost	Cost	Unit price per part is not set separately Example: 150 (g)
Weight	Weight	Weight value of 1 part Example: 0.1(g)
Plating Material	plating material	Plating material of cavity terminal (terminal) Example: Tin (Commentary)
Unit Resistance	unit resistance	The resistance value of the connector itself Example: 0.005 (ohms)
Insertion Force	insertion force	Force required to insert terminals into connector cavities Example: 15(N)
Insertion Sound	sound of insertion	The value of the sound required for terminal engagement to the connector cavity Example: 0.5(dB)
Pair	pair	Pair of connectors engaged with each other (inline connector) Example: PartNumber of connectors to be joined
Gender *	Gender	Indicates gender and means plug (number) or socket (arm) Examples: Male, Female

Connector Cavity

Item	Item	Description
Direction	Directions	Terminal Insertion Direction - U(Up): Up- L (Left): Left-R(Right): Right -D(Down): Down
Blank	a blank space	Fill the cavity if the wire is not coupled to the cavity a part for giving Example: The part number of Blank and BlankSeal selected from the products registered with ETC

Terminal

* required item

Item	Item	Description
Part Number *	Part Number	Unique identification number given to the product by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Customer Number	Customer Number	Identification number given by the customer
Series	Series	Product line or series name
Manufacturer	Manufacturer	a manufactured company
Description	Description	Detailed and supplementary descriptions of terminals
Min CSA	Minimum cross-sectional area	Acceptable wire minimum cross-sectional area Example: 0.5 (mm²)
Max CSA	maximum cross-sectional area	Maximum allowable wire cross-sectional area Example: 2.5 (mm²)
Strip	a breakaway length	Length of wire sheathed from the connection Example: 5 (mm)
Plating Material	plating material	Plating material used for contact parts Example: Tin (Commentary)
Unit Resistance	unit resistance	Resistance value of the terminal Example: 0.005 (ohms)
Weight	Weight	Weight of one terminal Example: 0.1(g)
Cost	Cost	Unit price for one terminal Currency units are not set separately Example: 150 (KRW)

Seal

* required item

Item	Item	Description
Part Number *	Part Number	Unique identification number given to the product by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Manufacturer	Manufacturer	a manufactured company
Description	Description	Details and supplementary descriptions of seals
Min CSA	Minimum cross-sectional area	Acceptable wire minimum cross-sectional area Example: 0.5 (mm^2)
Max CSA	maximum cross-sectional area	Maximum allowable wire cross-sectional area Example: 2.5 (mm^2)
Weight	Weight	Weight of one seal Example: 0.1(g)
Cost	Cost	Unit price of one seal Currency units are not set separately Example: 150 (KRW)

ETC

* required item

Item	Item	Description
Part Number *	Part Number	Unique identification number given to the product by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Manufacturer	Manufacturer	a manufactured company
Description	Description	Details and supplementary descriptions of ETC
Type	Type	Type of part 예시: Clip, Grommet, Cover, BlankSeal, Fuse ,,

Device

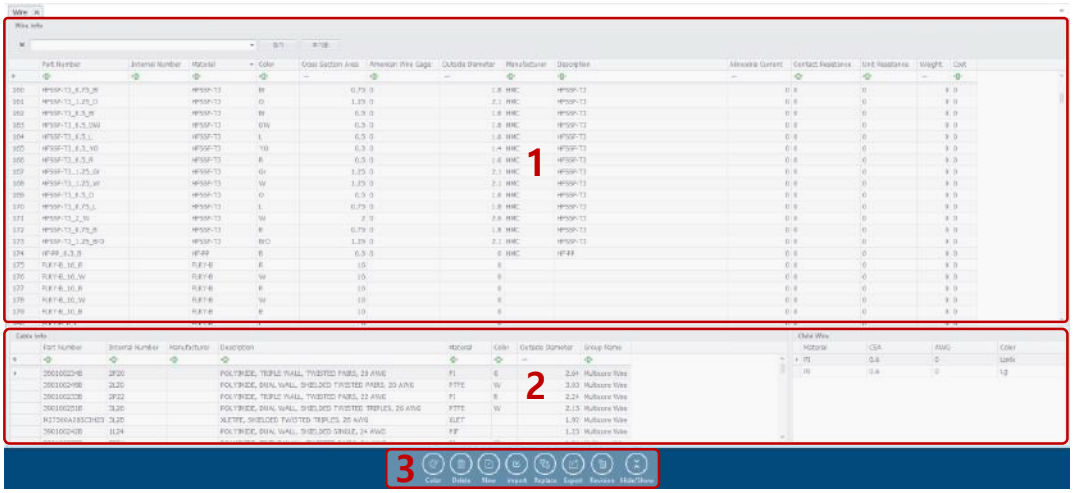
* required item

Item	Item	Description
Part Number *	Part Number	Unique identification number given to the product by the manufacturer
Internal Number *	Internal Number	Identification number used within the company
Customer Number	Customer Number	Identification number given by the customer
Manufacturer	Manufacturer	a manufactured company
Description	Description	Detailed and supplementary descriptions of the device
Current Rating	current rating	Maximum tolerable current Example: 5(A)
Rated Voltage	Rated voltage	Normal operating voltage Example: 12 (V)
Allowable Current	allowable current	Safely tolerable acceptable current Example: 5(A)
Contact Resistance	contact resistance	Resistance measured at the contact point of the device Example: 0.01 (ohm)
Unit Resistance	unit resistance	A value that represents the electrical resistance of the device Example: 0.02 (ohm)
Watt	Watt	A value that represents the power consumption of the device Example: 10 (W)
Type	Type	Type of part 예시: Fuse, Motor, Battery ,,

Wire

The wire part provides the ability to manage wires that carry electrical signals and cables wrapped in a single shell with multiple wires. This topic describes the basic concepts of wires and cables, and covers the workspace configuration and key functions of the wire part. It also guides you through how to create, delete, modify, and retrieve data, as well as the concept and management of ChildWire included in the cable.

workspace



The wire and cable management screen consists of three main sections. At the top, you can view the information of individual wires, and you can also edit the information if necessary. At the bottom of the screen, you can view cable information and manage the ChildWire list included in that cable.

At the bottom of the screen are the features available in the Wire part. A description of the key features begins with the following paragraph.

1. You can view the information of wire lists individual wires and edit object information.
2. Cable list You can check cable information and manage the Child Wire list included in that cable. For more information on registering and modifying Child Wire, see Wire–Child Wire.
3. Key Features The area where the main functions
   available in the wire part are placed makes it easy to add, modify, delete, etc. Each feature is covered in detail in the following paragraphs.

Key Features

The following features are available in the wire part.

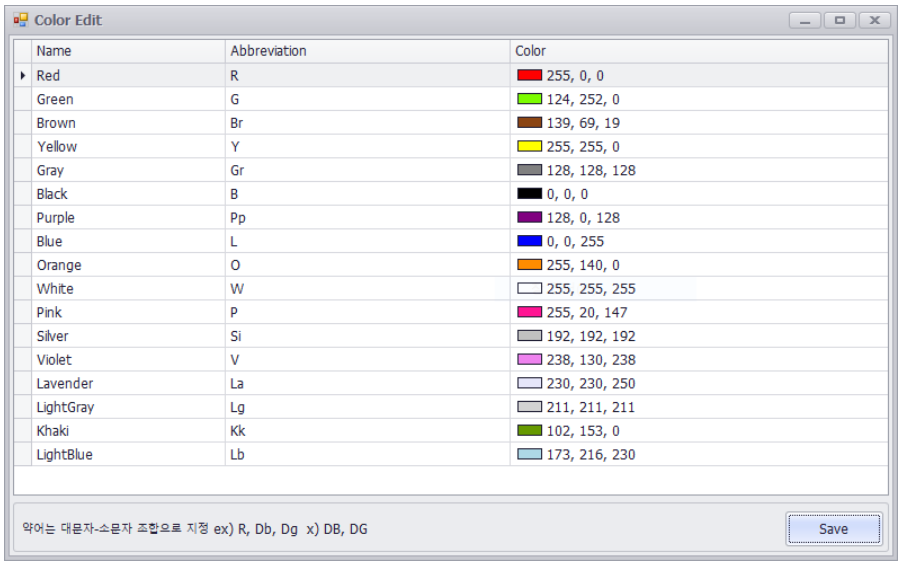
■ 

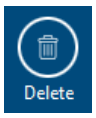
Color

The Color feature is only available on the Wire tab, limiting the color of the wire and cable to be selected from a predefined list. This ensures consistency in color notation and prevents confusion due to different markings for each user.

When adding a color, you must enter the color name (Name), Abbrevation, and RGB value (Color), and the registered color will be used consistently afterward. It is displayed as an abbreviation on the screen, so you can distinguish the colors.

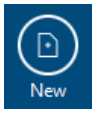
Color abbreviations can only be a combination of uppercase and lowercase letters. Abbreviations must begin with a capital letter, followed by a lowercase letter, and no case or lowercase combinations are allowed. For example, the Light Blue color can be specified as "Lb" or "Lbl" rather than "LB".



■ 

Delete

The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of the state change, see Wire-Data Edit-State Change.

■ 

New (New)

The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

■ 

Import (Import)

It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

■ 

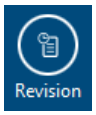
Replace

It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

■ 

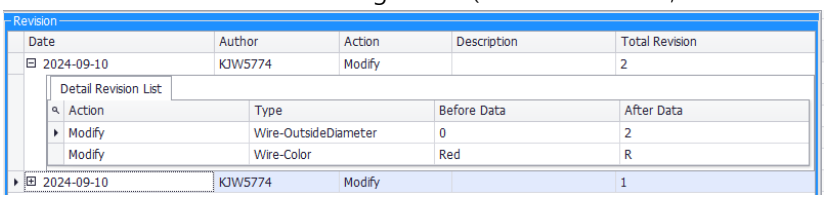
Export

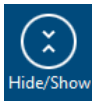
Export is the ability to export data within the system to an external file. It is used to back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

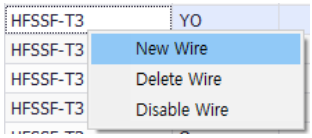
Edit Data

Describes how to create, modify, delete, change status, and retrieve wire and cable data. The two items work in the same way, and in this description, we proceed with the wire as a reference. First, start with how to create an object and guide each data editing function step by step.

Create Object

There are two ways to create objects.

■ To create objects in the right-click mouse creation workspace, right-click on the data list to open a pop-up menu. Then, if you choose New Wire or New Cable, an object creation pop-up appears.



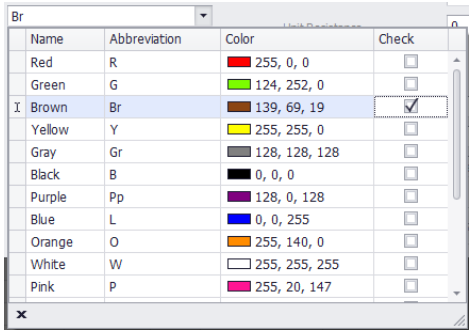
■ Create an object through the bottom menu Click **the [New] button** in the bottom menu,  and then select the part you want to create to open an object creation pop-up.

You must enter a required input to register a new part. The required field is marked * next to the field name, which cannot be registered if the field is not entered. Required inputs for wires are Part Number, Material, Color, Cross Section Area, and for cables, Part Number, Color, and Material are included in the required items. For a detailed description of each field, refer to **the** [Part-by-Part Field Information – Wire**] page.**

Part Number cannot be registered in duplicate, and even if CSA, Material, and Color values are all the same for wires, they are considered redundant and cannot be generated.

The Part Number on the wire is automatically saved by default in the form "Material_CSA_Color". If you want to specify your own Part Number, you can enter it manually by activating the check box at the top of the field.

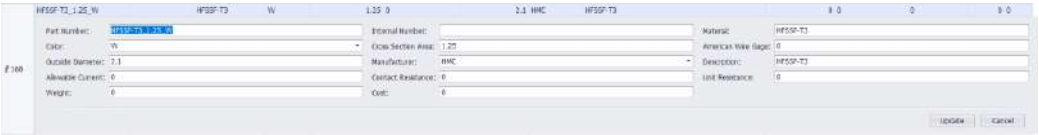
You can only select a predetermined color on the Color tab, and you can set up to two colors on one wire. The colors are automatically distinguished by Main Color for the first color and Sub Color for the second color according to the selection order. To select a color, click the checkbox for the color you want in the Check column to the right of the list. The primary and secondary colors are determined in the order in which they are checked.



In addition, the wire's Allowable Current, Contact Resistance, and Unit Resistance values are the information used by the Voltage Drop function. A detailed description of how voltage drop wiring and protection are utilized can be found on **the Voltage Drop, Wiring Protection** page. Additionally, Cost and Weight values are available for design optimization and cost reduction in topology features, and more information is available on the Top**ology page**.

Modify Object

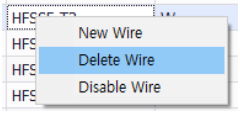
To modify an object, double-click the item you want to modify to open the Modify Data window. After modification, click the Update button to save your changes. PartNumber must be set to not overlap with other objects and will not be saved if duplicate values are present.



Delete Object

There are two ways to delete objects.

■ Right-click to select the item you want to delete from the Delete Objects data list, and then right-click to display a pop-up menu. If you select the [Delete Wire]/[Delete Cable] option here, a confirmation message will be displayed, and if you click the "Yes" button, the object will be deleted.

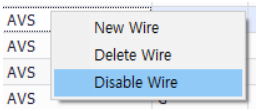


■ Delete objects through the bottom menu When you select

the item you want to delete and mouse over the **Delete button**  in the bottom menu, two options appear: Wire/Cable. When you select the item you want to delete, a confirmation message is displayed, and when you click the "Yes" button, the object is deleted.

Change Status

To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable Wire/Disable Cable option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been disabled, the Enable Wire/Enable Cable option is displayed, which can be changed back to enabled.



Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product number, or if it is discontinued.

Search for objects

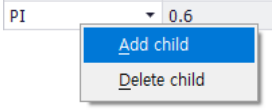
There are two ways to search for wire and cable objects. A detailed description of how to search is available on the Data Table Usage-Search page.

Set Child Wire

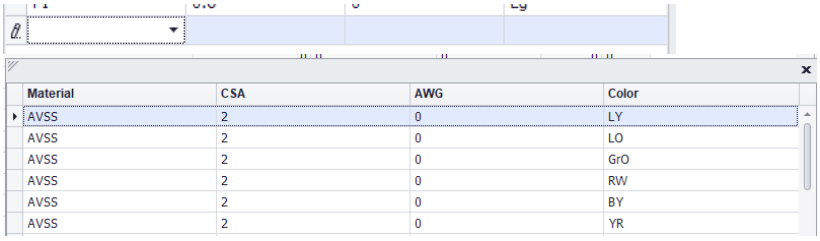
Child Wire means wires that are managed individually within a single cable. This allows you to set each wire inside the cable in detail.

Add Child Wire

1. From the Cable Data list, select the cable you want to add.
2. Right-click on the Child Wire tab on the right and select Add Child to add a new row.

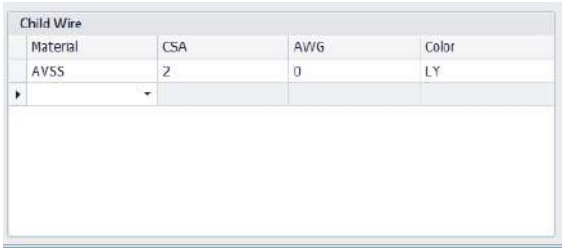


3. Click on the first cell of the row you have added
to open a wire selection window.If there is more than one previously registered Child Wire, the list is filtered so **that the Material and CSA can only select the same wire.**



Material	CSA	AWG	Color
AVSS	2	0	LY
AVSS	2	0	LO
AVSS	2	0	GrO
AVSS	2	0	RW
AVSS	2	0	BY
AVSS	2	0	YR

4. Double-click the wire you want to add in the selection window to register the Child Wire. If you click on an already added Child Wire entry, the focus automatically moves from the wire list at the top to that wire, making it easy to see information about the selected Child Wire.

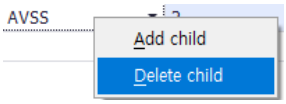


Child Wire

Material	CSA	AWG	Color
AVSS	2	0	LY

Delete Child Wire

1. Select the Child Wire you want to delete, then right-click to select Delete Child.



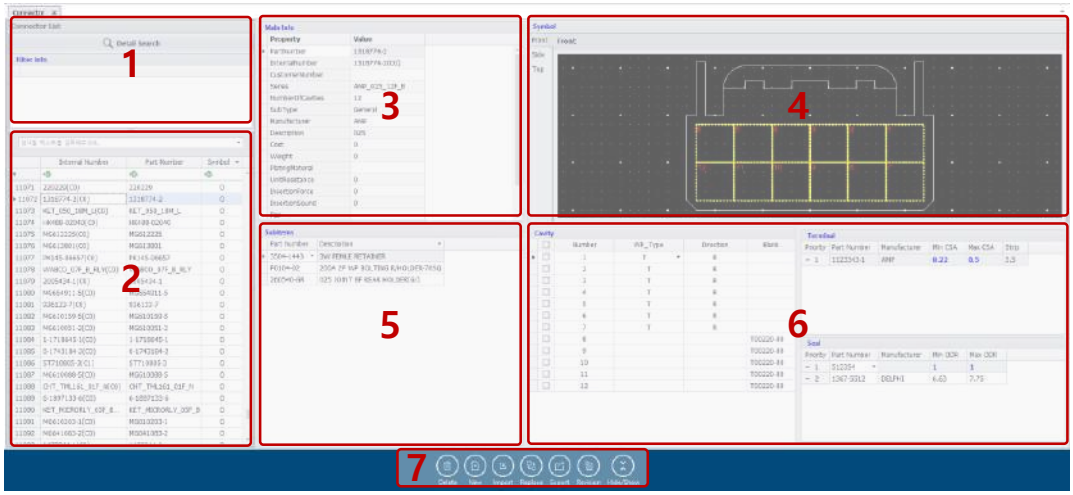
2. A Delete confirmation message box appears, and when you click the "Yes" button, the selected Child Wire is deleted.

Connector

The connector is a key component of connecting wires in the electrical circuit and serves to reliably transmit electrical signals between circuits. This section describes the workspace configuration and key functions of the connector part and guides you on how to create, modify, delete, and retrieve connector data.

workspace

The Connector Management screen allows you to view and edit a list of connectors. Each connector contains a list of sub-items and allows you to set the type and direction of waterproofing for each cavity. When blanked, blank seals can be registered, and each cavity also provides the ability to connect the appropriate terminal to the seal. The connector list and key information can be found at the top of the screen, and various functions available in the terminal part are located at the bottom. The main features of the screen are described in detail in the following paragraphs.



1. Find Connectors The ability to quickly search
   for connectors makes it easy to find the connector you want. For more information on how to search, see [Connector-object search].

2. Connector list Displays
   a list of currently registered connectors, and you can select and edit each connector. The connector list consists of the Part Number, Internal Number, and Symbol columns. Part Number is the part number of the connector, Internal Number is the internal identification number, and Symbol is the item that determines whether the connector is registered with the symbol shape.

3. Connector information This
   is the area where you can see the details of the selected connector, and you can see the characteristics and settings of each connector.

4. An area that shows the visual symbol shape of the symbol shape connector, and you can see the shape that will appear in the design drawing. You can view Front View, Side View, and Top

View in the tabs on the left. See [Symbol] for more information regarding symbol registration.

5. Displays a list of sub-items included in the sub-item
   connector, and you can manage each sub-item. For more information on registering and modifying sub-items, see [Setting up Connector–SubItem].

6. Cavity information Display
   information about each cavity of the connector and manage waterproof type, orientation, terminal and seal connection status. For more information on registering and modifying cavity information, see [Connector-Cavity Settings].

7. Key Features It is an area where the main functions necessary for connector management
   are placed, making it easy to add, modify, or delete tasks. Each feature is covered in detail in the following paragraphs.

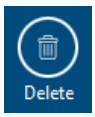
Key Features

The following features are available in the connector part.

■ 

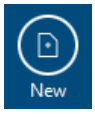
Save

The Save feature is only available on the Connector tab and is available when you modify the information of the selected object in the Connector list. When there are changes, when you try to look up other connectors or move tabs, you'll be notified if you want to save them.

■ 

Delete

The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of state changes, see [Connector – Edit Data – Change State].

■ 

New (New)

The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

■ 

Import (Import)

It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

■ 

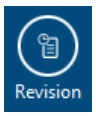
Replace

It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

■ 

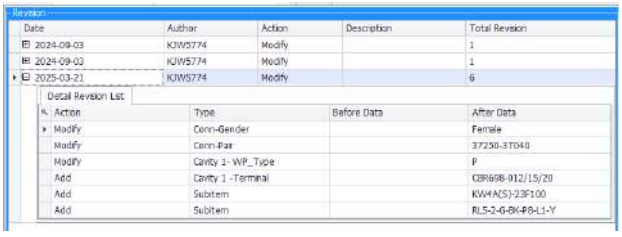
Export

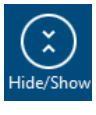
Export is the ability to export data within the system to an external file. It is used to back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete, Add), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

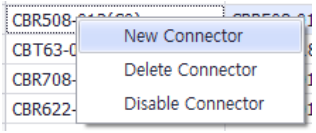
Edit Data

Describes how to create, modify, delete, change status, or retrieve connectors. First, start with how to create an object and guide each data editing function step by step.

Create Object

There are two ways to create objects.

- Right-click to create objects in the list of connectors space
  , right-click on the data list to open a pop-up menu. Then, if you select New Connector, an object creation pop-up will appear.

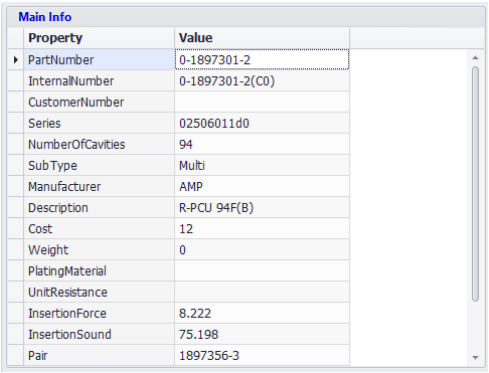


- Create an object through the bottom menu Click **the [New] button** in the bottom menu, and then select the part you want to create to open an object creation pop-up.

You must enter a required input to register a new part. The required field is marked * next to the field name, which cannot be registered if the field is not entered. Required inputs for the connector are Part Number, Internal Number, SubType, Gender, Number Of Cavities. For a detailed description of each field, refer to **the** [Part-by-Part Field Information–Connector**] page.**

Modify Object

To modify the object, you can modify the Value on the Main Info tab. The number of Number Of Cavities cannot be modified, and when all modifications are complete, you can save them by clicking the Save button in the feature bar at the bottom.


Main Info

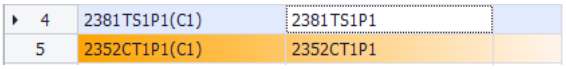
Property	Value
PartNumber	0-1897301-2
InternalNumber	0-1897301-2(C0)
CustomerNumber	
Series	02506011d0
NumberOfCavities	94
SubType	Multi
Manufacturer	AMP
Description	R-PCU 94F(B)
Cost	12
Weight	0
PlatingMaterial	
UnitResistance	
InsertionForce	8.222
InsertionSound	75.198
Pair	1897356-3

Pair registration and release

Pair values for inline connectors can be modified from the Main Info tab.

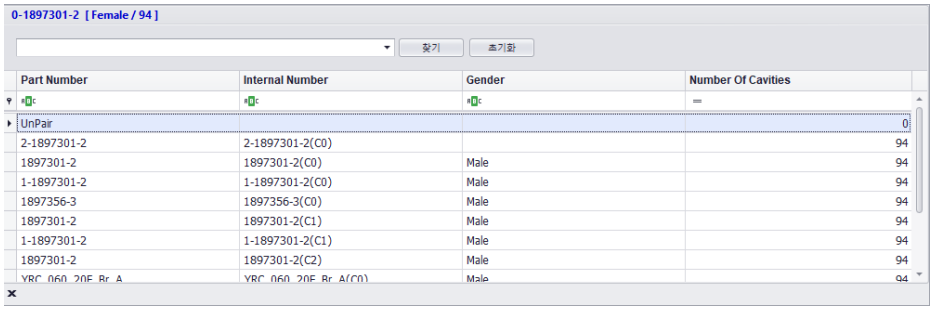
■ **Pair registration**

1. Click the Value box in the Pair to open a connector list pop-up. The list details are filtered and displayed for connectors that have the same number of cavities as the connector you are currently registering, and have opposite genders.
2. Select the connector you want to connect to and double-click.
3. Click the Save button at the bottom to complete the registration.
4. The connector to which the pair is connected is highlighted in the list.



■ **Pair release**

1. To turn off the pair, click the Value box to open a pop-up.
2. Select the UnPair option at the top of the pop-up list.
3. If you click the Save button, Pair will be unregistered.



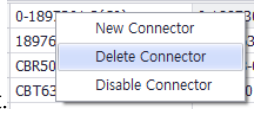
Delete Object

There are two ways to delete objects.

■ Right-click to delete an object

from the list of connectors to delete a pop-up menu opens. If you select [Delete Connector] from the pop-up menu, a confirmation message window will be displayed.

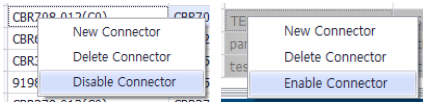
Click the "Yes" button to delete the object.



■ If you select the item you want to delete from the list of delete connectors through the bottom menu and click the [Delete] button in the bottom menu, the same delete confirmation message window  will be displayed. Click the "Yes" button to delete the selected object.

Change Status

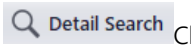
To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable Connector option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been processed, the Enable Connector option is displayed, which you can select to change to the available state again.



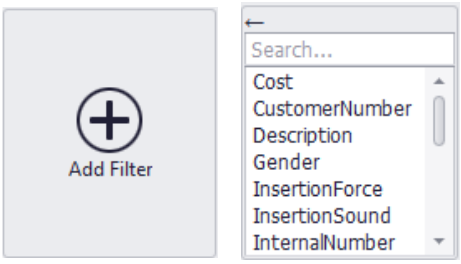
Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product number, or if it is discontinued.

Search for objects

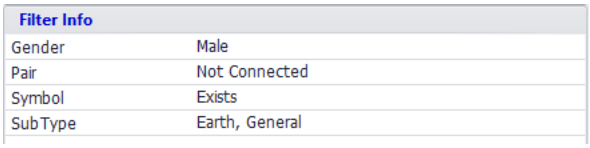
There are two ways to search for terminal objects. The first is to search from a list of connectors, and you can find more information about this on the Data Table Usage-Search page. The second is how to take advantage of the Detail Search feature.

To use Detail Search, click the Detail Search button in the upper left corner to open a search pop-up. 

Click the Add Filter button in the pop-up to select the columns you want to search for, and the selectable columns  are the Main Info attribute value and Symbol on the connector. When you select a column, a list of values included in that column is displayed, and you can search by clicking any value you want. There is a search window at the top of the list so you can quickly find it by entering a specific value. The Symbol and Pair columns can only be selected from two options: 'Symbol with/without' and 'Pair connected/unconnected', respectively.



You can add multiple columns to search for, and the conditions between the columns are applied as AND operations, and OR operations are applied when multiple values are selected within the same column. After setting the search criteria, click the Apply button at the bottom right to apply the filter and filter the connector list. The applied filter information is available in the Filter Info window.



Filter Info	
Gender	Male
Pair	Not Connected
Symbol	Exists
SubType	Earth, General

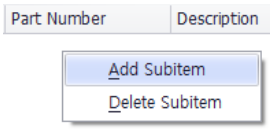
To initialize the search criteria, click the Detail Search button again, click the Initialize button, and click the Apply button to restore the connector list to its original state. When selecting multiple values from the list, continuous selection is possible by clicking on one value and then lowering the cursor, pressing and pressing the Control key to select additional individual items, and clicking on both items while pressing and pressing the Shift key to select all items within that range.

Sub-Item Settings

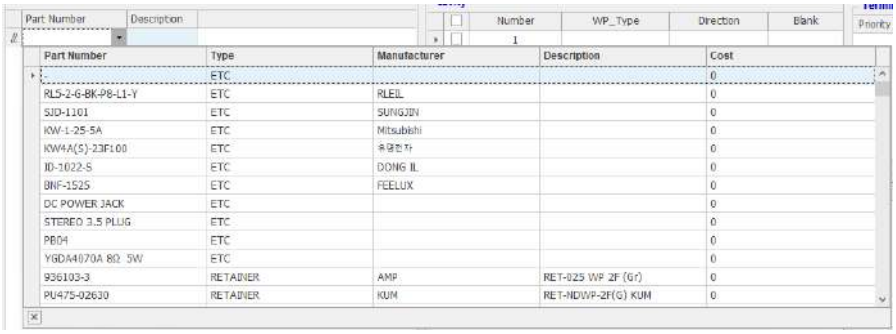
SubItems are additional components included in the connector, allowing you to manage individual parts belonging to a particular connector. SubItems allow you to set up the components of the connector in detail.

Register SubItem

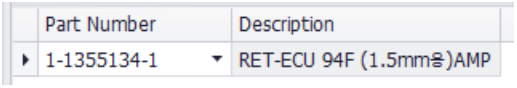
1. Right-click on the SubItem screen and select Add SubItem to add a new row.



2. Click on the first cell of the added row to open a sub-item selection window. This window allows you to view the list registered in the ETC part.

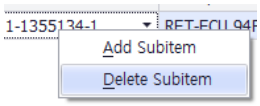


3. Double-click the item you want to add in the selection window to register the object. You can click on a column to sort the data in ascending or descending order, and Ctrl + F allows you to quickly search for what you want.



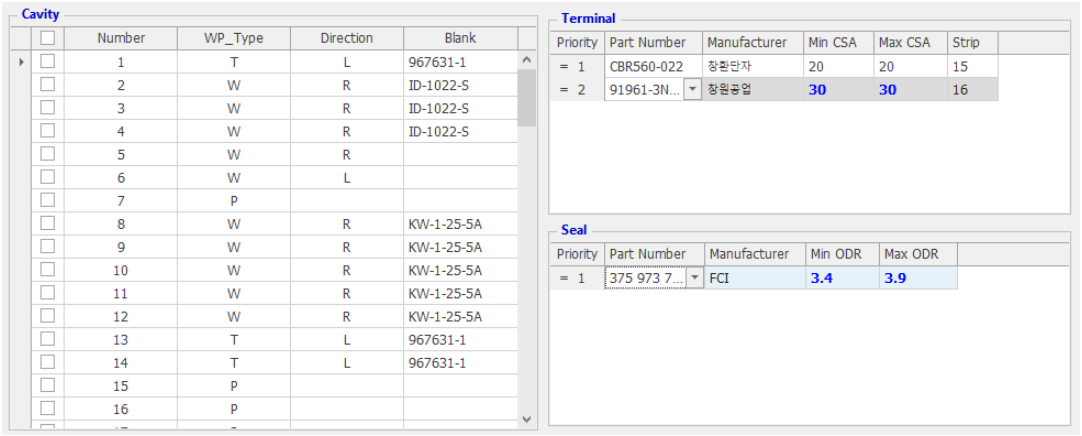
Delete Sub Item

1. Select the SubItem you want to delete and right-click to select [Delete SubItem]



2. A confirmation of deletion message box appears, and clicking the "Yes" button deletes the selected sub-item.

Setting Cavity

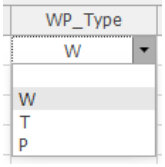


The cavity settings allow you to specify the type, orientation, and blank seal for each cavity. In addition, you can pre-register terminals and seals that will automatically be applied when connecting wires with specific CSA values. Registered terminals and seals are automatically selected based on the CSA range of the wire, which enables efficient management of cavity-specific components.

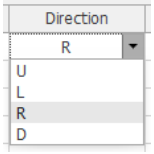
Waterproof type & direction & waterproof seal setting

Each cavity can be individually set for waterproof type, orientation, and waterproof seal. The waterproof type setting determines whether or not the cavity supports waterproof functionality, and the orientation allows you to specify the installation direction of the cavity. In addition, you can disable certain cavities by setting up a waterproof seal. These settings allow you to configure the cavity to suit the environmental characteristics and requirements of the connector.

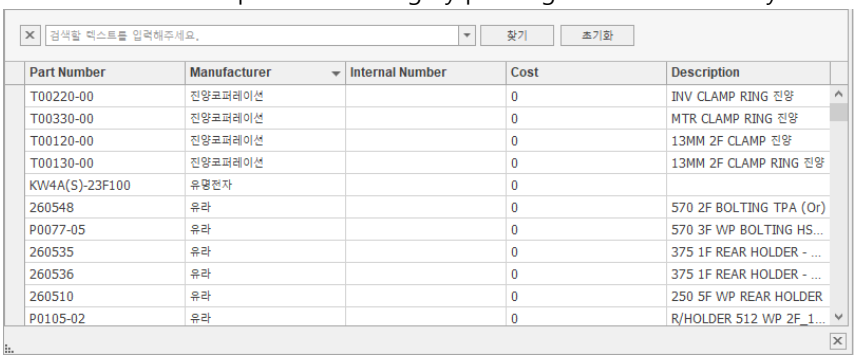
■ Click the WP_Type cell of the cavity number you want **to** set **the waterproof type.**
When clicked, the W, T, and P options appear in the drop-down menu, and the meaning and details of each option are available on the Library - Library Data Components - Connector Cavity page.



■ Click the Direction cell for the cavity number that you want **to redirect**.
The U, L, R, and D options are provided in the drop-down menu, and the meaning and usage of each direction can be found on the Library - Library Data Components - Connector Cavity page.



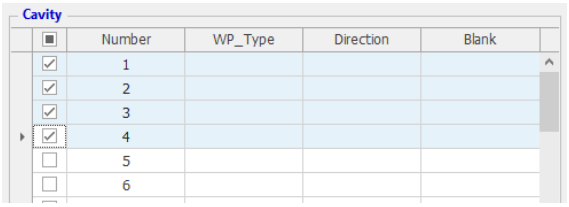
■ A pop-up window opens when you click the blank cell of the cavity number you want to set **up the waterproof seal.** This pop-up displays a list of ETC parts and allows you to select what you want.
You can also set it up after searching by pressing the Control + F key.



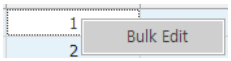
■ **Bulk Edit** You can use the Bulk Edit feature to set multiple cavities at once.

1. Click the check box in the first column of the list to select the cavity you want

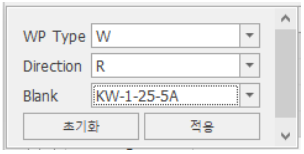
to set.



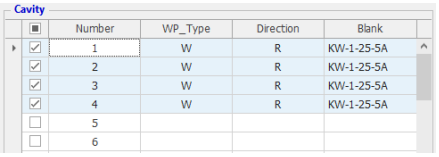
2. Right-click and select Bulk Edit to open a setup pop-up.



3. If you enter the desired value in the pop-up and click the Apply button, the same settings will be reflected in all selected cavities.



To initialize



the settings, click the check box in the header to select them completely, right-click the Initialize button, and apply them.

Add Terminal & Seal

Each cavity can register terminals and seals that fit wires with a specific CSA range. Registered terminals and seals are automatically selected based on the CSA value of the wire when inserted. You can also register multiple terminals and seals in one cavity to set up a variety of options.

■ Add Terminal & Seal

1. Click the cavity you want to set in the cavity list.
2. Right-click on the terminal or seal screen and click Add Row to add a new blank row.
3. When you click the PartNumber cell in the added blank row, the list registered in the Terminal or Seal part is displayed. You can select the desired item or press Control + F to search and select.
4. Double-click the terminal or seal you want to register to add that item.

■ Delete Terminal & Seal

1. Select the cavity you want to delete from the list.
2. Right-click, click Delete, and click Yes in the message box to delete the terminal or seal.

■ **Changing the priority of terminals & seals The** priority of terminals and seals

is the ability to set which items to use first when the CSA values of the wires overlap. If there are multiple items in the CSA range, items with smaller numbers have higher priority.

Priority can be adjusted to drag and drop in the 'Priority' column, and items with overlapping CSA ranges have Min/Max CSA values in blue.

Terminal

Priority	Part Number	Manufacturer	Min CSA	Max CSA	Strip
= 1	802479	DELPHI	0.5	1.25	5
= 2	ST740734-3	KET	0.3	0.85	5.5
= 3	ST711199-3	KET	1.5	3.25	6.5

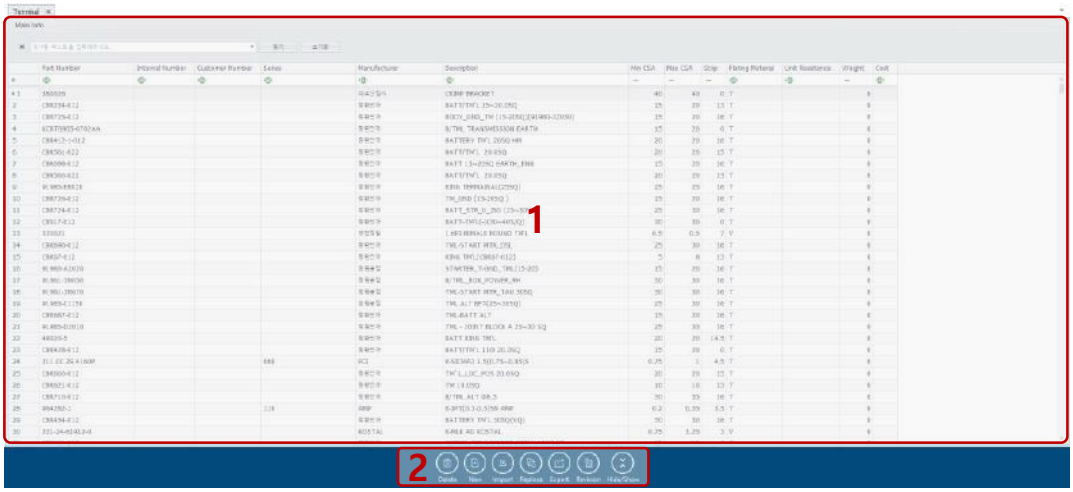
Seal

Priority	Part Number	Manufacturer	Min ODR	Max ODR
= 1	375 973 742 E	FCI	3.4	3.9
= 2	1544316-1	AMP	3.8	4.6
= 3	WS201011L	대양공업사	1.4	1.8

Terminal

A terminal is a connection point to which wires are connected and serves to connect and fix wires in an electrical circuit. This topic covers the workspace configuration and key functions of the terminal part. It also guides you on how to create, delete, modify, and retrieve terminal data.

workspace

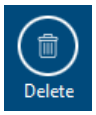


1. Terminal Listing You can look up the list of currently registered terminals, and you can select and edit the terminals.

2. Major Functions It is an area where major functions necessary for terminal management are placed, and tasks such as addition, modification, and deletion can be easily performed. Each feature is covered in detail in the following paragraphs.

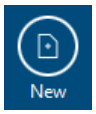
Key Features

The following features are available in the terminal part.

■ 

Delete

The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of the state change, see Terminal – Edit Data – State Change.

■ 

New (New)

The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

■ 

Import (Import)

It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

■ 

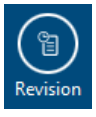
Replace

It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

■ 

Export

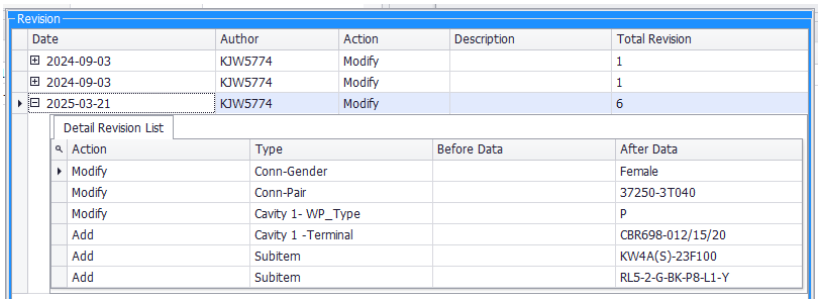
Export is the ability to export data within the system to an external file. It is used to back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

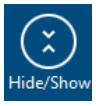
■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you

to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

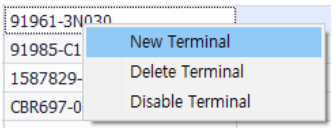
Edit Data

You can create, modify, delete, change status, or scan terminal data. Starting with how to create a terminal object, you will be guided through each data editing function step by step.

Create Object

There are two ways to create objects.

■ To create objects in
the right-click mouse creation workspace, right-click on the data list to open a pop-up menu. If you select New Terminal from the menu, an object creation pop-up appears.



■ Create an object through the bottom menu Click
the New button in the bottom menu  to open the same object creation pop-up.

You must enter a required input to register a new terminal. After entering the required input and additional information, click the OK button to create the terminal. Required inputs include Part Number, Internal Number, and Cross Section Area (Min/Max). For a detailed description of each field, refer to the [Part-by-Part Field Information – Terminal] page.

The Cross Section Area (CSA) is a value that specifies the range of wires available to that terminal. This value is used in the Manufacturing Drawing (MFG) to filter the correct wire when connecting the connector to the terminal.

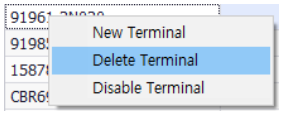
Modify Object

To modify an object, double-click the item you want to modify to open the Modify Data window. After modification, click the Update button to save your changes. PartNumber must be set to not overlap with other objects and will not be saved if duplicate values are present.

Delete Object

There are two ways to delete objects.

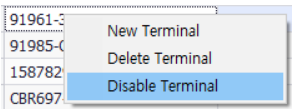
- Right-click the item you want to delete from the list of data about deleting objects through right-click to open a pop-up menu. When you select Delete Terminal from the pop-up menu, a confirmation message window is displayed. Click the "Yes" button to delete the object.



- Delete objects through the bottom menu If you select the item you want to delete and click the [Delete] button on the bottom menu, the same deletion confirmation message window will be displayed. Click the "Yes" button to delete the selected object.

Change Status

To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable Terminal option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been processed, the Enable Terminal option is displayed, which allows you to change it back to the available state.



Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product number, or if it is discontinued.

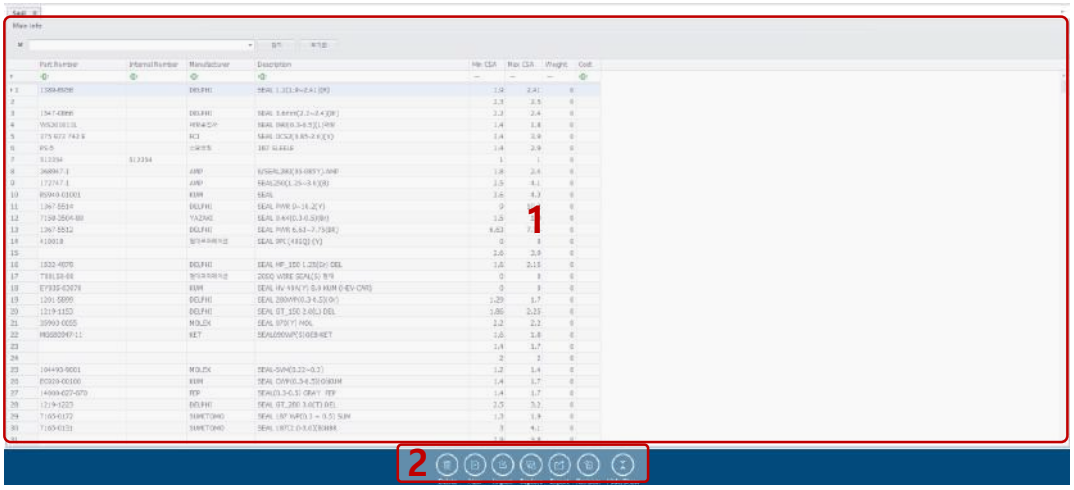
Search for objects

There are two ways to retrieve terminal objects. A detailed description of how to search is available on the Data Table Usage - Search page.

Seal

A seal is a part that seals the connections of connectors or cables and provides protection such as water and dust resistance.This topic covers the workspace configuration and key functions of the seal part. It also guides you on how to create, delete, modify, and retrieve seal data.

workspace

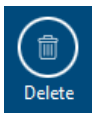


1. SEAL LIST You can look up the list of currently registered seals, and you can select and edit the seals.

2. Major Functions It is an area where major functions necessary for seal management are placed, and tasks such as addition, modification, and deletion can be easily performed. Each feature is covered in detail in the following paragraphs.

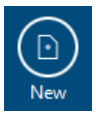
Key Features

The following features are available in the seal part.

■ 

Delete

The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of the state change, see [Seal-Data Edit-State Change].

■ 

New (New)

The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

■ 

Import (Import)

It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

■ 

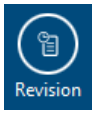
Replace

It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

■ 

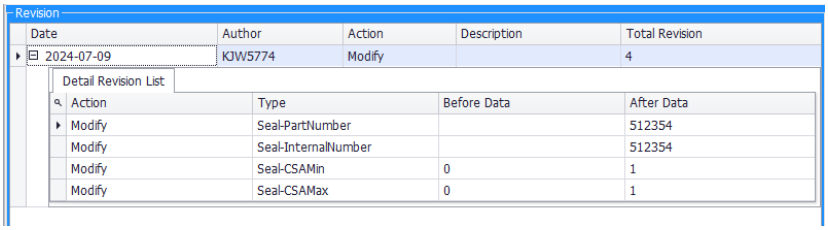
Export

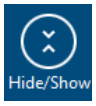
Export is the ability to export data within the system to an external file. It is used to back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

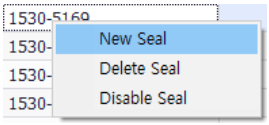
Edit Data

You can create, modify, delete, change status, or scan seal data. First, start with how to create a seal object and guide each data editing function step by step.

Create Object

There are two ways to create objects.

■ To create objects in
the right-click mouse creation workspace, right-click on the data list to open a pop-up menu. If you select New Seal from the menu, an object creation pop-up appears.



■ Create an object through the bottom menu Click
the New button in the bottom menu  to open the same object creation pop-up.

You must enter a required input to register a new seal. Required inputs include Part Number, Internal Number, and Cross Section Area (Min/Max). For a detailed description of each field,

refer to the [Field Information by Parts – Seal] page.

The Cross Section Area (CSA) is a value that specifies the range of wires that the seal can use. This value is used in the Manufacturing Drawing (MFG) to filter the correct wire when connecting the connector to the seal.

Modify Object

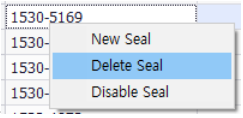
To modify an object, double-click the item you want to modify to open the Modify Data window. After modification, click the Update button to save your changes. PartNumber must be set to not overlap with other objects and will not be saved if duplicate values are present.

Delete Object

There are two ways to delete objects.

- Right-click the item you want to delete from the list of data about deleting objects through right-click to open a pop-up menu. If you select Delete Seal from the pop-up menu, a confirmation message window will be displayed.

  Click the "Yes" button to delete the object.

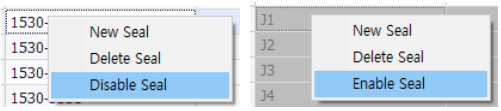


- Delete objects through the bottom menu If you select the item you want to delete and click the [Delete] button on the bottom menu, the same deletion confirmation message window will be displayed. Click the "Yes" button to delete the selected object.

Change Status

To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable Seal option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been processed that have been disabled, the Enable

Seal option is displayed, which you can select to change to the available state again.



Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product number, or if it is discontinued.

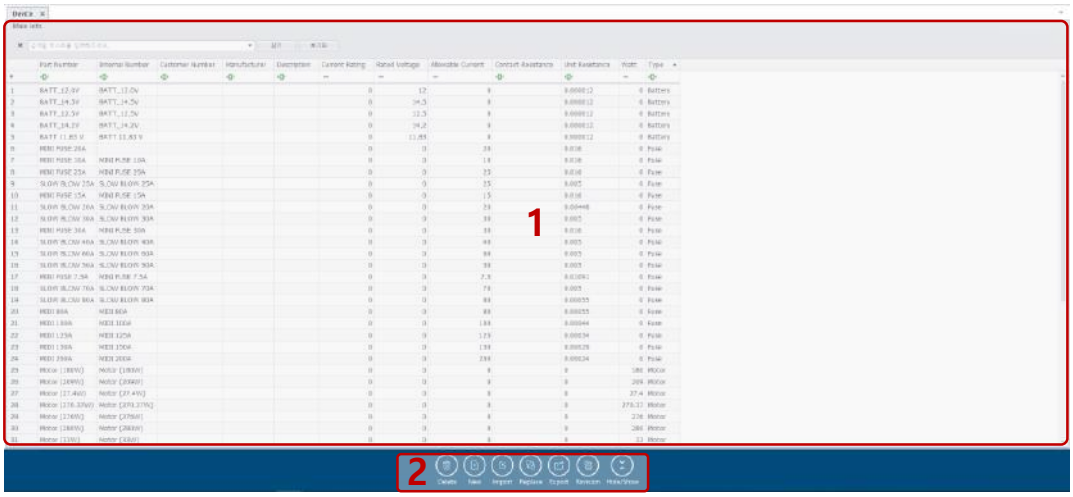
Search for objects

There are two ways to retrieve terminal objects. A detailed description of how to search is available on the Data Table Usage-Search page.

Device

A device is a device that performs a specific function in an electrical circuit and is used to control various electronic or mechanical equipment. This topic describes the workspace configuration and key functions of the device part, and guides you through how to create, delete, modify, and retrieve device data.

workspace



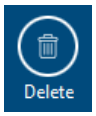
1. Device List You can query the list of currently registered devices, and you can select and edit devices.

2. Major Functions It is an area where major functions necessary for device management are placed, and tasks such as addition, modification, and deletion can be

easily performed. Each feature is covered in detail in the following paragraphs.

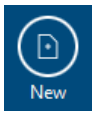
Key Features

The following features are available in the device part.

- 

Delete

  The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of the state change, see Device – Edit Data – Change State.

- 

New (New)

  The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

- 

Import (Import)

  It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

- 

Replace

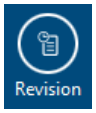
  It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

- 

Export

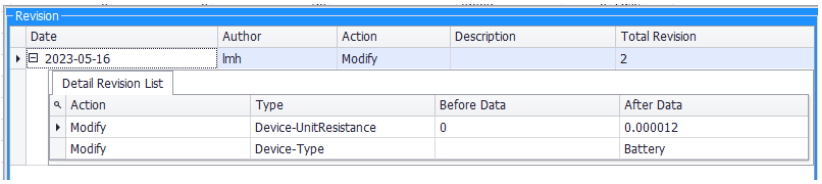
  Export is the ability to export data within the system to an external file. It is used to

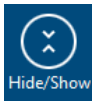
back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

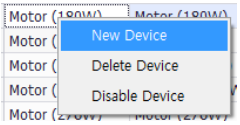
Edit Data

You can create, modify, delete, change status, or scan device data. Starting with how to create a device object, you will be guided through each data editing function step by step.

Create Object

There are two ways to create objects.

■ To create objects in
the right-click mouse creation workspace, right-click on the data list to open a pop-up menu. If you select New Device from the menu, an object creation pop-up appears.



■ Create an object through the bottom menu Click
the New button in the bottom menu  to open the same object creation pop-up.

You must enter a required input to register a new device. The device is created when you enter

required inputs and additional information and click the OK button. Required inputs include Part Number, Internal Number, **and Type**. For a detailed description of each field, refer to the [Part-by-Part Field Information – Device] page.

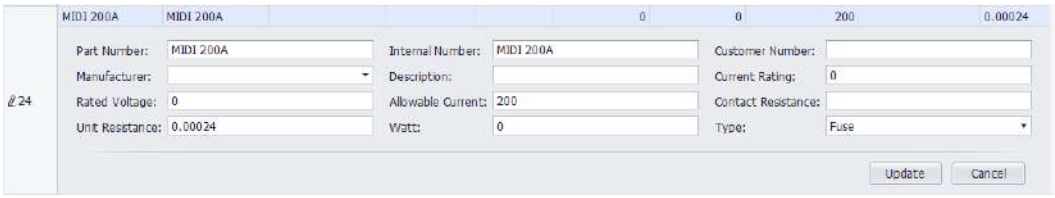
Device Type

The type used by the device can be selected from an existing list, or you can enter it directly to add a new one. To use the type that is not listed, you can enter the desired value in the Create window. These are mainly related to drawing design in Logic, and representative types are as follows.

- **Motor** (**motor)** A device that converts electrical energy into mechanical energy. Generally, there are DC motors, AC motors, stepper motors, servo motors, etc., and each has different speed control and torque characteristics. In full-length design, it is used for fans, pumps, actuators, etc.
- **Relay** (**Lay**) An electronic switch that allows you to control high voltage/current circuits with low voltage/current signals. Relays provide safe control of high voltage loads, including mechanical relays, solid state relays (SSRs), etc.
- It is a protection device that detects overcurrent in **the Fuse** circuit and cuts off power. When more than a certain current flows, the metal wire inside melts and protects the circuit from short circuiting. It's a one-off part, so once it's in operation, it needs to be replaced.
- A device that can power on/off **a Switch** circuit. There are various types such as toggle switch, push button switch, rotary switch, etc. and operate mechanically or electronically (semiconductor switch).
- The ground **(GND**) electrical circuit sets the reference potential (0V) and prevents noise. Grounding is largely divided into safety ground (preventing current leakage) and signal ground (minimizing signal interference). **Chash Ground ** is frequently used in vehicles and electronics.
- The part that supplies the power needed for **the Power** (**Power supply**) circuit, including batteries, adapters, and power supplies. Power is typically provided in the form of DC (direct current, 5V/12V/24V, etc.) or AC (alternating current, 220V/110V, etc.).
- **Resistor** (**resistor**) limits the flow of current to adjust voltage or maintain the stability of the circuit. Fixed resistance, variable resistance (variable resistance, potentiometer), and the unit is expressed in ohms.

Modify Object

To modify an object, double-click the item you want to modify to open the Modify Data window. After modification, click the Update button to save your changes. PartNumber must be set to not overlap with other objects and will not be saved if duplicate values are present.



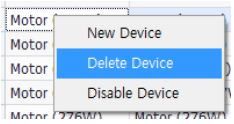
Delete Object

There are two ways to delete objects.

■ Right-click

the item you want to delete from the list of data about deleting objects through right-click

to open a pop-up menu. When you select Delete Device from the pop-up menu, a confirmation message window is displayed. Click the "Yes" button to delete the object.

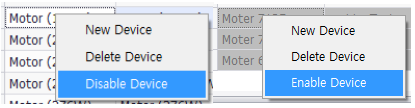


■ Delete objects through the bottom menu If you select the item

you want to delete and click the [Delete] button on the bottom menu, the same deletion confirmation message window will be displayed. Click the "Yes" button to delete the selected object.

Change Status

To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable Device option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been processed, the Enable Device option is displayed, which you can select to change to the available state again.



Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product

number, or if it is discontinued.

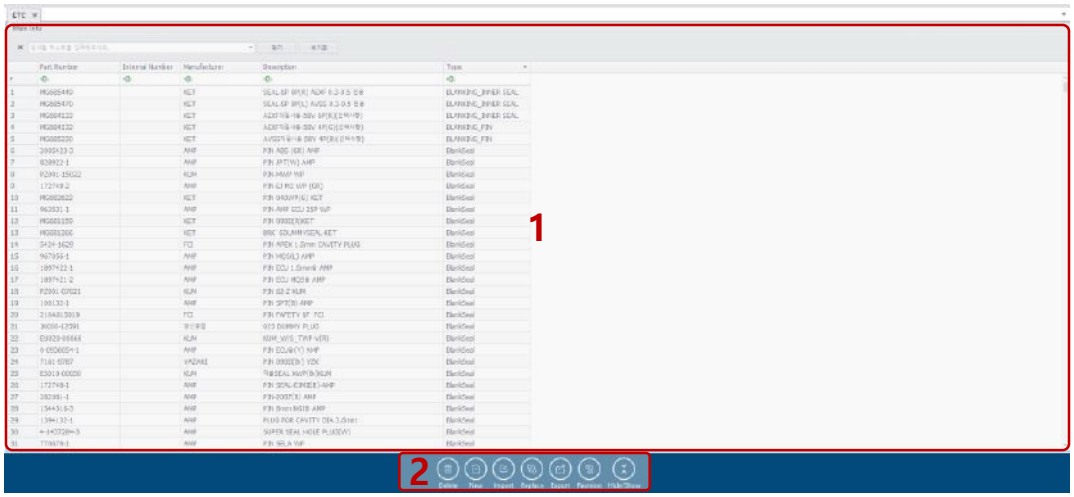
Search for objects

There are two ways to retrieve terminal objects. A detailed description of how to search is available on **the** Data Table Usage-Search **page.**

ETC

ETC (other parts) provides the ability to register parts other than Seal, Terminal, Wire, Connector, Device. Users can manage various parts by specifying their own part type. This part guides you on how to create, delete, modify, and retrieve ETC data.

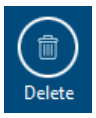
workspace



1. ETC List You can view the list of currently registered ETCs, and you can select and edit ETCs.
2. Key Features
   It is an area where the main functions necessary for managing ETC are placed, making it easy to add, modify, or delete tasks. Each feature is covered in detail in the following paragraphs.

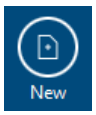
Key Features

The following features are available in the ETC part.

■ 

Delete

The ability to delete selected items from the list allows you to remove unnecessary data. Deleted data cannot be recovered and must be used carefully. If you want to keep the data for future use instead of deleting it completely, it is more appropriate to set it to "disable" by changing the status. For a detailed description of state changes, see ETC – Edit Data – State Changes.

■ 

New (New)

The ability to add new objects on the Active Parts tab. This allows users to register their new needs on the system.

■ 

Import (Import)

It is a function that adds externally backed-up data to existing data. You can import and add exported files to the system from within the Cadvisor. Existing data remains intact, and the contents of the imported file are added to or merged with the existing data.

■ 

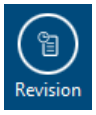
Replace

It is a feature that deletes all existing data and replaces it with a new file. You will import the exported file from the Cadvisor and completely replace the data stored on the system with a new list or data, and you will not be able to recover the existing data. Existing data cannot be recovered, so use it if you want to apply new data.

■ 

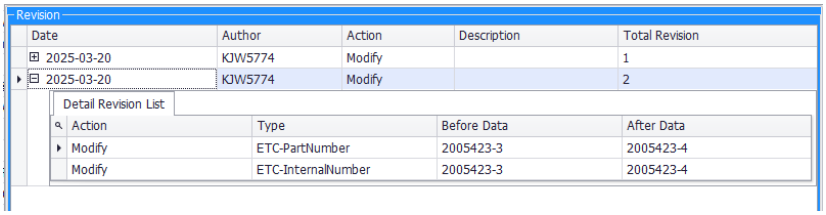
Export

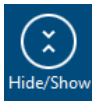
Export is the ability to export data within the system to an external file. It is used to back up data or to transfer it to another system. Exported files can be re-imported through the import or replace function.

■ 

Revision (Revision Management)

The ability to check the correction history (revision) of the selected object allows you to track and manage information about each correction. You can check the revised date, modified person, modified type (Modify, Create, Delete), description, total number of revisions, and click the + button to the left of the date to see the details of the data change (Before Data, After Data).



■ 

Hide/Show

The ability to hide or display the main tab, which is used to minimize screen elements during work and to manage workspace efficiently.

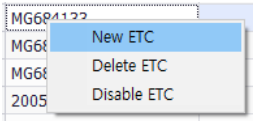
Edit Data

You can create, modify, delete, change status, and retrieve ETC data. Starting with how to create an ETC object, you will be guided step by step through each data editing function.

Create Object

There are two ways to create objects.

■ To create objects in
the right-click mouse creation workspace, right-click on the data list to open a pop-up menu. If you select [New ETC] from the menu, an object creation pop-up appears.

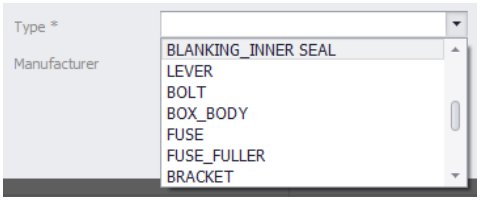


■ Create an object through the bottom menu Click
the New button in the bottom menu  to open the same object creation pop-up.

You must enter a required input to register a new object. After entering required inputs and additional information, click the OK button to create an object. Required inputs include Part Number, Internal Number, and Type. For a detailed description of each field, refer to the [Part-

by-Part Field Information – ETC] page.

ETC Type



The type used by ETC can be entered directly by the user or selected from an existing list. To use the type that is not listed, you can enter it directly in the Create window. Basically, the items provided are items related to the additional function of subsidiary materials in MFG, and include the following items.

■ **Jig**

Auxiliaries used to place or process certain parts in the correct position. It holds the cable in a certain position when assembling the wiring, or maintains a certain interval and direction during the assembly process.

■ **Tube**

It is a cylindrical material that is put on to protect wires or cables. Heat Shrink Tube shrinks when heat is applied, tightly enclosing the wire, insulating and protecting it.

■ **Clip**

A small fixture used to secure wiring or parts. It helps to keep wires from moving, or to secure them stably in certain positions. It comes in a variety of materials such as plastic and metal.

■ **Grommet/Protector**

A protective device used to prevent wires or cables from being damaged by metal or plastic edges. The grommet insulates and protects the wire as it passes through the hole, and the protector covers and protects the wire.

■ **Tape**

It is utilized in a variety of tasks, mainly for wiring protection and identification purposes. It has different functions depending on the type.

- It is used to hold the cross
  tape wires where they cross each other. It generally has strong adhesion and serves to keep wires from separating.

- Used to display specific sections of marking tape wiring
  or to identify parts. It is used to give specific signals or roles by color.

- Bundling Tape
  is used to organize and tie multiple wires together. It acts like a tape-type cable tie and has features that can be easily removed or rewound during maintenance.

■ **CONNECTOR SUBSTANCE**

Various subsidiary materials are used to assist connectors, which are important components that transmit electrical signals or power, and to complement functions, and they serve as strengthening bonds, waterproofing, protection, insulation, alignment, and fixing. The types of subsidiary materials that are frequently used are as follows.

- Blank seal
  prevents unused cavity (pin insertion space) to prevent dust, moisture and foreign substances from entering. It is essential in environments where waterproof performance is important.

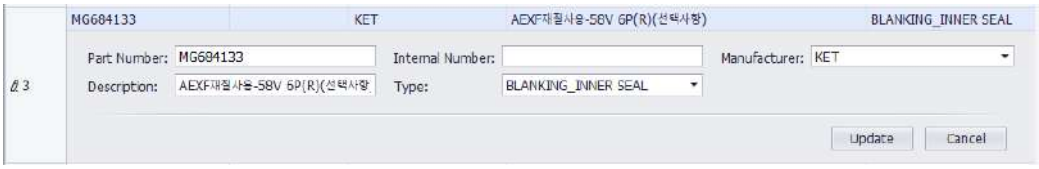
- It serves as a cover to protect the terminals (terminals) and internal circuits of the cover connector. It protects the connector from external shocks, contaminants, and moisture, and certain models also include water resistance.

- Lever
  Some connectors can use levers to strengthen the tightening force when engaged. By turning the lever, it is easily and reliably fastened, and it is designed to use less force when removing.

- A part that assists the retainer terminal (terminal) to hold exactly in place. It prevents terminals from falling out or shaking inside the connector, enabling stable signal transmission and power supply.

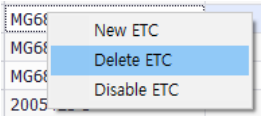
Modify Object

To modify an object, double-click the item you want to modify to open the Modify Data window. After modification, click the Update button to save your changes. PartNumber must be set to not overlap with other objects and will not be saved if duplicate values are present.



Delete Object

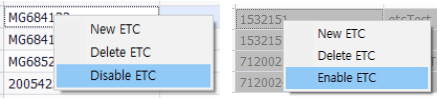
There are two ways to delete objects.

■ Right-click
the item you want to delete from the list of data about deleting objects through right-click
to open a pop-up menu. If you select Delete ETC from the pop-up menu, a confirmation message window will be displayed. Click the "Yes" button to delete the object. 

■ Delete objects through the bottom menu If you select the item
you want to delete and click the [Delete] button on the bottom menu, the same deletion confirmation message window  will be displayed. Click the "Yes" button to delete the selected object.

Change Status

To change the state of an object, you can select the data you want to change and set it from the pop-up menu that appears by right-clicking on the mouse. If the object is still available, the Disable ETC option is displayed, and when selected, it changes to the disabled state. Conversely, for objects that have already been processed, the Enable ETC option is displayed, which allows you to change it back to the enabled state.



Unused processed data is sorted at the bottom of the list, and its background color changes to gray. This allows you to distinguish between unused data. This feature can be used when processing data that is no longer in use, if there is a renewed version of the same product number, or if it is discontinued.

Search for objects

There are two ways to retrieve ETC objects. A detailed description of how to search is available on the Data Table Usage - Search page.

How to use the data table

Search

There are two ways to search for objects using data tables. The first is a full search, which searches for data that contains text entered for all columns and then displays the corresponding data. The second is field-specific search, which specifies a specific column to search only for data that meets the desired conditions. In addition, various conditions can be set when searching, allowing more precise search.

Full Search

Full search is a function that searches for all items in the database using the search box at the top. If you enter text in the search box, all data containing that text will be filtered and displayed regardless of the field. If you do not see the search box, you can enable it by pressing Ctrl + F.

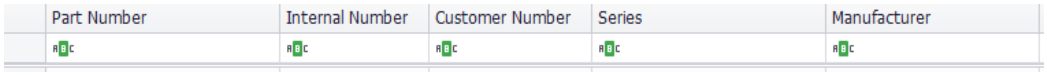
Search by Field

There are two ways to search by field. A method using a search box that directly inputs and searches text, and a method using a filter box that filters by selecting from a drop box list.

■ **The** search box for each item (field) **using the search box** is located under the header of the list, and you can search for the data by entering the desired value.

- Character data—Search (inclusive) data containing text entered by default.
- Numerical data: Search (match) only for data that exactly matches the value you entered.

You can also select various search criteria by clicking the search criteria icon next to the search bar. More information about search options is available in the following Filter Options topics.



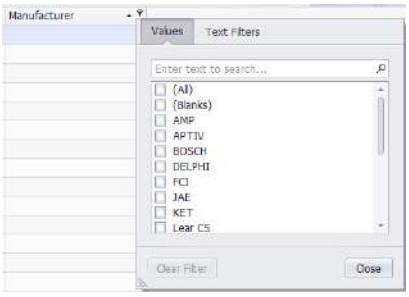
■ **Search with Filter Box** When you mouse over **each** column (field), a filter icon appears at the top right. When you click on this icon, a filter box appears, which you can search for in the following ways.

- Value tab—Filters by selecting a specific value from the values currently displayed

in the list.

- Filters tab: Provides more precise filtering options based on data type (character, number).

More information about filtering options can be found in the following Filter Options topics.



■ Search Options

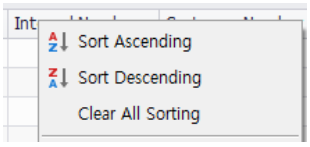
Search options in the data table. If you choose the conditions you want, you can filter your data in more detail.

	Search conditions	Description
=	Equals	Search for data that exactly matches the value entered
≠	Dose not equal	Search for data that does not match the value entered
A%C	Is like	Search for data that matches a particular pattern (Special character _, % available) _ : one letter replacement, e.g. "A_n" → "Ann", "Ain" % : Multiple letter replacement, e.g. "A%n" → "Ann", "Aaron"
A%C	Is not like	Search for data that does not match a particular pattern
ABC	Contains	Search for data containing the values entered
ACB	Does not contain	Search for data that does not contain the entered value
ABC	Begins with	Search for data starting with the value entered
ABC	Ends with	Search for data ending with the value entered
>	Is greater than	Search for data larger than the value entered (character can be compared in dictionary order)

⩾	Is greater than or equal to	Search for data greater than or equal to the value entered
<	Is less than	Search for data less than the value entered
⩽	Is less than or equal to	Search for data less than or equal to the value entered

Sorting

The sort feature in the data table allows you to organize data in ascending or descending order according to the criteria you want. Click on the header of the column to apply the default alignment, and one more click changes the alignment direction. You can also set the alignment by right-clicking in the header of the column you want to sort by selecting the Sort Ascending, Sort Descending, and Clear All Sorting options.

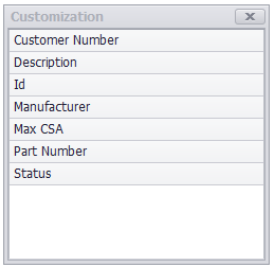


Custom View

Custom view functionality allows you to organize and use tables in any form you want. You can reschedule or resize the columns, and you can personalize the screen by selecting the columns you want to display.

- **Change the order of the columns**, click the column you want to change, and then drag and drop to the desired location to adjust the location.
- **You** can adjust the size by dragging the boundaries between **columns and** columns**.** In addition, right-click in the column and select Best Fit or Best Fit (All Columns) to optimize for your content.
- **Setting Up a Column To** hide a particular column, drag it out of the data table, or right-click in the column and select Hide This Column.

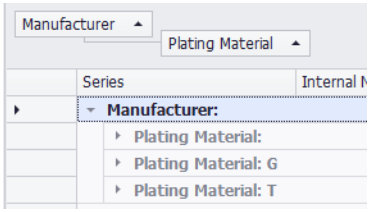
  To add hidden columns again, right-click in the header and click Column Chooser to display a list of hidden columns, which you can restore by dragging the columns you want.



Group Inquiry

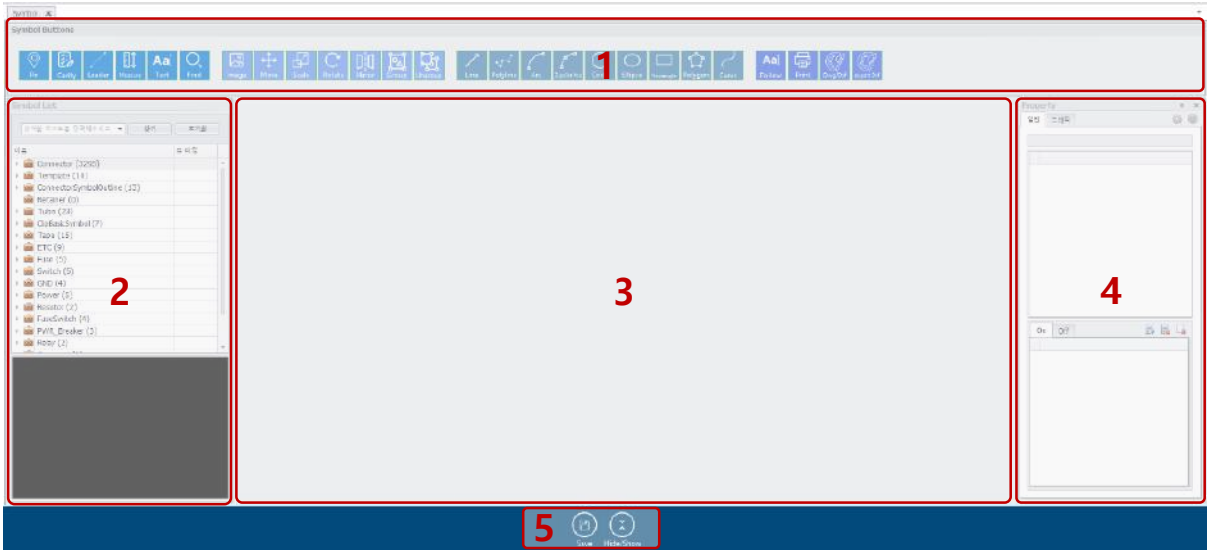
The group lookup function allows you to organize your data more systematically by grouping them into specific criteria. You can sort grouped data in any way you want, or you can combine groups to look up more detail.

- **Grouping Data** To group data by specific criteria, you can mouse drag the desired column to the group panel, or right-click in the column and select Group **By This Column.** If the group panel is not visible, you can enable **it** by right-clicking in the column header and selecting Show **Group By Box.**
- To turn off **a group,** drag the column in the group panel to its original location, or right-click in the column and select Un**Group.** To release all groups at once, right-click in the Groups panel and select Clear **Grouping.**
- **Grouping Multiple Columns** You can group multiple columns at the same time, and you can also priorit ize grouping criteria by changing the order of columns within a group panel.



symbol 2

workspace



1. Drawing Work Features Provides a variety of functions that users need to work on drawings. These features allow you to edit and print drawings, and a detailed description of each feature can be found in [Symbol – Edit Symbol Drawings].

2. Symbol Drawing List Item that shows the registered symbol list. You can activate the required symbols in this list, and you can create, edit, and delete symbols. You can add categories to distinguish the symbols, and a symbol preview is displayed at the bottom.

3. When you select an item from the Edit Symbol Drawings Space Symbol list, the corresponding drawing is displayed. This allows you to check the relevant drawings and proceed with the work.

4. Properties Tab This tab allows you to view the properties of the symbol.
   The content displayed depends on the selected object, and provides information about each object.

5. The ability to store drawings that are hidden/displayed from storage and main
   tabs, and to display or hide main tabs. You can flexibly adjust your work environment.

Category

Categories are used to classify symbols. This allows users to group and manage various symbols. For example, items such as connectors, templates, sub-materials, and fuse elements required for device internal design can be categorized.

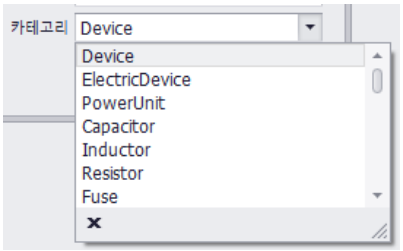
Create Category

1. Right-click in the empty space of the right-click symbol list in
   the symbol list, or select an existing category and right-click.

2.  On the Right-click menu
   , click Add Category.

3. Set Category Name
   Type the name of the category you want to create.

4. Format Category Select the format for that category from the list of
   categories. The format depends on the type of symbol to be included within the category. For example, you can format Connector, Template, Fuse, and so on.



Delete Category

If you delete a category, you will need to proceed carefully because the drawing that belongs to that category cannot be recovered.

1. In the Select categories to delete symbol list, click the category you want to delete.
2. Right-click to open the menu Right -click in the selected category.
3.  If you click Delete Category on the Delete Category selection menu, that category is deleted.

Template

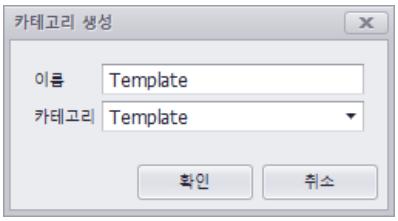
A template is a feature that allows you to preset and use a template in a drawing in Logic or MFG. Users can create various templates for each page size and apply the templates required to create drawings to proceed. This reduces repetitive setup tasks when drawing, and allows you to manage drawings in a consistent format.

Create a template

You can create a template drawing in two ways. One is how to create a new template using the features that CADvizor provides, and the other is how to import and create an existing template if you have a template form that you are using.

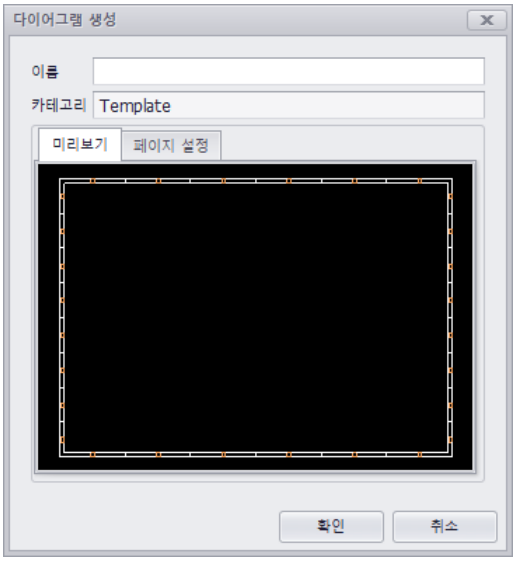
■ **Create a new template using the features provided by CADvizor**

1. Click the template category, right-click the template category, and right-click to select Add Diagram.  To create a template drawing, the category type must be Template.



2. Template Creation Window After adding

a diagram, the Template Creation window appears. Enter the name of the diagram here.

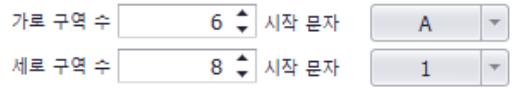


3. You can set

the page settings page size from the drop-down menu, or you can set the custom size by selecting Custom. Set the page orientation to horizontal or vertical.

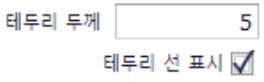
4. Zoning Sets the zoning of the template

. Sets the number of zones and the start character.



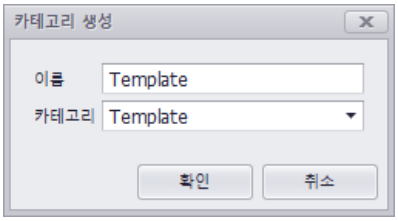
5. Set border thickness,

clear the Show border check box if you do not want to display border lines.

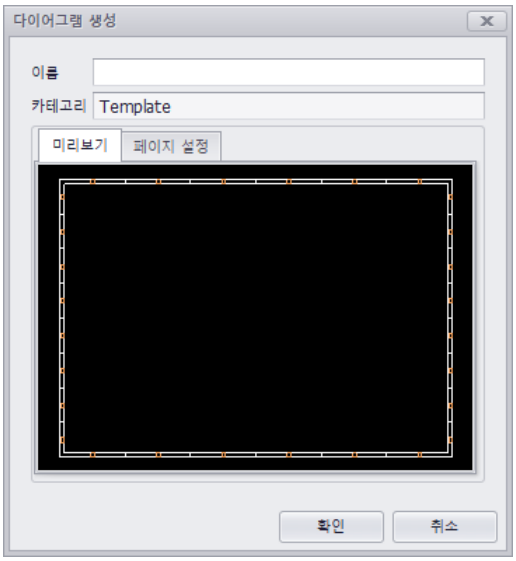


■ **Importing an existing template**

1. Click the template category, right-click the template category, and then right-click to select  Add Diagram.To create a template drawing, the category type must be Template.



2. Template Creation Window After adding a diagram, the Template Creation window appears. Enter the name of the diagram here and click the OK button.



3. Create a diagram When you create a new
   template, the default template object is automatically created. All of these objects must be deleted, and you can delete them by dragging them, or you can select and delete them all by pressing Ctrl + A.

4. Import Dwg/Dxf File Import Use the Dwg/Dxf File Import feature to import an existing template file.

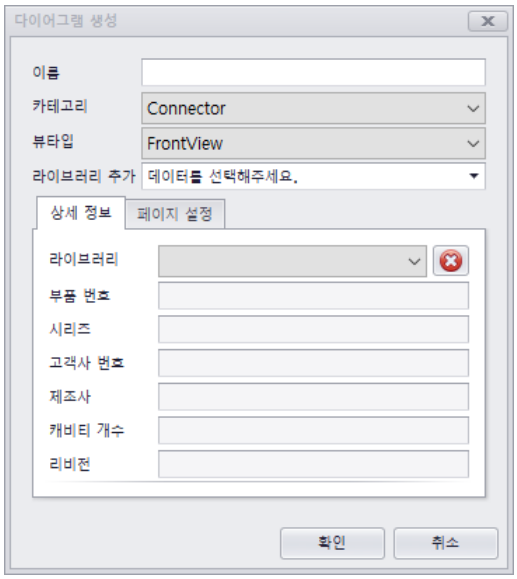
5. Add and save drawings
   After importing an existing template, add and save the necessary parts.

a symbol drawing

This section describes how to create symbol drawings and register them with the library to manage them. Depending on the category of the symbol, the elements that must be designed are different, the connector must **be designed for cavity and the device must be designed for pins.** First, let's see how to generate a symbol drawing.

Create Drawings

1. Select a category, select a right-click category, and then right-click Add Diagram  to display the Create window.



2. In the Create
   Name window, type a name for the diagram.

3. Set View Type Select the view type you want to create.
   The view type can be selected from FrontView, SideView, or TopView. The default is set to FrontView.

4. Add Library When you create
   a diagram, you can add a library in advance. For more information about adding libraries, see Symbols – Symbols Drawings - Libraries.

5. After you create a drawing drawing, you can
   use the [Symbol-Symbol Edit Drawings] function to draw a drawing.

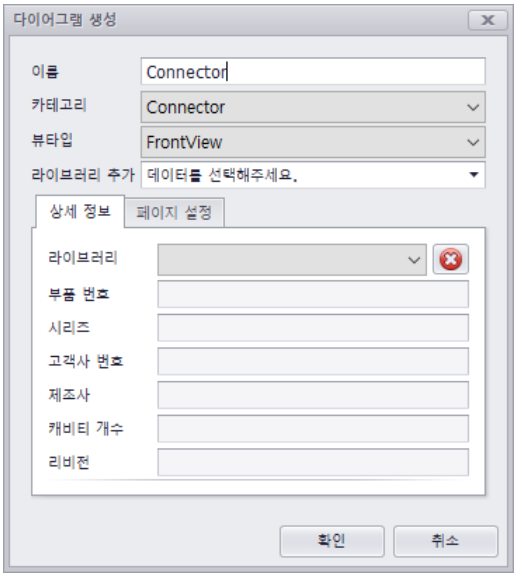
Library

The method of attaching a library to a drawing is the same, and this description is based on the connector.

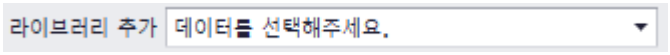
Library Connection

Library associations can be performed in the Edit Drawings window and can be preset when you create a drawing. To add a library to an already created drawing, select  the drawing you want to add from the symbol list and click the Edit button to open the Edit Drawing window.

1. Open Edit Drawings Window To add a library from
   an already created drawing, select the drawing you want to add from the symbol list and click the Edit button to open the Edit Drawings window.

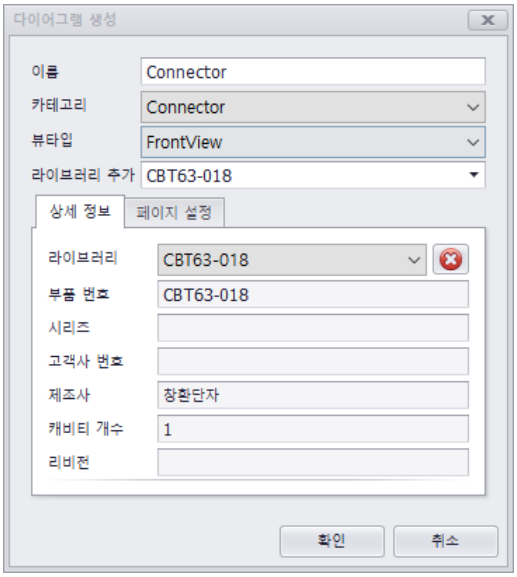


2. Click the Add Library drop-down box In the Edit
   Drawings pane, click the drop-down box next to the "Add Library" option.



3. Show Registered Libraries When you click the drop
   -down box, a list of registered libraries is displayed according to the category. Locate the library you want to add from the list.

4. Library Double-click to add
   the desired library to the drawing. If you want to add only one library, you just need to finish it at this stage.



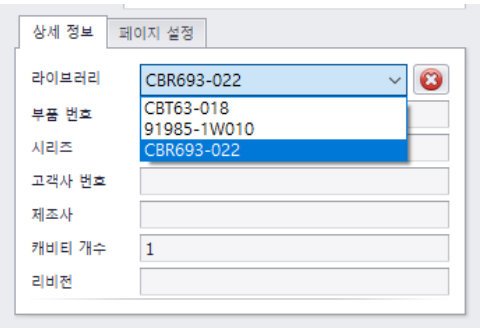
5. Add Multiple Libraries To add
   multiple libraries, add a library, click the drop-down box again, and double-click the other library you want to add.

6. Complete adding libraries After you have added all the libraries
   you need, click the OK button in the Edit Drawings window to save your changes.

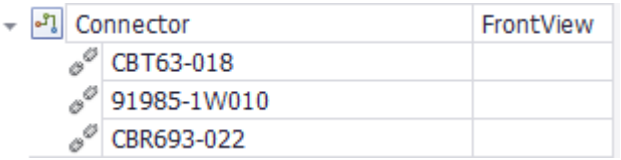
Check list of registered libraries

There are two ways to check the list of registered libraries.

■ In **the Edit Drawings pane,** you
   can view the list of registered libraries by clicking the Library drop box on the Details tab in **the Edit View** pane.



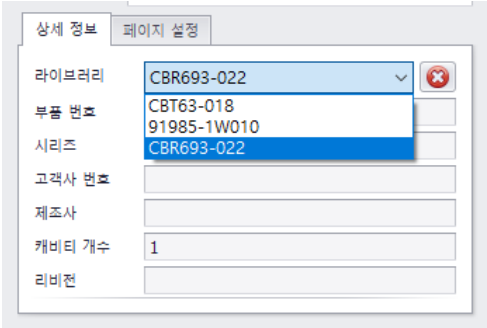
■ **From the symbol list, you** can see the list of libraries linked to the bottom of the drawing in **the check** symbol list.



Disconnect Library

You can disconnect the library from the Edit Drawings window.

1. In the Edit Drawings pane, open the Details tab.
2. Click the Library drop box to view the list of registered libraries.



3. Select the library that you want to disconnect.
4. Click the X button to the right of the selected library  to delete it.
5. Click the OK button to complete the task.

Search for drawings

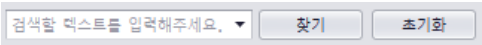
When searching for drawings, you must search with all the trees in the symbol list open. Therefore,

follow these steps.

1. Click one category in the Select Category
   symbol list.

2. Open the entire tree Right-click in the selected category and
   click Open All. If all you see is close, first run close all and then select Open all again.

3. Run a search
   Type a search term in the top search window. You can search by the drawing name or by the part number of the library that is associated with the drawing.



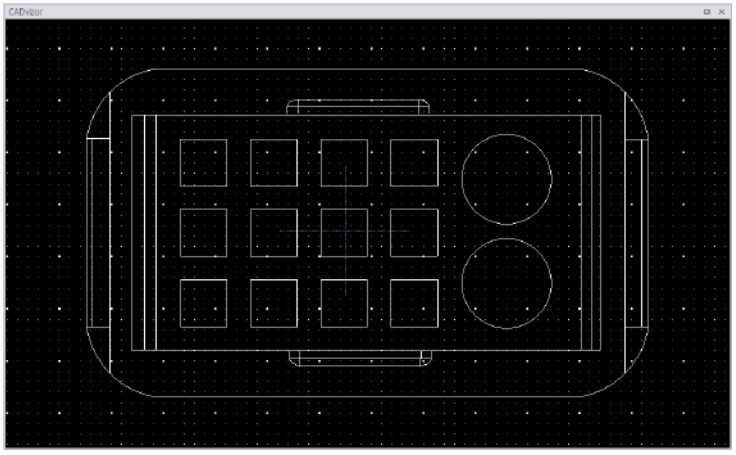
4. Check Search Results Items with diagram
   icons in search results are drawings, and items with clip icons are the part numbers in the linked library. Double-click the diagram icon to open the corresponding symbol drawing, and double-click the clip icon to open the linked symbol drawing.

Design elements by category

Connector - Cavity Design

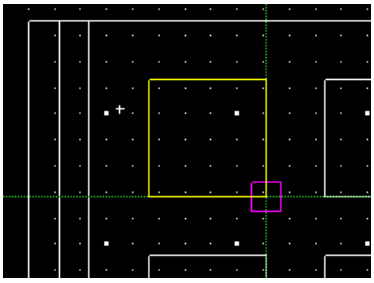
Cavity is an important factor when designing connector symbols. The cavity represents the internal space of the connector, which must be designed correctly to represent the symbol correctly. In addition, when designing manufacturing drawings in MFG, the representation of the wires is correct only when the cavity is accurately entered in the symbol shape. To add a cavity to a symbol.

1. Open Drawings
   Opens the drawing that you want to add to the cavity.



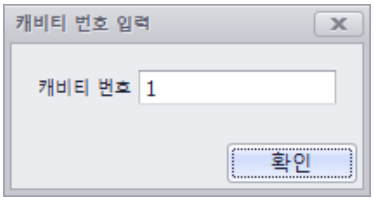
2. Start adding a cavity Select  a cavity function from the Edit drawing function at the top.

3. Draw a cavity With the first
   click, set the top left of the location where you want to draw the cavity, and the bottom right with the second click to draw a rectangle.

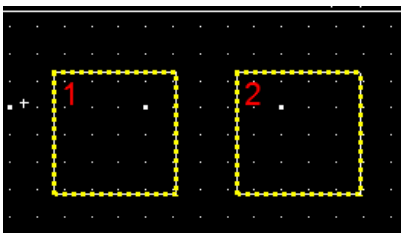


4. After drawing
   the cavity size confirmation cavity, the minimum size is required for wire information to be displayed in the manufacturing drawing. If the cavity size does not meet the minimum size, an information box appears. At this point, you will be asked if you want to increase the size, and selecting "Yes" will increase the overall size of the symbol. After that, you can redraw the cavity. If the cavity size satisfies the minimum size, no prompt appears.

5. Enter the cavity number After drawing
   the square, enter the beginning number of the cavity. The cavity to be added is created by automatically increasing the number by one.



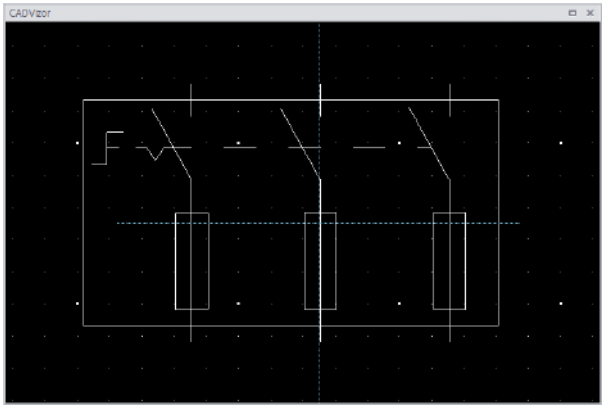
6. When you draw
   the cavity, you will see a yellow dotted box as shown in the picture below, with the cavity number at the top left.



Devices – Pin Design

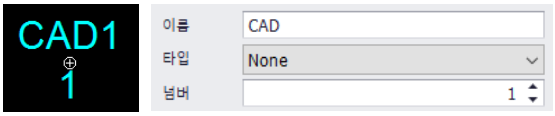
When designing device symbols, pin design is required for devices such as motors, batteries, fuses, etc. The pins represent the electrical connection of the device and must be designed according to the role of each pin. The process for designing pins for the device is as follows.

1. Open Drawings Open a drawing for the device that you want to add a pin to.



2. Select a Pin Function Select a Pin function from the Edit drawing function  at the top.

3. Before you create a pin option setting pin, you first set several options for the pin. The following options are available.



■ You can change the name of the pin that will appear on the Pin Name Input Screen. The default is entered as a PIN.

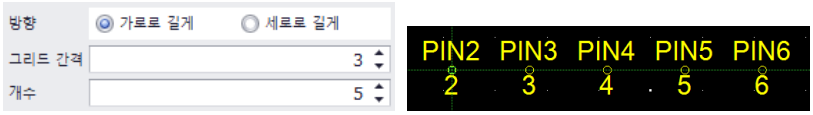
■ Select Pin Type Select the type that sets the role of the pin. The following types are available:

- None: General pin not specified
- U: Custom pins
- GND: Ground pin
- IN: Input pin
- IxO: Input/Output Pin
- IxO Terminated: Input/Output Terminated Pin
- NC: pin not connected

- OUT: Output pin
- PWR: Power pins
- Coil: Coil pin

■ Sets the pin number that will appear on the Pin Number Settings screen. The default is automatically set to the last pin number in that drawing plus 1.

4. Multiple pins at once The option to create multiple pins at once is also provided . To enable this option, do the following settings before creating:



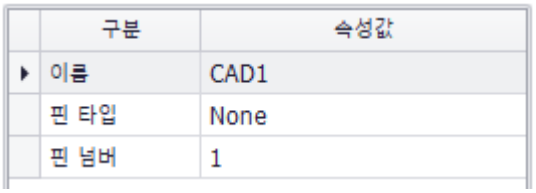
■ Enter the number of pins: Enter the number of pins to generate.

■ Set pin spacing: Sets the spacing between each pin.

■ Orientation: Select whether to place pins horizontally or vertically.

Options tab

The generated pins are available on the Options tab on the right.

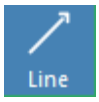


	구분	속성값
▸	이름	CAD1
	핀 타입	None
	핀 넘버	1

Edit Symbol Drawings

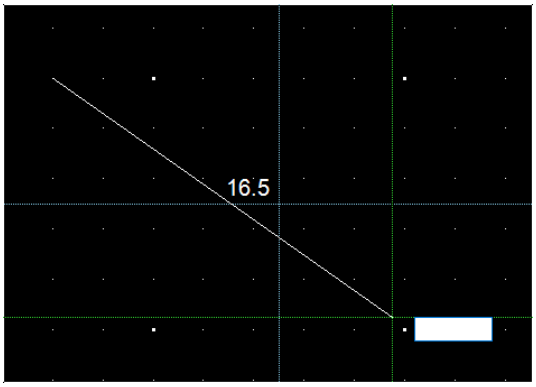
Create a Drawing Element

The ability to create a variety of basic figures in a drawing. You can design the desired shape using various shapes such as lines, circles, squares, and polygons.

■ 

Line

It is a function that creates a straight line by specifying two points with a mouse.

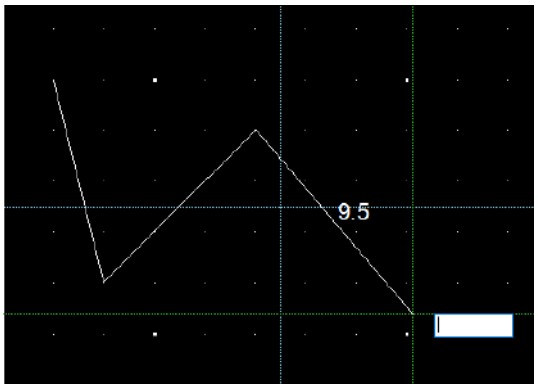


1. Click Start Point to specify the start position of the line.
2. Click on the end point to create a line.Alternatively
   , after you mouse-adjust the orientation, enter a length and press the Enter key to create a line.

■ 

Polyline

Polylines are the function of creating multiple lines into one continuous object. You can add as many line segments as you need.

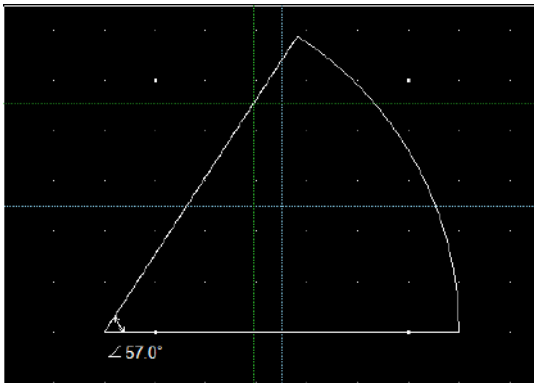


1. Select the first point to specify the starting point of the polyline.
2. Click on the following points or enter a number to continue the line in the desired length and direction.
3. Continue to click on additional points to continue the line.
4. When the creation is complete, press the Enter key to end the creation of the polyline.

■ 

Arc

An arc is a function that creates a curve by specifying the center point, radius, and angle of rotation.



1. Click the first point to specify the center point of the arc.
2. Select the second point to set the radius.
3. Specifying a third point sets the angle of rotation and generates an arc.

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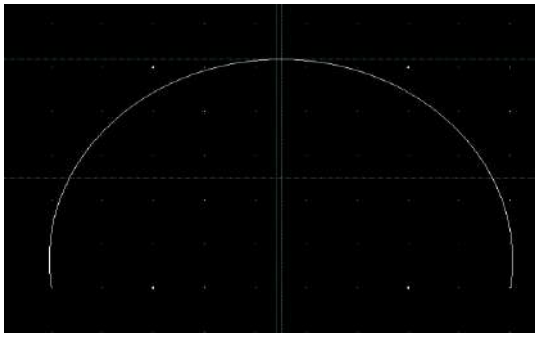
3 Point Arc

A function that creates curves by specifying the shape of strings and arcs.

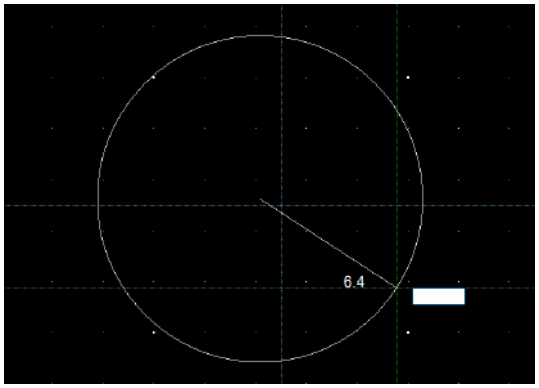


1. With the mouse, select the first and second points to create a string.
2. Specifying a third point sets the arc curvature and creates it.

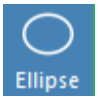
■ 

원 (Circle)

The ability to create a circle by specifying the center point and radius.

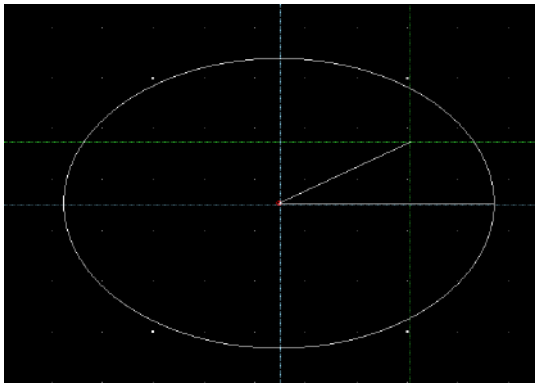


1. Select the position you want to mouse to center the circle.
2. Move the mouse to adjust the radius and click to create a circle.
   Alternatively, enter a length to set the radius and press the Enter key to create a circle.

■ 

Ellipse

It is a function that creates an ellipse by setting the horizontal and vertical axes.



1. Specify the center of the ellipse as the first point.
2. Set the major axis (horizontal) of the ellipse as the second point.
3. Create an ellipse by specifying the short axis (vertical direction) of the ellipse as the third point.

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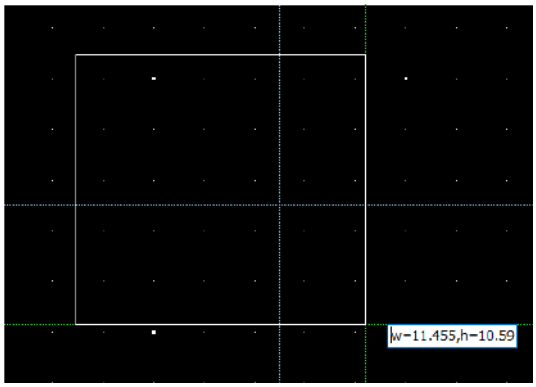
Rectangle

A function that creates a rectangle by specifying two points.



1. Specify the position of one corner of the square as the first point.
2. As the second point, create a rectangle by setting the width and height of the rectangle.

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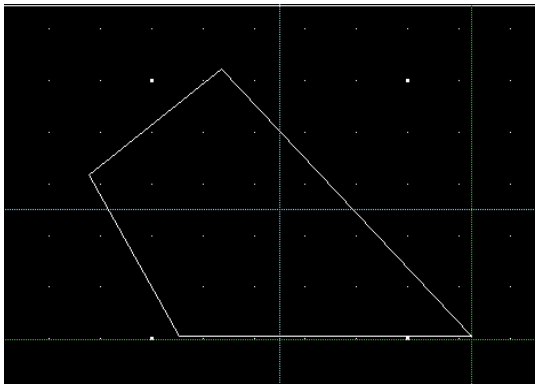
Polygon

The ability to create regular polygons by specifying vertices.

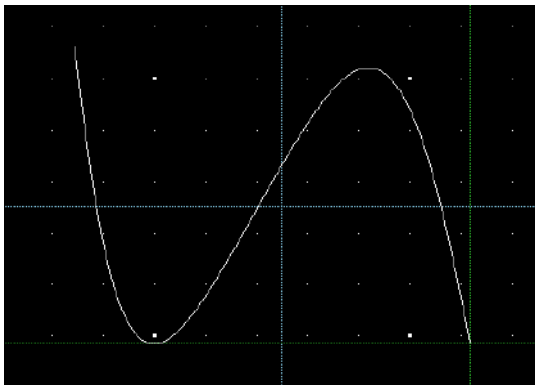


1. Click the first point with your mouse to specify the first vertex of the polygon.
2. Continue to mouse click on additional points to specify each vertex of the polygon.
3. To complete the polygon, press the Enter key to end the creation of the polygon.

■ 

Curve

It is a function of drawing a free-form curve.



1. Click the first point with your mouse to specify the starting point of the curve.
2. Continue to click the mouse to define the path of the curve.
3. To complete the curve creation, press the Enter key to end the curve creation.

Create Design Elements

Features that add additional elements to help understand electrical elements and drawings. Electrical elements such as pins and cavities and visual elements such as text and images can be placed.

■ 

Finn

A function that creates a connector pin that connects wires in an electrical circuit. Features used in device design. For a detailed description of the pin design, see **[Symbol-Category Design Element-Device].**

■ 

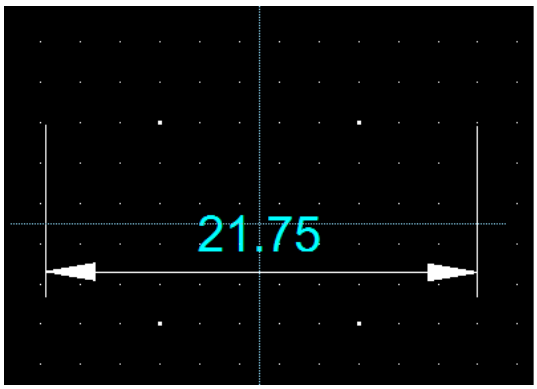
Cavity

A function that creates a space where the cavity is located inside the connector. Features used in connector design. For a detailed description of the cavity design, see **[Symbol-Category Design Element-Connector**].

■ 

a line of measurement

Features to display the size and distance of drawing elements.

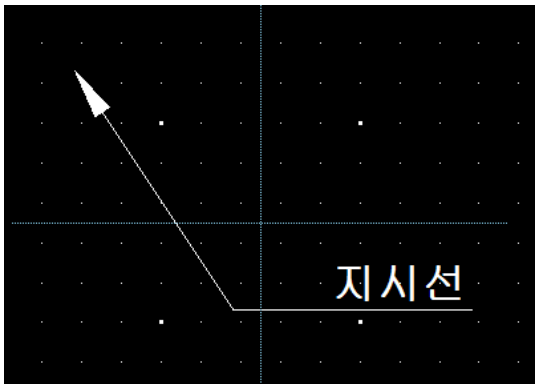


1. Select the starting point to measure with the first click.
2. Set the range of dimensions by selecting an end point with a second click.
3. Select and display the location where dimensional information will be displayed with the third click.

■ 

a line of instruction

The ability to add a description of a particular part or element.



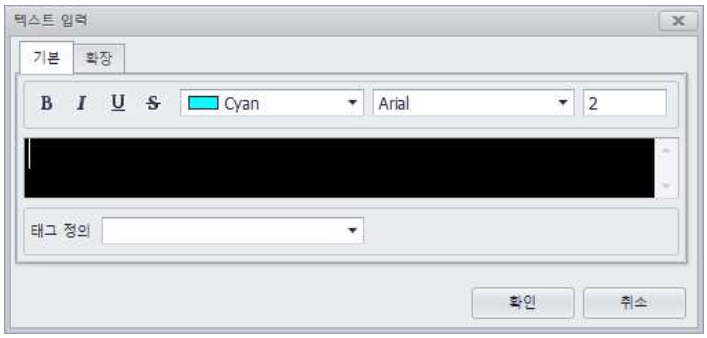
1. Select the location the arrow points to with the first click.
2. With a second click, select the bent position of the arrow to create an arrow.
3. Draw the arrow and the line segment that follows with the third click.
4. When the text entry window appears, enter the text you want to describe.

5. Click the 'OK' button to display text above the line segment.

■ 

Text

The ability to add a description within a drawing.



1. Click the 'Text' button.
2. When the Input window appears, enter the desired text.
3. Set the style of the text: Bold, tilt, underscore, middle line, color, font, and font size. The Extensions tab also allows you to set text alignment.
4. Click the 'OK' button after you complete the setup.

■ 

Follow Text

The ability to insert the drawing name into the drawing. Mainly used when the name of the symbol drawing is required by the MFG. When you register a drawing name, when you add a symbol when you create a manufacturing drawing, the drawing name also moves when you move that symbol.

1. Select the Follow function.
2. Create the drawing by clicking where you want to insert the drawing name.

■ 

Add Image

The ability to insert an external image into the drawing.

1. Click the 'Add Image' function.
2. Select and open the image you want to add.
3. Click the first location (top left) in the drawing to insert the image.

4. With a second click, add the image to the drawing by specifying where to place the image (bottom right).

Edit Object

The ability to modify an already placed object in a way such as moving, resizing, rotating, and inverting.

■ 

Move objects

The ability to move the selected object to the desired location.

1. Select the object you want to move. If you select multiple objects at the same time, you can move them all at once.
2. Click the move button to enter move mode.
3. Select the reference point to set the reference point to move.
4. Click the location you want to move to to move the object to a new location.

■ 

object resizing

The ability to change the size of an object.

1. Select the object you want to resize. You can also select multiple objects at the same time.
2. Click the resizing button to enter resizing mode.
3. Use your mouse to drag and adjust objects, or enter multiples on the keyboard and press Enter to resize them.

■ 

Object Rotation

The ability to rotate the selected object at a specific angle.

1. Select the object you want to rotate. You can also select multiple objects at the same time.
2. Click the Turn button to enter the Turn mode.

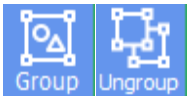
3. Enter the rotation angle on the keyboard and press Enter to rotate the object.

■ 

Object Inversion

The ability to invert objects in left-right or up-and-down symmetry.

1. Select the object you want to invert.
2. Click the Inversion button to enter Inversion mode.
3. The screen shows the lines that you want to flip up and down or left and right . (You can preview the inverted view by moving the mouse over the baseline.)
4. When you select the desired inverted axis (reference line), the object is inverted with respect to that axis.

■ 

Grouping / Ungrouping

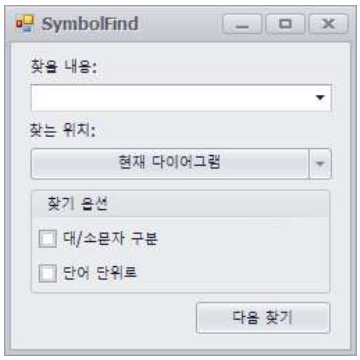
The ability to group or release multiple objects into a group.

1. Select multiple objects that you want to group.
2. When you click the Group button, the selected objects are grouped into one group.
3. To break a group, click the Ungroup button to separate the grouped objects into individual objects.

■ 

Find text

A feature that allows you to search for specific text in a drawing and find it quickly.



1. Type the text you want to find.
2. Click the 'Find Next' button to search for the text in the drawing.
3. Find options allow you to choose whether to search in case-sensitive or word-by-word units.

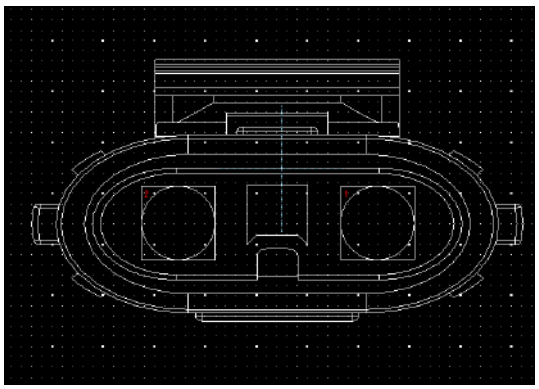
Importing and exporting files

The ability to save drawings or import external files.

■ 

Import Dwg/Dxf

The ability to import external files in the form of Dwg/Dxf into the program.



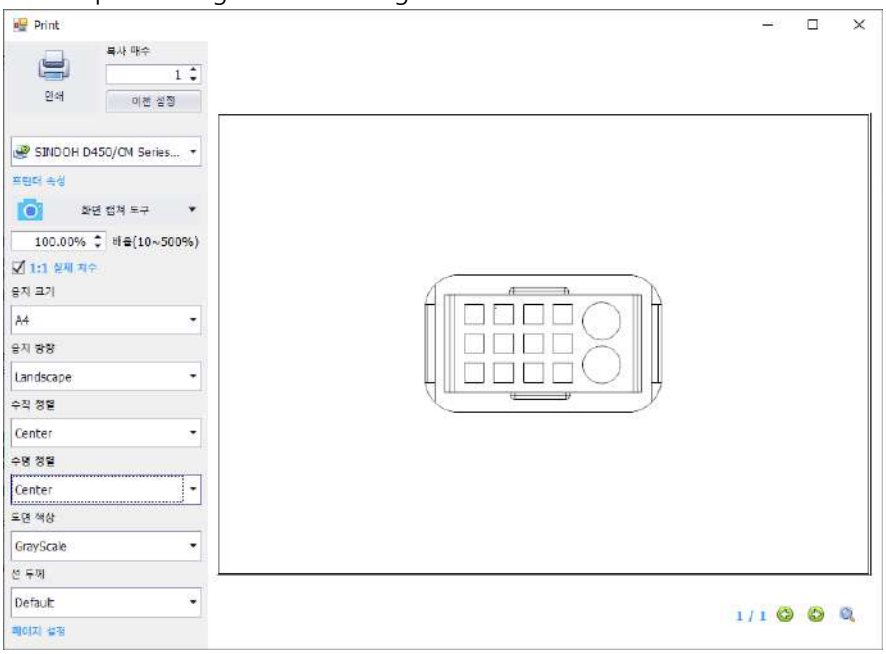
1. Select 'Import Dwg/Dxf' from the File menu.
2. Select the Dwg/Dxf file to import and click Open.

3. Click the location you want to create to complete the import of the file.

■ 

Print

The ability to print drawings. Before printing, you can adjust the shape of the drawing you want to print through various settings.



- You can set the number of prints, paper size, alignment, orientation, color, line thickness, and more.
- You can adjust the page margin or magnification to match the size and ratio of the drawing to be output.
- Using the screen capture tool, you can select and print only the desired part of the drawing, and you can also select and print the entire drawing.
- At the bottom right, you can see the final output status through page movement and print preview.

Contact CADvizor

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