

# 6. Window Operations

This chapter describes different types of windows and how to create, set and delete a window.

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## 6.1. Overview

A window is a basic element in a project. With a window, all kinds of information like objects, pictures, and texts can be displayed on HMI screen. In total, 1997 windows numbered from 3 ~ 1999 in EasyBuilder Pro can be built and edited.

## 6.2. Window Types

There are 4 types of windows, each with different functions and usages:

- Base Window
- Fast Selection Window
- Common Window
- System Message Window

### 6.2.1. Base Window

The most frequently used window, except for main screen, it can also be:

- A background of other windows.
- A keyboard window.
- A pop-up window of Function Key object.
- A pop-up window of Direct Window and Indirect Window objects.
- A screen saver.

#### Note

- Base Window should be in same size as the HMI screen. Therefore, the resolution of the base window should be set to the resolution of HMI.

### 6.2.2. Fast Selection Window

Window no. 3 is the default Fast Selection Window. This window can co-exist with base window. Generally, it is used to place the frequently-used buttons on the lower-left side or the lower-right side on the screen. Please create window no. 3 first, and set the relevant properties in [System Parameter Settings] » [General] tab. Apart from showing or hiding fast selection window with the button on the screen, there are system registers to do so:

[LB-9013] hide (set ON)/show (set OFF) Fast Selection window

[LB-9014] hide (set ON)/show (set OFF) Fast Selection button

[LB-9015] hide (set ON)/show (set OFF) Fast Selection window/button

#### Note

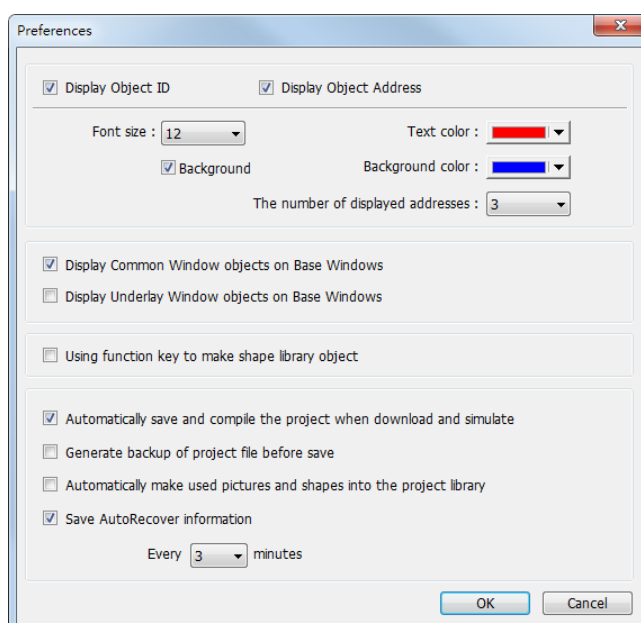
- cMT / cMT X Series does not support Fast Selection Window.

### 6.2.3. Common Window

Window no. 4 is the default Common Window. Objects in this window will be displayed in other base windows, not including pop-up windows. Therefore, the common objects in different windows are often placed in common window.

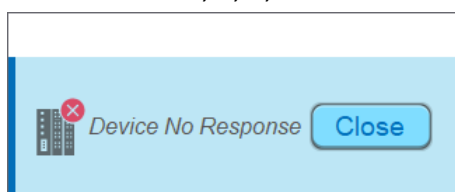
When operating HMI, select [Function Key] » [Change common window] to change the source of common window.

In menu [File] » [Preferences] » [Display] select whether or not to [Display Common Window objects on Base Windows] when editing a project. This can avoid overlapping objects in base window with objects in common window.



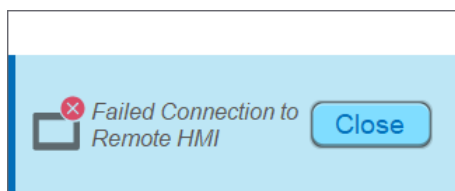
### 6.2.4. System Message Window

Windows No. 5, 6, 7, 8 are the default System Message Windows:



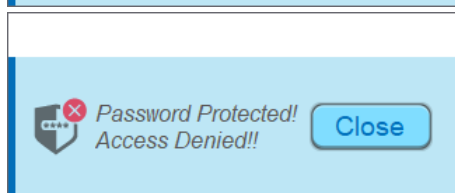
#### Window No. 5: Device No Response

When the communication between device and HMI is disconnected, this message window will pop up automatically right on the base window currently opened. This window can be disabled by system registers.



#### Window No. 6: HMI Connection

When failing to connect HMI with a remote HMI, this message window will pop up automatically.



#### Window No. 7: Password Restriction

When attempting to control an object without authorization, this window may pop up as a warning depending on the settings of the object.



### Window No.8: Storage Space Insufficient

When HMI flash memory, USB disk or SD card run out of storage space, this message window will pop up automatically. (When the memory space is under 4 MB)

The following system registers can be used to check the free memory space in HMI, USB disk, or SD card:

[LW-9072] HMI current free space (K bytes)

[LW-9074] SD current free space (K bytes)


[LW-9076] USB disk current free space (K bytes)

To check if there is sufficient storage in the devices, the following system registers can be used. These addresses will set ON when the space is under 4 MB.

[LB-9035] HMI free space insufficiency alarm (when ON)

[LB-9036] SD card free space insufficiency alarm (when ON)

[LB-9037] USB disk free space insufficiency alarm (when ON)

 For more information, see "22 System Registers".


The text shown in windows no. 5 ~ 8 can be edited for easier reference.

### Note

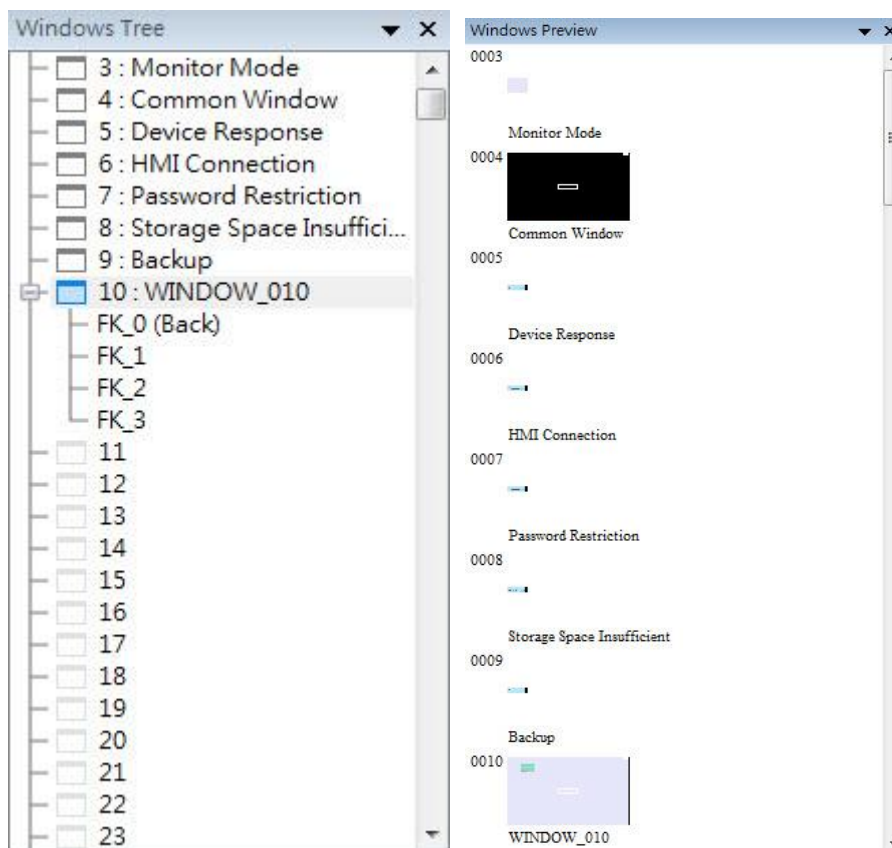
- For eMT/iE/XE/mTV models, a screen can display up to 24 pop-up windows simultaneous including System Message Window, Direct Window and Indirect Window. For cMT/cMT X Series, the number of pop-up windows is not limited.
- The system does not allow opening the same window (including overlay windows) with two Direct / Indirect Windows in one base window.
- Windows no. 3 to 9 are used by the system only, and windows no. 10 to 1999 can be edited based on actual usage.

## 6.3. Create, Set, and Delete a Window

Check the existing windows in [Windows Tree].

[Windows Tree] displays window numbers and window names. Opened windows are marked with  icon. Press the (+) sign to see the object ID, address and description of the objects used in this window.

[Window preview] displays the thumbnails of windows.



### 6.3.1. Creating and Setting a Window


In windows tree right click on a window number then select [New].

Setting	Description
<b>Name</b>	The name appears on the title bar and also in windows tree.
<b>Window no.</b>	Can be 3 to 1999.
<b>Size</b>	Set the window size in accordance with the HMI resolution.
<b>Underlay window</b>	Underlay Window can be seen as an extra Common Window. When designing the project, some commonly used objects are used in some windows but not all. These objects can be placed in underlay window. Each base window can set three underlay windows as background, from [Bottom] to [Top]. The objects in underlay windows are displayed in this order in base window.
<b>Pop-up window</b>	Base window can also be used as a pop-up window. Use [X] and [Y] to set the coordinates indicating where in the screen will this base window pop up. The origin of the coordinates is the upper-left corner of the window.
<b>Monopoly</b>	If the option is selected, when the base window pops up, no operations of other pop-up windows and background windows are allowed until the monopoly window is closed. If a base window is used as a keyboard window, "Monopoly" is automatically enabled.
<b>Title bar</b>	If the option is selected, a title bar appears on a system message window. This feature is only available for system

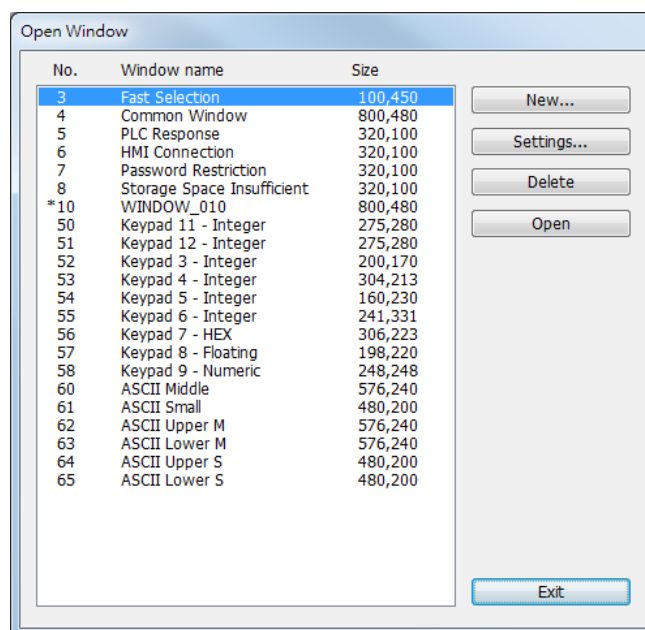
	message windows no. 5 to no. 8.
<b>Macro</b>	Select the macro to be executed when the window opens or closes, or the macro to be executed periodically (each 500 ms). Please build the macro in advance.

### Note

- The objects in underlay window cannot be edited from the base window that displays them. To edit those objects, please open the underlay window where they are located.
- When the window number of the underlay window used by the base window is identical to the pop-up window, the pop-up window is disabled.
- When base window and pop-up window use the same underlay window, the objects in the underlay window cannot be displayed in pop-up window.

 Click the icon to watch the demonstration film. Please confirm your internet connection before playing the film.

Or, from the main menu click [View] » [Open Window] and then click [New] and select the type of the window and click [OK].



Ways to call up [Window Settings] dialog:

- Right click on the window number in the windows tree and select [Settings].
- In [View] » [Open Window] select the window then click [Settings].
- In the window, right click when no object is selected, and select [Attribute].

### 6.3.2. Open, Close, and Delete a Window

The ways to open an existing window:

- Double click on the window number in the windows tree.

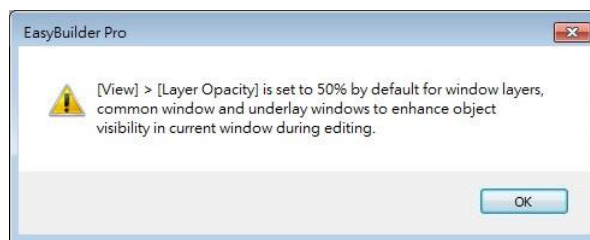
- In the windows tree, select the window number, right click, and then select [Open].
- In [View] » [Open Window] select the window number and then click [Open].

The ways to close or delete an existing window:

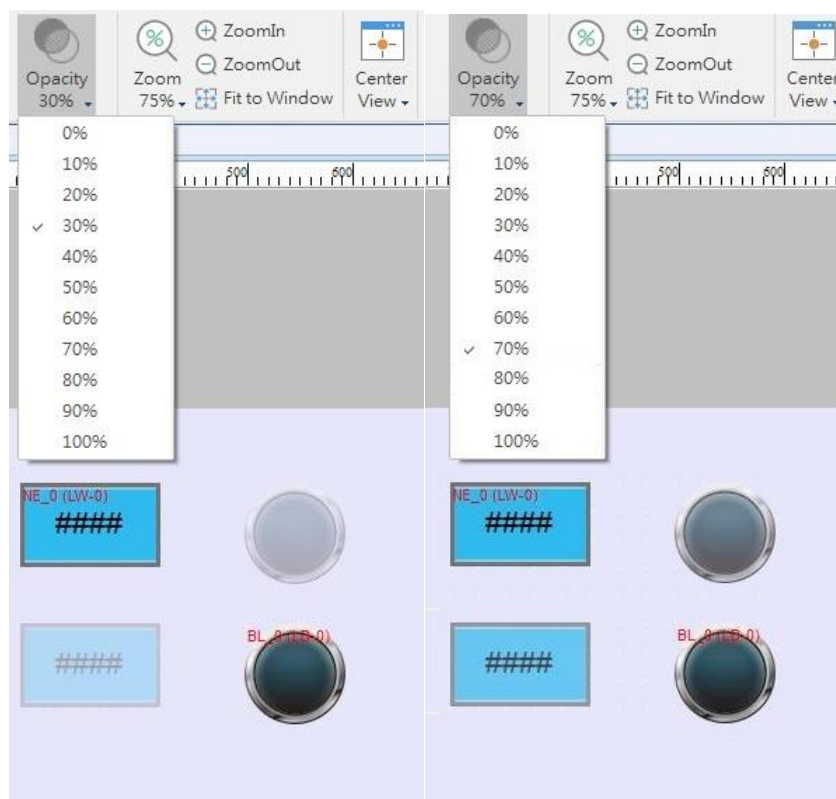
- In the windows tree, select the window number; right click, and then select [Close] or [Delete].
- In [View] » [Open Window] select the window number and then click [Delete].

## 6.4. Window Transparency

The Opacity setting in the View tab is used to adjust transparency effect of the common window, overlay windows, and window layers.



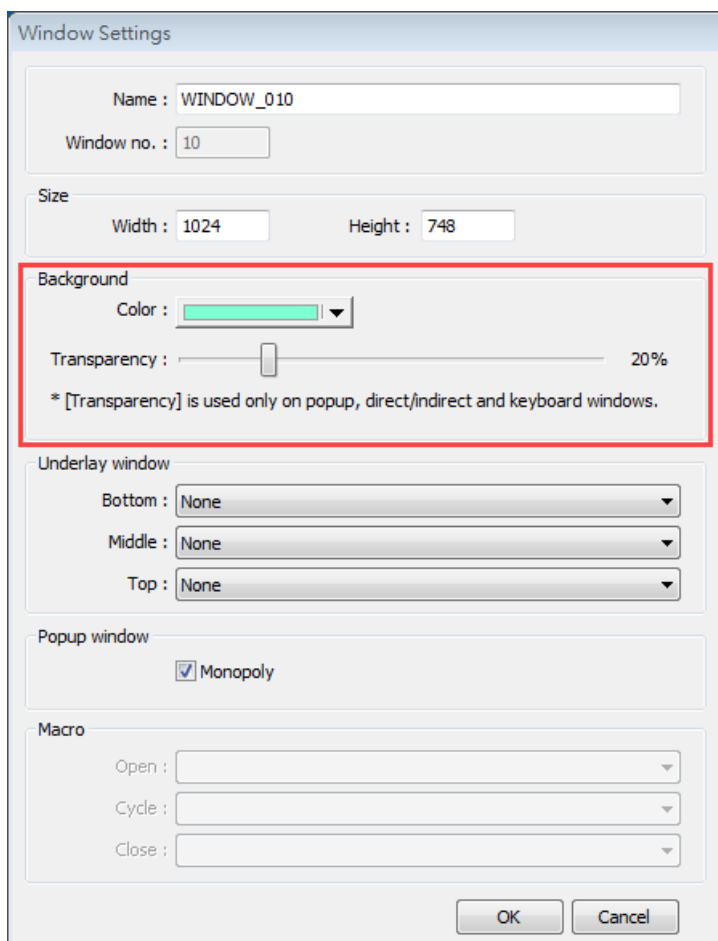
As shown in the following screenshots, greater Opacity makes the object in the relevant window more visible.



Additionally, the cMT / cMT X Series models support setting window transparency. This setting is applicable for popup windows, Direct / Indirect Windows, and keyboard windows. The settings dialog box and the effect are shown in the following screenshots. Greater transparency

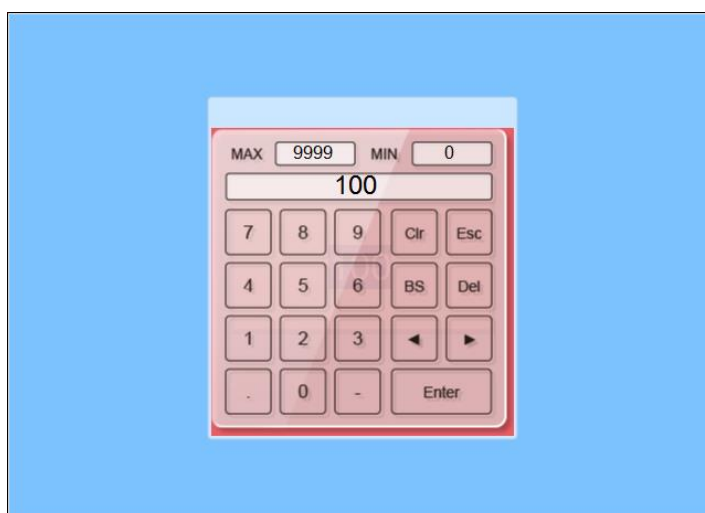


can make the object on the base window more visible when it is covered by the popup window.

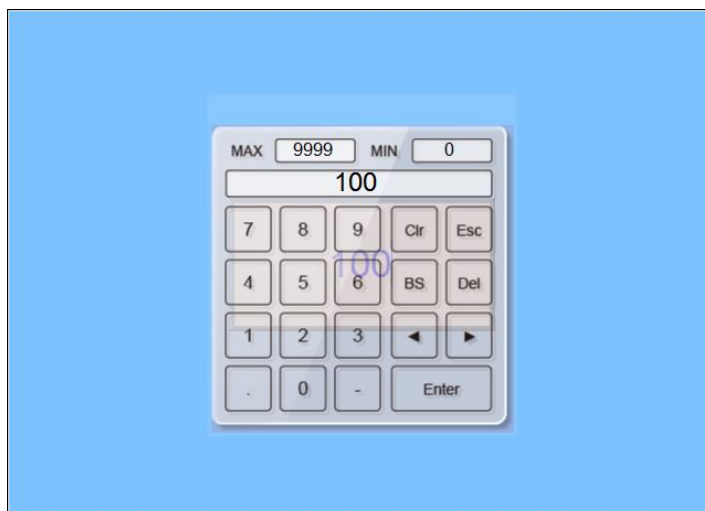


### Example

Setting transparency to 40%:



Setting transparency to 90%:

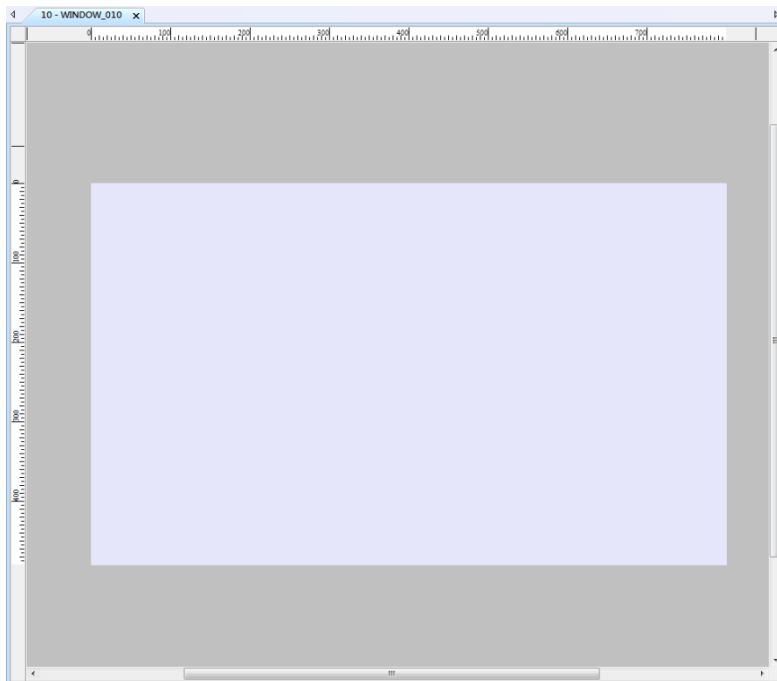


## 6.5. Editing Tips

EasyBuilder Pro provides a user-friendly interface with which users can easily edit projects. The following are some editing tips.

### 6.5.1. Non-display Area, Select Tool, and Hand Tool

As shown in the following screenshot, two areas can be found in the editing window: editing area and non-display area. The non-display area refers to the area outside the editing area (the one in the middle). Objects placed in the non-display area will not be visible on HMI, and communication with devices continues. The invisible objects such as Meter, Time-based Data Transfer, or Text objects used for comments can be placed in this area to avoid overlapping with other objects in the editing area, which adds difficulty to project editing. The objects placed in the non-display area remain effective.



### Select Tool

Clicking this icon in the toolbar changes the cursor to the Select Tool. Select a single object by clicking it, or select multiple objects by clicking on an empty part of the editing screen and then drag a box around the objects.



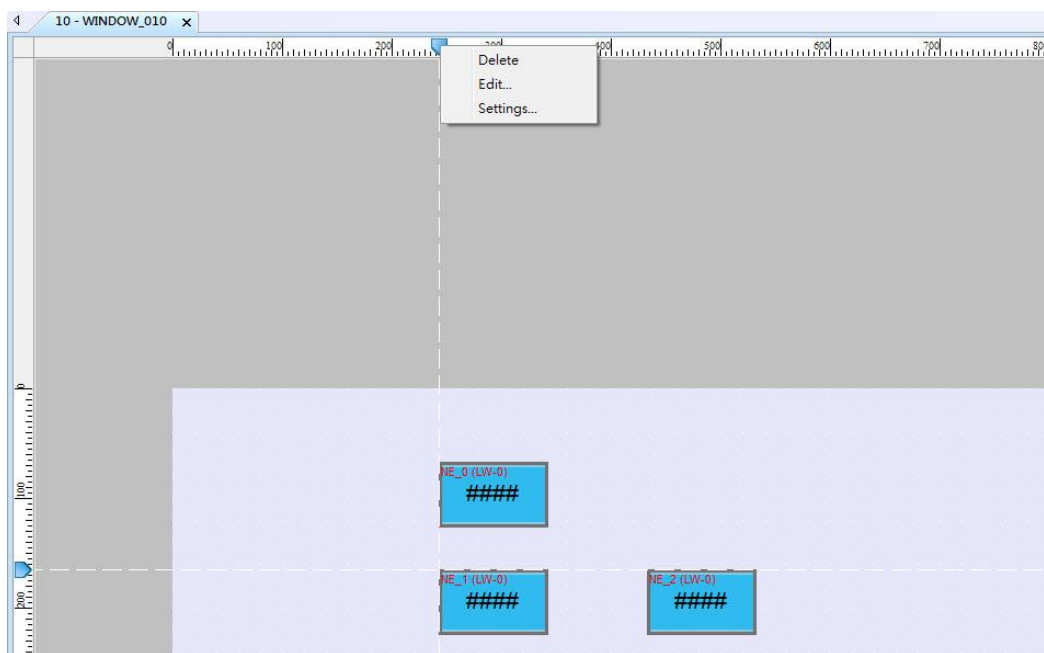
### Hand Tool

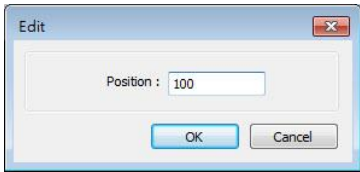
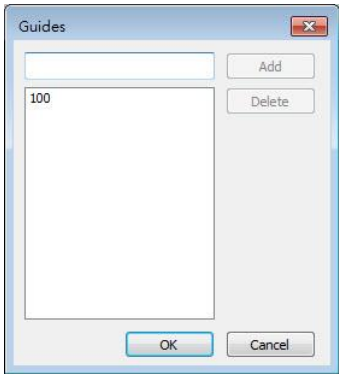
Clicking this icon in the toolbar changes the cursor to the Hand Tool. The Hand Tool allows moving through the project screen by simply left clicking the mouse and dragging anywhere.

## 6.5.2. Ruler

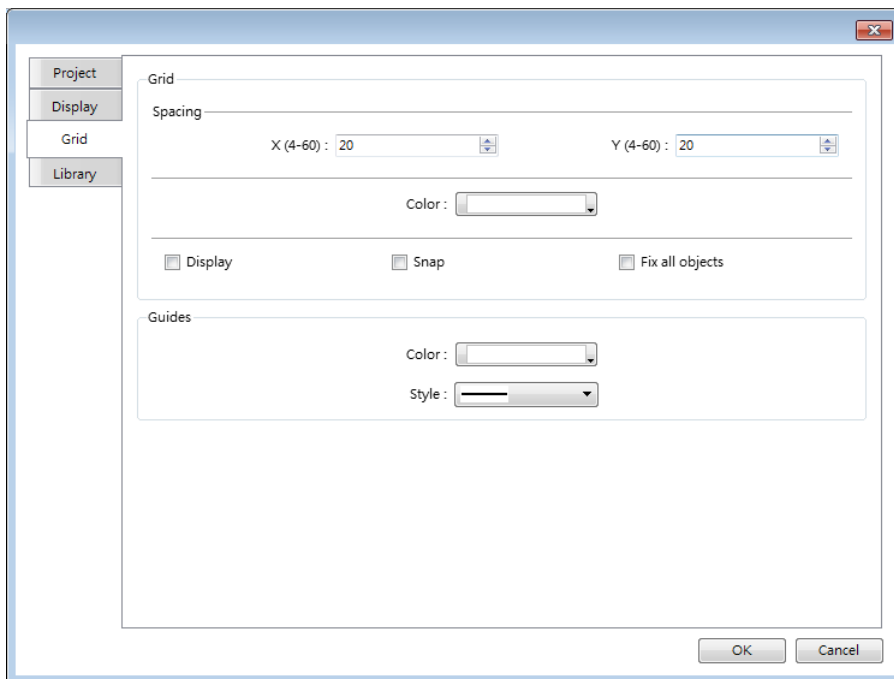


Selecting [View] » [Ruler] adds rulers to the top and left of the editing screen. Guides can be added from the ruler by right click on the ruler. Objects will automatically snap to the guides when moved or resized.



Setting	Description
<b>Delete</b>	Delete the guide.
<b>Edit</b>	 <p>Adjust the position of the guide.</p>
<b>Settings</b>	 <p>Add or delete multiple guides.</p>

Selecting [File] » [Preferences] » [Grid] opens the following window for setting the color or style of the Guides.



### 6.5.3. Quick Copy

Quick copy can be carried out by pressing and holding Ctrl key on the keyboard while an object is selected, and then drag the cursor to a new location where the object will be created.

