

Chapter 10. Security Levels

Security level which raises the safety of a project is as the admission for users to access to projects or windows. When setting the attributes of the window, we can see the selection of security level which displays as below:

The screenshot shows a 'Window Setting' dialog box with the following fields and options:

- Name:** WINDOW_011
- Window no.:** 11
- Start Pos.:** X: 0, Y: 0
- Size:** Width: 640, Height: 480
- Style:** Tracking, Monopoly, Clipping, Coherence
- Security level:** Lowest
- Underlay window:** 1: None, 2: None, 3: None
- Frame:** Width: 4, Color: white
- Background:** Color: black, Pattern: black, Filled, Pattern color: blue

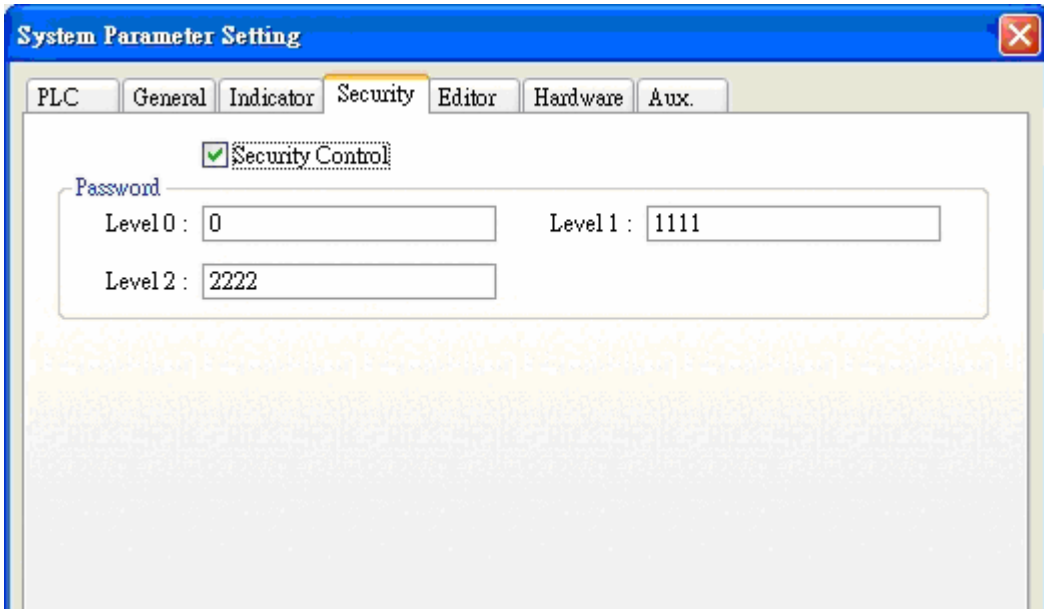
Buttons: OK, Cancel

Note: Security level is only valid for base window but not for other windows.

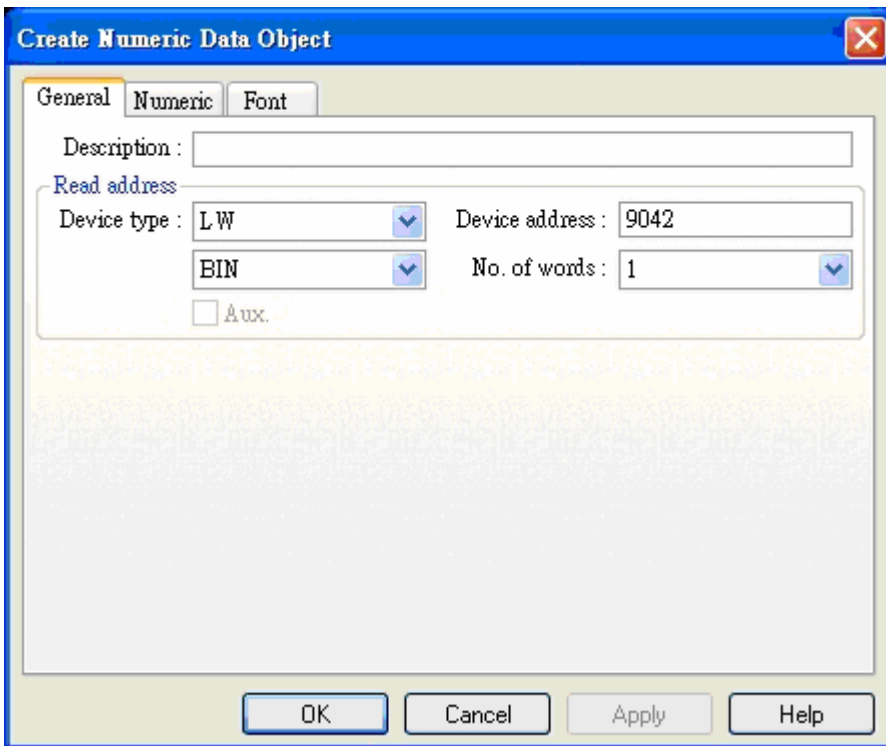
There are 3 levels in a project. Level 0 is the lowest level of security (all have access to these windows regardless of the password), Level 1 is a middle level allowing access to level 1 and level 0 windows. Level 2 is the highest level of security and can access all levels. For example, we can set the security of the most important switches as highest level so that general users are not allowed to access these important switches.

Here we take an example of security level:

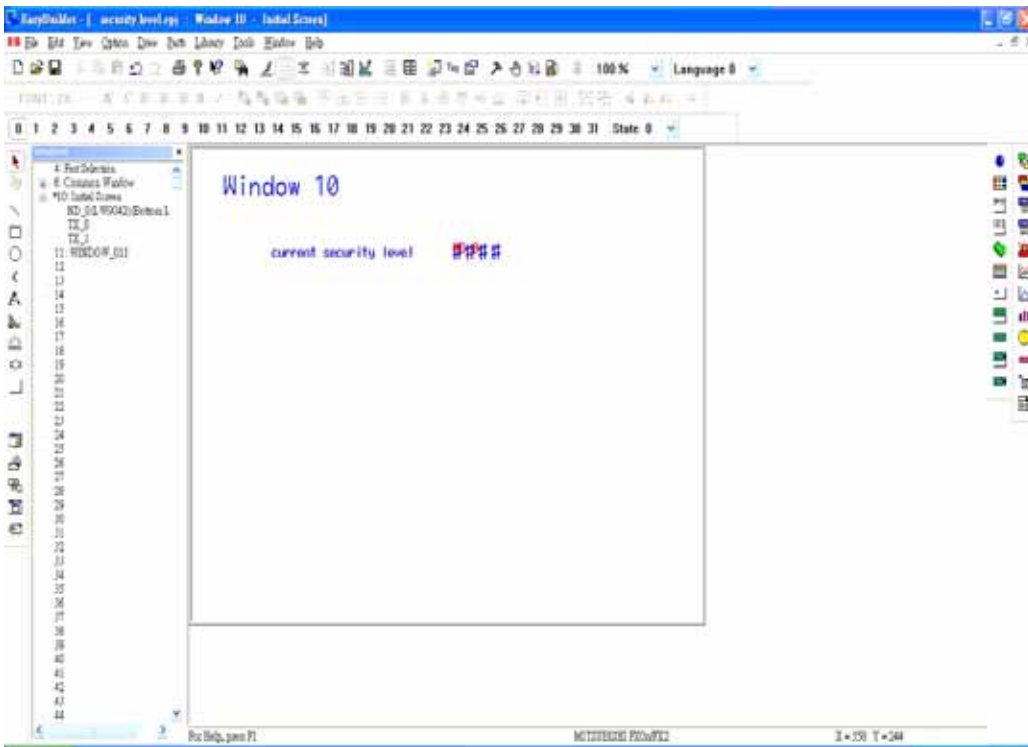
Select [File]/[New] to create a new project. Check [Security Control] from [Edit]/[System parameters]/[Security] and then set the passwords for different 3 levels. 1111 is given to level 1:



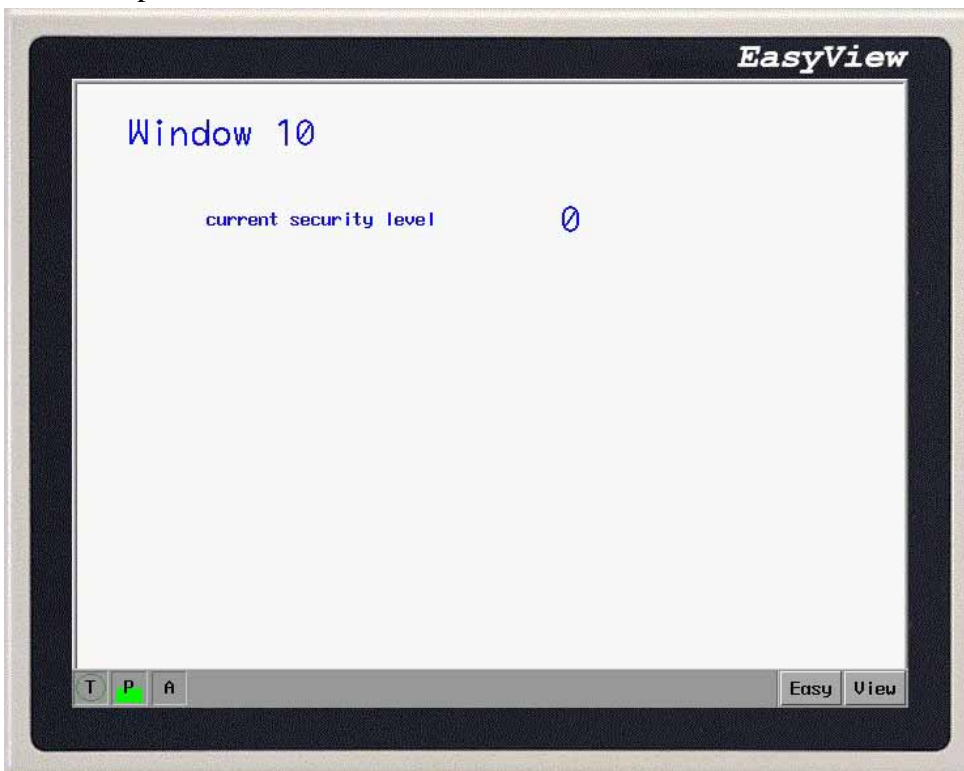
System register LW9042 displays the security level of the active base window and just can be read out not be written in. Create a Numeric Data object and place it on window 10 to display the current security level showed as below:



The whole project is as follows:



Save, compile and Off-line simulation:



Because there's no password input, the current security level must be 0.

Now, create a window 11 and set the security level for 1:

Window Setting

Name :

Window no. : Start Pos. : X: Y:

Size

Width : Height :

Style

Tracking Monopoly Clipping Coherence

Security level

Underlay window

1: 2: 3:

Frame

Width : Color :

Background

Color : Pattern :

Filled Pattern color :

Create a function key on window 10, the attributes display as below:

Create Function Key Object

General Shape Label

Description :

[ENT] [BS] [CLR] [ESC]

[ASCII] Hard copy

Change window Return to previous

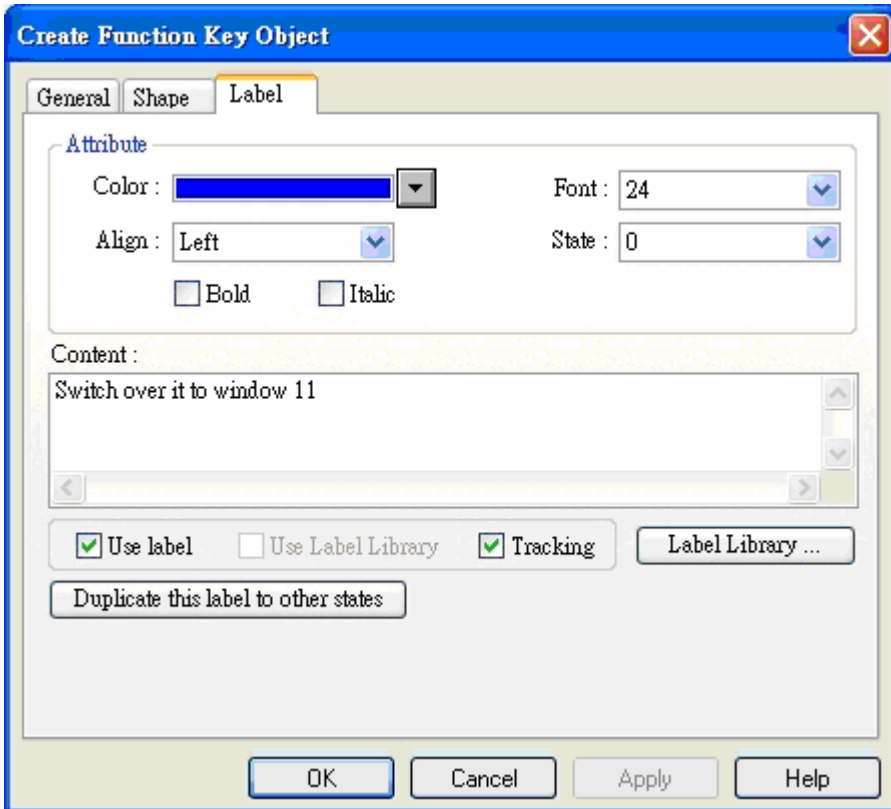
Change common window Window no. :

Popup window Close window

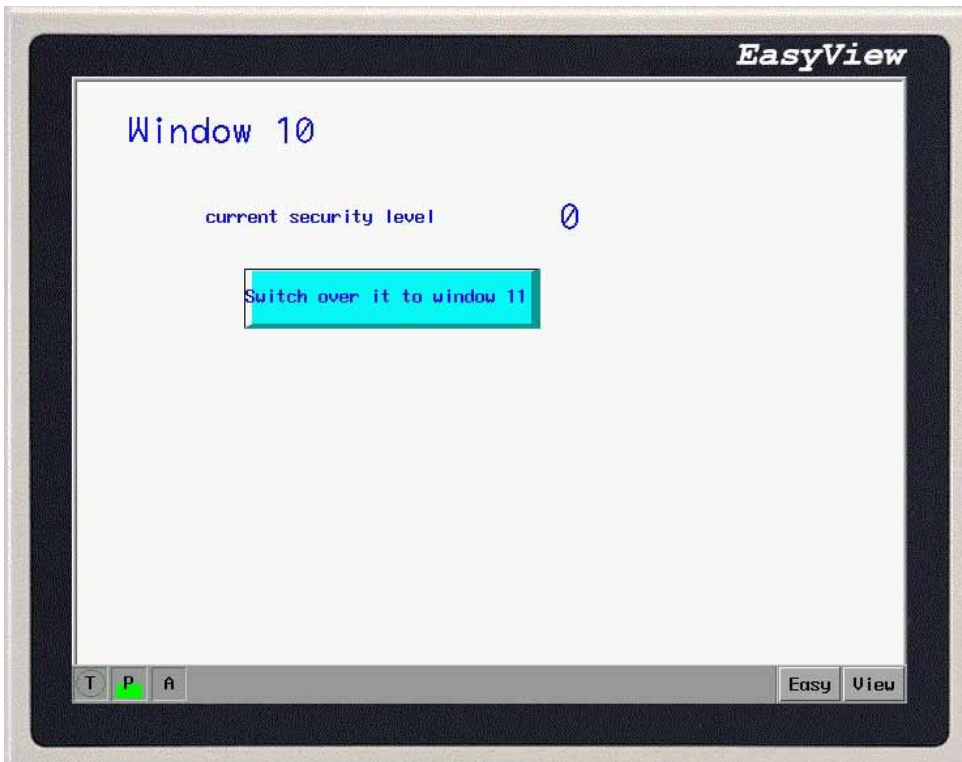
JOG FS-window

Window bar Minimize window

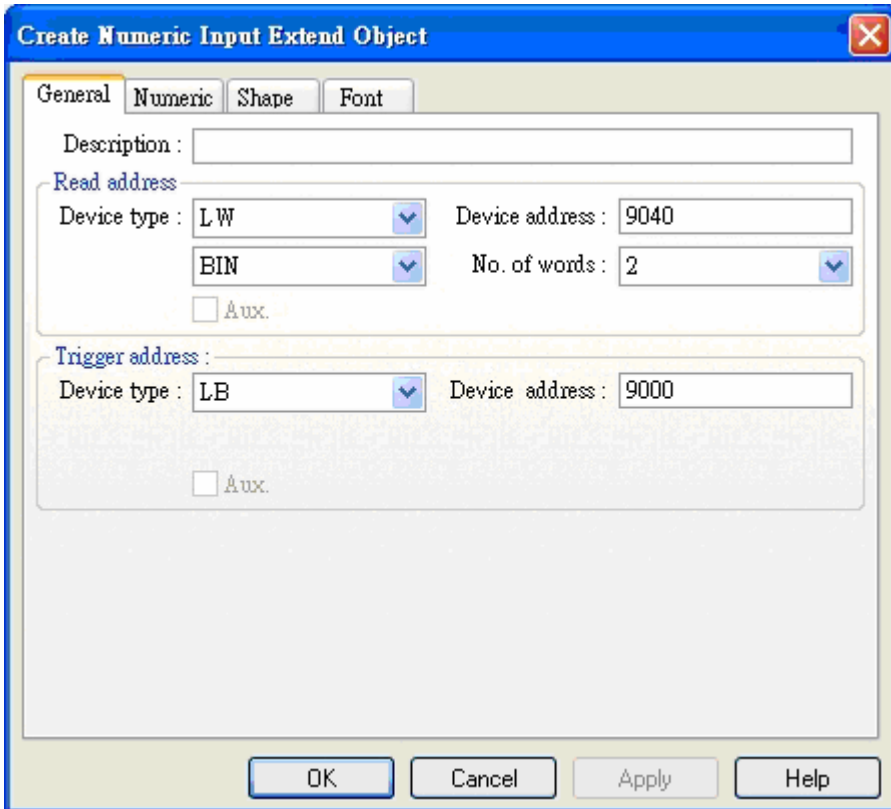
Message board



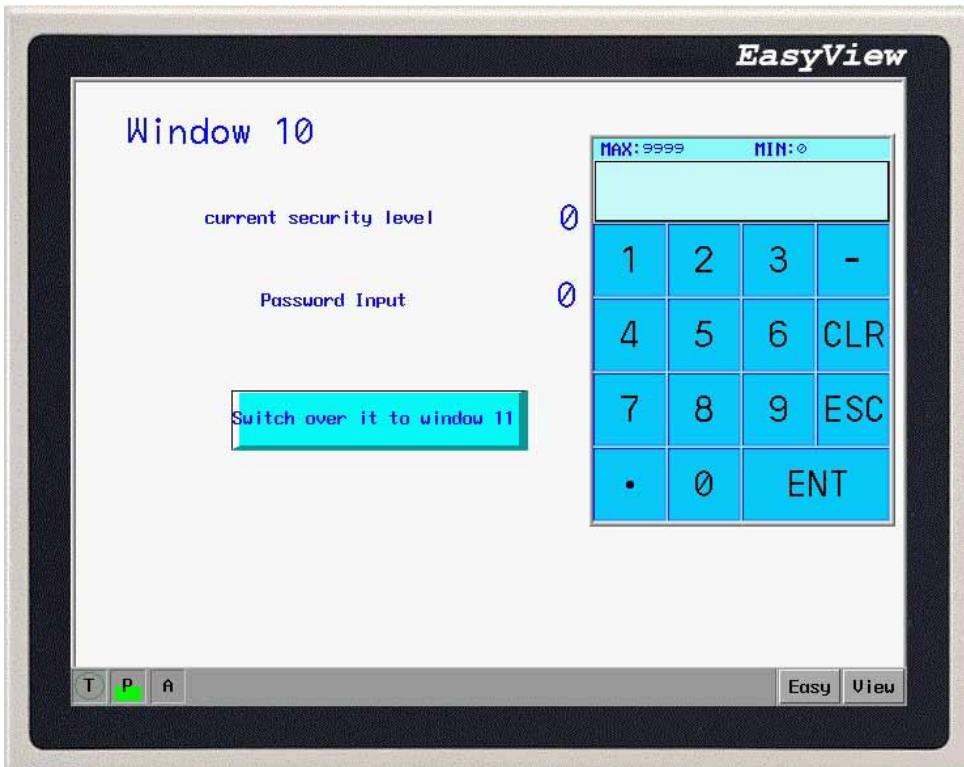
Save, compile and Off-line simulation:



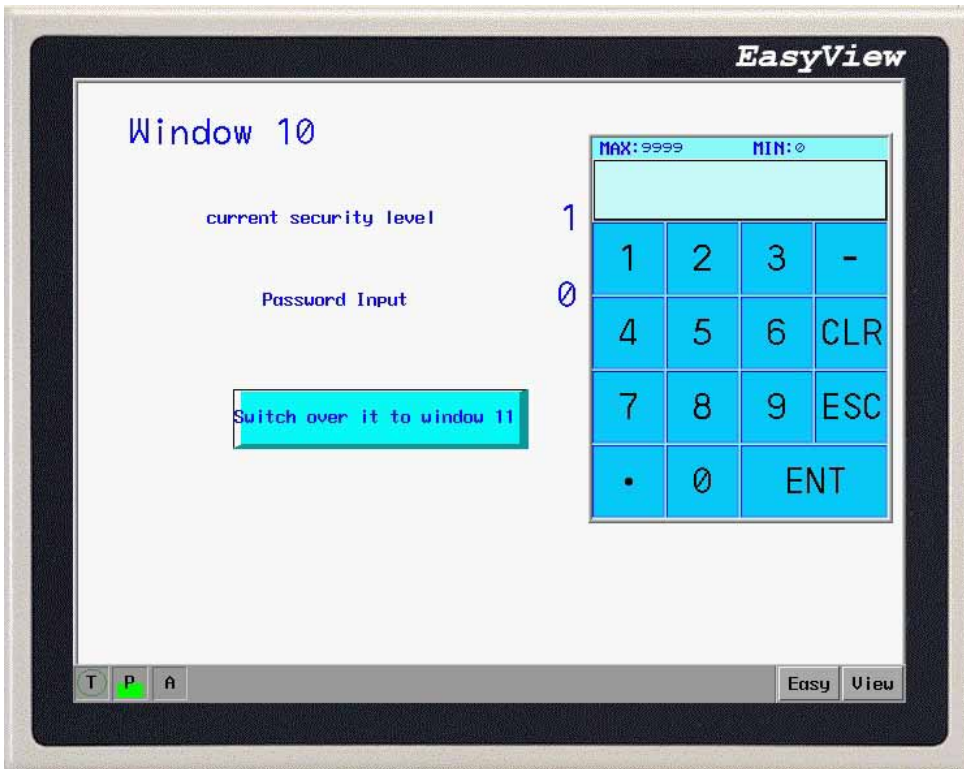
When we press function key, we are not allowed to switch to window 11. The reason is because the current security level is 0 but the security level of window 11 is 1. Lower security level can't access to higher security level. We are allowed to enter higher security level by inputting password. System register LW9040-LW9041 are for setting password. Add another Numeric Data object on window 10:



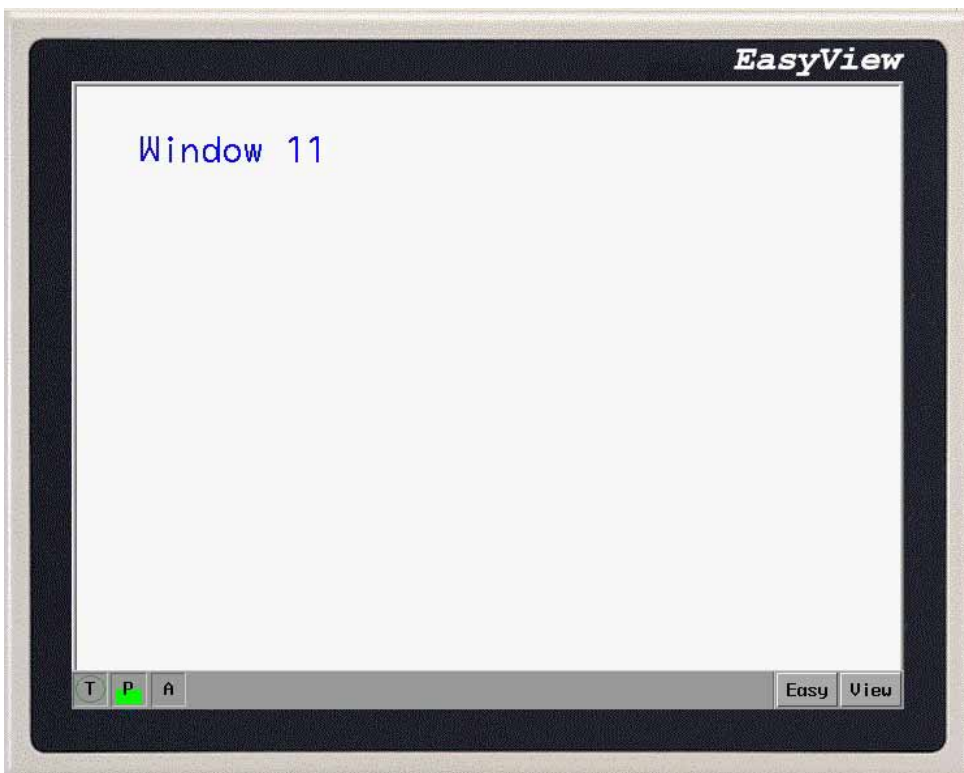
Note: The system is kept register LW9040-LW9041 the introduction password, number is double word. Add a Numeric Input object, Save, Compile and Off-line simulation:



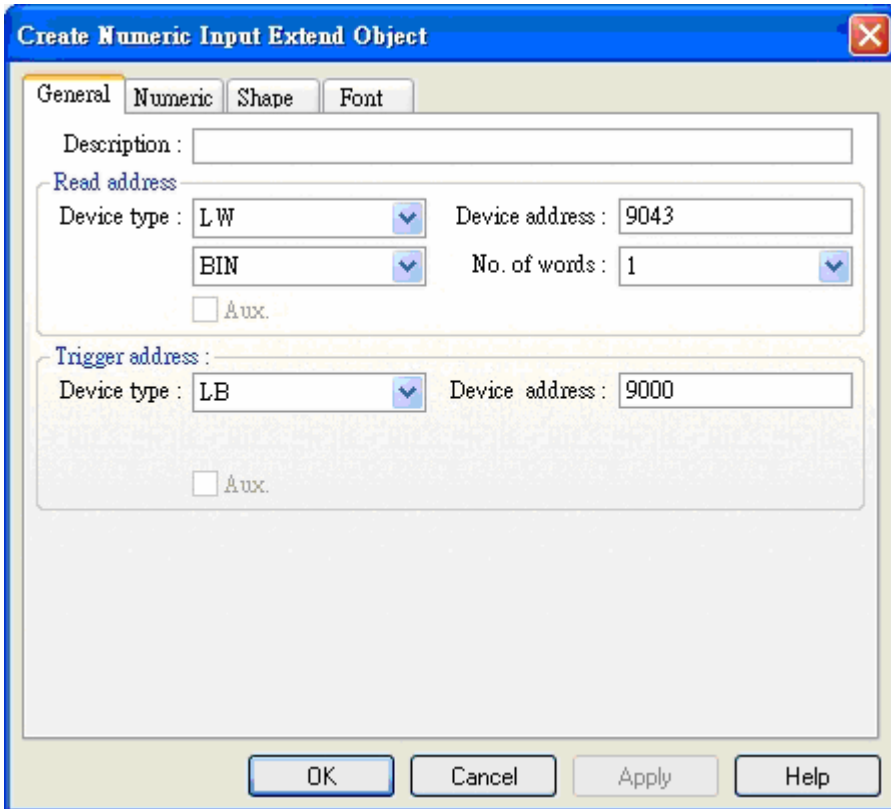
Now, if we input password 1111, the current window will be switch to level 1.



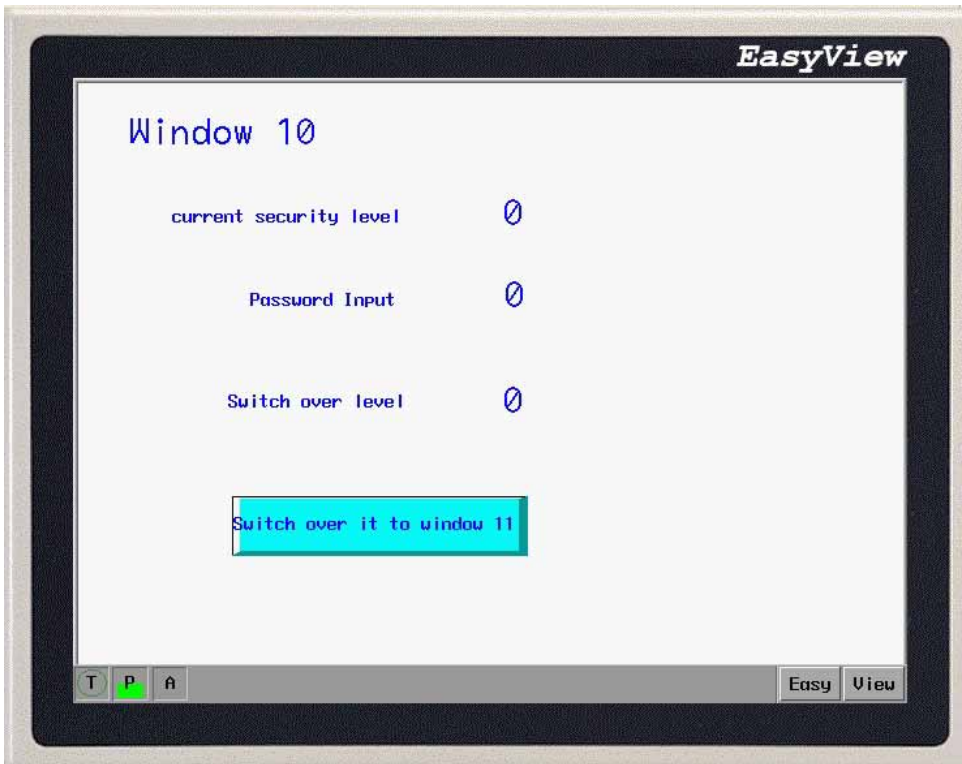
Press the switch window button under security level 1, window is successfully changed to window 11:



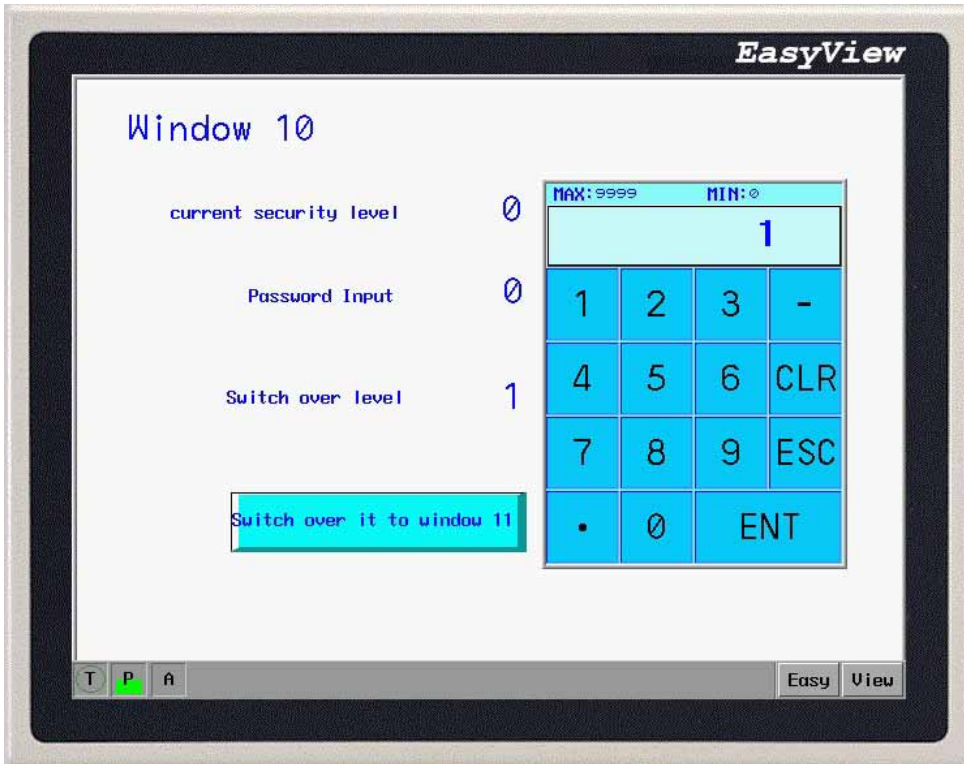
However, how to switch the higher level security to lower level security? LW9043 allows the project to force the HMI to a lower security level. Add a Numeric Data on window 10 as below:



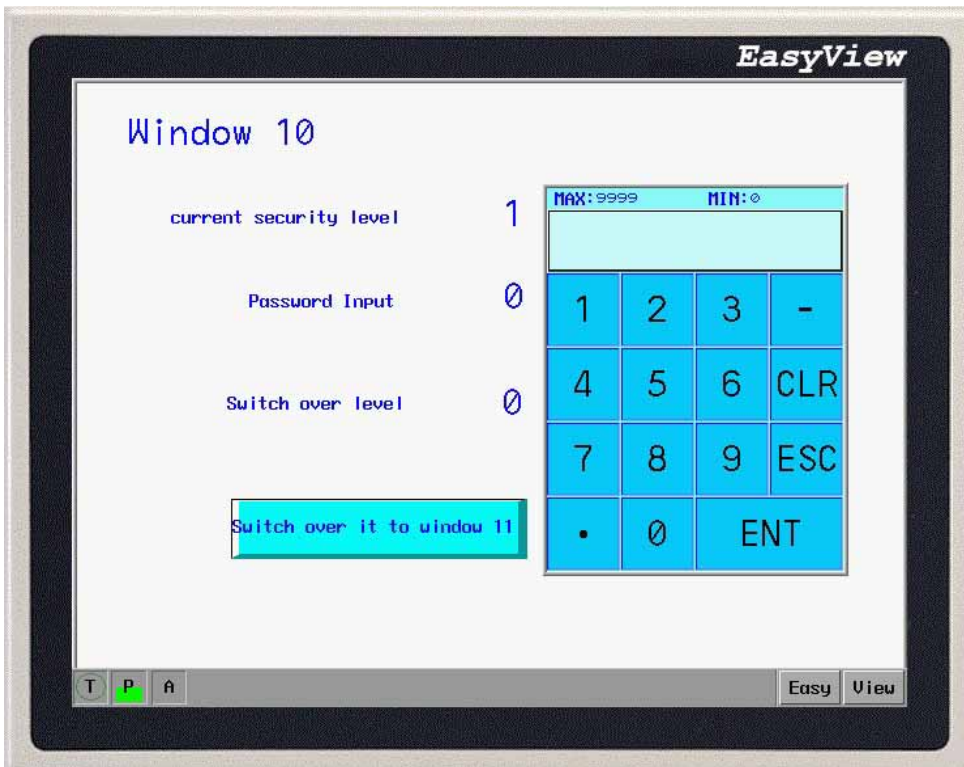
Save, Compile and Off-line Simulation:



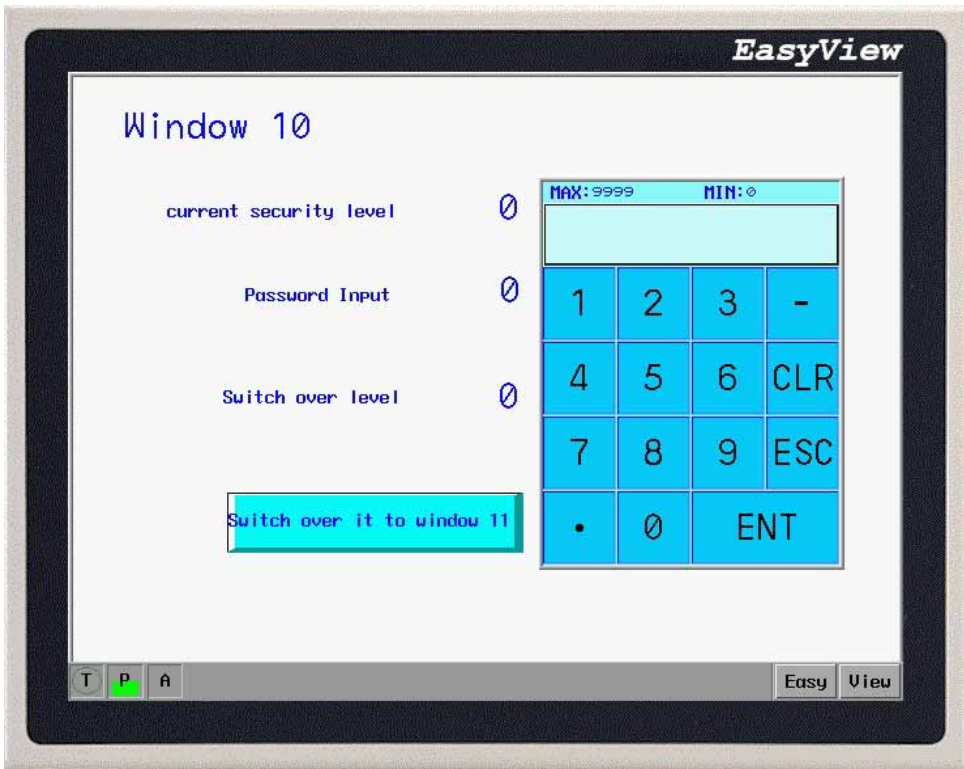
Input 1 into Change level but current level doesn't become 1. A lower level can't be force to higher level.



Now, we input password 1111 to change the current level to 1:



Press function key to switch window 11. If we set 0 for change level, the current level becomes 0 and we can't switch the current window to window 11.



It raises the system safety to apply the reasonable password security level to the projects by different permissions for different operators.