Title: How Do I Set a Password for a Window in the HMI500 Family?

Article Number: TN1074
Date: 03/03/06

Information in this article applies to:

EZware-500

HMI Product(s)	Controller (PLC) Product(s)
HMI500 Silver Series	All

Summary

EasyBuilder provides the ability to restrict access to window screens so that only authorized personnel can view them. Three security levels are available: Level 0 (Low), Level 1 (Middle), and Level 2 (High). You must perform the following three steps to use the Window Security Level feature:

1. Assign passwords to the upper two levels of security access. (Typically level 0 is left as a blank password (disabled) to allow for general access to the main screens.

2. Assign a security level to each of the window screens to be protected.

3. Create a Numeric Input Object that allows you to enter your password to access the page.

Solution

To assign Window Security Level passwords

1. From the **Edit** menu, select **System Parameters**.

2. On the {**Security**} tab enable the Window Security Level feature, by checking the '**Security Control'** check box.

3. The '**Password'** frame box appears with the current passwords for the three security levels.

4. Each password can have a value of 0 (indicating no password is assigned to that level) or 1 to 4,294,967,295. After entering a password for each level, click **OK** to go back to the main screen of EasyBuilder.

Note *These passwords must be entered by the HMI operator to gain access to any window screens that are assigned a security level.*

To assign a security level to a window

1. All window screens are initially configured with the lowest level security access allowing general access. To change the level of access, you must change the window screen's security level in the window settings dialog box.

2. From the **Window** menu, select **Open Window**. The Open Window dialog box appears.

3. Click on the window you wish to modify, and then click the **Setting** command button. The Window Setting dialog box appears.

OR

1. From within the window tree bar listing to the left of your project window. Click once on the window to change. It will be highlighted blue.

2. Right-click with the mouse and select '**Setting'**.

In the **Window Setting** dialog, select: **Lowest**, **Middle**, or **Highest** level from the '**Security Level'** drop-down list box. Click **OK.**

To create the ability to enter a password to access the page

1. Create a special "log-in" window that contains a Numeric Input Object and keypad. The keypad can be placed on this window, or it can be made to pop-up.

2. From the **Parts** menu, click **Numeric Input**. The **Create Numeric Input Object** dialog box appears.

3. In the **Read address** frame, select local word **LW:9040**. LW:9040 is a reserved internal data register of the OIT that is used to change the window security access level.

4. Select **BIN** (binary) format. Select **No. of words:** as **2**.

5. Click the **Numeric** tab to display the Numeric form.

6. In the **Display** attribute box, select **Decimal** display or, if you wish to prevent others from seeing the password code, select **Mask** display.

7. Set the No. Above Decimal to the number of digits in your password. Do NOT set the **No. Below Decimal** setting, leave it at 0.

There are a couple of ways you can enter the password and go to a high security screen:

1. Create a special log-in numeric keypad as a pop-up keypad to allow entering numbers into the password's Numeric Input Object, (see Tech Note "**TN1071: How Do I Create a PopUp Keypad in EZware-500?"** Then create a function key object & layer it under the "**Enter**" key on your newly created keypad. This function key should Change Window to the password protected window. If the password was correct, upon pushing the ENTER key, the screen will change immediately. However, if the password was incorrect, then the user will hear a double-beep and the keypad will go-away but you will not change screens.

OR

2. On the log-in screen just have the password's Numeric Input object pop-up a standard keypad, (Typically by placing a invisible set-bit object set to LB:100=ON over the numeric input). Then after the password has been entered and the keypad goes away, the log-in screen may contain one to several function keys that go to specific high security screens.

To display the current security level on your screen:

Place a Numeric Display object looking at register LW:9042 (1-word) to display the level as 0, 1, or 2. Place a Word Lamp object (with 3 states) looking at register LW:9042 to display text, such as "General Access" for state 0, "Medium Security" for state 1, and "High Security" for state 2.

To clear the current security level when you leave a screen:

Place an invisible set-word object on the security screen's EXIT function key. Set the set-word register to LW:9043, attribute "Set Constant" and set value = 0. When the user pushes the exit key to leave the security window, the underlying set-word object will force LW:9043 to the value 0 and this forces the security level back to level 0 (General Access). The user will have to login again to enter the window.

To change the passwords while running the application:

The key element to do this is to set the system parameters to be loaded from recipe memory. To do this go to EDIT-->System Parameters-->{Hardware} tab, and change "System Parameters" setting from 'None' to '**Yes**'.

Now on a high-level screen, place two numeric input objects (and place a set-bit to LB:100=ON on top of these for the pop-up keypad to enable):

- RW:60074 (2 words) will now contain the Level 1 password
- RW:60076 (2 words) will now contain the Level 2 password

These two passwords can now be changed. This however will only change the storage register for the new passwords. The new changed password will not be implemented

until one of the following happens:

1.) The HMI resets (via power-down/power-up OR by placing a set-bit object on your screen to force LW:9045 to ON, this will force the HMI to reset)

OR

2.) The system parameters must be loaded from the recipe word area. (To do this you must place a set-bit object to force LW:9044 to ON) When pushed, this will force the changes in the recipe word area to reload into the system parameters. In this case the HMI does not RESET, but the new password values will become activated.

More Information

Reserved local word registers related to the **Window Security Level** feature:

- LW:9040 is a 32-bit (2 word) write only register which is used to input the password value.

- LW9042 is a 16-bit Read Only register which always shows the current window security level: 0, 1, or 2.

- LW9043 is a 16-bit Read/Write register that quickly 'forces' the window security level to a lower level by entering the level number. For instance, if the current security level is Level 2 (the highest security level), you can move quickly from this level to Level 1 or Level 0 by entering the number 1 or 0 respectively into this register- no password is required. This feature enables someone who has the highest security level to switch the OIT to a lower level without having to memorize all three passwords.

** Password protected screens only work for screen changes to a full size (base) window. A pop-up window or any window smaller than the full size base window will not be protected, even if its window security is set to a higher level.

For more information regarding custom keypads, please refer to Chapter 5, *Setting the Window Security Level* in the **HMI500 Series Installation and Operation Manual** that is supplied on CD ROM with the EZware-500 configuration software.

Additional query words: security, passwords

Keywords: security, passwords

Last Reviewed: March. 02, 2006

FOR DOCUMENT CONTROL USE		
Brief Description:_ Setting a password for HMI500 Series		Author: J. Goss
Changes Approved: Yes		Status: ☐ WIP ☒REL
Comments:		