分類/Classification	☐ tDS ☐ tGW ☐ PETL/tET/tPET ☐ DS/PDS/PPDS ☐ tM-752N ☐ I/O Card ☐ VXC Card ☐ VxComm ☑ Other (TouchPAD)				
作者/Author	Tammy	日期/Date	2015-08-06	編號/NO.	FAQ020

Q: How to access the same Modbus RTU devices by using two TouchPAD?

A: Follow the procedure described below:

The wiring diagram is as follows:

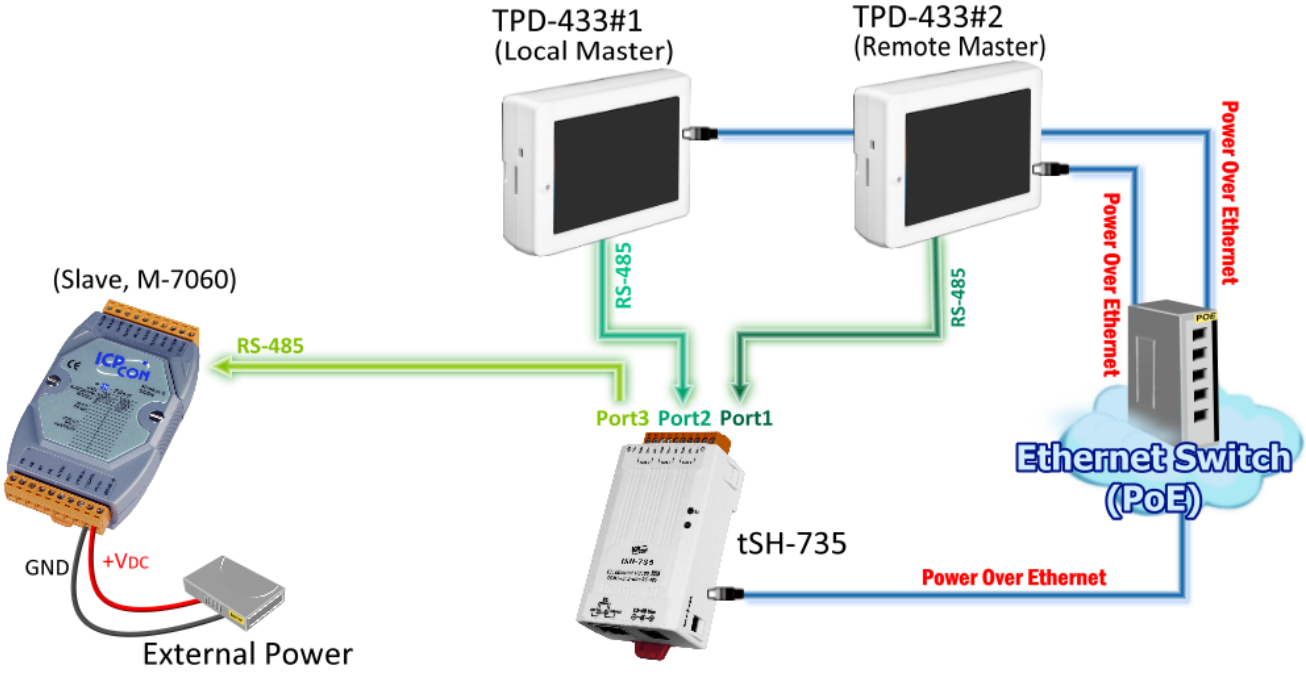


Table1-1: Configuration Table

Model	Baud Rate	Data Format	Timeout	Connect to	tSH-735				
					COM Port	Baud Rate	Data Format	Application Mode	Timeout
TPD-433#1	9600	8N1	400 ms	←→	Port 1	9600	8N1	RAW Data	200 ms
TPD-433#2	9600	8N1	400 ms	←→	Port 2	9600	8N1		
M-7060	9600	8N1	-	←→	Port 3	9600	8N1		

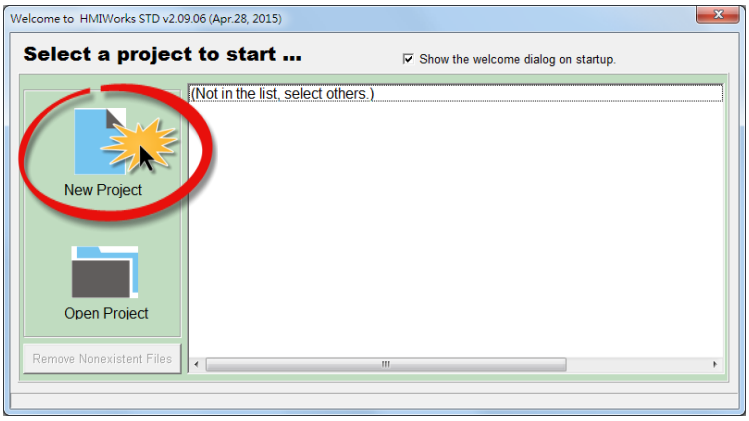
Note that detailed information about set the timeout value, refer to "Appendix: How to set the Timeout value" section in the tSH-700 Series user manual.

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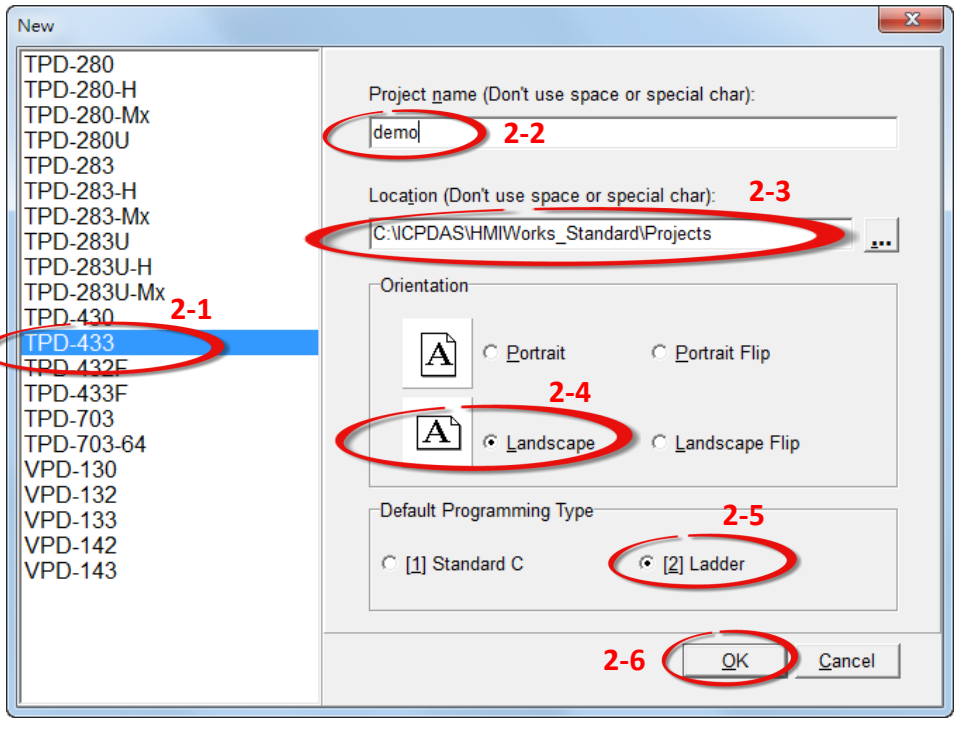
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Step 1: Create a new project on the TPD-433#1 (Local) and TPD-433#2 (Remote).

1. Open the HMIWorks software, click the **"New Project"** icon to create a new project.



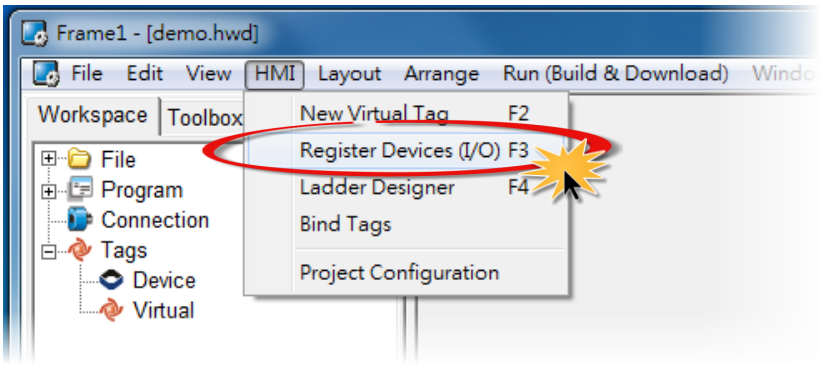
2. In the "New" dialog box, configure the parameters for the new project as follows:
   - **2-1** Click the name of the TouchPAD model to select it, TPD-433 in this case.
   - **2-2** Enter a name for the project.
   - **2-3** Select the location where the project should be saved.
   - **2-4** Select the orientation for the display.
   - **2-5** Select the Default Programming Type.
   - **2-6** Click the **"OK"** button to save the configuration and close the dialog box.



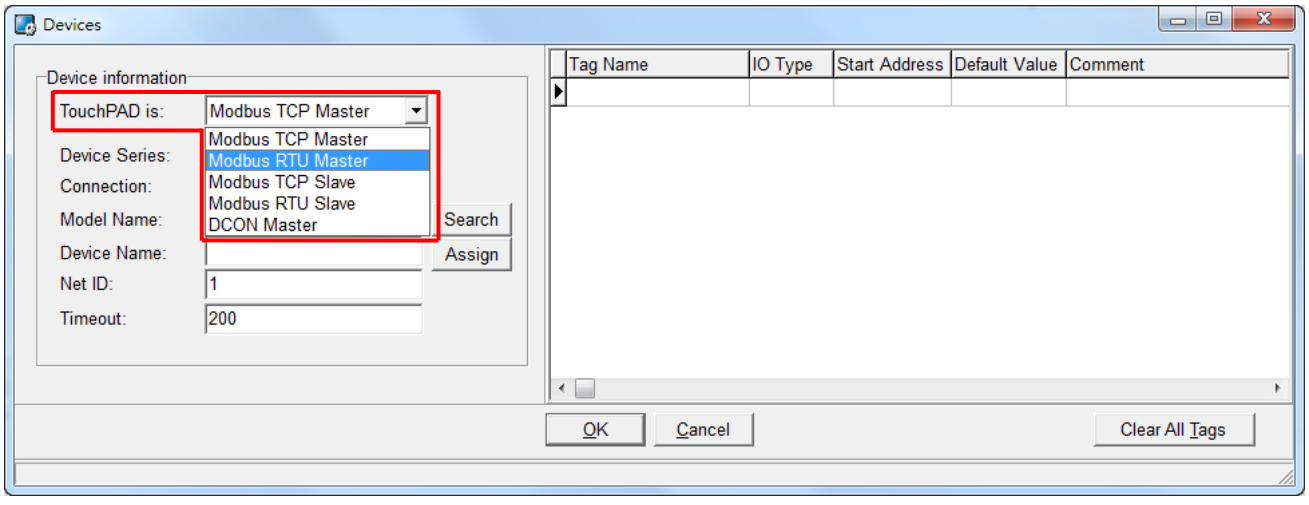
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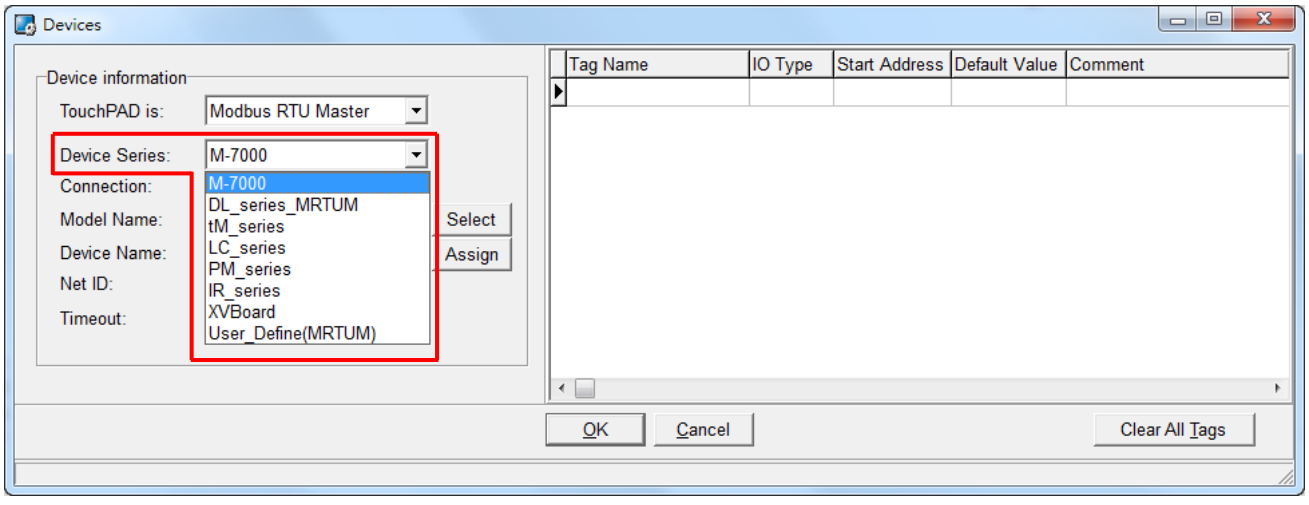
3. Click the **"Register Devices (I/O)"** option from the **"HMI"** menu to open the **"Devices"** dialog box, or press **F3**.



4. Select **"Modbus RTU Master"** from the "TouchPAD is" drop down menu.



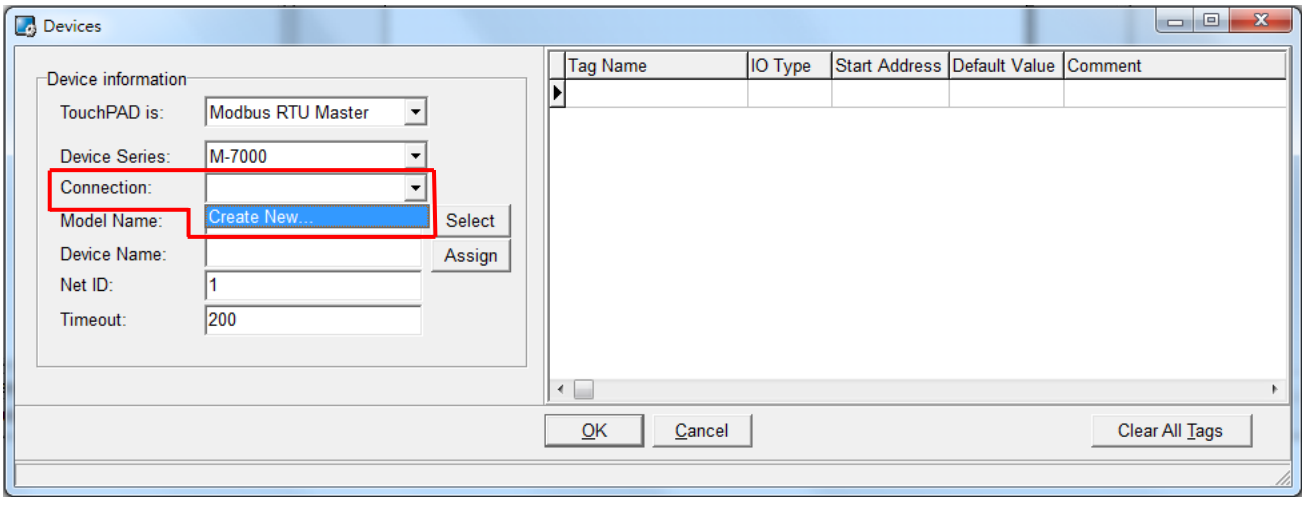
5. Select **"M-7000"** from the "Device Series" drop down menu.



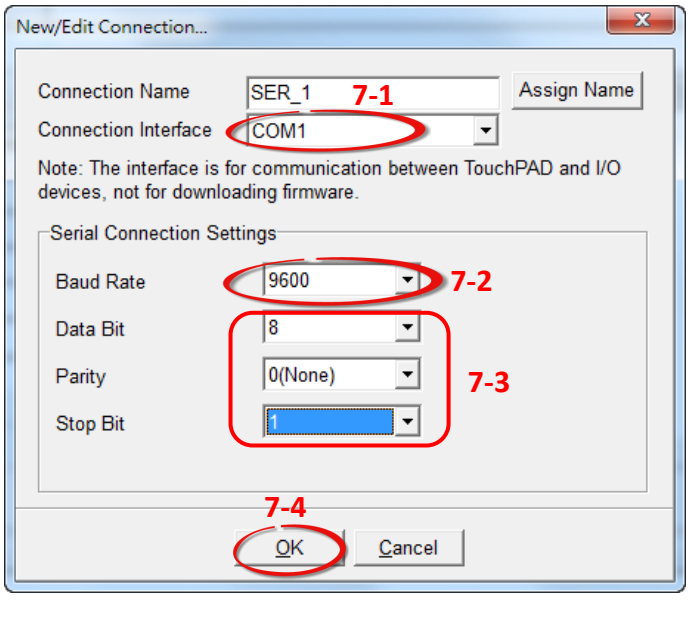
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6. Select **"Create New…"** from the "Connection" drop down menu to open the "New/Edit Connection…" dialog box.



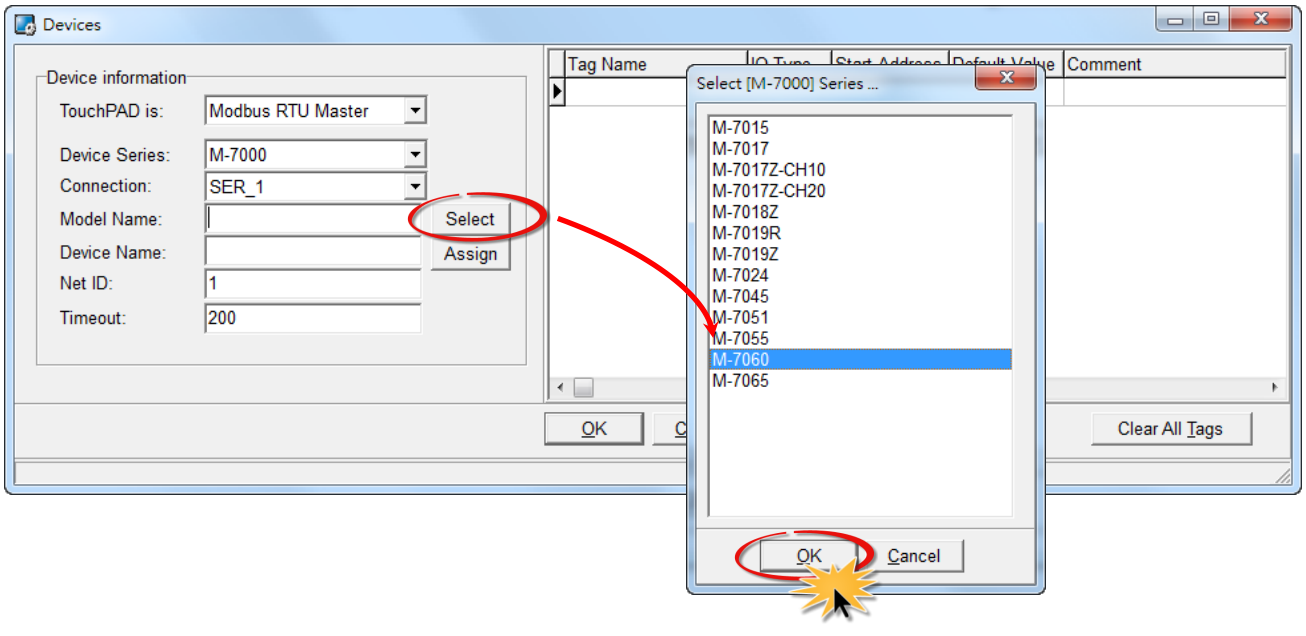
7. In the "**New/Edit Connection…**" dialog box, configure the connection information of the M-7060 module in the following manner:
   - **7-1** Select **"COM1"** from the "Connection Interface" drop down menu.
   - **7-2** Select the **Baud Rate of the M-7060** module (e.g., 9600) in the "Baud Rate" drop down menu.
   - **7-3** Select the **Data Format of the M-7060** module (e.g., 8, None, 1) in the "Data Bit", "Parity" and "Stop Bit" drop down menu.
   - **7-4** Click the **"OK"** button to save the configuration and close the dialog box.



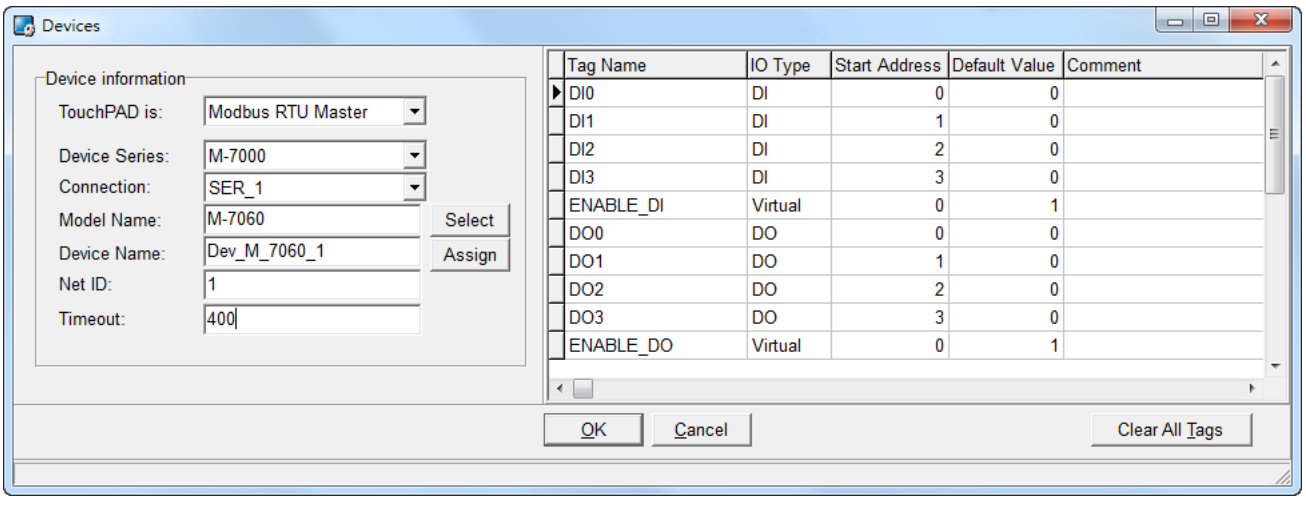
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8. Click the **"Select"** button to open the "Select [M-7000] Series…" dialog box.
9. In the **"Select [M-7000] Series…"** dialog box, select the M-7060 module and then click the **"OK"** button.



10. Verify that the **information for M-7060 module is correct** (e.g., the Device Name, Net ID, Tag Name, IO Type, Start Address and Default Value, etc.)
11. Enter the **"400"** in the "Timeout" field and click the **"OK"** button to save the configuration and close the "Devices" dialog box. *Note that detailed information about set the timeout value, refer to "Appendix: How to set the Timeout value" section in the tSH-700 Series user manual.*



The creation of the **"Dev_M_7060_1"** device is now complete.

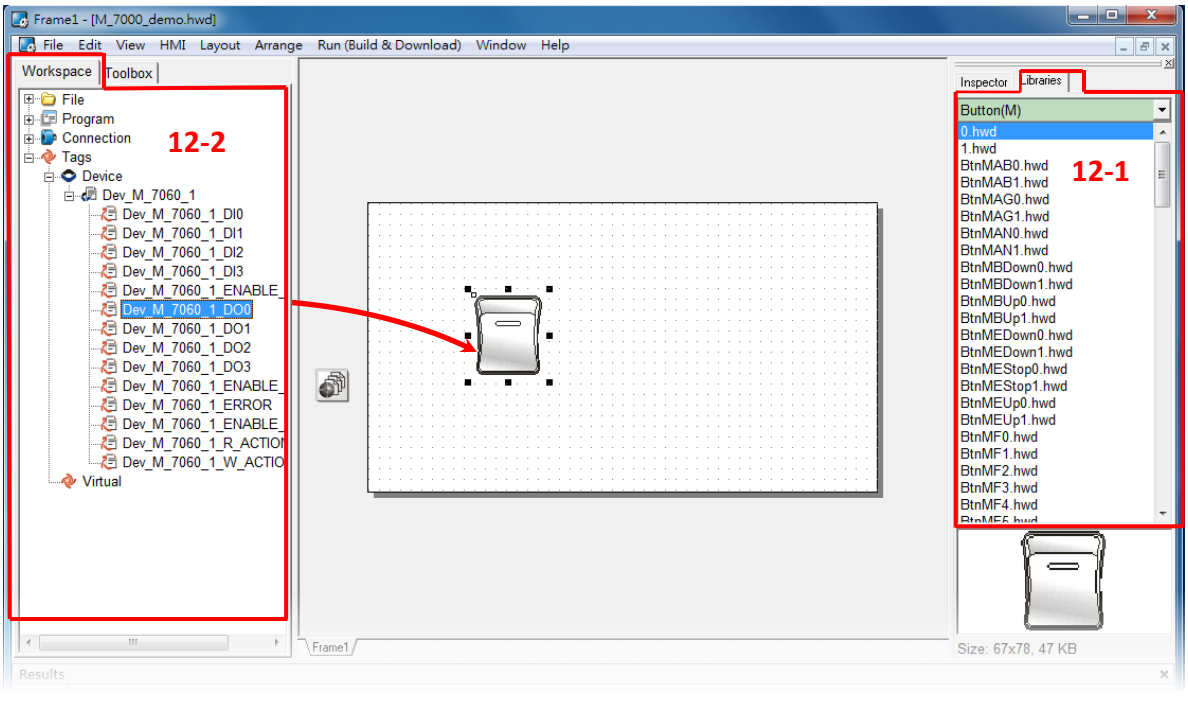
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12. Use the following procedure to create a DIO sample program:

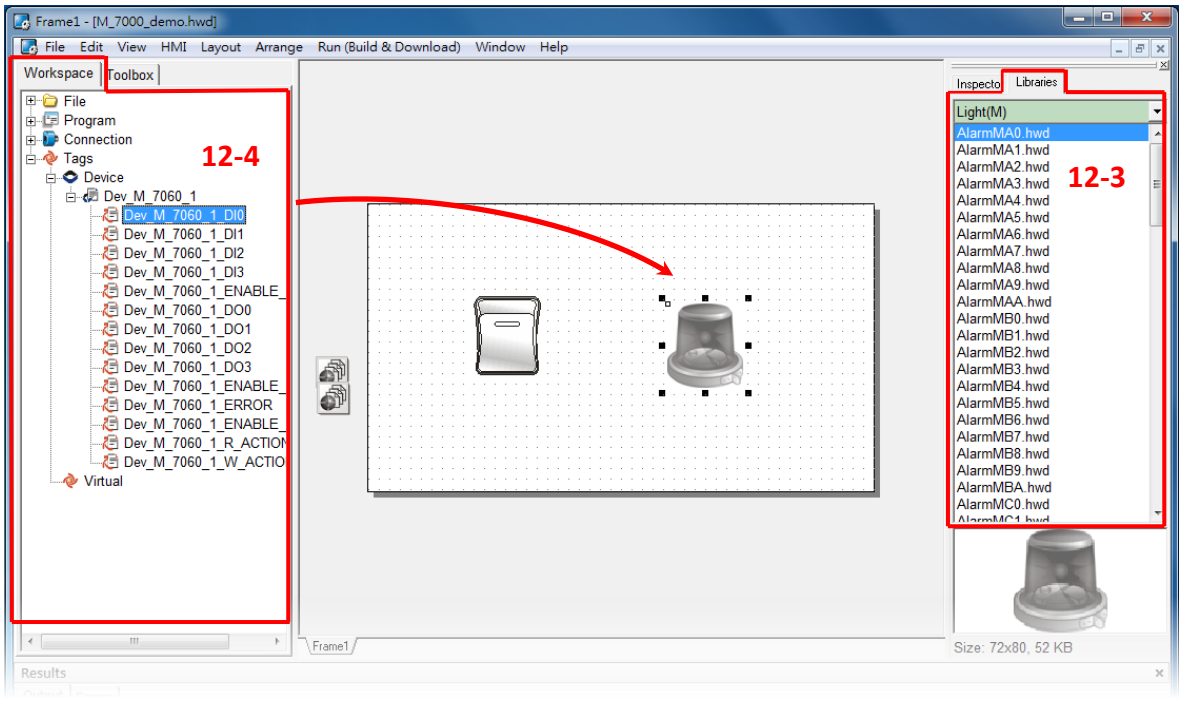
12-1 Select a “Button” object from the “Libraries” pane to represent the DO0 tag.

12-2 Drag the **"Dev_M_7060_1_DO0"** tag (DO channel 0) from the "Workspace" pane to the desired position on the design frame.



12-3 Select a “Light” object from the “Libraries” pane to represent the DI0 tag.

12-4 Drag the **"Dev_M_7060_1_DI0"** (DI channel 0) tag from the "Workspace" pane to the desired position on the design frame.

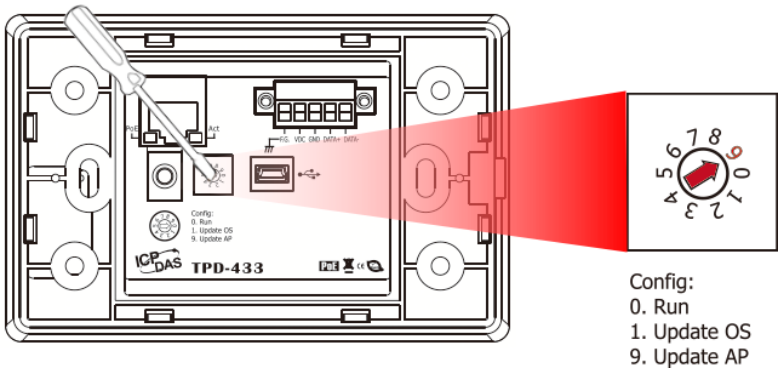


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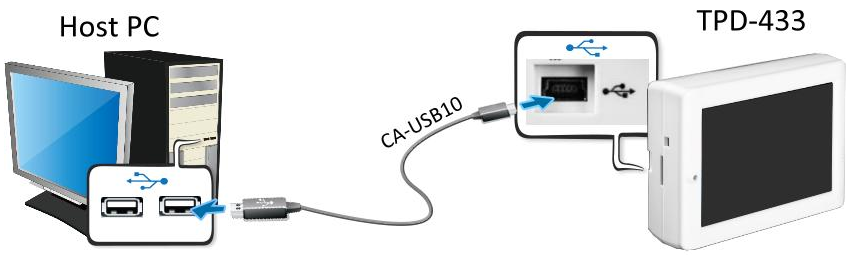
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13. Once the sample program is complete, it can be uploaded to the TPD-433#1 and TPD-433#2 modules via USB. The detailed configuration and wiring information is as follows:

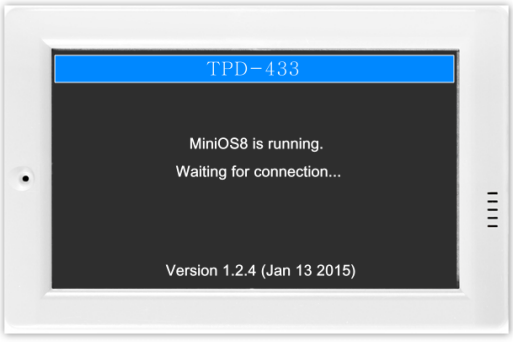
13-1 **Power off the TPD-433#1** module and use a flat-head screwdriver to set the **Rotary Switch** on the TPD-433 module to **"Update AP" mode (position 9)**. **(Repeat this step for TPD-433#2 module)**



13-2 Connect the **TPD-433#1** module to the **Host PC** using a **CA-USB10** cable, and then **Power-on and reboot the TPD-433#1** module. **(Repeat this step for TPD-433#2 module)**



13-3 The message: **"MiniOS8 is running. Waiting for connection…"** will be displayed on the TPD-433#1 module. **(Repeat this step for TPD-433#2 module)**

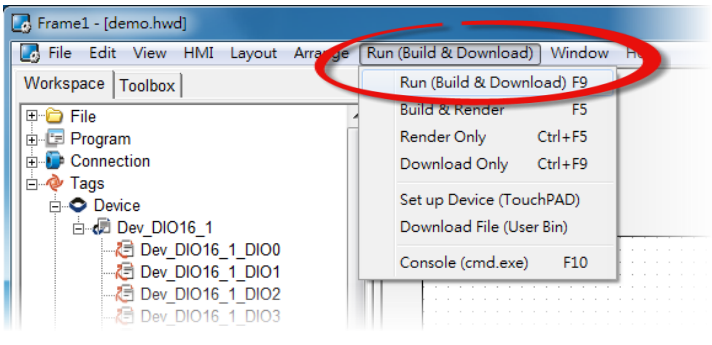


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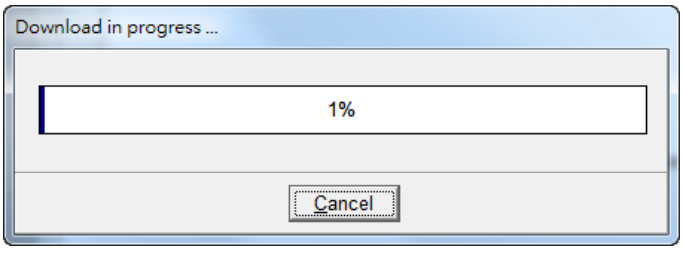
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14. The sample program can now be uploaded to the TPD-433#1 and TPD-433#2 modules. Follow the procedure described below:

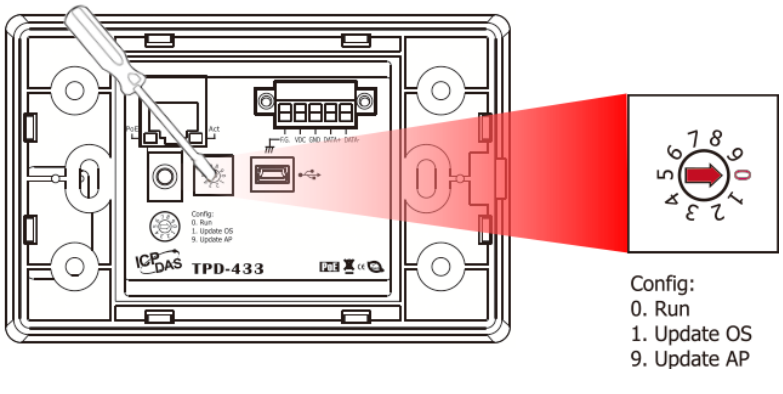
14-1 In the HMIWorks application, click the **"Run (Build & Download) F9"** item from the **"Run (Build & Download)"** menu, or press **F9** for the TPD-433#1 module. **(Repeat this step for TPD-433#2 module)**



14-2 The **"Download in progress …"** dialog will be displayed showing the progress of the update for the TPD-433#1 module. **(Repeat this step for TPD-433#2 module)**



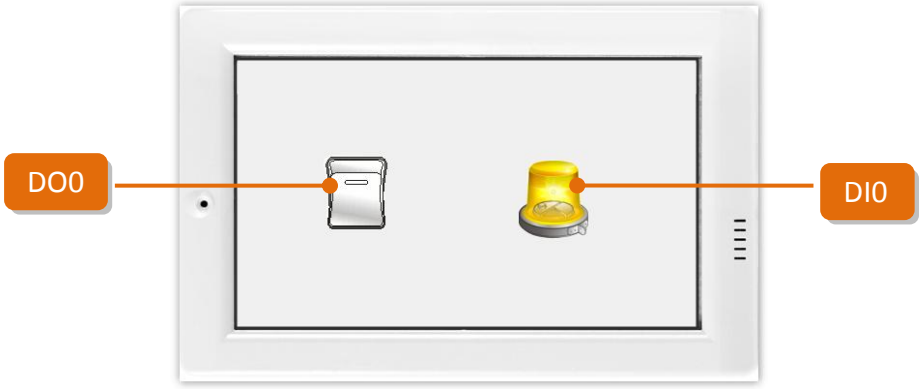
14-3 Once the upload is complete (i.e., when the progress indicator reaches 100%), power off the TPD-433#1 module and set the **Rotary Switch to "Run" mode (position 0)**.
(Repeat this step for TPD-433#2 module)



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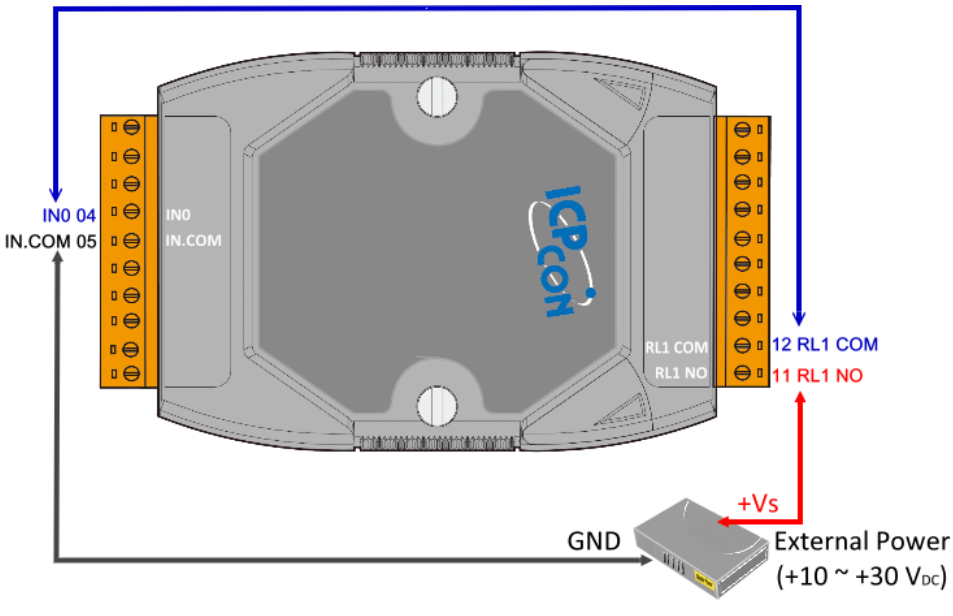
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14-4 Power-on and reboot the TPD-433#1 module so that the module is operating in **"Run" mode**. The TPD-433#1 module will then execute the DIO sample program.
(Repeat this step for TPD-433#2 module)



Step 2: Connect the DO0 and DI0 pins on the M-7060 module.

1. Connect the **RL1 COM pin** to the **IN0 pin**. (i.e., connect **Pin12** to **Pin04**).
2. Connect the **+10 V External Power** supply to the **RL1 NO pin**.
   (i.e., connect the **External + 10 V** to **Pin11**)
3. Connect the **GND pin on the External Power** supply to the **IN.COM pin**.
   (i.e., connect the **External GND** to **Pin05**)



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Step 3: Configuring Ethernet Settings for the tSH-735.

1. Connect the tSH-735 to the same hub or the same sub-network as your Host PC, and attach a power supply to the tSH-735. Refer to "**Chapter 3-Connecting the Power and Host PC"** in the tSH-700 Quick Start Guide for more detailed information.

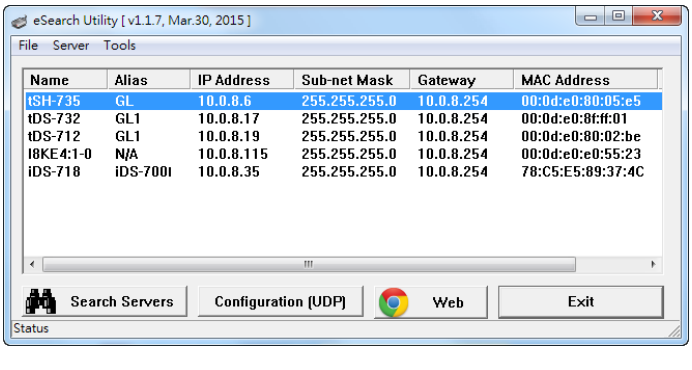
   Download the Quick Start Guide.

2. Download and Install the eSearch Utility on your Host PC, and then run the Utility to search for any tSH-700 modules connected to the network.

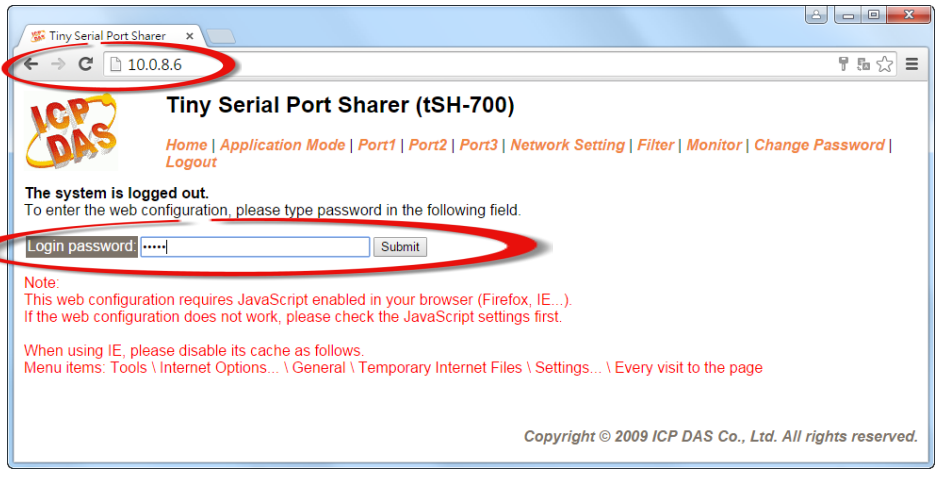
   Download the eSearch Utility.

3. Configure the correct network settings for the required tSH-700 module. Refer to **"Chapter 5-Configuring the Correct Network Settings"** in the tSH-700 Quick Start Guide.

   Download the Quick Start Guide.



4. Open a web browser, and enter the URL for the tSH-735 module in the address bar of the browser, or click the **"Web"** button in the eSearch Utility.
5. When the login screen is displayed, enter the password (use the default password: **admin**) in the login password field, and then click the **"Submit"** button to enter the configuration web page.



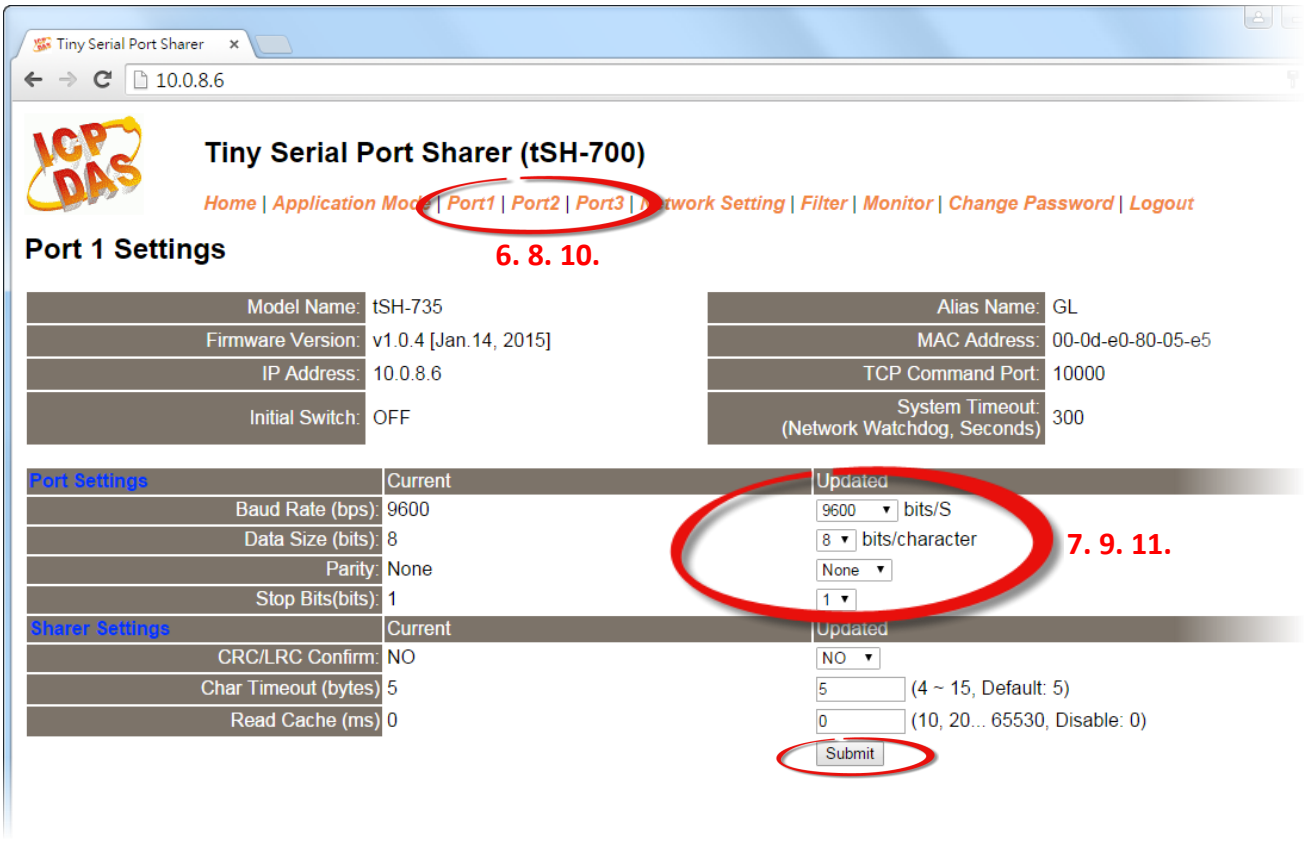
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6. Click the **"Port1"** tab to display the Port1 Settings page.
7. Select the appropriate **Baud Rate and Data Format** settings from the relevant drop down options depend on the TPD-433#1, and click the **"Submit"** button. Refer to "Table 1-1: Configuration Table" (Page 1).

8. Click the **"Port2"** tab to display the Port3 Settings page.
9. Select the appropriate **Baud Rate and Data Format** settings from the relevant drop down options depend on the TPD-433#2, and click the **"Submit"** button. Refer to "Table 1-1: Configuration Table" (Page 1).

10. Click the **"Port3"** tab to display the Port3 Settings page.
11. Select the appropriate **Baud Rate and Data Format** settings from the relevant drop down options depend on the Modbus RTU device (e.g., M-7060) , and click the **"Submit"** button. Refer to "Table 1-1: Configuration Table" (Page 1).



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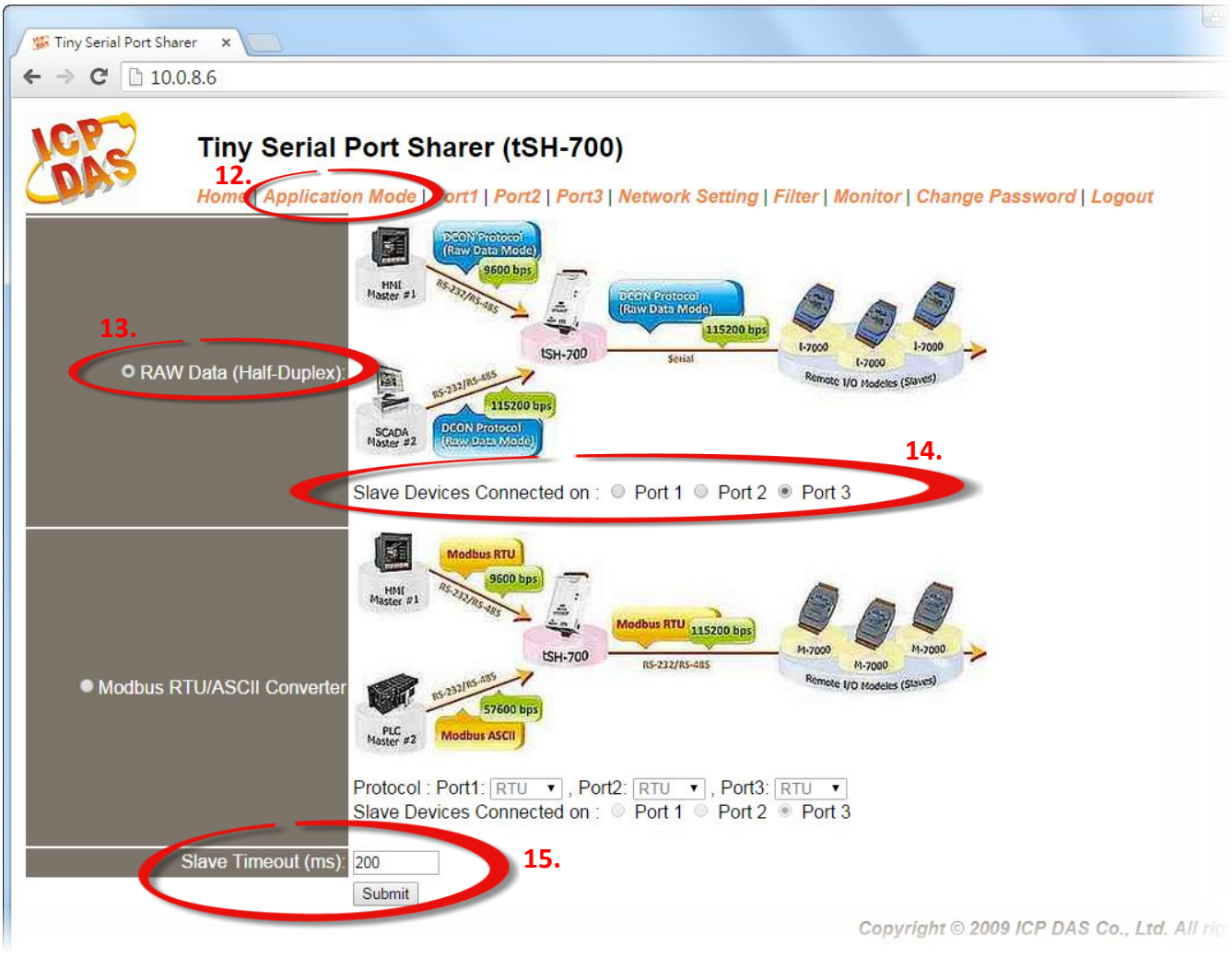
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12. Click the **“Application Mode”** tab to display the Application Mode Settings page.

13. Check the **“RAW Data (Half-Duplex)”** option.

14. Select the Modbus RTU device (e.g., M-7060) connected to COM port of the tSH-735 **(e.g. “Port3”)** from the **“Slave Device Connected on:”** option button.

15. Enter the **timeout value of the Port3 (e.g., “200”)** in the **“Slave Timeout (ms)”** field and click the **“Submit”** button to save your settings. *Note that detailed information about set the timeout value, refer to “Appendix: How to set the Timeout value” section in the tSH-700 Series user manual.*



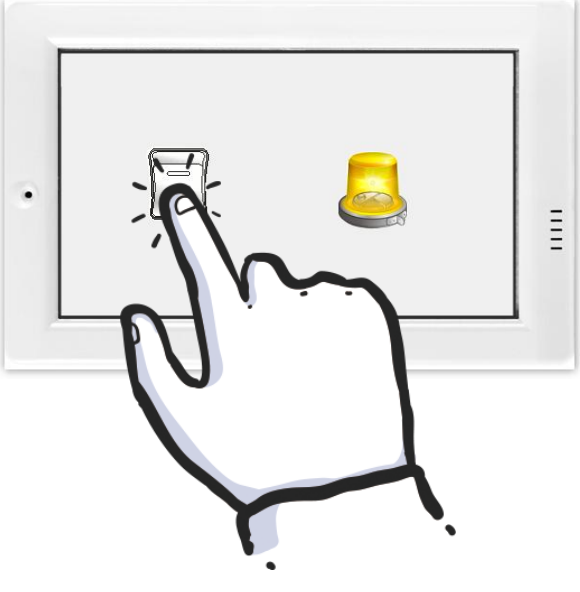
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Step 4: Verify the results of the DIO functions test.

1. Tap the DO0 icon on the TPD-433#1 module. At this time, TPD-433#2 module will be simultaneously displayed.

TPD-433#1 (Local)



TPD-433#2 (Remote)



2. Check that the DI0 icon has changed between states (e.g., yellow or grey).

TPD-433#1 (Local)



TPD-433#2 (Remote)



-Complete-

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