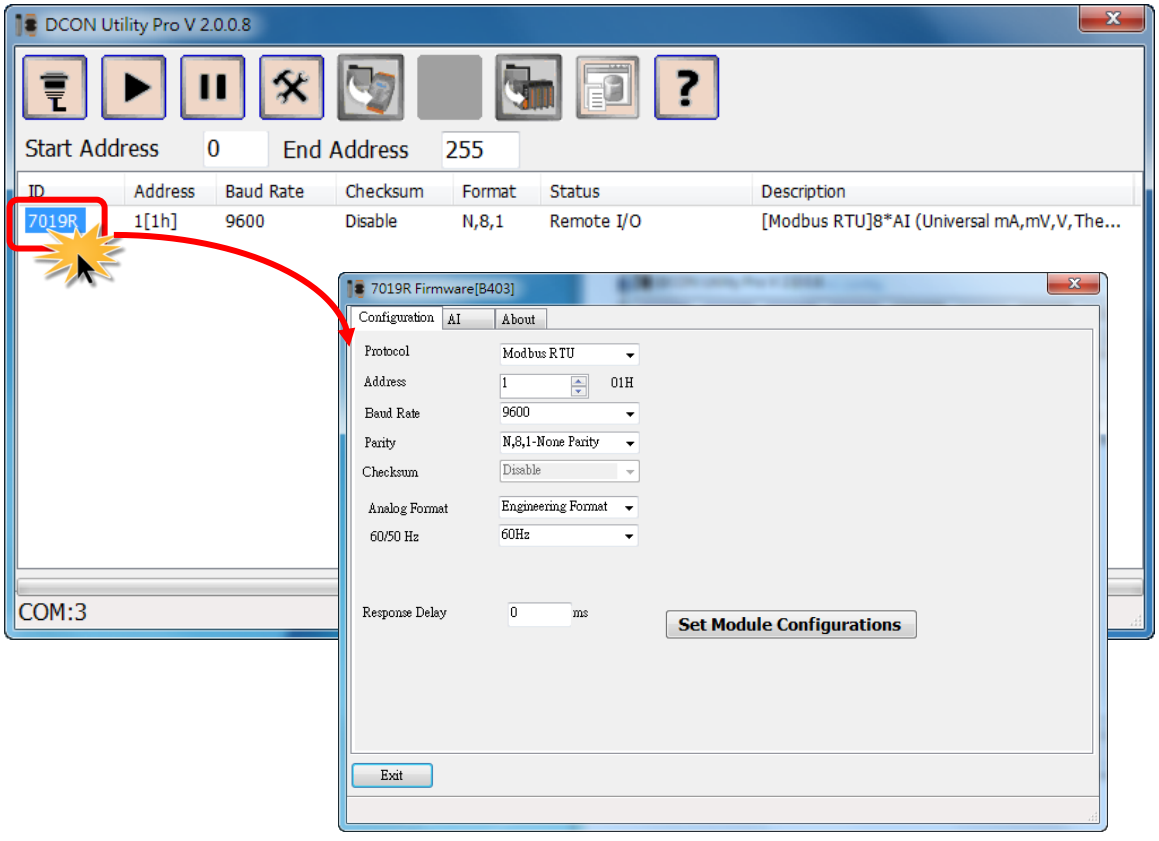
分類/Classification	☐ tDS/tGW/tSH	☐ PETL/tET/tPET	☐ DS/PDS/PPDS	☐ tM-752N
	☐ I/O Card	☐ VXC Card	☑ TouchPAD/HMIWorks	☐ VxComm
作者/Author	Tammy	日期/Date	2017-08-09	編號/NO.	FAQ026

Q: How do I retrieve an analog value from the M-7019R module and display it on the TouchPAD?

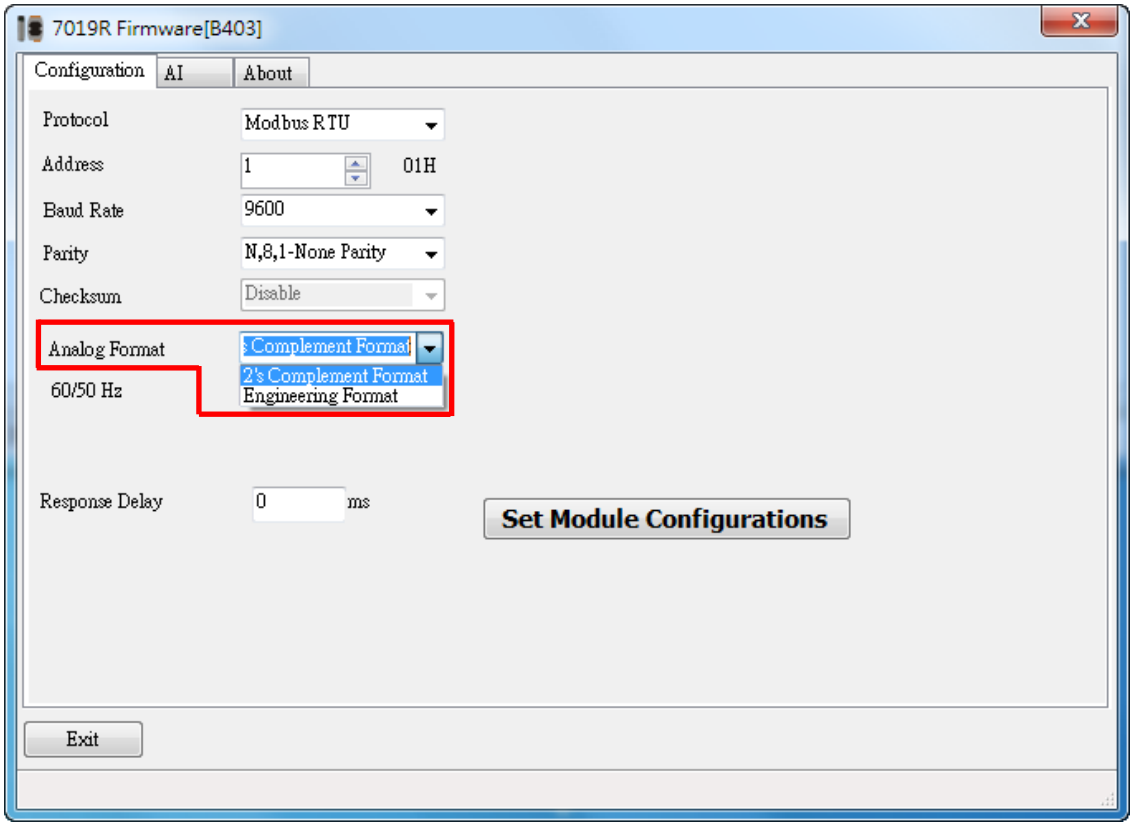
Refer to the following instructions for details of how to configure the M-7019R and TouchPAD devices to allow an analog value to be displayed.

Step 1: Ensure that the power supply and the wiring connections for both the M-7019R and the Host PC are correctly configured. Download and install the DCON Utility software, and open the DCON Utility to search for the M-7019R module. For detailed information about the installation and usage of the DCON Utility, refer to the DCON Utility user manual, which can be download from: http://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_utility/.

Step 2: In the search results pane, click the module name to open the "7019R Firmware" dialog box, allowing you to configure the settings for M-7019R, as illustrated in the diagram below.

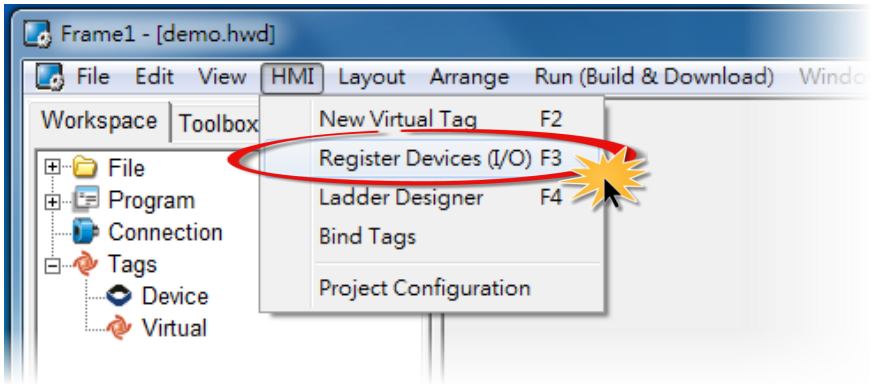


Step 3: In the **"Configuration"** tab, select **"2'S Complement Format"** from the **"Analog Format"** drop down options in the **"Configuration"** settings area.

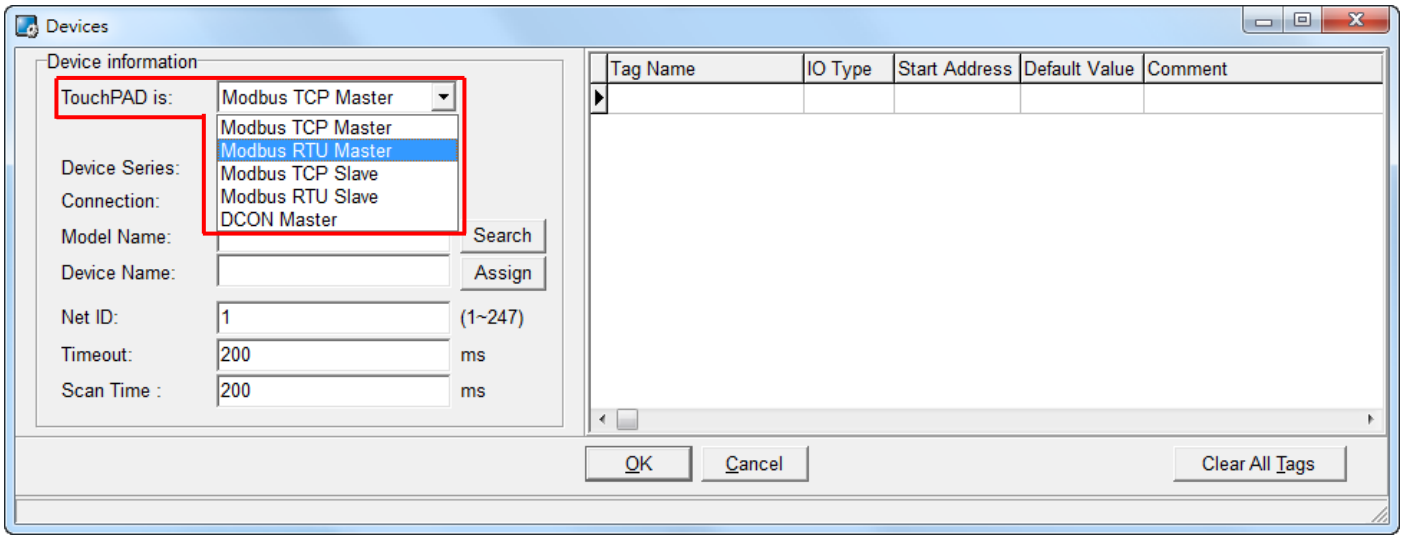


Step 4: Ensure that the power supply and the wiring connections for both the M-7019R and TouchPAD are correctly configured. Install the HMIWorks software and create a new project. For detailed information about HMIWorks and its installation and use on TouchPAD, refer to the HMIWorks and TouchPAD user manuals. Download the TouchPAD user manual from: http://ftp.icpdas.com/pub/cd/touchpad/document/english/user_manual/.

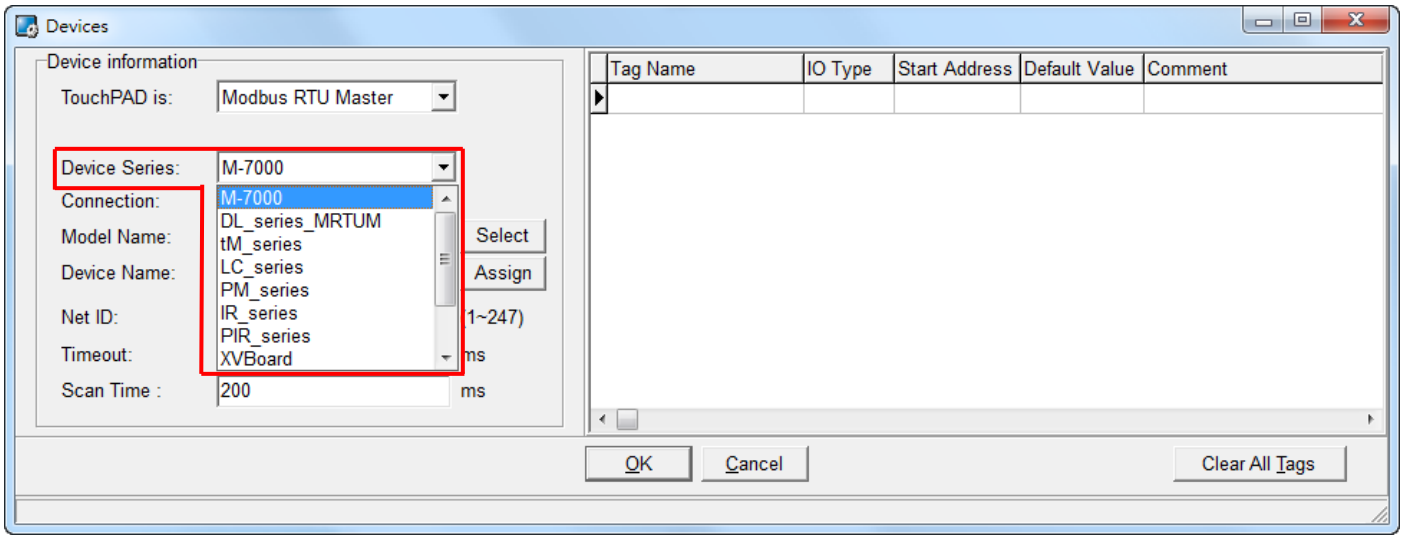
Step 5: Click the **"Register Devices (I/O)"** option from the **"HMI"** menu to open the **"Devices"** dialog box, or press **F3**.



Step 6: In the **"Device information section"** of the **"Devices"** dialog box, select **"Modbus RTU Master"** item from the **"TouchPAD is"** drop-down options.



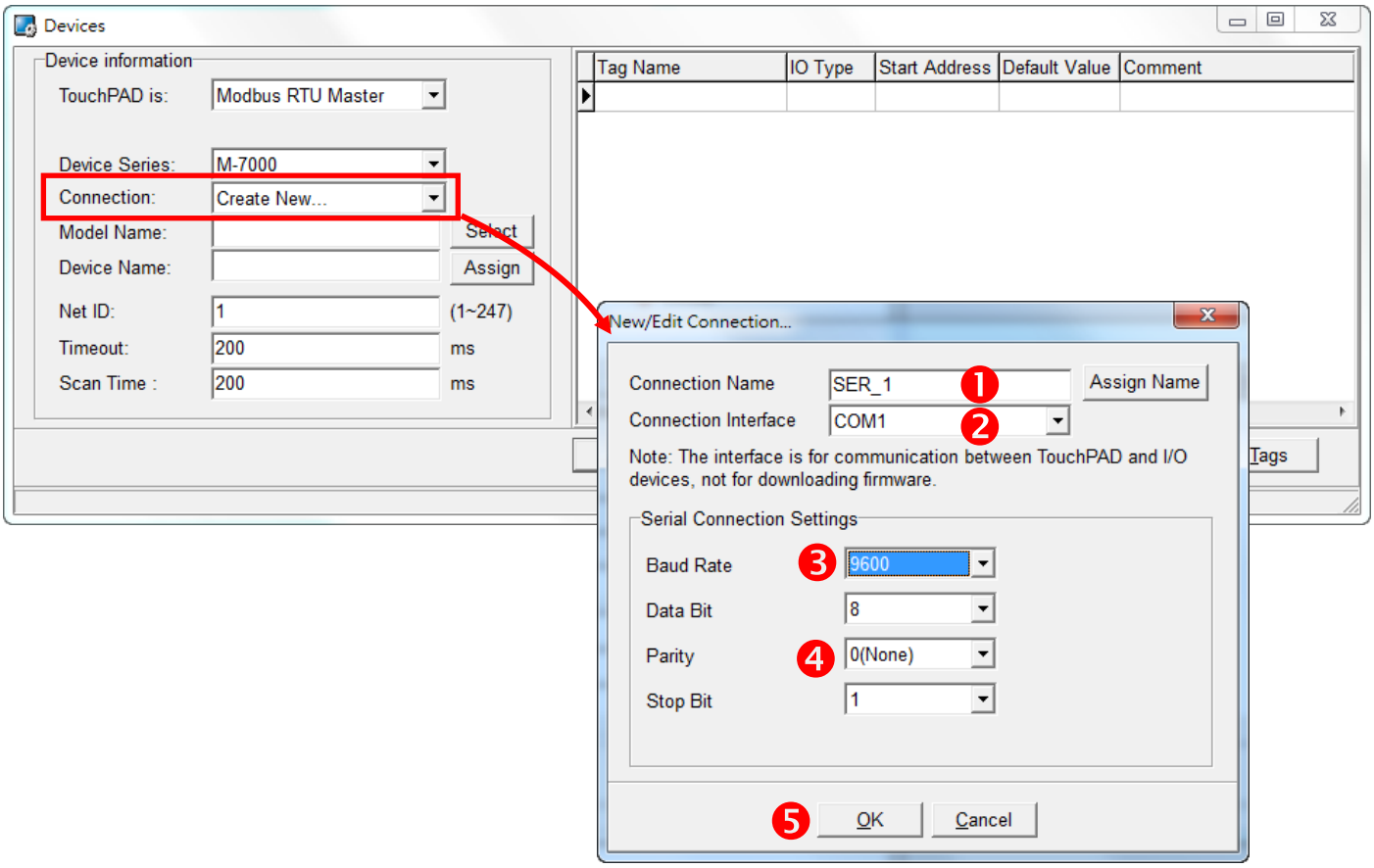
Step 7: Select the **"M-7000"** item from the **"Device Series"** drop-down options.



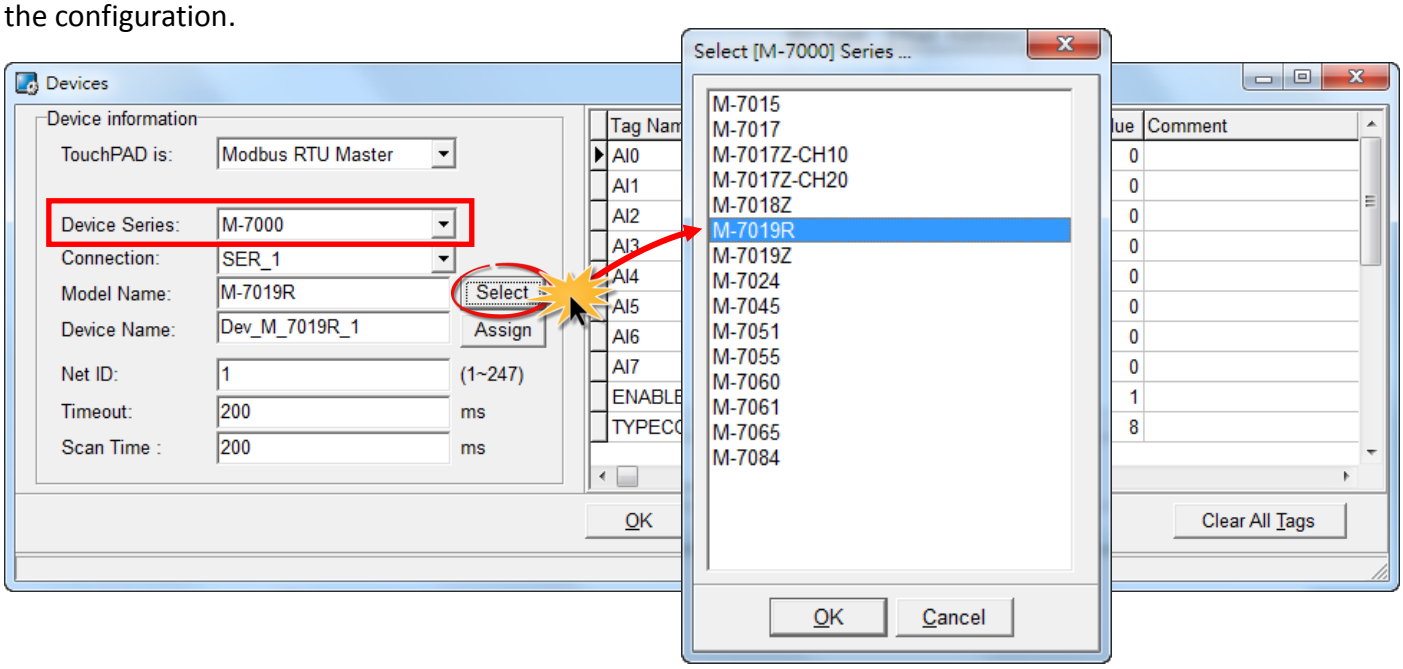
Step 8: Select the **"Create New…"** item from the "Connection" drop-down options to open the "New/Edit Connection…" dialog box.

Step 9: In the **"New/Edit Connection…"** dialog box, configure the connection information for the M-7019R module in the following manner:

1. Enter a name for the connection (e.g., SER_1) in the "Connection Name" field.
2. Select **"COM1"** from the "Connection Interface" drop-down options.
3. Select the **Baud Rate for the M-7019R** module (e.g., 9600) from the "Baud Rate" drop-down options.
4. Select the **Data Format for the M-7019R** module (e.g., 8, None, 1) from the "Data Bit", "Parity" and "Stop Bit" drop-down options.
5. Click the **"OK"** button to save the configuration and close the dialog box.

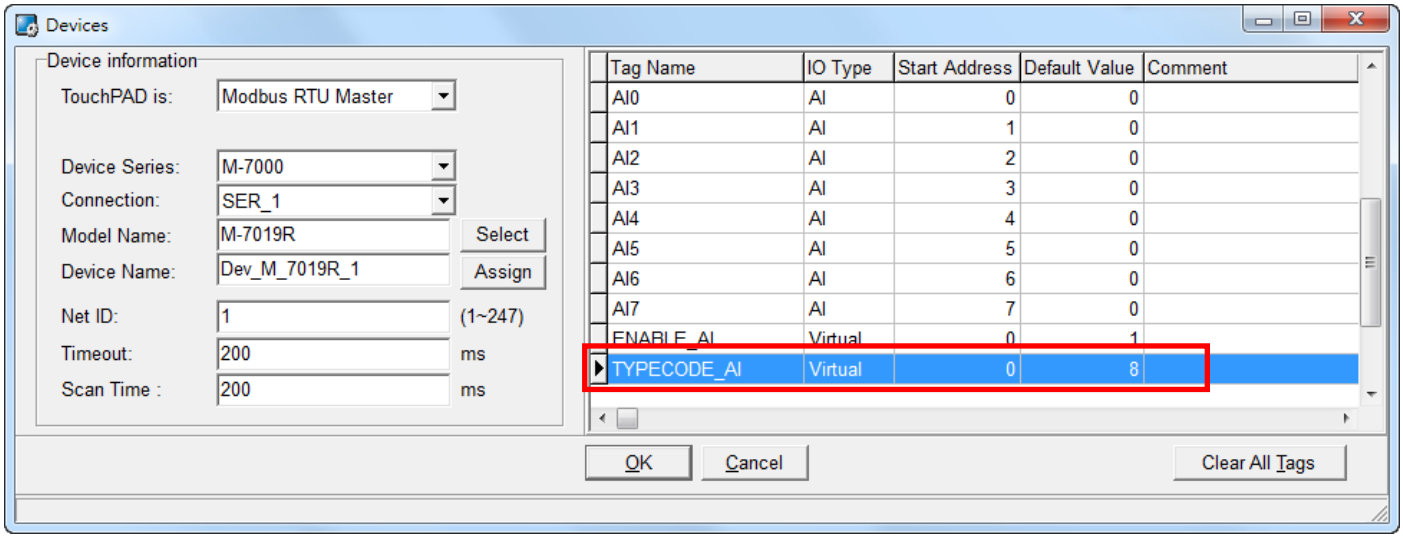


Step 10: Click the **"Select"** button to select the **"M-7019R"** module and then click the **"OK"** button to save the configuration.

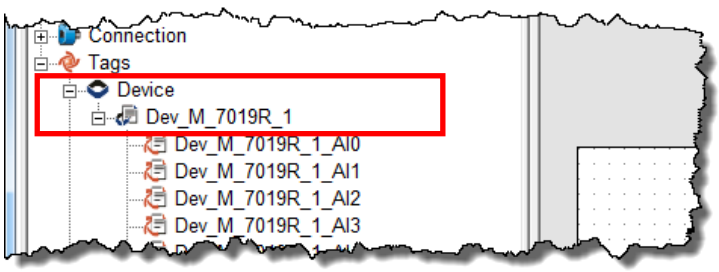


Step 11: In the "Tag Name" column, locate the reference to **"TYPECODE_AI"** and enter the value **"8" (± 10 V)"** in the **"Default Value"** field, and then click the **"OK"** button to save the configuration. For more information regarding Type Codes, refer to the **"TypeCode .txt"** file that can be found in the **"C:/ICPDAS/HMIWorks_Standard/bin/Modules/M-7000/"** folder.

Note: The TYPECODE_AI settings should always match the configuration of the M-7019R module.

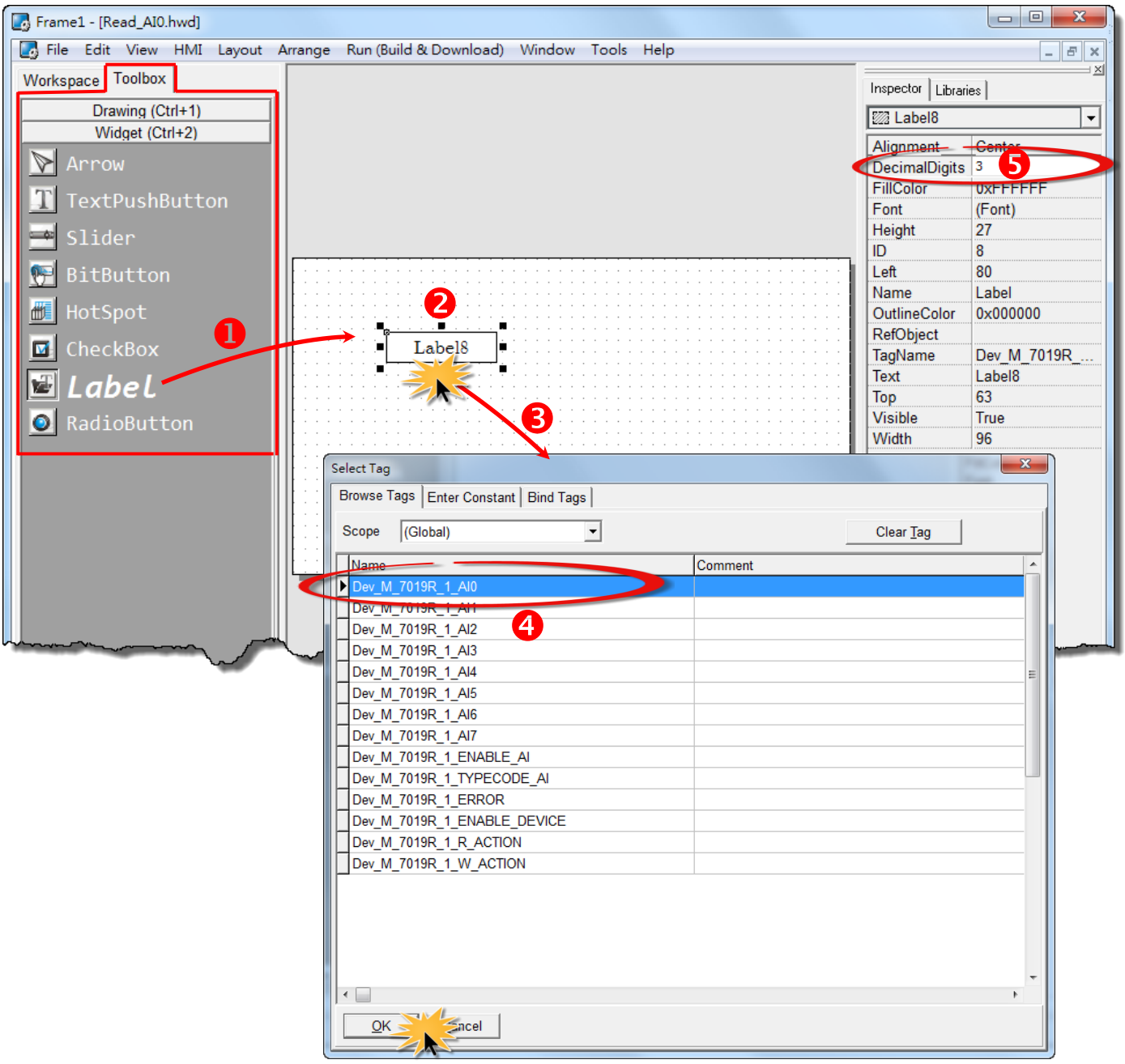


Step 12: The creation of the **"Dev_M_7019R_1"** device is now complete.

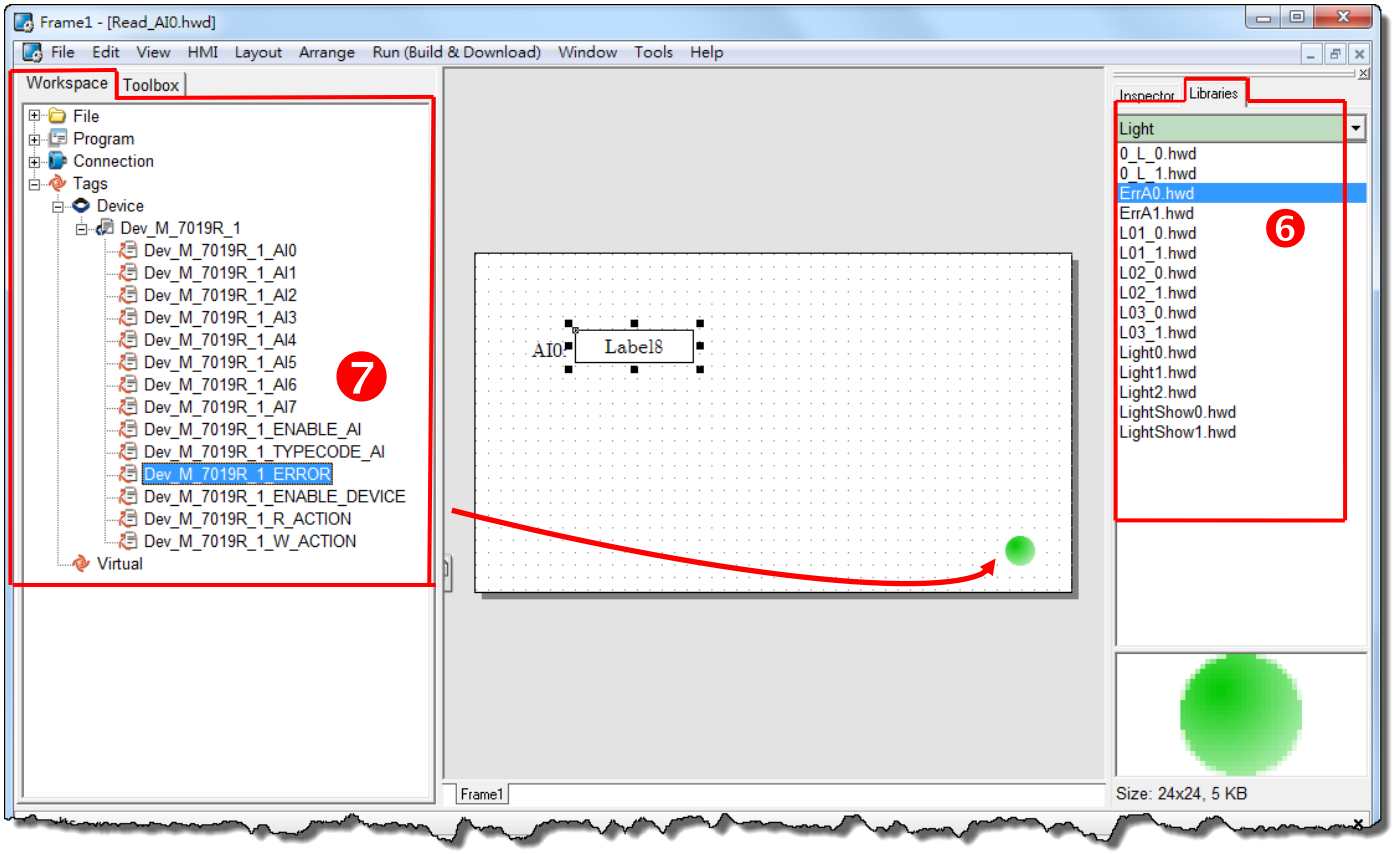


Step 13: The following procedure describes how to create a sample program for AI0:

1. Click the **"ToolBox"** tab and select the **"Label"** object from the **"Widget (Ctrl+2)"**pane.
2. Drag the Label object to the desired position on the design frame.
3. Double-click the newly created Label object, **"Label8"** in this case, to open the "Select Tag" dialog box.
4. Select the **"Dev_M_7019R_1_AI0"** reference in the **"Name"** column to be used to represent the AI0 tag, and then click the **"OK"** button.
5. Click the **"Inspector"** tab, and then locate the **"DecimalDigits"** field in the **"Inspector"** pane. Enter the value **"3"** in the associated text field. Note: The AI value is enlarged 1000 times by default.



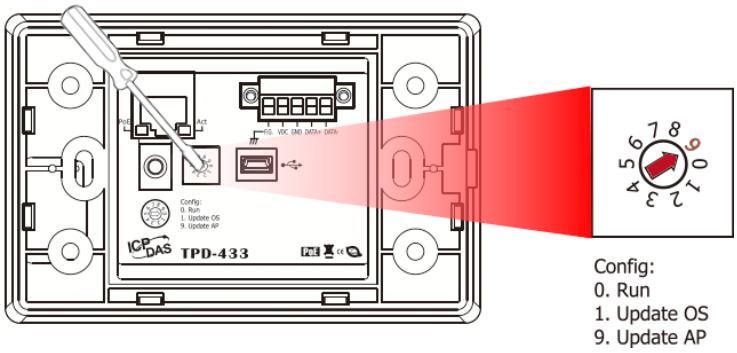
6. Click the **"Libraries"** tab, and select a **"Light"** object from the **"Libraries"** pane to be used to represent the ERROR tag.
7. Click the **"Workspace"** tab, and then drag the **"Dev_M_7019R_1_ERROR"** tag from the **"Workspace"** pane to the desired position on the design frame.



The creation of the sample program for AI0 is now complete.

Step 14: Once the sample program for AI0 is complete, it can be uploaded to the TPD-433 module via USB. The detailed configuration and wiring information is as follows:

1. **Power off the TPD-433** module and use a flat-head screwdriver to set the **Rotary Switch** on the TPD-433 module to **"Update AP" mode (position 9)**. Note that the default configuration is **"Run" mode (position 0)**.

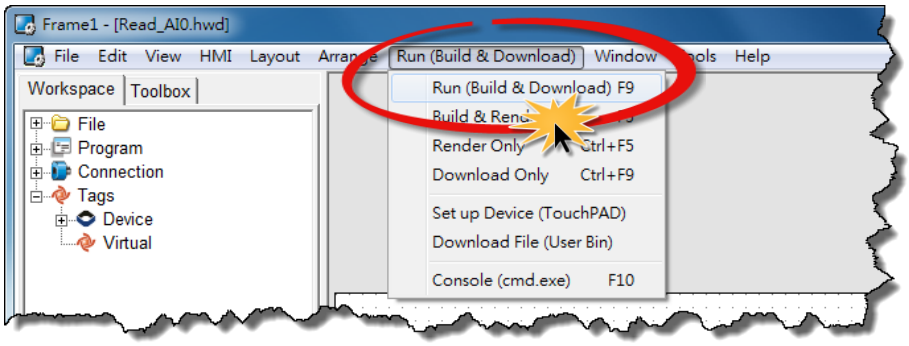


2. Connect the TPD-433 module to the Host PC using a **CA-USB10** cable, and then **Power-on and reboot the TPD-433** module.

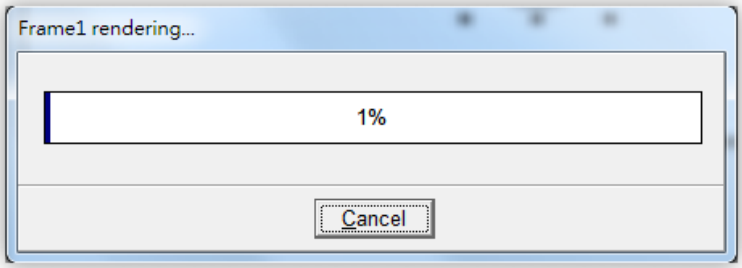
3. The message: **"MiniOS8 is running. Waiting for connection…"** will be displayed on the TPD-433 module.

Step 15: The AI0 sample program can now be uploaded to the TPD-433 module. Follow the procedure described below:

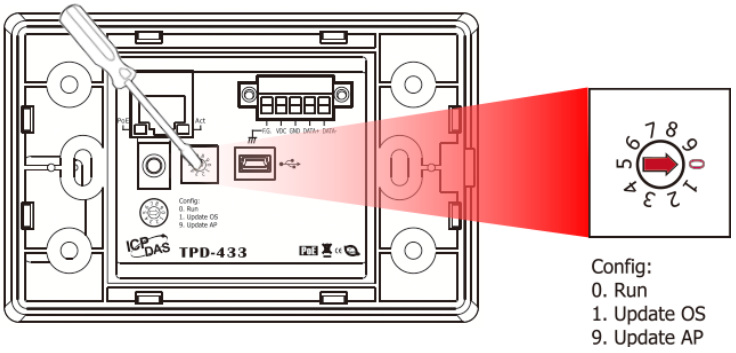
1. In the HMIWorks application, click the **"Run (Build & Download) F9"** item from the **"Run (Build & Download)"** menu, or press **F9**.



2. The **"Frame1 rendering…"** dialog will be displayed showing the progress of the update.



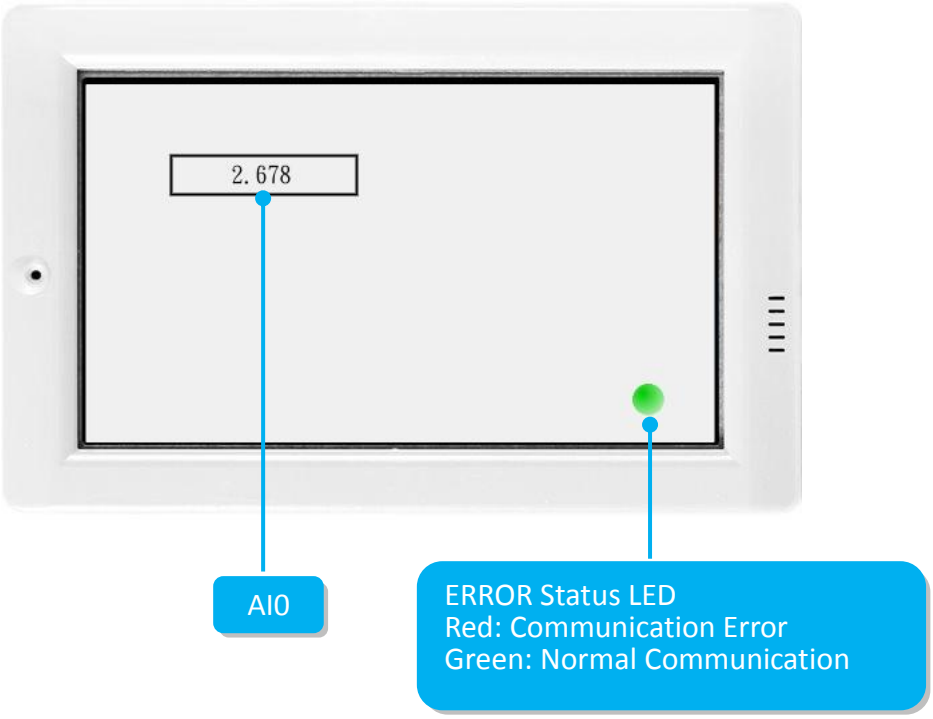
3. Once the upload is complete, i.e., when the progress indicator reaches 100%, **power off the TPD-433** module and set the **Rotary Switch to "Run" mode (position 0)**.



4. **Power-on and reboot** the TPD-433 module so that the module is operating in **"Run" mode**. The sample program for AI0 will then be executed on the TPD-433 module.

Step 16: Verify the results of the AI functions test in the following manner.

1. Verify that the ERROR LED on the M-7019R module is in the normal communication state (green).
2. Verify that the correct AI read value is displayed in the AI0 label on the TouchPAD.



-Complete-