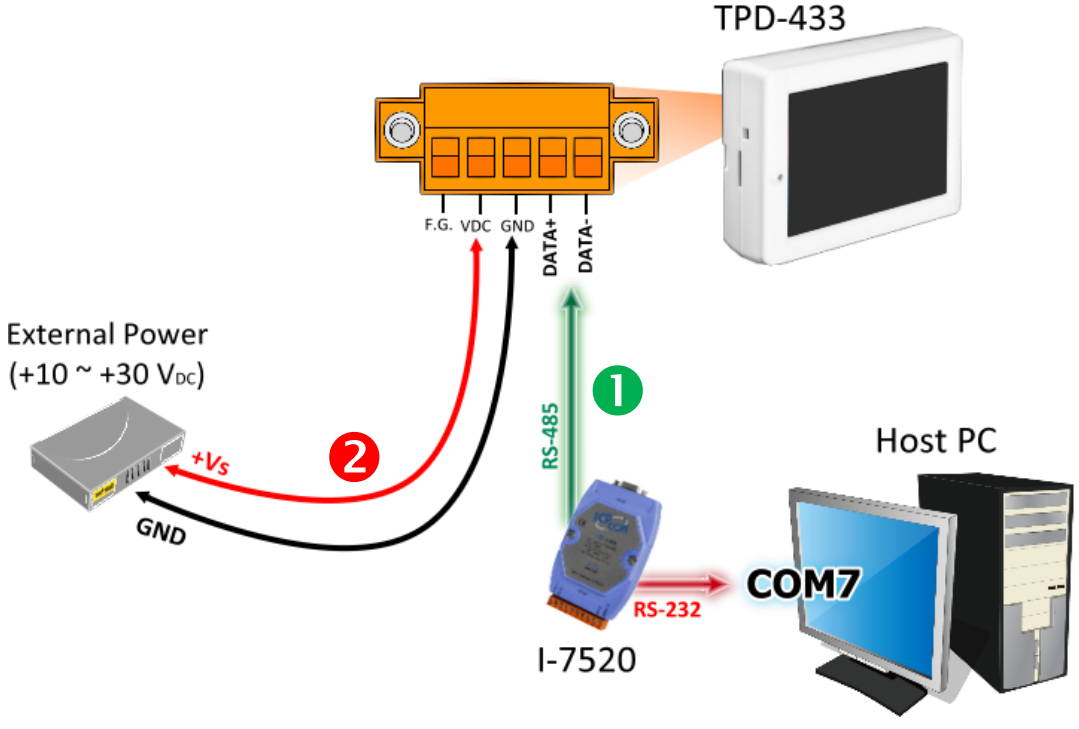
分類/Classification	☐ tDS ☐ tGW ☐ PETL/tET/tPET ☐ DS/PDS/PPDS ☐ tM-752N ☐ I/O Card ☐ VXC Card ☐ VxComm ☑ Other (TouchPAD)				
作者/Author	Tammy	日期/Date	2015-07-30	編號/NO.	FAQ019

Q: How to use TouchPAD as Modbus RTU Slave?

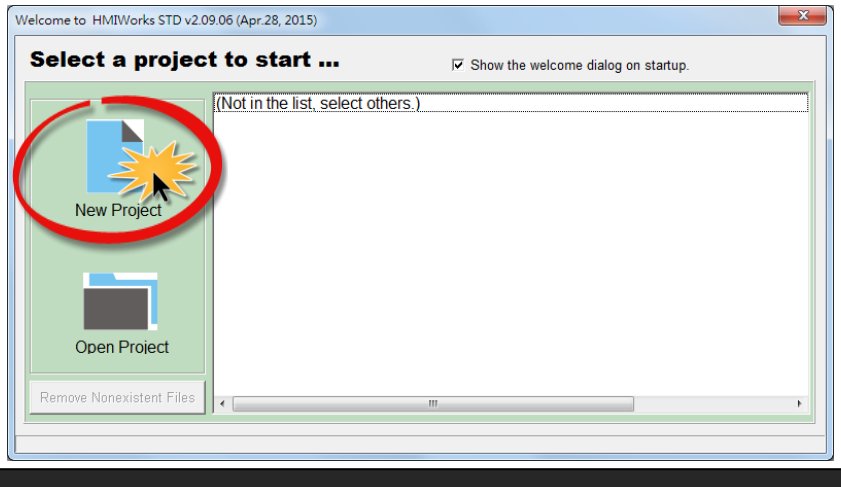
A: Follow the procedure described below:

Step 1: Connect the **COM port of the Host PC** to the **COM1 (RS-485 bus) of the TouchPAD** (e.g., TPD-433).

Step 2: Apply power to the TouchPAD (e.g., TPD-433). *Note that the valid power voltage range depends on your TouchPAD. Refer to the TouchPAD hardware user manual for details.*



Step 3: Open the HMIWorks software, click the **"New Project"** icon to create a new project.

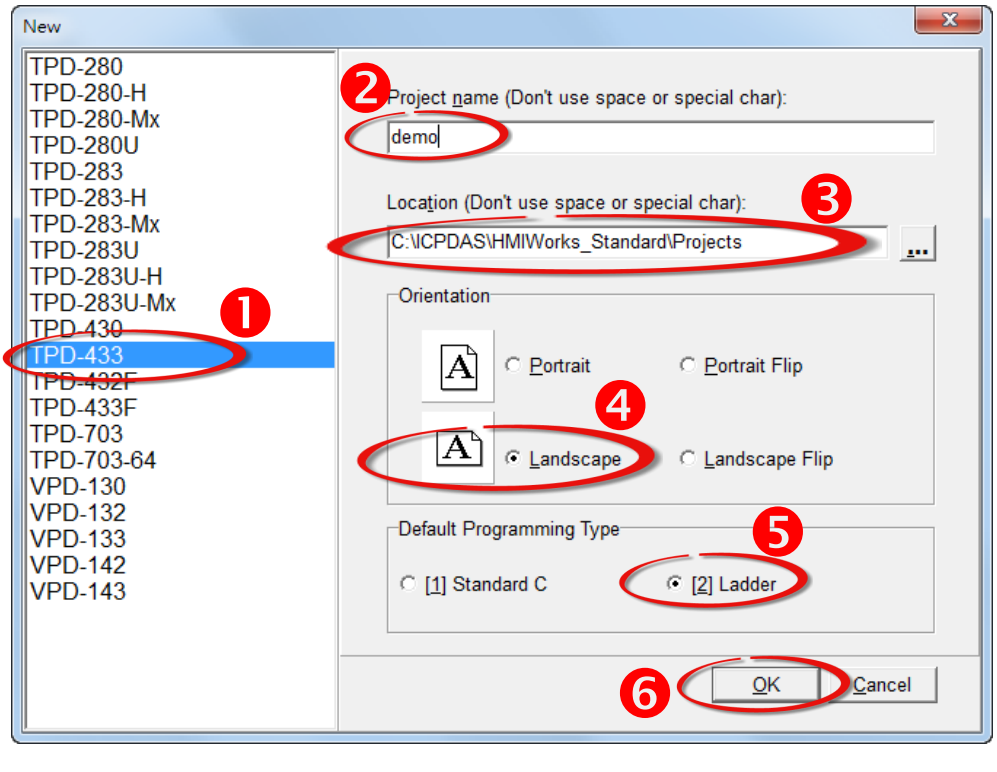


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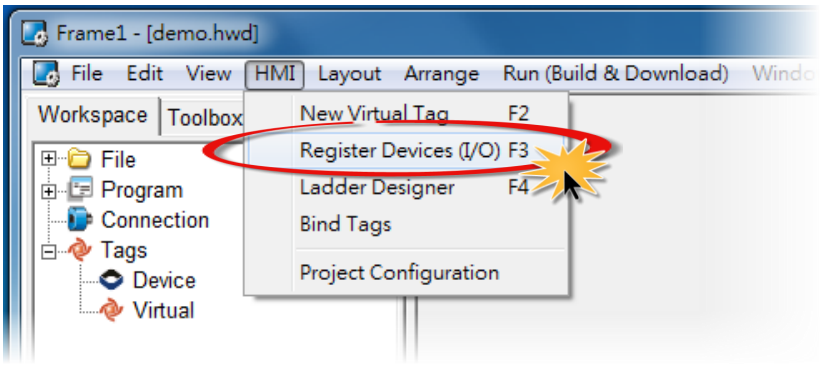
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Step 4: In the “New” dialog box, configure the parameters for the new project as follows:

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



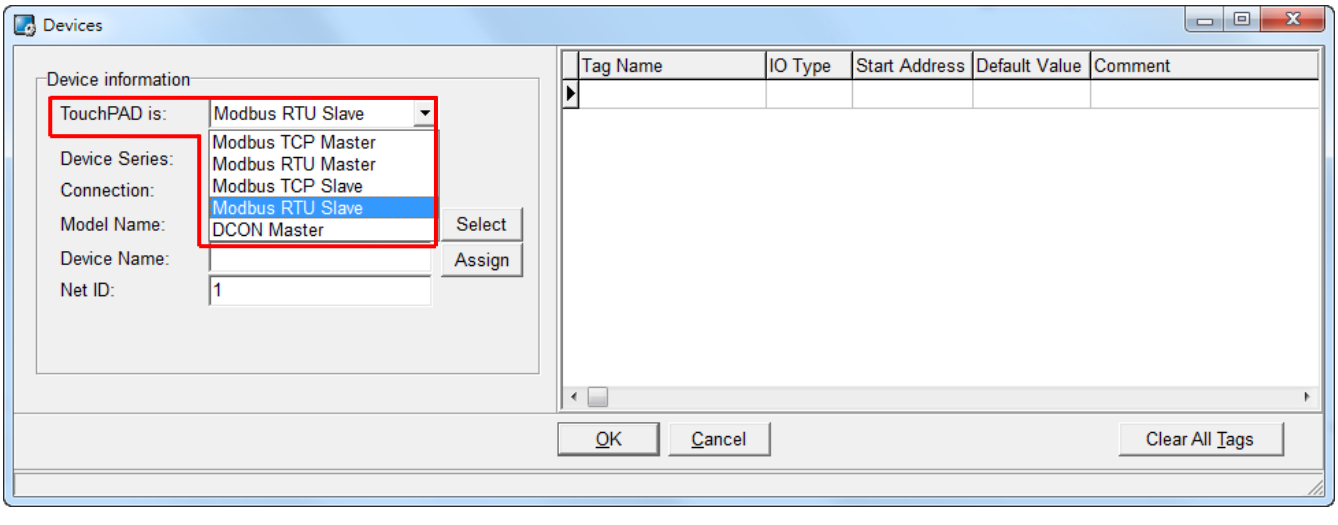
Step 5: Click the **“Register Devices (I/O)”** option from the **“HMI”** menu to open the **“Devices”** dialog box, or press **F3**.



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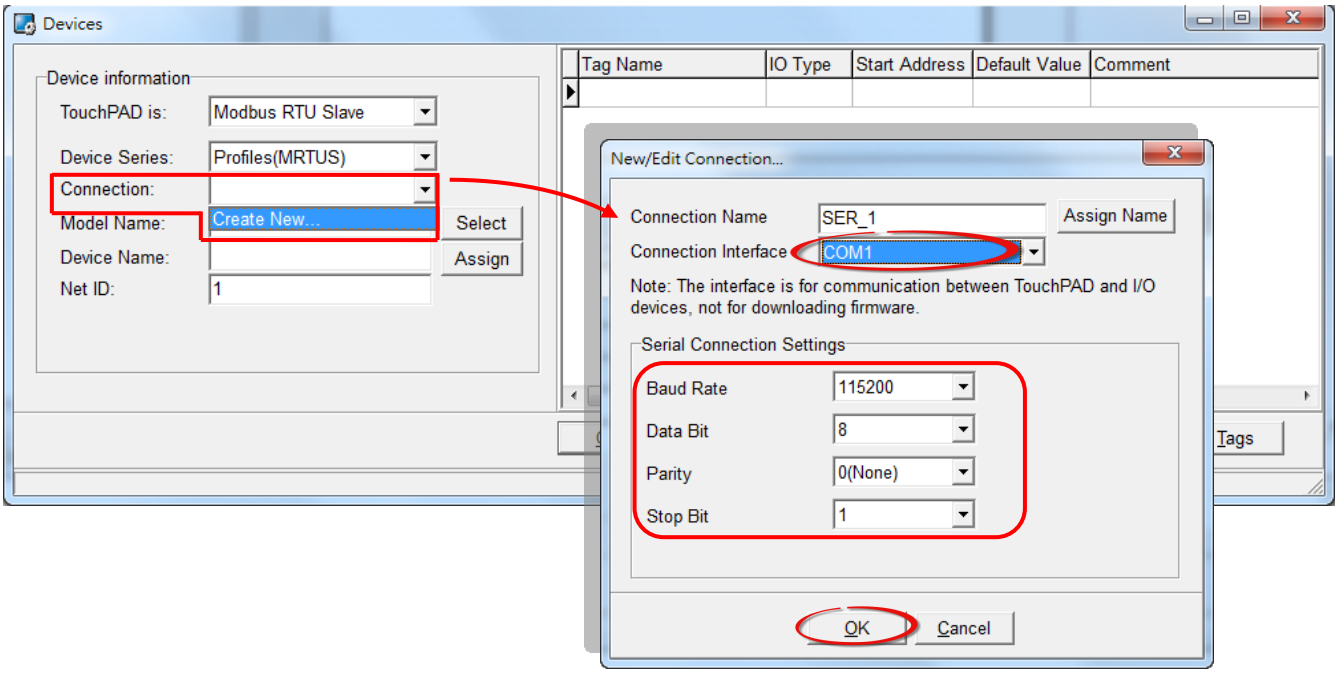
Step 6: In the **"Devices"** dialog box, select **"Modbus RTU Slave"** from the "TouchPAD is" drop down menu.



Step 7: Select **"Create New…"** from the "Connection" drop down menu to open the "New/Edit Connection…"dialog box.

Step 8: In the "**New/Edit Connection…"** dialog box, configure the connection information of the TouchPAD in the following manner:

1. Select **"COM1"** from the "Connection Interface" drop down menu.
2. Select the **Baud Rate and Data Format of the TouchPAD** from the "Baud Rate", "Data Bit", "Parity" and "Stop Bit" drop down menu. (e.g., 115200, 8, None, 1)
3. Click the **"OK"** button to save the configuration and close the dialog box.

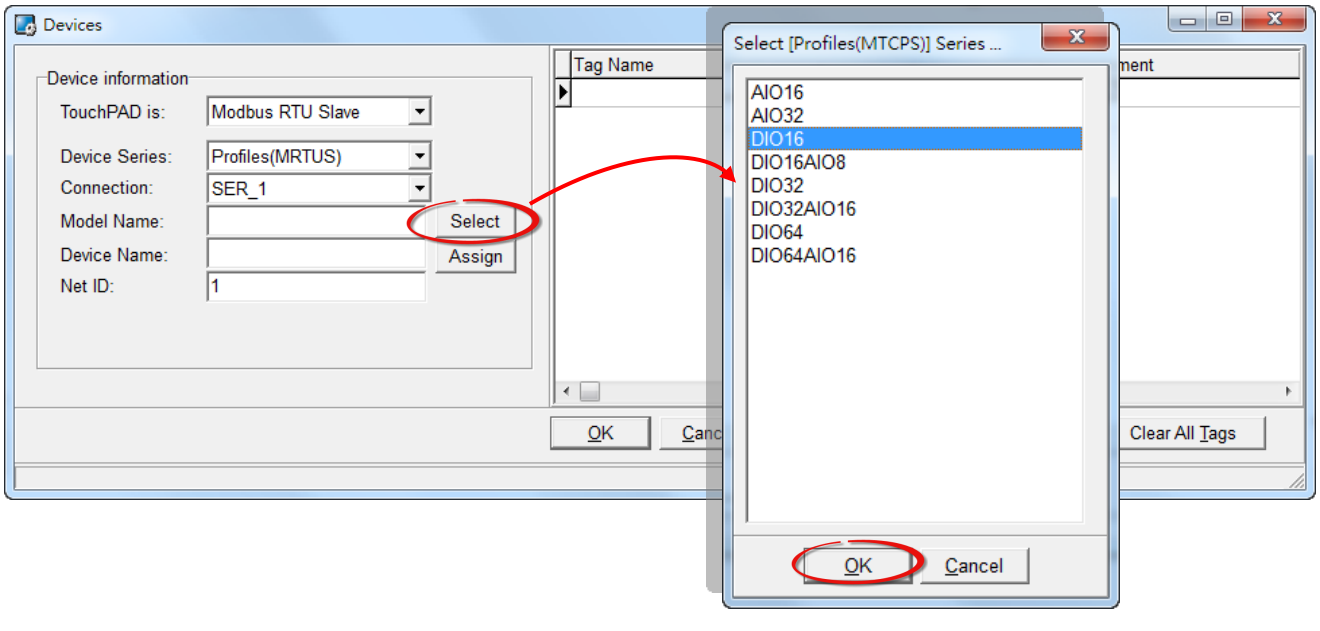


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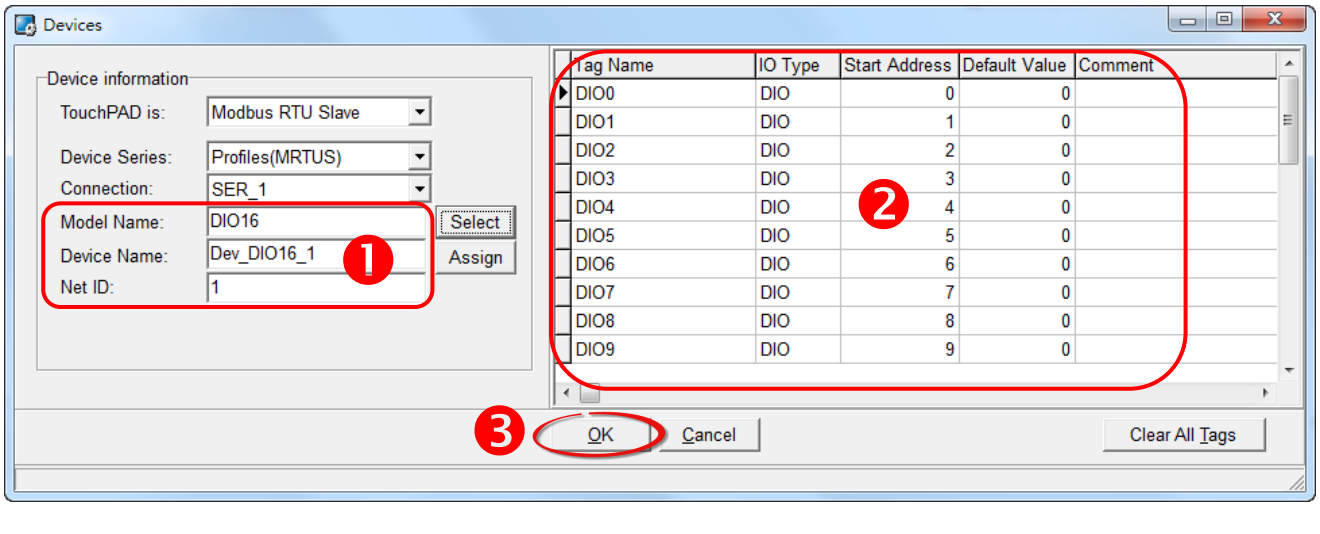
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Step 9: In the **"Devices"** dialog box, click the **"Select"** button to open the "Select [Profiles(MTCPS)] Series…" dialog box.

Step 10: Select the I/O channel number depends on the requirements for you and click the **"OK"** button.



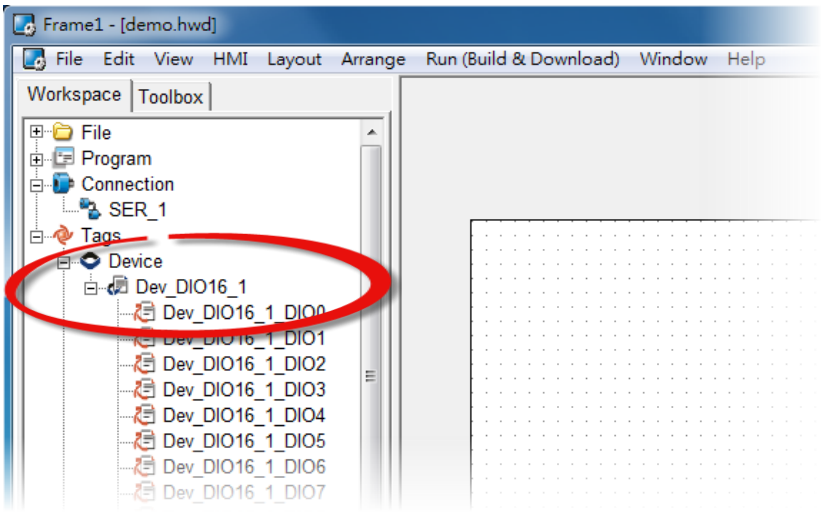
Step 11: Verify that the **Device information is correct** (e.g., the Model Name, Device Name, Net ID, Tag Name, IO Type, Start Address and Default Value, etc.) and then click the **"OK"** button to save the configuration and close the "Devices" dialog box.



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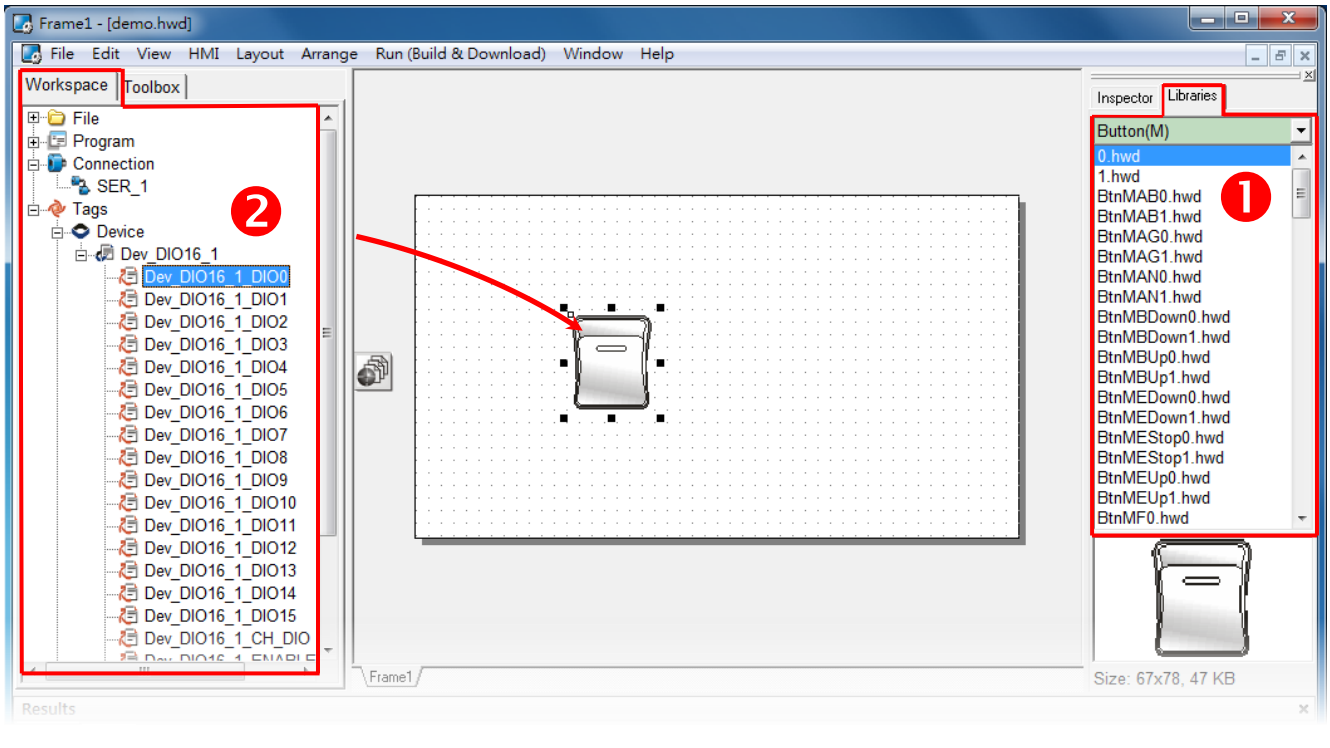
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Step 12: The creation of the **"Dev_DIO16_1"** device is now complete.



Step 13: Use the following procedure to create a DO sample program:

1. Select a "Button" object from the "Libraries" pane to represent the DO0 tag.
2. Drag the **"Dev_DIO16_DIO0"** tag (DO channel 0) from the "Workspace" pane to the desired position on the design frame.



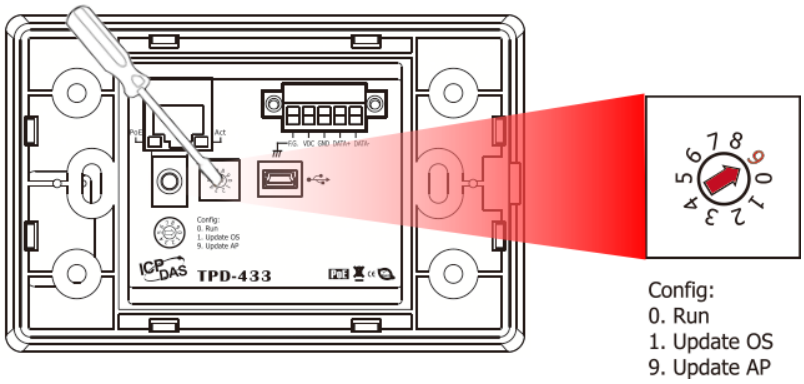
The creation of the DIO sample program is now complete.

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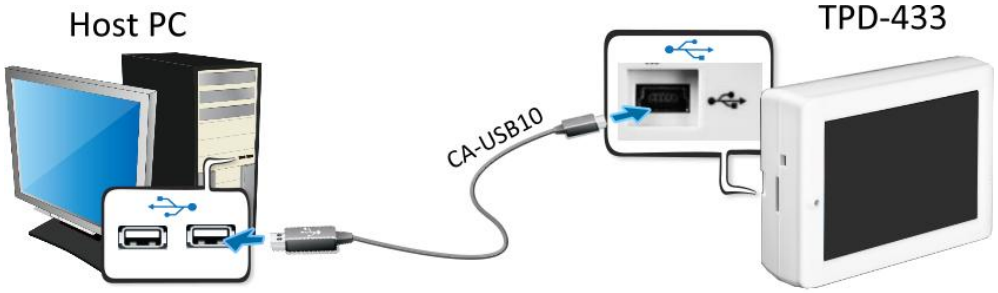
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Step 14: Once the sample program is complete, it can be uploaded to the TPD-433 module via USB. The detailed configuration and wiring information is as follows:

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.





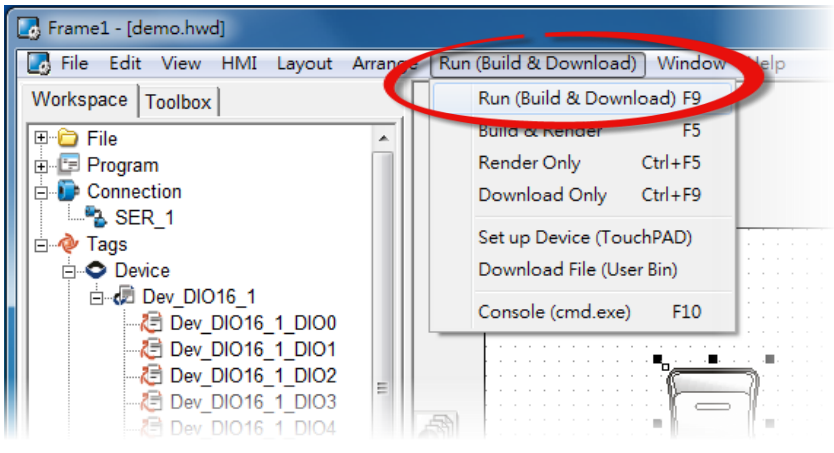
3. The message: **"MiniOS8 is running. Waiting for connection…"** will be displayed on the TPD-433 module.

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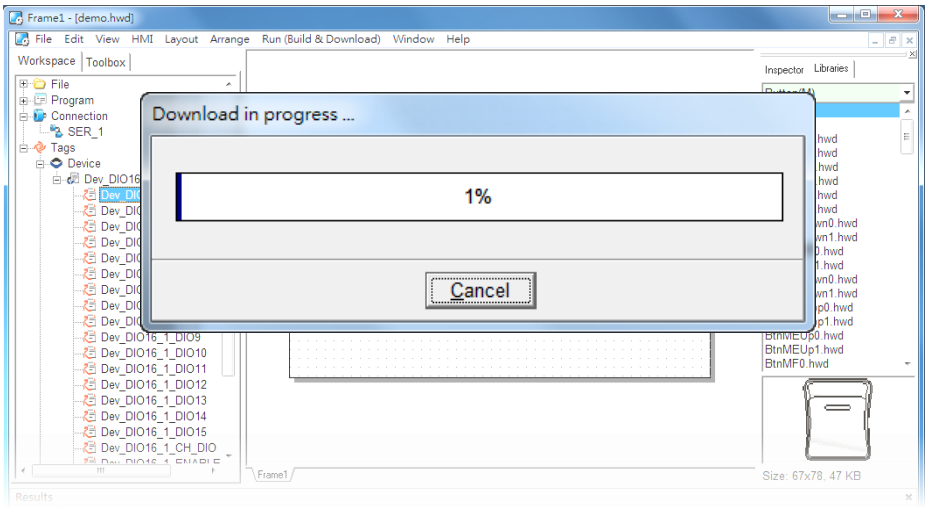
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Step 15: The sample program can now be uploaded to the TPD-433 module. Follow the procedure described below:

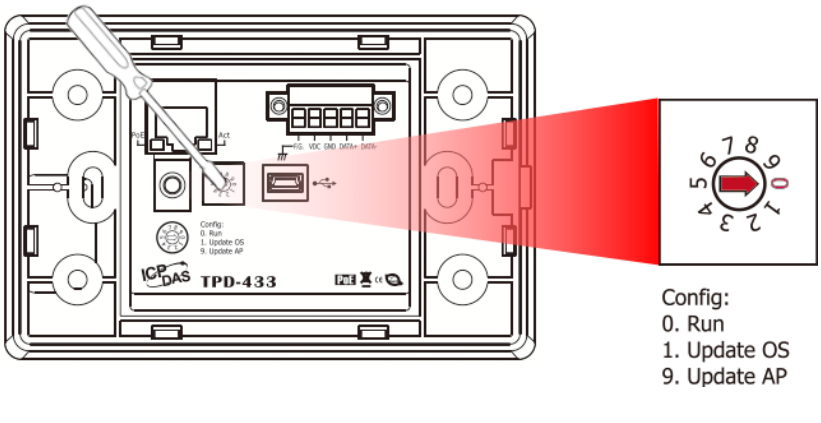
1. In the HMIWorks application, click the **"Run (Build & Download) F9"** item from the **"Run (Build & Download)"** menu, or press **F9**.



2. The **"Download in progress …"** dialog will be displayed showing the progress of the update.



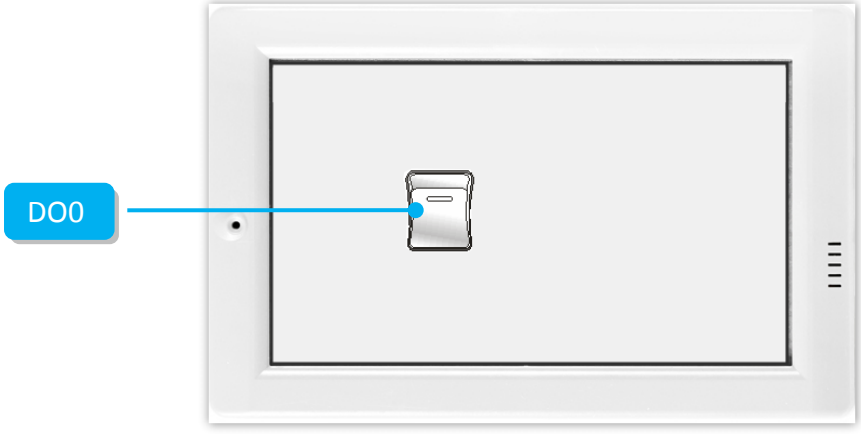
3. Once the upload is complete (i.e., when the progress indicator reaches 100%), power off the TPD-433 module and set the **Rotary Switch to "Run" mode (position 0)**.



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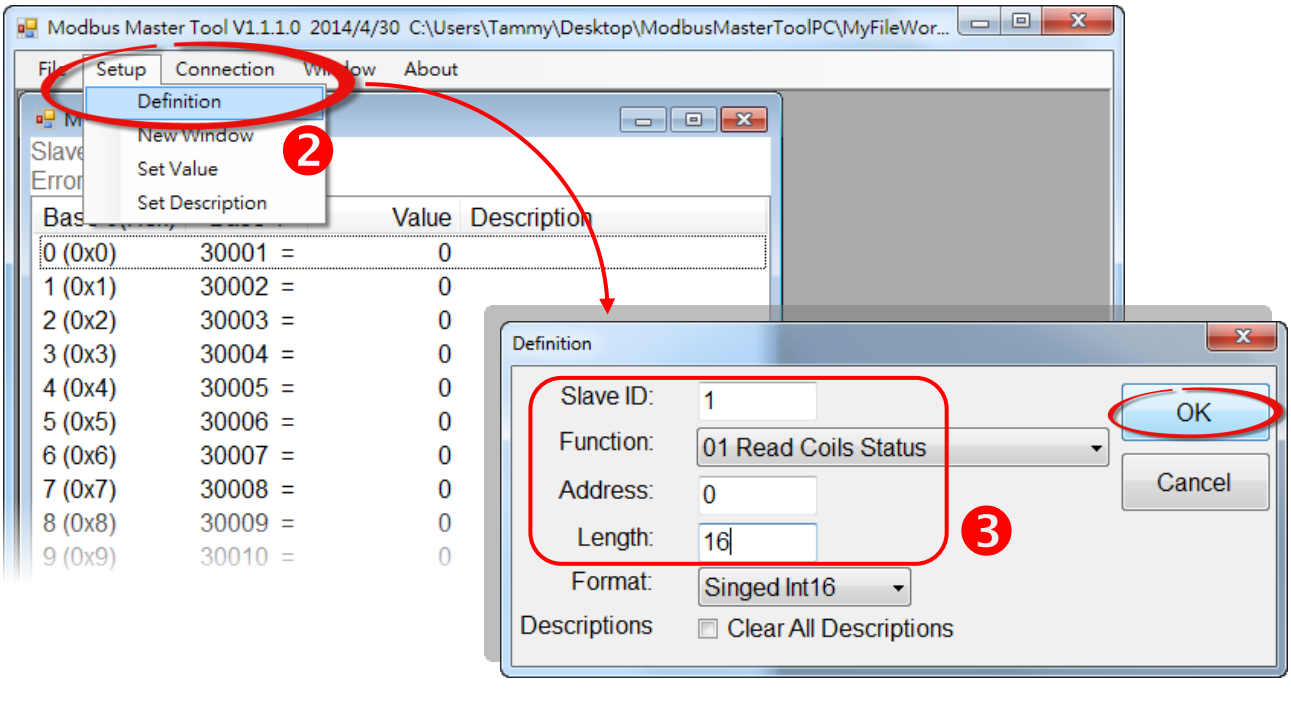
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4. **Power-on and reboot** the TPD-433 module so that the module is operating in **"Run" mode**. The TPD-433 module will then execute the DIO sample program.



Step 16: Use the Modbus Master program (e.g., ModbusMasterToolPC.exe) to verify the results of the DO functions test in the following manner.

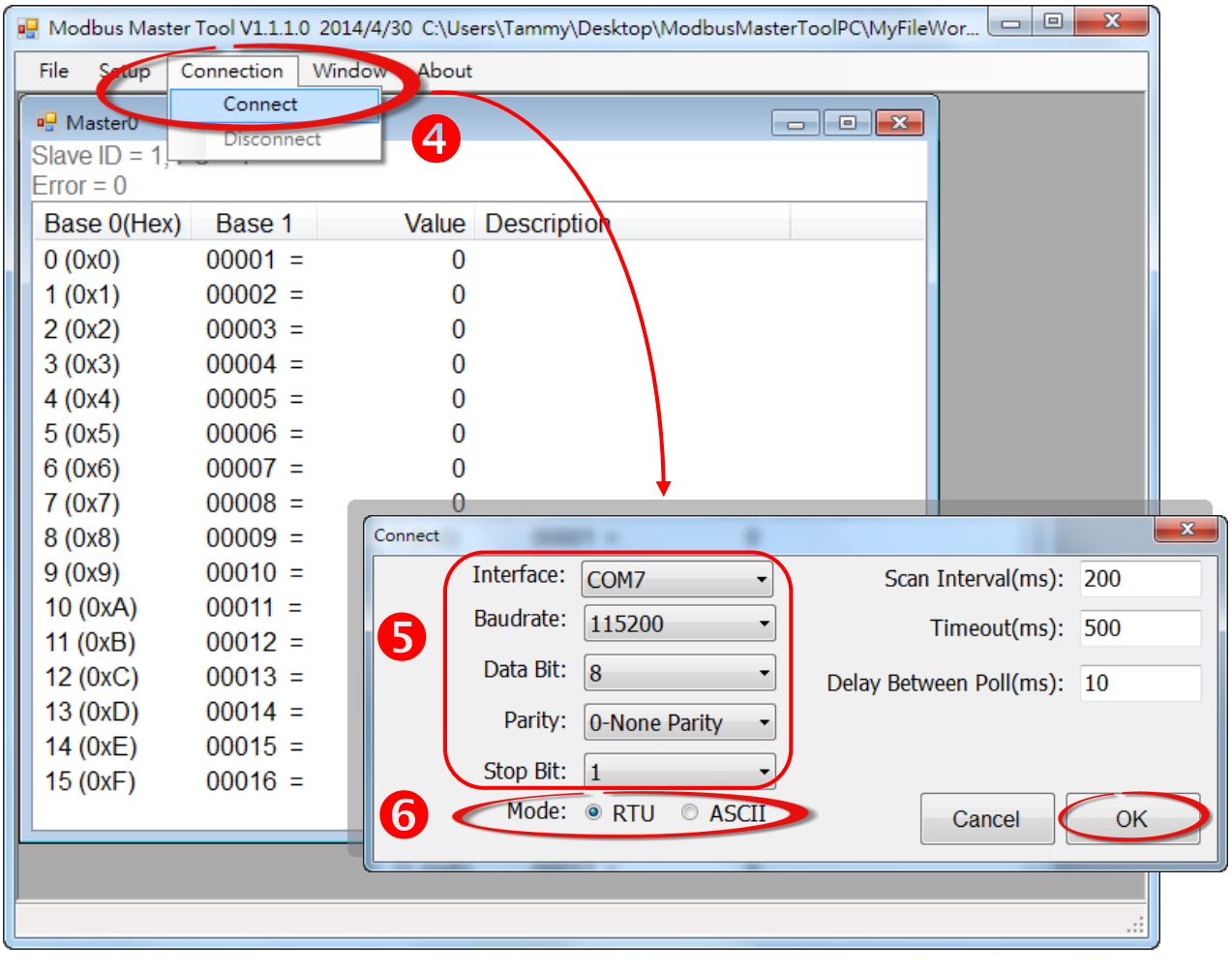
1. The **ModbusMasterToolPC.exe** can be downloaded from the ICP DAS web site as following web: http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/modbus_master_tool/
2. Launch the "ModbusMasterToolPC" program, click the **"Definition"** item from the **"Setup"** menu to open the "Definition" dialog box.
3. In the "Definition" dialog box, set the **"Slave ID"**, **"Function"**, **"Address"** and **"Length"** items depends on the TouchPAD (e.g., TPD-433), and click the **"OK"** button.



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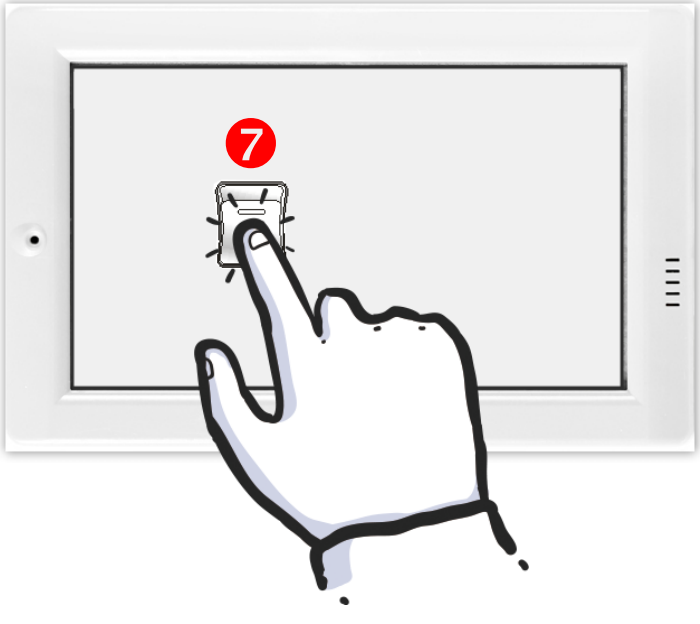
4. Click the **“Connect”** item from the **“Connection”** menu to open the “Connect” dialog box.
5. In the “Connect” dialog box, select appropriate **COM Port number, Baud Rate and Data Format** from the relevant drop down options depend on your PC COM port that connect to TouchPAD. (e.g., **“COM7”**, **“115200”, “8”, “0-None Parity” and “1”**)
6. Click the **“RTU”** option button in the “Mode” field and click the **“OK”** button.



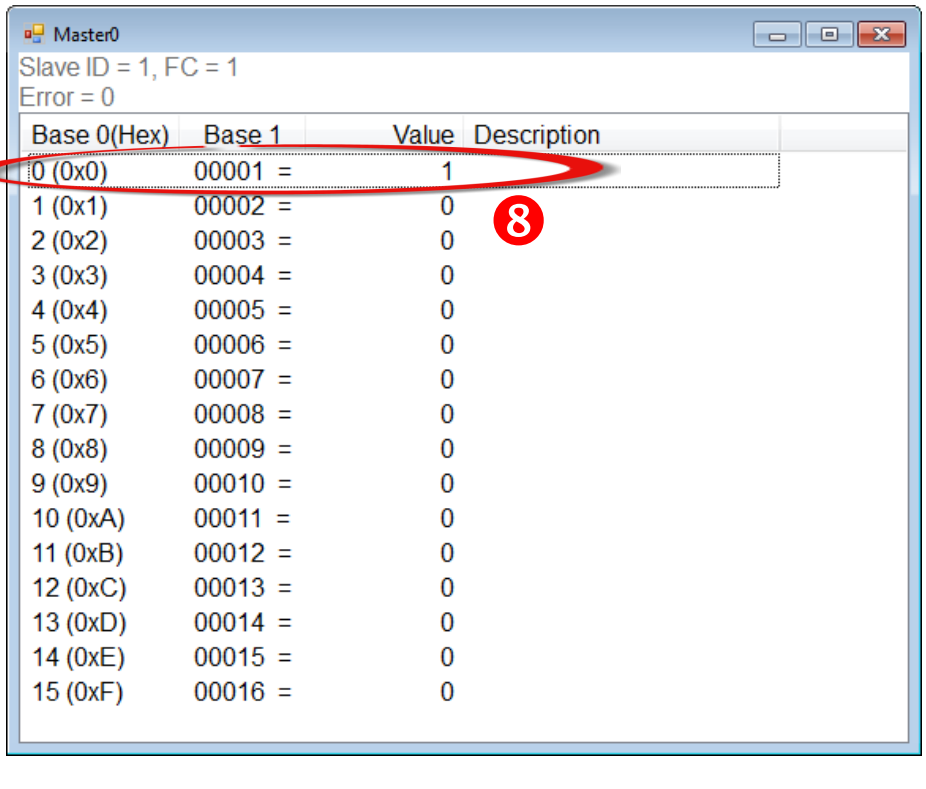
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7. Tap the **DO0** icon on the TPD-433 module.



8. In the "ModbusMasterToolPC" program, check that the **"00001" item (DO channel 0) has changed between values (e.g., 1 or 0).**



Refer to the **"Demo_RTU_Slave_VPD130"** demo program for more detailed information. The **"Demo_RTU_Slave_VPD130"** demo can be found in the: CD:\NAPDOS\TouchPAD\Demo\Others\VPD-130 folder on the companion CD, or can be downloaded from http://ftp.icpdas.com/pub/cd/touchpad/demo/others/vpd-130/

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