

	□ tDS □ tGW □ PETL/tET/tPET □ DS/PDS/PPDS □ tM-752N	-752N				
分類/Classification	□ I/O Card		U VXC Card	□ VxComm	☑ Otł	ner (TouchPAD)
作者/Author	Tammy		日期/Date	2015-07-29	編號/NO.	FAQ018

Q: How to use TouchPAD as Modbus TCP Slave?

A: Follow the procedure described below:

Step 1: Connect both the TouchPAD (e.g., TPD-433) and the Host PC to the same sub network or use a Power over Ethernet Switch (e.g., an NS-205PSE) and supply power to the TouchPAD via the PoE Switch.



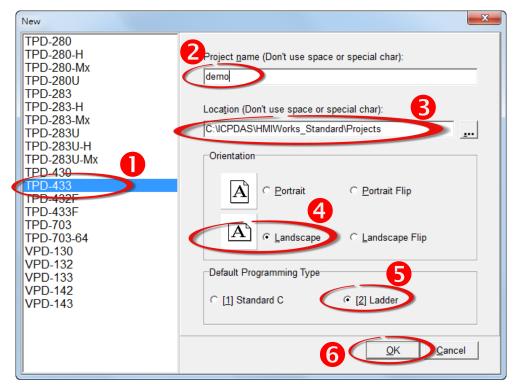
Step 2: Open the HMIWorks software, click the **"New Project"** icon to create a new project.

Welcome to HMIWorks STD v2.09.06 (Apr.28, 2015)	×
Select a project to start 🗸	Show the welcome dialog on startup.
(Not in the list, select others.) New Project Open Project	
Remove Nonexistent Files	,

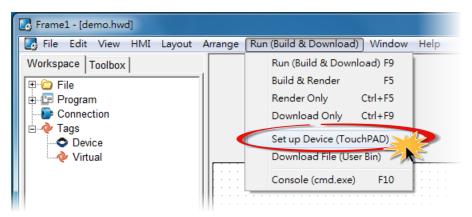


Step 3: In the "New" dialog box, configure the parameters for the new project as follows:

- 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 4: Click the **"Set up Device (TouchPAD)"** item from the **"Run (Build & Download)"** menu to configure the correct network settings for the TouchPAD.



Step 5: In the "Setup Ethernet Device" dialog box, contact your Network Administrator to obtain a correct network configuration (such as IP/Mask/Gateway). Click the "Static IP" option and enter the network settings then click the "OK" button.

Setup Ethernet Device			x
Host Information (PC)		-1	
Host IP Address:	10.0.8.5	▼	
Runtime Information (FouchPAD)		
Device Nickname:	ICPDAS		
-IP Address Assign	ment Method		
Static IP	O DHCP	C Runtime Setting	
Device IP Address	10.0.8.100	(eg: 10.1.2.3)	
Mask	255.255.255.0		
Gateway	10.0.8.254		
	4		
	OK Cancel		

Step 6: Click the "Register Devices(I/O)" option from the "HMI" menu to open the "Devices" dialog box, or pressF3.

🛃 Frame1 - [demo.hwo	l)
🛃 File Edit View	HMI Layout Arrange Run (Build & Download) Windo
Workspace Toolbox	New Virtual Tag F2
🖽 🔁 File	Register Devices (I/O) F3
🕀 🖅 Program	Ladder Designer F4
Connection	Bind Tags
⊡	Project Configuration
Virtual	

Step 7: In the **"Devices"** dialog box, select **"Modbus TCP Slave"** from the "TouchPAD is" drop down menu.

Devices					
Device information	Tag Name	IO Type	Start Address	Default Value	Comment
TouchPAD is: Modbus TCP Slave					
Device Series: Modbus TCP Master Modbus RTU Master Connection: Modbus TCP Slave					
Modbus RTU Slave DCON Master Select					
Device Name: Assign Assign					
	<u>O</u> K <u>C</u> ancel				Clear All <u>T</u> ags



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

Step 9: Check the "TouchPAD as a Server" item and click the "OK" button.

Devices	
Devices Device information TouchPAD is: Modbus TCP Slave Device Series: Profiles(MTCPS) Connection: Model Name: Create New Select Device Name: Assign Net ID: 1	Tag Name IO Type Start Address Default Value Comment New/Edit Connection X Connection Name TCPIP_1 Assign Name Connection Interface TCPIP Image: Connection Interface Name Note: The interface is for communication between TouchPAD and I/O devices, not for downloading firmware. Image: Connection Settings (e.g.: 10.1.0.100) IP Address (e.g.: 502) Image: TouchPAD as a Server Start Address Image: TouchPAD as a Server Image: TouchPAD as a Server Start Address
	<u>OK</u> <u>C</u> ancel

Step 10: In the **"Devices"** dialog box, click the **"Select"** button to open the "Select [Profiles(MTCPS)] Series..." dialog box.

Step 11: Select the I/O channel number depends on the requirements for you and click the **"OK"** button.

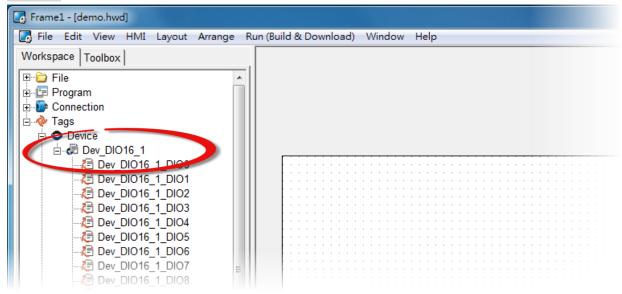
Devices				
Device information TouchPAD is: Device Series: Connection: Model Name: Device Name: Net ID:	Modbus TCP Slave	Select Assign	Select [Profiles(MTCPS)] Series AIO16 AIO32 DIO16AI08 DIO32AIO16 DIO32AIO16 DIO64 DIO64AIO16	ent
			<u>OK</u> <u>C</u> ancel	



Step 12: 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.

-Device information-			Tag Name	IO Type	Start Address	Default Value	Comment	
			DIO0	DIO	0	0		
TouchPAD is:	Modbus TCP Slave		DIO1	DIO	1	0		
Device Series:	Profiles(MTCPS)		DIO2	DIO	2	0		
Connection:	TCPIP 1		DIO3	DIO	3	0		
Model Name:		Select	DIO4	DIO	2 4	0		
			DIO5	DIO	5	0		
Device Name:	Dev_DIO16_1	ssign	DIO6	DIO	6	0		
Net ID:	1		DIO7	DIO	7	0		
			DIO8	DIO	8	0		
			DIO9	DIO	9	0		
								F.
		B		cel			Clear All <u>T</u>	ags

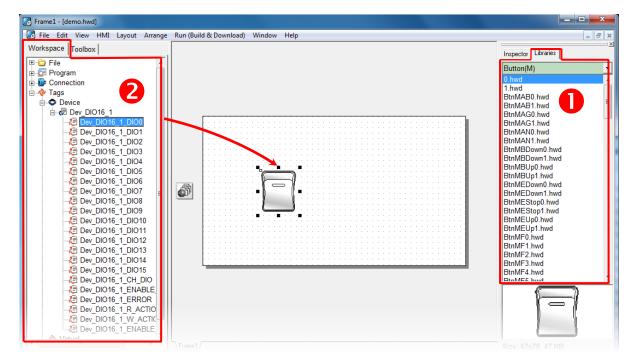
Step 13: The creation of the "Dev_DIO16_1" device is now complete.





Step 14: Use the following procedure to create a DO sample program:

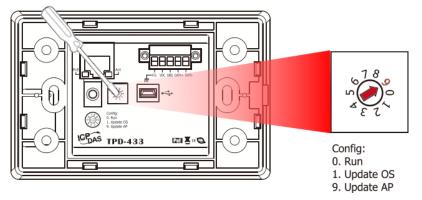
- 1. Select a "Button" object from the "Libraries" pane to represent the DO0 tag.
- 2. Drag the "Dev_DIO16_DIO0" tag (DO channel 0) from the "Workspace" pane to the desired position on the design frame.



The creation of the DIO sample program is now complete.

Step 15: 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:

 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).





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

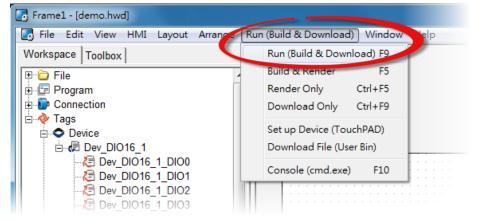




 The message: "MiniOS8 is running. Waiting for connection..." will be displayed on the TPD-433 module.

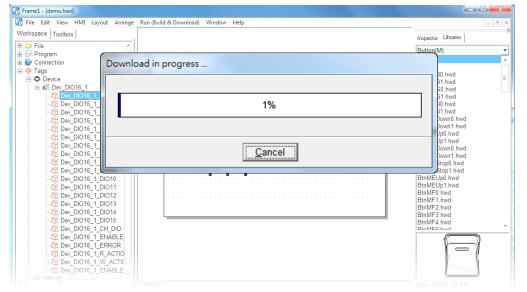
Step 16: The sample program can now be uploaded to the TPD-433 module. Follow the procedure described below:

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

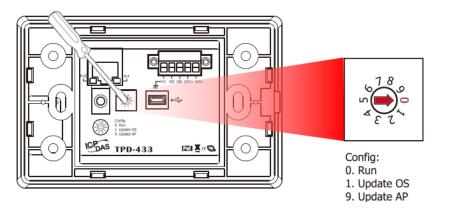




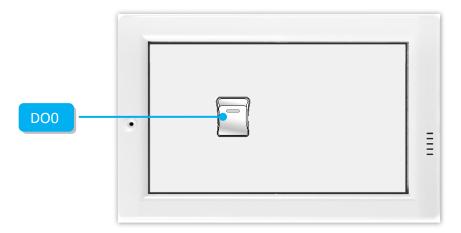
2. The **"Download in progress ..."** dialog will be displayed showing the progress of the update.



 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 TPD-433 module will then execute the DIO sample program.





Step 17: 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: <u>http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/modbus_master_tool/</u>
- 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.

🖳 Modbus	s Master Tool V1.1.1.	0 2014/4/30 C:\User	s\Tammy\Desktop\Mo	dbusMasterToolPC\MyFileWor		
File Se	tup Connection	Win w About				
	Definition					
Slave	New Window	2				
Error	Set Value	-	$\mathbf{\lambda}$			
Bas	Set Description	Value	Description			
0 (0x0)	30001 =	= 0				
1 (0x1)	30002 =	- 0				
2 (0x2)	30003 =	= 0				
3 (0x3)	30004 =	= 0				
4 (0x4)	30005 =	= 0				
5 (0x5)			1			
6 (0x6)		= 0				×
7 (0x7)			Definition			
8 (0x8)			Slave ID:	1		
9 (0x9)	30010 =	= 0	Function:	01 Read Coils Status		ОК
					·	Cancel
			Address:	0		Cancer
			Length:	16	8	
			Format:	Singed Int16 -		
			Descriptions	Clear All Descriptions	3	

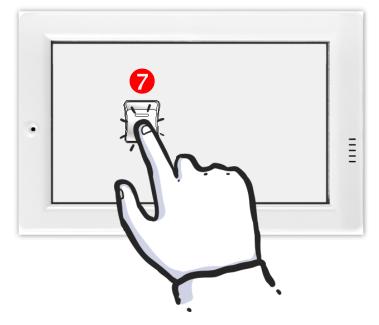


- 4. Click the **"Connect"** item from the **"Connection"** menu to open the "Connect" dialog box.
- 5. In the "Connect" dialog box, select "TCP/IP" from the "Interface" drop down menu.
- 6. Enter the **"IP Address" and "Port" of the TouchPAD** in the "Remote Server IP" and "Modbus TCP Port" fields, and click the **"OK"** button.

🛃 Modbus Master	Tool V1.1.1.0 2014	4/4/30 C:\Users\Tammy\Desktop\ModbusMasterToolPC\MyFileWor 🗖 🗖 💌
File Setup C	Connection Wind	low About
- Master0	Connect	
Slave ID = 1	Disconnect	
Error = 0		
Base 0(Hex)	Base 1	Value Description
0 (0x0)	00001 =	0
1 (0x1)	00002 =	0
2 (0x2)	00003 =	0
3 (0x3)	00004 =	0
4 (0x4)	00005 =	0
5 (0x5)	00006 =	0
6 (0x6)	00007 =	Connect
7 (0x7)	= 80000	
8 (0x8)	00009 =	Interface: TCP/IP
9 (0x9)	00010 =	Remote Server IP: 10.0.8.100 Timeout(ms): 500
10 (0xA)	00011 =	Delay Between Dell'(see). 40
11 (0xB)	00012 =	Modbus TCP Port: 502 Delay Between Poli(ms): 10
12 (0xC)	00013 =	6
13 (0xD)	00014 =	
14 (0xE)	00015 =	Cancel
15 (0xF)	00016 =	



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



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

Slave ID = 1, F Error = 0	0-1			
Base 0(Hex)	Base 1	Value	Description	
0 (0x0)	00001 =	1		
1 (0x1)	00002 =	0	8	
2 (0x2)	00003 =	0	0	
3 (0x3)	00004 =	0		
4 (0x4)	00005 =	0		
5 (0x5)	00006 =	0		
6 (0x6)	00007 =	0		
7 (0x7)	= 80000	0		
8 (0x8)	00009 =	0		
9 (0x9)	00010 =	0		
10 (0xA)	00011 =	0		
11 (0xB)	00012 =	0		
12 (0xC)	00013 =	0		
13 (0xD)	00014 =	0		
14 (0xE)	00015 =	0		
15 (0xF)	00016 =	0		

-Complete-