

# Use ICP DAS EtherCAT I/O device in eLogger

Please make sure you have installed ICPDAS ECDAQ SDK before use. You can download and install it from the following website:

[https://www.icpdas.com/en/product/guide+Software+Development\\_Tools+ECATDAQ](https://www.icpdas.com/en/product/guide+Software+Development_Tools+ECATDAQ)

**Step1:** Put the files in the eLogger folder.

1. Please download the required files from the following website(**eLogger\_ECATDAQ.zip**) ◦

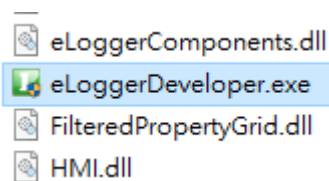
<https://www.icpdas.com/en/download/show.php?num=8802>

2. Unzip the downloaded file.
3. Place the **eECATDAQ.dll** files in For Developer\_driver folder to the \ eLogger\_Vxxx\_yyyymmdd \ Developer \ Driver.
4. Place the **eECATDAQ.dll** files in For RuntimePC folder to the \ eLogger\_Vxxx\_yyyymmdd \ RuntimePC.

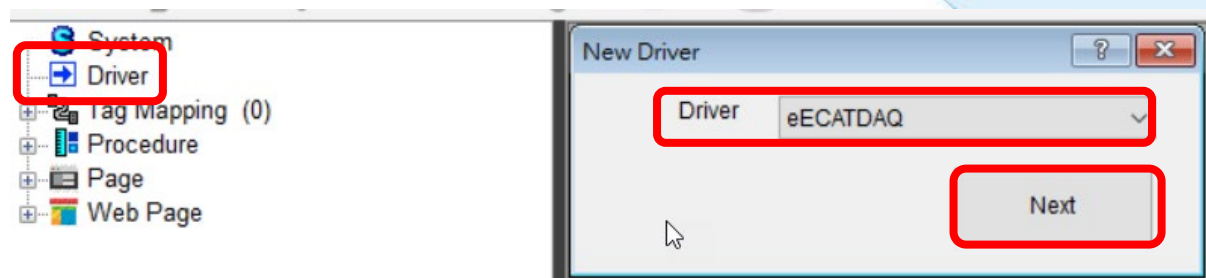
**Note:** The two eECATDAQ.dll files are not the same.

**Step2:** Create a device in eLoggerDeveloper.

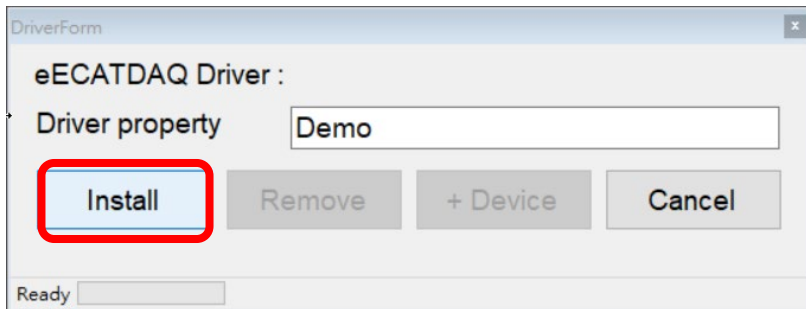
1. Execute **eLoggerDeveloper.exe** ◦



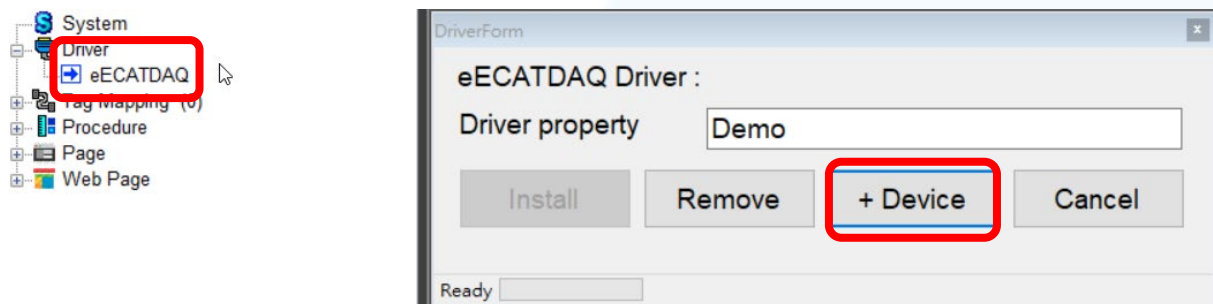
2. Click **Driver** on the left, select **eECATDAQ** and click **Next**.



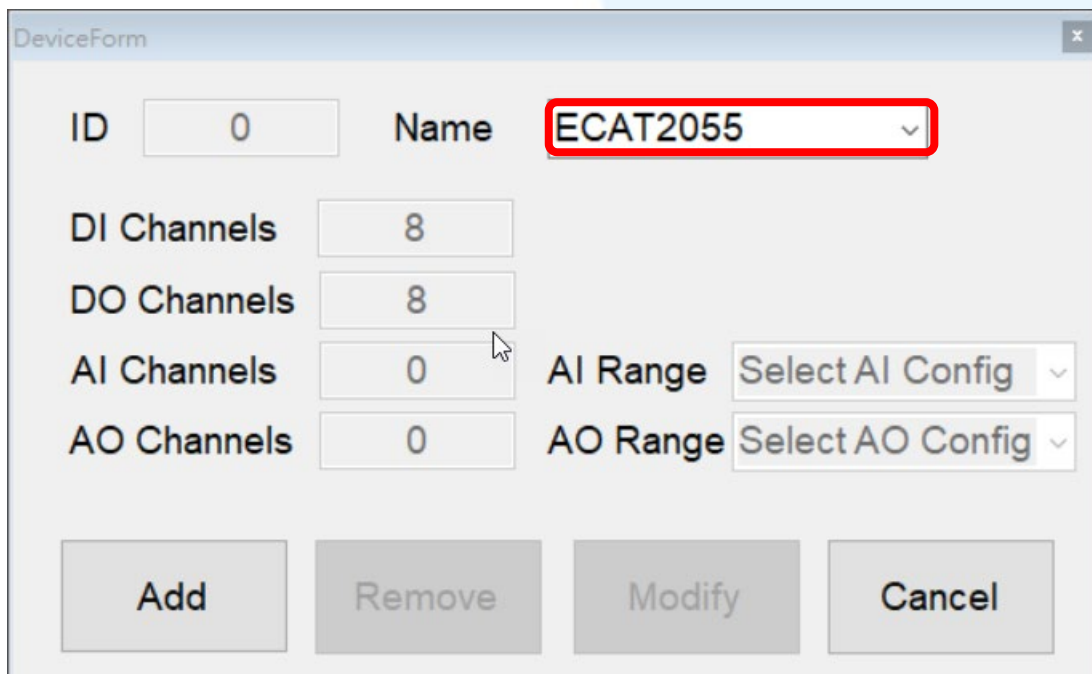
3. Click **Install** .



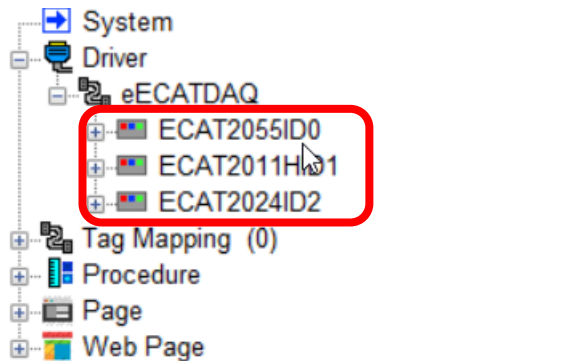
4. Click **eECATDAQ** on the left , and then click **+Device**.



5. Select the device and make related settings. For device with AI and AO channels, you need to select the configuration code. After setting, click **Add**



- If there are other EtherCAT devices that need to be installed, please repeat steps 4 and 5 to install them. You can confirm them in the left window. After confirming that the installation is complete, skip to step 7 for subsequent settings.

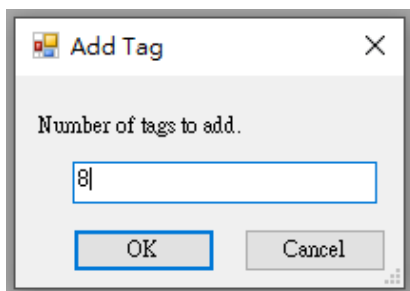


**Step3:** Add corresponding tags in eLoggerDeveloper.

- Double-click **Tag Mapping** on the left, and then select a tag (using AI as an example).

Memory Address	Name	Location	Description
InputRegister[0]	AI0	eECATDAQ->ECAT2011HID1->AI0	Analog Input Channel 0
InputRegister[1]		eECATDAQ->ECAT2011HID1->	
InputRegister[2]	AI1	eECATDAQ->ECAT2011HID1->AI1	Analog Input Channel 1
InputRegister[3]		eECATDAQ->ECAT2011HID1->	
InputRegister[4]	AI2	eECATDAQ->ECAT2011HID1->AI2	Analog Input Channel 2
InputRegister[5]		eECATDAQ->ECAT2011HID1->	
InputRegister[6]	AI3	eECATDAQ->ECAT2011HID1->AI3	Analog Input Channel 3
InputRegister[7]		eECATDAQ->ECAT2011HID1->	
InputRegister[8]	AI4	eECATDAQ->ECAT2011HID1->AI4	Analog Input Channel 4

- Click **New Tag**, enter the number of new tags, and click **OK**.



3. Select the added Tag (you can hold down the mouse button and drag the cursor to select multiple tags).
4. Change the Data Type to 32-bit Float.

Memory Address	Name	Location	Description	Note
InputRegister[0]	AI0	eECATDAQ->ECAT2011HID1->AI0	Analog Input Channel 0	
InputRegister[1]		eECATDAQ->ECAT2011HID1->		
InputRegister[2]	AI1	eECATDAQ->ECAT2011HID1->AI1	Analog Input Channel 1	
InputRegister[3]		eECATDAQ->ECAT2011HID1->		
InputRegister[4]	AI2	eECATDAQ->ECAT2011HID1->AI2	Analog Input Channel 2	
InputRegister[5]		eECATDAQ->ECAT2011HID1->		
InputRegister[6]	AI3	eECATDAQ->ECAT2011HID1->AI3	Analog Input Channel 3	
InputRegister[7]		eECATDAQ->ECAT2011HID1->		
InputRegister[8]	AI4	eECATDAQ->ECAT2011HID1->AI4	Analog Input Channel 4	

Tag Name	Description	Memory Address	Data Type	Gain	Offset
		-1	16-bit Signed Integer	0	0

Tag Name	Description	Memory Address	Data Type	Gain	Offset	Range
AI0	AI0	0	16-bit Signed Integer	1	0	-32768.000~32767.000
AI1	AI1	1	16-bit Signed Integer	1	0	-32768.000~32767.000
AI2	AI2	2	16-bit Signed Integer	1	0	-32768.000~32767.000
AI3	AI3	3	16-bit Signed Integer	1	0	-32768.000~32767.000
AI4	AI4	4	16-bit Signed Integer	1	0	-32768.000~32767.000
AI5	AI5	5	16-bit Signed Integer	1	0	-32768.000~32767.000
AI6	AI6	6	16-bit Signed Integer	1	0	-32768.000~32767.000
AI7	AI7	7	16-bit Signed Integer	1	0	-32768.000~32767.000

5. Enter the start address in the Memory Address field (the rest of address will automatically be filled).

Memory Address	Name	Location	Description	Note
InputRegister[0]	AI0	eECATDAQ->ECAT2011HID1->AI0	Analog Input Channel 0	
InputRegister[1]		eECATDAQ->ECAT2011HID1->		
InputRegister[2]	AI1	eECATDAQ->ECAT2011HID1->AI1	Analog Input Channel 1	
InputRegister[3]		eECATDAQ->ECAT2011HID1->		
InputRegister[4]	AI2	eECATDAQ->ECAT2011HID1->AI2	Analog Input Channel 2	
InputRegister[5]		eECATDAQ->ECAT2011HID1->		
InputRegister[6]	AI3	eECATDAQ->ECAT2011HID1->AI3	Analog Input Channel 3	
InputRegister[7]		eECATDAQ->ECAT2011HID1->		
InputRegister[8]	AI4	eECATDAQ->ECAT2011HID1->AI4	Analog Input Channel 4	

Tag Name	Description	Memory Address	Data Type	Gain	Offset
		0	32-bit Float	0	0

Tag Name	Description	Memory Address	Data Type	Gain	Offset	Range
AI0	AI0	0	32-bit Float	1	0	-9999999.000~9999999.000
AI1	AI1	2	32-bit Float	1	0	-9999999.000~9999999.000
AI2	AI2	4	32-bit Float	1	0	-9999999.000~9999999.000
AI3	AI3	6	32-bit Float	1	0	-9999999.000~9999999.000
AI4	AI4	8	32-bit Float	1	0	-9999999.000~9999999.000
AI5	AI5	10	32-bit Float	1	0	-9999999.000~9999999.000
AI6	AI6	12	32-bit Float	1	0	-9999999.000~9999999.000
AI7	AI7	14	32-bit Float	1	0	-9999999.000~9999999.000

6. The practice of AO, DI, DO, String is the same.

Tag Name	Description	Memory Address
DI0	DI0	0
DI1	DI1	1
DI2	DI2	2
DI3	DI3	3
DI4	DI4	4
DI5	DI5	5
DI6	DI6	6
DI7	DI7	7

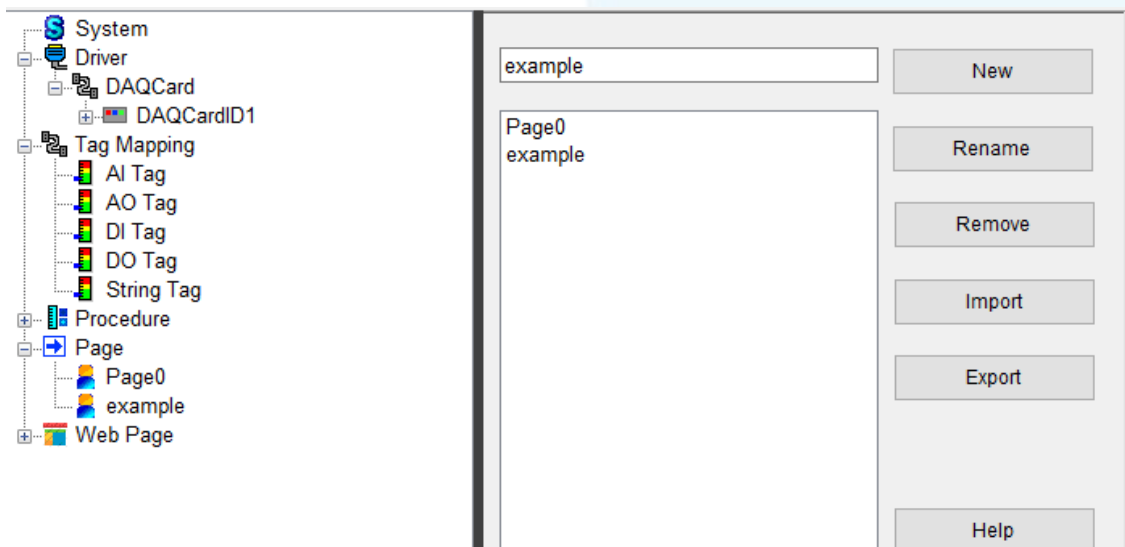
Tag Name	Description	Memory Address	Data Type	Gain	Offset	Range
AO0	AO0	0	32-bit Float	1	0	-9999999.000~9999999.000
AO1	AO1	2	32-bit Float	1	0	-9999999.000~9999999.000

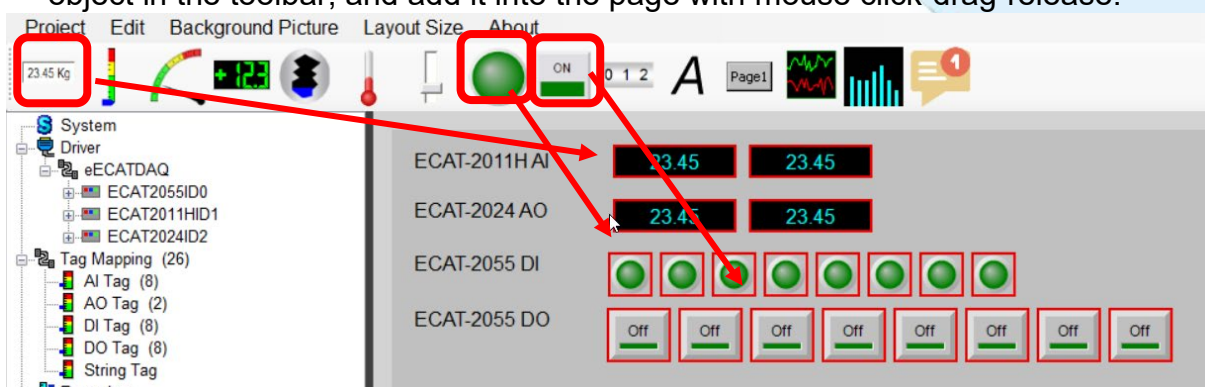
Tag Name	Description	Memory Address
String0	String0	0

### Step4: Create HMI page in eLoggerDeveloper.

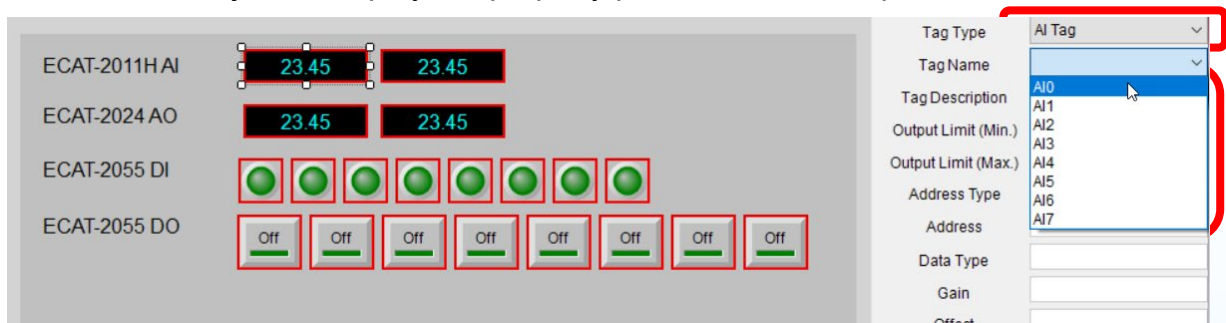
1. Double-click the **page** on the left, there is a default page 0, or you can enter a name and click **New** to create a new page.



2. Click the page you want to edit on the left (take **example** as an example). Click an object in the toolbar, and add it into the page with mouse click-drag-release.

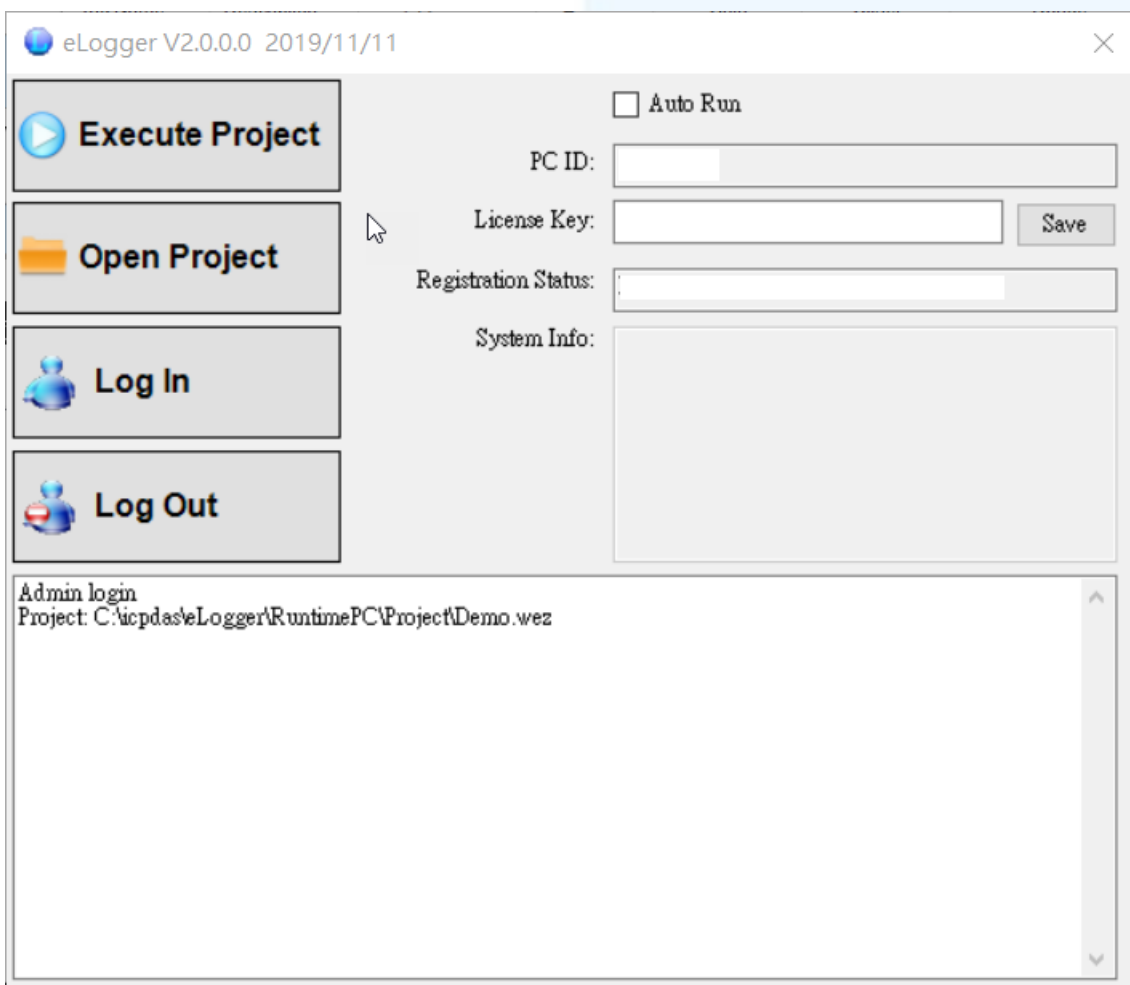
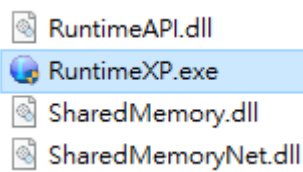


3. Select an object to display the property pane and then set parameters

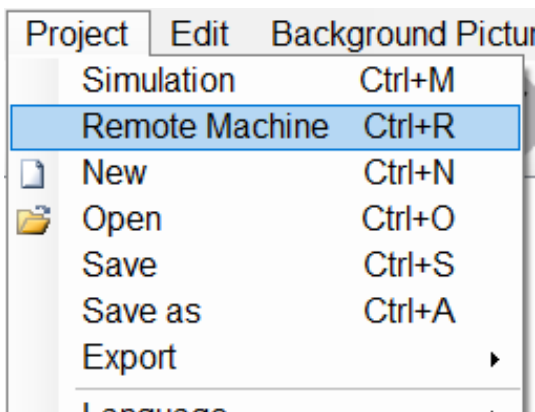


**Step5** : Upload the project and run.

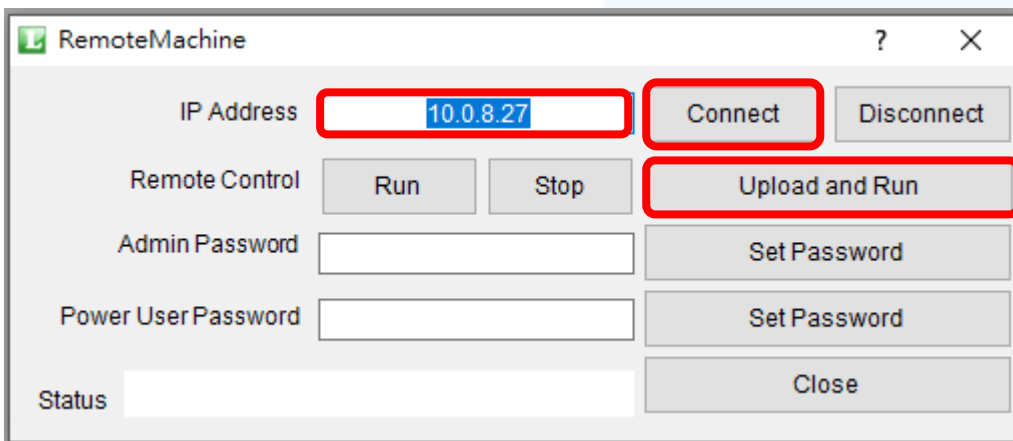
1. Execute **RuntimeXP.exe** in the RuntimePC folder on the PC with the installed device.



2. Back to eLogger Developer, click **Project >> Remote Machine** in the menu bar.



3. Enter the IP address of the PC running **RuntimeXP.exe**, click **Connect**, and then click **Upload and Run** to upload the project and run it.



4. The execution result is shown in the figure. You can click AO, DO to control the device (hardware wiring AO0 is connected to AI0, AO1 is connected to AI1, and DO0 is connected to DI0).



Supported device:

ECAT-2000 DIO series

ECAT-2000 AI series

ECAT-2000 AO series

EC2-DIO series

