

3.8.4 Wiring description for digital output module (HCQX-OD16/32-D2-PNP)

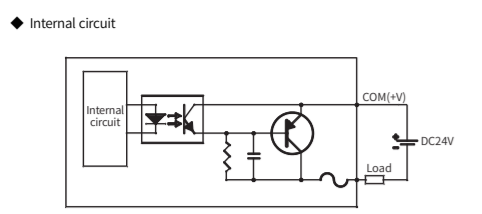


Figure 15 Internal circuit for HCQX-OD16/32-D2-PNP

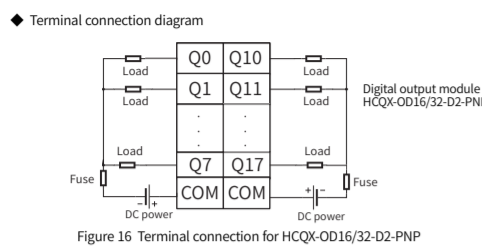


Figure 16 Terminal connection for HCQX-OD16/32-D2-PNP

3.8.5 Wiring description for digital I/O module (HCQX-MD16/32-D2)

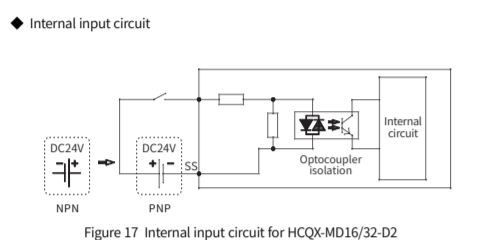


Figure 17 Internal input circuit for HCQX-MD16/32-D2

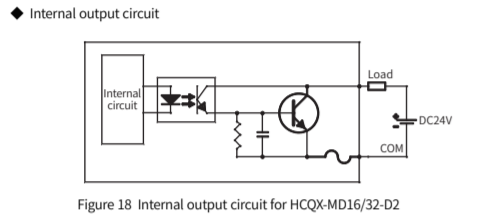


Figure 18 Internal output circuit for HCQX-MD16/32-D2

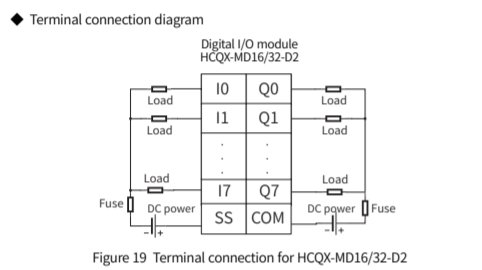


Figure 19 Terminal connection for HCQX-MD16/32-D2

3.8.6 Wiring description for digital I/O module (HCQX-MD16/32-D2-PNP)

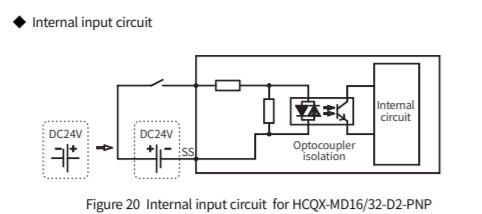


Figure 20 Internal input circuit for HCQX-MD16/32-D2-PNP

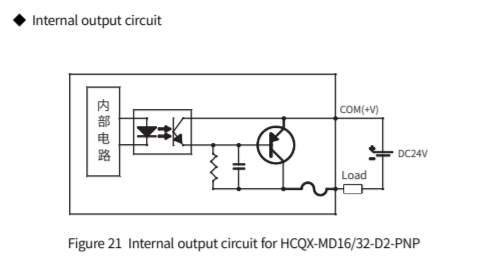


Figure 21 Internal output circuit for HCQX-MD16/32-D2-PNP

3.8.7 Terminal connection diagram for digital I/O module (HCQX-MD16/32-D2)

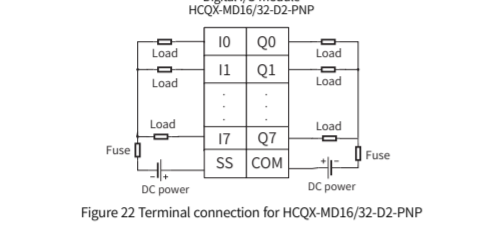
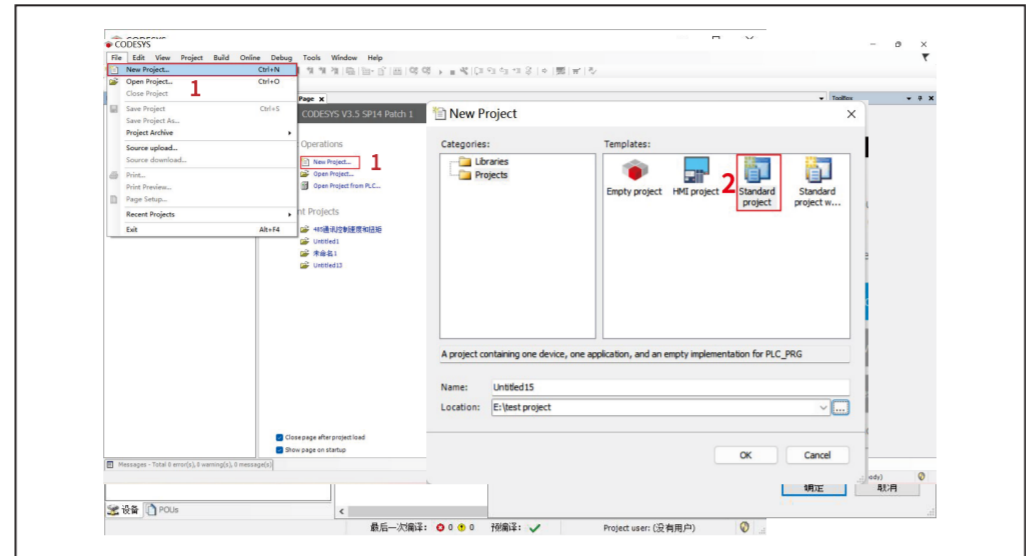


Figure 22 Terminal connection for HCQX-MD16/32-D2

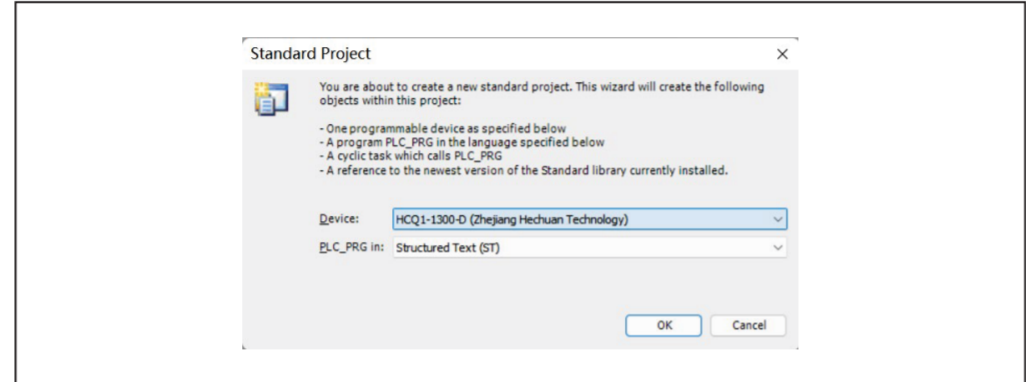
4. Module programming examples

This example uses the CPU unit HCQ1-1300-D2 + coupler module HCQX-EC01-D + digital I/O module HCQX-MD16-D2 as an example to illustrate. (Q1 connection has been described briefly here. For more details, refer to Q1 Software Manual).

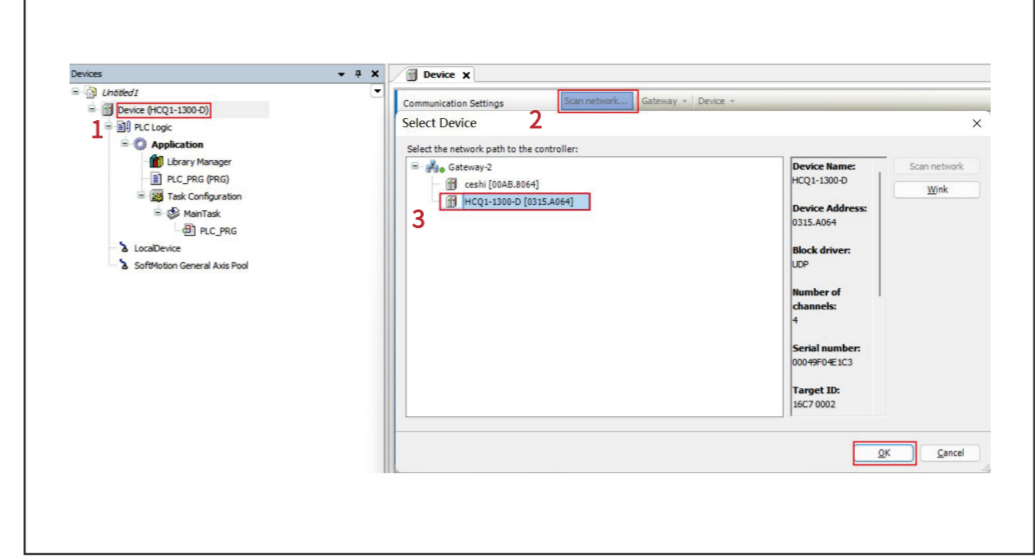
1) Open CODESYS V3.5 SP14, select New project. The user can select the project type they want, enter the name and save path, and then click "OK"



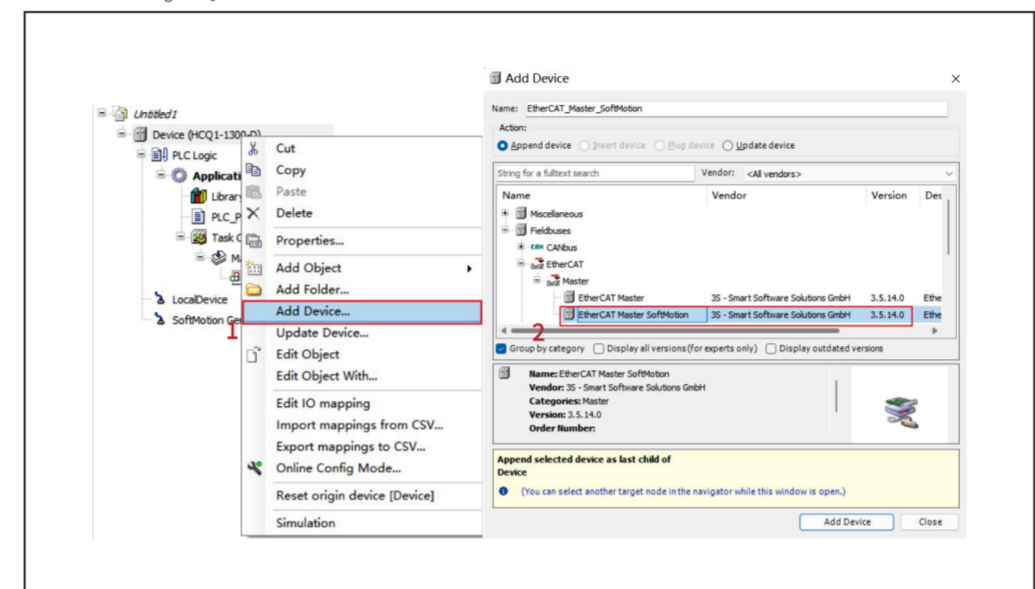
2) Follow the CODESYS guide, select the target device and main program PLC_PRG programming language. Q1 device is not installed by default, so you need to install the device description file first, otherwise the correct target device cannot be selected.



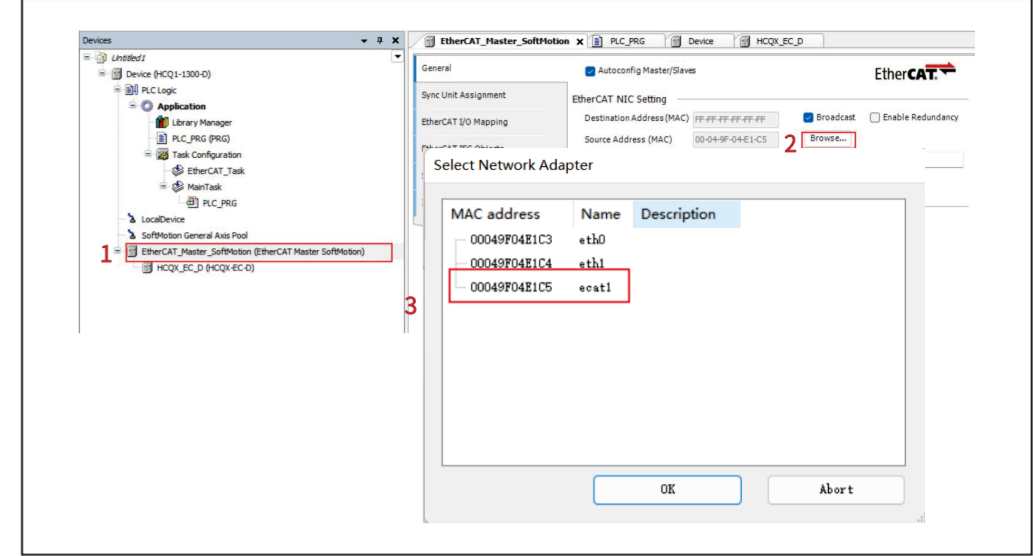
3) Double click Device→Scan network, then select the Q1 device and click "OK"



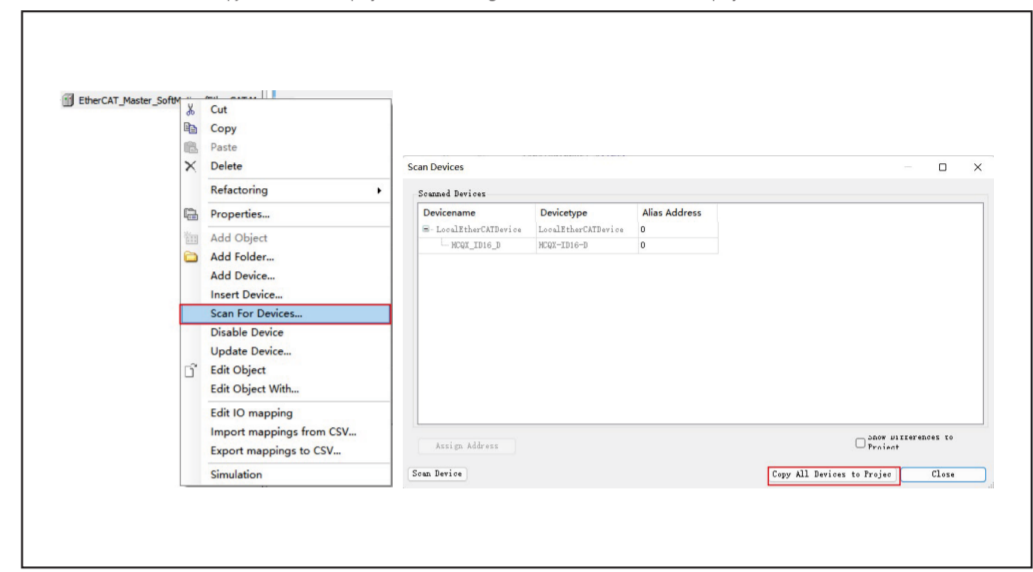
4) After communicating with Q1 device, click Device→Add device→EtherCAT Master SoftMotion



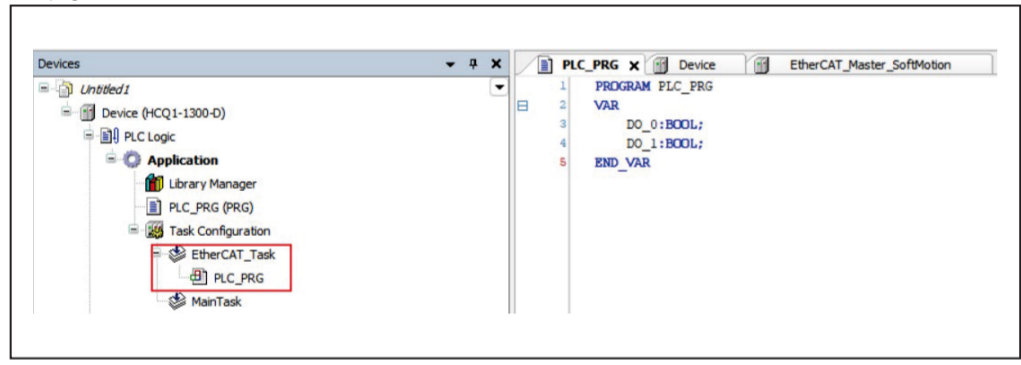
5) Double click EtherCAT Master SoftMotion, and find the "Source Address (Mac)" under the "General" on the right and select the correct EtherCAT network card.



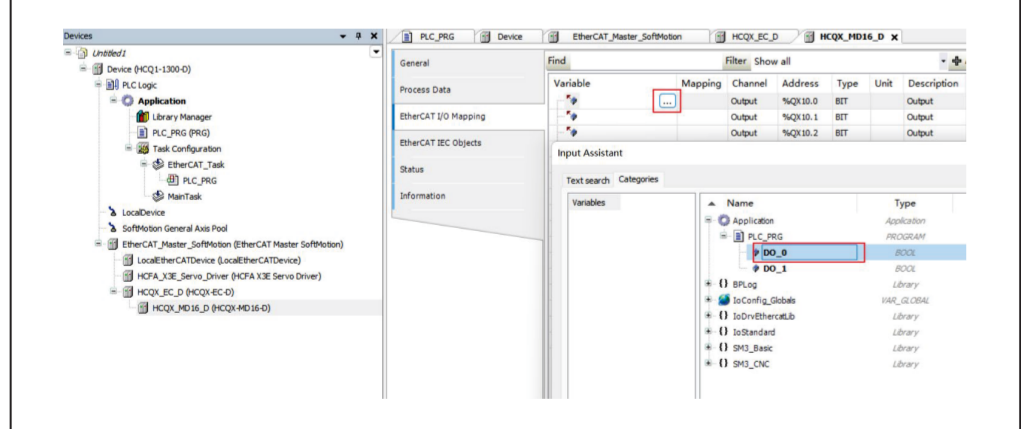
6) Right-click EtherCAT Master SoftMotion to select the scan device and for the module, which works normally and has established communication, find it in the "Scan device" and click the "Copy all devices to project" in the lower right corner to add the module to the project.



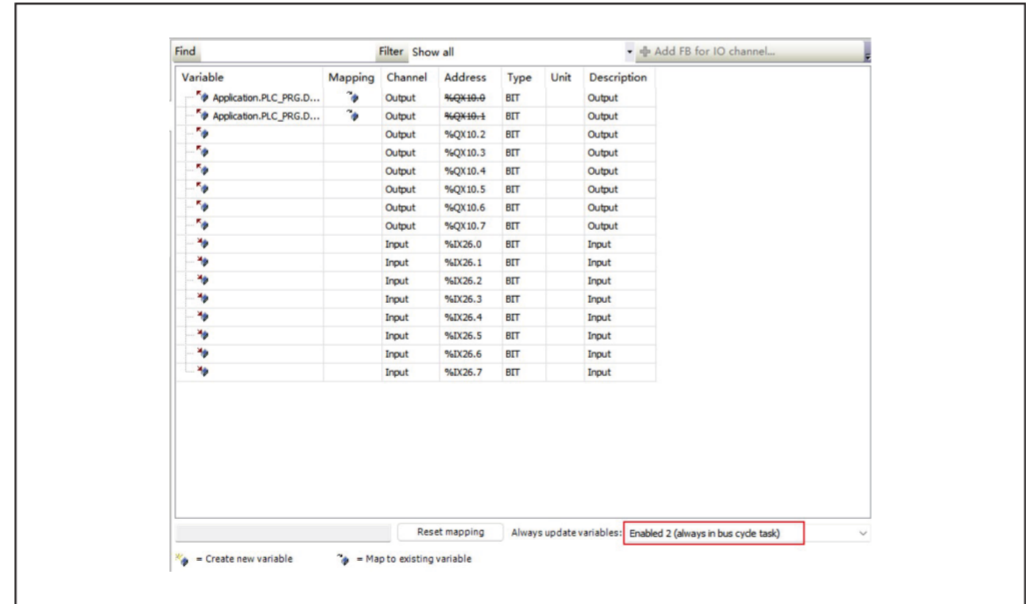
7) Use ST programming language in PLC_PRG to define two variables of type BOOL and map them to the corresponding output variables. After completion, place the program under the EtherCAT task.



8) Map the two channels of HCQX-MD16-D2 to the variables DO_0 and DO_1 respectively in the program, as follows



9) Modify the [Always update variables] in the lower right corner to [Enabled 2 (always in bus cycle task)]



10) After compiling without errors, log in and run the program. When outputting a signal to the corresponding output channel, it can be detected that the channel has a response signal output.