Advantech SE Technical Share Document

Date	2019 /11 /13	**Related Product**	CODESYS
Category	■□FAQ □ SOP □ Driver Tech Note		
Abstract	How to make CODESYS Modbus address more than 4096		
Keyword	motion control, resolution		
Related OS	N/A		
Revision History			

Date	Version	Author	Reviewer	Description
2019/11/12	V1.0	Owen.Chang	Nick.Liu	

■ **Problem Description & Architecture:**

For CODESYS Modbus server, the address is only up to 4096. However, sometime tags are more than 4096.

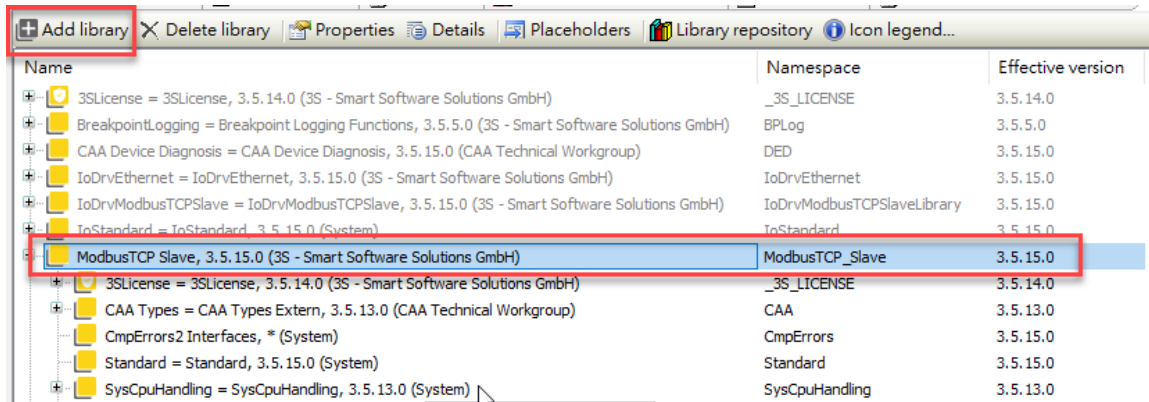| Holding registers (%IW)	Number of holding registers: possible values are 1–4096. The maximum number can be limited in the device description.
	Writable: ☑: For the holding register, writable I/O mappings (%QW addresses) are generated instead of read-only I/O mappings (%IW addresses). This allows the holding registers to be set by the Modbus device application (= server application) by means of the usual I/O mapping.
Input registers (%QW)	Number of input registers: possible values are 1–4096. The maximum number can be limited in the device description.

There are two ways you could provide to customers:

1. Could HMI support OPC UA? If yes, actually OPC more convenience for customers.
2. Use the Function Block to import the address array.

This FAQ will show you how to use this Function Block.

■ **Brief Solution - Step by Step:**

1. **Add ModbusTCP Slave Library**

2. Write the below program as the picture

```
PROGRAM POU
VAR
    fbMbTcpDevice : ModbusTCP_Slave.ModbusServer;
    awInputData    : ARRAY [0..9998] OF WORD;
    awOutputData   : ARRAY [0..9] OF WORD;

    xBusy                                : BOOL;
    xError                               : BOOL;
    byConnections : BYTE;

    xEnable                              : BOOL;
END_VAR
```

```
awInputData[9998] := 1234;
fbMbTcpDevice(
                wPort:= 502,
                pInputData:= ADR(awInputData),
                pOutputData:= ADR(awOutputData),
                uiInputDataSize:= 9999,
                uiOutputDataSize:= 10,
                xEnable:= xEnable,
            //xReset:= ,
                tTimeout:=10000,
                xBusy=> xBusy,
                xError=> xError,
                byClientConnections=> byConnections
);

    fbMbTcpDevice();
```

3. Test Modbus server by Modbus client