

Siemens S7-400 (Ethernet)

Supported Series: Siemens S7-400 Ethernet PLC.

Website: <http://www.siemens.com/entry/cc/en/>

HMI Setting:

Parameters	Recommended	Options	Notes
PLC type	Siemens S7-400 (Ethernet)		
PLC I/F	Ethernet		
Port no.	102		
Link type	PG	PC, OP	
Rack	0	0-7	
CPU slot	3	1-31	To Connect with S7-1200, Slot 1 must be selected.
PLC sta. no.	0	0-31	

Device Address:

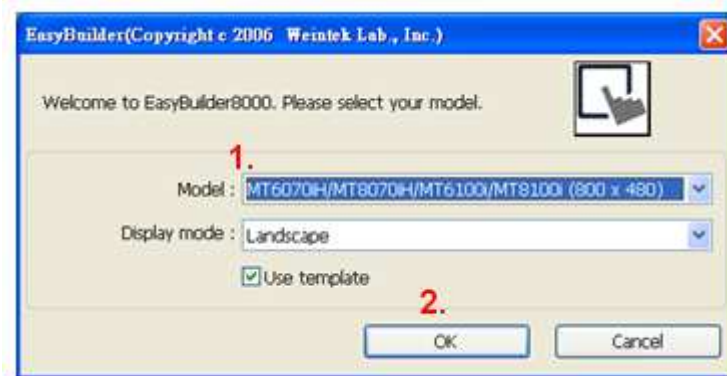
Bit/Wor	Device type	Format	Range	Memo
B	I	DDDDo	0 ~ 40957	Input (I)
B	Q	DDDDo	0 ~ 40957	Output (O)
B	M	DDDDo	0 ~ 40957	Bit Memory
B	DBnBit	FFFFFFDDDDo	0 ~ 6553599997	
B	DBxBit	FFFFFFDDDDD	0 ~ 10700655327	
B	DB1Bit-DB99Bit	DDDDDo	0 ~ 655327	Data Register Bit
W	IW	DDDD	0 ~ 4095	Input (I)
W	QW	DDDD	0 ~ 4095	Output (O)
Byte	MB	DDDD	0 ~ 4095	Bit Memory Byte
W	MW	DDDD	0 ~ 4095	Bit Memory
DW	MD	DDDD	0 ~ 4094	
Byte	DBBn	FFFFFFDDDDD	0 ~ 655359999	Data Register Byte
Byte	DBBx	FFFFFFDDDDD	0 ~ 1070065532	
W	DBn	FFFFFFDDDDD	0 ~ 655359999	Data Register (must be even)
W	DBx	FFFFFFDDDDD	0 ~ 1070065532	
DW	DBDn	FFFFFFDDDDD	0 ~ 655359999	Data Register Double Word (must be even)
DW	DBDx	FFFFFFDDDDD	0 ~ 1070065532	

Bit/Wor	Device type	Format	Range	Memo
W	DBn_String	FFFFFFDDDD	0 ~ 655359999	
W	DBx_String	FFFFFFDDDD	0 ~ 1070065532	
W	DBn_String1	FFFFDDDD	0 ~ 40969999	
W	DBx_String1	FFFFFFDDDD	0 ~ 1070065532	
DW	DBDn_String	FFFFFFDDDD	0 ~ 655359999	
DW	DBDn_String	FFFFFFDDDD	0 ~ 1070065532	
W	DB1 ~ DB99	DDDD	0 ~ 65532	Data Register (must be even)

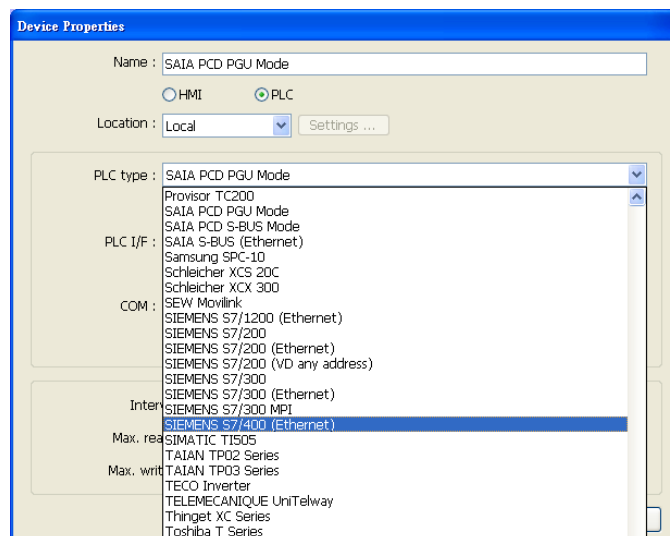
* Double word and floating point value must use DBDn device type.

EasyBuilder Device Setting Steps

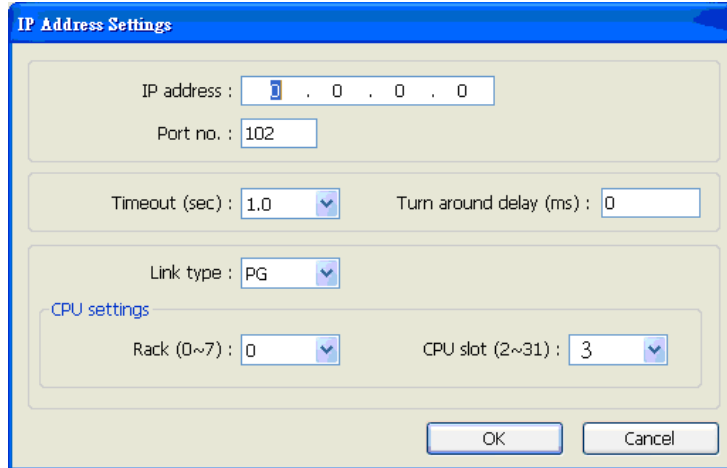
1. Open EasyBuilder, File/NEW, select HMI model and press [OK].



2. "System Parameter Settings" window is shown, click [New].
3. Select "SIEMENS S7-400(ETHERNET)".



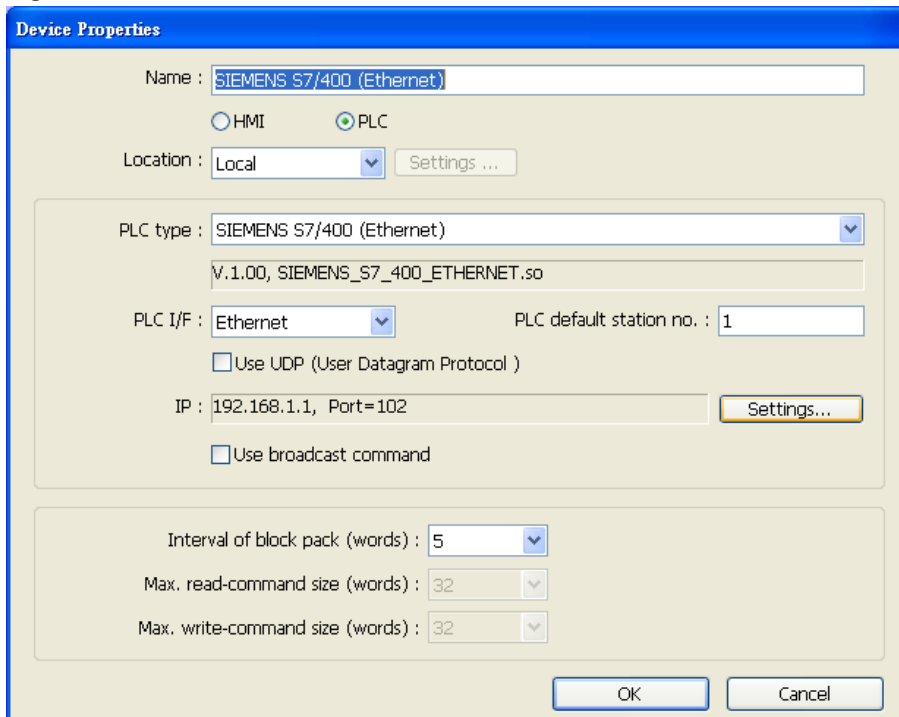
4. Press [Settings].
5. Set S7-400 IP, Port no., Link type, Rack and CPU slot. (must match PLC settings)



The IP Address Settings dialog box contains the following fields and controls:

- IP address: 192.168.1.1
- Port no.: 102
- Timeout (sec): 1.0
- Turn around delay (ms): 0
- Link type: PG
- CPU settings:
 - Rack (0~7): 0
 - CPU slot (2~31): 3
- Buttons: OK, Cancel

6. The setting will be finished as below.



The Device Properties dialog box contains the following fields and controls:

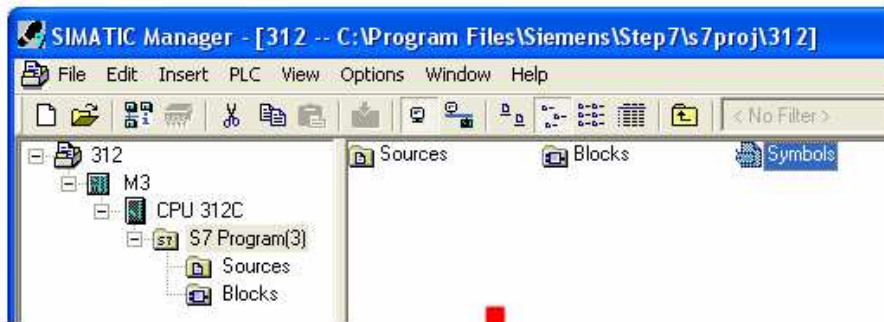
- Name: SIEMENS S7/400 (Ethernet)
- Radio buttons: HMI, PLC
- Location: Local
- PLC type: SIEMENS S7/400 (Ethernet)
- V.1.00, SIEMENS_S7_400_ETHERNET.so
- PLC I/F: Ethernet
- PLC default station no.: 1
- Use UDP (User Datagram Protocol)
- IP: 192.168.1.1, Port=102
- Use broadcast command
- Interval of block pack (words): 5
- Max. read-command size (words): 32
- Max. write-command size (words): 32
- Buttons: OK, Cancel

How to Import Tag:

SIEMENS STEP 7 program allows building files of user-defined tag (*.dif file and *.AWL file), and import these files in EasyBuilder8000/EasyBuilderPro -> System Parameter Settings. The following describes how to build and import these two types of files.

1. Building *.dif File

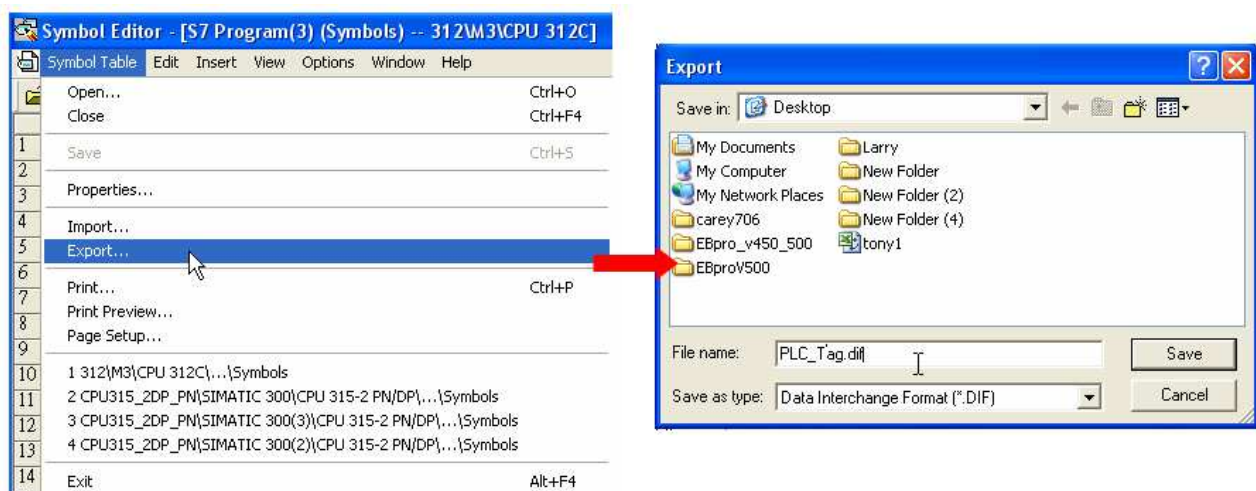
a. In "Symbols" create user-defined tag.



The Symbol Editor window displays a table of symbols. A red arrow points from the 'S7 Program(3)' folder in the previous screenshot to this window.

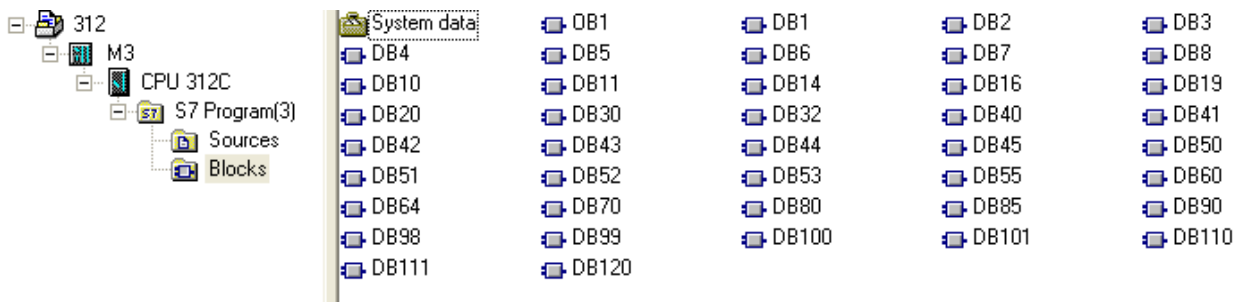
	Status	Symbol	Address	Data type	Comment
1		I0.0	I 0.0	BOOL	
2		I0.1	I 0.1	BOOL	
3		I0.2	I 0.2	BOOL	
4		I0.3	I 0.3	BOOL	
5		I0.4	I 0.4	BOOL	
6		I0.5	I 0.5	BOOL	
7		I0.6	I 0.6	BOOL	
8		I0.7	I 0.7	BOOL	

b. Click **Export** to export the edited file and click **Save**.

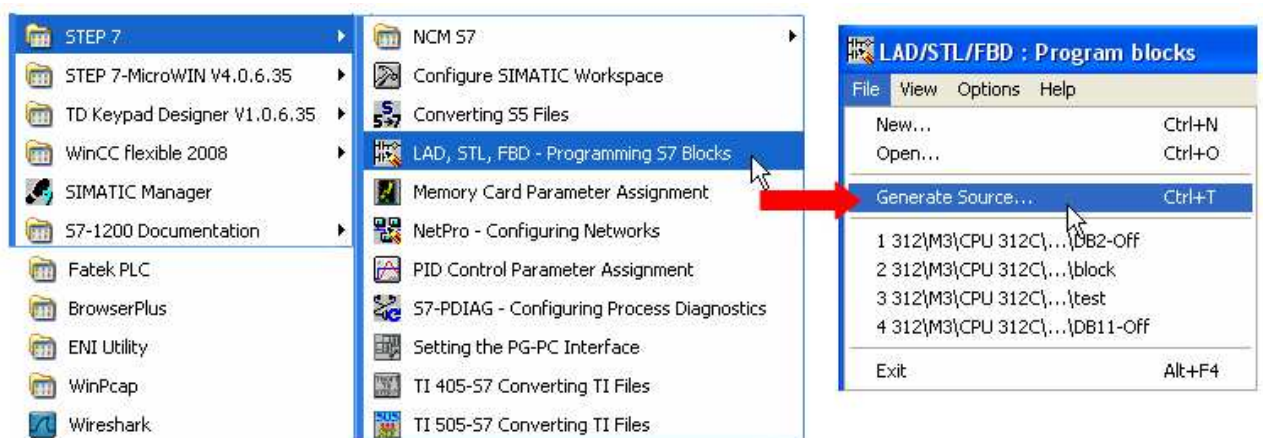


2. Building *.AWF File

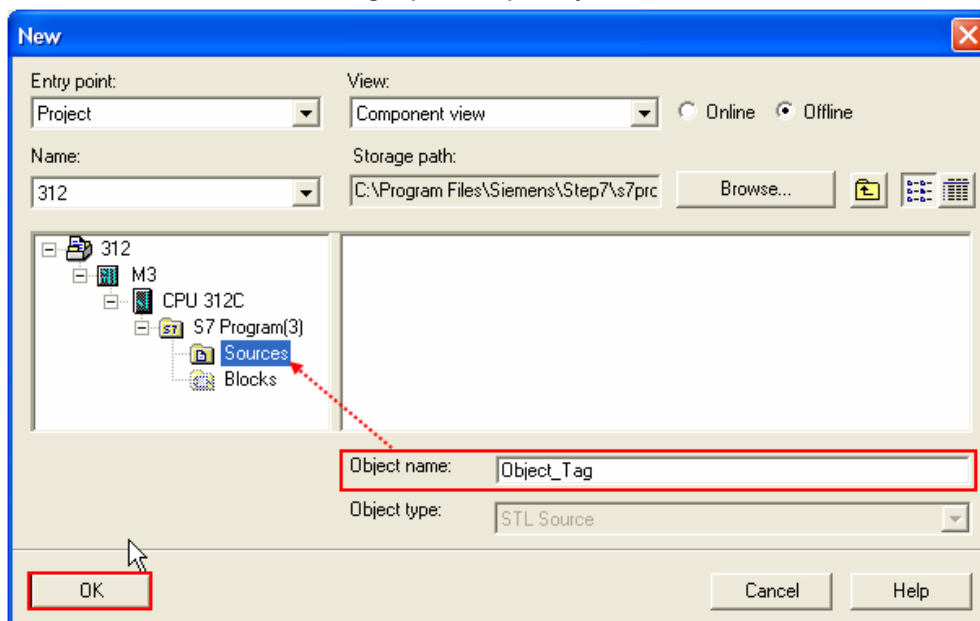
a、 In **Blocks** create items as shown below:



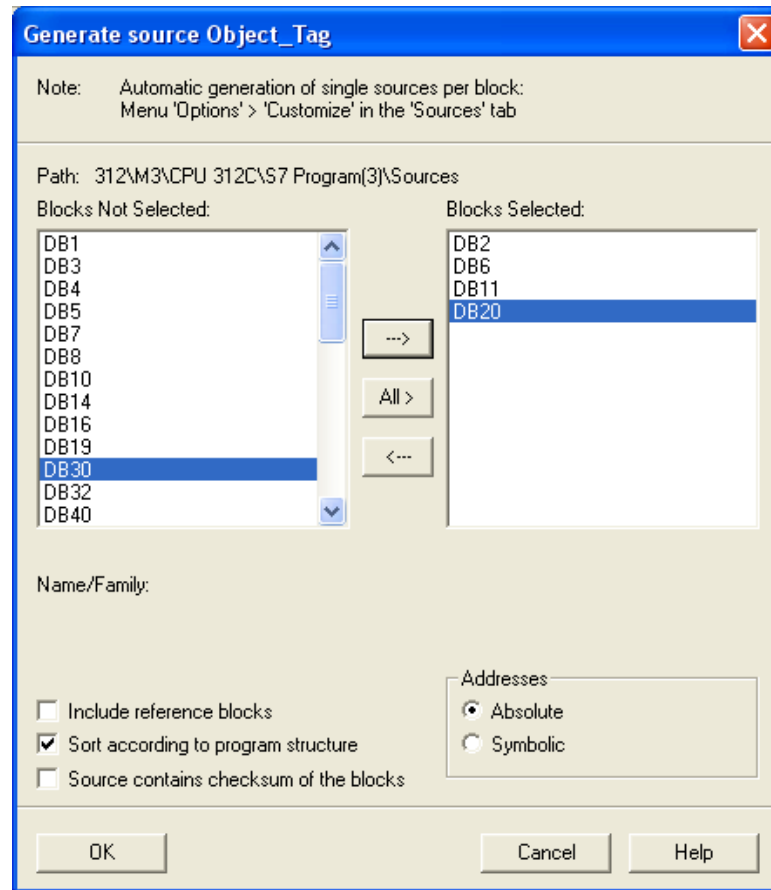
b、 Open **LAD/STL, FBD – Programming S7 Blocks**, click **File -> Generate Source**.



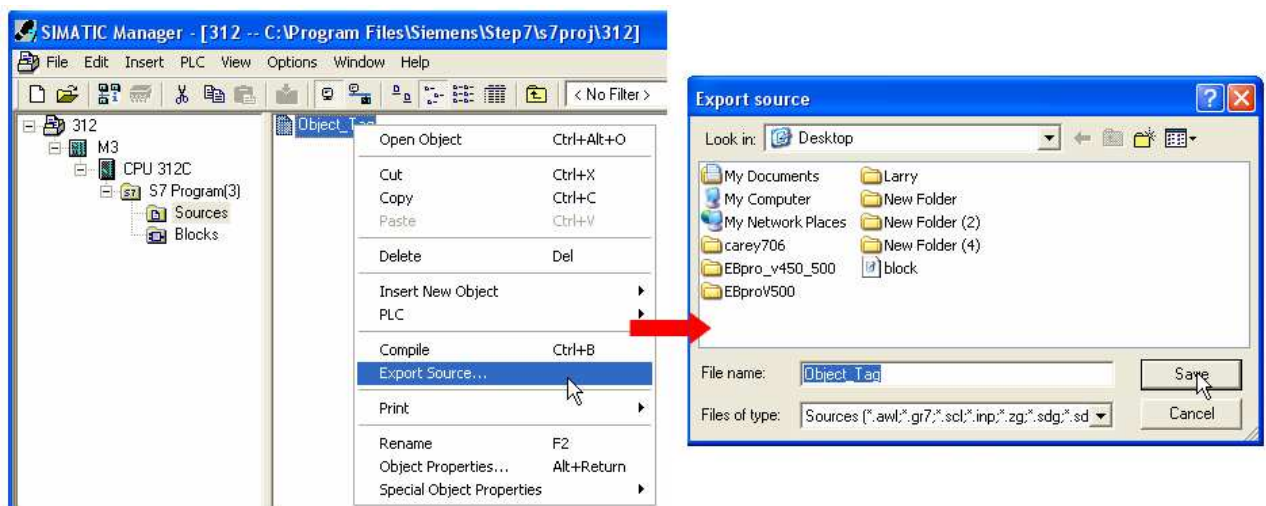
c、 Select **Sources** as storage path, specify the file name then click **OK**.



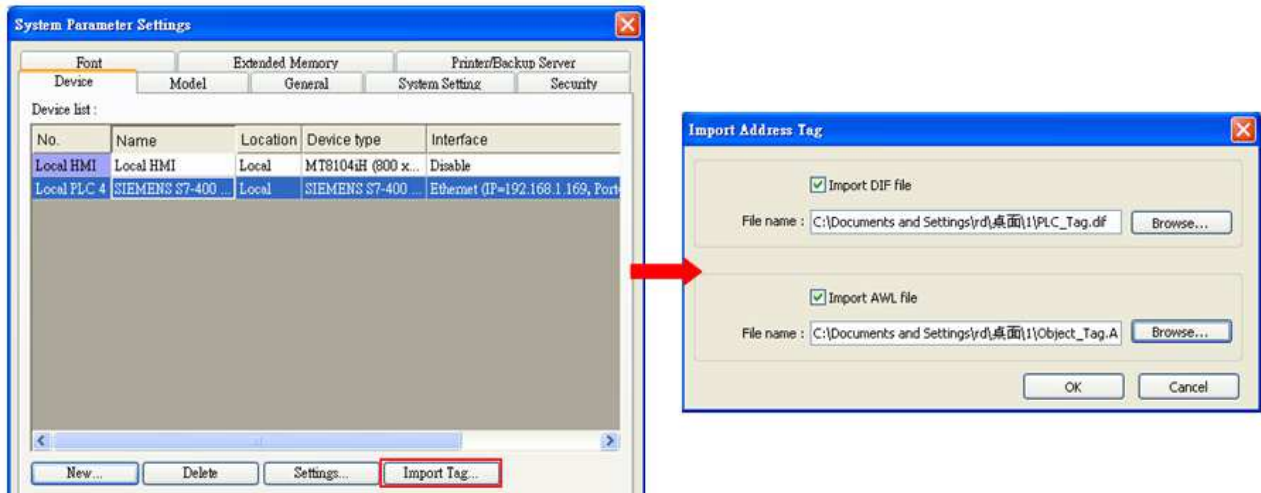
- d. Select the objects to be exported then click **OK**.



- e. Under **Sources** there will be names of the saved files, select **Export Source** to build *.AWL file.



The generated *.dif and *.AWL files can be imported in EasyBuilder8000/EasyBuilderPro **System Parameter Settings**, by clicking **Import Tag**.



Tag information successfully imported.



Wiring Diagram:

Ethernet cable:

