

SOFTLINK 300

315-2DP CPU Specification Reference Manual

This manual is part of the documentation
Package with the order number
300 315-2DP01

Preface

Purpose of the manual

This manual gives you a brief overview of SOFTLINK 300 CPU in an S7-300. You can look up information on how to operate the system, its function and technical data of the CPUs.

Essential know-how

General knowledge of automation technology is required for comprehension of this Manual. You should also be acquainted with basic STEP 7 software.

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Hardware Configuration



1.1 Technical Data

Order No.	300 315-2DP01
Electric	
Input Voltage	DC 24V
Current Consumption	1.2A
Current supply	3.5A
CPU	
Work memory	196KB
Load memory	144KB
Bit memory	8192
Total address space I/O	1024byte
Timer/Counter	256
Blocks	OB: 1/10/20/35/40/80/82/85/86/100/121/122 FB: 1024 FC:1024DB:2047
Processing time of bit/word	0.18/0.78us
Interface	MPI & Profibus DPmaster/slave
Module per rack	32
Profibus DP	
Slave	
Total address space I/O	64 Byte
Transmission rate	9.6K to 12MB baud
Master	
No. of slaves	Max 125
Total address space I/O	1024 Byte
Transmission rate	9.6K to 12MB baud

1.2 Expansion modules

The CPUs support maximum 32 modules in one rack. According to the customized requirement, modules can be hung from No. 0 to 32.

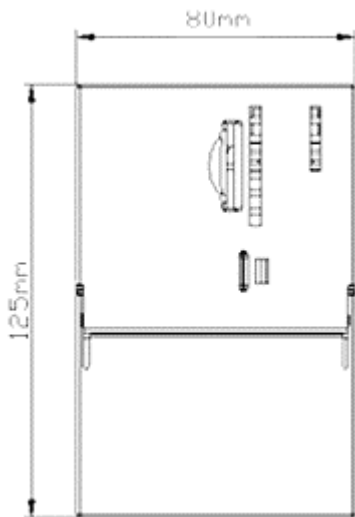
SOFTLINK 300 CPUs are compatible with Siemens S7-300, programmed in STEP® 7. The solution to deal with maximum 32 modules can be found in [2.2 Hardware Configuration Settings](#) in this manual.



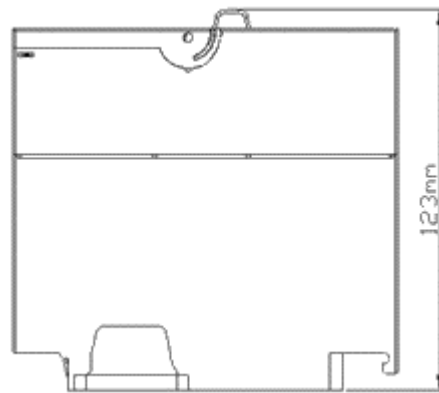
1.3 Backup battery

The built-in backup battery in the CPUs can realize the program and save parts of data for 14 days.

1.4 Dimensioned Drawing



Front view



Back view

Software Configuration



2.1 Blocks

2.1.1 OB Blocks

THE OB blocks SOFTLINK 300 CPU supports include:

OB 1/10/20/35/40/80/82/85/86/100/121/122.

2.1.2 Maximum of FB, FC, DB blocks

FB	1024
FC	1024
DB	2047

2.2 Hardware Configuration Settings

2.2.1 Expansion Modules

For the CPUs can realize maximum 32 modules in one rack without the need of IM360, IM361 or IM365, the hardware configuration(HWC) settings in STEP® 7 is different from Siemens CPUs.

The CPUs expand modules via virtual extension. The specific method is:

When the expansion modules come to above 8 ones, we can add modules via IM360 or IM361 when programming. The corresponding numbers to add is as below.

Numbers for Modules	IM360	IM361
8-16	1	1
17-24	1	2
35-32	1	3



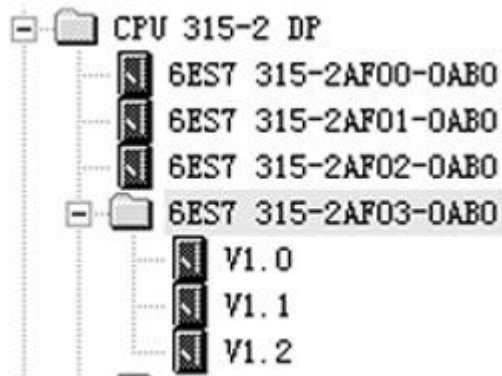
Notice

If room limited, the CPUs support of the extension via IM360, IM361 and IM365.

2.2.2 Choice for CPU

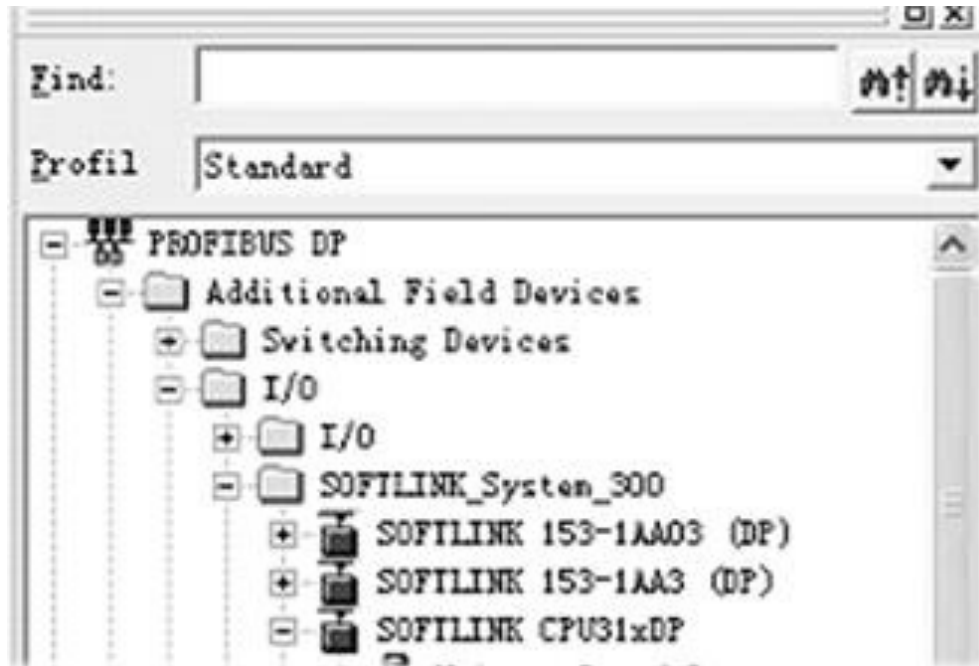
In hardware configuration settings in STEP® 7, the choice for SOFTLINK CPU will be:

6ES7-315-2AF03-0AB0
V1.2 version



2.2.3 CPU as Slave

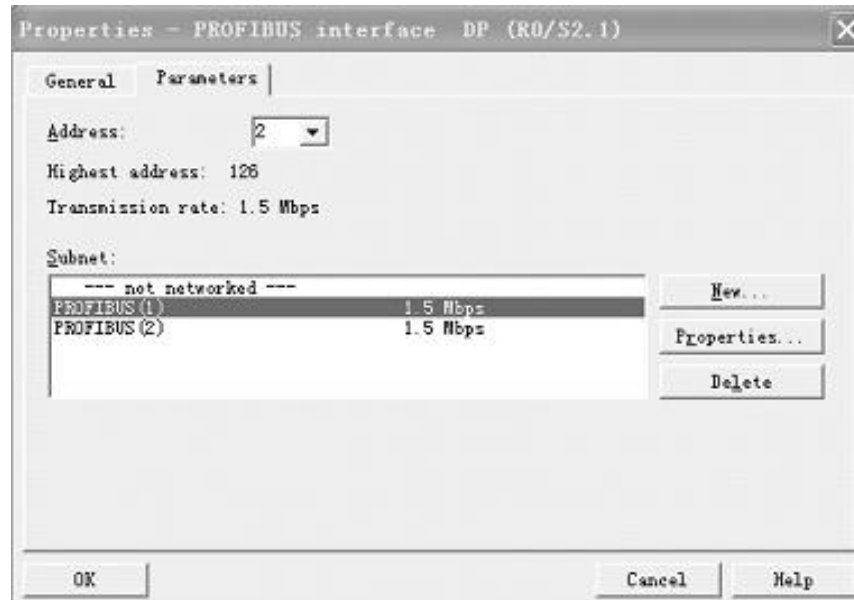
GSD files will be needed to install when the CPU is used as a slave. After the installation of GSD files, the corresponding device icons will be found as below.



After the installation of GSD files, DP slave configuration can be proceeded. The specific method is showed below.

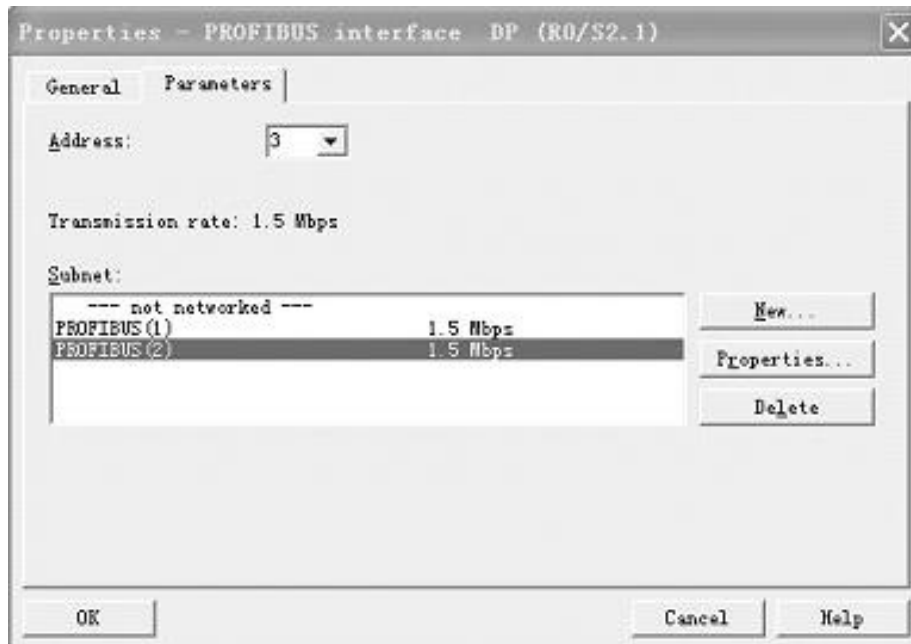
1. Set up DP master

- 1) Open master HWC window, insert a CPU in the rack, and set DP property.
- 2) Set up 2 DP nets via 'new' item in PROFIBUS Interface DP ParameterView.
- 3) Set proper baudrates for the 2 DP nets as required (both must be the same).
- 4) Click OK to finish the configuration.



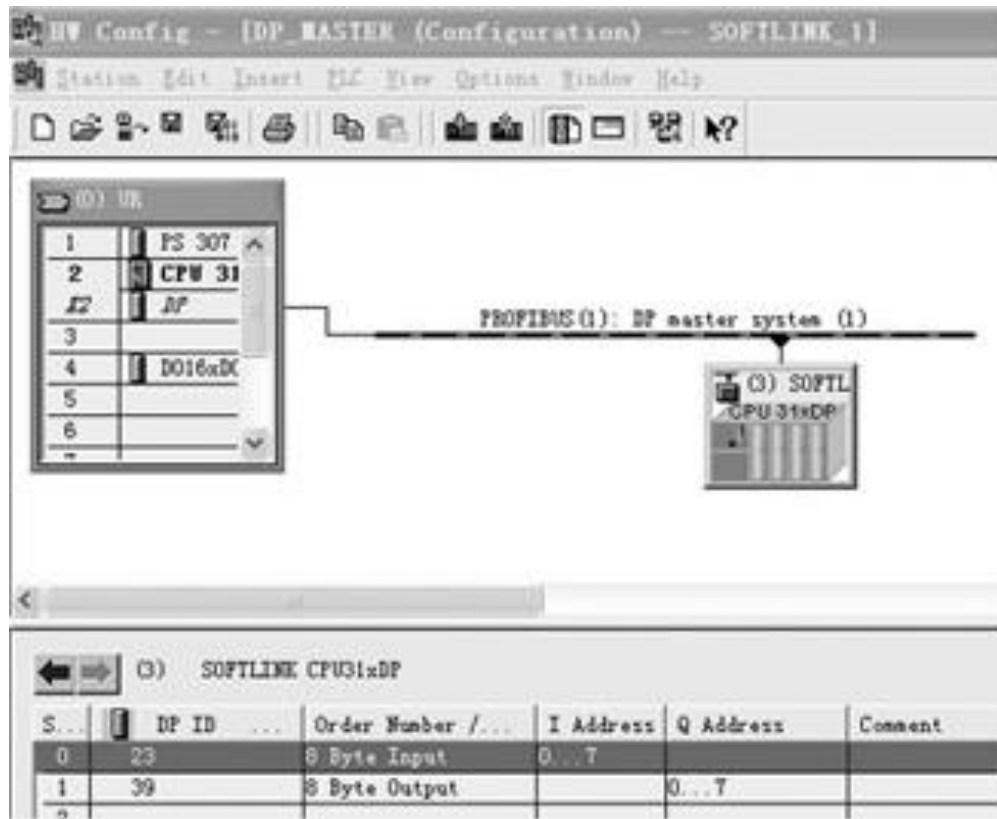
2. Set up DP slave

Open HWC slave window, and choose the other net different from master when setting CPU properties as below.



3. Insert CPU into the DP net

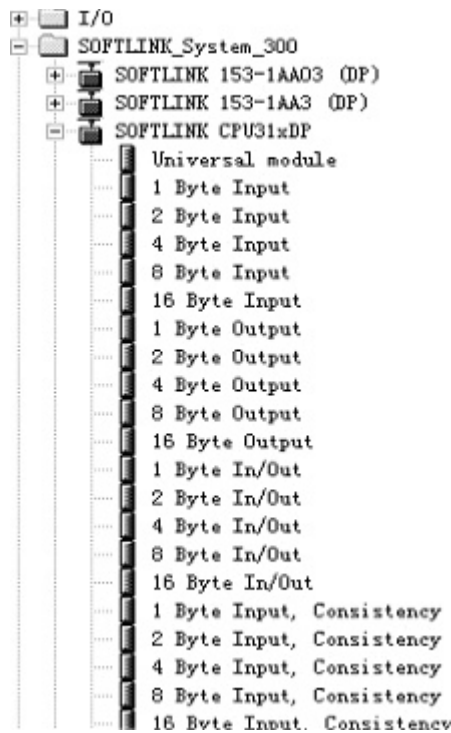
Directly drag the device icons to the net or double-click them. Below shows the result.



4. Data Communication Configuration

After inserting DP subnet to DP net, the communication channel between slaves and master is required, e.g. 8-byte input/output data exchange between slaves and master.

1) Click device icons in DP subnet, and choose the byte as required as below.

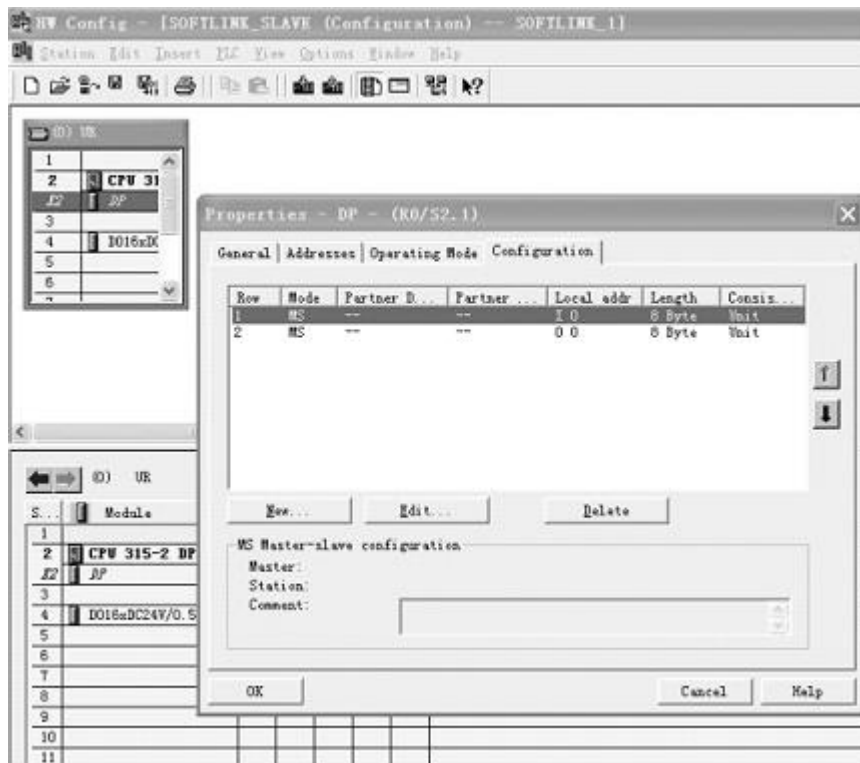


S...	DP ID	Order Number /...	I Address	Q Address	Comment
0	23	8 Byte Input	0...7		
1	39	8 Byte Output		0...7	

2) Communication Configuration for slaves

- ① Unfold config 'Properties' to set DP slave property.
- ② Set up communication bytes between slaves and master via 'new' button.
- ③ Input address should be conformity with the corresponding output address in master, while the output address should be conformity with the corresponding input address in master.

The config is completed when it is showed as below.

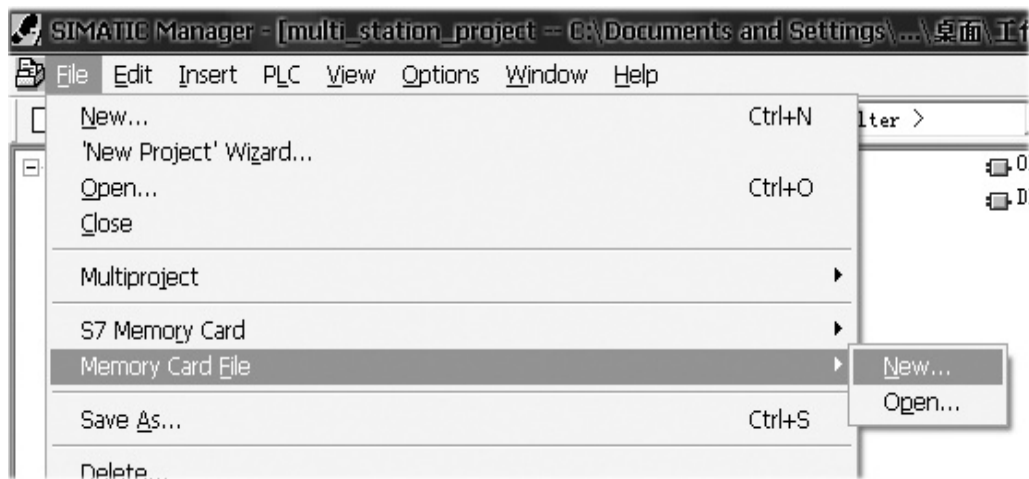


2.3 MMC Card

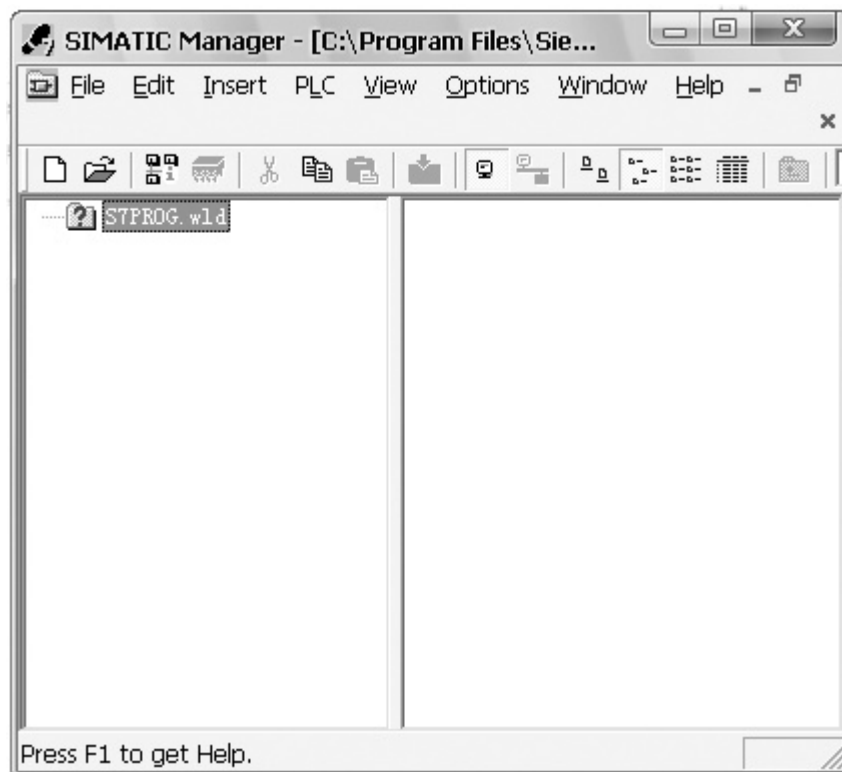
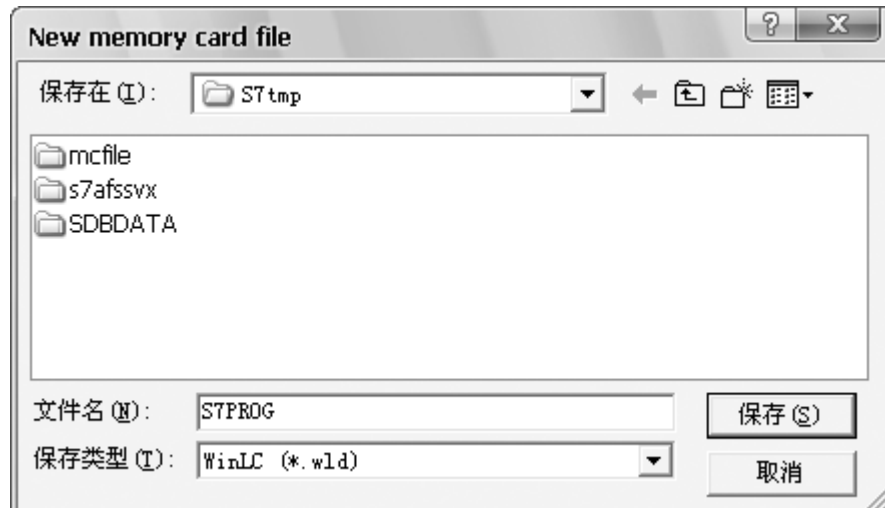
The CPUs could save data for 14 days under power loss. You can save data for a longer time by other methods, e.g. CD, hard-disk or U-disk on PC. Here displays the method of MMC Card to save files.

1. Build a hold file

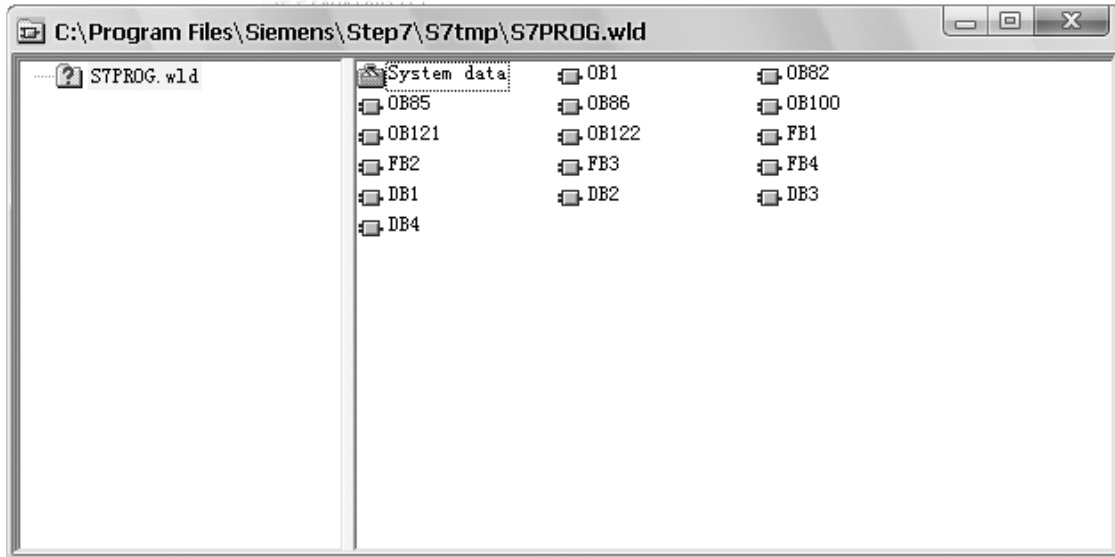
- 1) Build a hold file on PC.
- 2) Open the project needed to be saved, and choose 'Memory Card File' as below.



3) Build 2 hold files, named AutoLoad file and S7Prog file as showed below.



- 4) Copy and paste all the blocks files into the MMC card files and save them.



- 5) Build AutoLoad file with the same method.
AutoLoad.wld & S7Prog.wld will appear in the corresponding files. You can copy them into MMC card via card reader.
The files are saved completely.

The files in MMC card will be saved forever (under normal operation). If MMC card is inserted before CPU is on power, it will proceed card reading operation automatically and upload the blocks files into CPU when on power.

What we recommend is to extract MMC card.

Annex -- Compatible Module

SOFTLINK 300 CPUs support all SOFTLINK 300 modules and some of Siemens modules. The ones do not support are showed as below.

Order No. for Siemens Modules	Description	Support or not
6ES7 321-1BP00-0AA0	DI64 × DC 24V	NO
6ES7 321-7RD00-0AB0	DI4 × NAMUR, EX	NO
6ES7 321-7TH00-0AB0	DI16 × NAMUR	NO
6ES7 322-1BP00-0AA0	DO64 × DC 24V	NO
6ES7 322-1BP50-0AA0	DO64 × DC 24V	NO
6ES7 322-8BH00-0AB0	DO16 × 24V, Diag	NO
6ES7 322-8BH01-0AB0	DO16 × 24V, Diag	NO
6ES7 338-7XF00-0AB0	SM338 8× IQ-SENSE	NO
6GK7 342-5DA02-0XE0	CP342-5	NO
6GK7 342-5DF00-0XE0	CP342-5 FO	NO
6GK7 342-5FA01-0XE0	CP342-5 FMS	NO
All	CP343-1 Ethernet modules	NO
6ES7 353-1AH01-0AE0	FM353 STEPPER	NO
6ES7 354-1AH01-0AE0	FM354 SERVO	NO
6ES7 357-4AH01-0AE0	FM357 4AXIS Control	NO
6ES7 352-5AH00-0AE0	FM352-5	NO
6ES7 352-5AH10-0AE0	FM352-5	NO
6ES7 355-0VH10-0AE0	FM355 C PID K-BUS	NO
6ES7 355-1VH10-0AE0	FM355 S PID K-BUS	NO

Support & Service

Support

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