

## 1. Introduction

- The modular mini PLC system for the low-end and mid performance ranges
- With a comprehensive range of modules for optimum adaptation to the automation task
- User-friendly handling, uncomplicated and fan-free design
- Space-saving, modular design without slot rules for compact machine controls
- Efficient processing speed for short machine cycle times, **0.1 microseconds**
- Graduated line of CPUs - from the entry-level CPU to the high-capacity CPU
- Easy expansion when your Automation requirement grows
- Simple and interactive **Programming software - STEP 7**
- Communication via integrated interfaces- **MPI, PROFIBUS-DP & also through Ethernet.**
- **Micro memory card** -Maintenance-free operation, Project archiving incl. symbols, comments

## 2. Product Position

S7-300 PLC can be used for **low end and mid range** applications involving upto 1000 I/O's, having complex analog closed loops, motion controls, Drive control etc. It can also be used **as Profibus DP Master or Slave in a larger automation setup.**

## 3. Modules for S7-300

### ➤ CPU Modules

These CPU's are classified in two types,

#### ❖ Compact CPUs with

- **Integral I/O** -Digital I/O, analog I/O + Pt 100
- **Faster** instruction execution times, faster alarms
- **Integral functions** like Counting, measuring, PID control, positioning
- **Inbuilt** Diagnostic features
- **Integrated interfaces**- MPI + PtP + PROFIBUS-DP

Feature	CPU 312C	CPU 313C	CPU 313C-2 PtP	CPU 313C-2 DP	CPU 314C-2 PtP	CPU 314C-2 DP
Supply Voltage	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC
Program and Data memory	16 KB	32 KB	32 KB	32 KB	64 KB	64 KB
Load Memory	4 MB with MMC	Up gradable With <b>micro memory Card (MMC)</b> up to 8 MB				
Bit Exec time In $\mu$ s	0.2	0.1	0.1	0.1	0.1	0.1
Integrated DI/DO's	10/6	24/16	16/16	16/16	24/16	24/16
Integrated AI/AO's	-	5*/2	-	-	5*/2	5*/2
External DI/DO's, maximum	256	1016	1008	8192	1016	8192
Of which central	256	992	992	992	992	992
External AI/AO's, maximum	64	253	248	512	253	512
Of which central	64	248	248	248	248	248
Integrated counters	2	3	3	3	4	4
Pulse Outputs	2	4	4	4	4	4
Integrated PID Control	N	Y	Y	Y	Y	Y
Built-in Comm. port	1	1	2	2	2	2
Comm. Interface functionality	MPI	MPI	MPI (port 0) & PtP (port 1)	MPI (port 0) & DP(port 1)	MPI (port 0) & PtP (port 1)	MPI (port 0) & DP(port 1)
Central controller+ expansion units, max.	1+ 0	1+ 3**	1+ 3**	1+ 3**	1+ 3**	1+ 3**

\*Out of five analog input One is an input for resistance measurement Pt100

\*\*In Rack 3 max. 7 modules only

### ❖ Modular CPUs

- **Modular** design with expandability
- **Faster** instruction execution times, faster alarms
- **Inbuilt** Real time clock , counters, timers and memory flags
- **Inbuilt** Diagnostic features
- **Integrated interfaces-** MPI, PROFIBUS-DP in S7-315-2DP

Feature	CPU 312	CPU 314	CPU 315-2 DP
<b>Supply Voltage</b>	24 VDC	24 VDC	24 VDC
<b>Program and Data memory</b>	16 KB	64 KB	128 KB
<b>Load memory-</b> Up gradable With micro memory card <b>(MMC)</b>	Up to 4 MB	Up to 8 MB	Up to 8 MB
<b>Bit Exec time in <math>\mu</math>s</b>	0.2	0.1	0.1
<b>DI/DO's, maximum</b>	256	1024	16384
Of which central	256	1024	1024
<b>AI/AO's, maximum</b>	64	256	1024
Of which central	64	256	256
<b>Built-in Comm. port</b>	1	1	2
<b>Comm. Interface functionality</b>	MPI	MPI	MPI (port 0) & DP (port 1)
<b>Central controller/ expansion units, max</b>	1+ 0	1+ 3	1+ 3

### ➤ **Signal Modules**

Signal modules are classified based on type of I/O's (Digital, analog etc), nature of I/O's (Input, output), power supply etc. Additional **20 / 40 pin Front connectors** are necessary for the connection of field signals.

#### ❖ **Digital I/O Modules**

Digital modules are available as

- Digital Input module (**SM321**)
- Digital Output module (**SM322**)
- Digital Input /Output module (**SM323**)

Again these are subdivided according to Power supply, current ratings and isolation types.

#### ❖ **Analog I/O Modules**

Analog modules are used for connections of voltage and current sensors, thermocouples & resistance thermometers. These modules are available as

- Analog Input (**SM331**)
- Analog Output (**SM332**)
- Analog Input /Output (**SM334**)

Again these are subdivided according to type of sensors, resolution etc

#### ❖ **Special Modules**

The special modules available are

##### ▪ **SM 374**

Simulator module with 16 switches and 16 LEDs, required

- for testing programs during startup and operation
- for simulation of sensor signals using switches
- for indicating signal statuses at the outputs using LEDs

##### ▪ **DM 370**

Dummy Module, required for reserving slots for non-parameterized signal modules. But structure and address allocation is retained when replaced with a signal module

## ➤ **Communications Modules (CP)**

For adding extra communication ports (CP) Communication Modules are used. Some of them are

### ❖ **CP 340**

- For serial communications via point-to-point links. Baud rate upto 19.2 Kbps,

### ❖ **CP 341**

- High-speed serial communications via point-to-point links. Baud rate upto 76.8 Kbps

### ❖ **CP 342-5**

PROFIBUS DP master or slave with electrical interface to connect the SIMATIC S7-300 to PROFIBUS up to 12 Mbit/s

Communication services:

- PROFIBUS DP
- PG/OP communication
- S7 communication (Client, Server, Multiplexing)
- S5-compatible communication (SEND/RECEIVE)

### ❖ **CP 343-5**

Master connection of SIMATIC S7-300 to PROFIBUS to 12 Mbit/s (incl.45.45 kbps)

Communication services:

- PG/OP communication
- S7 communication
- S5-compatible communication (SEND/RECEIVE)
- PROFIBUS-FMS

### ❖ **CP 343-1**

Connection of SIMATIC S7-300 to Industrial Ethernet

- 10/100 Mbit/s full/half
- ISO and TCP/IP transport protocols
- PG/OP communication
- S7 communication (client, server, multiplexing)

### ❖ **CP343-1 IT**

Connection of SIMATIC S7-300 to Industrial Ethernet

- IT communication
- Web function for accessing process data through Web browser
- E-mail function for sending electronic mail from the S7-300
- FTP server and client function for communication
- All the functions of CP343-1 are supported

## ➤ **Interface Modules**

These modules are required while expanding racks. These are available in three types

### ❖ **IM 360**

Interface module to expand the S7-300 by maximum 3 Expansion Units (EU). It **can be only** plugged into central controller, **Rack 0**

### ❖ **IM 361**

Interface module to expand the S7-300 by maximum 3 Expansion Units (EU). It **can be only** plugged into expansion unit, **Rack 1 to 3**.

In combination IM 360 & IM 361 provides expandability upto four racks including central rack.

❖ **IM 365**

Interface module to expand the S7-300 by maximum 1 Expansion Units (EU). It comes in package of two modules with fixed connecting cable (1 m), which can be plugged into Rack 0 and Rack 1. Here we can put communication module (CP) in Expansion unit (EU).

#### 4. List of Modules

Sr. No	MLFB	Description	Remark
<b>CPU MODULES</b>			
<b>Compact CPUs</b>			
	<b>6ES7312-5BD01-0AB0</b>	<b>CPU 312C</b> , Compact CPU, 16 KB, power supply 24 V DC, 10 DI/6 DO integrated, integrated functions, MPI	Real time clock is <b>software clock</b> without buffer. One 40 pin front connector is required.
	<b>6ES7313-5BE01-0AB0</b>	<b>CPU 313C</b> , Compact CPU, 32 KB, power supply 24 V DC, 24 DI/16 DO, 5 AI/2 AO integrated, integrated functions, MPI	Two 40 pin front connectors are required
	<b>6ES7313-6BE01-0AB0</b>	<b>CPU 313C-2</b> , PtP Compact CPU, 32 KB, power supply 24 V DC, 16 DI/16 DO integrated, MPI, RS 422/485 interface	One 40 pin front connector is required
	<b>6ES7313-6CE01-0AB0</b>	<b>CPU 313C-2 DP</b> , Compact CPU, 32 KB, power supply 24 V DC, 16 DI/16 DO integrated, MPI, PROFIBUS DP master/slave inter-face	One 40 pin front connector is required
	<b>6ES7314-6BF02-0AB0</b>	<b>CPU 314C-2 PtP</b> , Compact CPU, 64 KB, power supply 24 V DC, 24DI/16DO/5AI/2AO integrated, MPI, RS 422/485 interface	Two 40 pin front connectors are required
	<b>6ES7314-6CF02-0AB0</b>	<b>CPU 314C-2 DP</b> , Compact CPU, 64 KB, power supply 24 V DC, 24DI/16DO/5AI/2AO integrated, MPI, PROFIBUS DP master/slave inter-face	Two 40 pin front connectors are required
<b>Modular CPUs</b>			
	<b>6ES7 312-1AD10-0AB0</b>	<b>CPU 312</b> , 16 KB, power sup-ply 24 V DC, MPI	Real time clock is <b>software clock</b> without buffer
	<b>6ES7 314-1AF10-0AB0</b>	<b>CPU 314</b> , 64 KB, power sup-ply 24 V DC, MPI	
	<b>6ES7 315-2AG10-0AB0</b>	<b>CPU 315-2 DP</b> , 128 KB, power supply 24 V DC, MPI, PROFIBUS DP master/slave interface	
<b>Digital Modules</b>			
<b>DI Modules, SM 321</b>			
	<b>6ES7 321-1BH02-0AA0</b>	16 inputs, 24 V DC	One 20 pin front connector is required
	<b>6ES7 321-1BH50-0AA0</b>	16 inputs, 24 V DC, source input	One 20 pin front connector is required
	<b>6ES7 321-1BL00-0AA0</b>	32 inputs, 24 V DC	One 40 pin front connector is required
	<b>6ES7 321-1CH00-0AA0</b>	16 inputs, 24 to 48 V DC	One 20 pin front connector is required
	<b>6ES7 321-7BH00-0AB0</b>	16 inputs, 24 V DC, diagnostics capability	One 20 pin front connector is required

<b>Sr. No</b>	<b>MLFB</b>	<b>Description</b>	<b>Remark</b>
	<b>6ES7 321-1EL00-0AA0</b>	32 inputs, 120 V AC	One 40 pin front connector is required
	<b>6ES7 321-1FF01-0AA0</b>	8 inputs, 120/230 V AC	One 20 pin front connector is required
	<b>6ES7 321-1FF10-0AA0</b>	8 inputs, 120/230 V AC, common reference potential	One 20 pin front connector is required
	<b>6ES7 321-1FH00-0AA0</b>	16 inputs, 120/230 V AC	One 20 pin front connector is required
<b>DO Modules, SM322</b>			
	<b>6ES7 322-1BF01-0AA0</b>	8 outputs, 24 V DC, 2 A	One 20 pin front connector is required
	<b>6ES7 322-1BH01-0AA0</b>	16 outputs, 24 V DC, 0.5 A	One 20 pin front connector is required
	<b>6ES7 322-1BL00-0AA0</b>	32 outputs, 24 V DC, 0.5 A	One 40 pin front connector is required
	<b>6ES7 322-8BF00-0AB0</b>	8 outputs, 24 V DC, 0.5 A, diagnostics capability	One 20 pin front connector is required
	<b>6ES7 322-5GH00-0AB0</b>	16 outputs, 24/48 V DC, 0.5 A	One 40 pin front connector is required
	<b>6ES7 322-1FF01-0AA0</b>	8 outputs, 120/230 V AC, 1 A	One 20 pin front connector is required
	<b>6ES7 322-5FF00-0AB0</b>	8 outputs, 120/230 V AC, 2 A	One 40 pin front connector is required
	<b>6ES7 322-1FH00-0AA0</b>	16 outputs, 120/230 V AC, 0.5 A	One 20 pin front connector is required
	<b>6ES7322-1FL00-0AA0</b>	32 outputs, 120 V AC, 1 A	One 20 pin front connector is required
	<b>6ES7 322-1HF01-0AA0</b>	8 outputs, relay contacts, 2 A	One 20 pin front connector is required
	<b>6ES7 322-1HF10-0AA0</b>	8 outputs, relay contacts, 5 A	One 40 pin front connector is required
	<b>6ES7 322-5HF00-0AB0</b>	8 outputs, relay contacts, 5 A, with RC filter for over voltage protection	One 40 pin front connector is required
	<b>6ES7 322-1HH01-0AA0</b>	16 outputs, relay contacts, 8 A	One 20 pin front connector is required
<b>DI/DO Modules, SM 323</b>			
	<b>6ES7 323-1BH01-0AA0</b>	8 inputs, 8 outputs	One 20 pin front connector is required
	<b>6ES7 323-1BL00-0AA0</b>	16 inputs, 16 outputs	One 40 pin front connector is required

Sr. No	MLFB	Description	Remark
<b>Analog Modules</b>			
<b>AI Modules, SM 331</b>			
	<b>6ES7331-1KF01-0AB0</b>	8 inputs, resolution 13 bit	One 40 pin front connector is required
	<b>6ES7 331-7KF02-0AB0</b>	8 inputs, resolution 9/12/14 bit	One 20 pin front connector is required
	<b>6ES7 331-7KB02-0AB0</b>	2 inputs, resolution 9/12/14 bit	One 20 pin front connector is required
	<b>6ES7 331-7NF00-0AB0</b>	8 inputs, enhanced resolution, 15 bit	One 40 pin front connector is required
	<b>6ES7 331-7NF10-0AB0</b>	8 inputs, enhanced resolution, 15 bit	One 40 pin front connector is required
	<b>6ES7 331-7PF00-0AB0</b>	8 inputs, for thermal resistances	One 40 pin front connector is required
	<b>6ES7 331-7PF10-0AB0</b>	8 inputs, for thermocouples	One 40 pin front connector is required
<b>AO Modules, SM 332</b>			
	<b>6ES7 332-5HD01-0AB0</b>	4 outputs, resolution 12 bit	One 20 pin front connector is required
	<b>6ES7332-7ND02-0AB0</b>	4 outputs, resolution 15 bit	One 20 pin front connector is required
	<b>6ES7 332-5HB01-0AB0</b>	2 outputs, resolution 12 bit	One 20 pin front connector is required
	<b>6ES7 332-5HF00-0AB0</b>	8 outputs, resolution 12 bit	One 40 pin front connector is required
<b>AI/AO Modules, SM 334</b>			
	<b>6ES7 334-0CE01-0AA0</b>	4 inputs, 2 outputs, resolution 8 bit	One 20 pin front connector is required
	<b>6ES7 334-0KE00-0AB0</b>	4 inputs, 2 outputs; resistance measurement, Pt 100, resolution 12 bit	One 20 pin front connector is required
<b>Special modules</b>			
	<b>6ES7 374-2XH01-0AA0</b>	<b>SM 374 simulator module</b> incl. bus connector and labeling strips	
	<b>6ES7 370-0AA01-0AA0</b>	<b>DM 370 dummy module</b> incl. bus connector and labeling strips	
<b>Communication Modules</b>			
	<b>6ES7 340-1AH01-0AE0</b>	<b>CP 340 communications processor</b> with one RS 232 C (V.24) interface	
	<b>6ES7 902-1AB00-0AA0</b>	<b>5 m, RS 232 connecting cable</b> for linking to SIMATIC S7	
	<b>6ES7 902-1AC00-0AA0</b>	<b>10 m, RS 232 connecting cable</b> for linking to SIMATIC S7	
	<b>6ES7 902-1AD00-0AA0</b>	<b>15 m, RS 232 connecting cable</b> for linking to SIMATIC S7	
	<b>6ES7 340-1BH00-0AE0</b>	<b>CP 340 communications processor</b> with one <b>20 mA (TTY) interface</b>	
	<b>6ES7 902-2AB00-0AA0</b>	<b>5 m, 20 mA (TTY) connecting cable</b> for linking to	

Sr. No	MLFB	Description	Remark
		SIMATIC S7	
	<b>6ES7 902-2AC00-0AA0</b>	<b>10 m</b> , 20 mA (TTY) connecting cable for linking to SIMATIC S7	
	<b>6ES7 902-2AG00-0AA0</b>	<b>50 m</b> , 20 mA (TTY) connecting cable for linking to SIMATIC S7	
	<b>6ES7 340-1CH00-0AE0</b>	<b>CP 340 communications Processor</b> with one RS 422/485 (X.27) interface	
	<b>6ES7 902-3AB00-0AA0</b>	<b>5 m</b> , RS 422/485 connecting cable for linking to SIMATIC S7	
	<b>6ES7 902-3AC00-0AA0</b>	<b>10 m</b> , RS 422/485 connecting cable for linking to SIMATIC S7	
	<b>6ES7 902-3AG00-0AA0</b>	<b>50 m</b> , RS 422/485 connecting cable for linking to SIMATIC S7	
	<b>6ES7 341-1AH01-0AE0</b>	<b>CP 341 communications processor</b> with one RS 232 C (V.24) interface	
	<b>6ES7 341-1BH01-0AE0</b>	<b>CP 341 communications processor</b> with one 20 mA (TTY) interface	
	<b>6ES7 341-1CH01-0AE0</b>	<b>CP 341 communications processor</b> with one RS 422/485 (X.27) interface	
	<b>6GK7 342-5DA02-0XE0</b>	<b>CP 342-5 communications processor</b> for connection of SIMATIC S7-300 to PROFIBUS up to 12 Mbit/s; with electronic manual on CD-ROM	
	<b>6GK7 343-5FA01-0XE0</b>	<b>CP 343-5 communications processor</b> for connecting SIMATIC S7-300 to PROFIBUS	
	<b>6GK7 343-1EX11-0XE0</b>	<b>CP 343-1 communications processor</b> for connecting SIMATIC S7-300 to Industrial Ethernet using ISO, TCP/IP and UDP	
	<b>6GK7343-1GX20-0XE0</b>	<b>CP 343-1 IT communications processor</b> for connecting SIMATIC S7-300 to Industrial Ethernet for S5-compatible communication, S7 communication, e-mail and www server, 10/100 Mbit/s,	
<b>Interface Modules</b>			
	<b>6ES7 360-3AA01-0AA0</b>	<b>IM 360 interface module</b> to expand the S7-300 by max. 3 EUs; can be plugged into central controller	
	<b>6ES7 361-3CA01-0AA0</b>	<b>IM 361 interface module</b> to expand the S7-300 by max. 3 EUs; can be plugged into expansion unit	
	<b>6ES7 368-3BB01-0AA0</b> <b>6ES7 368-3BC51-0AA0</b> <b>6ES7 368-3BF01-0AA0</b> <b>6ES7 368-3CB01-0AA0</b>	<b>Connecting cable</b> between IM 360 and IM 361 or IM 361 and IM 361 1 m 2.5 m 5 m 10 m	
	<b>6ES7 365-0BA01-0AA0</b>	<b>IM 365 interface module</b> to expand the S7-300 by max. 1 EU; 2 modules with fixed connecting cable (1 m) Standard temperature range	
<b>Power supply</b>			
	<b>6ES7 307-1BA00-0AA0</b>	PS 307, Input- 120/230 V AC, Output -24 V DC, 2 A	
	<b>6ES7 307-1EA00-0AA0</b>	PS 307, Input- 120/230 V AC, Output -24 V DC, 5 A	
	<b>6ES7 307-1KA01-0AA0</b>	PS 307, Input- 120/230 V AC, Output -24 V DC, 10 A	
<b>Accessories</b>			
	<b>6ES7 901-0BF00-0AA0</b>	<b>MPI cable</b> for connecting SIMATIC S7 and PG using MPI; 5 m long	
	<b>6ES7 902-3AB00-0AA0</b>	<b>Point-to-point connecting cable</b> for connection to CPU 31xC-2 PtP 5 m long	
	<b>6ES7 902-3AC00-0AA0</b>	<b>Point-to-point connecting cable</b> for connection to CPU 31xC-2 PtP 10 m long	



Sr. No	MLFB	Description	Remark
<b>FEPRM memory card (MMC) for CPUs</b>			
	<b>6ES7 953-8LF11-0AA0</b>	64 KB, No battery required	
	<b>6ES7 953-8LG11-0AA0</b>	128 KB, No battery required	
	<b>6ES7 953-8LJ11-0AA0</b>	512 KB, No battery required	
	<b>6ES7 953-8LL11-0AA0</b>	2 MB, No battery required	
	<b>6ES7 953-8LM11-0AA0</b>	4 MB, No battery required	
	<b>6ES7 953-8LP11-0AA0</b>	8 MB, No battery required	
<b>Front connectors</b>			
	<b>6ES7 392-1AJ00-0AA0</b>	Front connectors 20 Pin (Screw type)	
	<b>6ES7 392-1AM00-0AA0</b>	Front connectors 40 Pin (Screw type)	
<b>Rails</b>			
	<b>6ES7 390-1AB60-0AA0</b>	Rail L- 160 mm	
	<b>6ES7 390-1AE80-0AA0</b>	Rail L- 480 mm	
	<b>6ES7 390-1AF30-0AA0</b>	Rail L- 530 mm	
	<b>6ES7 390-1AJ30-0AA0</b>	Rail L- 830 mm	

## 5. Configurations

(Note- For all configurations given below, consider additional memory for PID loops)

<b>CONFIGURATION 1</b>			
<b>Application Requirement</b>			
- DI =62, DO =62			
- AI =15, AO = 10			
<b>Configuration BOM</b>			
Sr.No.	MLFB	Description	Qty
1	6ES7 307-1EA00-0AA0	Power supply, 24VDC, 5 A	1
2	6ES7 390-1AF30-0AA0	Rail of length 530 mm	1
3	6ES7 312-1AD10-0AB0	S7 312 CPU	1
4	6ES7 953-8LF11-0AA0	Memory card (MMC) of 64 KB	1
5	6ES7 321-1BL00-0AA0	SM321 modules, 32 channel (15mA)*	2
6	6ES7 322-1BL00-0AA0	SM322 modules, 32 channel (110mA)*	2
7	6ES7 331-1KF01-0AB0	SM331 modules, 8 channel (90mA)*	1
8	6ES7 332-5HF00-0AB0	SM332 Modules, 8 Channel (100mA)*	1
9	6ES7 334-0CE01-0AA0	SM334 Modules, 4/2 Channel (55mA)*	2
10	6ES7 392-1BM01-0AA0	40 pin front connectors	6
11	6ES7 392-1BJ00-0AA0	20 pin front connectors	2
		Total, DI=64, DO=64, AI=16, AO=12 * Gives backplane current consumption for respective module	



PS 24 VDC, 5A	CPU 312	2 *DI SM 321	2 *DO SM 322	AI SM 331	AO SM 332	2 *AI/AO SM 334
---------------------	------------	-----------------	-----------------	-----------------	-----------------	--------------------

**\*NOTE-** Back plane current required by CPU & all I/O modules **must not be more than 1.2 A**

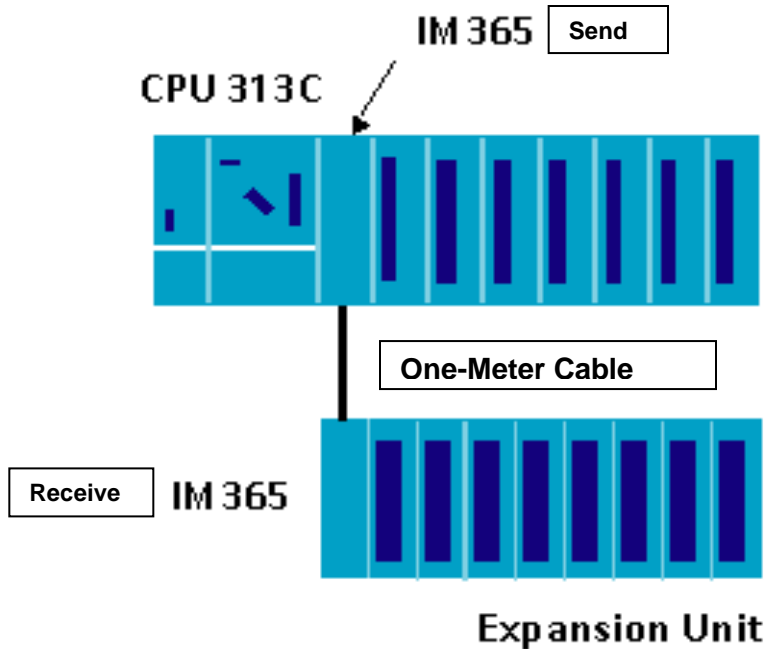
## CONFIGURATION 2

### Application Requirement

- DI =150, DO =140
- AI =35, AO = 25

### Configuration BOM

Sr.No.	MLFB	Description	Qty
1	6ES7 307-1EA00-0AA0	Power supply, 24VDC, 5 A	1
2	6ES7 390-1AJ30-0AA0	Rail of length 830 mm	1
3	6ES7 390-1AF30-0AA0	Rail of length 530 mm	1
4	6ES7 314-6CF01-0AB0	S7 313C CPU	1
5	6ES7 953-8LG11-0AA0	Memory card (MMC) of 128 KB	1
6	6ES7 365-0BA01-0AA0	IM 365 interface module	1
7	6ES7 321-1BL00-0AA0	SM321 modules, 32 channel (15mA)*	4
8	6ES7 322-1BL00-0AA0	SM322 modules, 32 channel (110mA)*	4
9	6ES7 331-1KF01-0AB0	SM331 modules, 8 channel (90mA)*	2
10	6ES7 332-5HF00-0AB0	SM332 Modules, 8 Channel (100mA)*	2
11	6ES7 334-0CE01-0AA0	SM334 Modules, 4/2 Channel (55mA)*	4
12	6ES7 392-1BM01-0AA0	40 pin front connectors	14
13	6ES7 392-1BJ00-0AA0	20 pin front connectors	4
		Total, DI=152, DO=144, AI=37, AO=26 * Gives backplane current consumption for respective module	



In this case back plane current required by CPU & all I/O modules **must not be more than 1.2 A for Rack 0 and 0.8 A for Rack 1.**

### CONFIGURATION 3

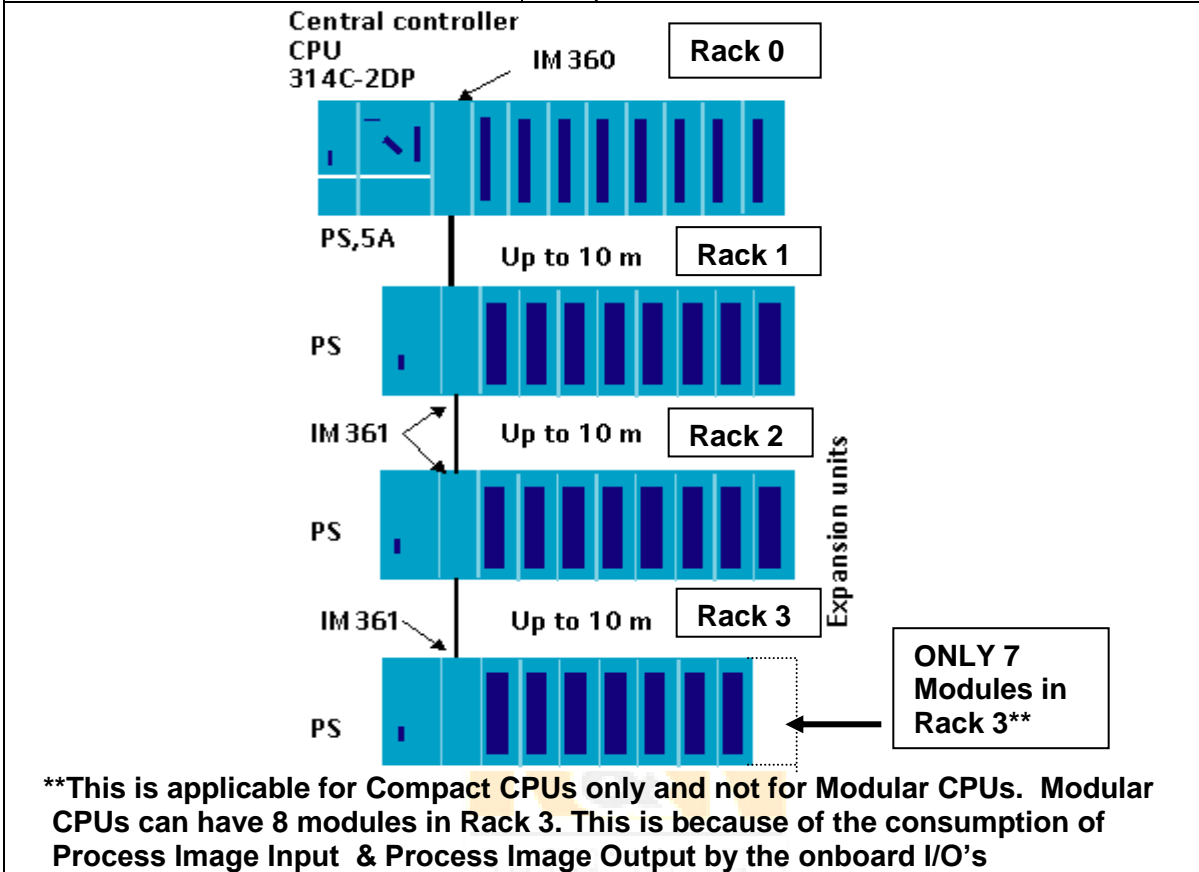
#### Application Requirement

- DI =280, DO =270
- AI =60, AO = 45

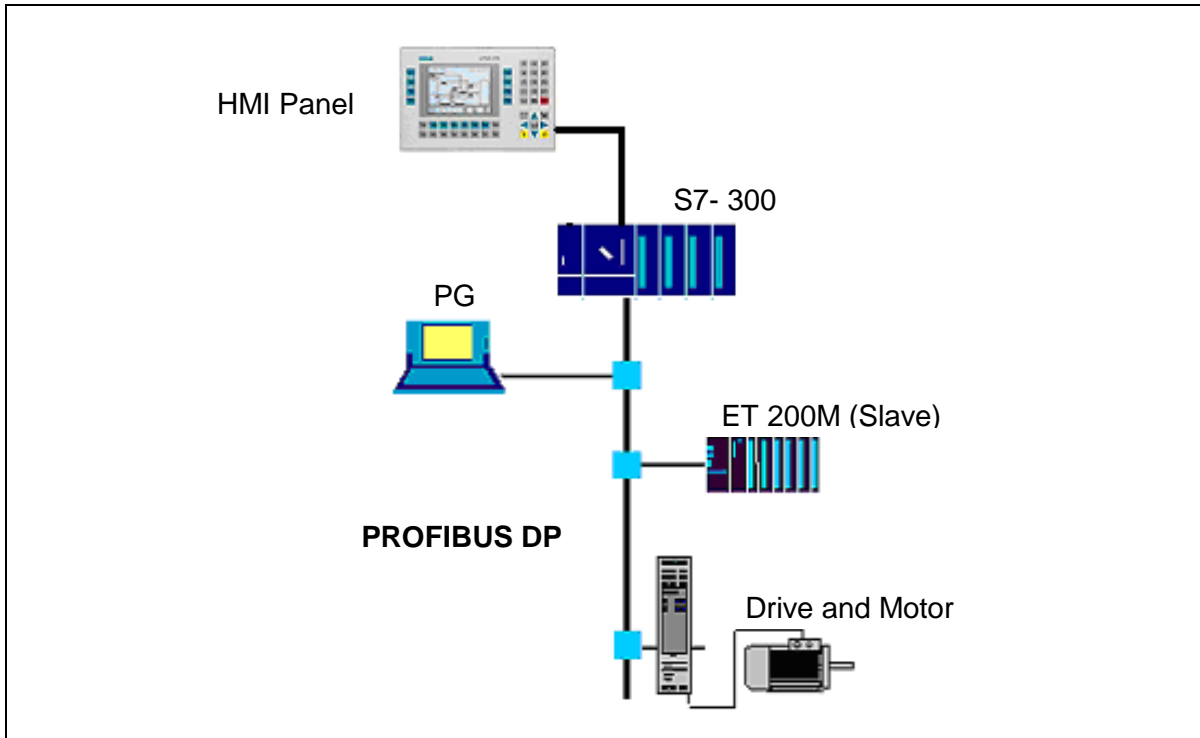
#### Configuration BOM

Sr.No.	MLFB	Description	Qty
1	6ES7 307-1EA00-0AA0	Power supply, 24VDC, 5 A	1
2	6ES7 307-1BA00-0AA0	Power supply, 24VDC, 2 A	3
3	6ES7 390-1AJ30-0AA0	Rail of length 830 mm	1
4	6ES7 390-1AF30-0AA0	Rail of length 530 mm	3
5	6ES7 314-6CF01-0AB0	S7 314C-2 DP CPU	1
6	6ES7 953-8LL11-0AA0	Memory card (MMC) of 2 MB	1
7	6ES7 360-3AA01-0AA0	IM 360 interface module 0 (350mA)*	1
8	6ES7 361-3CA01-0AA0	IM 361 interface module	3
9	6ES7 368-3BB01-0AA0	Connecting Cable between IM 360 and IM 361 or IM 361 and IM 361	3
10	6ES7 321-1BL00-0AA0	SM321 modules, 32 channel (15mA)*	8
11	6ES7 322-1BL00-0AA0	SM322 modules, 32 channel (110mA)*	8
12	6ES7 331-1KF01-0AB0	SM331 modules, 8 channel (90mA)*	4
13	6ES7 332-5HF00-0AB0	SM332 Modules, 8 Channel (100mA)*	4
14	6ES7 334-0CE01-0AA0	SM334 Modules, 4/2 Channel (55mA)*	7
15	6ES7 392-1BM01-0AA0	40 pin front connectors	26

16	6ES7 392-1BJ00-0AA0	20 pin front connectors	7
		Total, DI=280, DO=272, AI=65, AO=48 * Gives backplane current consumption for respective module	



<b>CONFIGURATION 4</b>	
<b>Application Requirement</b>	<b>Configuration</b>
Local I/O's - 65 Remote I/O's -250	<ul style="list-style-type: none"> <li>- S7-300 CPU and I/O modules</li> <li>- 1 HMI Panel for operator interface</li> <li>- 1 PG for programming</li> <li>- Also ET- 200M (Slave) can be connected</li> </ul>



## 6. Advantages of S7-300 series PLC

	Technical Highlights	User Benefits
1	Compact Design	- Less space required in control cabinet, cost saving
2	Modular structure	- Quick to install & remove, easy to maintain - Provides flexibility
3	Higher processing speed	- Improves your productivity
4	Integral I/O's having interrupt capability	- Ideal for standalone applications having upto 24 DI, 16 DO, 5 AI & 2 AO. - Safeguarding your Process
5	Enhanced communication capabilities.	- Permits a greater degree of networking at the cell level & supports intensified data interchange, - Low cost of networking
6	New Micro Memory Card (MMC) concept	- Storing of the project on CPU - Recipe management / data archiving - Full data retention without battery backup, i.e. free from maintenance