



SYSTEMS AUTOMATION & MANAGEMENT PTY LTD.

# SIMATIC® S5 to SIMATIC® S7

## The Modular CPU System that fits into SIMATIC® S5 racks.



SAM's CPU systems are suitable for control tasks in the medium to complex industrial machinery and equipment sector.

The systems are optimally equipped for integration into modern and conventional industrial networks.

4 Gigabit CPs, 3 fieldbus masters and the unique opportunity to run SIMATIC® S5 and SIMATIC® S7 programs simultaneously, the issue of retrofitting SIMATIC® S5 systems are given a new dimension.

**SAVE MONEY NOW!**  
UPGRADE YOUR CONTROL SYSTEMS  
WITHOUT DOWN TIME!



SIMATIC® is a registered trademark of SIEMENS

Over 30 Years of Service Excellence in the Technology Industry.

[www.sam.co.za](http://www.sam.co.za)

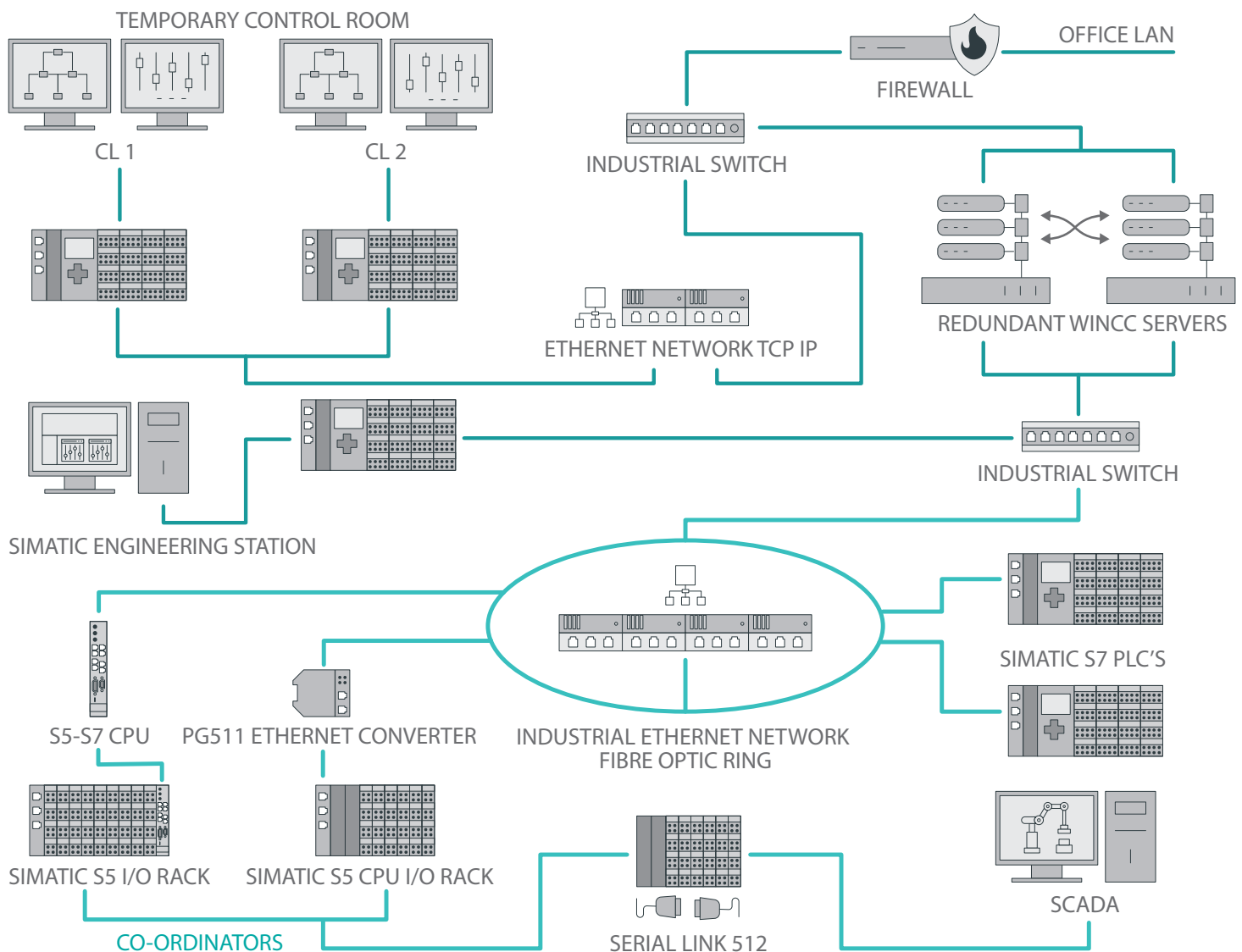


# FEATURES

- Applicable in automation systems of 115U, 135U/155U and 150U of the Simatic S5.
- Compatible with CPU 416 with RS 7 Software.
- Compatible with CPU 945 (941, 942, 943, 944) or CPU 948 (946/947, 928) with RS 5 Software.
- Synchronous mode: Simatic® S7 and Simatic® S5 Program run concurrently (Particularly suitable for extensions of present plants).
- IT function (Email Client, Webserver, FTP).
- Upgrade your Simatic® S5 PLC to an Simatic® S7 PLC in a Flash.

# ADVANTAGES

- Step 5 blocks that can only be ported to Simatic® S7 with high complexity, remain in Step 5 and are called from the Step 7 operating system.
- Access to external periphery, where blocks are only available in Step 5.
- Existing Simatic® S5 hardware and Simatic S5 programs can be integrated into systems, that do not support Simatic® S5 components (e.g. Simatic® PCS7).
- Time-consuming and cost-intensive converting of programs is not applicable.



# UPGRADE TODAY

- Hardware remains constant (exception: CPUs).
- Simatic® S5 Program remains constant.
- Simatic® S7 Program and Simatic® S5 Program run concurrently.
- Time-saving, cost-effective.

## HIGH PERFORMANCE CPU FOR THE SIMATIC® S5. WITH TCP/IP INTERFACE

SAM S7 416 CPU	Software	SAM S5 945 CPU	Software
SAM S7 416-945 CPU	Software	SAM S5 948 CPU	Software



- Intel® Atom Processor N450 1.66 GHz, 512 KB L2 Cache.
- 4 x integrated 10/100/1000 Mbps Ethernet interfaces.
- 2GB main memory on board.
- 64 MB permanent data.
- For use in SIMATIC® racks of 115U, 135/155U and 150U/S/K by Siemens.
- Integrated flash socket for SD cards.
- 3 serial interfaces (1x TTY, 2x RS232).
- LED diagnostics display.
- Command compliant to S7 CPU 416, also in Mixed Mode as 416-945/948.
- Quantity structure/Performance equates to S7-CPU417.
- Compatible to S5 CPU 945 / 948.
- Programming by standard STEP 5 and STEP 7.
- Built-in Flash socket for SD cards.

### Technical Data

Processor	Intel® Atom Processor N450
Electrical Data	+5Vdc: 4.85V...5.24V

### Operating Conditions

Operating Temp.	0°C ...+60°C
Storage Temp.	-40°C ...85°C
Relative Humidity	During operations: max 90% without condensation
Vibration & Shock Resistance	2g/10 ...500Hz, 20g/10ms
EMC/Burst/ESD	Acc. IEC1000-4-2(ESD)   Acc. IEC1000-4-4(burst)   Emissions acc 55022,PartB
LEDs	4 LEDs as status and fault indicators

### Interfaces

Serial	1x AS 511 (TTY) with DSUB 15; 2x RS232 with DSUB 9
Ethernet	4x 10/100/1000 Mbps
Memory Extension	2GB DDR2-667 MHZ
	8GB SD Memory Card
	64MB Remnant

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## Technical Data Software S5

Processing Times	Bit operations	10ns
	Word operations	10ns
	Fixed Point Arithmetic's	10ns
	Floating-point arithmetic's	10ns

## Technical Data Software S7

Processing Times	Bit operations	10ns
	Word operations	10ns
	Fixed Point Arithmetic's	10ns
	Floating-point arithmetic's	10ns
Timers/Counters	S7 timers 2048	S7 Counters 2048

## Data Range & Remnance

Markers	16Kbyte from MB 0 to MB 16383	
Process Image	16Kbyte in/16 Kbyte out	From EB 0 to EB16383 / AB 0 to AB16383
Blocks	Max. 64 Kbyte	
FBs Max.	16384	
FCs Max.	16384	
Data Blocks Max.	32768	
Alarms	9 wake up alarms	



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