



The new formula for speed.



THE FASTEST

PLC* in the world

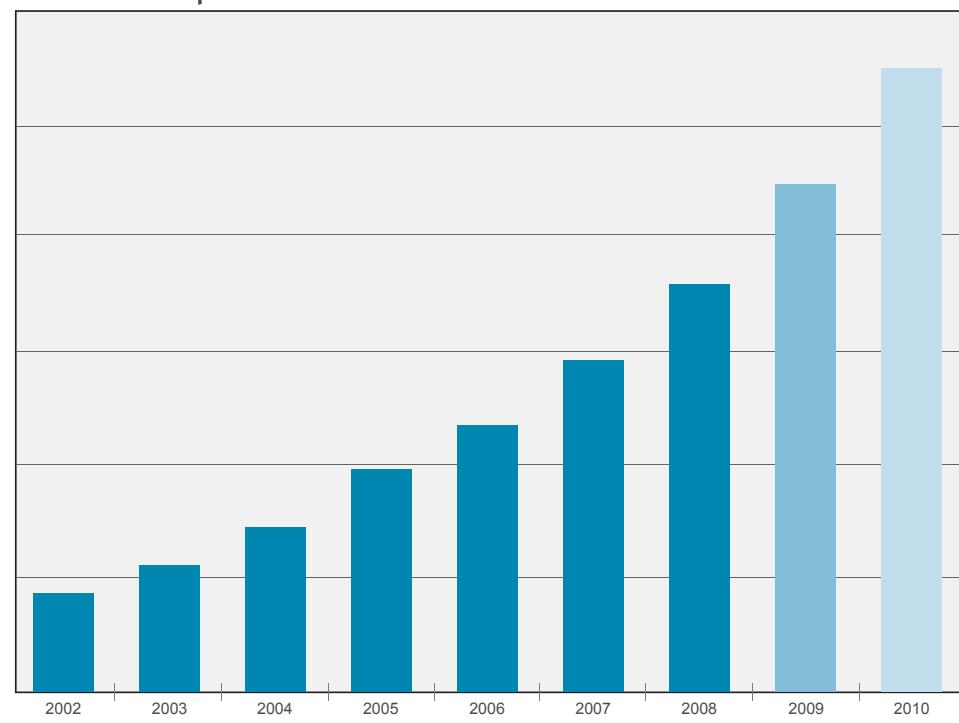
*Programmable with STEP7 from Siemens

VIPA[®]
art of automation



VIPA FACTS & MORE

Turnover development



Main success factors 2008:

- › >150 employees in Herzogenaurach and more than 300 worldwide
- › >60 distributors and branch offices

- › Success by innovation
- › Success by teamwork
- › Success by quality assurance



VIPA company history

VIPA GmbH was founded in 1985 in Erlangen by Mr. Wolfgang Seel as a system house for automation engineering. After production of the first PC-based machine operating panel there were further developments of control and communication modules. The first customers were from the automotive and food industry, conveying engineering and machine and plant construction. VIPA has been increasingly active in the European market since 1995.

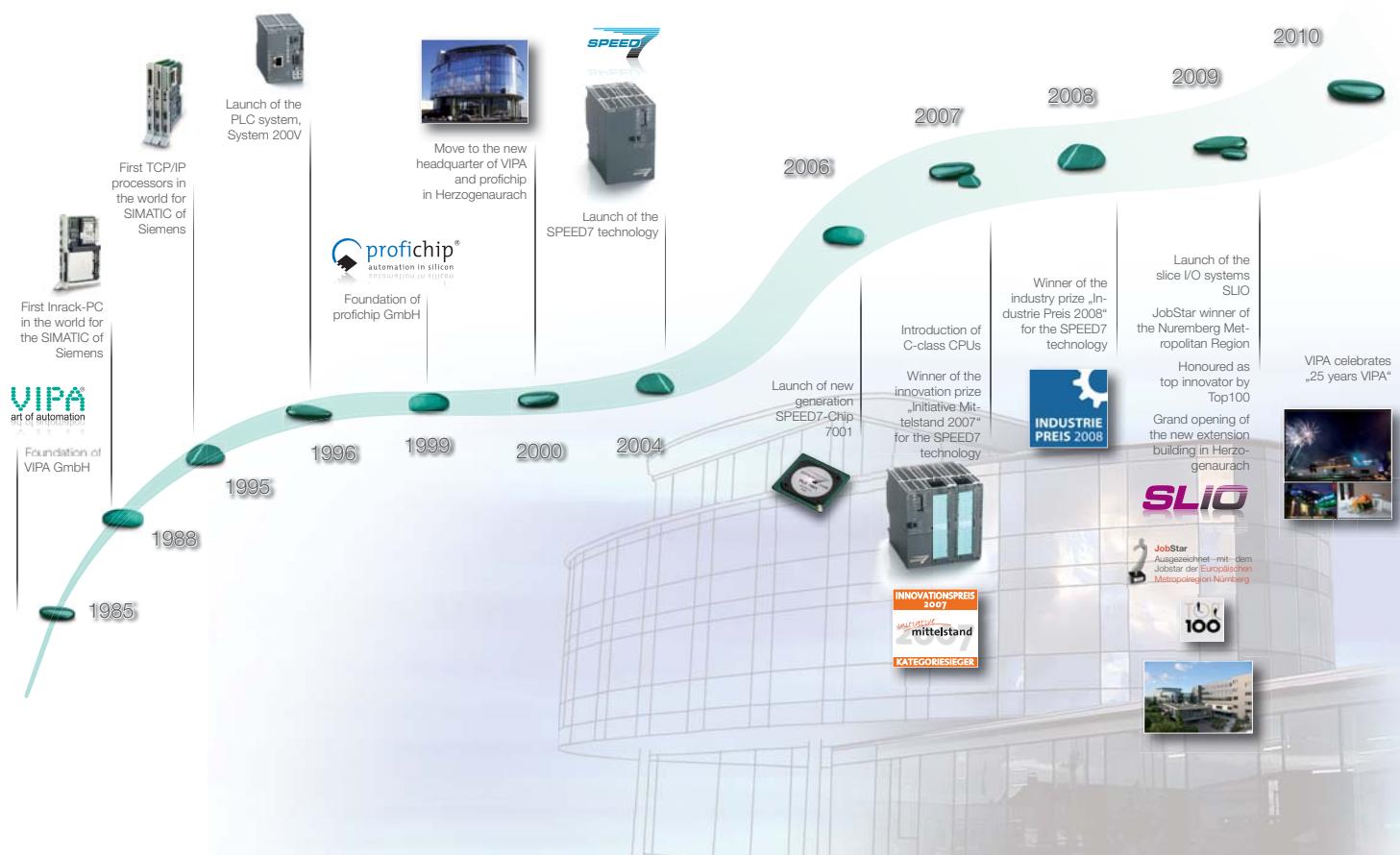
The introduction of the modular automation system 200V was the basis for creating more powerful, faster and more reliable systems. In the year 2000 the new 2000sq.m headquarter in Herzogenaurach, west of Erlangen was opened.

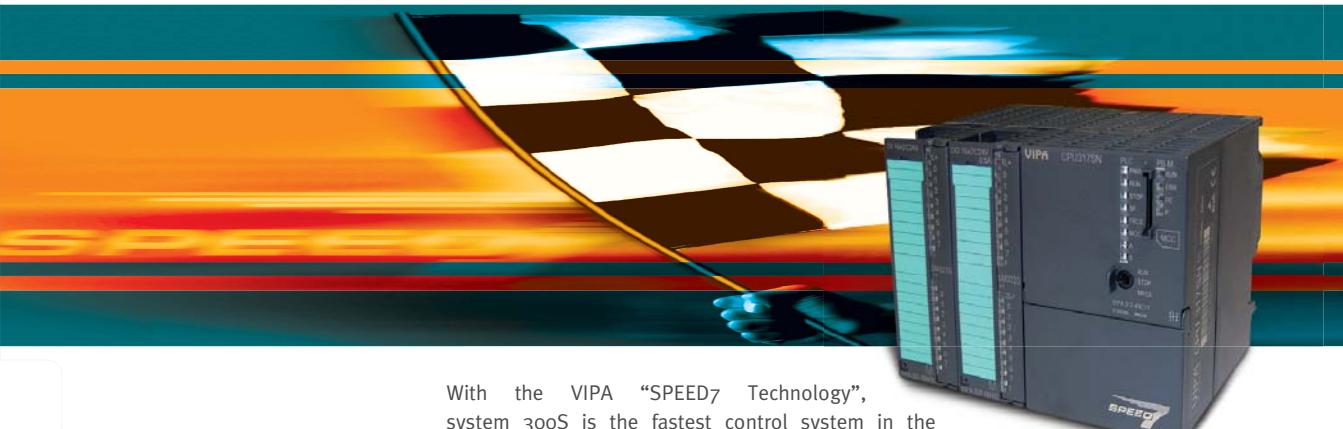
The development of the SPEED7 High-Speed PLC in 2003 was a further technological milestone in the automation equipment range. In 2005, VIPA has extended the product range with the Touch Panel family.

More than 100 highly qualified employees are working for VIPA in Germany. In addition to that there are more than 60 VIPA branch offices and service partners in more than 60 countries.



Wolfgang Seel
President





With the VIPA "SPEED7 Technology", system 300S is the fastest control system in the world programmable with STEP7 from Siemens. The maximum memory for program and data has already been integrated into the SPEED7 CPUs. The CPUs can be operated without an additional memory card. Depending on the CPU type, the integrated work memory can be expanded up to 8MByte with the VIPA Memory extension card as required. All CPUs in the System 300S are equipped with an Ethernet Interface for PU/OP communication. A CP343 interface for TCP/IP communication has been integrated in the 'NET' CPUs. Because of its high performance and scalable memory, system 300S is especially suitable for mid to high range applications.

Performance

Very fast processing and cycle times - up to 100.000 instructions per ms - increase the output of machinery and manufacturing plants.

Standard-Bus-System

Due to the standard bus system mixed operation of VIPA and Siemens components is possible.

SPEED7-Bus-System

The High SPEED-Bus is designed for very fast applications. Use of special high-performance VIPA modules such as AIO, DIO, fieldbus modules, communication modules etc. is possible.

Programming language

Programmable with STEP7 from Siemens or WinPLC7 from VIPA GmbH.

Interfaces

As a standard, all SPEED7 CPUs are equipped with an Ethernet, MPI and PtP interface. Depending on the CPU type a Profibus-DP-Master or Ethernet CP have been integrated.

Own Webpage

Each CPU does have an own webpage, which can be accessed in the internet browser. On this webpage, information about the firmware state, current cycle-times, etc. can be gathered.

Standard MMC Card

The MMC card is used for back-up, storage of program/data and also for running the CPU (for CPU operation use of the MMC is not obligatory).

Memory Management

Via memory configuration card it is possible to increase the work memory of the CPU up to max. 8MByte without changing the hardware.

Stock cost

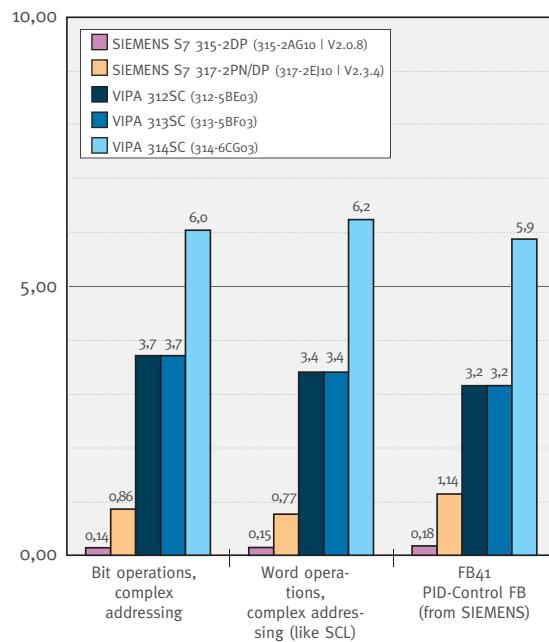
Using SPEED7 technology your stock of different CPU types reduces to a minimal amount designs.

Availability

The SPEED7 technology is available worldwide. More than 60 VIPA branch offices offer service and support.

SPEED₇ in C-Design

Relative CPU-Performance (V2.01)
SIEMENS S7-318-2DP as reference = 1.0
 (pure user code, no SFCs, no PAx, no PEx)
 Performance of SIEMENS 313C and 314C \cong 315-2DP



Compact CPUs

Features e.g. CPU 314SC:

- Programming with STEP₇ from Siemens
- High-Speed in compact class – up to 20 times faster than conventional compact controllers
- Extensive memory expansion – expandable by up to 1MByte
- RJ45 Ethernet interface – for PU/OP communication
- Enlarged periphery – additional eight digital in-/outputs
- Fast integrated periphery – counter up to 60kHz
- 2. Interface – Profibus-DP master/Slave/PtP RS485/SSI



Order-No.: VIPA312-5BE03

CPU 312SC - SPEED7 Basic model in C-Design (additional 6DI + 2DO)

CPU 312SC - SPEED7 technology

DC 24V, 32kByte work memory expandable **up to 512kByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

PtP RS485, potential separated, ASCII, STX/ETX, 3964R,
Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication

- **Periphery:**

DI 16xDC 24V (16 alarm capable), counter 2x32Bit (AB), up to 10kHz,
DO 8xDC 24V, 0,5A, 2xPWM/2xStepper¹⁾



Order-No.: VIPA313-5BF03

CPU 313SC - S-Class in C-Design

CPU 313SC - SPEED7 technology

DC 24V, 64kByte work memory expandable **up to 512kByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

PtP RS485, potential separated, ASCII, STX/ETX, 3964R,
Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication

- **Periphery:**

DI 24xDC 24V (16 alarm capable), counter 3x32Bit (AB), up to 30kHz,
DO 16xDC 24V, 0,5A, 3xPWM/3xStepper¹⁾,
AI 4x12Bit, U, I, 1x12Bit, RTD, AO 2x12Bit, U, I



Order-No.: VIPA313-6CF03

CPU 313SC/DPM - Space-saving

CPU 313SC/DPM - SPEED7 technology

DC 24V, 64kByte work memory expandable **up to 512kByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master
Ethernet interface RJ45 for PU/OP communication

- **Periphery:**

DI 16xDC 24V (16 alarm capable), counter 3x32Bit (AB), up to 30kHz,
DO 16xDC 24V, 0,5A, 3xPWM/3xStepper ¹⁾



Order-No.: VIPA314-6CG03

CPU 314SC/DPM - Additional 8 DIOs

CPU 314SC/DPM - SPEED7 technology

DC 24V, 128kByte work memory expandable **up to 1MByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master
Ethernet interface RJ45 for PU/OP communication

- **Periphery:**

DI 24xDC 24V (16 alarm capable), counter 4x32Bit (AB), up to 60kHz,
DIO 8xDC 24V (DO 0,5A), DO 16xDC 24V, 0,5A, 4xPWM/4xStepper ¹⁾,
AI 4x12Bit, U, I, 1x12Bit, RTD, AO 2x12Bit, U, I



Order-No.: VIPA314-2BG03

CPU 314SE/DPS - SPEED7 Basic model

CPU 315SE/DPS - SPEED7 technology

DC 24V, 128kByte work memory expandable **up to 512kByte**

(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

Profibus DP slave, 12Mbit/s, 1...125/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication



Order-No.: VIPA314-6CF02

CPU 314ST/DPM - SPEED-Bus on board

CPU 314ST/DPM - SPEED7 technology

DC 24V, 512kByte work memory expandable **up to 2MByte**

(50% program/50% data), MPI, MMC slot, real-time clock, **SPEED-Bus**

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication

- **Periphery:**

DI 8xDC 24V (alarm capable), counter 4x32Bit (AB), up to 100kHz,

DIO 8xDC 24V (DI alarm capable, DO 0,5A), AI 4x12Bit, U, I, 1x12Bit, RTD, AO 2x12Bit, U, I



Order-No.: VIPA315-2AG12

CPU 315SB/DPM - The classic CPU

CPU 315SB/DPM - SPEED7 technology

DC 24V, 1MByte work memory expandable **up to 2MByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master
Ethernet interface RJ45 for PU/OP communication



Order-No.: VIPA315-4NE12

CPU 315SN/NET - with CP343L on board

CPU 315SN/NET - SPEED7 technology

DC 24V, 1MByte work memory expandable **up to 2MByte**
(50% program/50% data), MPI, MMC slot, real-time clock

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master
Ethernet interface RJ45 for PU/OP communication
Ethernet CP 343 Lean, S7 communication, RFC1006, H1, TCP/IP, UDP,
up to 8 connections



Order-No.: VIPA317-2AJ12

CPU 317SE/DPM - The Greatest

CPU 317SE/DPM - SPEED7 technology

DC 24V, 2MByte work memory expandable **up to 8MByte**

(50% program/50% data), MPI, MMC slot, real-time clock, **SPEED-Bus**

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication



Order-No.: VIPA317-4NE12

CPU 317SN/NET - All-in-one-CPU

CPU 317SN/NET - SPEED7 technology

DC 24V, 2MByte work memory expandable **up to 8MByte**

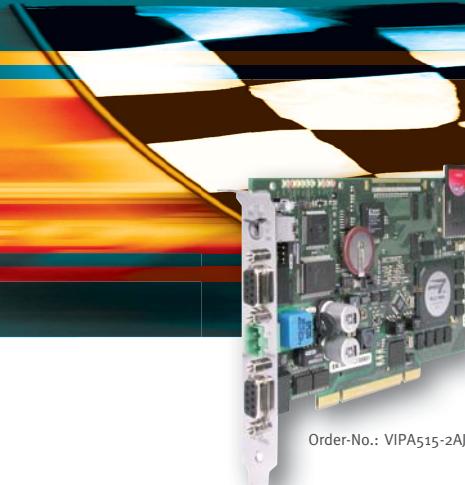
(50% program/50% data), MPI, MMC slot, real-time clock, **SPEED-Bus**

- **Interface:**

Profibus DP master, 12Mbit/s, up to 125 slaves/PtP RS485, potential separated,
ASCII, STX/ETX, 3964R, Modbus master, USS master

Ethernet interface RJ45 for PU/OP communication

Ethernet CP 343, S7 communication, RFC1006, H1, TCP/IP, UDP,
up to 64 connections



Order-No.: VIPA515-2Ajoo

CPU 515S/DPM - PLC-Power in PC

CPU 515S/DPM - SPEED7 technology

external DC 24V power supply, **1MByte** work memory expandable up to **2MByte**
(50% program/50% data), MP²I, MMC slot, real-time clock

- **Interface:**

Profinet DP master, 12Mbit/s, up to 125 slaves

PCI-Ethernet interface for PU/OP communication, incl. SW86oR OPC server



Order-No.: VIPA517-2Ajoo



Order-No.: VIPA517-4NEoo

CPU 517S/DPM | 517S/NET - Maximum Power

CPU 517S/DPM - SPEED7 technology

external DC 24V power supply, 2MByte work memory expandable up to **8MByte**
(50% program/50% data), MP²I, MMC slot, real-time clock

- **Interface:**

Profinet DP master, 12Mbit/s, up to 125 slaves

PCI-Ethernet interface for PU/OP communication, incl. SW86oR OPC server

CPU 517S/NET - SPEED7 technology

external DC 24V power supply, 2MByte work memory expandable up to **8MByte**
(50% program/50% data), MP²I, MMC slot, real-time clock

- **Interface:**

Profinet DP master, 12Mbit/s, up to 125 slaves

PCI-Ethernet interface for PU/OP communication, incl. SW86oR OPC server

- **2. Slot:**

Ethernet CP 543, S7 communication, RFC1006, H1, TCP/IP, UDP,
up to 64 connections, RJ45



SPEED-Bus-Modules:

Fieldbus master modules

- › Profibus-DP master: 12Mbit/s, up to 125 slaves
- › INTERBUS master: 500kbit/s, up to 128 Slaves
- › CANopen master: 1Mbit/s, up to 126 Slaves
- › further modules on request

Digital in-/output modules

- › Digital input:
DI 16xDC 24V, 2,5µs ... 40ms, parameterizable
- › Digital output:
DO 16xDC 24V, 0,5A, 100kHz
- › Digital in-/output:
DIO 16xDC 24V (DO 0,5A), DI 2,5µs ... 40ms, parameterizable, DO 100kHz

Ethernet communication

- › CP 343S: Fast internal Dual Port RAM communication, S7 communication, RFC1006, H1, TCP/IP, UDP, 64 engineering connections (thereof 16NetPro), 32 PU/OP connections

Analog input modules

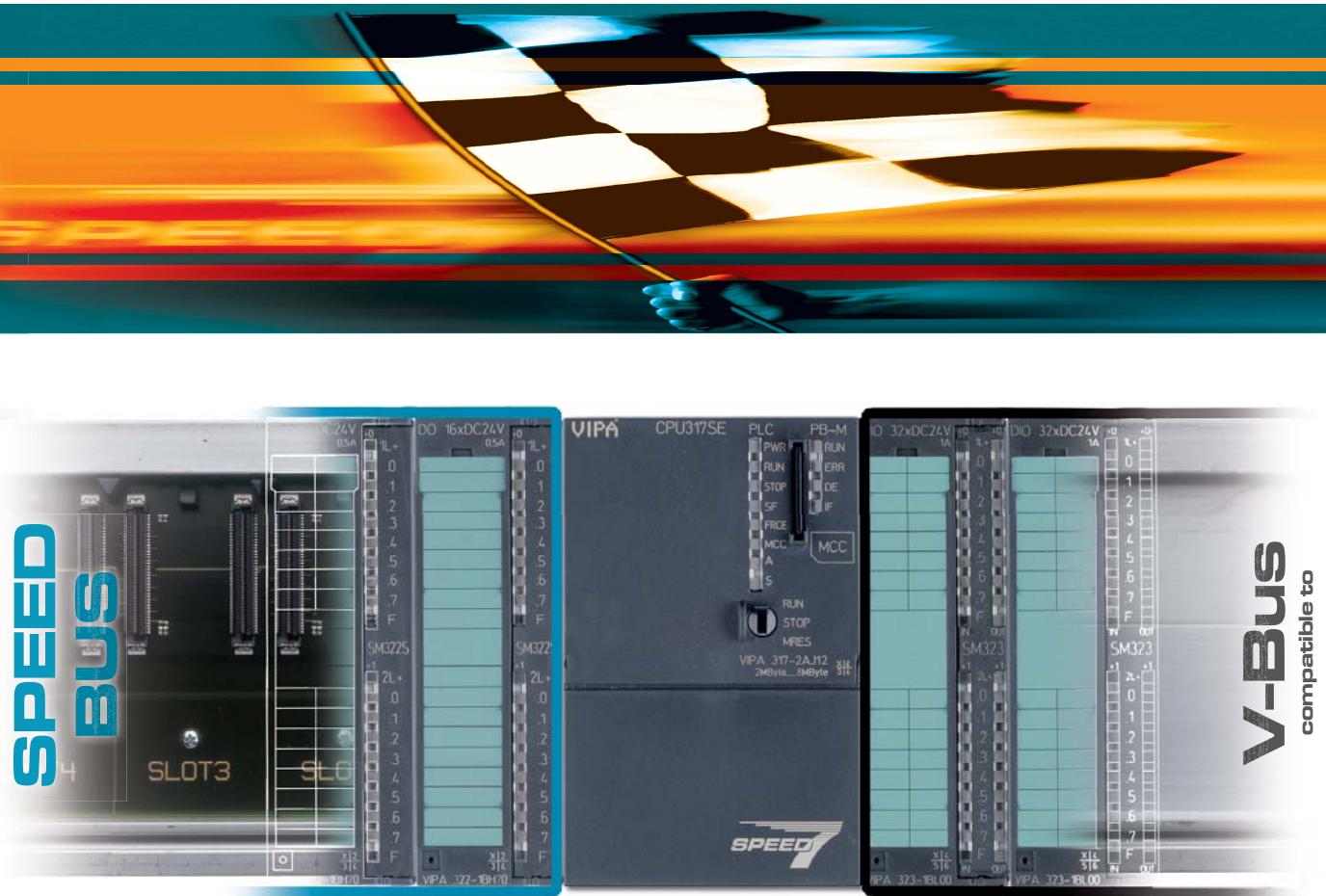
- › Analog input: AI 8x16Bit, ±20mA (alarm), 25µs, parameterizable
- › Analog input: AI 8x16Bit, ±10V (alarm), 25µs, parameterizable

CPU Webpage

```
CPU with Ethernet-PU/OP
Slot 100
    VIPA 314-6CG03-0AB0 V3.2.9 Px000066.pkg, SERIALNUMBER 02092
    SUPPORTDATA : PRODUCT V3299, HARDWARE V0110, 5707B-V11 , HX000031.110 , Bx000227 V6299,
    Ax000086 V1170, Ax000056 V0200, fx000007.wld V1120, FlashFileSystem : V102
    Memorysizes (Bytes): LoadMem : 131072, WorkMemCode : 65536, WorkMemData : 65536
    OnBoardEthernet : MacAddress : 0020d577082C, IP-Address : 172.16.139.100, SubnetMask :
    255.255.224.0, Gateway : 172.16.139.100
    Cpu state : Run
    FunctionRS485 X2: MPI
    FunctionRS485 X3: DPM-async
    Cycletime [microseconds] : min=28000 cur=33000 ave=30863 max=47000

Slot 201
    KOMPAKT-1DP00 V3.1.2 Px000064.pkg, SUPPORTDATA : PRODUCT V3120, BB000220 V5120,
    AB000085 V1020,
    ModuleType CB2C0010
    Cycletime [microseconds] : min=13000 cur=13000 ave=13000 max=16000 cnt=5276

Slot 202
    VIPA DI24/D024/DI08 V3.2.9 , SUPPORTDATA : PRODUCT V3299,
```

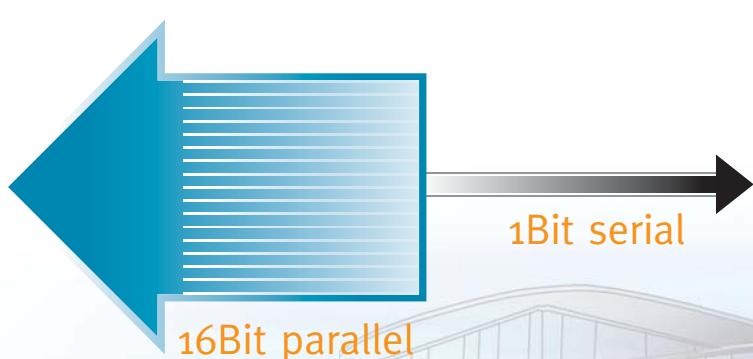


Picture

Left: Highspeed-modules placed onto the SPEED-Bus from VIPA

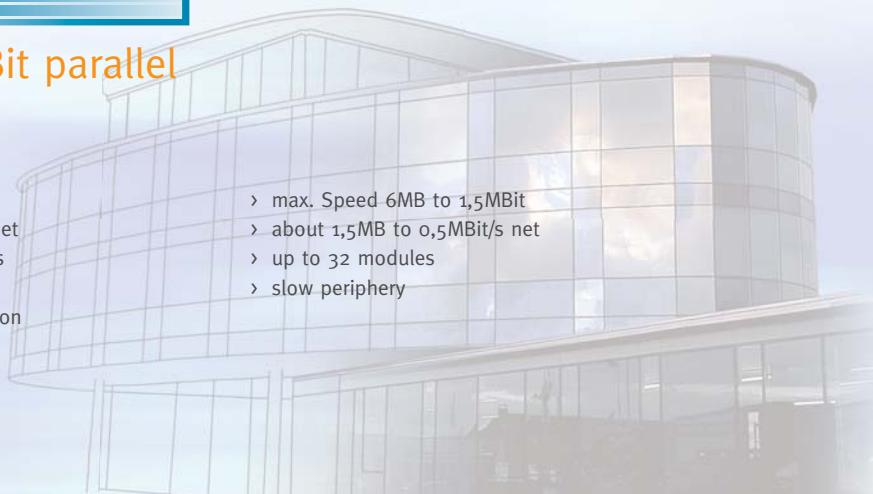
Middle: SPEED7-CPU

Right: Standard bus modules from VIPA or Siemens



- > Speed 64MBit
- > about 58MBit/s net
- > up to 10 modules
- > fast periphery
- > fast communication

- > max. Speed 6MB to 1,5MBit
- > about 1,5MB to 0,5MBit/s net
- > up to 32 modules
- > slow periphery





Technical Data:

CPU	312SC	313SC	313SC/DPM	314SE/DPS	314SC/DPM
Order number	VIPA 312-5BE03	VIPA 313-5BF03	VIPA 313-6CF03	VIPA 314-2BG03	VIPA 314-6CG03
Work memory (50% program / 50% data)	32kB - 512kB	64kB - 512kB	64kB - 512kB	128kB - 512kB	128kB - 1MB
Processing time (BIT, Word, Fix/Floatingpoint in Nanoseconds*)			21/125		11/63
Number range: FB, FC DB			2048 4096		
Bit memory / Counter / Timer			8192Byte / 512 / 512		
Local data			512Byte per prio-level		
Total address space I/O			8192 / 8192Byte		
Process image I/O			128 / 128Byte		
X2, COM 1 ↳ MPI ↳ PtP ↳ DP master			187,5kbit/s -- --		187,5kbit/s 115,2kbit/s 12Mbit/s
X3, COM 2 ↳ DP master ↳ DP Slave ↳ PtP ↳ SSI		-- -- 115,2kbit/s --	12Mbit/s -- 115,2kbit/s --	-- 12Mbit/s 115,2kbit/s --	12Mbit/s -- 115,2kbit/s 1,5Mbit/s
Ethernet interface integrated (2 PU/OP connections)	✓	✓	✓	✓	✓
VIPA SPEED-Bus	--	--	--	--	--
Ethernet-CP 343/543 integrated: ↳ PU/OP connections ↳ S7 / RFC 1006 / H1 / TCP / UDP	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
DI / DO / DIOS	16 / 8 / --	24 / 16 / --	16 / 16 / --	--	24 / 16 / 8
AI / AO / Pt100	--	4 / 2 / 1	--	--	4 / 2 / 1
Counter / PWM or Stepper ¹⁾ (switchable)	2 / 2 / 2	3 / 3 / 3	3 / 3 / 3	--	4 / 4 / 4
Dimensions (WxHxD) in mm	80x125x130	120x125x130	80x125x130	40x125x130	120x125x130

* 1ns = 0,001μsec

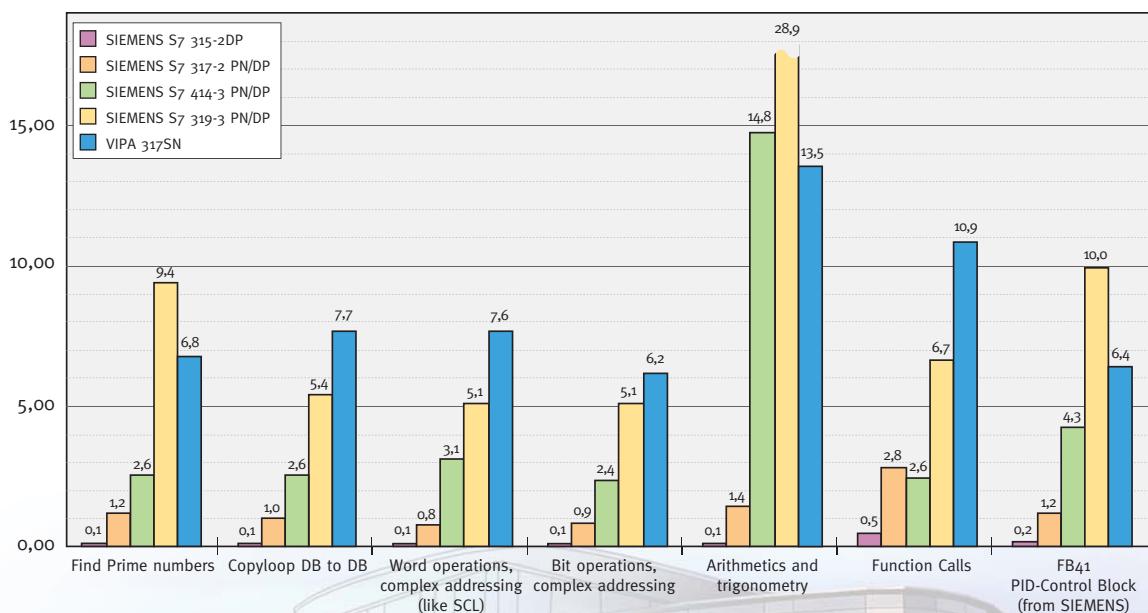


314ST/DPM	315SB/DPM	315SN/NET	317 SE/DPM	317SN/NET	515 S/DPM	517S/DPM	517S/NET		
VIPA 314-6CF02	VIPA 315-2AG12	VIPA 315-4NE12	VIPA 317-2AJ12	VIPA 317-4NE12	VIPA 515-2AJ00	VIPA 517-2AJ00	VIPA 517-4NE00		
512kB - 2MB	1MB - 2MB		2MB - 8MB		1MB - 2MB	2MB - 8MB			
10/58	10/58		10/58			13/75			
	2048 4096			8191 8191		2048 4096			
	8192Byte / 512 / 512			16K/2K/2K		8192Byte / 512 / 512			
8192Byte total (configurable per prio-level)									
8192 / 8192Byte									
2048 / 2048Byte			8192/8192Byte		2048/2048Byte				
12Mbit/s iso					1,5Mbit/s iso				
-- --					-- --				
12Mbit/s					12Mbit/s				
-- --					-- -- --				
115,2kbit/s					-- -- --				
--					-- -- --				
✓	✓	✓	✓	✓	✓	✓	✓		
✓	--	--	✓	✓	--	--	--		
--	--	✓	--	✓	--	--	✓		
--	--	32	--	32	--	--	32		
--	--	8	--	64	--	--	64		
8 / -- / 8	--	--	--	--	--	--	--		
4 / 2 / 1	--	--	--	--	--	--	--		
4 / -- / --	--	--	--	--	--	--	--		
80x125x130	40x125x130	80x125x130		80x125x130	174x106 (PCI)				

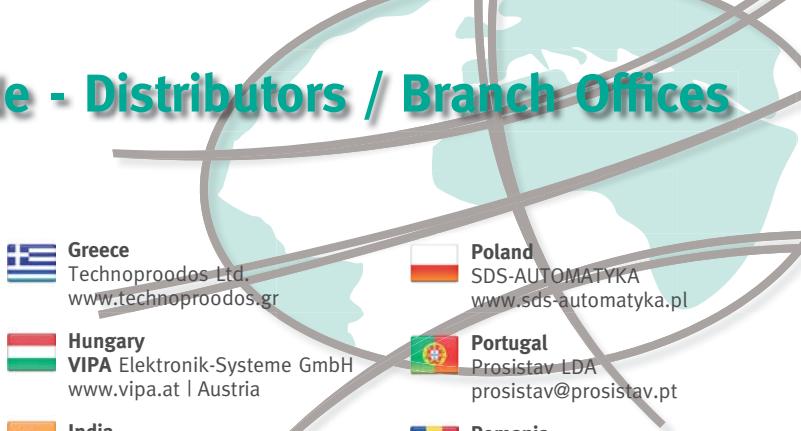


Benchmark

Relative CPU-Performance (V2.01) compared to SIEMENS S7-318-2DP
(pure user code, no SFCs, no PAx, no PEx)



VIPA Worldwide - Distributors / Branch Offices



Argentina Exsol S.A. www.exsol.com.ar	Greece Technoprodos Ltd., www.technoprodos.gr	Poland SDS-AUTOMATYKA www.sds-automatyka.pl
Australia VIPA Automation www.vipaautomation.com	Hungary VIPA Elektronik-Systeme GmbH www.vipa.at Austria	Portugal Prosistav LDA prosistav@prosistav.pt
Austria VIPA Elektronik-Systeme GmbH www.vipa.at	India VIPA Automation India Pvt Ltd. info@vipaindia.com	Romania Assembla Engineering SRL www.assembla.ro
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Czech Republic REM-Technik s.r.o. www.rem-technik.cz	Lithuania UAB „Elinta“ www.elinta.lt	Switzerland SATOMECH AG www.satomech.ch
Denmark VIPA Denmark www.vipa-automation.dk	Luxemburg Bintz technics N.V. www.bintz-technics.be Belgium	Taiwan Nano-Trend Technology Co.,Ltd. www.nano-trend.com
Dominican Republic Mando y Regulacion Industrial mandoyerreg.ind@codetel.net.do	Malaysia VIPA Sdn Bhd info@vipa.my	Thailand Navachot Innovation Co., Ltd. theerasak@navachot.com
Ecuador landcecontrol S.A. www.iandcecontrol.com	Moldova „ElectroTehnolimport“ SRL www.electroimport.md	Turkey OTES Elektronik San. Tic. Ltd. Sti. www.otes.com.tr
Egypt Middle East for Automation www.masautomation.com	Netherlands VIPA Nederland B.V. www.vipa.nl	Ukraine SV Altera Ltd. www.svaltera.ua
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