SIEMENS 6ES7516-2PN00-0AB0 PROFINET RT, 10 NS BIT PERFORMANCE, DEGREE OF PROTECTION: IP65/67, SIMATIC MEMORY CARD REQUIR

Our Product Introduction

Basic Information

- Place of Origin: Germany
- Brand Name: SIEMENS
- Certification: CE
- Model Number: 6ES7516-2PN00-0AB0
- Minimum Order Quantity: 1
- Price: USD
- Packaging Details: 15,10 x 15,40 x 4,60
- Delivery Time: 10-12Days
- Payment Terms: L/C, T/T
- Supply Ability: 100

Product Specification

- Program Memory: 1 MB
- Cpu Type: S7-1500
- Number Of Technology Modules: 32
- Data Memory: 5 MB
- Number Of Analog Outputs: 8
- Number Of Communication Modules: 8
- Number Of Analog Inputs: 8
- Integrated Ethernet Interface: Yes
- Number Of Digital Inputs: 16
- Integrated Sd Card Slot: Yes
- Integrated Profibus Interface: Optional
- Integrated Usb Interface: Yes

Product Description

SIEMENS 6ES7516-2PN00-0AB0 PROFINET RT, 10 NS BIT PERFORMANCE, DEGREE OF PROTECTION: IP65/67, SIMATIC MEMORY CARD REQUIR
The SIEMENS 6ES7516-2PN00-0AB0 is a central processing unit (CPU) that is part of the SIMATIC S7-1500 automation system. Here are the key details about this CPU:
PROFINET RT Interface:
- This CPU has a built-in PROFINET RT (Real-Time) interface.
- PROFINET RT is a standard Ethernet-based industrial communication protocol that provides real-time data exchange capabilities.
Ultra-Fast 10 ns Bit Performance:
- This CPU boasts an extremely fast bit performance of 10 nanoseconds per bit operation.
- This ultra-high processing speed enables extremely responsive and precise control of industrial processes.
Degree of Protection: IP65/67:
- The CPU has a degree of protection rating of IP65/67.
- This means it is protected against the ingress of dust and is also protected against the effects of temporary immersion in water.
- This high degree of protection makes the CPU suitable for installation in harsh, industrial environments.
SIMATIC Memory Card Required:
- Like other SIMATIC S7-1500 CPUs, this model requires a SIMATIC memory card to be inserted for operation.
- The memory card provides storage for the user program, configuration data, and other runtime information.
Other Features:
- Work Memory: 1.5 MB for program and 5 MB for data
- Part of the modular SIMATIC S7-1500 system
- Programmed using the STEP 7 engineering software
The key distinguishing features of this CPU model are the high degree of protection (IP65/67), the ultra-fast 10 ns bit performance, and the PROFINET RT interface.
These capabilities make the CPU 1516-2 PN well-suited for applications in harsh, industrial environments that require extremely fast and precise control, such as in process automation, packaging, or other demanding applications. The high degree of protection ensures the CPU can withstand exposure to dust, water, and other environmental factors.
Overall, this CPU model offers a powerful and rugged option within the SIMATIC S7-1500 automation system, designed for use in the most challenging industrial settings.

General information	
Product type designation	CPU 1516pro-2 PN
HW functional status	FS02
Firmware version	V2.9
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes; Via X1, with minimum OB 6x cycle of 500 µs
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V17 (FW V2.9) / V14 (FW V2.0) or higher
Configuration control	
via dataset	No
Control elements	
Mode selector switch	1
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
● Mains/voltage failure stored energy time	5 ms
Input current	
Current consumption (rated value)	0.31 A
Current consumption, max.	0.4 A
Inrush current, max.	0.4 A; Rated value
I^2t	0.001 $A^2 \cdot s$
from supply voltage 1L+, max.	0.4 A
Power	
Infeed power to the backplane bus	2.275 W
Power loss	
Power loss, typ.	5.3 W
Memory	

Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
● integrated (for program)	1 Mbyte
● integrated (for data)	5 Mbyte
Load memory	
● Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	
● maintenance-free	Yes
CPU processing times	
for bit operations, typ.	10 ns
for word operations, typ.	12 ns
for fixed point arithmetic, typ.	16 ns
for floating point arithmetic, typ.	64 ns
CPU-blocks	
Number of elements (total)	8 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
● Number range	1 ... 60 999; subdivided into: number range that can be used by the user: 1 ... 59 999, and number range of DBs created via SFC 86: 60 000 ... 60 999
● Size, max.	5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
● Number range	0 ... 65 535
● Size, max.	1 Mbyte
FC	
● Number range	0 ... 65 535
● Size, max.	1 Mbyte
OB	
● Size, max.	1 Mbyte
● Number of free cycle OBs	100
● Number of time alarm OBs	20
● Number of delay alarm OBs	20
● Number of cyclic interrupt OBs	20; With minimum OB 3x cycle of 500 µs
● Number of process alarm OBs	50
● Number of DPV1 alarm OBs	3
● Number of isochronous mode OBs	1
● Number of technology synchronous alarm OBs	2
● Number of startup OBs	100
● Number of asynchronous error OBs	4
● Number of synchronous error OBs	2
● Number of diagnostic alarm OBs	1
Nesting depth	
● per priority class	24
Counters, timers and their retentivity	
S7 counter	
● Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
● Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes

S7 times	
● Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
● Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB
Flag	
● Size, max.	16 kbyte
● Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	
● Retentivity adjustable	Yes
● Retentivity preset	No
Local data	
● per priority class, max.	64 kbyte; max. 16 KB per block
Address area	
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	
● Inputs	32 kbyte; All inputs are in the process image
● Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Hardware configuration	
Number of distributed IO systems	64; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link)
Number of IO Controllers	
● integrated	2
● Via CM	0
Rack	
● Modules per rack, max.	16; Expansion width max. 1.2 m
● Number of lines, max.	1
Time of day	
Clock	
● Type	Hardware clock
● Backup time	6 wk; At 40 °C ambient temperature, typically
● Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter	
● Number	16
Clock synchronization	
● supported	Yes
● in AS, master	Yes
● in AS, slave	Yes
● on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	0
1. Interface	
Interface types	
● RJ 45 (Ethernet)	Yes; X1 P3
● Number of ports	3; 2x M12 + 1x RJ45
● integrated switch	Yes
Protocols	
● IP protocol	Yes; IPv4
● PROFINET IO Controller	Yes
● PROFINET IO Device	Yes
● SIMATIC communication	Yes

● Open IE communication	Yes; Optionally also encrypted
● Web server	Yes
● Media redundancy	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0
PROFINET IO Controller	
Services	
— PG/OP communication	Yes
— Isochronous mode	Yes
— Direct data exchange	Yes; Requirement: IRT and isochronous mode (MRPD optional)
— IRT	Yes
— PROFIenergy	Yes; per user program
— Prioritized startup	Yes; Max. 32 PROFINET devices
— Number of connectable IO Devices, max.	256; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
— Of which IO devices with IRT, max.	64
— Number of connectable IO Devices for RT, max.	256
— of which in line, max.	256
— Number of IO Devices that can be simultaneously activated/deactivated, max.	8; in total across all interfaces
— Number of IO Devices per tool, max.	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data

Sienteng Zhongbao Industrial Park, Longdong Community, Baolong Street, Longgang District, Shenzhen