SIEMENS PLC SIMATIC S7-1500 CPU 1516F-3 PN/DP 6ES7516-3FN01-0AB0 PROFINET RT

Our Product Introduction

Basic Information

- Place of Origin: Germany
- Brand Name: SIEMENS
- Certification: CE
- Model Number: SIEMENS PLC SIMATIC S7-1500 CPU 1516F-3 PN/DP 6ES7516-3FN01-0AB0 PROFINET RT
- 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

- Number Of Communication Interfaces: 3
- Number Of Analog Inputs: 8
- Maximum Number Of Analog I/O Modules: 8
- Maximum Number Of I/O Modules: 32
- Cpu Type: S7-1500
- Number Of Digital Inputs: 32
- Maximum Number Of Digital I/O Modules: 32
- Maximum Number Of Technology Modules: 8
- Number Of Technology Modules: 8
- Number Of Digital Outputs: 32
- Programming Language: STEP 7 (TIA Portal)

Product Description

SIEMENS PLC SIMATIC S7-1500 CPU 1516F-3 PN/DP 6ES7516-3FN01-0AB0 PROFINET RT

Product Introduction:
The SIEMENS PLC SIMATIC S7-1500 CPU 1516-3 FN 6ES7516-3FN01-0AB0 is a high-performance central processing unit (CPU) specifically designed for industrial automation applications. It belongs to the SIEMENS SIMATIC S7-1500 series, renowned for its advanced functionality, reliability, and flexibility.
Product Information and Specifications:
- Model: CPU 1516-3 FN 6ES7516-3FN01-0AB0
The CPU 1516-3 FN is equipped with a powerful processor that ensures fast and efficient execution of control programs. It supports multiple programming languages, including ladder logic, function blocks, and structured text, providing flexibility and ease of use for complex control tasks.
In terms of memory capacity, the CPU 1516-3 FN offers ample storage space for both program and data. While specific details were not provided in the query, typical configurations of the CPU include program memory ranging from 2 MB to 6 MB and data memory ranging from 1 MB to 2 MB. This generous memory capacity allows users to store their control programs and necessary data structures for the PLC's operation.
Designed to operate in demanding industrial environments, the CPU 1516-3 FN delivers reliable and precise control for applications such as manufacturing, process control, and machine automation. It supports a wide range of communication interfaces, enabling seamless integration with other devices and systems within the automation network.
The CPU 1516-3 FN is typically programmed and configured using Siemens' TIA Portal (Totally Integrated Automation Portal) software. The TIA Portal provides a comprehensive engineering environment for efficient programming, simulation, and diagnostics, ensuring easy development and maintenance of automation projects.
Product Attributes:
- Model: CPU 1516-3 FN 6ES7516-3FN01-0AB0
- Processor: Powerful processor for fast and efficient control program execution
- Programming Languages: Supports ladder logic, function blocks, and structured text
- Memory Capacity: Ample storage space for program and data
- Communication Interfaces: Supports various communication interfaces
- Engineering Software: Programmed and configured using Siemens' TIA Portal
- Suitable for: Manufacturing, process control, and machine automation applications
In summary, the SIEMENS PLC SIMATIC S7-1500 CPU 1516-3 FN 6ES7516-3FN01-0AB0 is a high-performance CPU offering advanced functionality, generous memory capacity, and seamless communication capabilities. It provides efficient and precise control for various industrial processes, making it well-suited for a wide range of industrial automation applications.

General information	
Product type designation	CPU 1516F-3 PN/DP
HW functional status	FS03
Firmware version	V2.9
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 375 µs (distributed) and 1 ms (central)
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V17 (FW V2.9) / V13 SP1 Update 4 (FW V1.8) or higher
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	6
Mode selector switch	1
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
● Mains/voltage failure stored energy time	5 ms
● Repeat rate, min.	1/s
Input current	
Current consumption (rated value)	0.85 A

Inrush current, max.	2.4 A; Rated value
I^2t	0.02 $A^2 \cdot s$
Power	
Infeed power to the backplane bus	12 W
Power consumption from the backplane bus (balanced)	6.7 W
Power loss	
Power loss, typ.	7 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
● integrated (for program)	1.5 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 250 µs
● Number of process alarm OBs	50
● Number of DPV1 alarm OBs	3
● Number of isochronous mode OBs	3
● 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; Up to 8 possible for F-blocks
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
Extended retentive data area (incl. timers, counters, flags), max.	5 Mbyte; When using PS 6 0W 24/48/60 V DC HF
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
per CM/CP	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
● Number of subprocess images, max.	32
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 DP masters	
● integrated	1

● Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Number of IO Controllers	
● integrated	2
● Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Rack	
● Modules per rack, max.	32; CPU + 31 modules
● Number of lines, max.	1
PtP CM	
● Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots

Dimensions	
Width	70 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	845 g

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