SIEMENS 6ES7513-2PM03-0AB0 PROFINET IRT WITH 3-PORT SWITCH, 2ND INTERFACE: PROFINET RT, 25 NS BIT PERFORMANCE, DEGREE OF

Our Product Introduction

Basic Information

- Place of Origin: Germany
- Brand Name: SIEMENS
- Certification: CE
- Model Number: 6ES7512-1DM03-0AB0
- 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

- Dimensions: 130 X 150 X 120 Mm
- Communication Interfaces: PROFINET, PROFIBUS, Ethernet/IP, Modbus TCP, TCP/IP
- Memory Size: 4 MB
- Number Of Digital Outputs: 32
- Weight: 0.5 Kg
- Programming Language: STEP 7 (TIA Portal)
- Number Of Digital Inputs: 32
- Protection Rating: IP20
- Number Of Analog Outputs: 8
- Operating Voltage: 24 V DC
- Cpu Type: S7-1500
- Number Of Analog Inputs: 8
- Operating Temperature Range: -20°C To +60°C

Product Description

SIEMENS 6ES7513-2PM03-0AB0 PROFINET IRT WITH 3-PORT SWITCH, 2ND INTERFACE: PROFINET RT, 25 NS BIT PERFORMANCE, DEGREE OF
The SIEMENS 6ES7513-2PM03-0AB0 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 IRT with 3-Port Switch:
- This CPU has a built-in PROFINET interface with an integrated 3-port switch.
- The PROFINET interface supports the PROFINET IRT (Isochronous Real-Time) communication protocol, which enables highly synchronized and deterministic data exchange.
- The 3-port switch allows the CPU to be connected directly to other PROFINET devices without requiring an external switch.
Second PROFINET RT Interface:
- In addition to the PROFINET IRT interface, this CPU model also has a second PROFINET RT (Real-Time) interface.
- The PROFINET RT interface provides standard real-time Ethernet communication capabilities.
Ultra-Fast 25 ns Bit Performance:
- This CPU boasts an extremely fast bit performance of 25 nanoseconds per bit operation.
- This high processing speed enables very responsive and precise control of industrial processes.
Degree of Protection:
- The CPU has a degree of protection of IP20, which means it is protected against the ingress of solid foreign objects and dripping water.
- This makes the CPU suitable for installation in control cabinets or other enclosed environments.
Other Features:
- Work Memory: 500 KB for program and 3 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 integrated PROFINET IRT interface with a 3-port switch, the additional PROFINET RT interface, and the extremely fast 25 ns bit performance.
These capabilities make the CPU 1513-2 PN ideal for applications that require highly synchronized and deterministic industrial Ethernet communication, such as motion control, packaging, or other time-critical automation tasks. The combination of PROFINET IRT and PROFINET RT interfaces also provides flexibility in terms of network integration.

General information	
Product type designation	CPU 1513pro-2 PN
HW functional status	FS01
Firmware version	V3.1
● FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes; Via X1, with minimum OB 6x cycle of 500 µs
● SysLog	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V19 (FW V3.1); with older TIA Portal versions configurable as 6ES7513-2PL00-0AB0
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)	0.22 A
Current consumption, max.	0.35 A

Inrush current, max.	0.63 A; Rated value
I^2t	0.3 $A^2 \cdot s$
from supply voltage 1L+, max.	0.35 A
Power	
Infeed power to the backplane bus	2.275 W
Power loss	
Power loss, typ.	3.3 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
● integrated (for program)	600 kbyte
● integrated (for data)	2.5 Mbyte
Load memory	
● Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	
● maintenance-free	Yes
CPU processing times	
for bit operations, typ.	25 ns
for word operations, typ.	32 ns
for fixed point arithmetic, typ.	42 ns
for floating point arithmetic, typ.	170 ns
CPU-blocks	
Number of elements (total)	4 000; 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.	2.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
● Number range	0 ... 65 535
● Size, max.	600 kbyte
FC	
● Number range	0 ... 65 535
● Size, max.	600 kbyte
OB	
● Size, max.	600 kbyte
● 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	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.	256 kbyte; in total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 216 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	2 048; 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	32; 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

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