

OFFICIAL MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

6ES7516-3AN00-0AB0

Siemens official documentation for the exact article number.

Source: 6ES7516-3AN00-0AB0.pdf

Selected official Siemens pages follow this cover.



SIMATIC S7-1500, CPU 1516-3 PN/DP,
CENTRAL PROCESSING UNIT WITH WORKING MEMORY
1 MB FOR PROGRAM AND 5 MB FOR DATA,
1. INTERFACE,
PROFINET IRT WITH 2 PORT SWITCH,
2. INTERFACE, ETHERNET, 3. INTERFACE,
PROFIBUS, 10 NS BIT-PERFORMANCE,
SIMATIC MEMORY CARD NECESSARY

General information

Hardware product version E01

Engineering with

STEP 7 TIA Portal can be configured/integrated as of version V12.0

Display

Screen diagonal (cm) 6.1 cm

Control elements

Number of keys 6

Mode selector switch 1

Supply voltage

Type of supply voltage 24 V DC

permissible range, lower limit (DC) 19.2 V

permissible range, upper limit (DC) 28.8 V

Reverse polarity protection Yes

Input current

Current consumption (rated value) 0.85 A

Inrush current, max. 2.4 A ; Rated value

I_t 0.39 A²·s

Power	
Power consumption from the backplane bus (balanced)	6.7 W
Infeed power to the backplane bus	12 W
Power losses	
Power loss, typ.	7 W
Memory	
Work memory	
integrated (for program)	1 Mbyte
integrated (for data)	5 Mbyte
Load memory	
Plug-in (SIMATIC Memory Card), max.	2 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 blocks (total)	6000
DB	
Number, max.	6000 ; Number range: 1 to 65535
Size, max.	5 Mbyte
FB	
Number, max.	5998 ; Number range: 1 to 65535
Size, max.	512 kbyte
FC	
Number, max.	5999 ; Number range: 1 to 65535
Size, max.	512 kbyte
OB	
Size, max.	512 kbyte
Number of free cycle OBs	100
Number of time alarm OBs	20
Number of delay alarm OBs	20
Number of time interrupt OBs	20
Number of process alarm OBs	50
Number of DPV1 alarm OBs	3
Number isochronous mode OBs	2

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	2048
Retentivity	
adjustable	Yes
IEC counter	
Number	Any (only limited by the main memory)
Retentivity	
adjustable	Yes
S7 times	
Number	2048
Retentivity	
adjustable	Yes
IEC timer	
Number	Any (only limited by the main memory)
Retentivity	
adjustable	Yes
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	512 kbyte ; Available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB
Flag	
Number, max.	16 kbyte
Number of clock memories	8
Local data	
per priority class, max.	64 kbyte ; max. 16 KB per block
Address area	
Number of IO modules	8192
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
Address space per module	
Number of IO subsystems	10
Hardware configuration	
Modules per rack, max.	32 ; CPU + 31 modules
Rack, number of rows, max.	1
Number of DP masters	
integrated	1
Via CM	8
Number of IO Controllers	
integrated	1
PtP CM	
Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
Type	Hardware clock
Deviation per day, max.	10 s ; Typ.: 2 s
Backup time	6 wk ; At 40 °C ambient temperature, typically
Clock synchronization	
supported	Yes
to DP, master	Yes
in AS, master	Yes
in AS, slave	Yes
on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1
1st interface	
Interface types	
Number of ports	2
Integrated switch	Yes