

SIPLUS S7-1500 CPU 1517H System Bundle based on 6ES7500-0HP00-0AB0 with conformal coating, 0...+60 °C, system bundle consisting of: 2 x CPU 1517H-3 PN, 4 sync modules up to 10 m. 2 x sync cables 1 m without memory card



Figure similar

General information	
Product type designation	CPU 1517H system bundle
Engineering with	<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version
	see entry ID: 109746275
Configuration control	
via dataset	Yes; Only distributed
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	
<ul style="list-style-type: none"> Mains/voltage failure stored energy time 	5 ms
Input current	
Current consumption (rated value)	1.5 A
Inrush current, max.	2.4 A; Rated value
I ² t	0.02 A ² ·s
Power loss	
Power loss, typ.	24 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
<ul style="list-style-type: none"> integrated (for program) 	2 Mbyte
<ul style="list-style-type: none"> integrated (for data) 	8 Mbyte
Load memory	
<ul style="list-style-type: none"> Plug-in (SIMATIC Memory Card), max. 	32 Gbyte
Backup	
<ul style="list-style-type: none"> maintenance-free 	Yes
CPU processing times	
for bit operations, typ.	4 ns
for word operations, typ.	6 ns
for fixed point arithmetic, typ.	6 ns
for floating point arithmetic, typ.	24 ns

CPU-blocks	
Number of elements (total)	12 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
• Number range	Number range: 1 to 59 999
• Size, max.	8 Mbyte; For non-optimized block accesses, the max. size of the DB 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
• Number of process alarm OBs	50
• 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.	768 kbyte
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	16 384; max. number of modules / submodules
I/O address area	
• Inputs	32 kbyte
• Outputs	32 kbyte
per integrated IO subsystem	
— Inputs (volume)	16 kbyte
— Outputs (volume)	16 kbyte
Subprocess images	

• Number of subprocess images, max.	32
Hardware configuration	
Number of IO Controllers	
• integrated	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	No
• in AS, slave	No
• on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	
	1
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X1
• Number of ports	2
• integrated switch	Yes
Protocols	
• IP protocol	Yes; IPv4
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• SIMATIC communication	Yes; Only Server
• Open IE communication	Yes
• Web server	No
• Media redundancy	Yes
PROFINET IO Controller	
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	No
— PROFINergy	Yes
— Number of connectable IO Devices, max.	256
Update time for RT	
— for send cycle of 1 ms	1 ms to 512 ms
2. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X2
• Number of ports	1
• integrated switch	No
Protocols	
• IP protocol	Yes; IPv4
• PROFINET IO Controller	No
• PROFINET IO Device	No
• SIMATIC communication	Yes; Only Server
• Open IE communication	Yes
• Web server	No
• Media redundancy	No
3. Interface	
Interface type	Pluggable interface module (IF)
Plug-in interface modules	Synchronization module 6AG1960-1CB00-4AA5 or 6AG1960-1FB00-4AA5
4. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization module 6AG1960-1CB00-4AA5 or 6AG1960-1FB00-4AA5
Interface types	

RJ 45 (Ethernet)	
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
• Industrial Ethernet status LED	Yes
Protocols	
PROFIsafe	No
Number of connections	
• Number of connections, max.	160
• Number of connections reserved for ES/HMI/web	10
Redundancy mode	
Media redundancy	
— MRP	Yes; Manager Auto is permanently set in TIA. Max. 50 nodes are possible
— MRPD	No
— Switchover time on line break, typ.	200 ms; PROFINET MRP
— Number of stations in the ring, max.	50
SIMATIC communication	
• S7 routing	No
• S7 communication, as server	Yes
• S7 communication, as client	No
Open IE communication	
• TCP/IP	Yes
— Data length, max.	64 kbyte
— several passive connections per port, supported	Yes
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	64 kbyte
• UDP	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
— UDP multicast	Yes; Max. 5 multicast circuits
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Web server	
• HTTP	No
• HTTPS	No
OPC UA	
• OPC UA Client	No
• OPC UA Server	No
Further protocols	
• MODBUS	Yes; MODBUS TCP
S7 message functions	
Program alarms	No
Test commissioning functions	
Joint commission (Team Engineering)	No
Status block	Yes; Up to 16 simultaneously
Single step	No
Status/control	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
• Number of variables, max.	
— of which status variables, max.	200; per job
— of which control variables, max.	200; per job
Forcing	
• Forcing, variables	Peripheral inputs/outputs
• Number of variables, max.	200
Diagnostic buffer	
• present	Yes
• Number of entries, max.	3 200
— of which powerfail-proof	1 000

Traces	
<ul style="list-style-type: none"> • Number of configurable Traces • Memory size per trace, max. 	<p>8</p> <p>512 kbyte</p>
Interrupts/diagnostics/status information	
Diagnostics indication LED	
<ul style="list-style-type: none"> • RUN/STOP LED • ERROR LED • MAINT LED • Connection display LINK TX/RX 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Supported technology objects	
Motion Control	No
Controller	
<ul style="list-style-type: none"> • PID_Compact • PID_3Step • PID-Temp 	<p>No</p> <p>No</p> <p>No</p>
Counting and measuring	
<ul style="list-style-type: none"> • High-speed counter 	No
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. 	<p>0 °C; = Tmin</p> <p>60 °C; = Tmax; display: 50 °C, the display is switched off at an operating temperature of typically 50 °C</p> <p>0 °C; = Tmin</p> <p>40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off</p>
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	<p>-40 °C</p> <p>70 °C</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude 	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
Relative humidity	
<ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Resistance	
Coolants and lubricants	
<ul style="list-style-type: none"> — Resistant to commercially available coolants and lubricants 	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
<ul style="list-style-type: none"> — to biologically active substances according to EN 60721-3-3 — to chemically active substances according to EN 60721-3-3 — to mechanically active substances according to EN 60721-3-3 	<p>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</p> <p>Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> <p>Yes; Class 3S4 incl. sand, dust, *</p>
Use on ships/at sea	
<ul style="list-style-type: none"> — to biologically active substances according to EN 60721-3-6 — to chemically active substances according to EN 60721-3-6 — to mechanically active substances according to EN 60721-3-6 	<p>Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)</p> <p>Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> <p>Yes; Class 6S3 incl. sand, dust; *</p>
Remark	
<ul style="list-style-type: none"> — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul style="list-style-type: none"> • Coatings for printed circuit board assemblies acc. to EN 61086 • Protection against fouling acc. to EN 60664-3 • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A 	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
configuration / header	

configuration / programming / header

Programming language

— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	No
— GRAPH	No

Know-how protection

• User program protection/password protection	Yes
• Copy protection	No
• Block protection	Yes

Access protection

• Password for display	Yes
• Protection level: Write protection	Yes
• Protection level: Read/write protection	Yes
• Protection level: Complete protection	Yes

Dimensions

Width	210 mm
Height	147 mm
Depth	129 mm

Weights

Weight, approx.	2 119 g; Interface modules: 2x 18 g
-----------------	-------------------------------------

last modified: 4/1/2022 