

SIPLUS ET 200SP CPU 1515SP PC2 spare based on 6ES7677-2DB40-0AA0 with conformal coating, -40...+60 °C, spare part, 8 GB RAM, without CFast, interfaces: 1x slot CFast, 1x slot SD/MMC, 1x connection for ET 200SP BusAdapter PROFINET, 1x 10/100/1000 Mbps Ethernet 2x USB 3.0; 2x USB 2.0, 1x display port

General information	
Product type designation	CPU 1515SP PC2
based on	6ES7677-2DB40-0AA0
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Installed software	
• Visualization	No
• Control	No
Configuration control	
via dataset	Yes
Control elements	
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
Input current	
Current consumption (rated value)	1.8 A; Full processor load, incl. ET 200SP modules and using USB
Current consumption (in no-load operation), typ.	0.5 A
Current consumption, max.	2.9 A
I ² t	0.426 A ² ·s; with starting current inrush
Power	
Active power input, max.	43 W; incl. ET 200SP modules and using USB
Infeed power to the backplane bus	8.75 W
Power loss	
Power loss, typ.	16 W
Processor	
Processor type	Intel Atom E3940, 1.6 GHz, 4 cores
Storage	
Type of memory	DDR3L
Main memory	8 GB RAM
CFast memory card	No
SIMATIC memory card required	No
Hardware configuration	
Integrated power supply	Yes
Number of DP masters	
• Via CM	1
Rack	
• Modules per rack, max.	64; CPU + 64 modules + server module (mounting width max. 1 m)
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

Interfaces	
Number of industrial Ethernet interfaces	2
Number of PROFINET interfaces	1; via BusAdapter
Number of PROFIBUS interfaces	1; Via CM DP module
Number of RS 485 interfaces	1; Via CM DP module
Number of USB interfaces	4; 2x USB 2.0, 2x USB 3.0 on front side
Video interfaces	
• Graphics interface	1x DisplayPort
1. Interface	
Interface type	PROFINET
Interface types	
• RJ 45 (Ethernet)	Yes; Via BusAdapter BA 2x RJ45
— Transmission rate, max.	100 Mbit/s
— Industrial Ethernet status LED	Yes
• Number of ports	2
• integrated switch	Yes
2. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; Integrated
— Transmission rate, max.	1 000 Mbit/s
— Industrial Ethernet status LED	No
• Number of ports	1
Protocols	
Open IE communication	
• TCP/IP	
— Data length, max.	64 kbyte
Standards, approvals, certificates	
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	432 kg
— global warming potential, (during production) [CO2 eq]	73.8 kg
— global warming potential, (during operation) [CO2 eq]	365 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-6.71 kg
Ambient conditions	
Ambient temperature during operation	
• min.	-40 °C; = Tmin
• max.	up to 55 °C with max. 64 ET 200SP modules, max. 2x 900 mA USB load and max. 2x 500 mA USB load; up to 60 °C with max. 32 ET 200SP modules and 4x 500 mA USB load; FS06 or higher: up to 70 °C with max. 16 ET 200SP modules, 4x 100 mA USB load and no visualization
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	70 °C; = Tmax
• vertical installation, min.	-40 °C; = Tmin
• vertical installation, max.	50 °C; = Tmax; with max. 32 ET 200SP modules and max. 4x 500 mA USB load
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	2 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation
Vibrations	
• Operation, tested according to IEC 60068-2-6	Yes
• Transport, tested acc. to IEC 60068-2-6	Yes

Shock testing				
● tested according to IEC 60068-2-6		Yes		
● tested according to IEC 60068-2-27		Yes		
● tested according to IEC 60068-2-29		Yes		
● Storage/transport, tested acc. to IEC 60068-2-27		Yes		
Resistance				
Coolants and lubricants				
— Resistant to commercially available coolants and lubricants		Yes; Incl. diesel and oil droplets in the air		
Use in stationary industrial systems				
— to biologically active substances according to EN 60721-3-3		Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
— to chemically active substances according to EN 60721-3-3		Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
— to mechanically active substances according to EN 60721-3-3		Yes; Class 3S4 incl. sand, dust, *		
— Against mechanical environmental conditions acc. to EN 60721-3-3		Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)		
Use on ships/at sea				
— to biologically active substances according to EN 60721-3-6		Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)		
— to chemically active substances according to EN 60721-3-6		Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *		
— to mechanically active substances according to EN 60721-3-6		Yes; Class 6S3 incl. sand, dust; *		
— Against mechanical environmental conditions acc. to EN 60721-3-6		Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)		
Usage in industrial process technology				
— Against chemically active substances acc. to EN 60654-4		Yes; Class 3 (excluding trichlorethylene)		
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04		Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)		
Remark				
— 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				
● Coatings for printed circuit board assemblies acc. to EN 61086		Yes; Class 2 for high reliability		
● Protection against fouling acc. to EN 60664-3		Yes; Type 1 protection		
● Military testing according to MIL-I-46058C, Amendment 7		Yes; Discoloration of coating possible during service life		
● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A		Yes; Conformal coating, Class A		
Peripherals/Options				
SD card		Optionally for additional mass storage		
Dimensions				
Width		160 mm		
Height		117 mm		
Depth		75 mm		
Weights				
Weight, approx.		0.83 kg		
Classifications				
			Version	Classification
		eClass	16	27-24-26-07
		eClass	14	27-24-26-07
		eClass	12	27-24-26-07
		eClass	9.1	27-24-26-07
		eClass	9	27-24-26-07
		eClass	8	27-24-26-07
		eClass	7.1	27-24-26-07

eClass	6	27-24-26-07
ETIM	10	EC001603
ETIM	9	EC001603
ETIM	8	EC001603
ETIM	7	EC001603
IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)

[China RoHS](#)


EG-Konf.




UL



General Product Approval

EMV

For use in hazardous locations

[TUEV](#)

[China RoHS](#)


RCM


IECEX


ATEX

[CCC-Ex](#)

Environment



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