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Overview



Stabilized 3-phase, universal and powerful standard power supplies for machine and plant construction with wide-range input for world-wide use.

To further increase the 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Product highlights

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- Wide-range input, input voltage 340 ... 550 V AC
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Up to 91.5% efficiency
- cULus, cCSAus and DNV GL certifications

Selection and ordering data

SITOP PSU300S 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/5 A	**6EP1433-2BA20**
SITOP PSU300S 3-phase, 24 V DC/10 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/10 A	**6EP1434-2BA20**
SITOP PSU300S 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/20 A	**6EP1436-2BA10**
SITOP PSU300S 3-phase, 24 V DC/40 A Stabilized power supply Input: 400 ... 500 V 3 AC Output: 24 V DC/40 A	**6EP1437-2BA20**

Accessories

SITOP redundancy modules	For more information, visit: www.siemens.com/sitop-redundancy/mall
SITOP selectivity modules	For more information, visit: www.siemens.com/sitop-selectivity/mall
SITOP buffer modules	For more information, visit: www.siemens.com/sitop-buffering/mall
Device identification label	**3RT2900-1SB20**

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Technical specifications

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
input				
type of the power supply network	3-phase AC	3-phase AC	3-phase AC	3-phase AC
supply voltage at AC				
• minimum rated value	400 V	400 V	400 V	400 V
• maximum rated value	500 V	500 V	500 V	500 V
• initial value	340 V	340 V	340 V	340 V
• full-scale value	550 V	550 V	550 V	550 V
wide range input	Yes	Yes	Yes	Yes
buffering time for rated value of the output current in the event of power failure minimum	18 ms	7 ms	6 ms	6 ms
operating condition of the mains buffering	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V	at Vin = 400 V
line frequency	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
line frequency	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz	47 ... 63 Hz
input current				
• at rated input voltage 400 V	0.45 A	0.7 A	1.2 A	2 A
• at rated input voltage 500 V	0.4 A	0.6 A	1 A	1.7 A
current limitation of inrush current at 25 °C maximum	20 A	20 A	36 A	60 A
I2t value maximum	0.5 $A^2 \cdot s$	0.5 $A^2 \cdot s$	0.9 $A^2 \cdot s$	3.4 $A^2 \cdot s$
fuse protection type	none	none	none	none
fuse protection type in the feeder	Required: 3-pole connected miniature circuit breaker 3 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 3 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)	Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489-listed, DIVQ)
output				
voltage curve at output	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
output voltage at DC rated value	24 V	24 V	24 V	24 V
output voltage				
• at output 1 at DC rated value	24 V	24 V	24 V	24 V
	24 V	24 V	24 V	24 V
output voltage adjustable	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer	Yes; via potentiometer
adjustable output voltage	24 ... 28 V; max. 120 W	24 ... 28 V; max. 240 W	24 ... 28 V; max. 480 W	24 ... 28 V; max. 960 W
relative control precision of the output voltage				
• on slow fluctuation of input voltage	0.1 %	0.1 %	0.5 %	1 %
• on slow fluctuation of ohm loading	0.1 %	0.15 %	1 %	2 %
residual ripple				
• maximum	200 mV	200 mV	150 mV	150 mV
voltage peak				
• maximum	240 mV	240 mV	240 mV	240 mV
display version for normal operation	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK	Green LED for 24 V OK
type of signal at output	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
behavior of the output voltage when switching on	Overshoot of Vout < 5 %	Overshoot of Vout < 5 %	No overshoot of Vout (soft start)	No overshoot of Vout (soft start)
response delay maximum	1.5 s	1.5 s	1.5 s	1.5 s
voltage increase time of the output voltage				
• typical	60 ms	50 ms	30 ms	15 ms

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
• maximum	500 ms	500 ms	500 ms	500 ms
output current				
• rated value	5 A	10 A	20 A	40 A
• rated range	0 ... 5 A; 6 A up to +45°C; +60 ... +70 °C: Derating 5%/K	0 ... 10 A; 12 A up to +45°C; +60 ... +70 °C: Derating 5%/K	0 ... 20 A	0 ... 40 A; 48 A up to +45°C; +60 ... +70 °C: Derating 3%/K
	5 A	10 A	20 A	40 A
supplied active power typical	120 W	240 W	480 W	960 W
short-term overload current				
• on short-circuiting during the start-up typical			35 A	65 A
• at short-circuit during operation typical			35 A	65 A
duration of overloading capability for excess current				
• on short-circuiting during the start-up			100 ms	100 ms
• at short-circuit during operation			100 ms	100 ms
bridging of equipment	Yes	Yes	Yes	Yes
number of parallel-switched equipment resources	2	2	2	2
efficiency				
efficiency in percent	89.5 %	91 %	91 %	91.5 %
power loss [W]				
• at rated output voltage for rated value of the output current typical	14 W	23 W	47 W	89 W
closed-loop control				
relative control precision of the output voltage with rapid fluctuation of the input voltage by +/- 15% typical	1 %	1 %	3 %	3 %
relative control precision of the output voltage load step of resistive load 50/100/50 % typical	1 %	1 %	3 %	1.5 %
setting time				
• load step 50 to 100% typical	3 ms	3 ms	2 ms	1 ms
• load step 100 to 50% typical	3 ms	3 ms	2 ms	1 ms
relative control precision of the output voltage at load step of resistive load 10/90/10 % typical	3 %	3 %	3 %	3 %
setting time				
• load step 10 to 90% typical	4 ms	4 ms	2 ms	1 ms
• load step 90 to 10% typical	4 ms	4 ms	2 ms	1 ms
• maximum	10 ms	10 ms	10 ms	10 ms
protection and monitoring				
design of the overvoltage protection	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V	protection against overvoltage in case of internal fault Vout < 35 V
property of the output short-circuit proof	Yes	Yes	Yes	Yes
design of short-circuit protection	Constant current characteristic	Constant current characteristic	Electronic shutdown, automatic restart	Electronic shutdown, automatic restart
• typical	6.6 A	13 A	25.5 A	50 A
overcurrent overload capability				
• in normal operation	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min	overload capability 150 % Iout rated up to 5 s/min
enduring short circuit current RMS value				
• maximum	8 A	16 A	7 A	14 A

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
safety				
galvanic isolation between input and output	Yes	Yes	Yes	Yes
galvanic isolation	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16	Safety extra-low output voltage Vout acc. to EN 60950-1 and EN 50178, transformer acc. to EN 61558-2-16
operating resource protection class	Class I	Class I	Class I	Class I
leakage current				
• maximum			3.5 mA	
• typical			1 mA	
protection class IP	IP20	IP20	IP20	IP20
standard				
• for emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
• for mains harmonics limitation	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2	EN 61000-3-2
• for interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
standards, specifications, approvals				
certificate of suitability				
• CE marking	Yes	Yes	Yes	Yes
• UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• CSA approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
• EAC approval	Yes	Yes	Yes	Yes
• NEC Class 2	No	No	No	No
• SEMI F47			Yes	
type of certification				
• BIS	Yes; R-41183539	Yes; R-41183539	Yes; R-41183539	Yes; R-41183539
• CB-certificate	Yes	Yes	Yes	Yes
MTBF at 40 °C	500 000 h	500 000 h	500 000 h	500 000 h
standards, specifications, approvals hazardous environments				
certificate of suitability				
• IECEx	No	No	No	No
• ATEX	No	No	No	No
• ULhazloc approval	No	No	No	No
• cCSAus, Class 1, Division 2	No	No	No	No
• FM registration	No	No	No	No
standards, specifications, approvals marine classification				
shipbuilding approval	Yes	Yes	Yes	Yes
Marine classification association				
• American Bureau of Shipping Europe Ltd. (ABS)	Yes	Yes	Yes	Yes
• French marine classification society (BV)	No	No	No	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	No	No	No	No

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Technical specifications (continued)

Article number product brand name type of current supply	6EP1433-2BA20 SITOP PSU300S 24 V/5 A	6EP1434-2BA20 SITOP PSU300S 24 V/10 A	6EP1436-2BA10 SITOP PSU300S 24 V/20 A	6EP1437-2BA20 SITOP PSU300S 24 V/40 A
standards, specifications, approvals Environmental Product Declaration				
Environmental Product Declaration	Yes	Yes	Yes	Yes
Global Warming Potential [CO2 eq]				
• total	451.2 kg	738 kg	1 500 kg	2 847 kg
• during manufacturing	12.9 kg	18.1 kg	31.6 kg	61.2 kg
• during operation	437.8 kg	719.3 kg	1 470 kg	2 783.6 kg
• after end of life	0.35 kg	0.49 kg	0.48 kg	0.92 kg
ambient conditions				
ambient temperature				
• during operation	-25 ... +70 °C; with natural convection	-25 ... +70 °C; with natural convection	-25 ... +60 °C; with natural convection	-25 ... +70 °C; with natural convection
• during transport	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
• during storage	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation	Climate class 3K3, 5 ... 95% no condensation
connection method				
type of electrical connection	screw terminal	screw terminal	screw terminal	screw terminal
• at input	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.05 ... 2.5 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded	L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm² single-core/finely stranded
• at output	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 2.5 mm²	+, -: 2 screw terminals each for 0.2 ... 4 mm²	+, -: 2 screw terminals each for 0.5 ... 10 mm²
• for auxiliary contacts	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.2 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²	13, 14 (alarm signal): 1 screw terminal each for 0.05 ... 2.5 mm²
mechanical data				
width × height × depth of the enclosure	50 mm × 120 mm	70 mm × 120 mm	90 mm × 150 mm	145 mm × 150 mm
installation width × mounting height	50 mm	70 mm	90 mm	145 mm
required spacing				
• top			40 mm	40 mm
• bottom			40 mm	40 mm
• left			0 mm	0 mm
• right			0 mm	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x7.5/15	Snaps onto DIN rail EN 60715 35x15
• standard rail mounting	Yes	Yes	Yes	Yes
• S7 rail mounting	No	No	No	No
• wall mounting	No	No	No	No
housing can be lined up	Yes	Yes	Yes	Yes
net weight	0.5 kg	0.7 kg	1.6 kg	3.1 kg
accessories				
electrical accessories	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS	Redundancy module, buffer module, selectivity module, DC UPS
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
further information internet links				
internet link				
• to website: Industry Mall	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com	https://mall.industry.siemens.com