SIEMENS

Data sheet _____6EP1433-0AA00

SITOP PSU300E/3AC/24VDC/5A SITOP PSU300E 24 V/5 A Stabilized power supply input: 3 AC 400-500 V output: 24 V DC/5 A



Input	
Input	3-phase AC
Rated voltage value Vin rated	400 500 V
Voltage range AC	320 550 V
Wide-range input	Yes
Mains buffering	at Vin = 400 V
Mains buffering at lout rated, min.	50 ms; at Vin = 400 V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 63 Hz
input current	
 at rated input voltage 400 V 	0.36 A
 at rated input voltage 500 V 	0.29 A
Switch-on current limiting (+25 °C), max.	15 A
I²t, max.	0.9 A ² ·s
Built-in incoming fuse	none
Protection in the mains power input (IEC 898)	Required: 3-pole connected miniature circuit breaker 6 A characteristic B or C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)



Output Controlled, isolated DC voltage Rated voltage Vout DC 24 V Total tolerance, static ± 3 % Static mains compensation, approx. 3 % Static mains compensation, approx. 3 % Static load balancing, approx. 3 % Residual ripple peak-peak, max. 150 mV Residual ripple peak-peak, max. 150 mV Spikes peak-peak, typ. (bandwidth: 20 MHz) 70 mV Spikes peak-peak, typ. (bandwidth: 20 MHz) 70 mV Adjustment range 24 29 V product function output voltage adjustable Yes Output voltage setting via potentiometer; max. 120 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior Overshoot of Vout approx. 3 % Statrup delay, max. 0.5 s Voltage rise, typ. 10 ms voltage increase time of the output voltage maximum 100 ms Rated current value lout rated 5 A Current range 0 5 A supplied active power typical 120 W	Output	
Total tolerance, static ± 3 %	<u> </u>	Controlled, isolated DC voltage
Static mains compensation, approx. Static load balancing, approx. Residual ripple peak-peak, max. Residual ripple peak-peak, typ. Spikes peak-peak, max. (bandwidth: 20 MHz) Spikes peak-peak, typ. (bandwidth: 20 MHz) Adjustment range 24 29 V product function output voltage adjustable Yes Output voltage setting via potentiometer, max. 120 W Status display Green LED for 24 V OK Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" Onrolf behavior Overshoot of Vout approx. 3 % Startup delay, max. O.5 s Voltage rise, typ. Voltage rise, typ. voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical • at short-circuit during operation Parallel switching for enhanced performance Power loss at Vout rated, lout rated, approx. 5 % Power loss at Vout rated, lout rated, approx. 1 ms Dynamic mains compensation (Vin rated ±15 %), max. Load step setting time 50 to 100%, typ. 1 ms Load step setting time 10 to 50%, typ. 1 ms Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ. 1 ms	Rated voltage Vout DC	24 V
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Spikes peak-peak, max. (bandwidth: 20 MHz) Spikes peak-peak, typ. (bandwidth: 20 MHz) Adjustment range 24 29 V product function output voltage adjustable Output voltage setting via potentiometer; max. 120 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior Startup delay, max. 0.5 s Voltage rise, typ. 10 ms voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical a thind-circuiting during the start-up typical a thind-circuit during operation typical duration of overloading capability for excess current on short-circuit during operation at short-circuit during operation Parallel switching for enhanced performance No Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 90 % Power loss at Vout rated, lout rated, approx. 90 % Power loss at Vout rated, lout rated, approx. 5 % typ. Load step setting time 50 to 100%, typ. 1 ms Load step setting time 10 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ. 1 ms	Residual ripple peak-peak, max.	150 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz) Adjustment range 24 29 V product function output voltage adjustable Ves Output voltage setting Via potentiometer; max. 120 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior Overshoot of Vout approx. 3 % Startup delay, max. 0.5 s Voltage rise, typ. Voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-circuiting during the start-up typical at short-circuiting during the start-up typical at short-circuiting during the start-up on short-circuiting during the start-up 140 ms at short-circuiting during the start-up 135 ms Parallel switching for enhanced performance Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ. 2 1 ms Load step setting time 10 to 90%, typ. 1 ms	Residual ripple peak-peak, typ.	35 mV
Adjustment range	Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
product function output voltage adjustable Output voltage setting Via potentiometer; max. 120 W Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior Overshoot of Vout approx. 3 % Startup delay, max. Voltage rise, typ. 10 ms Voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical at short-circuit during operation typical valuation of overloading capability for excess current • on short-circuiting during the start-up • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. Power loss at Wout rated, lout rated, approx. Power loss at Wout rated, lout rated, approx. Power loss at Wout rated, lout rated, approx. Power loss at South rated, lout r	Spikes peak-peak, typ. (bandwidth: 20 MHz)	70 mV
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Status display Green LED for 24 V OK Signaling Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK" On/off behavior Startup delay, max. 0.5 s Voltage rise, typ. voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical at short-circuiting during the start-up • at short-circuiting operation Parallel switching for enhanced performance Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Load step setting time 10 to 90%, typ. Load step setting time 10 to 90%, typ. I ms Load step setting time 10 to 90%, typ. I ms Load step setting time 10 to 90%, typ. I ms Load step setting time 10 to 90%, typ. I ms	product function output voltage adjustable	Yes
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On/off behavior Overshoot of Vout approx. 3 % Startup delay, max. Voltage rise, typ. Voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical on short-circuiting during the start-up • at short-circuit during operation	Status display	Green LED for 24 V OK
Startup delay, max. Voltage rise, typ. 10 ms voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical 28 A duration of overloading capability for excess current • on short-circuit during operation • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Load step setting time 10 to 50%, typ. Load step setting time 10 to 90%, typ.	Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"
Voltage rise, typ. voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical • at short-circuiting during the start-up • on short-circuiting during the start-up • on short-circuiting during the start-up • at short-circuit during operation • bo short-circuit during operation • at short-circuit during operation • at short-circuit during operation • at short-circuit during operation • bo short-circuit during operation • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency • at Short-circuit during operation • at short-circuit during o	On/off behavior	Overshoot of Vout approx. 3 %
voltage increase time of the output voltage maximum Rated current value lout rated 5 A Current range 0 5 A supplied active power typical short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical duration of overloading capability for excess current • on short-circuiting during the start-up • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Cifficiency Efficiency Efficiency at Vout rated, lout rated, approx. 90 % Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 100 to 50%, typ. 1 ms Load step setting time 100 to 90%, typ. 1 ms	Startup delay, max.	0.5 s
Rated current value lout rated 5 A Current range 0 5 A supplied active power typical 120 W short-term overload current • on short-circuiting during the start-up typical 28 A duration of overloading capability for excess current • on short-circuiting during the start-up 140 ms • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency at Yout rated, lout rated, approx. 90 % Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms	Voltage rise, typ.	10 ms
Current range supplied active power typical short-term overload current on short-circuiting during the start-up typical at short-circuit during operation typical at short-circuit during operation typical at short-circuiting during the start-up on short-circuiting during the start-up at short-circuiting during the start-up at short-circuiting during the start-up at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. 90 % Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms	voltage increase time of the output voltage maximum	100 ms
supplied active power typical short-term overload current on short-circuiting during the start-up typical at short-circuit during operation typical on short-circuit during operation typical at short-circuit during operation typical on short-circuiting during the start-up on short-circuiting during the start-up at short-circuit during operation at short-circuit during operation Parallel switching for enhanced performance No Efficiency Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ. 1 ms	Rated current value lout rated	5 A
short-term overload current • on short-circuiting during the start-up typical • at short-circuit during operation typical duration of overloading capability for excess current • on short-circuiting during the start-up • at short-circuiting during the start-up • at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ. 1 ms	Current range	0 5 A
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at short-circuit during operation typical duration of overloading capability for excess current on short-circuiting during the start-up at short-circuiting during the start-up at short-circuit during operation 135 ms Parallel switching for enhanced performance No Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 100 to 50%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms	short-term overload current	
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● at short-circuit during operation Parallel switching for enhanced performance Efficiency Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± 1 % typ. Load step setting time 10 to 90%, typ. Load step setting time 10 to 90%, typ. 1 ms	duration of overloading capability for excess current	
Parallel switching for enhanced performance Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 100 to 50%, typ. Load step setting time 10 to 90%, typ. 1 ms Load step setting time 10 to 90%, typ.	 on short-circuiting during the start-up 	140 ms
Efficiency Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. 1 ms Load step setting time 100 to 50%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± 1 % typ. Load step setting time 10 to 90%, typ. 1 ms	at short-circuit during operation	135 ms
Efficiency at Vout rated, lout rated, approx. Power loss at Vout rated, lout rated, approx. 13 W Closed-loop control Dynamic mains compensation (Vin rated ±15 %), max. Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Load step setting time 100 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms	Parallel switching for enhanced performance	No
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Dynamic load smoothing (lout: 50/100/50 %), Uout ± typ. Load step setting time 50 to 100%, typ. Load step setting time 100 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms 1 ms	Closed-loop control	
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typ. Load step setting time 50 to 100%, typ. Load step setting time 100 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms	max.	
Load step setting time 50 to 100%, typ. Load step setting time 100 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± typ. Load step setting time 10 to 90%, typ. 1 ms 1 ms	Dynamic load smoothing (lout: 50/100/50 %), Uout ±	5 %
Load step setting time 100 to 50%, typ. Dynamic load smoothing (lout: 10/90/10 %), Uout ± 1 % typ. Load step setting time 10 to 90%, typ. 1 ms		
Dynamic load smoothing (lout: 10/90/10 %), Uout ± 1 % typ. Load step setting time 10 to 90%, typ. 1 ms		
typ. Load step setting time 10 to 90%, typ. 1 ms		
		1 %
Load step setting time 90 to 10%, typ. 1 ms	Load step setting time 10 to 90%, typ.	1 ms
	Load step setting time 90 to 10%, typ.	1 ms



setting time maximum	30 ms
Protection and monitoring	
Output overvoltage protection	Yes, according to EN 60950-1
Current limitation, typ.	11 A
property of the output short-circuit proof	Yes
Short-circuit protection	Electronic shutdown, automatic restart
enduring short circuit current RMS value	
• maximum	7.5 A
Safety	
Primary/secondary isolation	Yes
galvanic isolation	Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178
Protection class	Class I
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
Explosion protection	-
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	No
Marine approval	-
EMC	
Emitted interference	EN 55022 Class A
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
during operation	0 60 °C
— Note	with natural convection
	-40 +85 °C
during transport	-40 +85 °C
during storage Liumidity class asserting to EN 60724	
Humidity class according to EN 60721	Climate class 3K3, 5 95% no condensation
Mechanics	
Connection technology	screw-type terminals
Connections	
Supply input	L1, L2, L3, PE: Removable screw terminal for 0.5 2.5 mm ² single-core/finely stranded
Output	+, -: 2 screw terminals each for 0.5 2.5 mm²
Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.5 2.5 mm²
product function	



Ö PNAP

• removable terminal at input	Yes
 removable terminal at output 	Yes
width of the enclosure	42 mm
height of the enclosure	125 mm
depth of the enclosure	125 mm
required spacing	
 • top 	50 mm
• bottom	50 mm
• left	0 mm
• right	0 mm
Weight, approx.	0.6 kg
product feature of the enclosure housing for side-by- side mounting	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
MTBF at 40 °C	2 389 441 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

