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Data sheet 6EP1333-2BA20

SITOP PSU100S/1AC/24VDC/5A

SITOP PSU100S 24 V/5 A Stabilized power supply input: 120/230 V AC, output: 24 V DC/5 A *Ex approval no longer available*

Input	
Input	1-phase AC
● Note	Automatic range selection
supply voltage	
● 1 at AC rated value	120 V
● 2 at AC rated value	230 V
input voltage	
● 1 at AC	85 ... 132 V
● 2 at AC	170 ... 264 V
Wide-range input	No
Overvoltage resistance	2.3 × Vin rated, 1.3 ms
Mains buffering	at Vin = 93/187 V
Mains buffering at Iout rated, min.	20 ms; at Vin = 93/187 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 120 V	2.34 A
● at rated input voltage 230 V	1.36 A
Switch-on current limiting (+25 °C), max.	40 A
I^2t, max.	1 $A^2 \cdot s$
Built-in incoming fuse	T 3,15 A/250 V (not accessible)
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker: from 6 A characteristic C
Output	
Output	Controlled, isolated DC voltage
Rated voltage Vout DC	24 V
● output voltage at output 1 at DC rated value	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	1 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	30 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	140 mV
Adjustment range	22.8 ... 28 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer
Status display	Green LED for 24 V OK
Signaling	Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"

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On/off behavior	Overshoot of Vout < 3 %
Startup delay, max.	0.3 s
Voltage rise, typ.	15 ms
Rated current value Iout rated	5 A
Current range	0 ... 6 A
● Note	6 A up to +45°C; +60 ... +70 °C: Derating 1.6%/K
supplied active power typical	144 W
short-term overload current	
● on short-circuiting during the start-up typical	18 A
● at short-circuit during operation typical	18 A
duration of overloading capability for excess current	
● on short-circuiting during the start-up	800 ms
● at short-circuit during operation	800 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2
Efficiency	
Efficiency at Vout rated, Iout rated, approx.	88 %
Power loss at Vout rated, Iout rated, approx.	16 W
Closed-loop control	
Dynamic mains compensation (Vin rated ±15 %), max.	0.3 %
Dynamic load smoothing (Iout: 10/90/10 %), Uout ± typ.	3 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms
Protection and monitoring	
Output overvoltage protection	protection against overvoltage in case of internal fault Vout < 33 V
Current limitation	6 ... 7.1 A
property of the output short-circuit proof	Yes
Short-circuit protection	Constant current characteristic
enduring short circuit current RMS value	
● typical	7.1 A
overcurrent overload capability in normal operation	overload capability 150 % Iout rated up to 5 s/min
Overload/short-circuit indicator	-
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
leakage current	
● maximum	3.5 mA
● typical	0.4 mA
Degree of protection (EN 60529)	IP20
Approvals	
CE mark	Yes
UL/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)
UL/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)
certificate of suitability cCSAus, Class 1, Division 2	No
certificate of suitability ATEX	No
certificate of suitability	
● IECEx	No
● NEC Class 2	No
● ULhazloc approval	No
FM approval	No
CB approval	Yes
certificate of suitability	
● EAC approval	Yes
Marine approval	Yes
Marine approval	BV, DNV GL
Marine classification association American Bureau of	No

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Shipping Europe Ltd. (ABS)	
Marine classification association French marine classification society (BV)	Yes
Marine classification association DNV GL	Yes
Marine classification association Lloyds Register of Shipping (LRS)	No
Marine classification association Nippon Kaiji Kyokai (NK)	No
EMC	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2
environmental conditions	
ambient temperature	
● during operation	-25 ... +70 °C
— Note	with natural convection
● during transport	-40 ... +85 °C
● during storage	-40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 … 95% no condensation
Mechanics	
Connection technology	screw-type terminals
Connections	
● Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm² single-core/finely stranded
● Output	+, -: 2 screw terminals each for 0.5 ... 2.5 mm²
● Auxiliary	Alarm signals: 2 screw terminals for 0.5 ... 2.5 mm²
● signaling contact	2 screw terminals for 0.5 ... 2.5 mm²
width of the enclosure	50 mm
height of the enclosure	125 mm
depth of the enclosure	120 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
Weight, approx.	0.5 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
electrical accessories	Buffer module
mechanical accessories	Device identification label 20 mm × 7 mm, pale turquoise 3RT1900-1SB20
MTBF at 40 °C	1 998 441 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

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