

SITOP PSU8200/1AC/24VDC/40A



### SITOP PSU8200 24 V/40 A

Stabilized power supply input:

120/230 V AC, output: 24 V

DC/40 A

### Input

Input	1-phase and 2-phase AC
• Note	Automatic selection; startup starting from $U_e \geq 90/180$ V
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
Mains buffering	at $V_{in} = 230$ V
Mains buffering at $I_{out}$ rated, min.	25 ms; at $V_{in} = 230$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	45 ... 65 Hz
input current	
• at rated input voltage 120 V	15 A
• at rated input voltage 230 V	9 A
Switch-on current limiting (+25 °C), max.	50 A
$I^2t$ , max.	8 A <sup>2</sup> ·s
Built-in incoming fuse	Yes
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker at 1-phase operation: 16 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2421-4BA10 (120 V) or 3RV2411-1JA10 (230 V)

### Output

Output	Controlled, isolated DC voltage
Rated voltage $V_{out}$ DC	24 V
Total tolerance, static ±	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.1 %
Residual ripple peak-peak, max.	100 mV
Residual ripple peak-peak, typ.	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	220 mV

Adjustment range	24 ... 28 V
product function output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 960 W
Status display	Green LED for 24 V OK; LED yellow for overload; LED red for short-circuit or latching shutdown
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.	1.5 s
Voltage rise, typ.	30 ms
Rated current value Iout rated	40 A
Current range	0 ... 40 A
• Note	+60 ... +70 °C: Derating 3%/K
supplied active power typical	960 W
short-term overload current	
• on short-circuiting during the start-up typical	120 A
• at short-circuit during operation typical	120 A
duration of overloading capability for excess current	
• on short-circuiting during the start-up	25 ms
• at short-circuit during operation	25 ms
constant overload current	
• on short-circuiting during the start-up typical	60 A
Parallel switching for enhanced performance	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2
<b>Efficiency</b>	
Efficiency at Vout rated, Iout rated, approx.	92 %
Power loss at Vout rated, Iout rated, approx.	82 W
power loss [W] during no-load operation maximum	6.8 W
<b>Closed-loop control</b>	
Dynamic mains compensation (Vin rated $\pm 15\%$ ), max.	1 %
Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ.	1.9 %
Load step setting time 50 to 100%, typ.	2 ms
Load step setting time 100 to 50%, typ.	2 ms
Dynamic load smoothing (Iout: 10/90/10 %), Uout $\pm$ typ.	3.8 %
Load step setting time 10 to 90%, typ.	1 ms
Load step setting time 90 to 10%, typ.	1 ms
setting time maximum	1 ms
<b>Protection and monitoring</b>	
Output overvoltage protection	< 32 V
Current limitation, typ.	41 A
property of the output short-circuit proof	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 41 A or latching shutdown
enduring short circuit current RMS value	
• typical	41 A
overcurrent overload capability in normal operation	250% Iout rated up to 25 ms, 150% Iout rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown" or "short-circuit"
<b>Safety</b>	
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	0.1 mA
• typical	0.1 mA
Degree of protection (EN 60529)	IP20
<b>Approvals</b>	
CE mark	Yes
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259; cCSAus

Explosion protection	(CSA C22.2 No. 60950-1, UL 60950-1) IECEx Ex nA nc IIC T3 Gc; ATEX (EX) II 3G Ex nA nc IIC T3; cULus (Hazloc) Class I, Div. 2, Group ABCD, T3; File E330455
certificate of suitability NEC Class 2	No
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV GL
<b>EMC</b>	
Emitted interference	EN 55022 Class B
Supply harmonics limitation	-
Noise immunity	EN 61000-6-2
<b>environmental conditions</b>	
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
<b>Mechanics</b>	
Connection technology	screw-type terminals
Connections	
• Supply input	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded
• Output	+, -: 2 screw terminals each for 0.5 ... 10 mm <sup>2</sup>
• Auxiliary	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm <sup>2</sup>
width of the enclosure	145 mm
height of the enclosure	145 mm
depth of the enclosure	150 mm
required spacing	
• top	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm
Weight, approx.	3.1 kg
product feature of the enclosure housing can be lined up	Yes
Installation	Snaps onto DIN rail EN 60715 35x15
electrical accessories	Buffer module, redundancy module
mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	838 156 h
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)

