

SITOP PSU8200/1ACDC/24VDC/20A

SITOP PSU8200 20 A Stabilized power supply input: 120-230 V AC
110-220 V DC output: 24 V DC/20 A



Input	
Input	1-phase and 2-phase AC or DC
Rated voltage value V_{in} rated	120 ... 230 V
Voltage range AC	85 ... 275 V
<ul style="list-style-type: none"> Note 	Derating of temperature necessary down to 50 °C at $V_{in} < 100$ V AC or DC
Supply voltage	
<ul style="list-style-type: none"> at DC 	110 ... 220 V
Input voltage	
<ul style="list-style-type: none"> at DC 	88 ... 350 V
Wide-range input	Yes
Mains buffering	at $V_{in} = 230$ V
Mains buffering at I_{out} rated, min.	20 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	
<ul style="list-style-type: none"> at rated input voltage 120 V 	4.6 A
<ul style="list-style-type: none"> at rated input voltage 230 V 	2.5 A

Switch-on current limiting (+25 °C), max.	20 A
I ² t, max.	5 A ² ·s
Built-in incoming fuse	Yes
Protection in the mains power input (IEC 898)	Recommended miniature circuit breaker at 1-phase operation: 10 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2711-1HD10 (UL 489) at 120 V or 3RV2711-1ED10 (UL 489) at 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.	0.3 %
Residual ripple peak-peak, max.	100 mV
Residual ripple peak-peak, typ.	80 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	100 mV
Adjustment range	24 ... 28.8 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"
On/off behavior	No overshoot of V _{out} (soft start)
Startup delay, max.	1.5 s
Voltage rise, typ.	50 ms
Rated current value I _{out} rated	20 A
Current range	0 ... 20 A
• Note	+60 ... +70 °C: Derating 3%/K
Supplied active power typical	480 W
Short-term overload current	
• at short-circuit during operation typical	60 A
Duration of overloading capability for excess current	
• at short-circuit during operation	25 ms
Constant overload current	
• on short-circuiting during the start-up typical	30 A
Parallel switching for enhanced performance	Yes; switchable characteristic
Numbers of parallel switchable units for enhanced performance	2

Efficiency	
Efficiency at V _{out} rated, I _{out} rated, approx.	93 %
Power loss at V _{out} rated, I _{out} rated, approx.	42 W

Closed-loop control

Dynamic mains compensation (V_{in} rated $\pm 15\%$), max.	0.5 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	1 %
Load step setting time 50 to 100%, typ.	1 ms
Load step setting time 100 to 50%, typ.	1 ms
Setting time maximum	5 ms

Protection and monitoring

Output overvoltage protection	< 33 V
Current limitation, typ.	21.5 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Alternatively, constant current characteristic approx. 23 A or latching shutdown
Enduring short circuit current RMS value <ul style="list-style-type: none"> • typical 	23 A
Overcurrent overload capability in normal operation	overload capability 150 % I_{out} rated up to 5 s/min
Overload/short-circuit indicator	LED yellow for "overload", LED red for "latching shutdown"

Safety

Primary/secondary isolation	Yes
Galvanic isolation	Safety extra-low output voltage U_{out} acc. to EN 60950-1 and EN 50178
Protection class	Class I
Leakage current <ul style="list-style-type: none"> • maximum • typical 	3.5 mA 1 mA
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; cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)
Explosion protection	IECEx Ex nA nC IIC T3 Gc; ATEX (EX) II 3G Ex nA nC IIC T3 Gc; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T3
FM approval	-
CB approval	Yes
Marine approval	ABS, DNV GL

EMC

Emitted interference	EN 55022 Class B
Supply harmonics limitation	EN 61000-3-2
Noise immunity	EN 61000-6-2

environmental conditions

Ambient temperature	
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<ul style="list-style-type: none"> during operation <ul style="list-style-type: none"> — Note during transport during storage 	-25 ... +70 °C With natural convection; startup tested starting from -40 °C nominal voltage -40 ... +85 °C -40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, 5 ... 95% no condensation

Mechanics	
Connection technology	screw-type terminals
Connections	
<ul style="list-style-type: none"> Supply input 	L, N, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded
<ul style="list-style-type: none"> Output 	+, -: 2 screw terminals each for 0.2 ... 4 mm ²
<ul style="list-style-type: none"> Auxiliary 	13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm ²
Width of the enclosure	90 mm
Height of the enclosure	125 mm
Depth of the enclosure	125 mm
Required spacing	
<ul style="list-style-type: none"> top 	50 mm
<ul style="list-style-type: none"> bottom 	50 mm
<ul style="list-style-type: none"> left 	0 mm
<ul style="list-style-type: none"> right 	0 mm
Weight, approx.	1.2 kg
Product feature of the enclosure housing for side-by-side mounting	Yes
Installation	Snaps onto DIN rail EN 60715 35x7.5/15
Electrical accessories	Buffer module
Mechanical accessories	Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20
MTBF at 40 °C	667 048 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)