

SITOP SMART 24 V/5 A, WITH PFC
SITOP smart 120 W Stabilized power supply input: 120/230 V AC,
output: 24 V DC/5 A Version with PFC



Input	
Input	1-phase AC
• Note	Set by means of selector switch on the device
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 lout 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	2.1 A
• at rated input voltage 230 V	1.15 A

Switch-on current limiting (+25 °C), max.	32 A
Duration of inrush current limiting at 25 °C	
• typical	3 ms
I^2t , max.	0.8 A ² ·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 V_{out} DC	24 V
Total tolerance, static $\pm$	3 %
Static mains compensation, approx.	0.1 %
Static load balancing, approx.	0.5 %
Residual ripple peak-peak, max.	150 mV
Residual ripple peak-peak, typ.	50 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	240 mV
Spikes peak-peak, typ. (bandwidth: 20 MHz)	150 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
On/off behavior	Overshoot of V_{out} approx. 4 %
Startup delay, max.	0.1 s
Voltage rise, typ.	50 ms
Rated current value I_{out} rated	5 A
Current range	0 ... 6 A
• Note	6 A up to +45 °C
Supplied active power typical	144 W
Short-term overload current	
• on short-circuiting during the start-up typical	17 A
• at short-circuit during operation typical	17 A
Duration of overloading capability for excess current	
• on short-circuiting during the start-up	100 ms
• at short-circuit during operation	200 ms
Parallel switching for enhanced performance	Yes
Numbers of parallel switchable units for enhanced performance	2

Efficiency	
Efficiency at V_{out} rated, I_{out} rated, approx.	87 %
Power loss at V_{out} rated, I_{out} rated, approx.	17 W

Closed-loop control	
Dynamic mains compensation (V_{in} rated ± 15 %), max.	0.3 %

Dynamic load smoothing (I _{out} : 50/100/50 %), U _{out} ± typ.	1 %
Load step setting time 50 to 100%, typ.	0.2 ms
Load step setting time 100 to 50%, typ.	0.2 ms

Protection and monitoring

Output overvoltage protection	< 33 V
Current limitation	6.4 ... 6.6 A
Property of the output Short-circuit proof	Yes
Short-circuit protection	Constant current characteristic
Enduring short circuit current RMS value • typical	10 A
Overload/short-circuit indicator	-

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 • maximum • typical	3.5 mA 0.4 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, UL 1604)
Explosion protection	ATEX (EX) II 3G Ex nA II T4; UL 1604 Class I, Div. 2, Group ABCD
FM approval	-
CB approval	Yes
Marine approval	ABS, 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 • during operation — Note • during transport • during storage	0 ... 60 °C with natural convection -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	
• Supply input	L, N, PE: 1 screw terminal each for 0.5 ... 2.5 mm ² single-core/finely stranded
• Output	L+, M: 2 screw terminals each for 0.5 ... 2.5 mm ²
• Auxiliary	-
Width of the enclosure	50 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.	0.5 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	1 694 714 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)