

SITOP MODULAR 24 V/20 A

SITOP modular 20 A stabilized power supply input: 400-500 V 3AC

output: 24 V DC/20 A



Input	
Input	3-phase AC
Rated voltage value V_{in} rated	400 ... 500 V
Voltage range AC	320 ... 550 V
<ul style="list-style-type: none"> Note 	Starting from $V_{in} > 340$ V
Wide-range input	Yes
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering at I_{out} rated, min.	6 ms; at $V_{in} = 400$ V
Rated line frequency 1	50 Hz
Rated line frequency 2	60 Hz
Rated line range	47 ... 63 Hz
Input current	
<ul style="list-style-type: none"> at rated input voltage 400 V at rated input voltage 500 V 	1.1 A 0.9 A
Switch-on current limiting (+25 °C), max.	35 A
I^2t , max.	0.7 A ² ·s
Built-in incoming fuse	none

Protection in the mains power input (IEC 898)	Required: 3-pole connected miniature circuit breaker 6 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489)
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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.	0.2 %
Residual ripple peak-peak, max.	100 mV
Spikes peak-peak, max. (bandwidth: 20 MHz)	200 mV
Adjustment range	24 ... 28.8 V
Product function Output voltage adjustable	Yes
Output voltage setting	via potentiometer; max. 480 W
Status display	Green LED for 24 V OK
Signaling	via signaling module (6EP1961-3BA10)
On/off behavior	No overshoot of V_{out} (soft start)
Startup delay, max.	2.5 s
Voltage increase time of the output voltage maximum	500 ms
Rated current value I_{out} rated	20 A
Current range	0 ... 20 A
<ul style="list-style-type: none"> Note 	+60 ... +70 °C: Derating 2%/K
Supplied active power typical	480 W
Short-term overload current	
<ul style="list-style-type: none"> at short-circuit during operation typical 	60 A
Duration of overloading capability for excess current	
<ul style="list-style-type: none"> at short-circuit during operation 	25 ms
Constant overload current	
<ul style="list-style-type: none"> on short-circuiting during the start-up typical 	23 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.	90 %
Power loss at V_{out} rated, I_{out} rated, approx.	53 W

Closed-loop control

Dynamic mains compensation (V_{in} rated ± 15 %), max.	1 %
Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ.	2 %
Load step setting time 50 to 100%, typ.	4 ms
Load step setting time 100 to 50%, typ.	4 ms
Setting time maximum	10 ms

Protection and monitoring	
Output overvoltage protection	< 35 V
Current limitation, typ.	23 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
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 	3.5 mA
CE mark	Yes
UL/cUL (CSA) approval	UL-Listed (UL 508), File E197259, CSA (CSA C22.2 No. 14, CSA C22.2 No. 107.1)
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	No
Marine approval	GL, ABS
Degree of protection (EN 60529)	IP20

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

Operating data	
Ambient temperature <ul style="list-style-type: none"> • during operation — Note • during transport • during storage 	0 ... 70 °C with natural convection -40 ... +85 °C -40 ... +85 °C
Humidity class according to EN 60721	Climate class 3K3, no condensation

Mechanics	
Connection technology	screw-type terminals
Connections <ul style="list-style-type: none"> • Supply input 	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm ² single-core/finely stranded

<ul style="list-style-type: none"> • Output • Auxiliary 	<p>+ , -: 2 screw terminals each for 0.33 ... 4 mm²</p> <p>-</p>
Width of the enclosure	160 mm
Height of the enclosure	125 mm
Depth of the enclosure	125 mm
Required spacing	
<ul style="list-style-type: none"> • top • bottom • left • right 	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
Weight, approx.	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, signaling module
MTBF at 40 °C	711 213 h
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)