

SITOP MODULAR/3AC/24VDC/20A

SITOP modular 20 A Stabilized power supply input: 3 AC 400-500 V  
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"> <li>Note</li> </ul>	Starting from $V_{in} > 340$ V
Wide-range input	Yes
Overvoltage resistance	$2.3 \times V_{in}$ rated, 1.3 ms
Mains buffering	at $V_{in} = 400$ V
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"> <li>at rated input voltage 400 V</li> <li>at rated input voltage 500 V</li> </ul>	1.1 A 0.9 A
Switch-on current limiting (+25 °C), max.	35 A
$I^2t$ , max.	0.7 A <sup>2</sup> ·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
• Note	+60 ... +70 °C: Derating 2%/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	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 $\pm 15$ %), 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"> <li>• typical</li> </ul>	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 <sub>out</sub> acc. to EN 60950-1 and EN 50178
Protection class	Class I
Leakage current <ul style="list-style-type: none"> <li>• maximum</li> </ul>	3.5 mA
Degree of protection (EN 60529)	IP20

Approvals	
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	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 <ul style="list-style-type: none"> <li>• during operation</li> <li>— Note</li> <li>• during transport</li> <li>• during storage</li> </ul>	0 ... 70 °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	

<ul style="list-style-type: none"> <li>• Supply input</li> <li>• Output</li> <li>• Auxiliary</li> </ul>	L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded + , - : 2 screw terminals each for 0.33 ... 4 mm <sup>2</sup> -
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"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	50 mm 50 mm 0 mm 0 mm
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)