

SITOP PSU300S 24 V/20 A
 SITOP PSU300S 20 A STABILIZED POWER SUPPLY INPUT: 400-500 V 3 AC OUTPUT: 24 V DC/20 A



| Input | |
|---|---|
| Input | 3-phase AC |
| Rated voltage value V_{in} rated | 400 ... 500 V |
| Voltage range AC | 340 ... 550 V |
| Wide-range input | Yes |
| 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 | |
| • at rated input voltage 400 V | 1.2 A |
| • at rated input voltage 500 V | 1 A |
| Switch-on current limiting (+25 °C), max. | 36 A |
| I^2t , max. | 0.9 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) |

Output

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| Output | Controlled, isolated DC voltage |
| Rated voltage V_{out} DC | 24 V |
| Total tolerance, static \pm | 3 % |
| Static mains compensation, approx. | 0.5 % |
| Static load balancing, approx. | 1 % |
| Residual ripple peak-peak, max. | 150 mV |
| Spikes peak-peak, max. (bandwidth: 20 MHz) | 240 mV |
| Adjustment range | 24 ... 28 V |
| Product function Output voltage adjustable | Yes |
| Output voltage setting | via potentiometer; max. 480 W |
| 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. | 30 ms |
| Voltage increase time of the output voltage maximum | 500 ms |
| Rated current value I_{out} rated | 20 A |
| Current range | 0 ... 20 A |
| • Note | 24 A up to +45°C; +60 ... +70 °C: Derating 5%/K |
| Supplied active power typical | 480 W |
| Short-term overload current | |
| • on short-circuiting during the start-up typical | 35 A |
| • at short-circuit during operation typical | 35 A |
| Duration of overloading capability for excess current | |
| • on short-circuiting during the start-up | 100 ms |
| • at short-circuit during operation | 100 ms |
| Parallel switching for enhanced performance | Yes |
| Numbers of parallel switchable units for enhanced performance | 2 |

Efficiency

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| Efficiency at V_{out} rated, I_{out} rated, approx. | 91 % |
| Power loss at V_{out} rated, I_{out} rated, approx. | 47 W |

Closed-loop control

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| Dynamic mains compensation (V_{in} rated ± 15 %), max. | 3 % |
| Dynamic load smoothing (I_{out} : 50/100/50 %), $U_{out} \pm$ typ. | 3 % |
| Load step setting time 50 to 100%, typ. | 2 ms |
| Load step setting time 100 to 50%, typ. | 2 ms |
| Dynamic load smoothing (I_{out} : 10/90/10 %), $U_{out} \pm$ typ. | 3 % |
| Load step setting time 10 to 90%, typ. | 2 ms |
| Load step setting time 90 to 10%, typ. | 2 ms |

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| Setting time maximum | 10 ms |
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Protection and monitoring

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| Output overvoltage protection | protection against overvoltage in case of internal fault $V_{out} < 35\text{ V}$ |
| Current limitation, typ. | 25 A |
| Property of the output Short-circuit proof | Yes |
| Short-circuit protection | Electronic shutdown, automatic restart |
| Enduring short circuit current RMS value <ul style="list-style-type: none"> • maximum | 7 A |
| Overcurrent overload capability in normal operation | overload capability 150 % I _{out} rated up to 5 s/min |

Safety

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| 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 |
| 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 T4 Gc; ATEX (EX) II 3G Ex nAC IIC T4 Gc; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4 |
| FM approval | - |
| CB approval | Yes |
| Marine approval | GL, ABS |
| Degree of protection (EN 60529) | IP20 |

EMC

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

Operating data

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| 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

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| Connection technology | screw-type terminals |
| Connections | |

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| <ul style="list-style-type: none"> • Supply input • Output • Auxiliary | <p>L1, L2, L3, PE: 1 screw terminal each for 0.2 ... 4 mm² single-core/finely stranded</p> <p>+, -: 2 screw terminals each for 0.2 ... 4 mm²</p> <p>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm²</p> |
| Width of the enclosure | 90 mm |
| Height of the enclosure | 145 mm |
| Depth of the enclosure | 150 mm |
| Weight, approx. | 1.6 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, pale turquoise 3RT1900-1SB20 |
| MTBF at 40 °C | 571 429 h |
| Other information | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |