

SITOP PSU8200/1AC/24VDC/40A  
 SITOP PSU8200 24 V/40 A Stabilized power supply input: 120/230 V  
 AC, output: 24 V DC/40 A



| Input                                     |  |
|---|--|
| Input                                     | 1-phase and 2-phase AC   |
| • Note                                    | Automatic selection; startup starting from $U_e \geq 90/180$ V |
| 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   |
| Mains buffering                           | at $V_{in} = 230$ V  |
| Mains buffering at $I_{out}$ rated, min.  | 25 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                             |  |
| • at rated input voltage 120 V            | 15 A   |
| • at rated input voltage 230 V            | 9 A  |
| Switch-on current limiting (+25 °C), max. | 50 A   |

|   |  |
|---|--|
| I <sup>2</sup> t, max.                        | 8 A <sup>2</sup> ·s  |
| Built-in incoming fuse                        | Yes  |
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker at 1-phase operation: 16 A characteristic C; required at 2-phase operation: circuit breaker 2-pole connected or circuit breaker 3RV2421-4BA10 (120 V) or 3RV2411-1JA10 (230 V) |

## Output

|   |  |
|---|--|
| Output  | Controlled, isolated DC voltage  |
| Rated voltage V <sub>out</sub> DC                             | 24 V   |
| Total tolerance, static ±                                     | 3 %  |
| Static mains compensation, approx.                            | 0.1 %  |
| Static load balancing, approx.                                | 0.1 %  |
| Residual ripple peak-peak, max.                               | 100 mV   |
| Residual ripple peak-peak, typ.                               | 50 mV  |
| Spikes peak-peak, max. (bandwidth: 20 MHz)                    | 240 mV   |
| Spikes peak-peak, typ. (bandwidth: 20 MHz)                    | 220 mV   |
| Adjustment range  | 24 ... 28 V  |
| product function output voltage adjustable                    | Yes  |
| Output voltage setting  | via potentiometer; max. 960 W  |
| Status display  | Green LED for 24 V OK; LED yellow for overload; LED red for short-circuit or latching shutdown |
| Signaling   | Relay contact (NO contact, rating 60 V DC/ 0.3 A) for "24 V OK"                                |
| On/off behavior   | Overshoot of V <sub>out</sub> approx. 3 %  |
| Startup delay, max.   | 1.5 s  |
| Voltage rise, typ.  | 30 ms  |
| Rated current value I <sub>out</sub> rated                    | 40 A   |
| Current range   | 0 ... 40 A   |
| • Note  | +60 ... +70 °C: Derating 3%/K  |
| supplied active power typical                                 | 960 W  |
| short-term overload current                                   |  |
| • on short-circuiting during the start-up typical             | 120 A  |
| • at short-circuit during operation typical                   | 120 A  |
| duration of overloading capability for excess current         |  |
| • on short-circuiting during the start-up                     | 25 ms  |
| • at short-circuit during operation                           | 25 ms  |
| constant overload current                                     |  |
| • on short-circuiting during the start-up typical             | 60 A   |
| Parallel switching for enhanced performance                   | Yes; switchable characteristic   |
| Numbers of parallel switchable units for enhanced performance | 2  |

## Efficiency

|   |      |
|---|------|
| Efficiency at V <sub>out</sub> rated, I <sub>out</sub> rated, approx. | 92 % |
| Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx. | 82 W |

|   |       |
|---|-------|
| power loss [W] during no-load operation maximum | 6.8 W |
|---|-------|

### Closed-loop control

|   |       |
|---|-------|
| Dynamic mains compensation (Vin rated $\pm 15\%$ ), max.    | 1 %   |
| Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ. | 1.9 % |
| Load step setting time 50 to 100%, typ.                     | 2 ms  |
| Load step setting time 100 to 50%, typ.                     | 2 ms  |
| Dynamic load smoothing (Iout: 10/90/10 %), Uout $\pm$ typ.  | 3.8 % |
| Load step setting time 10 to 90%, typ.                      | 1 ms  |
| Load step setting time 90 to 10%, typ.                      | 1 ms  |
| setting time maximum  | 1 ms  |

### Protection and monitoring

|  |  |
|--|--|
| Output overvoltage protection  | < 32 V   |
| Current limitation, typ.   | 41 A   |
| property of the output short-circuit proof   | Yes  |
| Short-circuit protection   | Alternatively, constant current characteristic approx. 41 A or latching shutdown |
| enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• typical</li> </ul> | 41 A   |
| overcurrent overload capability in normal operation  | 250% Iout rated up to 25 ms, 150% Iout rated up to 5 s/min                       |
| Overload/short-circuit indicator   | LED yellow for "overload", LED red for "latching shutdown" or "short-circuit"    |

### Safety

|  |  |
|--|--|
| Primary/secondary isolation  | Yes  |
| galvanic isolation   | Safety extra-low output voltage Uout acc. to EN 60950-1 and EN 50178 |
| Protection class   | Class I  |
| leakage current <ul style="list-style-type: none"> <li>• maximum</li> <li>• typical</li> </ul> | 0.1 mA<br>0.1 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; cULus (Hazloc) Class I, Div. 2, Group ABCD, T3; File E330455 |
| certificate of suitability NEC Class 2 | No  |
| FM approval                            | -   |
| CB approval                            | Yes   |
| Marine approval                        | ABS, DNV GL   |

| EMC                         |                  |
|-----------------------------|------------------|
| Emitted interference        | EN 55022 Class B |
| Supply harmonics limitation | -                |
| 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> | -25 ... +70 °C<br>with natural convection<br>-40 ... +85 °C<br>-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>    | L, N, PE: 1 screw terminal each for 0.2 ... 4 mm <sup>2</sup> single-core/finely stranded<br>+, -: 2 screw terminals each for 0.5 ... 10 mm <sup>2</sup><br>13, 14 (alarm signal): 1 screw terminal each for 0.14 ... 1.5 mm <sup>2</sup> |
| width of the enclosure   | 145 mm  |
| height of the enclosure  | 145 mm  |
| depth of the enclosure   | 150 mm  |
| required spacing   |   |
| <ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul> | 40 mm<br>40 mm<br>0 mm<br>0 mm  |
| Weight, approx.  | 3.1 kg  |
| product feature of the enclosure housing for side-by-side mounting   | Yes   |
| Installation   | Snaps onto DIN rail EN 60715 35x15  |
| electrical accessories   | Buffer module, redundancy module  |
| mechanical accessories   | Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20   |
| MTBF at 40 °C  | 838 156 h   |
| other information  | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)   |