

SITOP PSU8200 48 V/20 A  
SITOP PSU8200 48 V/20 A Stabilized power supplies Input: 3 400-500 V AC Output: 48 V/20 A DC



| Input                                         |                                                                                                                                                            |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input                                         | 3-phase AC                                                                                                                                                 |
| Rated voltage value Vin rated                 | 400 ... 500 V                                                                                                                                              |
| Voltage range AC                              | 320 ... 575 V                                                                                                                                              |
| Wide-range input                              | Yes                                                                                                                                                        |
| Mains buffering                               | at Vin = 400 V                                                                                                                                             |
| Mains buffering at Iout rated, min.           | 10 ms; at Vin = 400 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 400 V                | 2 A                                                                                                                                                        |
| • at rated input voltage 500 V                | 1.7 A                                                                                                                                                      |
| Switch-on current limiting (+25 °C), max.     | 13 A                                                                                                                                                       |
| I²t, max.                                     | 2.24 A²·s                                                                                                                                                  |
| Protection in the mains power input (IEC 898) | Required: 3-pole connected miniature circuit breaker 10 ... 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL 489) |

Output

|                                                               |                                                               |
|---------------------------------------------------------------|---------------------------------------------------------------|
| Output                                                        | Controlled, isolated DC voltage                               |
| Rated voltage Vout DC                                         | 48 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)                    | 480 mV                                                        |
| Adjustment range                                              | 46 ... 56 V                                                   |
| Product function Output voltage adjustable                    | Yes                                                           |
| Output voltage setting                                        | via potentiometer; max. 960 W                                 |
| Status display                                                | Green LED for 48 V OK                                         |
| Signaling                                                     | Relay contact (NO contact, rating 60 V DC/ 0.3 A) for 48 V OK |
| On/off behavior                                               | minimal overshoot (< 3 %)                                     |
| Startup delay, max.                                           | 0.1 s                                                         |
| Voltage increase time of the output voltage maximum           | 100 ms                                                        |
| Rated current value Iout rated                                | 20 A                                                          |
| Current range                                                 | 0 ... 20 A                                                    |
| • Note                                                        | +60 ... +70 °C: Derating 4%/K                                 |
| Supplied active power typical                                 | 960 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             | 24 A                                                          |
| Parallel switching for enhanced performance                   | Yes; switchable characteristic                                |
| Numbers of parallel switchable units for enhanced performance | 2                                                             |

#### Efficiency

|                                                 |      |
|-------------------------------------------------|------|
| Efficiency at Vout rated, Iout rated, approx.   | 94 % |
| Power loss at Vout rated, Iout rated, approx.   | 58 W |
| Power loss [W] during no-load operation maximum | 4 W  |

#### Closed-loop control

|                                                             |       |
|-------------------------------------------------------------|-------|
| Dynamic mains compensation (Vin rated $\pm 15$ %), max.     | 1 %   |
| Dynamic load smoothing (Iout: 50/100/50 %), Uout $\pm$ typ. | 3 %   |
| Setting time maximum                                        | 10 ms |

#### Protection and monitoring

|                                            |          |
|--------------------------------------------|----------|
| Output overvoltage protection              | < 57.8 V |
| Current limitation, typ.                   | 22 A     |
| Property of the output Short-circuit proof | Yes      |

|                                                                                                      |                                                                                  |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Short-circuit protection                                                                             | Alternatively, constant current characteristic approx. 22 A or latching shutdown |
| Enduring short circuit current RMS value <ul style="list-style-type: none"> <li>• typical</li> </ul> | 26 A                                                                             |
| Overcurrent overload capability in normal operation                                                  | overload capability 150 % I <sub>out</sub> rated up to 5 s/min                   |
| 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> <li>• typical</li> </ul> | 1 mA<br>0.6 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 T4 Gc; ATEX (EX) II 3G Ex nA nC 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       | -                                                                                                                                           |

## 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> | -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> </ul> | L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 4 mm <sup>2</sup> single-core/finely stranded |

|                                                                    |                                                                                                                     |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Output</li> </ul>         | +: 2 screw terminals each for 0.5 ... 16 mm <sup>2</sup> ; -: 3 screw terminals each for 0.5 ... 16 mm <sup>2</sup> |
| <ul style="list-style-type: none"> <li>• Auxiliary</li> </ul>      | 13, 14 (alarm signal), 15, 16 (Remote): 1 screw terminal each for 0.05 ... 2.5 mm <sup>2</sup>                      |
| Width of the enclosure                                             | 135 mm                                                                                                              |
| Height of the enclosure                                            | 145 mm                                                                                                              |
| Depth of the enclosure                                             | 150 mm                                                                                                              |
| Required spacing                                                   |                                                                                                                     |
| <ul style="list-style-type: none"> <li>• top</li> </ul>            | 40 mm                                                                                                               |
| <ul style="list-style-type: none"> <li>• bottom</li> </ul>         | 40 mm                                                                                                               |
| <ul style="list-style-type: none"> <li>• left</li> </ul>           | 0 mm                                                                                                                |
| <ul style="list-style-type: none"> <li>• right</li> </ul>          | 0 mm                                                                                                                |
| Weight, approx.                                                    | 3.3 kg                                                                                                              |
| Product feature of the enclosure housing for side-by-side mounting | Yes                                                                                                                 |
| Installation                                                       | Snaps onto DIN rail EN 60715 35x15                                                                                  |
| Mechanical accessories                                             | Device identification label 20 mm × 7 mm, TI-grey 3RT2900-1SB20                                                     |
| MTBF at 40 °C                                                      | 520 782 h                                                                                                           |
| Other information                                                  | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)                   |