

SITOP POWER DC/DC 24 V - 12 V  
SITOP 2.5 A, DC/DC-CONVERTER STABILIZED POWER SUPPLY  
INPUT: 24 V DC OUTPUT: 12 V DC/2.5 A



| Input                                         |                                                              |
|-----------------------------------------------|--------------------------------------------------------------|
| Input                                         | DC voltage PELV/SELV                                         |
| Supply voltage                                |                                                              |
| • at DC                                       | 24 ... 24 V                                                  |
| Input voltage                                 |                                                              |
| • at DC                                       | 18.5 ... 30.2 V                                              |
| Wide-range input                              | No                                                           |
| Input current                                 |                                                              |
| • at rated input voltage 24 V                 | 2.5 A                                                        |
| Switch-on current limiting (+25 °C), max.     | 20 A                                                         |
| Duration of inrush current limiting at 25 °C  |                                                              |
| • typical                                     | 5 ms                                                         |
| Built-in incoming fuse                        | not accessible                                               |
| Protection in the mains power input (IEC 898) | Recommended miniature circuit breaker: 10 A characteristic B |
| Output                                        |                                                              |
| Output                                        | Controlled, isolated DC voltage                              |
| Rated voltage Vout DC                         | 12 V                                                         |
| Total tolerance, static ±                     | 3 %                                                          |

|                                                               |                               |
|---------------------------------------------------------------|-------------------------------|
| Static mains compensation, approx.                            | 0.1 %                         |
| Static load balancing, approx.                                | 0.4 %                         |
| Residual ripple peak-peak, max.                               | 100 mV                        |
| Residual ripple peak-peak, typ.                               | 50 mV                         |
| Spikes peak-peak, max. (bandwidth: 20 MHz)                    | 200 mV                        |
| Spikes peak-peak, typ. (bandwidth: 20 MHz)                    | 50 mV                         |
| Adjustment range                                              | 12 ... 14 V                   |
| Product function Output voltage adjustable                    | Yes                           |
| Output voltage setting                                        | via potentiometer; max. 120 W |
| Status display                                                | Green LED for 12 V OK         |
| Startup delay, max.                                           | 0.5 s                         |
| Voltage rise, typ.                                            | 300 ms                        |
| Rated current value I <sub>out</sub> rated                    | 2.5 A                         |
| Current range                                                 | 0 ... 2.5 A                   |
| Short-term overload current                                   |                               |
| • on short-circuiting during the start-up typical             | 3.3 A                         |
| • at short-circuit during operation typical                   | 3.3 A                         |
| Constant overload current                                     |                               |
| • on short-circuiting during the start-up typical             | 3.3 A                         |
| • at short-circuit during operation typical                   | 3.3 A                         |
| Parallel switching for enhanced performance                   | Yes                           |
| Numbers of parallel switchable units for enhanced performance | 2                             |

#### Efficiency

|                                                                       |       |
|-----------------------------------------------------------------------|-------|
| Efficiency at V <sub>out</sub> rated, I <sub>out</sub> rated, approx. | 83 %  |
| Power loss at V <sub>out</sub> rated, I <sub>out</sub> rated, approx. | 6.1 W |

#### Closed-loop control

|                                                                                      |       |
|--------------------------------------------------------------------------------------|-------|
| Dynamic mains compensation (V <sub>in</sub> rated $\pm 15$ %), max.                  | 0.5 % |
| Dynamic load smoothing (I <sub>out</sub> : 50/100/50 %), U <sub>out</sub> $\pm$ typ. | 3 %   |
| Load step setting time 50 to 100%, typ.                                              | 5 ms  |
| Load step setting time 100 to 50%, typ.                                              | 2 ms  |
| Setting time maximum                                                                 | 5 ms  |

#### Protection and monitoring

|                                            |                                               |
|--------------------------------------------|-----------------------------------------------|
| Output overvoltage protection              | < 24 V                                        |
| Current limitation                         | 3 ... 3.6 A                                   |
| Current limitation, typ.                   | 3.3 A                                         |
| Property of the output Short-circuit proof | Yes                                           |
| Short-circuit protection                   | Constant current characteristic approx. 3.2 A |
| Enduring short circuit current RMS value   |                                               |
| • typical                                  | 3.2 A                                         |

|                                  |                        |
|----------------------------------|------------------------|
| Overload/short-circuit indicator | LED red for "overload" |
|----------------------------------|------------------------|

## Safety

|                                 |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Primary/secondary isolation     | Yes                                                               |
| Galvanic isolation              | Safety extra low output voltage $V_{out}$ according to EN 60950-1 |
| Protection class                | Class II                                                          |
| CE mark                         | Yes                                                               |
| UL/cUL (CSA) approval           | cCSAus (UL 508, CSA22.2-107, UL60950-1, CSA22.2-60950-1)          |
| Explosion protection            | -                                                                 |
| FM approval                     | -                                                                 |
| CB approval                     | No                                                                |
| Marine approval                 | -                                                                 |
| Degree of protection (EN 60529) | IP20                                                              |

## EMC

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

## Operating data

|                                                                    |                                    |
|--------------------------------------------------------------------|------------------------------------|
| Ambient temperature                                                |                                    |
| <ul style="list-style-type: none"> <li>during operation</li> </ul> | 0 ... 60 °C                        |
| <ul style="list-style-type: none"> <li>— Note</li> </ul>           | with natural convection            |
| <ul style="list-style-type: none"> <li>during transport</li> </ul> | -40 ... +85 °C                     |
| <ul style="list-style-type: none"> <li>during storage</li> </ul>   | -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"> <li>Supply input</li> </ul>     | +, -: 1 screw terminal each for 0.5 ... 2.5 mm <sup>2</sup>  |
| <ul style="list-style-type: none"> <li>Output</li> </ul>           | +, -: 2 screw terminals each for 0.5 ... 2.5 mm <sup>2</sup> |
| <ul style="list-style-type: none"> <li>Auxiliary</li> </ul>        | -                                                            |
| Width of the enclosure                                             | 32.5 mm                                                      |
| Height of the enclosure                                            | 125 mm                                                       |
| Depth of the enclosure                                             | 125 mm                                                       |
| Required spacing                                                   |                                                              |
| <ul style="list-style-type: none"> <li>top</li> </ul>              | 50 mm                                                        |
| <ul style="list-style-type: none"> <li>bottom</li> </ul>           | 50 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.                                                    | 0.32 kg                                                      |
| Product feature of the enclosure housing for side-by-side mounting | Yes                                                          |
| Installation                                                       | Snaps onto DIN rail EN 60715 35x7.5/15                       |

|                   |                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------|
| MTBF at 40 °C     | 563 793 h                                                                                         |
| Other information | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |