



SITOP UPS1600/DC/24VDC/40A

SITOP UPS1600 40 A uninterruptible power supply input: 24 V DC output: 24 V DC/40 A \*Ex approval no longer available\*

### Input

|  |  |
|--|--|
| supply voltage at DC rated value                               | 24 V   |
| voltage curve at input   | DC   |
| input voltage range  | 21 ... 29 V DC   |
| adjustable response value voltage for buffer connection preset | 21.5 V   |
| adjustable response value voltage for buffer connection        | 21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC |
| input current at rated input voltage 24 V rated value          | 46 A; for max. charging current (5 A)                                    |

### Mains buffering

|   |  |
|---|--|
| type of energy storage                            | with batteries   |
| design of the mains power cut bridging-connection | Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time |
| charging current                                  | 0.1 A, 5 A   |
| adjustable charging current maximum note          | Automatically depending on battery module  |

### Output

|  |   |
|--|---|
| output voltage   | 24 V  |
| <ul style="list-style-type: none"> <li>in normal operation at DC rated value</li> <li>in buffering mode at DC rated value</li> </ul> | 24 V  |
| formula for output voltage   | $V_{in} - \text{approx. } 0.2 \text{ V}$  |
| startup delay time typical   | 60 ms   |
| voltage increase time of the output voltage typical  | 60 ms   |
| output voltage in buffering mode at DC   | 18.5 ... 27 V   |
| output current   | 40 A  |
| <ul style="list-style-type: none"> <li>rated value</li> <li>in normal operation</li> <li>in buffering mode</li> </ul>                | 0 ... 120 A   |
| peak current   | 120 A   |
| property of the output short-circuit proof   | Yes   |
| design of short-circuit protection   | Limitation to $3 \times I$ rated for 30 ms/min; through-conductivity for $1.5 \times I$ rated for 5 sec/min |
| supplied active power typical  | 960 W   |

### Efficiency

|   |        |
|---|--------|
| efficiency in percent   | 98.5 % |
| <ul style="list-style-type: none"> <li>at rated output voltage for rated value of the output current typical</li> <li>in case of operation on rechargeable battery typical</li> </ul> | 98.5 % |
| power loss [W]  | 15 W   |
| <ul style="list-style-type: none"> <li>at rated output voltage for rated value of the output current typical</li> <li>in case of operation on rechargeable battery typical</li> </ul> | 15 W   |

### Protection and monitoring

|                  |  |
|------------------|--|
| product function |  |
|------------------|--|

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>reverse polarity protection against energy storage unit polarity reversal</li> </ul> | Yes  |
| <ul style="list-style-type: none"> <li>reverse polarity protection against input voltage polarity reversal</li> </ul>       | Yes  |
| <b>Signaling</b>  |  |
| display version   |  |
| <ul style="list-style-type: none"> <li>for normal operation</li> </ul>  | Normal operation: LED green (OK), floating changeover contact "Bat/OK" to setting "OK" ("OK" means: Voltage of the supplying power supply unit is greater than cut-in threshold set at the DC UPS module); Lack of buffer standby: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Battery replacement required: LED red (alarm) flashing with approx. 0.25 Hz, floating changeover contact "Alarm/Bat" switching with approx. 0.25 Hz; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A |
| <ul style="list-style-type: none"> <li>in buffering mode</li> </ul>   | Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage < 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage > 85%: LED green (Bat > 85%), floating NO contact "Bat > 85" closed   |
| <b>Interface</b>  |  |
| product component PC interface  | No   |
| design of the interface   | without  |
| <b>Safety</b>   |  |
| galvanic isolation between input and output   | No   |
| operating resource protection class   | Class III  |
| protection class IP   | IP20   |
| <b>Approvals</b>  |  |
| certificate of suitability  |  |
| <ul style="list-style-type: none"> <li>CE marking</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>UL approval</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>as approval for USA</li> </ul>   | cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259   |
| <ul style="list-style-type: none"> <li>CSA approval</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>cCSAus, Class 1, Division 2</li> </ul>   | No   |
| <ul style="list-style-type: none"> <li>ATEX</li> </ul>  | No   |
| type of certification CB-certificate  | Yes  |
| certificate of suitability  |  |
| <ul style="list-style-type: none"> <li>EAC approval</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>C-Tick</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>shipbuilding approval</li> </ul>   | Yes  |
| shipbuilding approval   | ABS, DNV GL  |
| Marine classification association   |  |
| <ul style="list-style-type: none"> <li>American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>                             | Yes  |
| <ul style="list-style-type: none"> <li>DNV GL</li> </ul>  | Yes  |
| <b>EMC</b>  |  |
| standard  |  |
| <ul style="list-style-type: none"> <li>for emitted interference</li> </ul>  | EN 55022 Class B   |
| <ul style="list-style-type: none"> <li>for interference immunity</li> </ul>   | EN 61000-6-2   |
| <b>environmental conditions</b>   |  |
| ambient temperature   |  |
| <ul style="list-style-type: none"> <li>during operation</li> </ul>  | -25 ... +70 °C; 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   |
| environmental category according to IEC 60721   | Climate class 3K3, 5 ... 95% no condensation   |
| <b>Mechanics</b>  |  |
| type of electrical connection   | screw-type terminals   |
| <ul style="list-style-type: none"> <li>at input</li> </ul>  | 24 V DC: 2 screw terminals for 0.5 ... 16 mm <sup>2</sup> /20 ... 6 AWG  |
| <ul style="list-style-type: none"> <li>at output</li> </ul>   | 24 V DC: 2 screw terminals for 0.5 ... 16 mm <sup>2</sup> /20 ... 6 AWG  |
| <ul style="list-style-type: none"> <li>for rechargeable battery module</li> </ul>   | 24 V DC: 2 screw terminals for 0.5 ... 16 mm <sup>2</sup> /20 ... 6 AWG  |
| <ul style="list-style-type: none"> <li>for control circuit and status message</li> </ul>                                    | 14 screw terminals for 0.2 ... 1.5 mm <sup>2</sup> /24 ... 16 AWG  |
| width of the enclosure  | 70 mm  |
| height of the enclosure   | 139 mm   |
| depth of the enclosure  | 150 mm   |
| required spacing  |  |
| <ul style="list-style-type: none"> <li>top</li> </ul>   | 50 mm  |

- bottom
- left
- right

net weight

product feature of the enclosure housing can be lined up

fastening method

electrical accessories

MTBF at 40 °C

reference code according to IEC 81346-2

other information

50 mm

0 mm

0 mm

0.65 kg

Yes

Snaps onto DIN rail EN 60715 35x7.5/15

Battery module

372 738 h

RB

Specifications at rated input voltage and ambient temperature +25 °C  
(unless otherwise specified)

