



SITOP UPS1600/DC/24VDC/10A/USB

SITOP UPS1600 10 A USB uninterruptible power supply with USB interface input:  
24 V DC output: 24 V DC/10 A

| input                                                                       |                                                                                                                                |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| supply voltage at DC rated value                                            | 24 V                                                                                                                           |
| input voltage at DC                                                         | 21 ... 29 V                                                                                                                    |
| 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 or via software                                       |
| input current at rated input voltage 24 V rated value                       | 14 A; for max. charging current (3 A)                                                                                          |
| memory                                                                      |                                                                                                                                |
| 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 or via software |
| output                                                                      |                                                                                                                                |
| output voltage                                                              |                                                                                                                                |
| • in normal operation at DC rated value                                     | 24 V                                                                                                                           |
| • in buffering mode at DC rated value                                       | 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                                                              |                                                                                                                                |
| • rated value                                                               | 10 A                                                                                                                           |
| • in normal operation                                                       | 0 ... 30 A                                                                                                                     |
| • in buffering mode                                                         | 0 ... 30 A                                                                                                                     |
| peak current                                                                | 30 A                                                                                                                           |
| property of the output short-circuit proof                                  | Yes                                                                                                                            |
| design of short-circuit protection                                          | Limitation to 3 x I rated for 30 ms/min; through-conductivity for 1.5 x I rated for 5 sec/min                                  |
| charging current                                                            | 0.1 A, 3 A                                                                                                                     |
| efficiency                                                                  |                                                                                                                                |
| efficiency in percent                                                       |                                                                                                                                |
| • at rated output voltage for rated value of the output current typical     | 97.5 %                                                                                                                         |
| • in case of operation on rechargeable battery typical                      | 97.5 %                                                                                                                         |
| power loss [W]                                                              |                                                                                                                                |
| • at rated output voltage for rated value of the output current typical     | 6 W                                                                                                                            |
| • in case of operation on rechargeable battery typical                      | 6 W                                                                                                                            |
| supplied active power typical                                               | 240 W                                                                                                                          |
| protection and monitoring                                                   |                                                                                                                                |
| product function                                                            |                                                                                                                                |
| • reverse polarity protection against energy storage unit polarity reversal | Yes                                                                                                                            |

|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>reverse polarity protection against input voltage polarity reversal</li> </ul>                                                                                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| display version <ul style="list-style-type: none"> <li>for normal operation</li> <li>in buffering mode</li> </ul>                                                                                    | <p>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 &gt; 85%: LED green (Bat &gt; 85%), floating NO contact "Bat &gt; 85" closed; Permissible contact current capacity: DC 60 V/1 A or AC 30 V /1 A</p> <p>Buffered mode: LED yellow (Bat), floating changeover contact "OK/Bat" to setting "Bat"; Prewarning battery voltage &lt; 20.4 VDC: LED red (alarm), floating changeover contact "Alarm/Bat" to setting "Alarm"; Energy storage &gt; 85%: LED green (Bat &gt; 85%), floating NO contact "Bat &gt; 85" closed</p> |
| <b>interfaces</b>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| product component PC interface                                                                                                                                                                       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| product function communication function                                                                                                                                                              | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| design of the interface                                                                                                                                                                              | USB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>safety</b>                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| galvanic isolation between input and output                                                                                                                                                          | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| operating resource protection class                                                                                                                                                                  | Class III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| protection class IP                                                                                                                                                                                  | IP20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| standard <ul style="list-style-type: none"> <li>for emitted interference</li> <li>for interference immunity</li> </ul>                                                                               | EN 55022 Class B<br>EN 61000-6-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>standards, specifications, approvals</b>                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| certificate of suitability <ul style="list-style-type: none"> <li>CE marking</li> <li>UL approval</li> <li>CSA approval</li> <li>UKCA marking</li> <li>EAC approval</li> </ul>                       | Yes<br>Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259<br>Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| type of certification CB-certificate                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MTBF at 40 °C                                                                                                                                                                                        | 364 153 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>standards, specifications, approvals hazardous environments</b>                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| certificate of suitability <ul style="list-style-type: none"> <li>ATEX</li> <li>cCSAus, Class 1, Division 2</li> </ul>                                                                               | No<br>No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>standards, specifications, approvals marine classification</b>                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| shipbuilding approval                                                                                                                                                                                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Marine classification association <ul style="list-style-type: none"> <li>American Bureau of Shipping Europe Ltd. (ABS)</li> <li>Det Norske Veritas (DNV)</li> </ul>                                  | Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>standards, specifications, approvals Environmental Product Declaration</b>                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Environmental Product Declaration                                                                                                                                                                    | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| global warming potential [CO2 eq] <ul style="list-style-type: none"> <li>total</li> <li>during manufacturing</li> <li>during operation</li> <li>after end of life</li> </ul>                         | 206.6 kg<br>18.6 kg<br>187.8 kg<br>0.3 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ambient conditions</b>                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ambient temperature <ul style="list-style-type: none"> <li>during operation</li> <li>during transport</li> <li>during storage</li> </ul>                                                             | -25 ... +70; with natural convection<br>-40 ... +85<br>-40 ... +85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| environmental category according to IEC 60721                                                                                                                                                        | Climate class 3K3, 5 ... 95% no condensation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>connection method</b>                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| type of electrical connection <ul style="list-style-type: none"> <li>at input</li> <li>at output</li> <li>for rechargeable battery module</li> <li>for control circuit and status message</li> </ul> | screw terminal<br>24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG<br>24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG<br>24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG<br>14 screw terminals for 0.2 ... 1.5 mm <sup>2</sup> /24 ... 16 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| mechanical data                         |                                        |
|-----------------------------------------|----------------------------------------|
| width × height × depth of the enclosure | 50 × 139 × 125 mm                      |
| installation width × mounting height    | 50 mm × 239 mm                         |
| required spacing                        |                                        |
| • top                                   | 50 mm                                  |
| • bottom                                | 50 mm                                  |
| • left                                  | 0 mm                                   |
| • right                                 | 0 mm                                   |
| fastening method                        | Snaps onto DIN rail EN 60715 35x7.5/15 |
| • DIN-rail mounting                     | Yes                                    |
| • S7 rail mounting                      | No                                     |
| • wall mounting                         | No                                     |
| housing can be lined up                 | Yes                                    |
| net weight                              | 0.4 kg                                 |

| accessories            |                |
|------------------------|----------------|
| electrical accessories | Battery module |

| further information internet links              |                                                                                         |
|-------------------------------------------------|-----------------------------------------------------------------------------------------|
| internet link                                   |                                                                                         |
| • to website: Industry Mall                     | <a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>       |
| • to web page: selection aid TIA Selection Tool | <a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>         |
| • to web page: power supplies                   | <a href="https://siemens.com/sitop">https://siemens.com/sitop</a>                       |
| • to website: CAX-Download-Manager              | <a href="https://siemens.com/cax">https://siemens.com/cax</a>                           |
| • to website: Industry Online Support           | <a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a> |

| additional information |                                                                                                   |
|------------------------|---------------------------------------------------------------------------------------------------|
| other information      | Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified) |

| security information |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| security information | <p>Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit <a href="http://www.siemens.com/cybersecurity-industry">www.siemens.com/cybersecurity-industry</a>. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <a href="https://www.siemens.com/cert">https://www.siemens.com/cert</a>. (V4.7)</p> |

| Classifications |        |         |                |
|-----------------|--------|---------|----------------|
|                 |        | Version | Classification |
|                 | eClass | 14      | 27-04-07-05    |
|                 | eClass | 12      | 27-04-07-05    |
|                 | eClass | 9.1     | 27-04-07-05    |
|                 | eClass | 9       | 27-04-07-05    |
|                 | eClass | 8       | 27-04-06-90    |
|                 | eClass | 7.1     | 27-04-06-90    |
|                 | eClass | 6       | 27-04-06-90    |
|                 | ETIM   | 9       | EC000382       |
|                 | ETIM   | 8       | EC000382       |
|                 | ETIM   | 7       | EC000382       |
|                 | IDEA   | 4       | 4149           |
|                 | UNSPSC | 15      | 39-12-10-11    |

| Approvals Certificates   |  |
|--------------------------|--|
| General Product Approval |  |



[Manufacturer Declaration](#)

[Declaration of Conformity](#)



#### Marine / Shipping



#### Environment

last modified:

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