



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; Automatically depending on battery module                                                                          |
| 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> </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>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> </ul>                                            | EN 55022 Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>for interference immunity</li> </ul>                                           | EN 61000-6-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>standards, specifications, 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; 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>EAC approval</li> </ul>                                                        | 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> </ul>                                                                | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>cCSAus, Class 1, Division 2</li> </ul>                                         | 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> </ul>                       | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Det Norske Veritas (DNV)</li> </ul>                                            | 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> </ul>                                                               | 206.6 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>during manufacturing</li> </ul>                                                | 18.6 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>during operation</li> </ul>                                                    | 187.8 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>after end of life</li> </ul>                                                   | 0.3 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ambient 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>connection method</b>                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| type of electrical connection                                                                                         | screw terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>at input</li> </ul>                                                            | 24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>at output</li> </ul>                                                           | 24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>for rechargeable battery module</li> </ul>                                     | 24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>for control circuit and status message</li> </ul>                              | 14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>mechanical data</b>                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| width × height × depth of the enclosure | 50 × 139 × 125 mm                      |
| installation width × mounting height    | 50 × 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 |
| • standard 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 website: Industrial communication          | <a href="https://siemens.com/industrial-communication">https://siemens.com/industrial-communication</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

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> |
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#### 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](#)



General Product Approval

Marine / Shipping

Environment



last modified:

6/24/2024