

SITOP UPS1600 24 V DC/10 A, USB  
 SITOP UPS1600 10 A USB Uninterrupted Power supply with USB  
 interface input: 24 V DC output: DC 24 V/10 A



Input	
supply voltage at DC rated value	24 V
voltage curve at input	DC
input voltage range	21 ... 29 V DC
adjustable response value voltage for buffer connection preset	21.5 V
adjustable response value voltage for buffer connection	21 ... 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25 V DC or via software
input current at rated input voltage 24 V rated value	14 A; for max. charging current (3 A)
Mains buffering	
type of energy storage	with batteries
design of the mains power cut bridging-connection	Adjustable range using rotary coding switch: 0.5 min, 1 min, 2 min, 5 min, 10 min, 20 min, max. buffering time or via software
charging current	0.1 A, 3 A
adjustable charging current maximum note	Automatically depending on battery module
Output	
output voltage	
<ul style="list-style-type: none"> <li>in normal operation at DC rated value</li> <li>in buffering mode at DC rated value</li> </ul>	24 V
	24 V

formula for output voltage	$V_{in} - \text{approx. } 0.2 \text{ V}$
ON-delay time typical	60 s
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
supplied active power typical	240 W

### Efficiency

efficiency in percent	
• at rated output current for rated value of the output current typical	97.5 %
• in case of accumulator operation typical	97.5 %
power loss [W]	
• at rated output current for rated value of the output current typical	6 W
• in case of accumulator operation typical	6 W

### Protection and monitoring

product function	
• reverse polarity protection against energy storage unit polarity reversal	Yes
• reverse polarity protection against input voltage polarity reversal	Yes

### Signaling

display version	
• for normal operation	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

- in buffering mode

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

Interface	
product component PC interface	Yes
design of the interface	USB

Safety	
galvanic isolation between entrance and outlet	No
operating resource protection class	Class III
certificate of suitability <ul style="list-style-type: none"> <li>• CE marking</li> <li>• as approval for USA</li> <li>• relating to ATEX</li> </ul>	Yes cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 IECEX Ex nA nC IIC T4 Gc; ATEX (EX) II 3G Ex nA nC IIC T4 Gc; cULus Class I, Div. 2 (ANSI/ISA-12.12.01-2015, CSA C22.2 No. 213-15) Group ABCD, T4; cCSAus (CSA C22.2 No. 213, ANSI/ISA-12.12.01) Class I, Div. 2, Group ABCD, T4
<ul style="list-style-type: none"> <li>• C-Tick</li> </ul>	Yes
type of certification CB-certificate	Yes
shipbuilding approval	ABS, DNV GL
protection class IP	IP20

EMC	
standard <ul style="list-style-type: none"> <li>• for emitted interference</li> <li>• for interference immunity</li> </ul>	EN 55022 Class B EN 61000-6-2

environmental conditions	
ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>• during transport</li> <li>• during storage</li> </ul>	-25 ... +70 °C; with natural convection -40 ... +85 °C -40 ... +85 °C
environmental category acc. to IEC 60721	Climate class 3K3, 5 ... 95% no condensation

Mechanics	
type of electrical connection <ul style="list-style-type: none"> <li>• at input</li> <li>• at output</li> <li>• for battery module</li> <li>• for control circuit and status message</li> </ul>	screw-type terminals 24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG 24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG 24 V DC: 2 screw terminals for 0.2 ... 6 mm <sup>2</sup> /24 ... 13 AWG 14 screw terminals for 0.2 ... 1.5 mm <sup>2</sup> /24 ... 16 AWG
width of the enclosure	50 mm
height of the enclosure	139 mm
depth of the enclosure	125 mm
required spacing	

<ul style="list-style-type: none"> <li>• top</li> <li>• bottom</li> <li>• left</li> <li>• right</li> </ul>	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
net weight	0.4 kg
product feature of the enclosure housing for side-by-side mounting	Yes
mounting type	Snaps onto DIN rail EN 60715 35x7.5/15
electrical accessories	Battery module
MTBF at 40 °C	364 153 h
reference code acc. to DIN EN 81346-2	T
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)