

SITOP UPS1600 24 V DC/20 A, USB
 SITOP UPS1600 20 A USB Uninterrupted Power supply with USB
 interface input: 24 V DC output: 24 V DC/20 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	25 A; for max. charging current (4 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, 4 A
adjustable charging current maximum Note	Automatically depending on battery module
Output	
Output voltage	
<ul style="list-style-type: none"> in normal operation at DC Rated value in buffering mode at DC Rated value 	24 V
	24 V

Formula for output voltage	V_{in} - approx. 0.2 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	20 A
• in normal operation	0 ... 60 A
• in buffering mode	0 ... 60 A
Peak current	60 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	480 W

Efficiency

Efficiency in percent	
• at rated output current for rated value of the output current typical	97.7 %
• in case of accumulator operation typical	97.7 %
Power loss [W]	
• at rated output current for rated value of the output current typical	10 W
• in case of accumulator operation typical	10 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"> • CE marking • as approval for USA • relating to ATEX 	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
• C-Tick	Yes
Type of certification CB-certificate	Yes
Shipbuilding approval	ABS, DNV GL
Protection class IP	IP20

EMC

Standard <ul style="list-style-type: none"> • for emitted interference • for interference immunity 	EN 55022 Class B EN 61000-6-2
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Operating data

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

Mechanics

Type of electrical connection <ul style="list-style-type: none"> • at input • at output • for battery module • for control circuit and status message 	screw-type terminals 24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG 24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG 24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG 14 screw terminals for 0.2 ... 1.5 mm ² /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"> • top • bottom • left • right 	<p>50 mm</p> <p>50 mm</p> <p>0 mm</p> <p>0 mm</p>
Net weight	0.41 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	358 897 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)