



SITOP UPS1600/DC/24VDC/20A/USB

SITOP UPS1600 20 A USB uninterruptible power supply with USB interface input:
24 V DC output: 24 V DC/20 A *Ex approval no longer available*

Input	
supply voltage at DC rated value	24 V
input voltage	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	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	
• 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	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 voltage for rated value of the output current typical	97.7 %
• in case of operation on rechargeable battery typical	97.7 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	10 W
• in case of operation on rechargeable battery typical	10 W
Protection and monitoring	
product function	

- reverse polarity protection against energy storage unit polarity reversal
- reverse polarity protection against input voltage polarity reversal

Yes

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 input and output

No

operating resource protection class

Class III

protection class IP

IP20

Approvals

certificate of suitability

- CE marking
- UL approval
- as approval for USA
- CSA approval
- cCSAus, Class 1, Division 2
- ATEX

Yes

Yes

cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259

Yes

No

No

type of certification CB-certificate

Yes

certificate of suitability

- EAC approval
- C-Tick
- shipbuilding approval

Yes

Yes

Yes

shipbuilding approval

ABS, DNV GL

Marine classification association

- American Bureau of Shipping Europe Ltd. (ABS)
- DNV GL

Yes

Yes

EMC

standard

- for emitted interference
- for interference immunity

EN 55022 Class B

EN 61000-6-2

environmental conditions

ambient temperature

- during operation
- during transport
- during storage

-25 ... +70 °C; with natural convection

-40 ... +85 °C

-40 ... +85 °C

environmental category according to IEC 60721

Climate class 3K3, 5 ... 95% no condensation

Mechanics

type of electrical connection

- at input
- at output
- for rechargeable battery module
- for control circuit and status message

screw-type terminals

24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG

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14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG

width of the enclosure

50 mm

height of the enclosure

139 mm

depth of the enclosure

125 mm

required spacing

- top
- bottom

50 mm

50 mm

• left	0 mm
• right	0 mm
net weight	0.41 kg
product feature of the enclosure housing can be lined up	Yes
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
electrical accessories	Battery module
MTBF at 40 °C	358 897 h
reference code according to IEC 81346-2	RB
other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)



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