



SITOP UPS1600/DC/24VDC/40A/USB

SITOP UPS1600 40 A USB uninterruptible power supply with USB interface input:  
24 V DC output: 24 V DC/40 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	46 A; for max. charging current (5 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, 5 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	40 A
• in normal operation	0 ... 120 A
• in buffering mode	0 ... 120 A
peak current	120 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	960 W
Efficiency	
efficiency in percent	
• at rated output voltage for rated value of the output current typical	98.5 %
• in case of operation on rechargeable battery typical	98.5 %
power loss [W]	
• at rated output voltage for rated value of the output current typical	15 W
• in case of operation on rechargeable battery typical	15 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 0.5 ... 16 mm²/20 ... 6 AWG

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

width of the enclosure

70 mm

height of the enclosure

139 mm

depth of the enclosure

150 mm

required spacing

- top
- bottom

50 mm

50 mm

• left	0 mm
• right	0 mm
net weight	0.65 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	330 515 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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