



SITOP UPS1600/DC/24VDC/10A

SITOP UPS1600 10 A uninterruptible power supply input: 24 V DC output: 24 V DC/ 10 A *Ex approval no longer available*

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
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
charging current	0.1 A, 3 A
adjustable charging current maximum note	Automatically depending on battery module

Output

output voltage	24 V
<ul style="list-style-type: none"> in normal operation at DC rated value 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	10 A
<ul style="list-style-type: none"> rated value in normal operation 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	97.5 %
<ul style="list-style-type: none"> at rated output voltage for rated value of the output current typical in case of operation on rechargeable battery typical 	97.5 %
power loss [W]	6 W
<ul style="list-style-type: none"> at rated output voltage for rated value of the output current typical in case of operation on rechargeable battery typical 	6 W

Protection and monitoring

product function	
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<ul style="list-style-type: none"> reverse polarity protection against energy storage unit polarity reversal 	Yes
<ul style="list-style-type: none"> reverse polarity protection against input voltage polarity reversal 	Yes
Signaling	
display version	
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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	No
design of the interface	without
Safety	
galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
Approvals	
certificate of suitability	
<ul style="list-style-type: none"> CE marking 	Yes
<ul style="list-style-type: none"> UL approval 	Yes
<ul style="list-style-type: none"> as approval for USA 	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
<ul style="list-style-type: none"> CSA approval 	Yes
<ul style="list-style-type: none"> cCSAus, Class 1, Division 2 	No
<ul style="list-style-type: none"> ATEX 	No
type of certification CB-certificate	Yes
certificate of suitability	
<ul style="list-style-type: none"> EAC approval 	Yes
<ul style="list-style-type: none"> C-Tick 	Yes
<ul style="list-style-type: none"> shipbuilding approval 	Yes
shipbuilding approval	ABS, DNV GL
Marine classification association	
<ul style="list-style-type: none"> American Bureau of Shipping Europe Ltd. (ABS) 	Yes
<ul style="list-style-type: none"> DNV GL 	Yes
EMC	
standard	
<ul style="list-style-type: none"> for emitted interference 	EN 55022 Class B
<ul style="list-style-type: none"> for interference immunity 	EN 61000-6-2
environmental conditions	
ambient temperature	
<ul style="list-style-type: none"> during operation 	-25 ... +70 °C; with natural convection
<ul style="list-style-type: none"> during transport 	-40 ... +85 °C
<ul style="list-style-type: none"> during storage 	-40 ... +85 °C
environmental category according to IEC 60721	Climate class 3K3, 5 ... 95% no condensation
Mechanics	
type of electrical connection	screw-type terminals
<ul style="list-style-type: none"> at input 	24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG
<ul style="list-style-type: none"> at output 	24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG
<ul style="list-style-type: none"> for rechargeable battery module 	24 V DC: 2 screw terminals for 0.2 ... 6 mm ² /24 ... 13 AWG
<ul style="list-style-type: none"> for control circuit and status message 	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 	50 mm

- bottom
- left
- right

net weight

product feature of the enclosure housing can be lined up

fastening method

electrical accessories

MTBF at 40 °C

reference code according to IEC 81346-2

other information

50 mm

0 mm

0 mm

0.38 kg

Yes

Snaps onto DIN rail EN 60715 35x7.5/15

Battery module

415 574 h

RB

Specifications at rated input voltage and ambient temperature +25 °C
(unless otherwise specified)

