SIEMENS

Data sheet 6EP1933-2EC41



SITOP UPS500S BASIC UNIT 2.5 KWS SITOP UPS500S service-free uninterruptible power supply with USB-interface basic unit 2.5 kWs input: 24 V DC output: 24 V/15 A DC degree of protection IP20

Input	
Supply voltage at DC Rated value	24 V
Voltage curve at input	DC
input voltage range	22 29 V DC
Adjustable response value voltage for buffer connection preset	22.5 V
Adjustable response value voltage for buffer connection	22 25.5 V; Adjustable in 0.5 V increments
Input current at rated input voltage 24 V Rated value	15.2 A; + approx. 2.3 A with empty energy storage (capacitor)

Mains buffering	
Type of energy storage	with capacitors
Design of the mains power cut bridging-connection	15 A for 3 s or 10 A for 6 s or 5 A for 15 s or 2 A for 38 s; longer buffering times with expansion modules
Energy content of energy storage	2.5 kW.s
Charging current	
• 1	1 A
• 2	2 A
adjustable charging current maximum Note	factory setting approx. 1 A

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	24 V ± 3 %
ON-delay time typical	0.6 s
Voltage increase time of the output voltage typical	25 ms
Output voltage in buffering mode at DC	24 24.7 V
Output current	
Rated value	15 A
• in normal operation	0 15 A
• in buffering mode	0 15 A
Peak current	25 A
Supplied active power typical	360 W

Efficiency	
Efficiency in percent	
 at rated output current at rated output current typical 	97.5 %
Power loss [W] • at rated output current at rated output current typical	9 W

Protection and monitoring

• 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 "OK/Bat" 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"; 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 buffer end after expiry of 80% of the available buffer time: LED red (ALARM), floating changeover contact "ALARM/BAT" to setting "ALARM"; Energy storage > 85%: LED green (BAT > 85%), floating NO contact "BAT > 85" closed

Design of the interface Safety Galvanic isolation between entrance and outlet Operating resource protection class Class III Cettrificate of suitability	Product component PC interface	Yes
Galvanic isolation between entrance and outlet Operating resource protection class Certificate of suitability	Design of the interface	USB
Galvanic isolation between entrance and outlet Operating resource protection class Certificate of suitability		
Class III Certificate of suitability		No
Certificate of suitability CE marking Se as approval for USA CILUS-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 relating to ATEX C-Tick Shipbuilding approval Frotection class IP EMC Standard For emitted interference Fine ference immunity EN 55022 Class B Fine from interference immunity EN 61000-6-2 Coperating data Ambient temperature during operation during transport during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input at output for battery module for control circuit and status message Width of the enclosure Height of the enclosure Required spacing for pomm left right Net weight Net weight Net weight Net weight Net weight Net weight Product feature of the enclosure housing for side-by- Ves		
CE marking as approval for USA cultus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 cleating to ATEX c-Trick Yes Shipbuilding approval Protection class IP ENC Standard for emitted interference for interference immunity EN 55022 Class B EN 61000-6-2 Coperating data Ambient temperature during operation during transport during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input at output for control circuit and status message Width of the enclosure Height of the enclosure Lety my bottom cleft com com com com com com com co		Oldos III
as approval for USA relating to ATEX C-Tick GL, ABS Protection class IP BLO Standard of or emitted interference of or interference immunity Coperating deta Ambient temperature of uring storage of uring storage cultivate class 3K3, no condensation Mechanics Type of electrical connection of bottomy of the enclosure of or control circuit and status message Postorm Depth of the enclosure Postorm Required spacing other circuit and status message other other circuit and status message other circuit and status message other other circuit and status message other circuit and status and message other circuit and status and message other circuit and status and message other ci	•	Yes
• relating to ATEX • C-Tick Yes Shipbuilding approval Protection class IP EMC Standard • for emitted interference • for interference immunity EN 55022 Class B • for interference immunity EN 61000-8-2 Operating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure Required spacing • top • bottom • left • right Net weight 1 kg Product feature of the enclosure housing for side-by- Ves		
C-Tick Shipbuilding approval GL, ABS Protection class IP IP20 EMC Standard • for emitted interference • for interference immunity EN 61000-6-2 Coperating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Midth of the enclosure Depth of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by- Net weight I Kg Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by-		-
Shipbuilding approval Protection class IP EMC Standard • for emitted interference • for interference immunity Coperating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Required spacing • top • bottom • ifft • iright Net weight Product feature of the enclosure housing for side-by- Pres GL, ABS IP20 GL, ABS IP20 ENVICONA ENVICONA EN 55022 Class B • N 55022 Class B • N 61000-6-2 EN 55022 Class B • N 61000-6-2 Climate class 3K3, no condensation Screw-type terminals Screw-type terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 4 screw terminals for 1 4 mm²/17 11 AWG 25 Dmm²/17 11 AWG 26 Dm²/17 11 AWG 27 DC: 4 screw terminals for 0.5 2.5 mm²/20 13 AWG 28 Dm²/17 11 AWG 29 Dm²/17 11 AWG 30 Dm²/17		Vas
Protection class IP EMC Standard • for emitted interference • for interference immunity EN 55022 Class B • for interference immunity Product interference immunity EN 55022 Class B EN 61000-6-2 Soperating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-		
Standard • for emitted interference • for interference immunity EN 61000-6-2 Operating data Ambient temperature • during operation • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by- Poperating data EN 55022 Class B EN 55022 Class B EN 55022 Class B EN 55022 Class B EN 61000-6-2 EN 55022 Class B EN 61000-6-2 EN 61000-6-2 EN 61000-6-2 EN 61000-6-2 EN 61000-6-2 Climate class 3K3, no condensation Screw-type terminals - 40 +70 °C Climate class 3K3, no condensation Screw-type terminals - 40 +70 °C Climate class 3K3, no condensation Screw-type terminals - 40 +70 °C Climate class 3K3, no condensation Screw-type terminals - 1 4 mm²/17 11 AWG - 44 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG - 42 V DC: 4 screw terminals for 1 4 mm²/17 11 AWG - 41 V DC: 4 screw terminals for 0.5 2.5 mm²/20 13 AWG Width of the enclosure 10 screw terminals for 0.5 2.5 mm²/20 13 AWG Width of the enclosure 125 mm From the enclosure 125 mm Required spacing • top • bottom • left • right • right Net weight Product feature of the enclosure housing for side-by-		
Standard • for emitted interference • for interference immunity EN 55022 Class B EN 61000-6-2 Operating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Depth of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-	FIOLECTION Class IF	IFZU
For emitted interference for interference immunity Departing data Ambient temperature during operation during transport during storage Environmental category acc. to IEC 60721 Type of electrical connection at input at output for battery module for control circuit and status message Width of the enclosure Depth of the enclosure Required spacing top bottom left right Net weight Product feature of the enclosure housing for side-by- Reference EN 55022 Class B EN 61000-6-2 Screw-type terminal convection Our +70 °C Climate class 3K3, no condensation Screw-type terminals our +70 °C Climate class 3K3, no condensation Screw-type terminals our +70 °C Climate class 3K3, no condensation I a mm²/17 11 AWG Aut - 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG Our + 4 mr²/17 11 AWG Our + 5 mr²/20 13 AWG Our + 6 mr²/20 13 AWG Our + 6 mr²/20 13 AWG Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Climate class 3K3, no condensation Our + 70 °C Our + 70	EMC	
• for interference immunity Derating data Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-	Standard	
Ambient temperature • during operation • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure 125 mm Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by-	• for emitted interference	EN 55022 Class B
Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure Pethoducing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-	• for interference immunity	EN 61000-6-2
Ambient temperature • during operation • during transport • during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure Pethoducing et top • bottom • left • right Net weight Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- O 60 °C; with natural convection -40 +70 °C Climate class 3K3, no condensation Surew-type terminals PC C Climate class 3K3, no condensation Surew-type terminals O 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 4 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -40 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -50 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -50 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -50 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -5	Operating data	
 during transport during storage 40 +70 °C during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input 4 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG at output for battery module for control circuit and status message 10 screw terminals for 0.5 2.5 mm²/20 13 AWG Width of the enclosure 120 mm Height of the enclosure 125 mm Depth of the enclosure top bottom left right o mm Net weight 1 kg Product feature of the enclosure housing for side-by- Yes 		
 during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input at output for battery module for control circuit and status message screw terminals for 1 4 mm²/17 11 AWG for control circuit and status message 10 screw terminals for 0.5 2.5 mm²/20 13 AWG Width of the enclosure Height of the enclosure 125 mm Depth of the enclosure top bottom e top bottom e left o mm Net weight 1 kg Product feature of the enclosure housing for side-by- Yes 	during operation	0 60 °C; with natural convection
Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection	during transport	-40 +70 °C
Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection	during storage	-40 +70 °C
Type of electrical connection • at input • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure • top • top • bottom • left • right Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Sarew-type terminals screw-type terminals 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 25 mm²/20 13 AWG 120 mm 125 mm Po mm 50 mm 125 mm 125 mm 125 mm 126 mm 127 mm 128 mm 129 mm 129 mm 120 mm 120 mm 125 mm 125 mm 126 mm 127 mm 128 mm 128 mm 129 mm 129 mm 120 mm 120 mm 120 mm 121 mm²/27 11 AWG 120 mm 121 mm²/17 11 AWG 121 mm²/17 11 AWG 122 mm²/20 13 AWG 123 mm²/20 13 AWG 124 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 125 mm 126 mm²/20 13 AWG 126 mm²/20 13 AWG 127 mm²/20 13 AWG 128 mm²/20 13 AWG 129 mm 125 mm 126 mm 127 mm²/20 13 AWG	Environmental category acc. to IEC 60721	Climate class 3K3, no condensation
Type of electrical connection • at input • at input • at output • for battery module • for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure • top • top • bottom • left • right Product feature of the enclosure housing for side-by- Product feature of the enclosure housing for side-by- Sarew-type terminals screw-type terminals 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG -	Mechanics	
 at input at output at output for battery module for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure top bottom left right Net weight Product feature of the enclosure housing for side-by- 124 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 24 V DC: 2 screw terminals for 1 4 mm²/17 11 AWG 25 mm²/20 13 AWG 36 mm²/20 13 AWG 36 mm²/20 13 AWG 37 mm²/20 13 AWG 38 mm²/20 13 AWG 39 mm²/20 13 AWG 30 m		screw-type terminals
 at output for battery module for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure top bottom left right Net weight Product feature of the enclosure housing for side-by- Yes 		
 for battery module for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure 125 mm Required spacing top bottom left right Net weight Product feature of the enclosure housing for side-by- 	·	
 for control circuit and status message Width of the enclosure Height of the enclosure Depth of the enclosure Required spacing top bottom left right Net weight Product feature of the enclosure housing for side-by- 		_
Width of the enclosure Height of the enclosure Depth of the enclosure 125 mm Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-	·	10 screw terminals for 0.5 2.5 mm²/20 13 AWG
Height of the enclosure Depth of the enclosure 125 mm Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-	-	
Depth of the enclosure Required spacing • top • bottom • left • right Net weight Product feature of the enclosure housing for side-by-		
Required spacing • top 50 mm • bottom 50 mm • left 0 mm • right 0 mm Net weight 1 kg Product feature of the enclosure housing for side-by-	<u> </u>	
 top bottom left right 0 mm right 0 mm Net weight 1 kg Product feature of the enclosure housing for side-by- Yes 	•	
bottom left oleft oright omm Net weight Product feature of the enclosure housing for side-by- Somm 1 kg Product feature of the enclosure housing for side-by-		50 mm
◆ left 0 mm ◆ right 0 mm Net weight 1 kg Product feature of the enclosure housing for side-by- Yes	·	
● right 0 mm Net weight 1 kg Product feature of the enclosure housing for side-by- Yes		
Net weight 1 kg Product feature of the enclosure housing for side-by- Yes		
Product feature of the enclosure housing for side-by-		
-		
Mounting type Snaps onto DIN rail EN 60715 35x7.5/15		Snaps onto DIN rail EN 60715 35x7.5/15
Electrical accessories Extension module SITOP UPS501S		

MTBF at 40 °C	638 570 h
Equipment marking acc. to DIN EN 81346-2	Т
Other information	Specifications at rated input voltage and ambient temperature +25 °C (unless otherwise specified)