SIEMENS

Data sheet

6EP4136-3AB00-2AY0

SITOP UPS1600 24V/20A ETHERN./PROFIN.
SITOP UPS1600 20A ETHERNET/ PROFINET UNINTERRUPTIBLE
POWER SUPPLY WITH ETHERNET/PROFINET INTER- FACE
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	22 29 V DC
Adjustable response value voltage for buffer connection preset	22.5 V
Adjustable response value voltage for buffer	21 25 V; Adjustable: 21 V, 21.5 V, 22 V, 22.5 V, 23 V, 24 V, 25
connection	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	
• 1	0.1 A
• 2	4 A
adjustable charging current maximum Note	Automatically depending on battery module

Output		
Output voltage		
Output voltage		

 in normal operation at DC Rated value 	24 V
• in buffering mode at DC Rated value	24 V
Formula for output voltage	Vin - approx. 0.01 x I
ON-delay time typical	60 s
Voltage increase time of the output voltage typical	60 ms
Output voltage in buffering mode at DC	19 28.5 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 at rated output current typical 	98.2 %
• in case of accumulator operation typical	98.2 %
Power loss [W] • at rated output current at rated output current typical	8.6 W
• in case of accumulator operation typical	8.6 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 "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

Product component PC interface Design of the interface Ethernet/PROFINET Safety Galvanic isolation between entrance and outlet No Operating resource protection class Class III Certificate of suitability • CE marking • as approval for USA • relating to ATEX ECEX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987 ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 • C-Tick Type of certification CB-certificate Type of certification CB-certificate Shipbuilding approval Frotection class IP EMC Standard • for emitted interference • for interference immunity Poperating 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 Height of the enclosure Height of the enclosure Ethernet/PROFINET No Class III No Class III No Class III No Class III Poperating (UL 508, CSA C22.2 No. 107.1), File E197259 LEVE ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes CLLus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 LIECX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987) ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes CLLus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 LEVE CLUS-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 LIECX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 123-M1987) ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes ELEX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 107.1), File E197259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC IIC T4 Gc; cCSAus (CLus II S97259 LIECX EX nA nC	Interface	
Galvanic isolation between entrance and outlet Operating resource protection class Certificate of suitability • CE marking • as approval for USA • relating to ATEX • C-Tick Type of certification CB-certificate • for emitted interference • for interference immunity • during operation • during transport • during storage Environmental category acc. to IEC 60721 Mechanics Type of electrical connection • at input • at output • for battery module • for control circuit and status message Ves Calsas III Ves Calsas III Ves CULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 IECEX Ex nA n C IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987 ANS/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes Shipbuilding approval GL, ABS IP20 EMC Standard • for emitted interference • for interference immunity EN 55022 Class B EN 55022 Class B EN 61000-6-2 Operating data Ambient temperature • during operation • during transport • during storage 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 Vidth of the enclosure	Product component PC interface	Yes
Galvanic isolation between entrance and outlet Operating resource protection class Class III Certificate of suitability • CE marking • as approval for USA • relating to ATEX IECEX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 107.1), File E197259 IECEX EX nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987 ANS/IISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Ves Type of certification CB-certificate	Design of the interface	Ethernet/PROFINET
Operating resource protection class Certificate of suitability CE marking as approval for USA relating to ATEX C-Tick Type of certification CB-certificate Shipbuilding approval rof or mitted interference for interference immunity admin temperature during operation during storage Environmental category acc. to IEC 60721 Class III Class III Yes CULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 LECK Ex na nc IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987 ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes Shipbuilding approval GL, ABS Protection class IP P20 EMC Standard for emitted interference for interference immunity CN 55022 Class B EN 61000-6-2 Coperating data Ambient temperature during operation during transport during storage 40 +85 °C Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input at output 40 VDC: 2 screw terminals for 0.2 6 mm²/24 13 AWG for battery module for control circuit and status message Width of the enclosure	Safety	
Certificate of suitability CE marking as approval for USA relating to ATEX CC-Tick CC-Tick Type of certification CB-certificate Standard for emitted interference for interference immunity Coperating data Ambient temperature during operation during transport during storage Environmental category acc. to IEC 60721 Mechanics Type of electrical connection at input at output at	Galvanic isolation between entrance and outlet	No
CE marking as approval for USA relating to ATEX relating to ATEX Possibility of C-Tick Type of certification CB-certificate Shipbuilding approval 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 input at output for battery module for control circuit and status message Ves CULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259 IECEX Ex nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987 ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes Cyes Type of certification CB-certificate Yes Shipbuilding approval GL, ABS IP20 EN 55022 Class B EN 61000-6-2 Coperating data Ambient temperature during operation -25 +70 °C; with natural convection during transport -40 +85 °C Climate class 3K3, no condensation Mechanics Type of electrical connection at input 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG for battery module 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG For control circuit and status message Width of the enclosure	Operating resource protection class	Class III
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relating to ATEX	● CE marking	Yes
ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4 Yes Type of certification CB-certificate Yes Shipbuilding approval GL, ABS Protection class IP IP20 EMC Standard • for emitted interference • for interference immunity EN 61000-6-2 Operating data Ambient temperature • during operation • during transport • during storage Ienvironmental 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	as approval for USA	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
Type of certification CB-certificate Shipbuilding approval Protection class IP EMC 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 battery module • for control circuit and status message Width of the enclosure	• relating to ATEX	IECEx Ex nA nC IIC T4 Gc; cCSAus (CSA C22.2 No. 213-M1987, ANSI/ISA-12.12.01-2013) Class I, Div. 2, Group ABCD, T4
Shipbuilding approval Protection class IP EMC 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 Vidth of the enclosure EN 55022 Class B EN 61000-6-2 En 61000-6-2 Climate class 3K3, no condensation Screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 1.5 mm²/24 13 AWG	• C-Tick	Yes
Protection class IP EMC 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 IP20 EN 55022 Class B EN 61000-6-2 Climate class B EN 61000-6-2 Climate class 3K3, no condensation Screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 50 mm	Type of certification CB-certificate	Yes
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 • at output • for battery module • for control circuit and status message Width of the enclosure Env 55022 Class B EN 61000-6-2 Env 61000-6-2 Env 61000-6-2 Cismate class 3K3, no condensation Screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 6 mm²/24 13 AWG 50 mm	Shipbuilding approval	GL, ABS
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 Width of the enclosure EN 55022 Class B EN 61000-6-2 EN 55022 Class B EN 61000-6-2 EN 61000-6-2 Climate class 3K3, no condensation - 25 +70 °C; with natural convection - 26 +85 °C - 40 +85 °C Climate class 3K3, no condensation	Protection class IP	IP20
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 Width of the enclosure EN 55022 Class B EN 61000-6-2 EN 55022 Class B EN 61000-6-2 EN 61000-6-2 Climate class 3K3, no condensation - 25 +70 °C; with natural convection - 26 +85 °C - 40 +85 °C Climate class 3K3, no condensation	EMC	
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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 -25 +70 °C; with natural convection -40 +85 °C Climate class 3K3, no condensation Screw-type terminals • 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 1.5 mm²/24 16 AWG	• for interference immunity	EN 61000-6-2
 during operation during transport during storage -40 +85 °C during storage Environmental category acc. to IEC 60721 Climate class 3K3, no condensation Mechanics Type of electrical connection at input at output at output of or battery module for control circuit and status message Width of the enclosure Climate class 3K3, no condensation Climate class 3K3, no condensation Climate class 3K3, no condensation Screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG AWG Type of electrical connection Screw-type terminals for 0.2 6 mm²/24 13 AWG AWG AV DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG AWG Midth of the enclosure 	Operating data	
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 during storage -40 +85 °C 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 Vidth of the enclosure -40 +85 °C Climate class 3K3, no condensation screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 6 mm²/24 16 AWG Width of the enclosure	during operation	-25 +70 °C; with natural convection
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 Climate class 3K3, no condensation Climate class 3K3, no condensation Screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 1.5 mm²/24 16 AWG Width of the enclosure	during transport	-40 +85 °C
Type of electrical connection • at input • at output • for battery module • for control circuit and status message Width of the enclosure screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 4 screw terminals for 0.2 1.5 mm²/24 16 AWG	during storage	-40 +85 °C
Type of electrical connection • at input • at output • at output • for battery module • for control circuit and status message Width of the enclosure screw-type terminals 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 50 mm	Environmental category acc. to IEC 60721	Climate class 3K3, no condensation
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 at output for battery module for control circuit and status message Width of the enclosure 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG The screw terminals for 0.2 1.5 mm²/24 16 AWG Width of the enclosure 	Type of electrical connection	screw-type terminals
 for battery module for control circuit and status message Width of the enclosure 24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG 14 screw terminals for 0.2 1.5 mm²/24 16 AWG 50 mm 	• at input	24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG
• for control circuit and status message 14 screw terminals for 0.2 1.5 mm²/24 16 AWG Width of the enclosure 50 mm	• at output	24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG
Width of the enclosure 50 mm	for battery module	24 V DC: 2 screw terminals for 0.2 6 mm²/24 13 AWG
	for control circuit and status message	14 screw terminals for 0.2 1.5 mm²/24 16 AWG
Height of the enclosure 125 mm	Width of the enclosure	50 mm
	Height of the enclosure	125 mm
Depth of the enclosure 125 mm	Depth of the enclosure	125 mm
Required spacing	Required spacing	
● top 50 mm	• top	50 mm

• bottom	50 mm
• left	0 mm
• right	0 mm
Net weight	0.45 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	345 056 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)