SIEMENS

Data sheet   **6EP4134-3AB00-0AY0**

SITOP UPS1600/DC/24VDC/10A

SITOP UPS1600 10 A uninterruptible power supply input: 24 V DC output: 24 V DC/10 A

input	
supply voltage at DC rated value	24 V
input voltage at 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
input current at rated input voltage 24 V rated value	14 A; for max. charging current (3 A)

memory	
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

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	Vin - approx. 0.2 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	10 A
● in normal operation	0 ... 30 A
● 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
charging current	0.1 A, 3 A

efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	97.5 %
● in case of operation on rechargeable battery typical	97.5 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	6 W
● in case of operation on rechargeable battery typical	6 W
supplied active power typical	240 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

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● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	No
product function communication function	Yes
design of the interface	without

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	415 574 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	205.7 kg
● during manufacturing	17.6 kg
● during operation	187.8 kg
● after end of life	0.28 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data

width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.38 kg

accessories

electrical accessories	Battery module

further information internet links

internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

additional information

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

security information

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

CB
CB

CB
CB

CSA

[Declaration of Conformity](#)

UK CA

General Product Approval			Marine / Shipping		Environment
CE EG-Konf.	UL UL	RCM	ABS	DNV DNV	EPD

last modified: 11/6/2024

SIEMENS

SITOP UPS1600/DC/24VDC/10A/USB

SITOP UPS1600 10 A USB uninterruptible power supply with USB interface input: 24 V DC output: 24 V DC/10 A

input	
supply voltage at DC rated value	24 V
input voltage at 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	14 A; for max. charging current (3 A)

memory	
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

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	Vin - approx. 0.2 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	10 A
● in normal operation	0 ... 30 A
● 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
charging current	0.1 A, 3 A

efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	97.5 %
● in case of operation on rechargeable battery typical	97.5 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	6 W
● in case of operation on rechargeable battery typical	6 W
supplied active power typical	240 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	USB

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	364 153 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	206.6 kg
● during manufacturing	18.6 kg
● during operation	187.8 kg
● after end of life	0.3 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data	
width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.4 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

| CB | CB | [Manufacturer Declaration](#) | [Declaration of Conformity](#) | UK CA | UL |

Marine / Shipping		Environment			
ABS	DNV	EPD			

| **last modified:** | 11/6/2024 🔗 |

11/25/2024

SIEMENS

Data sheet	6EP4134-3AB00-2AY0

SITOP UPS1600/DC/24VDC/10A/IE/PN

SITOP UPS1600 10 A Ethernet/ PROFINET uninterruptible power supply with Ethernet/ PROFINET interface / OPC UA server / web server input: 24 V DC output: 24 V DC/10 A

input	
supply voltage at DC rated value	24 V
input voltage at 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	14 A; for max. charging current (3 A)

memory	
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

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	Vin - approx. 0.2 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	10 A
● in normal operation	0 ... 30 A
● 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
charging current	0.1 A, 3 A

efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	97.3 %
● in case of operation on rechargeable battery typical	97.3 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	7 W
● in case of operation on rechargeable battery typical	7 W
supplied active power typical	240 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	Ethernet/PROFINET
number of interfaces according to PROFINET	2

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	349 874 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	239.8 kg
● during manufacturing	20.4 kg
● during operation	219.1 kg
● after end of life	0.32 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data	
width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.44 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval	Marine / Shipping

| CB | Manufacturer Declaration | Declaration of Conformity | UKCA | UL | ABS |

Marine / Shipping	other	Environment	Industrial Communication
DNV	Miscellaneous	EPD	PROFINET

| last modified: | | 11/6/2024 ↗ |

11/25/2024

SIEMENS

Data sheet   **6EP4136-3AB00-0AY0**

SITOP UPS1600/DC/24VDC/20A

SITOP UPS1600 20 A uninterruptible power supply input: 24 V DC output: 24 V DC/20 A

input	
supply voltage at DC rated value	24 V
input voltage at 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
input current at rated input voltage 24 V rated value	25 A; for max. charging current (4 A)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 4 A

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
supplied active power typical	480 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	No
product function communication function	Yes
design of the interface	without

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	408 654 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	331.3 kg
● during manufacturing	18.1 kg
● during operation	312.9 kg
● after end of life	0.29 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data

width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.39 kg

accessories

electrical accessories	Battery module

further information internet links

internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

additional information

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

security information

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

CB	CB	[Manufacturer Declaration](#)	[Declaration of Conformity](#)	UK CA	UL
CB	CB				UL

Marine / Shipping			Environment		
ABS	DNV		EPD		

last modified:	11/6/2024

11/25/2024

SIEMENS

Data sheet   **6EP4136-3AB00-1AY0**

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

input	
supply voltage at DC rated value	24 V
input voltage at 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)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 4 A

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
supplied active power typical	480 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	USB

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	358 897 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	331.3 kg
● during manufacturing	18.1 kg
● during operation	312.9 kg
● after end of life	0.29 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data	
width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.41 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications			
		Version	Classification
	eClass	14	27-04-07-05
	eClass	12	27-04-07-05
	eClass	9.1	27-04-07-05
	eClass	9	27-04-07-05
	eClass	8	27-04-06-90
	eClass	7.1	27-04-06-90
	eClass	6	27-04-06-90
	ETIM	9	EC000382
	ETIM	8	EC000382
	ETIM	7	EC000382
	IDEA	4	4149
	UNSPSC	15	39-12-10-11

Approvals Certificates	
General Product Approval	

CB	CB	CSA	[Manufacturer Declaration](#)	[Declaration of Conformity](#)	UK CA
CB	CB	CSA			

General Product Approval			Marine / Shipping		Environment
CE EG-Konf.	UL	RCM	ABS	DNV	EPD

last modified: 11/6/2024 ↗

11/25/2024

SIEMENS

Data sheet   **6EP4136-3AB00-2AY0**

SITOP UPS1600/DC/24VDC/20A/IE/PN

SITOP UPS1600 20 A Ethernet/ PROFINET uninterruptible power supply with Ethernet / PROFINET interface / OPC UA server / web server input: 24 V DC output: 24 V DC/20 A

input	
supply voltage at DC rated value	24 V
input voltage at 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)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 4 A

efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	97.5 %
● in case of operation on rechargeable battery typical	97.5 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	11 W
● in case of operation on rechargeable battery typical	11 W
supplied active power typical	480 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	Ethernet/PROFINET
number of interfaces according to PROFINET	2

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	345 056 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	365.5 kg
● during manufacturing	20.9 kg
● during operation	344.2 kg
● after end of life	0.33 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data	
width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.45 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

| CB | CB | CSA | [Manufacturer Declaration](#) | [Declaration of Conformity](#) | UKCA |

General Product Approval			Marine / Shipping		other
CE EG-Konf.	UL	RCM	ABS	DNV	[Miscellaneous](#)

Environment	Industrial Communication
EPD	[PROFINET](#)

last modified:	11/6/2024

11/25/2024

SIEMENS

SITOP UPS1600/DC/DC24V/20A/EX

SITOP UPS1600 EX 20 A uninterruptible power supply input: 24 V DC output: 24 V DC/20 A

input	
supply voltage at DC rated value	24 V
input voltage at 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
input current at rated input voltage 24 V rated value	25 A; for max. charging current (4 A)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 4 A

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
supplied active power typical	480 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	No
product function communication function	Yes
design of the interface	without

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
MTBF at 40 °C	408 654 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● IECEx	Yes
● ATEX	Yes
● cCSAus, Class 1, Division 2	Yes
● CCC for hazardous zone according to GB standard	Yes

standards, specifications, approvals marine classification

shipbuilding approval	No
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	No
● Det Norske Veritas (DNV)	No; in preparation

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	331.3 kg
● during manufacturing	18.1 kg
● during operation	312.9 kg
● after end of life	0.29 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data

width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.39 kg

accessories

electrical accessories	Battery module

further information internet links

internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

additional information

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

security information

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

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eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382

Approvals Certificates

General Product Approval	For use in hazardous locations

CB	CSA	[Manufacturer Declaration](#)	UK CA	CE EG-Konf.	IECEx

For use in hazardous locations				Environment
BUREAU VERITAS	ATEX	[CCC-Ex](#)	UL	EPD

last modified: 11/6/2024 ↗

SIEMENS

Data sheet   **6EP4136-3AC00-2AY0**

SITOP UPS1600/DC/DC24V/20A/IE/PN/EX

SITOP UPS1600 EX 20 A Ethernet PROFINET uninterruptible power supply with Ethernet / PROFINET interface / OPC UA Server / Web server input: 24 V DC output: 24 V DC/20 A

input	
supply voltage at DC rated value	24 V
input voltage at 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)
memory	
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
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	Vin - approx. 0.2 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
charging current	0.1 A, 4 A
efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	97.5 %
● in case of operation on rechargeable battery typical	97.5 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	11 W
● in case of operation on rechargeable battery typical	11 W
supplied active power typical	480 W
protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	Ethernet/PROFINET
number of interfaces according to PROFINET	2

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
MTBF at 40 °C	345 056 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● IECEx	Yes
● ATEX	Yes
● cCSAus, Class 1, Division 2	Yes
● CCC for hazardous zone according to GB standard	Yes

standards, specifications, approvals marine classification

shipbuilding approval	No
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	No
● Det Norske Veritas (DNV)	No; in preparation

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	365.5 kg
● during manufacturing	20.9 kg
● during operation	344.2 kg
● after end of life	0.33 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● at output	24 V DC: 2 screw terminals for 0.2 ... 6 mm²/24 ... 13 AWG
● for rechargeable 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

mechanical data

width × height × depth of the enclosure	50 × 139 × 125 mm
installation width × mounting height	50 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.45 kg

accessories

electrical accessories	Battery module

further information internet links

internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

additional information

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

security information

security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382

Approvals Certificates

General Product Approval	For use in hazardous locations

CB	CSA	Manufacturer Declaration	UK CA	CE EG-Konf.	IECEx

For use in hazardous locations				Environment	Industrial Communication
Ex ATEX	BUREAU VERITAS	CCC-Ex	UL	EPD	PROFINET

last modified: 11/6/2024

SIEMENS

Data sheet　　　　　　　　　　　　　　　　　　　　　　　　**6EP4137-3AB00-0AY0**

SITOP UPS1600/DC/24VDC/40A

SITOP UPS1600 40 A uninterruptible power supply input: 24 V DC output: 24 V DC/40 A

input	
supply voltage at DC rated value	24 V
input voltage at 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
input current at rated input voltage 24 V rated value	46 A; for max. charging current (5 A)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 5 A

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
supplied active power typical	960 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces
product component PC interface	No
product function communication function	Yes
design of the interface	without

safety
galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals
certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	372 738 h

standards, specifications, approvals hazardous environments
certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification
shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration
Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	500.1 kg
● during manufacturing	30.2 kg
● during operation	469.4 kg
● after end of life	0.48 kg

ambient conditions
ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method
type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● at output	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for rechargeable battery module	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG

mechanical data	
width × height × depth of the enclosure	70 × 139 × 150 mm
installation width × mounting height	70 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.65 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

CB

CB

CSA

UK
CA

General Product Approval			Marine / Shipping		Environment
CE EG-Konf.	UL	RCM	ABS	DNV	EPD

last modified: 11/6/2024 ⬈

11/25/2024

SIEMENS

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

input	
supply voltage at DC rated value	24 V
input voltage at 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)

memory	
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

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	Vin - approx. 0.2 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
charging current	0.1 A, 5 A

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
supplied active power typical	960 W

protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	USB

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	330 515 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	500.1 kg
● during manufacturing	30.2 kg
● during operation	469.4 kg
● after end of life	0.48 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● at output	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for rechargeable battery module	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG

mechanical data	
width × height × depth of the enclosure	70 × 139 × 150 mm
installation width × mounting height	70 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.65 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

CB   CB   [Manufacturer Declaration](...)   [Declaration of Conformity](...)   UK CA   UL

CB   CB   UL

Marine / Shipping	Environment
ABS DNV	EPD

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last modified: 11/6/2024 ↗

11/25/2024

SIEMENS

Data sheet
6EP4137-3AB00-2AY0

SITOP UPS1600/DC/24VDC/40A/IE/PN

SITOP UPS1600 40 A Ethernet/ PROFINET uninterruptible power supply with Ethernet/ PROFINET interface / OPC UA server / web server input: 24 V DC output: 24 V DC/40 A

input	
supply voltage at DC rated value	24 V
input voltage at 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)
memory	
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
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	Vin - approx. 0.2 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
charging current	0.1 A, 5 A
efficiency	
efficiency in percent	
● at rated output voltage for rated value of the output current typical	98.3 %
● in case of operation on rechargeable battery typical	98.3 %
power loss [W]	
● at rated output voltage for rated value of the output current typical	17 W
● in case of operation on rechargeable battery typical	17 W
supplied active power typical	960 W
protection and monitoring	
product function	
● reverse polarity protection against energy storage unit polarity reversal	Yes

11/25/2024

● reverse polarity protection against input voltage polarity reversal	Yes
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

interfaces

product component PC interface	Yes
product function communication function	Yes
design of the interface	Ethernet/PROFINET
number of interfaces according to PROFINET	2

safety

galvanic isolation between input and output	No
operating resource protection class	Class III
protection class IP	IP20
standard	
● for emitted interference	EN 55022 Class B
● for interference immunity	EN 61000-6-2

standards, specifications, approvals

certificate of suitability	
● CE marking	Yes
● UL approval	Yes; cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259
● CSA approval	Yes; cCSAus (CSA C22.2 No. 62368-1, UL 62368-1)
● UKCA marking	Yes
● EAC approval	Yes
type of certification CB-certificate	Yes
MTBF at 40 °C	318 776 h

standards, specifications, approvals hazardous environments

certificate of suitability	
● ATEX	No
● cCSAus, Class 1, Division 2	No

standards, specifications, approvals marine classification

shipbuilding approval	Yes
Marine classification association	
● American Bureau of Shipping Europe Ltd. (ABS)	Yes
● Det Norske Veritas (DNV)	Yes

standards, specifications, approvals Environmental Product Declaration

Environmental Product Declaration	Yes
Global Warming Potential [CO2 eq]	
● total	565 kg
● during manufacturing	32.5 kg
● during operation	532 kg
● after end of life	0.52 kg

ambient conditions

ambient temperature	
● during operation	-25 ... +70; with natural convection
● during transport	-40 ... +85
● during storage	-40 ... +85
environmental category according to IEC 60721	Climate class 3K3, 5 … 95% no condensation

connection method

type of electrical connection	screw terminal
● at input	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● at output	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for rechargeable battery module	24 V DC: 2 screw terminals for 0.5 ... 16 mm²/20 ... 6 AWG
● for control circuit and status message	14 screw terminals for 0.2 ... 1.5 mm²/24 ... 16 AWG

mechanical data	
width × height × depth of the enclosure	70 × 139 × 150 mm
installation width × mounting height	70 mm × 239 mm
required spacing	
● top	50 mm
● bottom	50 mm
● left	0 mm
● right	0 mm
fastening method	Snaps onto DIN rail EN 60715 35x7.5/15
● standard rail mounting	Yes
● S7 rail mounting	No
● wall mounting	No
housing can be lined up	Yes
net weight	0.7 kg

accessories	
electrical accessories	Battery module

further information internet links	
internet link	
● to website: Industry Mall	https://mall.industry.siemens.com
● to web page: selection aid TIA Selection Tool	https://www.siemens.com/tstcloud
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com

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

security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)

Classifications

	Version	Classification
eClass	14	27-04-07-05
eClass	12	27-04-07-05
eClass	9.1	27-04-07-05
eClass	9	27-04-07-05
eClass	8	27-04-06-90
eClass	7.1	27-04-06-90
eClass	6	27-04-06-90
ETIM	9	EC000382
ETIM	8	EC000382
ETIM	7	EC000382
IDEA	4	4149
UNSPSC	15	39-12-10-11

Approvals Certificates

General Product Approval

11/25/2024

CB	CB	[Manufacturer Declaration](#)	[Declaration of Conformity](#)	UK CA	UL
CB	CB				UL

Marine / Shipping		other	Environment	Industrial Communication
ABS	DNV	[Miscellaneous](#)	EPD	[PROFINET](#)

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