SIEMENS

SITOP power supply

SITOP PSU8200/3800 3ph

Manual

SITOP PSU8200 24 V/20 A
6EP3436-8SB00-0AY0
SITOP PSU8200 24 V/40 A
6EP1437-3BA10
SITOP PSU8200 24 V/40 A
6EP3437-8SB00-0AY0
SITOP PSU8200 36 V/13 A
6EP3446-8SB10-0AY0
SITOP PSU8200 48 V/10 A
6EP3446-8SB00-0AY0
SITOP PSU8200 48 V/20 A
6EP3447-8SB00-0AY0
SITOP PSU3800 12 V/20 A
6EP3424-8UB00-0AY0
SITOP PSU3800 24 V/17 A
6EP3436-8UB00-0AY0
SITOP PSU3800 24 V/40 A
6EP3437-8UB00-0AY0

09.2019
C98130-A7638-A1-9-7629

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Overview

The 3-phase power supply from the SITOP PSU8200 product line is the powerful, regulated technology power supply for automated machines and systems.

The 3-phase power supply from the PSU3800 product line is the power supply optimized for charging batteries.

The key benefits of the product include:

- Wide-range input, which allows it to be connected to almost any 3-phase line supply around the world
- The output voltage can be adjusted in the range 12 - 14 V/24 - 28 (28.8) V/36 - 42 V/ 42 - 56 V
- Power boost during operation with 300% rated current for 25 ms (only PSU8200)
- Extra-Power with 1.5x rated current for 5 seconds for switching on loads with a high inrush current (only PSU8200)
- Especially low width without requiring any lateral mounting clearances
- Ambient temperature -25 ... 70 °C
- Selectable short-circuit response (constant current or latching shutdown)
- A soft characteristic can be selected for a parallel connection (for uniform load distribution of power supply units of the same type)
- 3 LEDs are used to display the operating state
- Signaling contact "12 V O.K"/"24 V O.K"/"36 V O.K"/"48 V O.K"

- To increase the system availability, these reliable power supplies can be expanded using SITOP supplementary modules (redundancy module, selectivity module, buffer module), as well as SITOP DC-UPS modules
- The properties of the PSU3800 power supplies makes them ideal for battery charging

Ordering data

The following device versions are available:

Regulated power supply unit SITOP PSU8200/3800 3ph	
Type	**Order number**
Input 3AC 400 - 500 V, Output 24 V DC / 20 A	6EP3436-8SB00-0AY0
Input 3AC 400 - 500 V, Output 24 V DC / 40 A	6EP1437-3BA10
Input 3AC 400 - 500 V, Output 24 V DC / 40 A	6EP3437-8SB00-0AY0
Input 3AC 400 - 500 V, Output 36 V DC / 13 A	6EP3446-8SB10-0AY0
Input 3AC 400 - 500 V, Output 48 V DC/10 A	6EP3446-8SB00-0AY0
Input 3AC 400 - 500 V, Output 48 V DC/20 A	6EP3447-8SB00-0AY0
Input 3AC 400 - 500 V, Output 12 V DC / 20 A	6EP3424-8UB00-0AY0
Input 3AC 400 - 500 V, Output 24 V DC/17 A	6EP3436-8UB00-0AY0
Input 3AC 400 - 500 V, Output 24 V DC / 40 A	6EP3437-8UB00-0AY0

Accessories	
Type	**Order number**
Device identification labels 20 mm × 7 mm, Ti grey	3RT2900-1SB20

Validity

This manual provides information on the following products:

- SITOP PSU8200 20 A 3ph
  Article number: 6EP3436-8SB00-0AY0
  Product state: 2
  Changes with respect to the previous version (PS 1):
  - remote terminal has been added
  - various technical data (e.g. setting range U_{out}, $U_{out\ max}$ in the case of a fault) changed

- SITOP PSU8200 40 A 3ph / 48 V/20 A 3ph / PSU3800 40 A 3ph
  Article number: 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0, 6EP3437-8UB00-0AY0
  Product State: 2
  changes with respect to the previous version (PS 1):
  - IT line system 400 - 500 V
  -Behavior for a parallel connection (signaling changed - green LED is always lit for both devices)

Table of contents

Notes on safety

1

1.1 General safety instructions

⚠ WARNING

Correct handling of the devices

When operating electrical devices, it is inevitable that certain components will carry dangerous voltages.

Therefore, failure to handle the units properly can result in death or serious physical injury as well as extensive property damage.

Only appropriately qualified personnel may work on or in the vicinity of this equipment.

Perfect, safe, and reliable operation of this equipment is dependent on proper transportation, storage, installation and mounting.

Before installation or maintenance work can begin, the system's main switch must be switched off and measures taken to prevent it being switched on again.

If this instruction is not observed, touching live parts can result in death or serious injury.

1.2 Safety instructions for hazardous zones

The devices comply with ATEX directive 2014/34/EU; EN 60079-0; EN 60079-15.

1.2.1 SITOP PSU8200 (6EP3436-8SB00-0AY0, 6EP3437-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3447-8SB00-0AY0) and SITOP PSU3800 (6EP3424-8UB00-0AY0, 6EP3436-8UB00-0AY0, 6EP3437-8UB00-0AY0)

WARNING
UNDER NO CIRCUMSTANCES MAKE ANY VOLTAGE ADAPTATIONS OR CHANGE DIP SWITCH SETTINGS IN EXPLOSIVE ATMOSPHERES

WARNING
EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2

WARNING
EXPLOSION HAZARD – DO NOT CONNECT OR DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS

1.2.2 SITOP PSU8200 (6EP1437-3BA10)

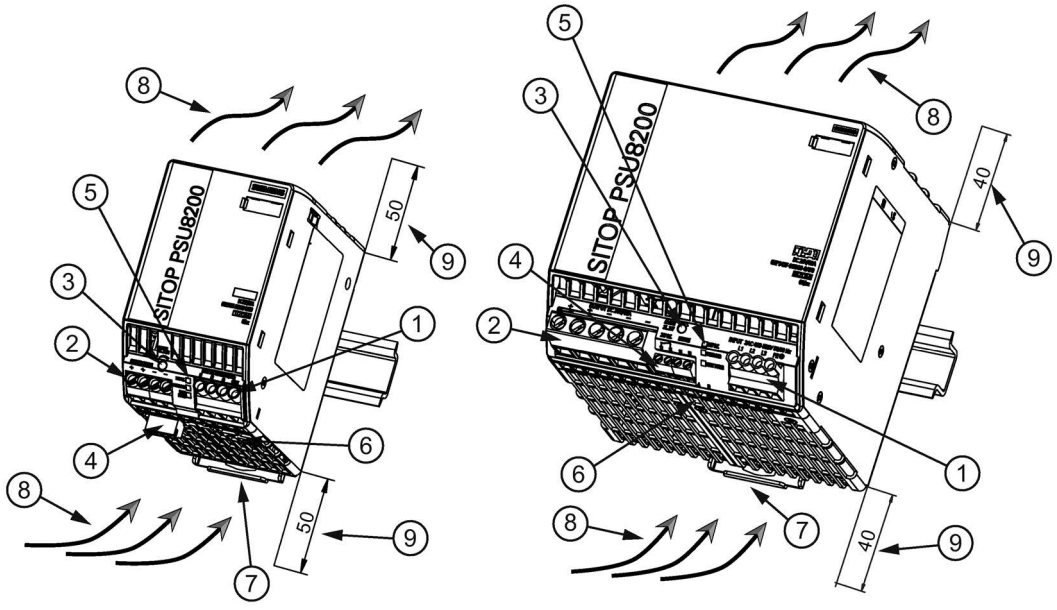
WARNING
OPERATE POTENTIOMETERS OR SWITCHES IN NON-HAZARDOUS AREAS ONLY!

Description, device design, dimension drawing

2

2.1 Device description

SITOP PSU8200/3800 3ph is a primary-clocked power supply for connection to a 3-phase AC line supply. An electronically regulated DC voltage that can be set via a potentiometer is available at the output of the device. The output of the device is isolated, no-load proof and short-circuit proof. The LED displays indicate the operating state. The operating state of the device can be processed via the signaling contact. Remote control and remote reset are possible via the remote ON/OFF.



6EP3436-8SB00-0AY0 6EP3437-8SB00-0AY0

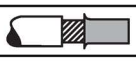
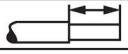
① AC input
② DC output
③ Potentiometer (output voltage)
④ Signaling contact, remote (not for 6EP1437-3BA10)
⑤ Indicator lights (OUTPUT O.K., OVERLOAD, SHUTDOWN)
⑥ Selector switch (ON - OFF)
⑦ DIN rail slider
⑧ Convection
⑨ Clearance above/below

Figure 2-1 Design

2.2 Connections and terminal designation

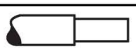
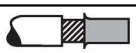
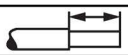
The line input terminals ① can be used to establish the connection to the supply voltage. The output terminals ② are used to connect to the loads to be supplied (see also Section Installation (Page 51)).

Connections and terminal designations	
① Line input L1, L2, L3, PE	One screw terminal each
② Output +	2 screw terminals
② Output –	2 screw terminals
④ Signaling contact 13, 14	One screw terminal each
④ Remote contact 15, 16	One screw terminal each

	①	②	④	③
	0,6 x 3,5 / PZ1 / PH1	0,6 x 3,5 / PZ1 / PH1	0,4 x 2,5	0,4 x 2,5 / max. ∅ 3,5 mm
	1 x 0,5 - 4 mm^2	1 x 0,2 - 6 mm^2	1 x 0,5 - 2,5 mm^2	-
	1 x 0,5 - 4 mm^2	1 x 0,2 - 4 mm^2	1 x 0,5 - 2,5 mm^2	-
	1 x 0,5 - 4 mm^2	1 x 0,25 - 4 mm^2	1 x 0,25 - 1,5 mm^2	-
AWG	26 - 10	24 - 10	30 - 12	-
Nm	0,79 Nm	0,5 - 0,6 Nm	0,5 - 0,6 Nm	0,04 Nm *1)
	10 - 11 mm	8 mm	5,5 - 6,5 mm	-

*1) Do not subject the end stop to higher loads

Figure 2-2 Terminal data for 6EP3436-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0 and 6EP3436-8UB00-0AY0

	①	②	④	③
	0,6 x 3,5 / PZ1 / PH1	1 x 5,5 / PZ2 / PH2	0,6 x 3,5	0,4 x 2,5 / max. ∅ 3,5 mm
	1 x 0,5 - 4 mm^2	1 x 0,5 - 16 mm^2	1 x 0,5 - 2,5 mm^2	-
	1 x 0,5 - 4 mm^2	1 x 0,5 - 16 mm^2	1 x 0,5 - 2,5 mm^2	-
	1 x 0,5 - 4 mm^2	1 x 2,5 - 16 mm^2 *2)	1 x 0,5 - 2,5 mm^2	-
AWG	26 - 10	26 - 6	30 - 12	-
Nm	0,79 Nm	1,2 - 1,5 Nm	0,5 - 0,6 Nm	0,04 Nm *1)
	10 - 11 mm	12 mm	5,5 - 6,5 mm	-

*1) Do not subject the end stop to higher loads

*2) 16 mm^2 for square crimping, otherwise 10 mm^2

Figure 2-3 Terminal data for 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0, 6EP1437-3BA10 and 6EP3437-8UB00-0AY0

2.3 Potentiometer

The potentiometer ③ at the front of the device is used to adjust the output voltage. The output voltage is set to $U_{out\ rated}$ in the factory, and can be changed – for instance to compensate voltage drops along long power supply cables up to the load.

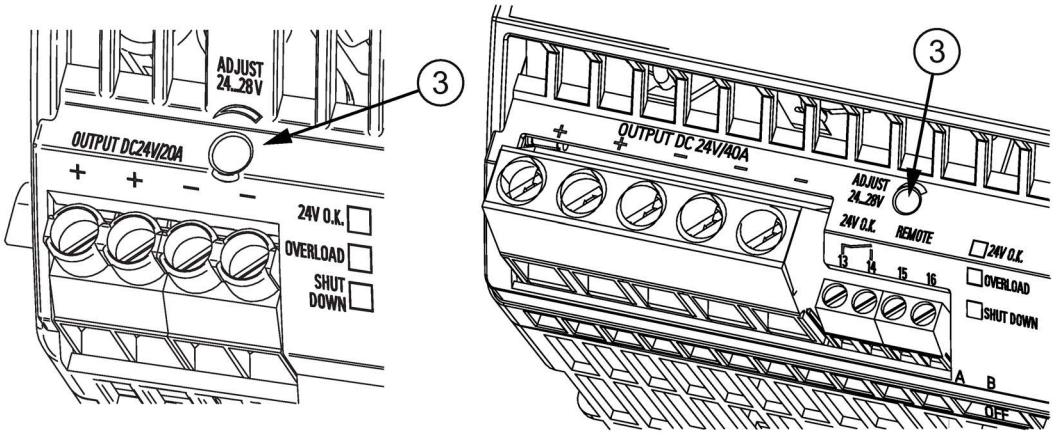


Figure 2-4 Potentiometer

NOTICE
Thermal overload possible
When adjusting the output voltage $U_{out\ rated}$, the output current must be derated by 4 %/V, or the permissible ambient temperature must be taken into account with 3 °C/V.

Note

It is only permissible to use an insulated screwdriver when actuating the potentiometer.

For notes on actuating the potentiometer (screwdriver, torque), see Figure 2-2 Terminal data for 6EP3436-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0 and 6EP3436-8UB00-0AY0 (Page 12) and Figure 2-3 Terminal data for 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0, 6EP1437-3BA10 and 6EP3437-8UB00-0AY0 (Page 12)

2.4 Status displays and signaling

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Operating display ⑤	LED green for "24 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)	LED green for "24 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in "shut down" mode	LED green for "24 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)
Signaling contact 13, 14 ④	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "24 V O.K."
Remote contact 15, 16 ④	Non-isolated input for remote ON/OFF switching of the power supply (is at secondary potential). Function: The device is remotely switched off when contacts (15, 16) are short-circuited (R < 8 kΩ).	-	Electrically isolated (floating) input for remote ON/OFF switching of the power supply. (input is electrically isolated (floating), can be connected with secondary potential) Function: The device is remotely switched off when contacts 15, 16 are short-circuited (R < 8 kΩ).

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Operating display ⑤	LED green for "36 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)	LED green for "48 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)	LED green for "48 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode or for Remote OFF
Signaling contact 13, 14 ④	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "36 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "48 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "48 V O.K."
Remote contact 15, 16 ④	Non-isolated input for remote ON/OFF switching of the power supply (is at secondary potential). Function: The device is remotely switched off when contacts 15, 16 are short-circuited (R < 8 kΩ).	Non-isolated input for remote ON/OFF switching of the power supply (is at secondary potential). Function: The device is remotely switched off when contacts 15, 16 are short-circuited (R < 8 kΩ).	Electrically isolated (floating) input for remote ON/OFF switching of the power supply. (input is electrically isolated (floating), can be connected with secondary potential) Function: The device is remotely switched off when contacts 15, 16 are short-circuited (R < 8 kΩ).

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Operating display ⑤	LED green for "12 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)	LED green for "24 V O.K." Yellow LED for overload in "constant current" mode Red LED for latching shut-down in the "Shut down" mode, for Remote OFF or for overtemperature (LED flashes)	LED green for "24 V O.K." Yellow LED for overload in "constant current" mode Red LED for remote OFF or for overtemperature (LED flashes)
Signaling contact 13, 14 ④	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "12 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 30 V AC/0.5 A, 60 V DC/0.3 A, 30 V DC/1 A) for "24 V O.K."
Remote contact 15, 16 ④	Non-isolated input for remote ON/OFF switching of the power supply (is at secondary potential). Function: The device is remotely switched off when contacts (15, 16) are short-circuited (R < 8 kΩ).	Non-isolated input for remote ON/OFF switching of the power supply (is at secondary potential). Function: The device is remotely switched off when contacts (15, 16) are short-circuited (R < 8 kΩ).	Electrically isolated (floating) input for remote ON/OFF switching of the power supply. (input is electrically isolated (floating), can be connected with secondary potential) Function: The device is remotely switched off when contacts 15, 16 are short-circuited (R < 8 kΩ).

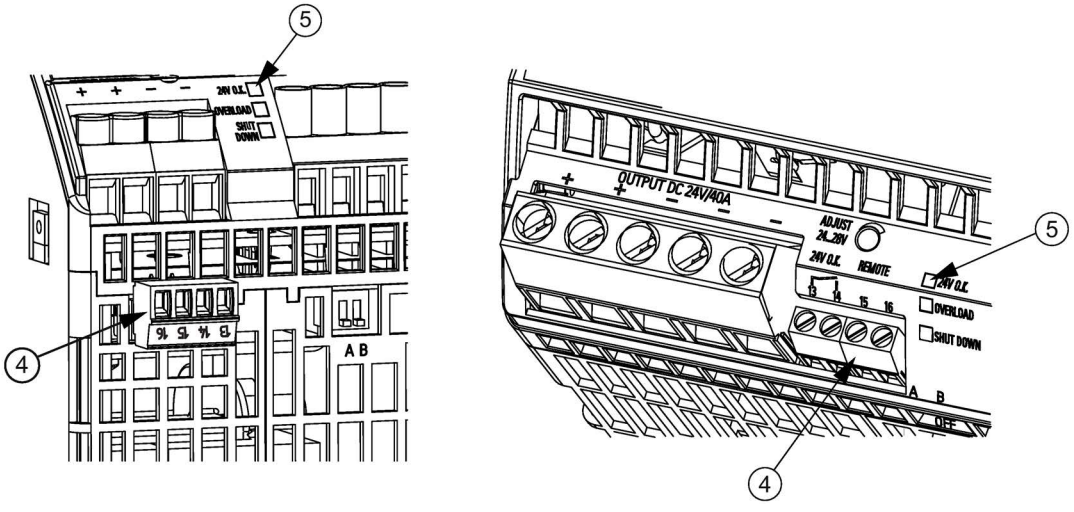


Figure 2-5 Operating display and signaling

Signaling	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Green LED lit Signaling contact, contact (13, 14) closed	Normal operation, output voltage > 20 V ± 0.5 V	Normal operation, output voltage > 20 V ± 0.5 V	Normal operation, output voltage > 20 V ± 1 V
LED off Signaling contact, contact (13, 14) opened (quiescent position)	Supply voltage missing	Supply voltage missing	Supply voltage missing
Yellow LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Overload, output voltage < 20 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 20 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 20 V ± 1 V (only in the "constant current" mode)
Yellow and green LEDs light up Signaling contact, contact (13, 14) closed	Phase failure, output voltage O.K.	-	-
Red LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Latching shutdown	Latching shutdown	Latching shutdown
LED flashing red Signaling contact, contact (13, 14) opened (quiescent position)	Overtemperature → power OFF/ON after 3 min Only for PR1	Overtemperature → power OFF/ON after 3 min	Overtemperature → power OFF/ON or remote OFF/ON after 3 min

Signaling	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Green LED lit Signaling contact, contact (13, 14) closed	Normal operation, output voltage > 30 V ± 0.5 V	Normal operation, output voltage > 40 V ± 0.5 V	Normal operation, output voltage > 44 V ± 1 V
LED off Signaling contact, contact (13, 14) opened (quiescent position)	Supply voltage missing	Supply voltage missing	Supply voltage missing
Yellow LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Overload, output voltage < 30 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 40 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 44 V ± 1 V (only in the constant current mode)
Yellow and green LEDs light up Signaling contact, contact (13, 14) closed	Phase failure, output voltage O.K.	Phase failure, output voltage O.K.	-

Signaling	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Red LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Latching shutdown	Latching shutdown	Latching shutdown
LED flashing red Signaling contact, contact (13, 14) opened (quiescent position)	-	-	Overtemperature → power OFF/ON or remote OFF/ON after 3 min

Signaling	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Green LED lit Signaling contact, contact (13, 14) closed	Normal operation, output voltage > 10 V ± 0.5 V	Normal operation, output voltage > 20 V ± 0.5 V	Normal operation, output voltage > 20 V ± 1 V
LED off Signaling contact, contact (13, 14) opened (quiescent position)	Supply voltage missing	Supply voltage missing	Supply voltage missing
Yellow LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Overload, output voltage < 10 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 20 V ± 0.5 V (only in the "constant current" mode)	Overload, output voltage < 20 V ± 1 V
Yellow and green LEDs light up Signaling contact, contact (13, 14) closed	Phase failure, output voltage O.K.	Phase failure, output voltage O.K.	-
Red LED lit Signaling contact, contact (13, 14) opened (quiescent position)	Latching shutdown	Latching shutdown	Latching shutdown
LED flashing red Signaling contact, contact (13, 14) opened (quiescent position)	-	-	Overtemperature → power OFF/ON or remote OFF/ON after 3 min

2.5 Change-over switch

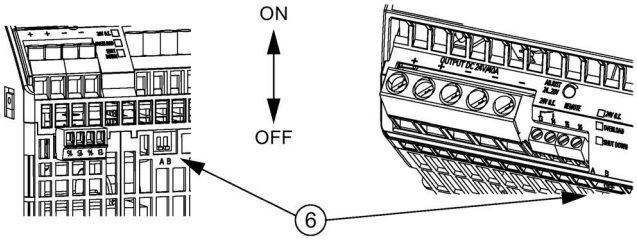


Figure 2-6 Selector switch A/B

The two switches A and B are used to influence the output characteristic:

Switch	ON	OFF
A influences the output characteristic in the load range	**Parallel operation:** "Soft" characteristic curve (see Figure 6-12 Output characteristic 6EP3436-8SB00-0AY0 parallel operation (Page 67) to Figure 6-19 Output characteristic 6EP3447-8SB00-0AY0 parallel operation (Page 69)) for parallel operation of two or more devices: The output voltage falls with increasing output current (namely, also for the overcurrent pulse!). This means that for full output current the highest output voltage can normally no longer be attained.	**Single operation:** *delivery condition* "Hard" characteristic (see Figure 6-3 Output characteristic 6EP3436-8SB00-0AY0 single operation (Page 64) to Figure 6-10 Output characteristic 6EP3447-8SB00-0AY0 single operation (Page 66)) for normal operation (single operation): The output voltage is independent of the output current.
B influences the output characteristic in the overload range	**Latching shutdown:** If the output current rises above the rated value and above the current limit, the device reduces the output voltage (see Figure 6-21 Output characteristic 6EP3436-8SB00-0AY0 latching shutdown (Page 70) to Figure 6-28 Output characteristic 6EP3447-8SB00-0AY0 latching shutdown (Page 72)). If the output voltage falls below 10/20/30/40 or 44 V, the device shuts down latching, the red LED lights up. This limit voltage of 10/20/30/40 V is independent of the output voltage that has been set. The 'Short-time overload current' feature is not available in this operating mode. In order to also be able to charge large capacitances in this operating mode at the output, non-latching shutdown is performed during the first ten seconds after power on. During these first 10 s, the device responds for overload as if the switch is OFF.	**Constant current:** *delivery condition* The device reduces the output voltage if the output current exceeds the rated value and the current limit. The yellow LED lights up if the output voltage falls below 10/20/30/40 or 44 V.

For 6EP3437-8UB00-0AY0 (24 V/40 A)

Switch	ON	OFF
A influences the output characteristic in the load range	**Parallel operation:** "Soft" characteristic curve (see Figure 6-20 Output characteristic 6EP3437-8UB00-0AY0 parallel operation (B OFF) (Page 70)) for the parallel operation of two or more devices: The output voltage falls with increasing output current. This means that for full output current the highest output voltage can normally no longer be attained.	**Single operation:** *delivery condition* "Hard" characteristic curve (see Figure 6-11 Output characteristic 6EP3437-8UB00-0AY0 single operation (B OFF) (Page 67)) for normal operation (single operation): The output voltage is independent of the output current.
B is used to switch over the output current	**Rated current:** $I_{out\ rated}$ = 30 A, no latching shutdown see Figure 6-29 Output characteristic 6EP3437-8UB00-0AY0 single operation (Page 73)	**Rated current:** *delivery condition* $I_{out\ rated}$ = 40 A, no latching shutdown

Note

Selector switches may only be activated when the device is switched off.

2.6 Block diagram

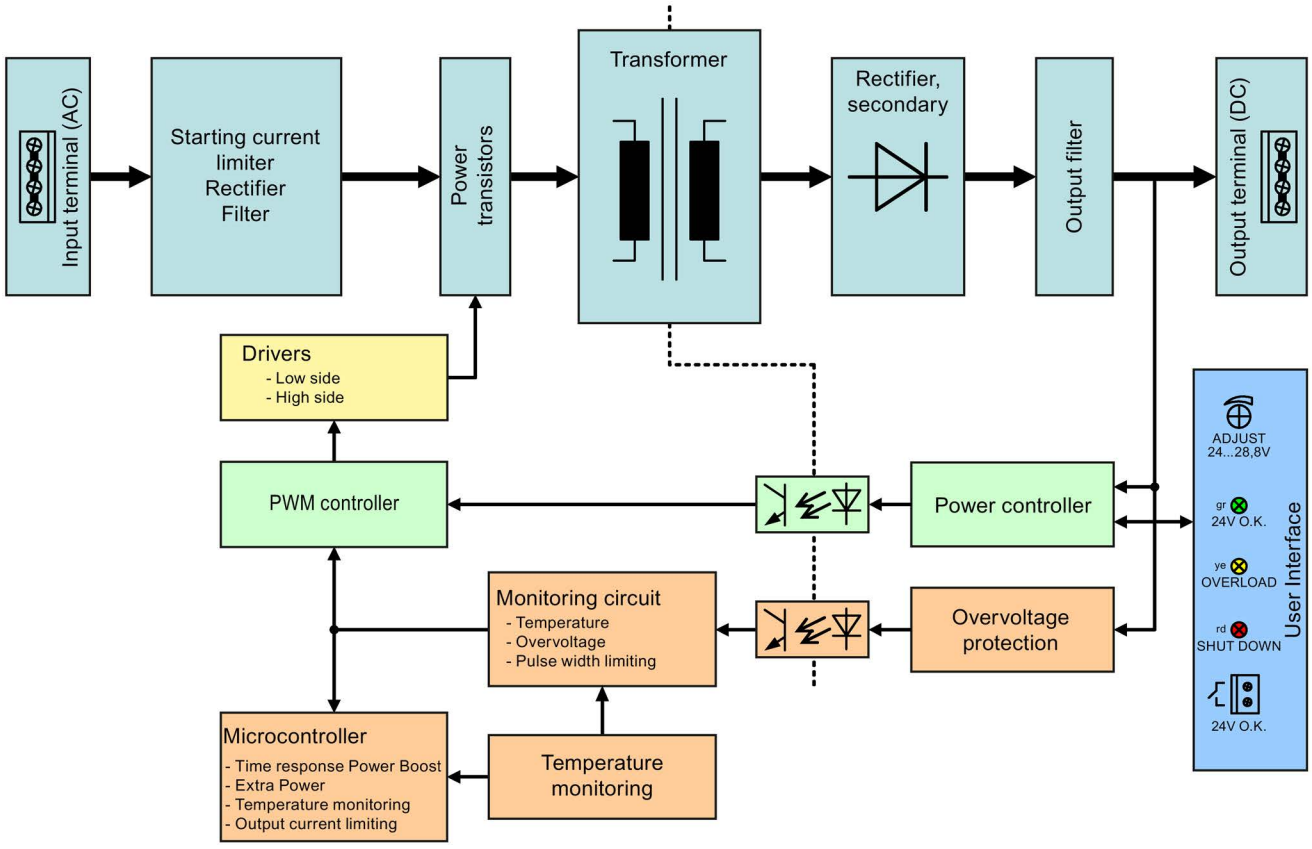


Figure 2-7 Block diagram 6EP3436-8SB00-0AY0 (PR1) and 6EP1437-3BA10

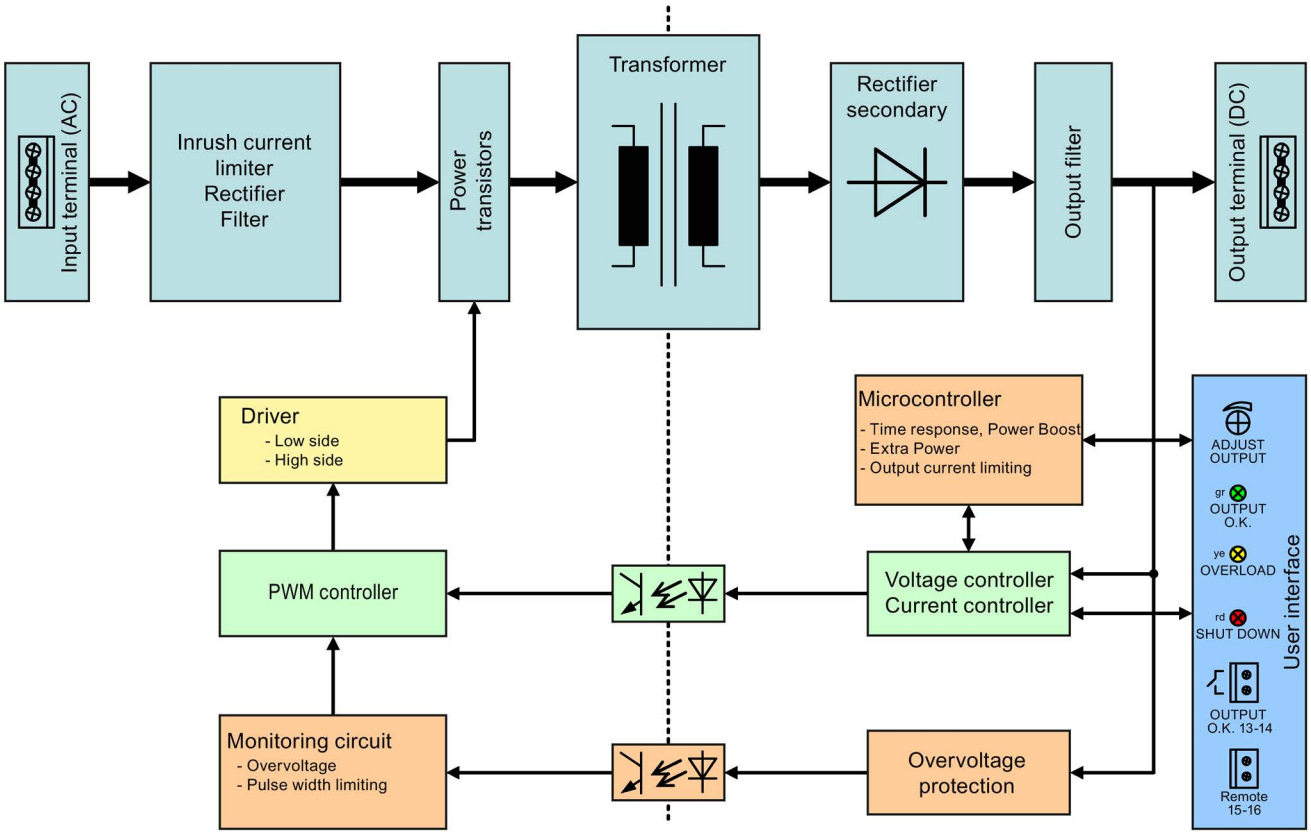


Figure 2-8 Block diagram 6EP3436-8SB00-0AY0 (from PR 2) 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0, and 6EP3436-8UB00-0AY0

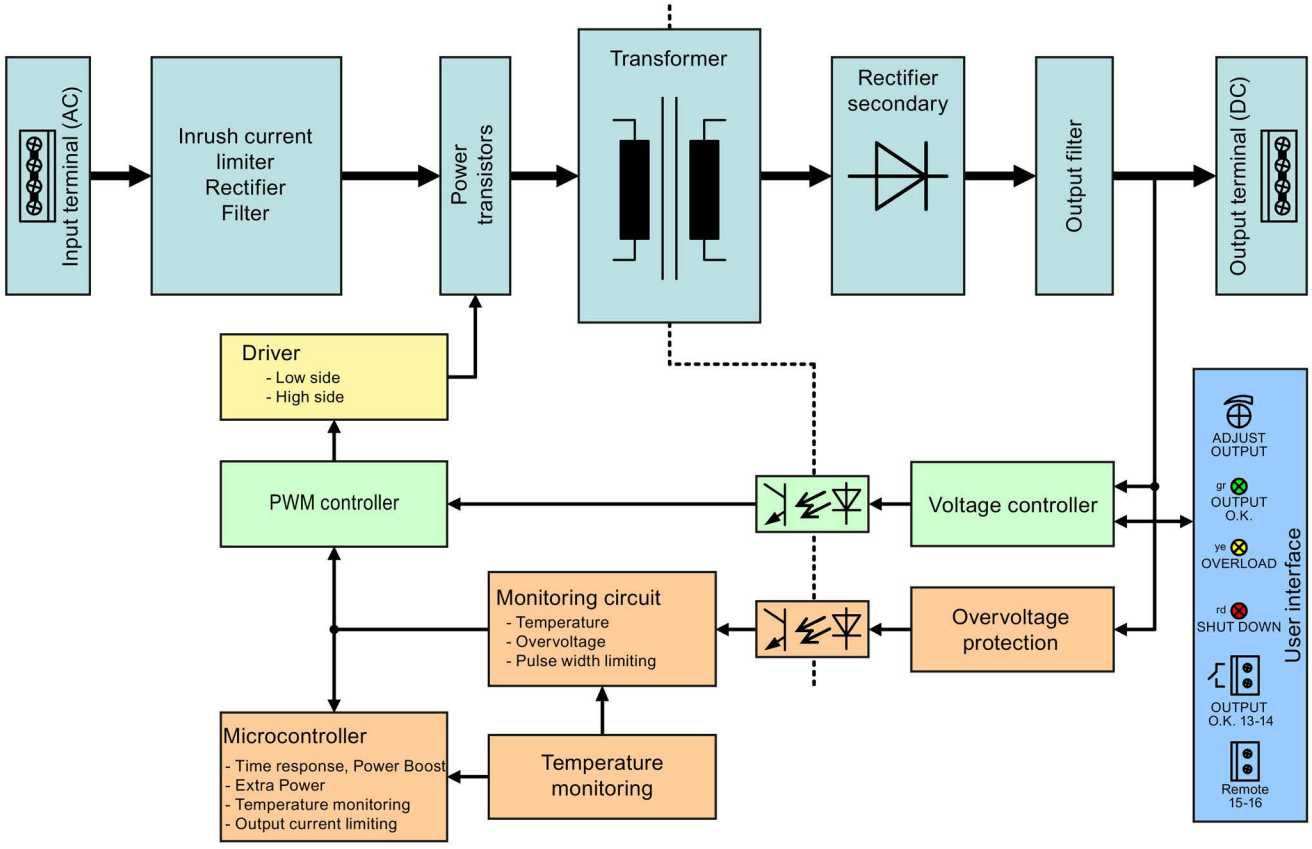


Figure 2-9 Block diagram for 6EP3437-8SB00-0AY0, 6EP3437-8UB00-0AY0 and 6EP3447-8SB00-0AY0

2.7 Dimensions and weight

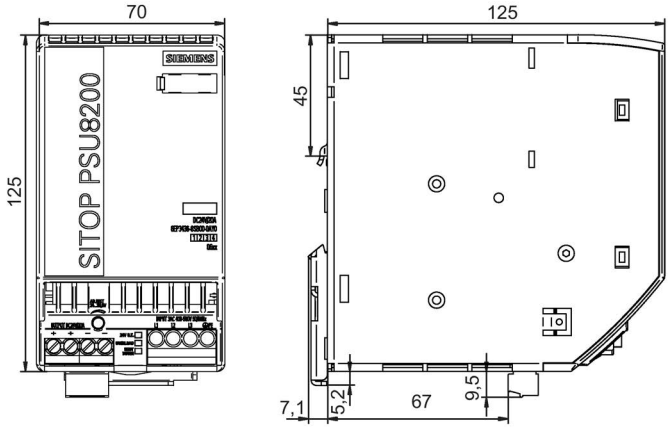


Figure 2-10 Dimension drawing 6EP3436-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0 and 6EP3436-8UB00-0AY0

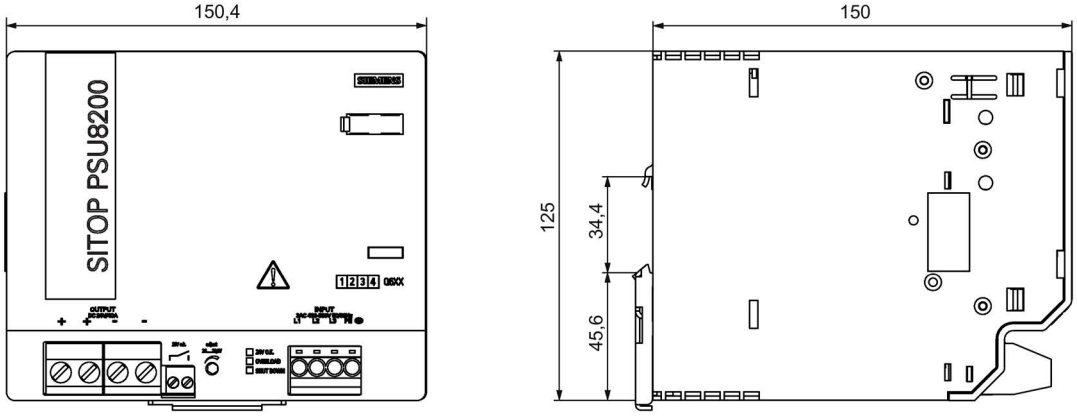


Figure 2-11 Dimension drawing 6EP1437-3BA10

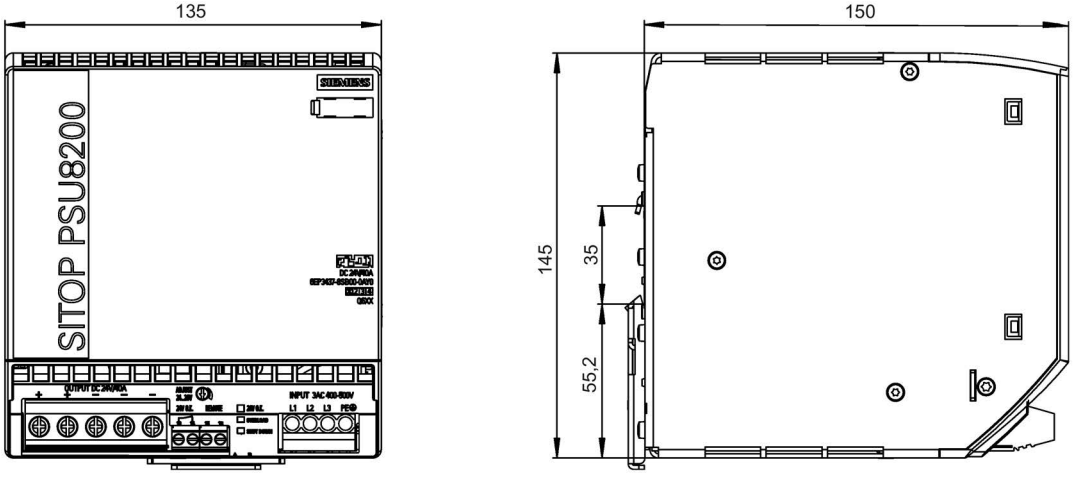


Figure 2-12 Dimension drawing 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0 and 6EP3437-8UB00-0AY0

	6EP3436-8SB00-0AY0 (24 V/20 A) **6EP3446-8SB10-0AY0 (36 V/13 A)** **6EP3446-8SB00-0AY0 (48 V/10 A)** **6EP3424-8UB00-0AY0 (12 V/20 A)** **6EP3436-8UB00-0AY0 (24 V/17 A)**	**6EP1437-3BA10 (24 V/40 A)**	**6EP3437-8SB00-0AY0 (24 V/40 A)** **6EP3447-8SB00-0AY0 (48 V/20 A)** **6EP3437-8UB00-0AY0 (24 V/40 A)**
Dimensions (W × H × D) in mm	70 × 125 × 125	150 × 125 × 150	135 × 145 × 150
Weight	Approx. 1.2 kg	Approx. 3.4 kg	Approx. 3.3 kg

Mounting/removing

3

WARNING
Installing the device in a housing or a control cabinet The SITOP PSU8200/3800 3ph power supply is a built-in device. It must be installed in a housing or control cabinet, to which only qualified personnel have access.

The device can be mounted in a control cabinet on standard mounting rails (see Chapter Mechanical system (Page 84))

Mounting

To mount the device, position it with the mounting rail guide at the upper edge of the standard mounting rail and press down to lock it into place. If it is too difficult to snap them into place, press slider at the same time, as described under "Removal".

Removal

To remove, pull up the slider using a screwdriver and disengage the device at the bottom edge of the standard mounting rail. Then you can remove the device from the upper edge of the standard mounting rail.

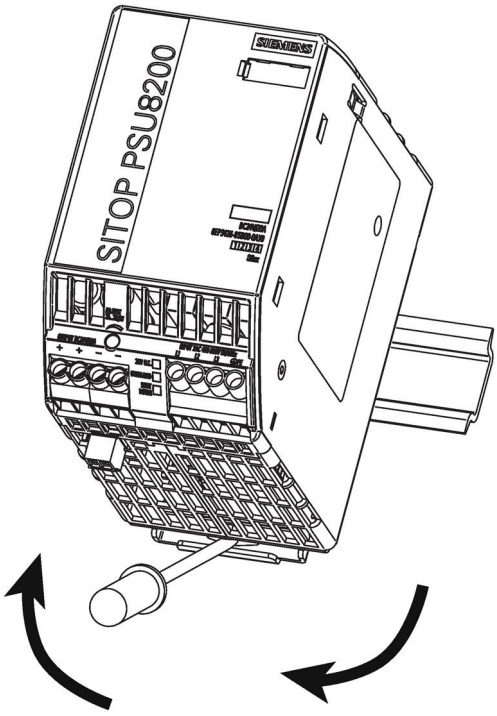


Figure 3-1 Mounting/removal (example 6EP3436-8SB00-0AY0)

WARNING

Use in hazardous zones

If the devices are to be used in hazardous zones (Ex II 3G Ex nA nC IIC T4 Gc) they must be installed in a distribution box with degree of protection IP54 or higher.

Mounting position, mounting clearances

4

4.1 Standard mounting position

The device is mounted on standard mounting rails. The device must be mounted vertically in such a way that the input terminals and the output terminals are at the bottom to ensure correct cooling.

A clearance of at least 40 mm or 50 mm should be maintained above and below the device (maximum depth of the cable duct, 50 mm).

No space is required at the side.

Output current as a function of the ambient temperature and mounting height

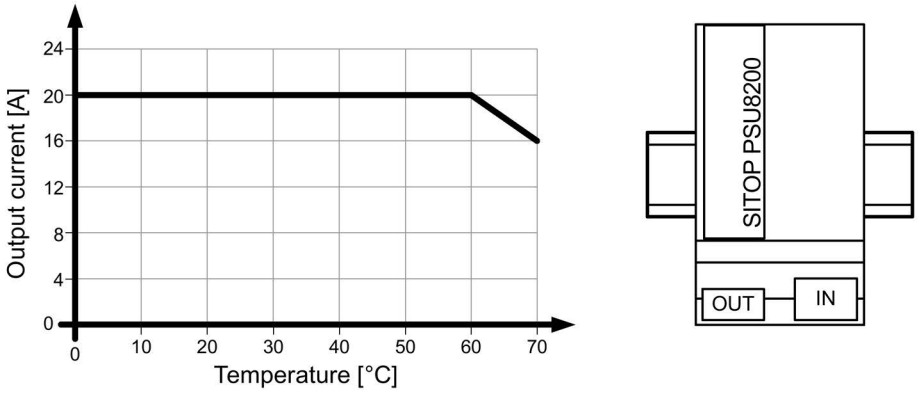


Figure 4-1 6EP3436-8SB00-0AY0: Output current in the standard mounting position

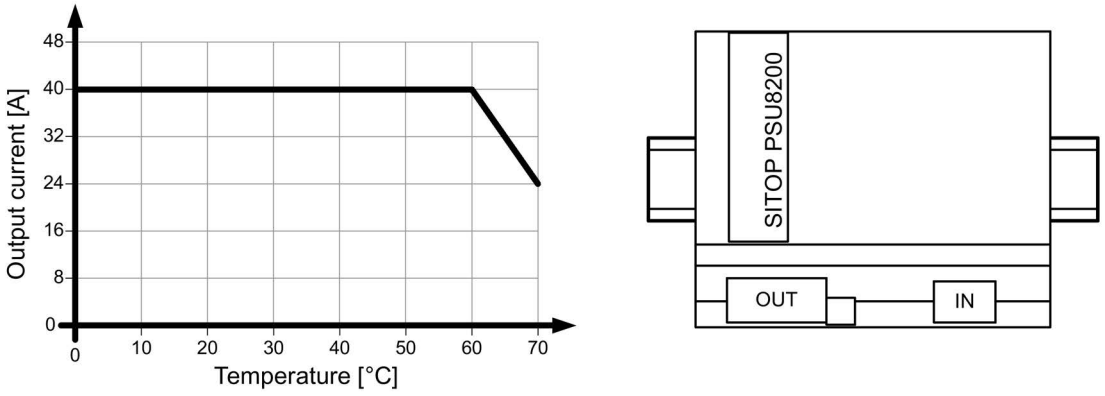


Figure 4-2 6EP1437-3BA10: Output current in the standard mounting position

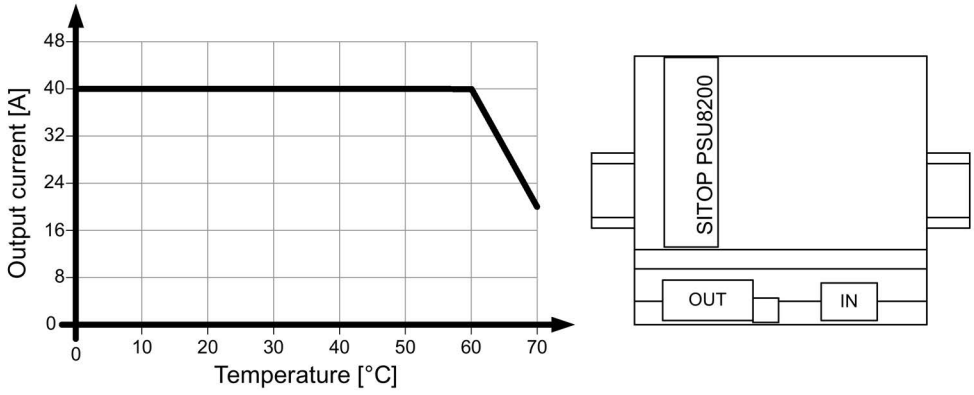


Figure 4-3 6EP3437-8SB00-0AY0: Output current in the standard mounting position

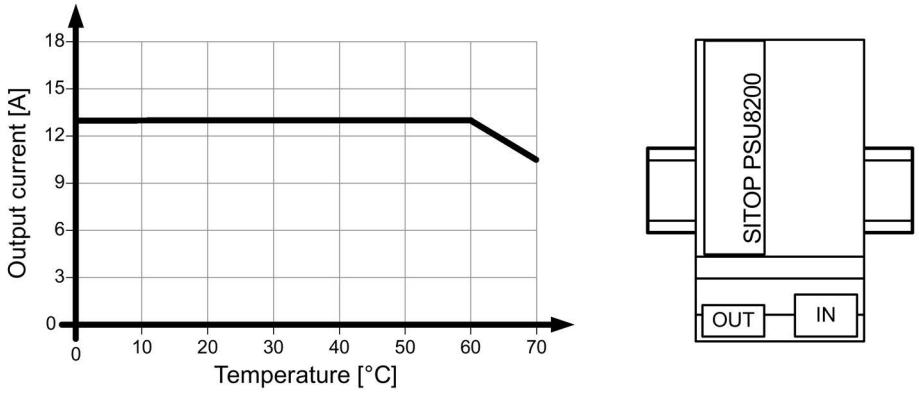


Figure 4-4 6EP3446-8SB10-0AY0: Output current in the standard mounting position

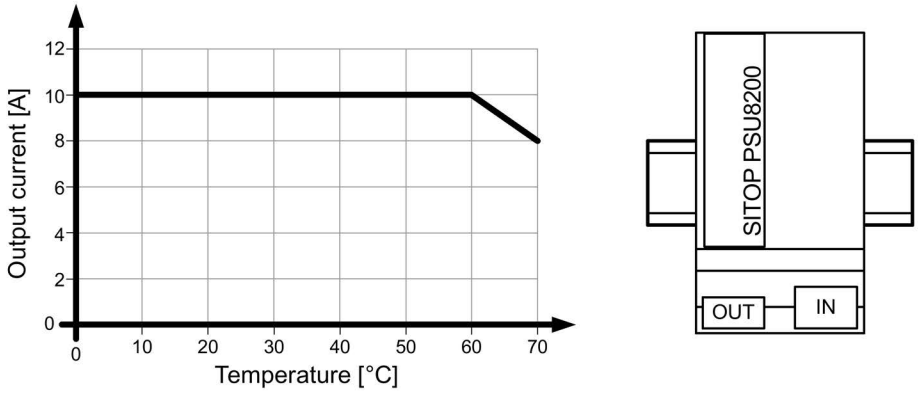


Figure 4-5 6EP3446-8SB00-0AY0: Output current in the standard mounting position

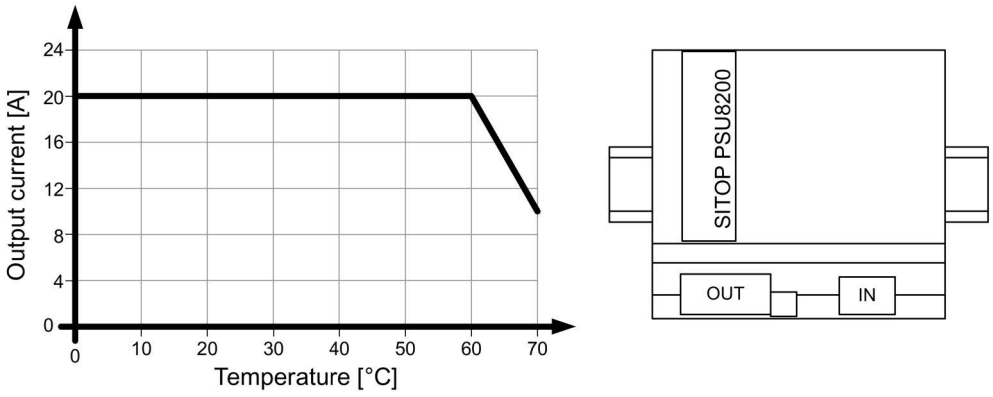


Figure 4-6 6EP3447-8SB00-0AY0: Output current in the standard mounting position

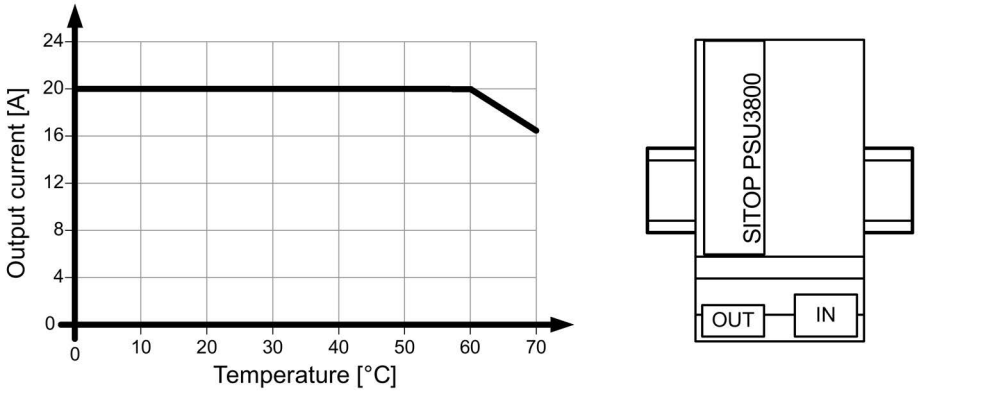


Figure 4-7 6EP3424-8UB00-0AY0: Output current in the standard mounting position

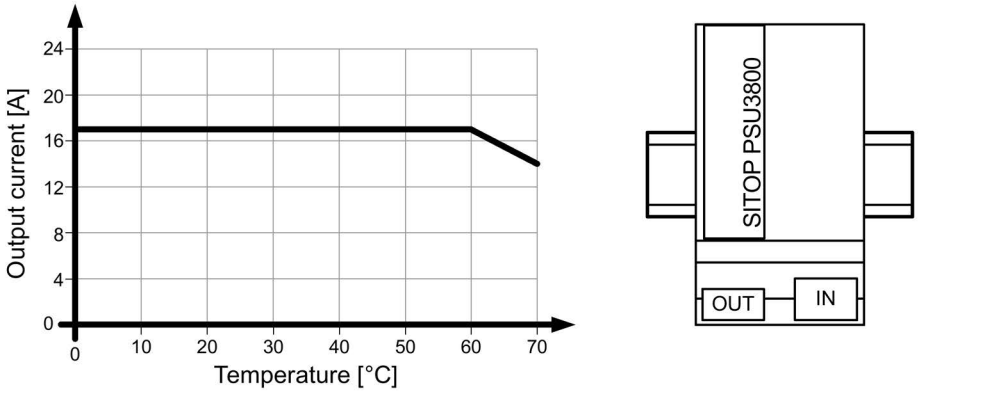


Figure 4-8 6EP3436-8UB00-0AY0: Output current in the standard mounting position

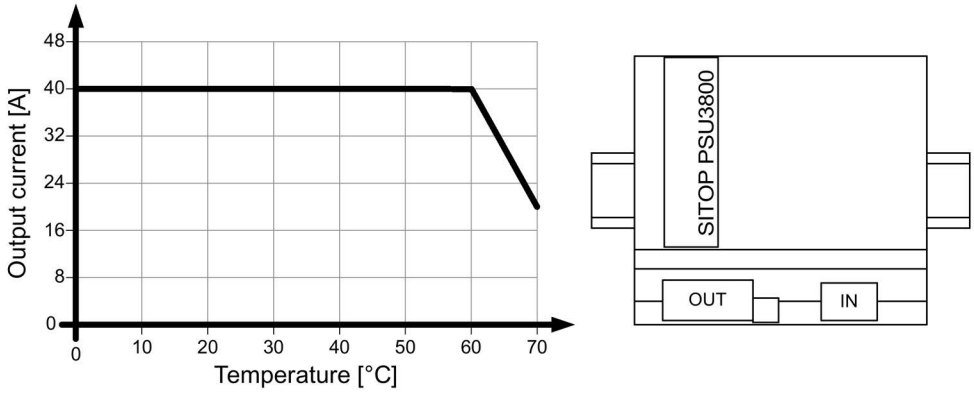


Figure 4-9 6EP3437-8UB00-0AY0: Output current in the standard mounting position

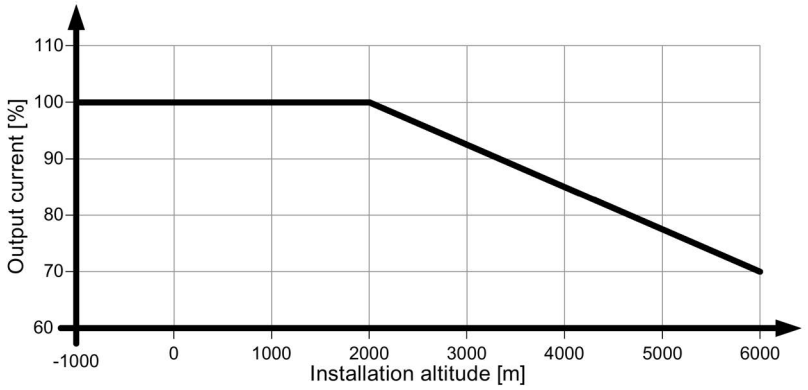


Figure 4-10 Mounting height derating

For details, see Ambient conditions (Page 95)

4.2 Other mounting positions

For mounting positions that deviate from the standard mounting position, derating factors (reduction of the output power or the permissible ambient temperature) must be observed in accordance with the following diagrams.

Note

In the case of mounting positions that deviate from the standard mounting position, reduced mechanical resistance of the devices against vibration and shock must be expected.

Particularly when installing on a vertically fastened standard mounting rail, additional measures may be required, e.g. to prevent the device from slipping on the standard mounting rail.

4.2.1 6EP3436-8SB00-0AY0

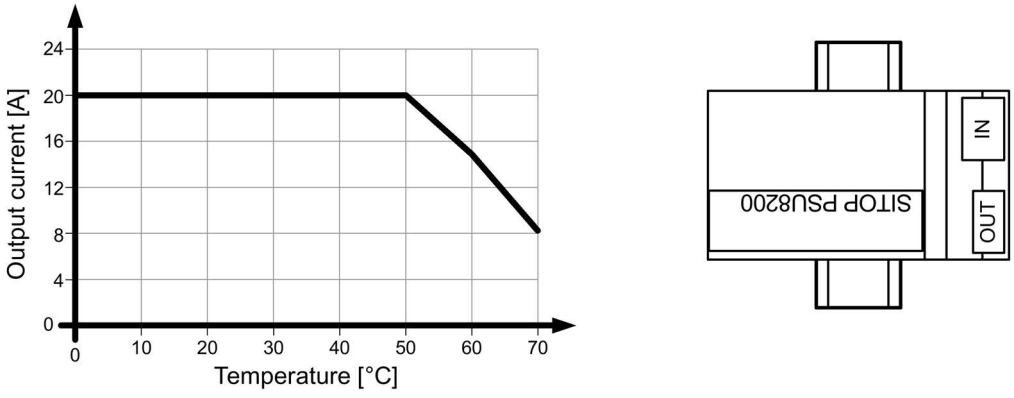


Figure 4-11 Mounting position (1)

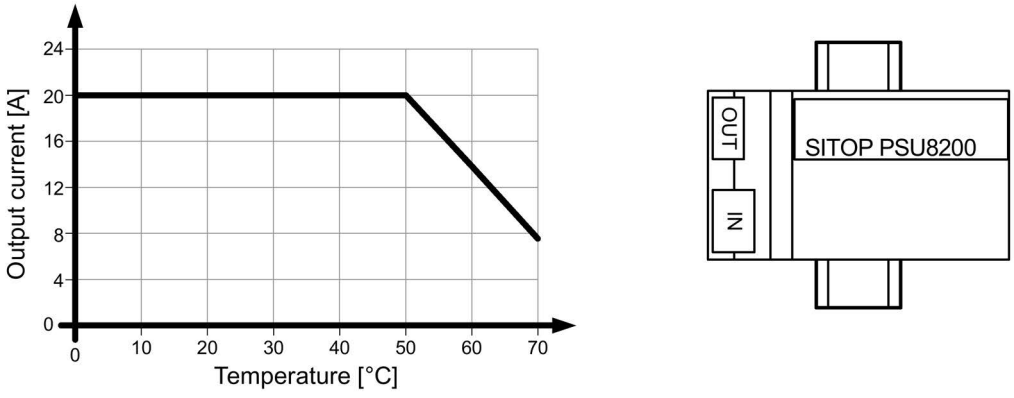


Figure 4-12 Mounting position (2)

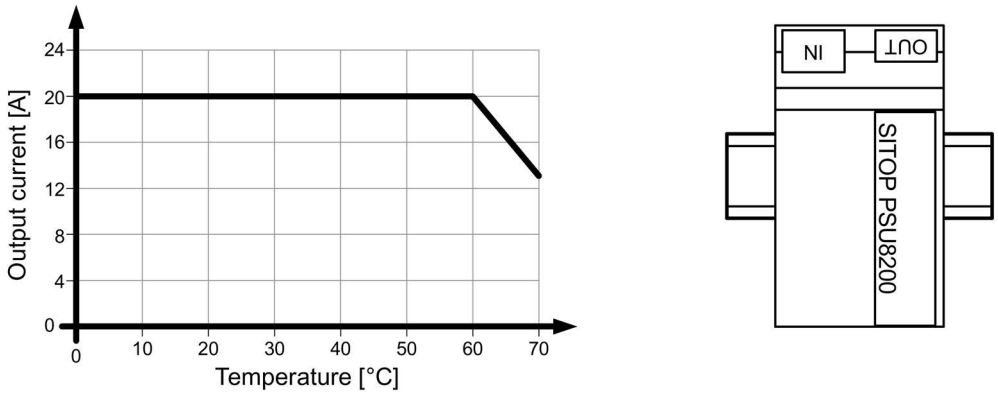


Figure 4-13 Mounting position (3)

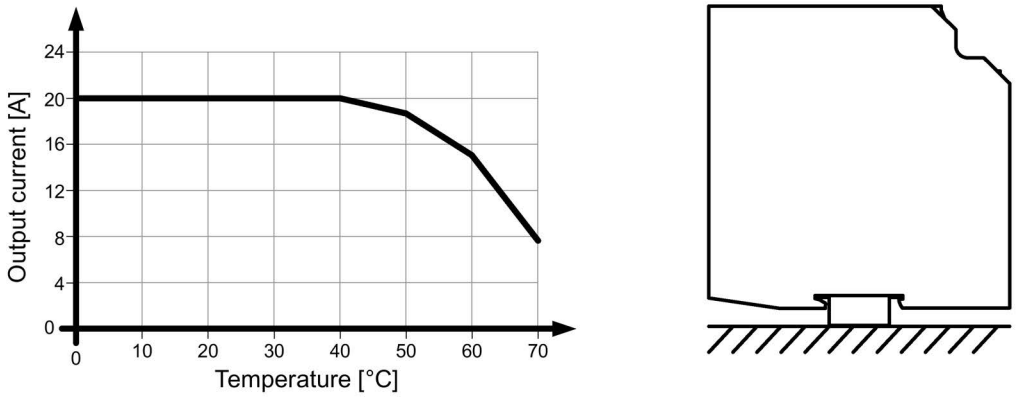


Figure 4-14 Mounting position (4)

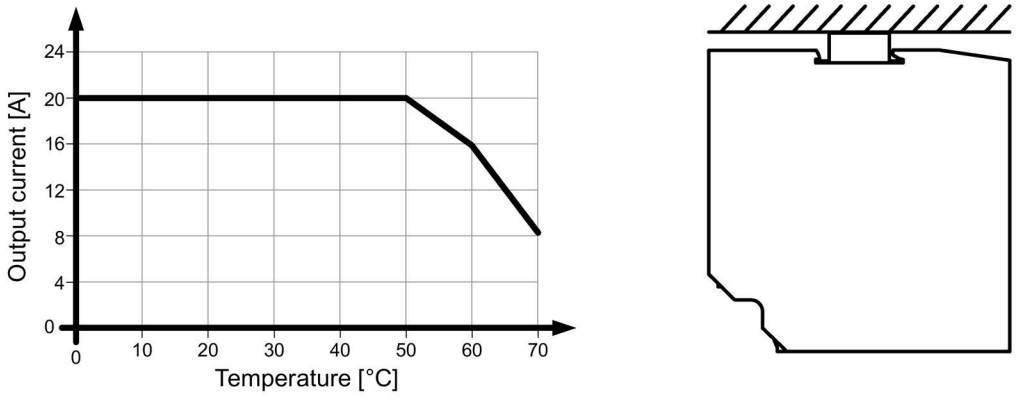
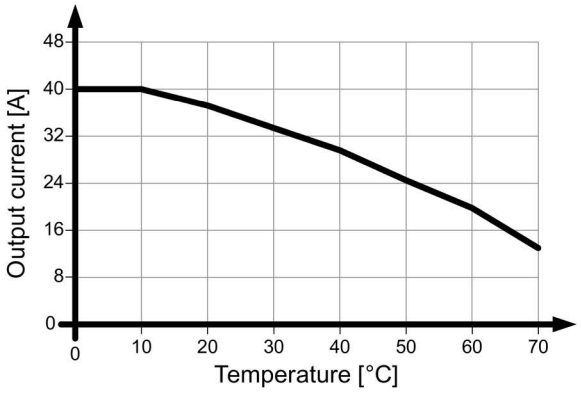


Figure 4-15 Mounting position (5)

4.2.2 6EP1437-3BA10



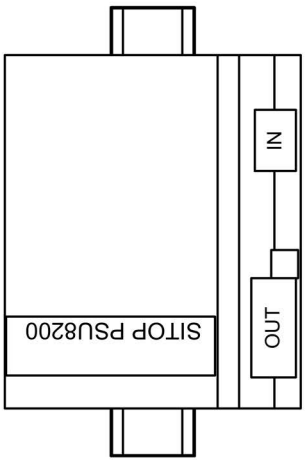
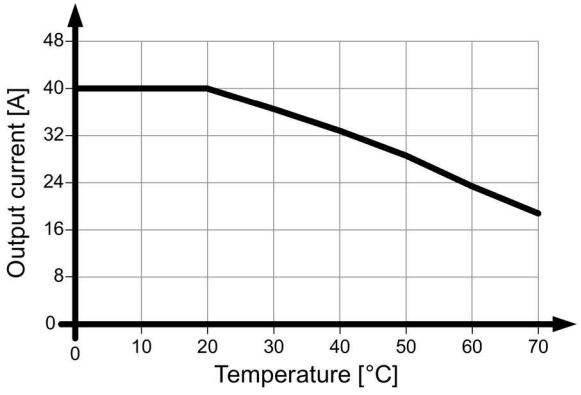


Figure 4-16 Mounting position (1)



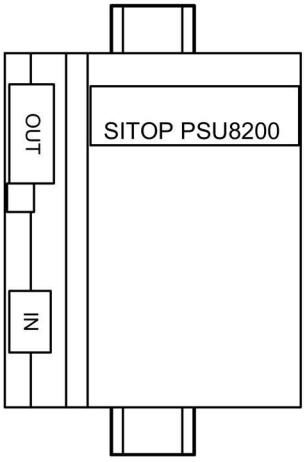
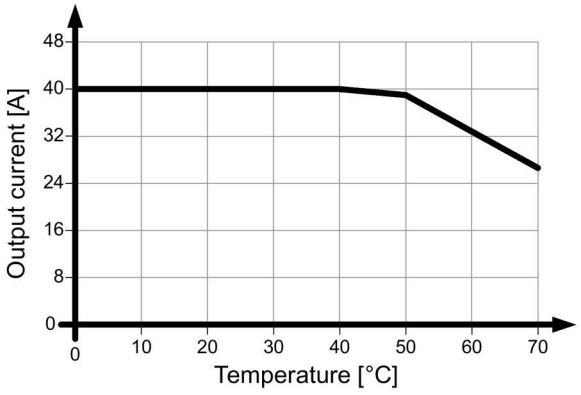


Figure 4-17 Mounting position (2)



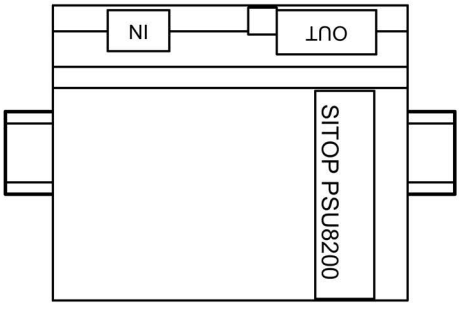


Figure 4-18 Mounting position (3)

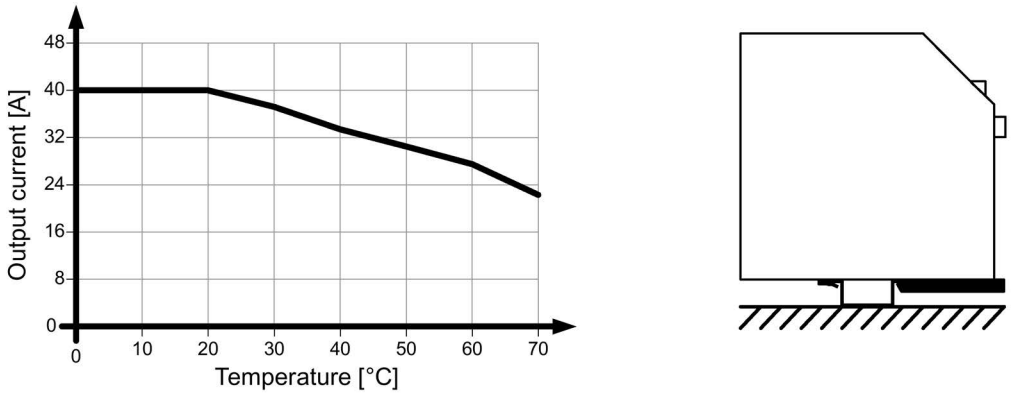


Figure 4-19 Mounting position (4)

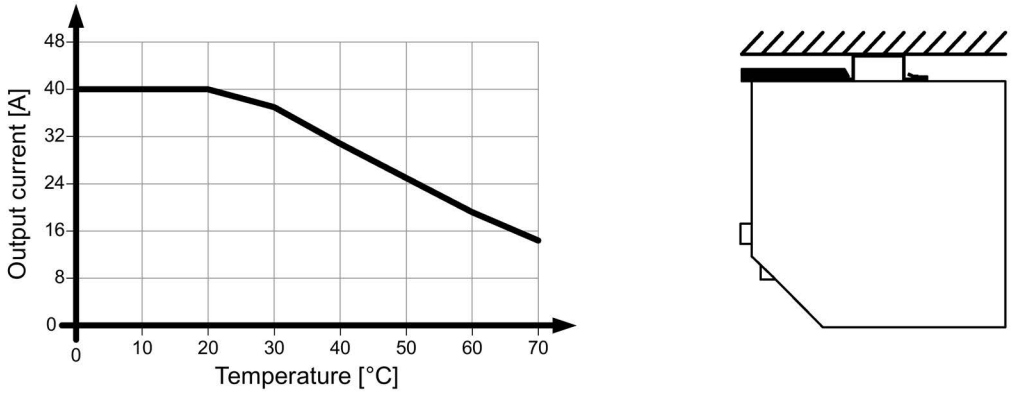


Figure 4-20 Mounting position (5)

4.2.3 6EP3446-8SB10-0AY0

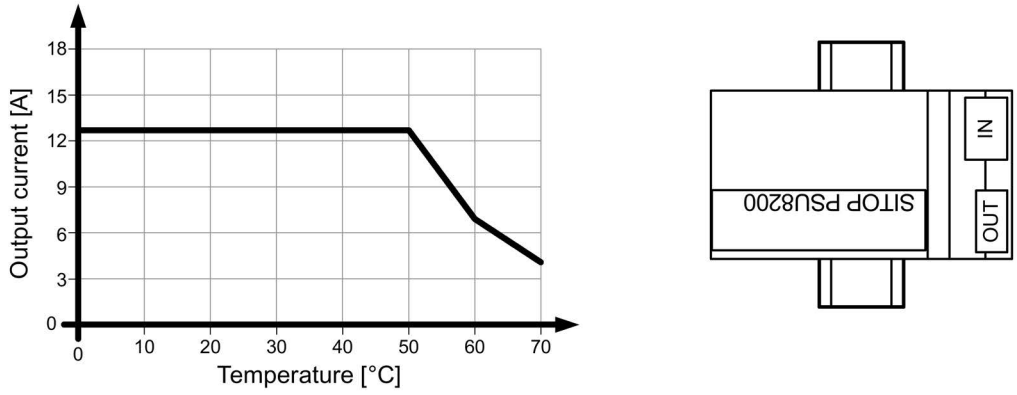


Figure 4-21 Mounting position (1)

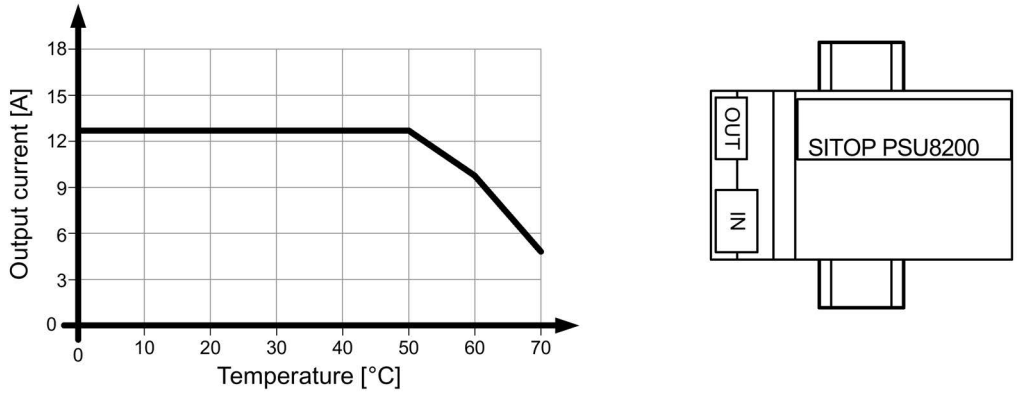


Figure 4-22 Mounting position (2)

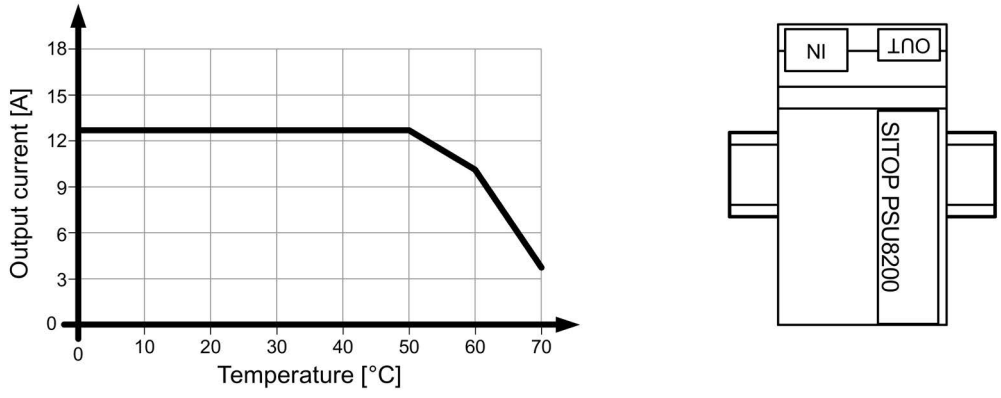


Figure 4-23 Mounting position (3)

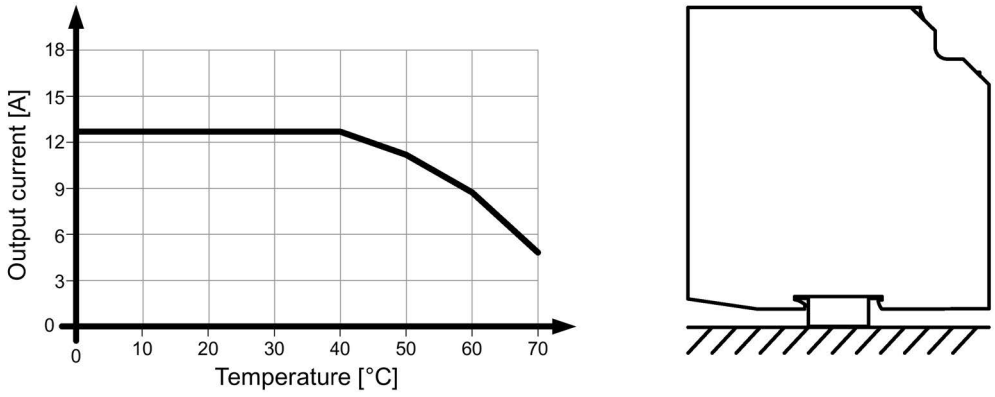


Figure 4-24 Mounting position (4)

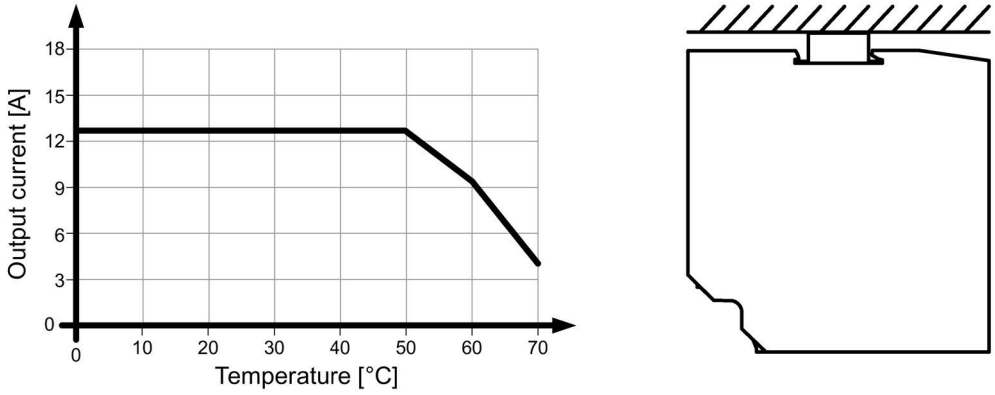


Figure 4-25 Mounting position (5)

4.2.4 6EP3446-8SB00-0AY0

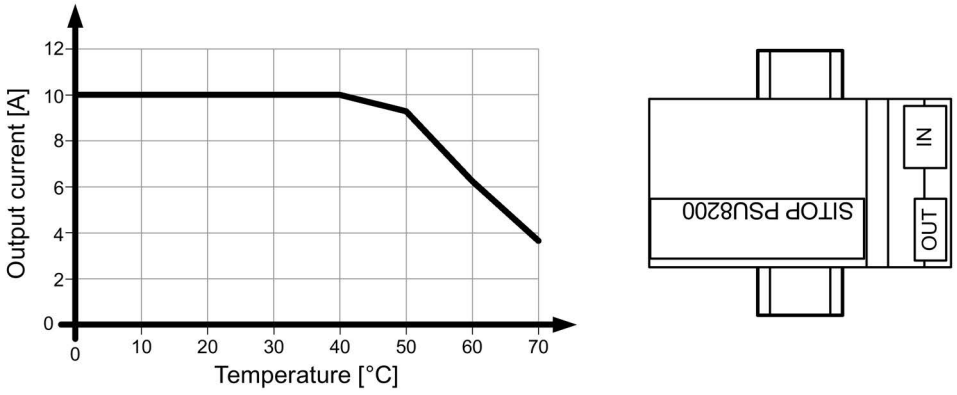


Figure 4-26 Mounting position (1)

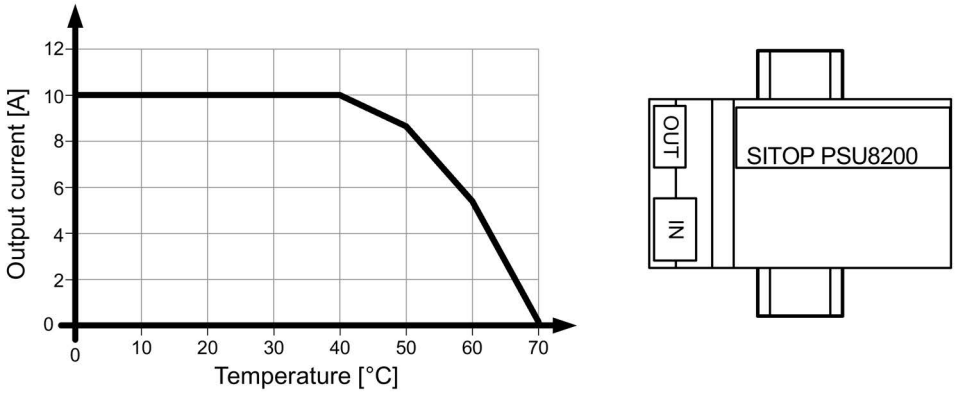


Figure 4-27 Mounting position (2)

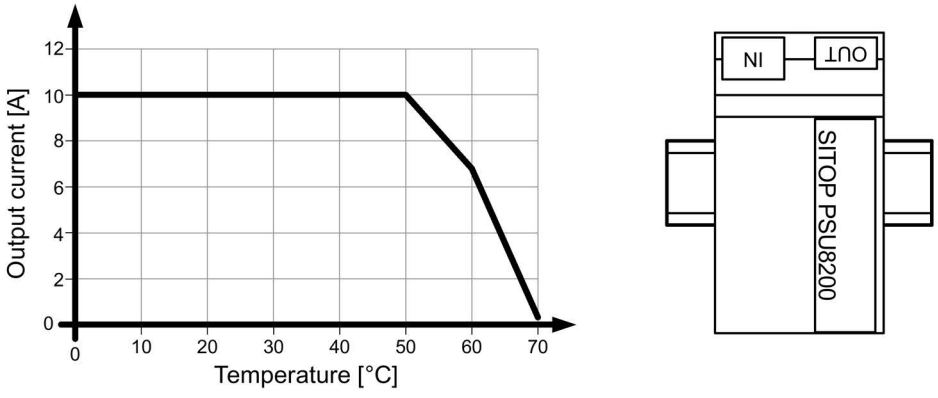


Figure 4-28 Mounting position (3)

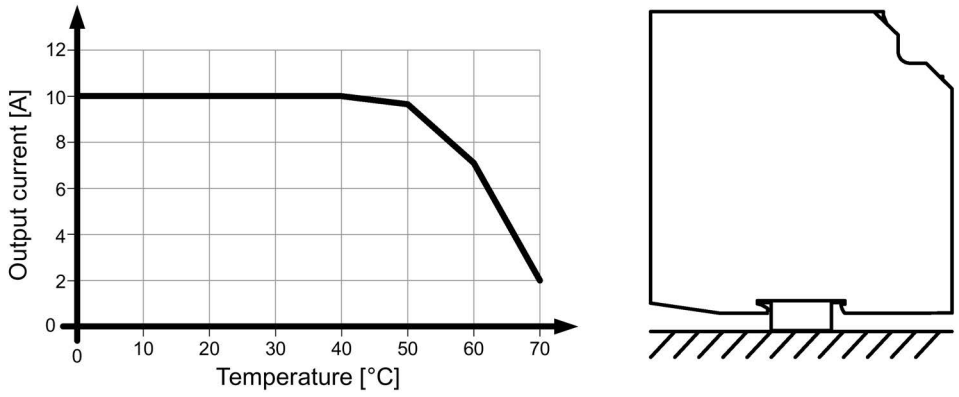


Figure 4-29 Mounting position (4)

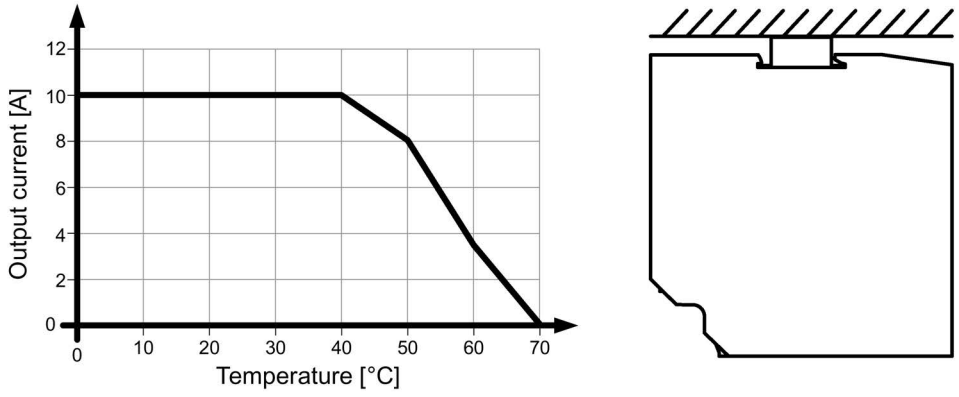


Figure 4-30 Mounting position (5)

4.2.5 6EP3424-8UB00-0AY0

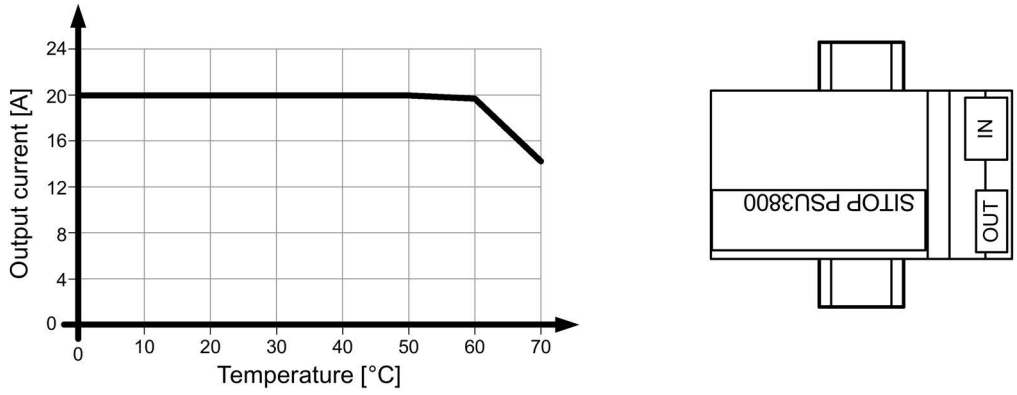


Figure 4-31 Mounting position (1)

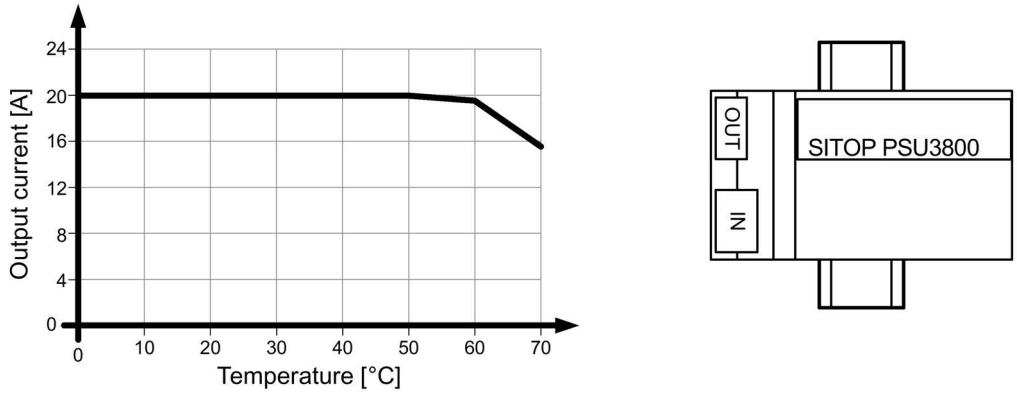


Figure 4-32 Mounting position (2)

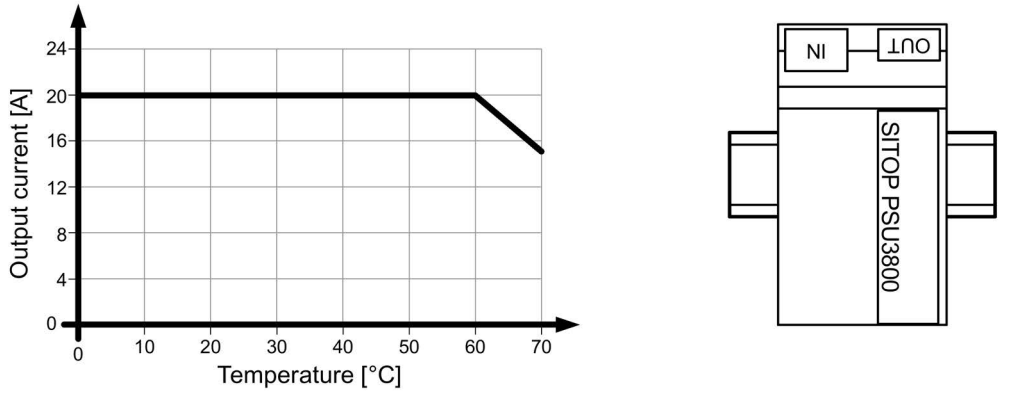


Figure 4-33 Mounting position (3)

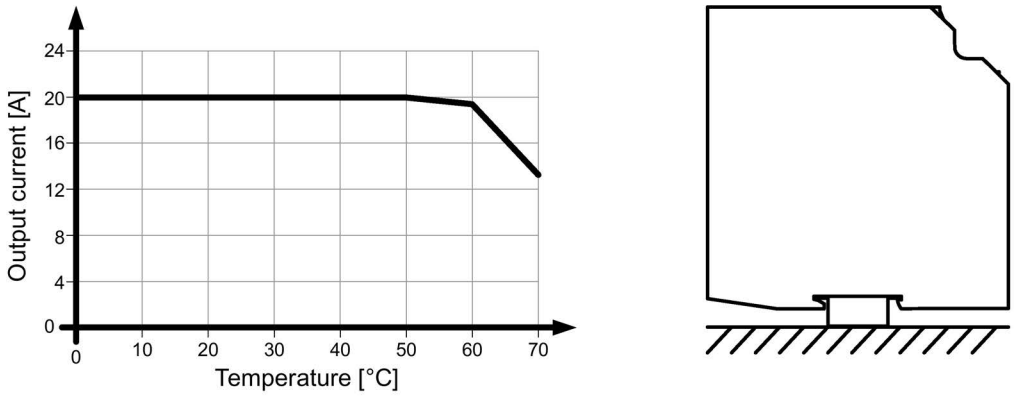


Figure 4-34 Mounting position (4)

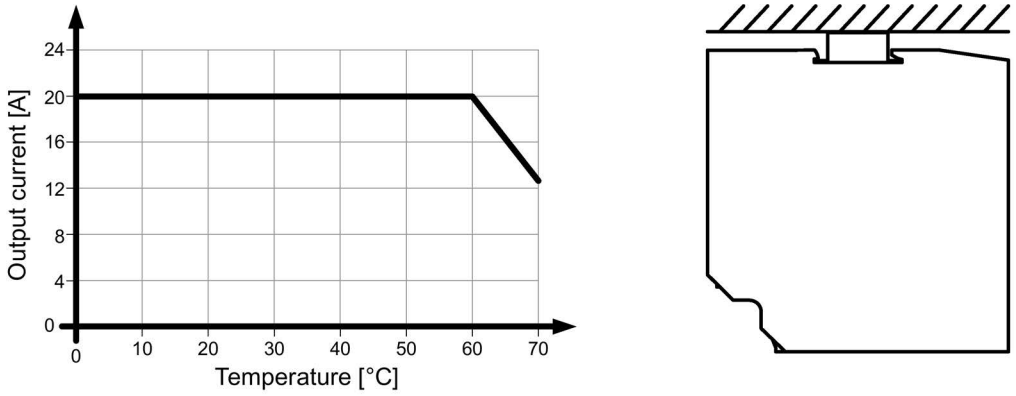
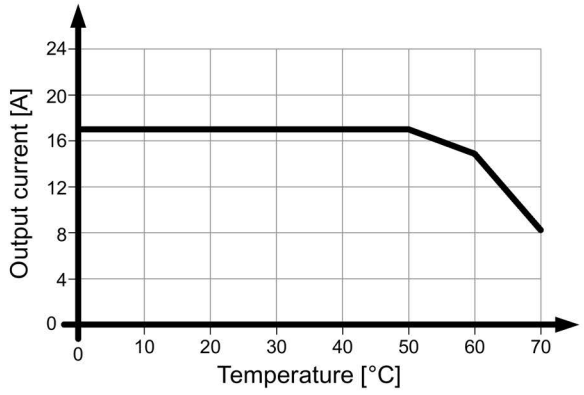


Figure 4-35 Mounting position (5)

4.2.6 6EP3436-8UB00-0AY0



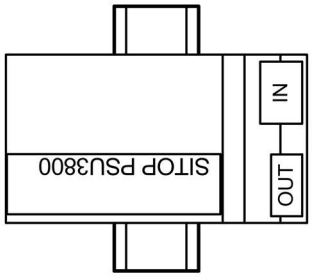
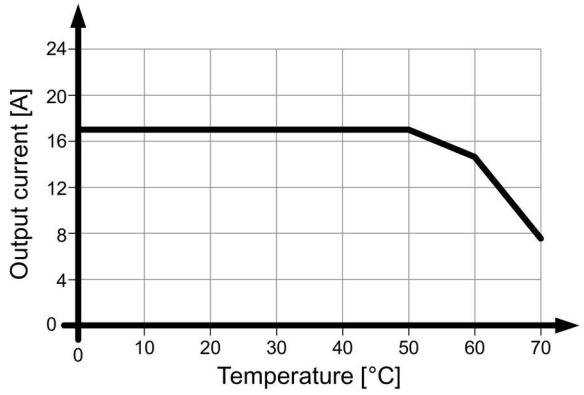


Figure 4-36 Mounting position (1)



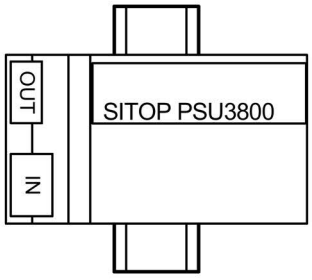
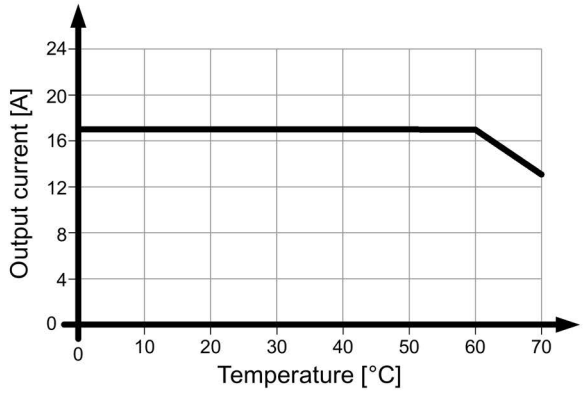


Figure 4-37 Mounting position (2)



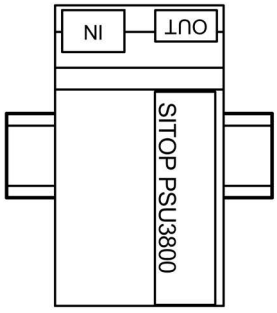


Figure 4-38 Mounting position (3)

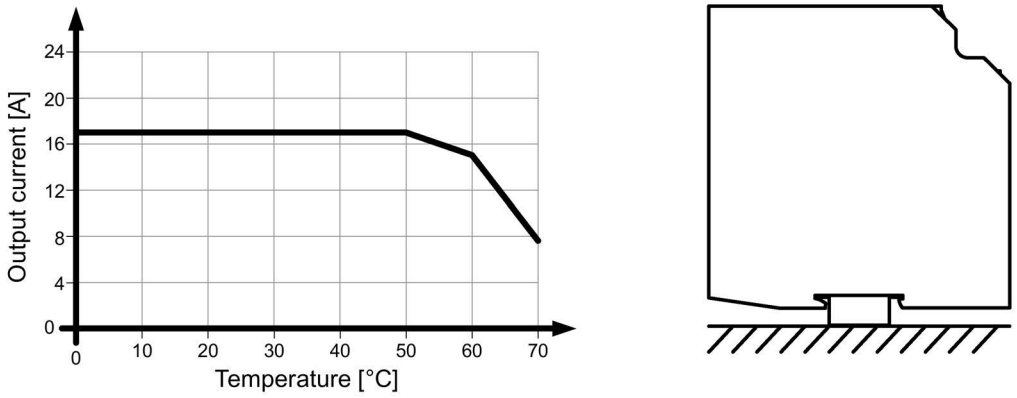


Figure 4-39 Mounting position (4)

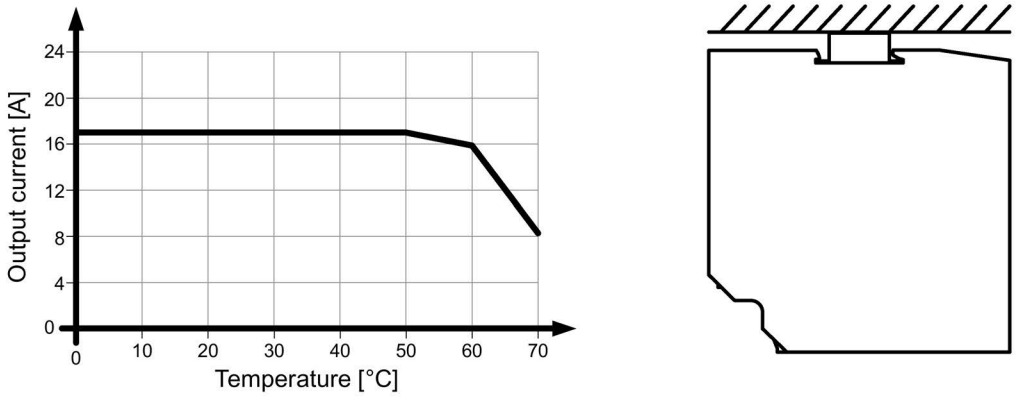


Figure 4-40 Mounting position (5)

4.2.7 6EP3437-8SB00-0AY0

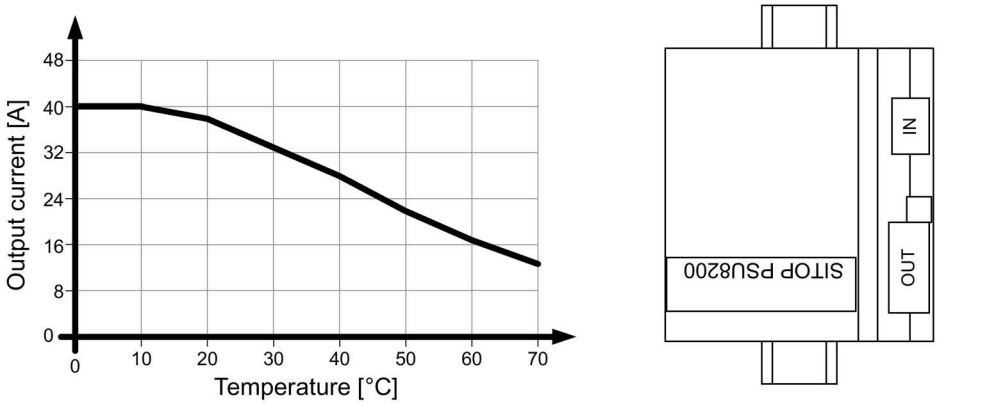


Figure 4-41 Mounting position (1)

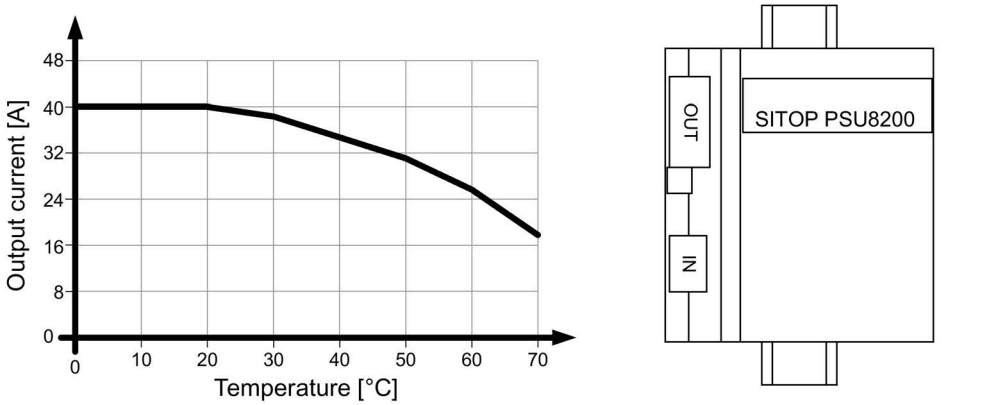


Figure 4-42 Mounting position (2)

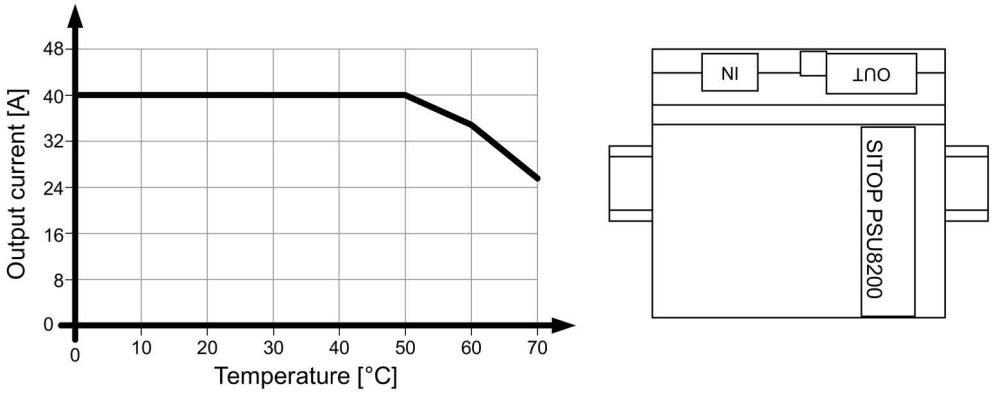


Figure 4-43 Mounting position (3)

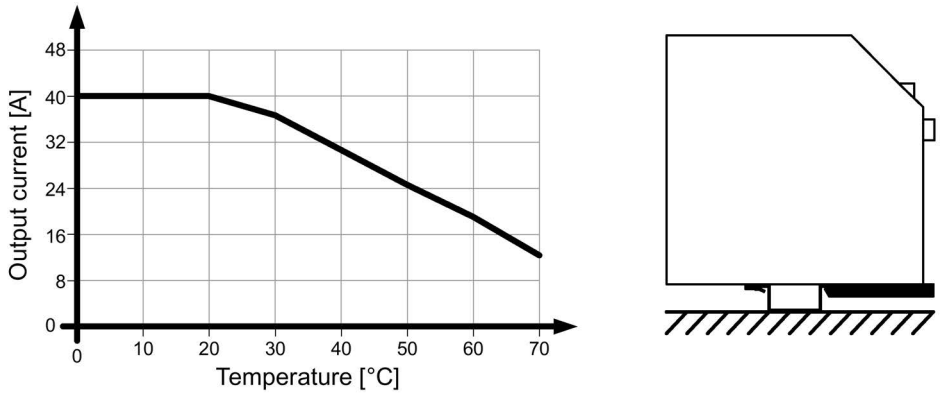


Figure 4-44 Mounting position (4)

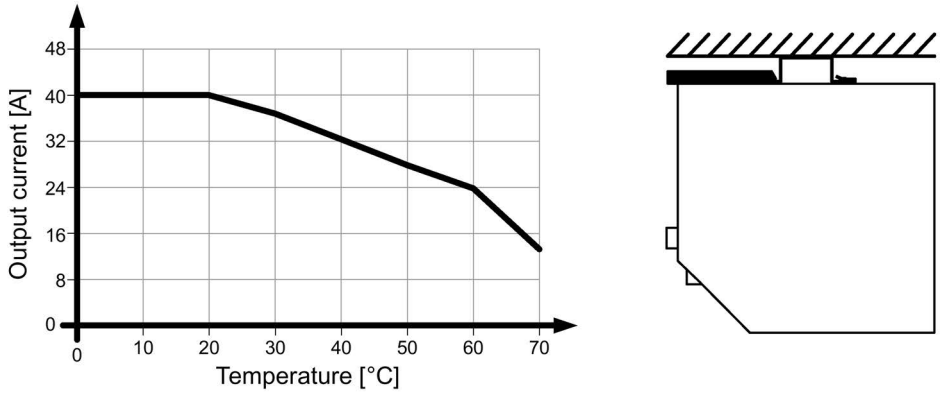


Figure 4-45 Mounting position (5)

4.2.8 6EP3447-8SB00-0AY0

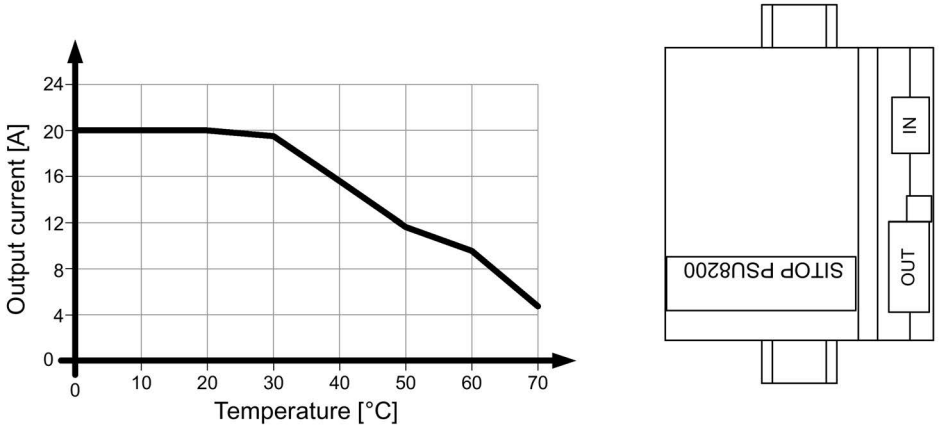


Figure 4-46 Mounting position (1)

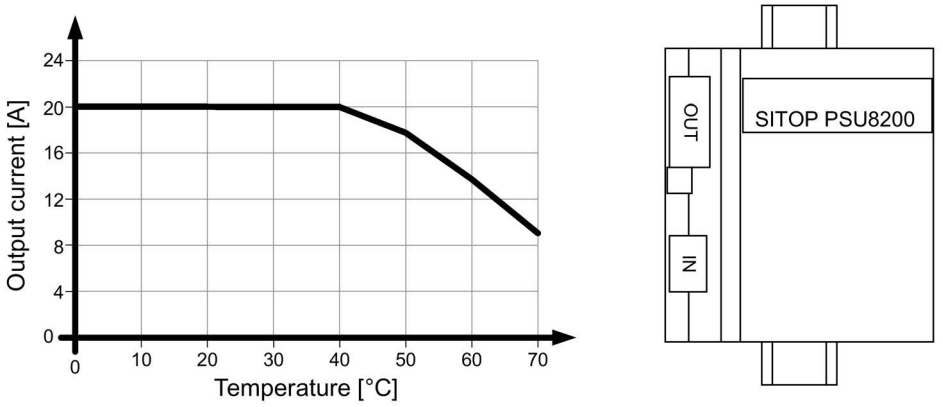


Figure 4-47 Mounting position (2)

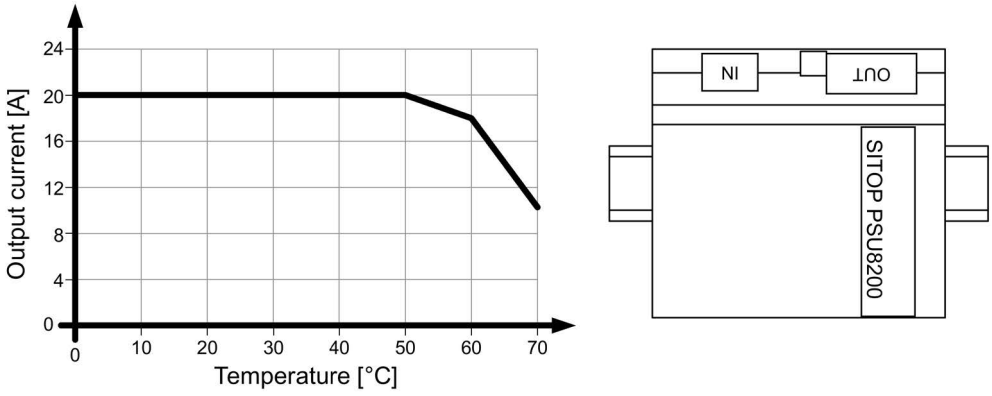


Figure 4-48 Mounting position (3)

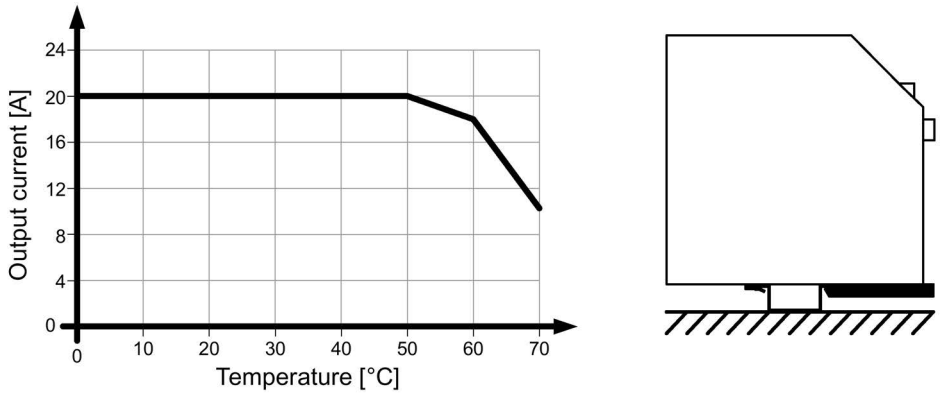


Figure 4-49 Mounting position (4)

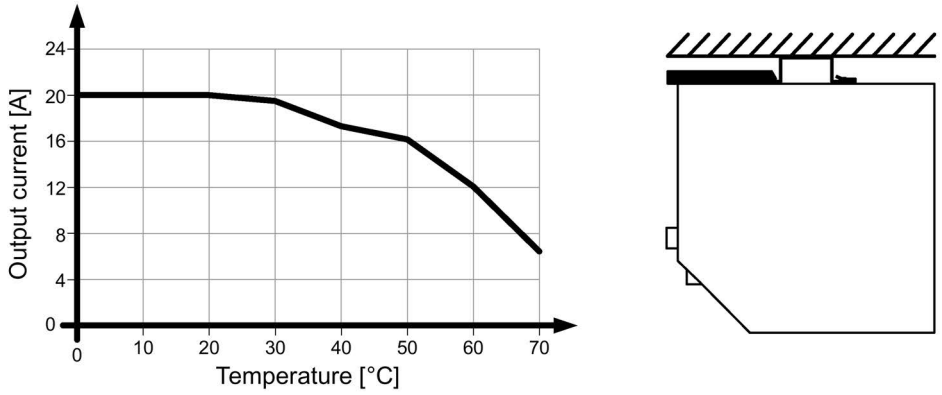


Figure 4-50 Mounting position (5)

4.2.9 6EP3437-8UB00-0AY0

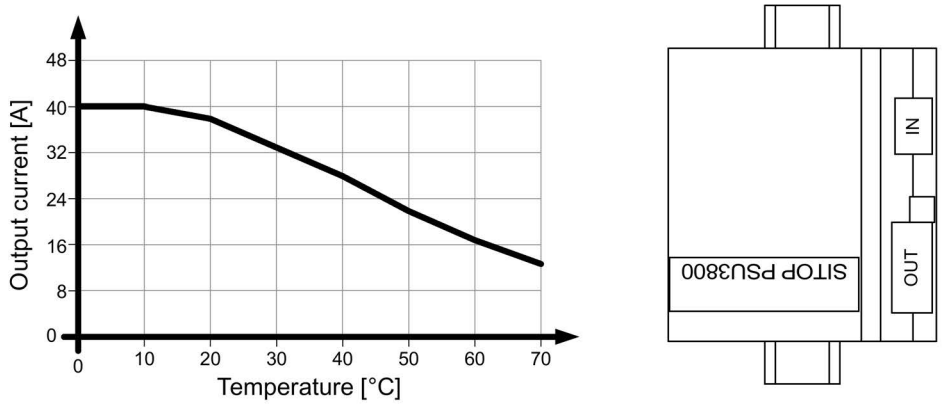


Figure 4-51 Mounting position (1)

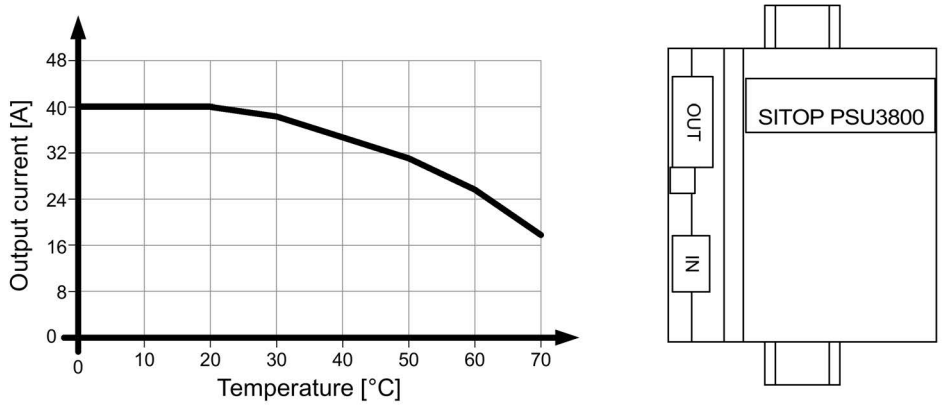


Figure 4-52 Mounting position (2)

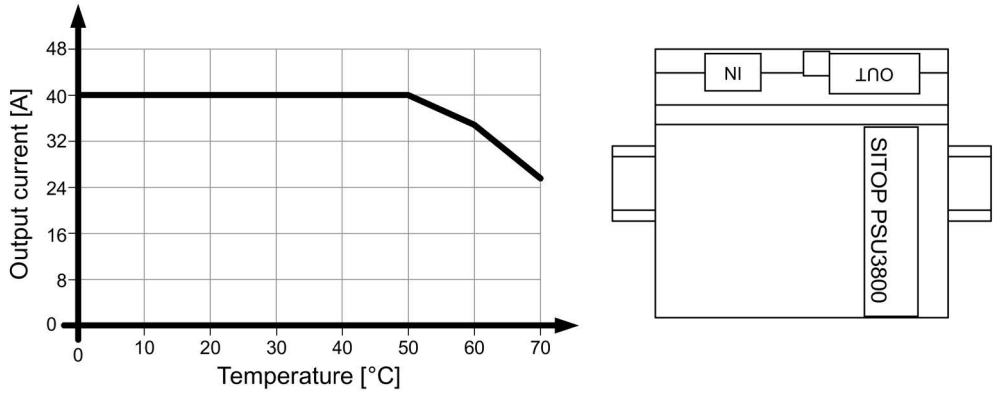


Figure 4-53 Mounting position (3)

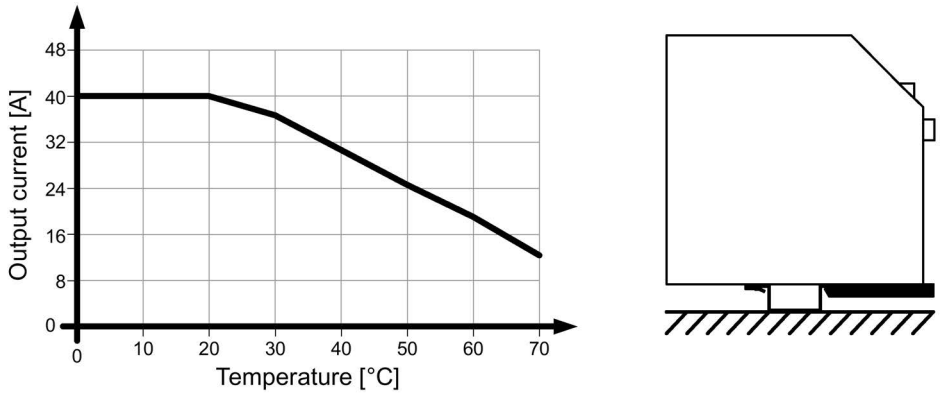


Figure 4-54 Mounting position (4)

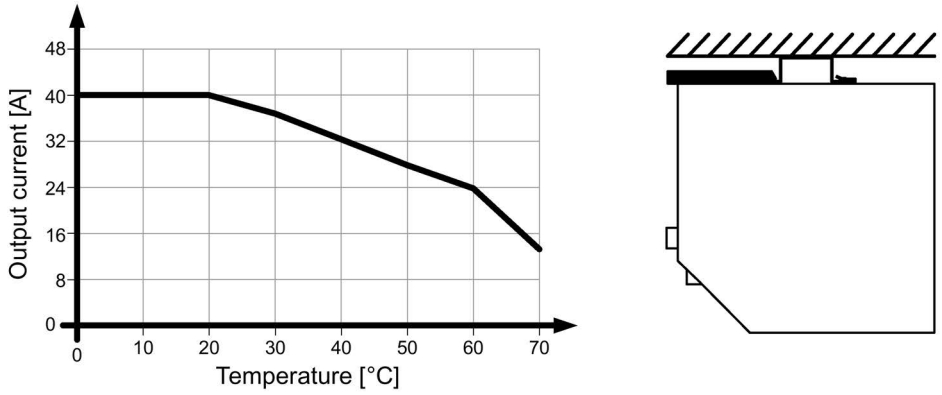


Figure 4-55 Mounting position (5)

Installation

5

WARNING

Hazard due to electric shock

Before installation or maintenance work can begin, the system's main switch must be switched off and measures taken to prevent it being switched on again. If this instruction is not observed, touching live parts can result in death or serious injury.

5.1 Line-side connection

The SITOP PSU8200/3800 3ph power supply is designed for connection to a 3-phase AC line supply (TN-, TT or IT system according to IEC 60364-1) with a rated voltage of 400 - 500 V, 50 - 60 Hz.

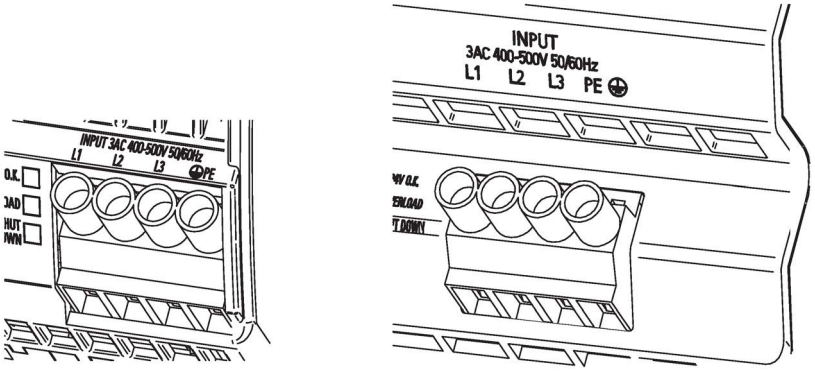


Figure 5-1 Line supply connection

The line supply is connected using terminals L1, L2, L3 and PE (see Figure 5-1 Line supply connection (Page 51)), and must be implemented according to IEC 60364 .

A protective device (miniature circuit breaker or circuit breaker) and a disconnection unit for the power supply must be provided. A ground-fault circuit interrupter is not permissible against indirect contact as the only protective measure. This applies for the complete line supply protected by the ground-fault circuit interrupter.

Protection

SITOP PSU8200 3ph	Required line-side protection
6EP3436-8SB00-0AY0 (24 V/20 A) 6EP3446-8SB10-0AY0 (36 V/13 A) 6EP3446-8SB00-0AY0 (48 V/10 A) 6EP3424-8UB00-0AY0 (12 V/20 A) 6EP3436-8UB00-0AY0 (24 V/17 A)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…) North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) In strict adherence to above-mentioned requirements (rated value max. 16 A/ instantaneous short-circuit trip of max. 160 A) two or more power supplies can be connected to one circuit breaker.
6EP1437-3BA10 (24 V/40 A)	3-pole coupled miniature circuit breaker (IEC 898) characteristic C, 10 - 16 A or 3RV2011-1DA10 circuit breaker, setting of the thermal overcurrent trip: 3 A or 3RV2711-1DD10 circuit breaker (branch circuit protection according to UL489-listed, DIVQ)
6EP3437-8SB00-0AY0 (24 V/40 A) 6EP3447-8SB00-0AY0 (48 V/20 A) 6EP3437-8UB00-0AY0 (24 V/40 A)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…) North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) In strict adherence to above-mentioned requirements (rated value max. 16 A/ instantaneous short-circuit trip of max. 160 A) two or more power supplies can be connected to one circuit breaker.

The protective conductor of the line supply must be connected at the PE terminal.

NOTICE
Country-specific regulations must be observed when installing.

5.2 Output-side connection

The SITOP PSU8200/3800 3ph power supply provides at its output an isolated (= non-grounded) SELV output voltage (Safety Extra Low Voltage). The output of the power supply is no-load, overload and short-circuit proof. If an overload occurs, the electronic current limiting function limits the output current to a maximum value (see Section Technical data (Page 55)).

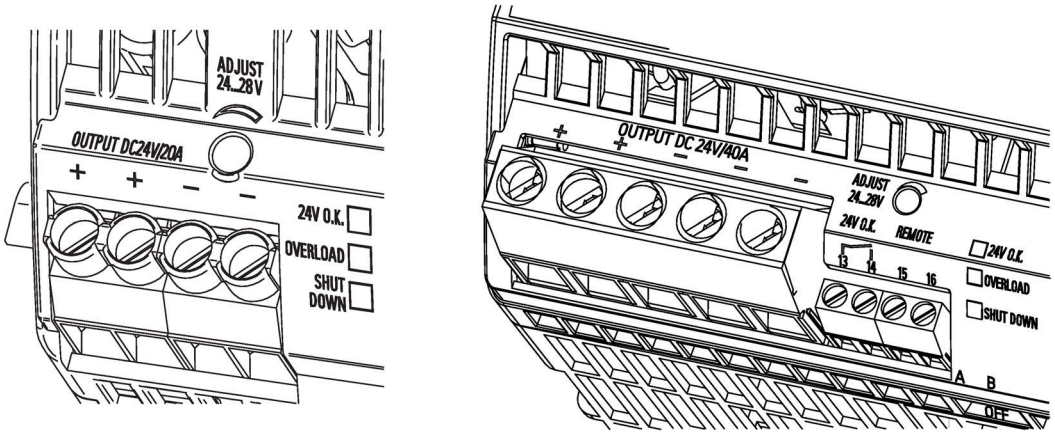


Figure 5-2 Output connection

The output voltage is connected via the "+" and "–" terminals at the output of the power supply (see Figure Output connection (Page 53)). Ensure that the output cables are dimensioned correctly for the maximum output current rms value and fused accordingly.

Note

If the safety concept of the plant or system specifies that the DC output circuit should be grounded ((PELV, Protected Extra Low Voltage), then it is permissible that the output voltage of the SITOP power supply is grounded. In this case, ideally, the grounding at the output should be directly connected from terminal "-" of the power supply to a suitable connection point of the protective conductor system (PE) of the plant or system.

Technical data

6

Note

Technical data apply for a rated input voltage, rated load and 25 °C ambient temperature if nothing else is specified.

6.1 Input

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Input • Remark	3-phase, AC	3-phase, AC	3-phase, AC 2-phase operation: is permissible under the following general conditions: Output with max. 80 % load, U_{in} > 400 V, T_u < 40 °C
Rated voltage $U_{in\ rated}$	400 - 500 V	400 - 500 V	400 - 500 V
Voltage range • Remark	320 - 575 V Derating at U_{in} < 340 V: 10 % [I_{out}]	320 - 575 V Derating at U_{in} < 340 V: 10 % [I_{out}]	323 - 576 V Derating for U_{in} < 360 V or > 550 V: 10 % [I_{out}]
Wide-range input	Yes	Yes	Yes
Overvoltage strength	-	2.3 × $U_{in\ rated}$, 1.3 ms	-
Line failure buffering at $I_{out\ rated}$, min.	15 ms	15 ms	10 ms
Rated line frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Line frequency range	47 - 63 Hz	47 - 63 Hz	47 - 63 Hz
Input current at rated input voltage 400 V	1.2 A	2.6 A	2.1 A
Input current at rated input voltage 500 V	1 A	2.1 A	1.7 A
Inrush current limiting (25 °C), max.	18 A (PR1) 16 A (from PR2)	56 A	13 A
I^2t, max	0.8 A^2s	2.24 A^2s	2.24 A^2s

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Integrated input fuse	None	None	None
Protection in the line feeder cable (IEC 898)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…); North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) under strict compliance with the requirements listed above (rated value, max. 16 A/short-circuit trip, max. 160 A) two or more power supplies can be connected to one circuit breaker.	required: 3-pole, coupled miniature circuit breaker 10 - 16 A characteristic C or circuit breaker 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10 (UL489-listed, DIVQ)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…); North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) under strict compliance with the requirements listed above (rated value, max. 16 A/short-circuit trip, max. 160 A) two or more power supplies can be connected to one circuit breaker.

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Input • Remark	3-phase, AC	3-phase, AC	3-phase, AC 2-phase operation: is permissible under the following general conditions: Output with max. 80 % load, U_{in} > 400 V, T_u < 40 °C
Rated voltage $U_{in\ rated}$	400 - 500 V	400 - 500 V	400 - 500 V
Voltage range • Remark	320 - 575 V Derating at U_{in} < 340 V: 10 % [I_{out}]	320 - 575 V Derating at U_{in} < 340 V: 10 % [I_{out}]	323 - 576 V Derating for U_{in} < 360 V or > 550 V: 10 % [I_{out}]
Wide-range input	Yes	Yes	Yes
Overvoltage strength	-	-	-
Line failure buffering at $I_{out\ rated}$, min.	15 ms	15 ms	10 ms
Rated line frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Line frequency range	47 - 63 Hz	47 - 63 Hz	47 - 63 Hz
Input current at rated input voltage 400 V	1.2 A	1.2 A	2 A
Input current at rated input voltage 500 V	1 A	1 A	1.7 A
Inrush current limiting (25 °C), max.	16 A	16 A	13 A
I^2t, max	0.8 A^2s	0.8 A^2s	2.24 A^2s

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Integrated input fuse	None	None	None
Protection in the line feeder cable (IEC 898)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…) North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) In strict adherence to above-mentioned requirements (rated value max. 16 A/ instantaneous short-circuit trip of max. 160 A) two or more power supplies can be connected to one circuit breaker.		

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Input	3-phase, AC	3-phase, AC	3-phase, AC
• Remark			2-phase operation: is permissible under the following general conditions: Output with max. 80 % load, U_{in} > 400 V, T_u < 40 °C
Rated voltage $U_{in\ rated}$	400 - 500 V	400 - 500 V	400 - 500 V
Voltage range	320 - 575 V	320 - 575 V	323 - 576 V
• Remark	Derating at U_{in} < 340 V: 10 % [I_{out}]	Derating at U_{in} < 340 V: 10 % [I_{out}]	Derating for U_{in} < 360 V or > 550 V: 10 % [I_{out}]
Wide-range input	Yes	Yes	Yes
Overvoltage strength	-	-	-
Line failure buffering at $I_{out\ rated}$, min.	15 ms	15 ms	10 ms
Rated line frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Line frequency range	47 - 63 Hz	47 - 63 Hz	47 - 63 Hz
Input current at rated input voltage 400 V	0.7 A	1.1 A	2.1 A
Input current at rated input voltage 500 V	0.6 A	0.9 A	1.7 A
Inrush current limiting (25 °C), max.	16 A	16 A	13 A
I^2t, max	0.8 A^2s	0.8 A^2s	2.24 A^2s

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Integrated input fuse	None	None	None
Protection in the line feeder cable (IEC 898)	Protection required in the line feeder cable: International (IEC): 3 ph miniature circuit breaker 3 - 16 A (e.g. Siemens 5SY… - max. Characteristic C), or circuit breaker (e.g. Siemens 3RV2…) North America (UL/CSA): 3 ph 3 - 16 A, input circuit breaker (UL489/Category DIVQ, e.g. Siemens 3RV27… / 3RV28…) or fuses (acc. to UL248) In strict adherence to above-mentioned requirements (rated value max. 16 A/ instantaneous short-circuit trip of max. 160 A) two or more power supplies can be connected to one circuit breaker.		

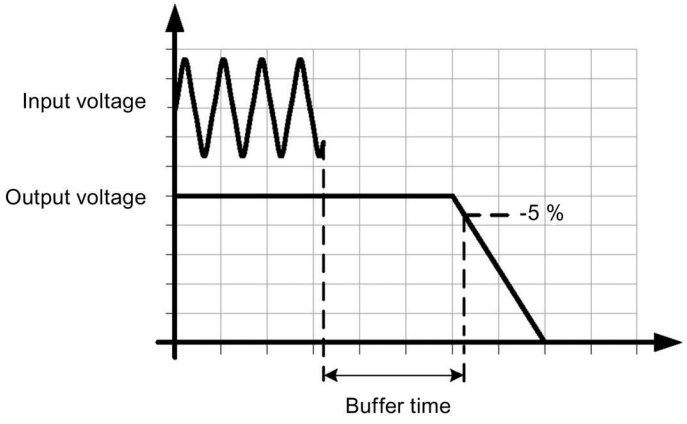


Figure 6-1 Power failure buffering

6.2 Output

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Output	Regulated, isolated DC voltage	Regulated, isolated DC voltage	Regulated, isolated DC voltage
Rated voltage $U_{out\ rated}$ DC	24 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static line regulation, approx.	0.1 %	0.1 %	0.1 %
Static load regulation, approx.	0.2 %	0.2 %	0.2 %
Residual ripple in the load range Peak-peak, max.	100 mV	100 mV	100 mV
Spikes peak-peak, max. (bandwidth, approx. 20 MHz)	200 mV	200 mV	240 mV
Adjustment range	24 - 28.8 V (PR1) 24 - 28 V (from PR2)	24 - 28.8 V	24 - 28 V for U_{in} < 360 V: 24 - 26 V
Output voltage can be adjusted	Yes	Yes	Yes
Output voltage setting	Via potentiometer	Via potentiometer	Via potentiometer
• Remark	Max. 480 W	Max. 960 W	Max. 960 W
Operating display	LED green for "24 V O.K."	LED green for "24 V O.K."	LED green for "24 V O.K."
Signaling	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "24 V O.K."
Response when switching on/off	No overshoot of U_{out} (soft start)	No overshoot of U_{out} (soft start)	minimum overshoot (< 2 %)
Starting delay, max.	2.5 s	2.5 s	100 ms
Voltage rise, typ.	150 ms	150 ms	100 ms
Rise time of the output voltage, max.	500 ms	500 ms	100 ms
Rated current $I_{out\ rated}$	20 A	40 A	40 A
Current range	0 - 20 A	0 - 40 A	0 - 40 A
• Remark	60 ... 70 °C derating: approx. 2 % $I_{out\ rated}$/K	60 ... 70 °C derating: approx. 4% $I_{out\ rated}$/K	44 A to 45 °C 60 ... 70 °C derating: approx. 5 % $I_{out\ rated}$/K
Active power output, typ.	480 W	960 W	1020 W
Constant overload current for a short circuit when powering up, typ.	23 A	44 A	51 A
Short-time overload current for a short circuit in operation, typ.	60 A	120 A	120 A

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Duration of the overload capability for an overcurrent condition caused by a short circuit in operation.	25 ms	25 ms	25 ms
• Remark	per 1 min	per 1 min	per 1 min
Can be connected in parallel to increase the power rating	Yes	Yes	Yes
• Remark	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))
Number of devices that can be connected in parallel to increase the power rating, units	2	2	2
Overload capability (Extra Power)	30 A for 5 s/min	60 A for 5 s/min	60 A for 5 s/min
Output characteristic	see Figure 6-3 Output characteristic 6EP3436-8SB00-0AY0 single operation (Page 64)	see Figure 6-8 Output characteristic 6EP1437-3BA10 single operation (Page 66)	see Figure 6-9 Output characteristic 6EP3437-8SB00-0AY0 single operation (Page 66)

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Output	Regulated, isolated DC voltage	Regulated, isolated DC voltage	Regulated, isolated DC voltage
Rated voltage $U_{out\ rated}$ DC	36 V	48 V	48 V
Total tolerance, static ±	3 %	3 %	3 %
Static line regulation, approx.	0.1 %	0.1 %	0.1 %
Static load regulation, approx.	0.2 %	0.2 %	0.2 %
Residual ripple in the load range Peak-peak, max.	100 mV	100 mV	100 mV
Spikes peak-peak, max. (bandwidth, approx. 20 MHz)	200 mV	200 mV	240 mV
Adjustment range	36 - 42 V	42 - 56 V	46 - 56 V for U_{in} < 360 V: 46 - 52 V
Output voltage can be adjusted	Yes	Yes	Yes
Output voltage setting	Via potentiometer	Via potentiometer	Via potentiometer
• Remark	Max. 480 W	Max. 480 W	Max. 960 W
Operating display	LED green for "36 V O.K."	LED green for "48 V O.K."	LED green for "48 V O.K."

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Signaling	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "36 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "48 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "48 V O.K."
Response when switching on/off	No overshoot of U_{out} (soft start)	No overshoot of U_{out} (soft start)	Minimum overshoot (< 2 %)
Starting delay, max.	2.5 s	2.5 s	100 ms
Voltage rise, typ.	150 ms	150 ms	100 ms
Rise time of the output voltage, max.	500 ms	500 ms	100 ms
Rated current $I_{out\ rated}$	13 A	10 A	20 A
Current range	0 - 13 A	0 - 10 A	0 - 20 A
• Remark	60 ... 70 °C derating: approx. 2 % $I_{out\ rated}$/K	60 ... 70 °C derating: approx. 2 % $I_{out\ rated}$/K	22 A to 45 °C 60 ... 70 °C derating: approx. 5 % $I_{out\ rated}$/K
Active power output, typ.	468 W	480 W	1020 W
Constant overload current for a short circuit when powering up, typ.	14 A	11 A	28 A
Short-time overload current for a short circuit in operation, typ.	39 A	30 A	60 A
Duration of the overload capability for an overcurrent condition caused by a short circuit in operation.	25 ms	25 ms	25 ms
• Remark	per 1 min	per 1 min	per 1 min
Can be connected in parallel to increase the power rating	Yes	Yes	Yes
• Remark	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))
Number of devices that can be connected in parallel to increase the power rating, units	2	2	2
Overload capability (Extra Power)	19.5 A for 5 s/min	15 A for 5 s/min	30 A for 5 s/min
Output characteristic	see Figure 6-4 Output characteristic 6EP3446-8SB10-0AY0 single operation (Page 64)	see Figure 6-5 Output characteristic 6EP3446-8SB00-0AY0 single operation (Page 65)	see Figure 6-10 Output characteristic 6EP3447-8SB00-0AY0 single operation (Page 66)

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Output	Regulated, isolated DC voltage	Regulated, isolated DC voltage	Regulated, isolated DC voltage
Rated voltage $U_{out\ rated}$ DC	12 V	24 V	24 V
Total tolerance, static ±	3 %	3 %	3 %
Static line regulation, approx.	0.1 %	0.1 %	0.1 %
Static load regulation, approx.	0.2 %	0.2 %	0.2 %
Residual ripple in the load range Peak-peak, max.	100 mV	100 mV	100 mV
Spikes peak-peak, max. (bandwidth, approx. 20 MHz)	200 mV	200 mV	240 mV
Adjustment range	12 - 14 V	24 - 28 V	24 - 28 V for U_{in} < 360 V: 24 - 26 V
Output voltage can be adjusted	Yes	Yes	Yes
Output voltage setting • Remark	Via potentiometer Max. 240 W	Via potentiometer Max. 480 W	Via potentiometer Max. 960 W
Operating display	LED green for "12 V O.K."	LED green for "24 V O.K."	LED green for "24 V O.K."
Signaling	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "12 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "24 V O.K."	Relay contact (NO contact, contact rating) (SELV must be complied with): 60 V DC/0.3 A) for "24 V O.K."
Response when switching on/off	No overshoot of U_{out} (soft start)	No overshoot of U_{out} (soft start)	Minimum overshoot (< 2 %)
Starting delay, max.	2.5 s	2.5 s	100 ms
Voltage rise, typ.	150 ms	150 ms	100 ms
Rise time of the output voltage, max.	500 ms	500 ms	100 ms
Rated current $I_{out\ rated}$	20 A	17 A	30/40 A

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Current range	0 - 20 A	0 - 17 A	0 - 40 A
• Remark	60 ... 70 °C derating: approx. 2 % $I_{out\ rated}$/K	60 ... 70 °C derating: approx. 2 % $I_{out\ rated}$/K	60 ... 70 °C derating: approx. 5 % $I_{out\ rated}$/K When reaching the internal upper temperature limit, the output current is reduced in steps of 2 A every 30 s (between 40 A and 20 A). 30 A mode: DIP switch B: ON (see Chapter Change-over switch (Page 19)): When reaching the internal upper temperature limit, the output current is reduced in steps of 2 A every 30 s (between 30 A and 20 A). Once the temperature has fallen below the lower limit value, the output current is increased in steps of 2 A every 60 s.
Active power output, typ.	240 W	408 W	760 W/1020 W
Constant overload current for a short circuit when powering up, typ.	22 A	19 A	50 A
Short-time overload current for a short circuit in operation, typ.	-	-	-
Duration of the overload capability for an overcurrent condition caused by a short circuit in operation.	-	-	-
Can be connected in parallel to increase the power rating	Yes	Yes	Yes
• Remark	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))	Switchable characteristic curve with switch A (see Figure 2-5 Operating display and signaling (Page 16))
Number of devices that can be connected in parallel to increase the power rating, units	2	2	2
Overload capability (Extra Power)	-	-	-
Output characteristic	see Figure 6-6 Output characteristic 6EP3424-8UB00-0AY0 single operation (Page 65)	see Figure 6-7 Output characteristic 6EP3436-8UB00-0AY0 single operation (Page 65)	see Figure 6-11 Output characteristic 6EP3437-8UB00-0AY0 single operation (B OFF) (Page 67)

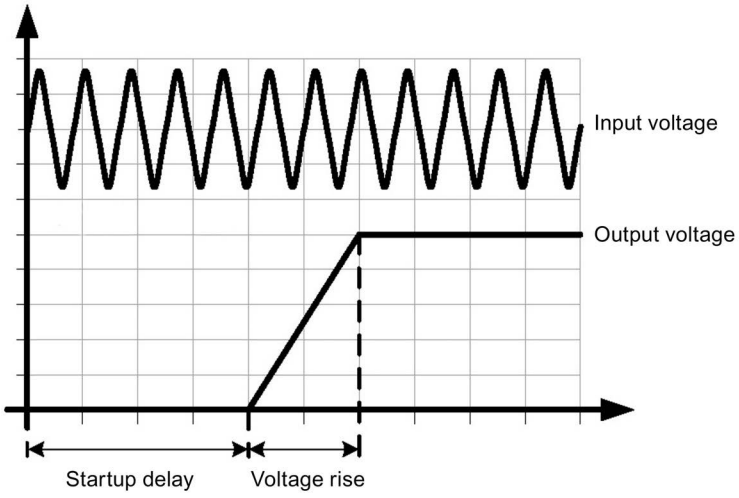


Figure 6-2 Starting delay/voltage rise

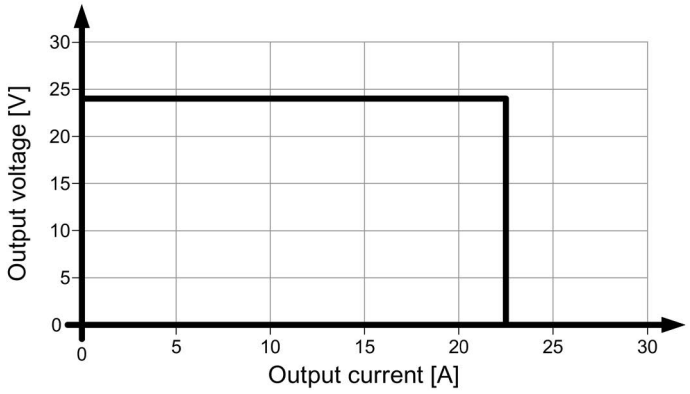


Figure 6-3 Output characteristic 6EP3436-8SB00-0AY0 single operation

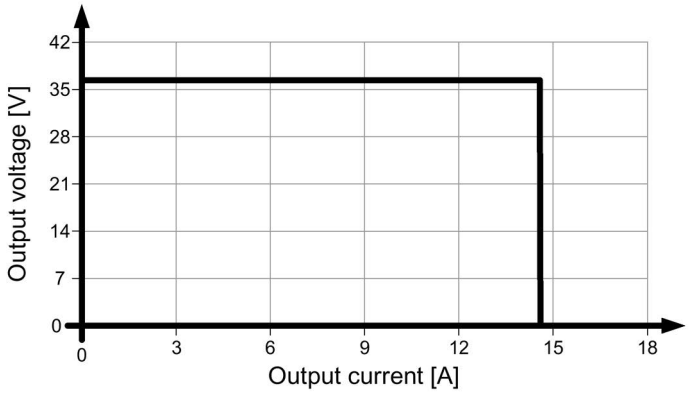


Figure 6-4 Output characteristic 6EP3446-8SB10-0AY0 single operation

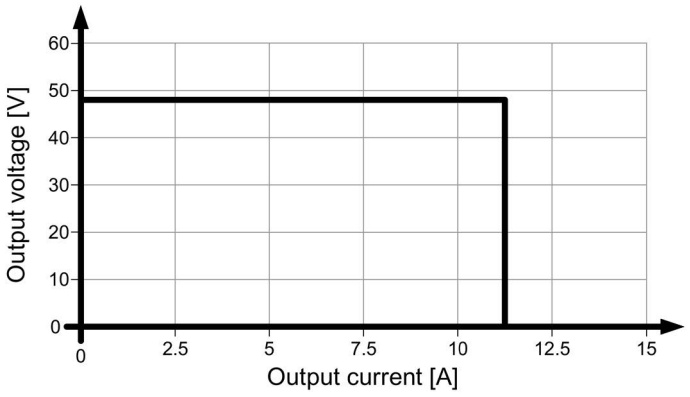


Figure 6-5 Output characteristic 6EP3446-8SB00-0AY0 single operation

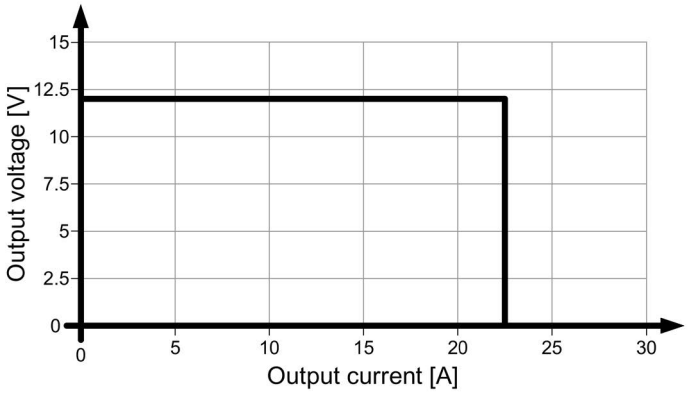


Figure 6-6 Output characteristic 6EP3424-8UB00-0AY0 single operation

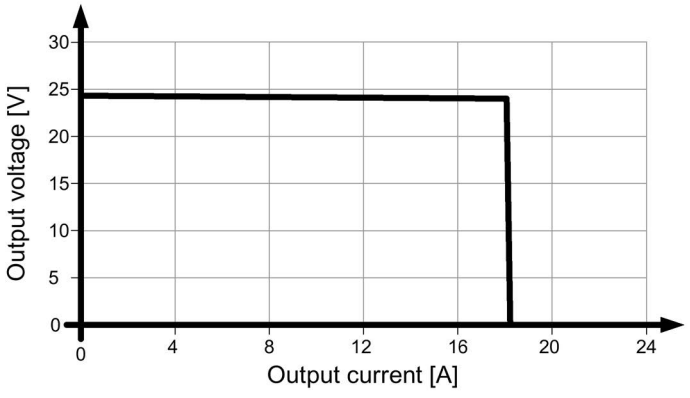


Figure 6-7 Output characteristic 6EP3436-8UB00-0AY0 single operation

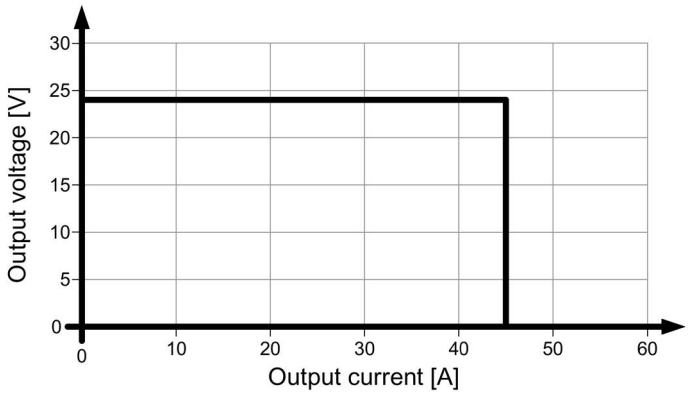


Figure 6-8 Output characteristic 6EP1437-3BA10 single operation

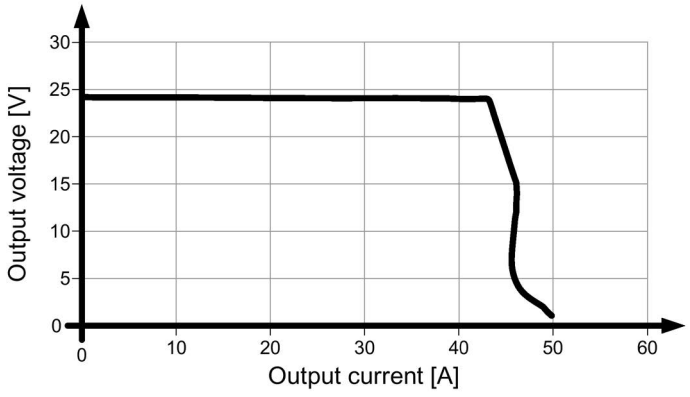


Figure 6-9 Output characteristic 6EP3437-8SB00-0AY0 single operation

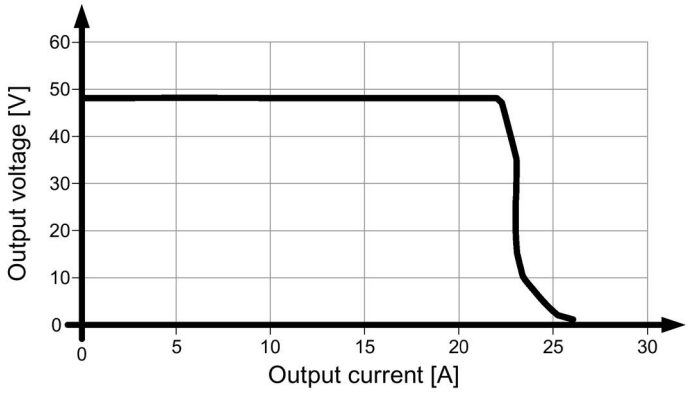


Figure 6-10 Output characteristic 6EP3447-8SB00-0AY0 single operation

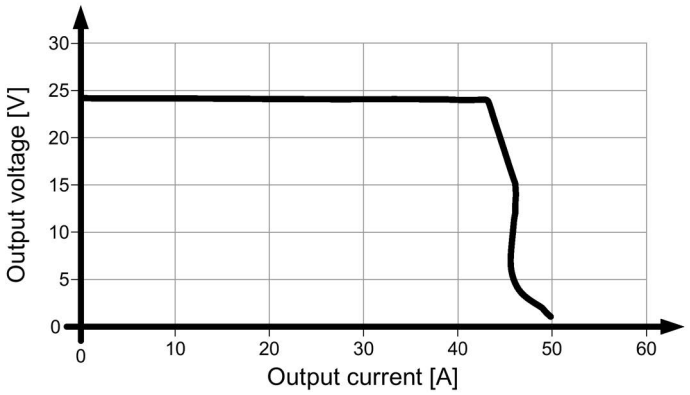


Figure 6-11 Output characteristic 6EP3437-8UB00-0AY0 single operation (B OFF)

The device supplies a constant output voltage until the current limit is reached. In the event of an overload, the output current and the output voltage are reduced.

Selector switch A closed (parallel operation):
The output voltage decreases with increasing output current.

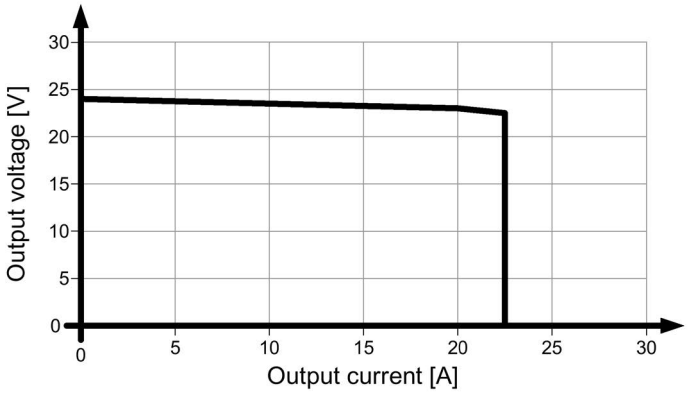


Figure 6-12 Output characteristic 6EP3436-8SB00-0AY0 parallel operation

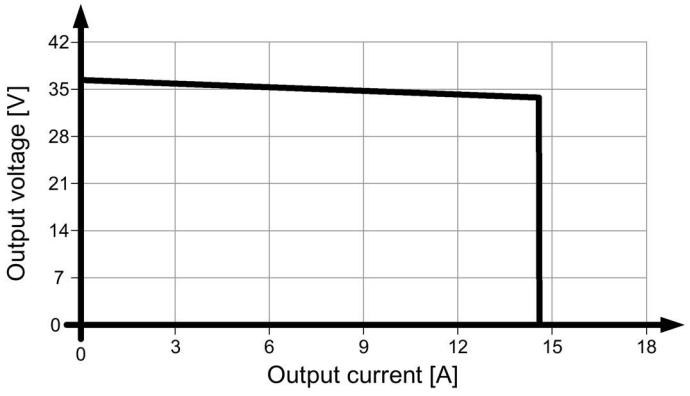


Figure 6-13 Output characteristic 6EP3446-8SB10-0AY0 parallel operation

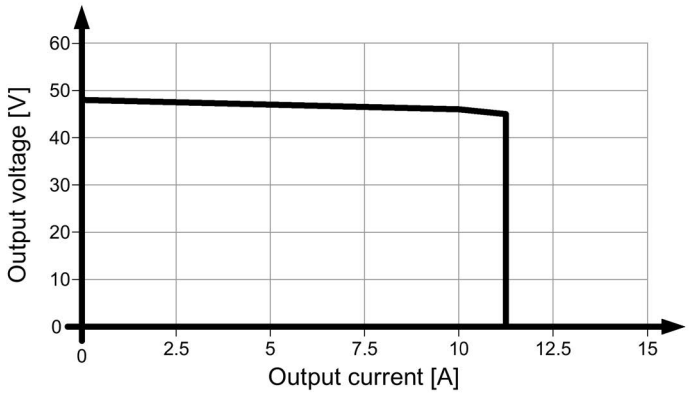


Figure 6-14 Output characteristic 6EP3446-8SB00-0AY0 parallel operation

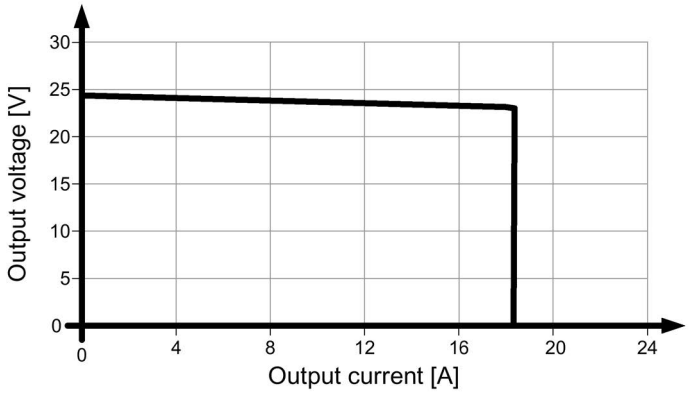


Figure 6-15 Output characteristic 6EP3436-8UB00-0AY0 parallel operation

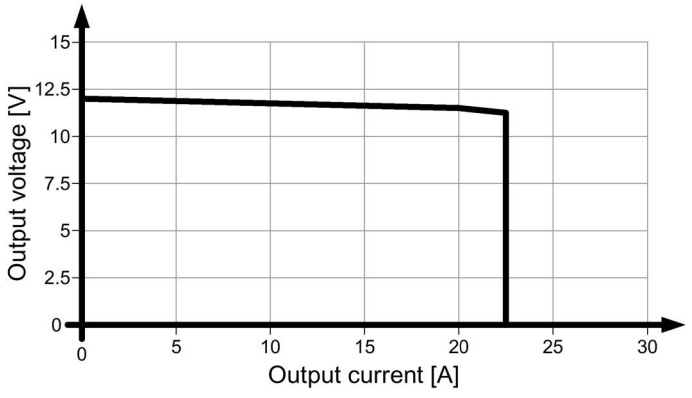


Figure 6-16 Output characteristic 6EP3424-8UB00-0AY0 parallel operation

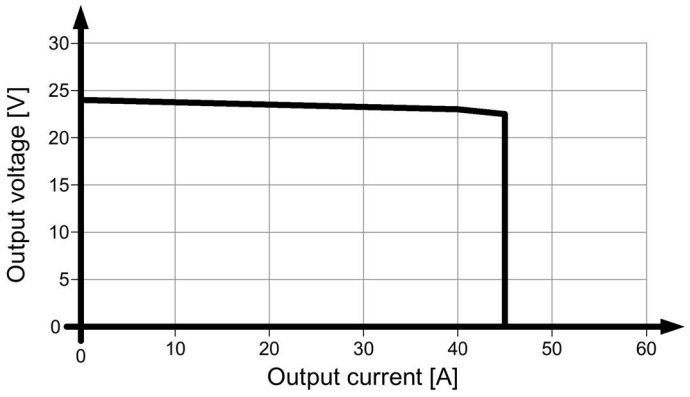


Figure 6-17 Output characteristic 6EP1437-3BA10 parallel operation

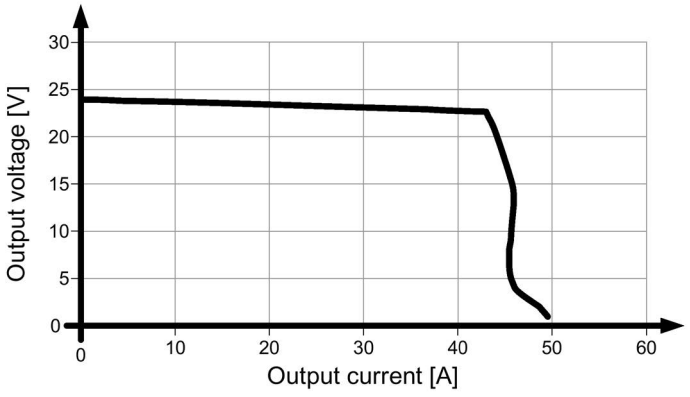


Figure 6-18 Output characteristic 6EP3437-8SB00-0AY0 parallel operation

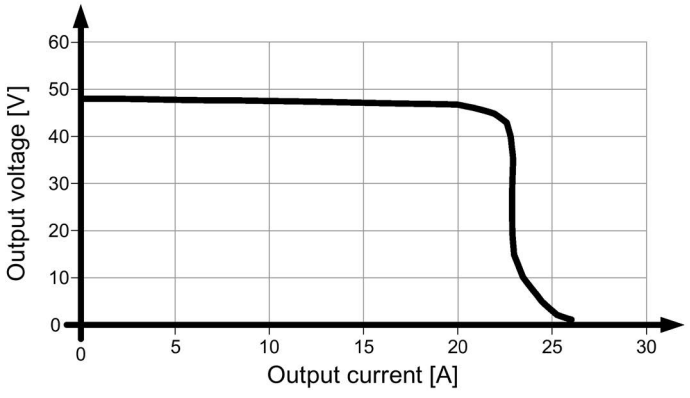


Figure 6-19 Output characteristic 6EP3447-8SB00-0AY0 parallel operation

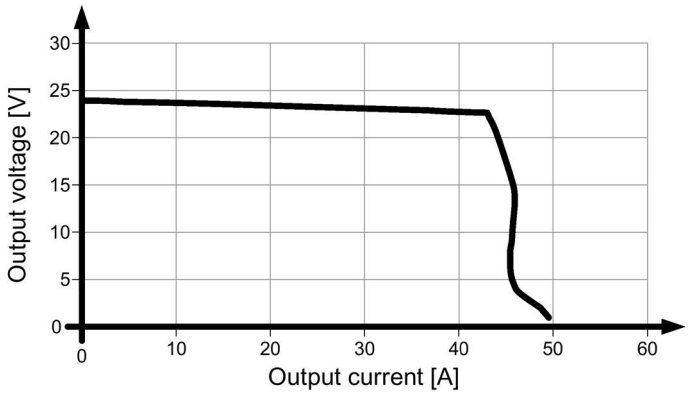


Figure 6-20 Output characteristic 6EP3437-8UB00-0AY0 parallel operation (B OFF)

Selector switch B closed (latching shutdown):
The device is shutdown if the overload lasts longer than 100 ms. Turning the power supply off for at least 60 seconds causes a reset.

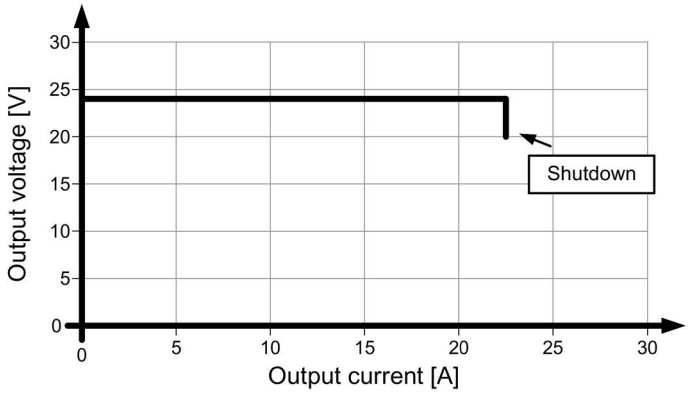


Figure 6-21 Output characteristic 6EP3436-8SB00-0AY0 latching shutdown

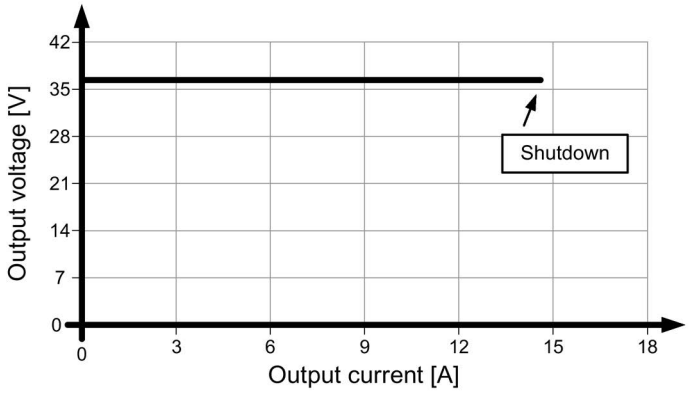


Figure 6-22 Output characteristic 6EP3446-8SB10-0AY0 latching shutdown

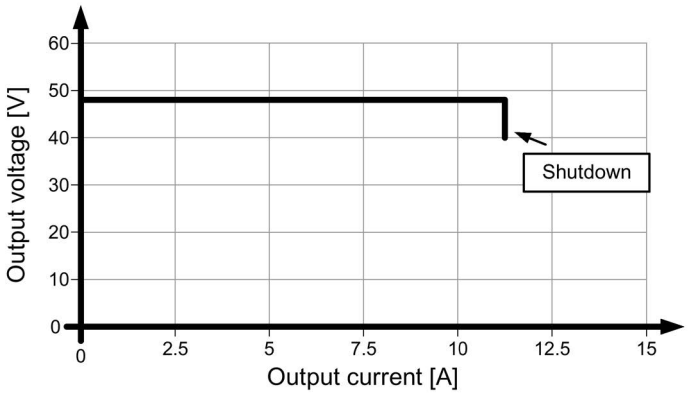


Figure 6-23 Output characteristic 6EP3446-8SB00-0AY0 latching shutdown

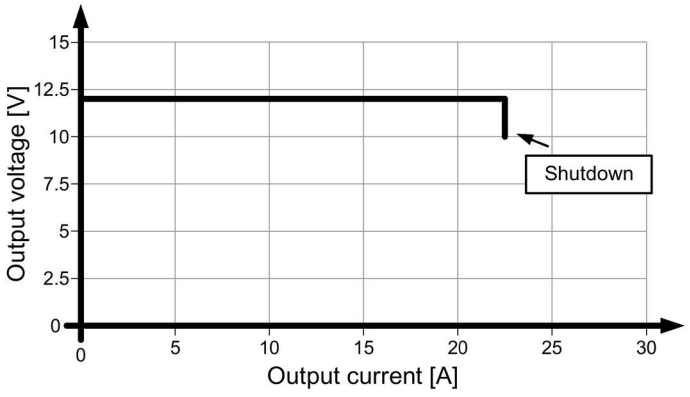


Figure 6-24 Output characteristic 6EP3424-8UB00-0AY0 latching shutdown

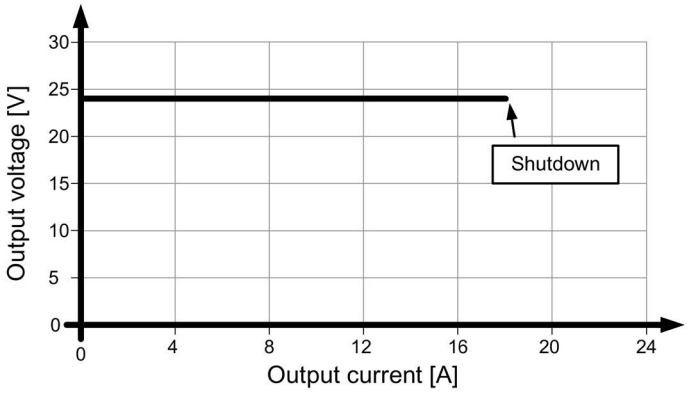


Figure 6-25 Output characteristic 6EP3436-8UB00-0AY0 latching shutdown

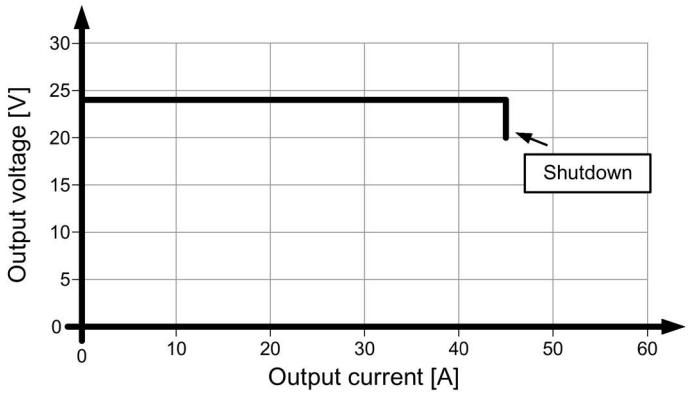


Figure 6-26 Output characteristic 6EP1437-3BA10 latching shutdown

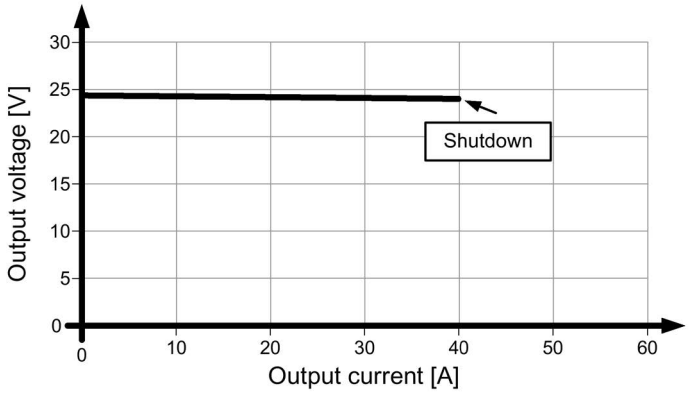


Figure 6-27 Output characteristic 6EP3437-8SB00-0AY0 latching shutdown

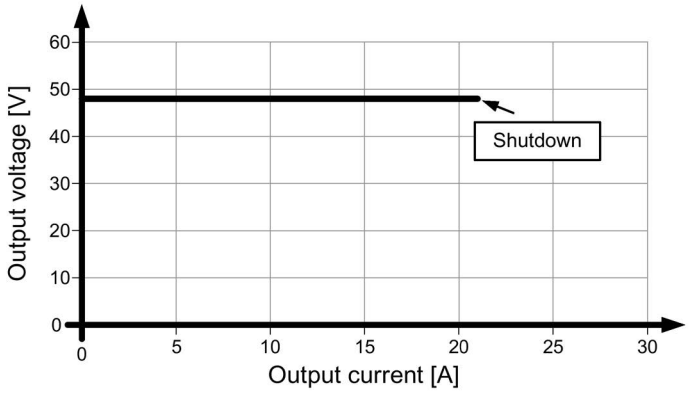


Figure 6-28 Output characteristic 6EP3447-8SB00-0AY0 latching shutdown

Selector switch B on (I_{out} = 30 A):

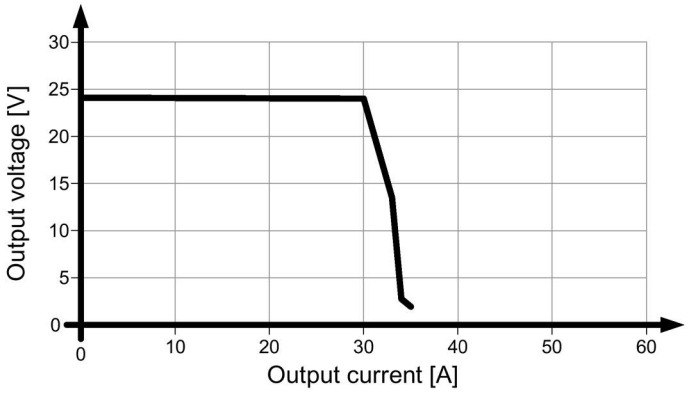


Figure 6-29 Output characteristic 6EP3437-8UB00-0AY0 single operation

6.3 Efficiency

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Efficiency at $U_{out\ rated}$, $I_{out\ rated}$, approx.	94 %	92 %	94 %
Power loss at $U_{out\ rated}$, $I_{out\ rated}$, approx.	31 W	78 W	66 W
No-load operation power loss, approx.	3.6 W (PR1), 2.7 W (from PR2)	7.4 W	3.6 W
Power loss in the "latching shutdown" state	3.6 W (PR1), 1.7 W (from PR2)	4.7 W	1.8 W

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Efficiency at $U_{out\ rated}$, $I_{out\ rated}$, approx.	94 %	94 %	94 %
Power loss at $U_{out\ rated}$, $I_{out\ rated}$, approx.	30 W	31 W	58 W
No-load operation power loss, approx.	2.7 W	2.7 W	3.6 W
Power loss in the "latching shutdown" state	1.7 W	1.7 W	1.8 W

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Efficiency at $U_{out\ rated}$, $I_{out\ rated}$, approx.	91 %	94 %	94 %
Power loss at $U_{out\ rated}$, $I_{out\ rated}$, approx.	24 W	26 W	66 W
No-load operation power loss, approx.	2.7 W	2.7 W	3.6 W
Power loss in the "latching shutdown" state	1.7 W	1.7 W	1.8 W

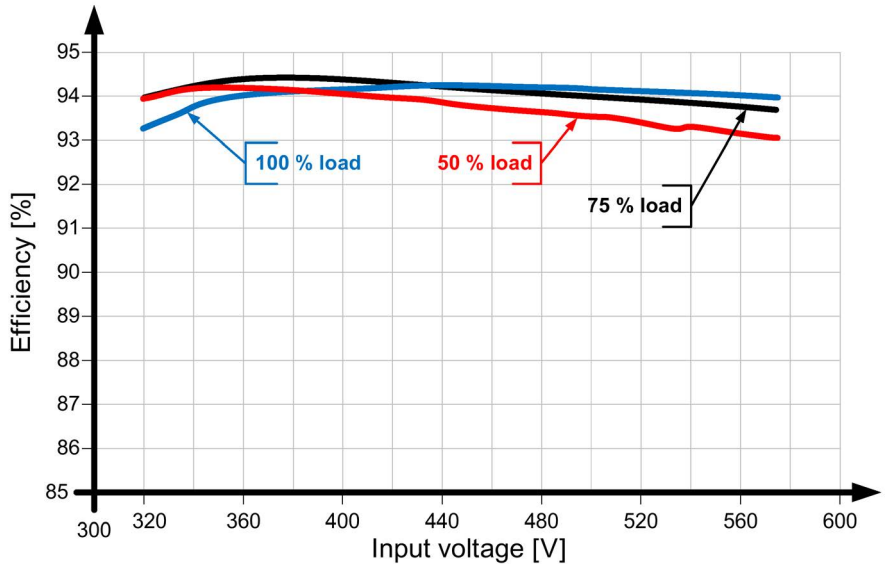


Figure 6-30 Efficiency 6EP3436-8SB00-0AY0

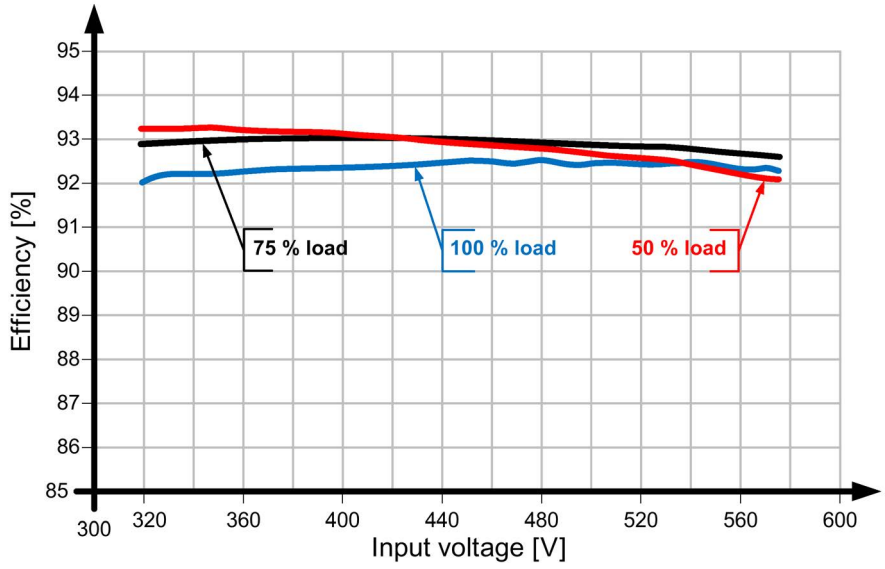


Figure 6-31 Efficiency 6EP1437-3BA10

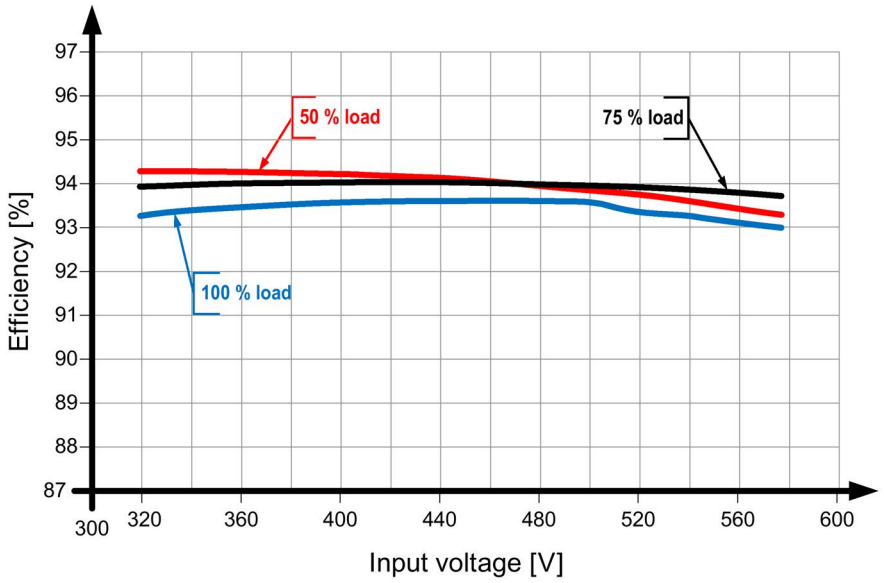


Figure 6-32 Efficiency 6EP3437-8SB00-0AY0

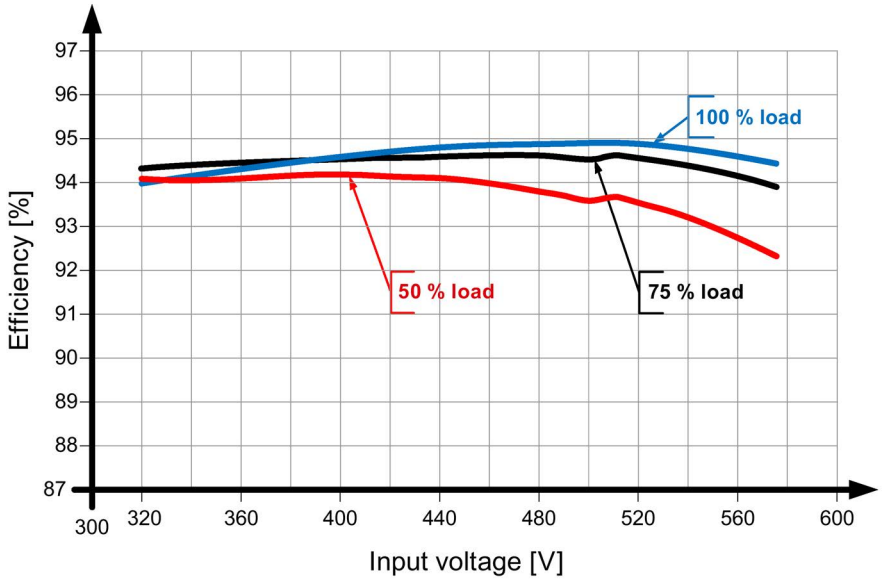


Figure 6-33 Efficiency, 6EP3446-8SB10-0AY0

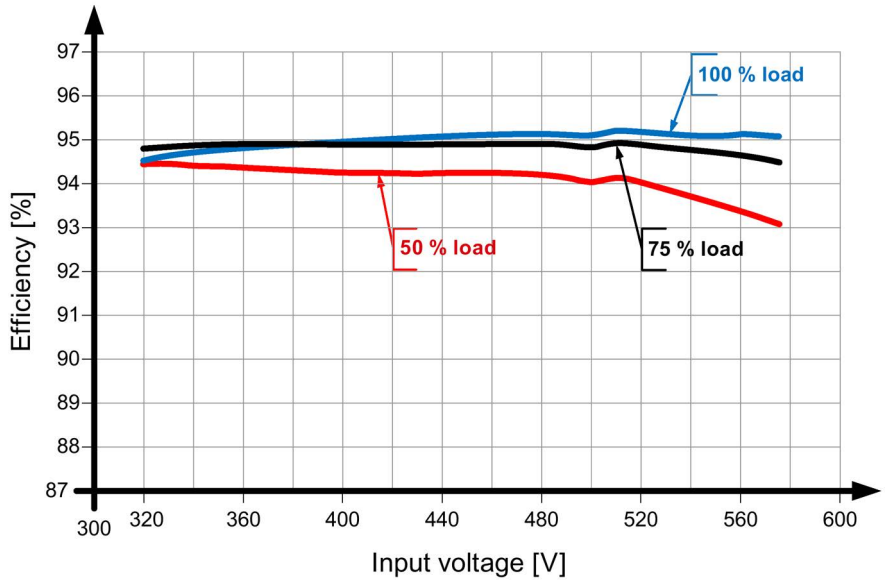


Figure 6-34 Efficiency 6EP3446-8SB00-0AY0

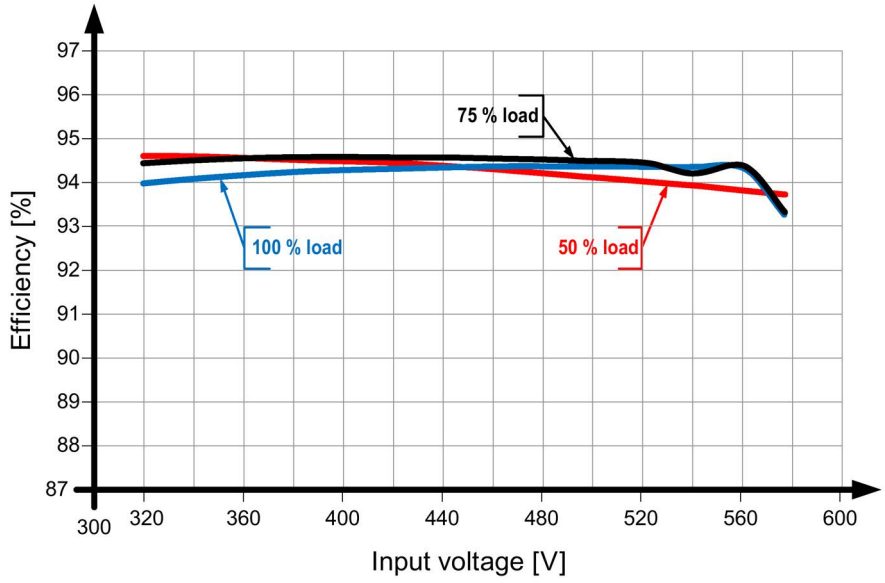


Figure 6-35 Efficiency 6EP3447-8SB00-0AY0

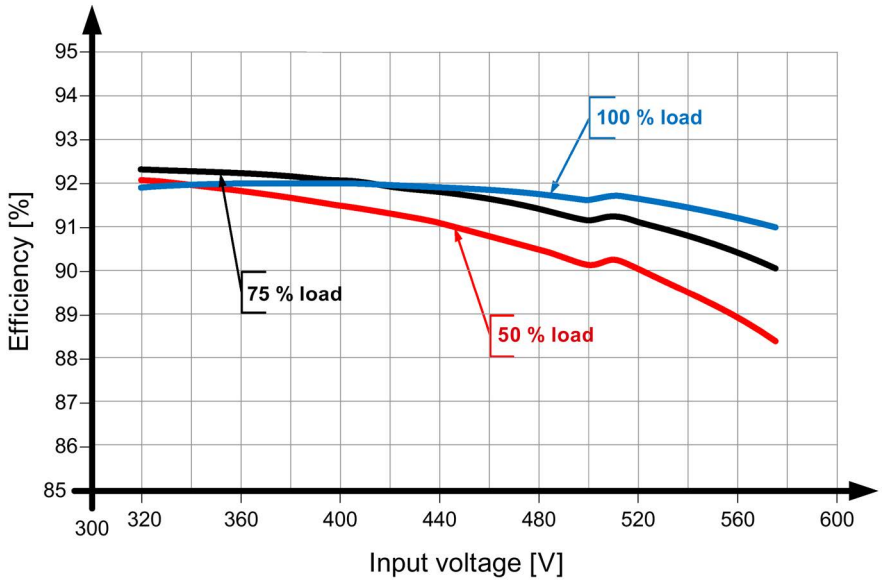


Figure 6-36 Efficiency, 6EP3424-8UB00-0AY0

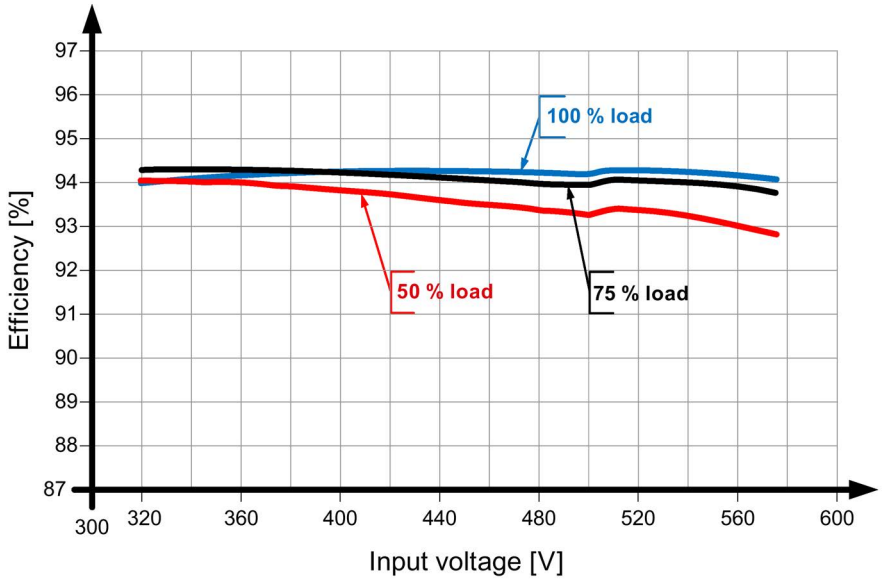


Figure 6-37 Efficiency, 6EP3436-8UB00-0AY0

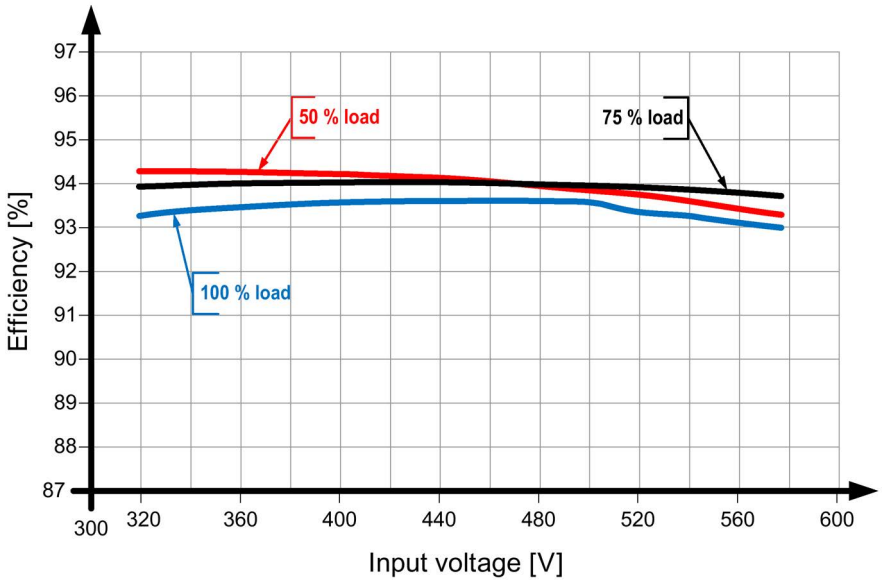


Figure 6-38 Efficiency 6EP3437-8UB00-0AY0

6.4 Closed-loop control

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Dyn. line regulation ($U_{in\ rated}$ ±15 %), max.	0.1 %	1 %	1 %
Dyn. load regulation (I_{out}: 50/100/50 %), U_{out} ± typ.	2 %	3 %	3 %
Load step regulation time 50 to 100 %, typ.	2 ms	-	2 ms
Load step regulation time 100 to 50 %, typ.	2 ms	-	2 ms
Regulation time, max.	10 ms	10 ms	10 ms

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Dyn. line regulation ($U_{in\ rated}$ ±15 %), max.	0.1 %	0.1 %	0.1 %
Dyn. load regulation (I_{out}: 50/100/50 %), U_{out} ± typ.	1 %	1 %	1 %
Load step regulation time 50 to 100 %, typ.	0.2 ms	0.2 ms	0.2 ms
Load step regulation time 100 to 50%, typ.	0.2 ms	0.2 ms	0.2 ms
Regulation time, max.	10 ms	10 ms	10 ms

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Dyn. line regulation ($U_{in\ rated}$ ±15 %), max.	0.1 %	0.1 %	0.1 %
Dyn. load regulation (I_{out}: 50/100/50 %), U_{out} ± typ.	1 %	1 %	1 %
Load step regulation time 50 to 100 %, typ.	0.2 ms	0.2 ms	0.2 ms
Load step regulation time 100 to 50%, typ.	0.2 ms	0.2 ms	0.2 ms
Regulation time, max.	10 ms	10 ms	10 ms

6.5 Protection and monitoring

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Output overvoltage protection	< 35 V (PR1) < 31.8 V (from PR2)	< 31.8 V	< 31.8 V
Current limitation, typ.	23 A	44 A	44 A
Property of the output: short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Optional constant current characteristic approx. 23 A or latching shutdown	Optional constant current characteristic approx. 44 A or latching shutdown	Optional constant current characteristic approx. 50 A or latching shutdown
Continuous short-circuit current: rms value, typ.	23 A	44 A	50 A
• Remark	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min
Overload / short-circuit indicator	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0
Output overvoltage protection	< 48 V	< 60 V	< 60 V
Current limitation, typ.	14 A	11 A	22 A
Property of the output: short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Optional constant current characteristic approx. 14 A or latching shutdown	Optional constant current characteristic approx. 11 A or latching shutdown	Optional constant current characteristic approx. 25 A or latching shutdown
Continuous short-circuit current: Rms value, typ.	14 A	11 A	26 A
• Remark	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min	Overload capability 150 % $I_{out\ rated}$ up to 5 s/min
Overload / short-circuit indicator	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Output overvoltage protection	< 18 V	< 31.8 V	< 31.8 V
Current limit, typ.	22 A	19 A	44 A
Property of the output: short-circuit proof	Yes	Yes	Yes
Short-circuit protection	Optional constant current characteristic approx. 22 A or latching shutdown	Optional constant current characteristic approx. 19 A or latching shutdown	Constant current characteristic with automatic derating for an overtemperature condition (see Chapter Output (Page 59))
Continuous short-circuit current: Rms value, typ.	22 A	19 A	50 A
Overload / short-circuit indicator	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"	Yellow LED for "overload", red LED for "latching shutdown"

6.6 MTBF

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Mean Time Between Failures	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 700,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Mean Time Between Failures	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Mean Time Between Failures	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation	SN29500: > 500,000 h (typ. 900,000 h) at 40 °C, rated load, 24 h hour operation

6.7 Mechanical system

	6EP3436-8SB00-0AY0 (24 V/20 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A)
Connection system	Screw terminal	Screw terminal	Screw terminal
Connections: Line input	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)
Connections: Output	+, -: 2 screw terminals each for 0.2 - 6 (4) mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.5 - 16 mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.5 - 16 mm² solid (finely stranded)
Connections: Auxiliary contacts	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² from PR2: 15, 16 (remote): 1 screw terminal each for 0.5 - 2.5 mm²	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² solid (finely stranded)	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² solid (finely stranded)
Width of the housing	70 mm	150 mm	135 mm
Height of the housing	125 mm	125 mm	145 mm
Depth of the housing	125 mm	150 mm	150 mm
Installation width	71 mm	150 mm	135 mm
Mounting height	225 mm	225 mm	225 mm
Weight, approx.	1.2 kg	3.4 kg	3.3 kg
Product feature of the housing: housing that can be lined up next to one another	Yes	Yes	Yes
Type of mounting: Wall/panel mounting	No	No	No
Type of mounting: Rail mounting	Yes	Yes	Yes
Type of mounting: S7-300 rail mounting	No	No	No
Mounting	Can be snapped onto standard mounting rails TH 35-15/7.5 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15 (EN 60715)

	6EP3446-8SB10-0AY0 (36 V/13 A)	6EP3446-8SB00-0AY0 (48 V/10 A)	6EP3447-8SB00-0AY0 (48 V/20 A)
Connection system	Screw terminal	Screw terminal	Screw-type terminal
Connections: Line input	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)
Connections: Output	+, -: 2 screw terminals each for 0.2 - 6 (4) mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.2 - 6 (4) mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.5 - 16 mm² solid (finely stranded)
Connections: Auxiliary contacts	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² 15, 16 (remote): 1 screw terminal each for 0.5 - 2.5 mm²	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² 15, 16 (remote): 1 screw terminal each for 0.5 - 2.5 mm²	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² solid (finely stranded)
Width of the housing	70 mm	70 mm	135 mm
Height of the housing	125 mm	125 mm	145 mm
Depth of the housing	125 mm	125 mm	150 mm
Installation width	70 mm	70 mm	135 mm
Mounting height	225 mm	225 mm	225 mm
Weight, approx.	1.2 kg	1.2 kg	3.3 kg
Product feature of the housing: housing that can be lined up next to one another	Yes	Yes	Yes
Type of mounting: Wall/panel mounting	No	No	No
Type of mounting: Rail mounting	Yes	Yes	Yes
Type of mounting: S7-300 rail mounting	No	No	No
Mounting	Can be snapped onto standard mounting rails TH 35-15/7.5 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15/7.5 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15 (EN 60715)

	6EP3424-8UB00-0AY0 (12 V/20 A)	6EP3436-8UB00-0AY0 (24 V/17 A)	6EP3437-8UB00-0AY0 (24 V/40 A)
Connection system	Screw-type terminal	Screw-type terminal	Screw terminal
Connections: Line input	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)	L1, L2, L3, PE: 1 screw terminal each for 0.5 - 4 mm² solid (finely stranded)
Connections: Output	+, -: 2 screw terminals each for 0.2 - 6 (4) mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.2 - 6 (4) mm² solid (finely stranded)	+, -: 2 screw terminals each for 0.5 - 16 mm² solid (finely stranded)
Connections: Auxiliary contacts	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² 15, 16 (remote): 1 screw terminal each for 0.5 - 2.5 mm²	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² 15, 16 (remote): 1 screw terminal each for 0.5 - 2.5 mm²	13, 14 (signaling contact): 1 screw terminal each for 0.5 - 2.5 mm² solid (finely stranded)
Width of the housing	70 mm	70 mm	135 mm
Height of the housing	125 mm	125 mm	145 mm
Depth of the housing	125 mm	125 mm	150 mm
Mounting width	70 mm	70 mm	135 mm
Mounting height	225 mm	225 mm	225 mm
Weight, approx.	1.2 kg	1.2 kg	3.3 kg
Product feature of the housing: housing that can be lined up next to one another	Yes	Yes	Yes
Type of mounting: Wall/panel mounting	No	No	No
Type of mounting: Rail mounting	Yes	Yes	Yes
Type of mounting: S7-300 rail mounting	No	No	No
Mounting	Can be snapped onto standard mounting rails TH 35-15/7.5 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15/7.5 (EN 60715)	Can be snapped onto standard mounting rails TH 35-15 (EN 60715)

6.8 Accessories

	6EP3446-8SB10-0AY0 (36 V/13 A) **6EP3424-8UB00-0AY0 (12 V/20 A)** **6EP3446-8SB00-0AY0 (48 V/10 A)** **6EP3447-8SB00-0AY0 (48 V/20 A)**	**6EP3436-8SB00-0AY0 (24 V/20 A)** **6EP3436-8UB00-0AY0 (24 V/17 A)** **6EP1437-3BA10 (24 V/40 A)** **6EP3437-8SB00-0AY0 (24 V/40 A)** **6EP3437-8UB00-0AY0 (24 V/40 A)**
Electrical accessories	-	Redundancy module, buffer module, diagnostics module SITOP select, or DC USV
Mechanical accessories	Device identification label 20 mm × 7 mm, Ti-Grey 3RT2900-1SB20	

6.9 Dimension drawing

See chapter Dimensions and weight (Page 24)

CAD data that can be downloaded from the Internet:

6EP3436-8SB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_00969)

6EP1437-3BA10
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_00363)

6EP3437-8SB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01332)

6EP3446-8SB10-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01111)

6EP3446-8SB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01108)

6EP3447-8SB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01338)

6EP3424-8UB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01117)

6EP3436-8UB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01114)

6EP3437-8UB00-0AY0
(http://www.automation.siemens.com/bilddb/index.aspx?objKey=G_KT01_XX_01335)

Safety, approvals, EMC

7

7.1 Safety

	6EP3424-8UB00-0AY0 (12 V/20 A) 6EP3436-8UB00-0AY0 (24 V/17 A) 6EP3436-8SB00-0AY0 (24 V/20 A) 6EP3446-8SB10-0AY0 (36 V/13 A) 6EP3446-8SB00-0AY0 (48 V/10 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A) 6EP3447-8SB00-0AY0 (48 V/20 A) 6EP3437-8UB00-0AY0 (24 V/40 A)
Primary/secondary galvanic isolation	Yes	Yes	Yes
Galvanic isolation	SELV output voltage U_{out} according to EN 60950-1	SELV output voltage U_{out} according to EN 60950-1	SELV output voltage U_{out} according to EN 60950-1
Protection class	Class I	Class I	Class I
Degree of protection (EN 60529)	IP20	IP20	IP20
Leakage current, typ.	0.9 mA	0.4 mA	0.6 mA
Leakage current, max.	3.5 mA	3.5 mA	1 mA
Test voltage	see Table 7-1 Test voltage for 6EP3436-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0 and 6EP3436-8UB00-0AY0 (Page 90)	see Table 7-2 Test voltage for 6EP1437-3BA10 (Page 91)	see Table 7-3 Test voltage for 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0 and 6EP3437-8UB00-0AY0 (Page 91)

7.2 Test voltage

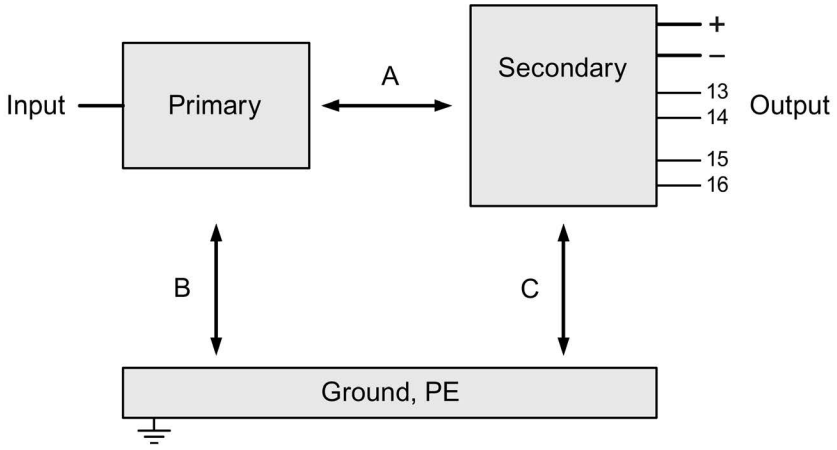


Figure 7-1 Test voltage diagram

Only the manufacturer can perform the type test and production test; users can also perform the field test.

Preconditions for performing the field test:

Tests (A) & (B)

- Connect the input terminals with one another
- Connect the output terminals, signaling contact, remote and PE with one another

Test (C)

- Connect the output terminals and signaling contact with one another and measure with respect to PE

Table 7- 1 Test voltage for 6EP3436-8SB00-0AY0, 6EP3446-8SB10-0AY0, 6EP3446-8SB00-0AY0, 6EP3424-8UB00-0AY0 and 6EP3436-8UB00-0AY0

	Test time	**Prim ↔ sec (A)**	**Prim ↔ PE (B)**	**Sec ↔ PE (C)**
Type test	60 s	4200 V DC	2200 V DC	700 V DC
	60 s	3000 V AC	1500 V AC	500 V AC
Production test	1 s	4200 V DC	4200 V DC	500 V DC
	1 s	3000 V AC	3000 V AC	350 V AC
Field test	1 s	2200 V DC	2200 V DC	500 V DC
	1 s	1500 V AC	1500 V AC	350 V AC

Note:
Tripping current for DC measurement: 0 mA
Tripping current for AC measurement: < 100 mA

Table 7- 2 Test voltage for 6EP1437-3BA10

	Test time	Prim ↔ sec (A)	Prim ↔ PE (B)	Sec ↔ PE (C)
Type test	60 s	4200 V DC	2200 V DC	700 V DC
	60 s	3000 V AC	1500 V AC	500 V AC
Production test	1 s	2200 V DC	2200 V DC	500 V DC
	1 s	1500 V AC	1500 V AC	350 V AC
Field test	1 s	2200 V DC	2200 V DC	500 V DC
	1 s	1500 V AC	1500 V AC	350 V AC

Remark:

Tripping current for DC measurement: 0 mA

Tripping current for AC measurement: < 100 mA

Table 7- 3 Test voltage for 6EP3437-8SB00-0AY0, 6EP3447-8SB00-0AY0 and 6EP3437-8UB00-0AY0

	Test time	Prim ↔ sec (A)	Prim ↔ PE (B)	Sec ↔ PE (C)
Type test	60 s	4200 V DC	2540 V DC	850 V DC
	60 s	3000 V AC	1700 V AC	600 V AC
Production test	1 s	2540 V DC	2540 V DC	850 V DC
	1 s	1700 V AC	1700 V AC	600 V AC
Field test	1 s	2540 V DC	2540 V DC	850 V DC
	1 s	1700 V AC	1700 V AC	600 V AC

Remark:

Tripping current for DC measurement: 0 mA

Tripping current for AC measurement: < 100 mA

7.3 Approvals

	6EP3436-8SB00-0AY0 (24 V/20 A) **6EP3446-8SB10-0AY0 (36 V/13 A)** **6EP3446-8SB00-0AY0 (48 V/10 A)** **6EP3424-8UB00-0AY0 (12 V/20 A)** **6EP3436-8UB00-0AY0 (24 V/17 A)**	**6EP1437-3BA10 (24 V/40 A)**	**6EP3437-8SB00-0AY0 (24 V/40 A)** **6EP3447-8SB00-0AY0 (48 V/20 A)** **6EP3437-8UB00-0AY0 (24 V/40 A)**
CE marking	Yes (2014/35/EU, 2014/30/EU, 2011/65/EU und 2014/34/EU)		
UL/cUL (CSA) approval	cULus-Listed (UL 508, CSA C22.2 No. 107.1), File E197259		
CSA-Zulassung	cCSAus (CSA C22.2 No. 60950-1, UL 60950-1)		
Explosion protection	Yes	Yes	Yes
ATEX approval	II 3G Ex nA nC IIC T4 Gc (EPS 15 ATEX 1 083 X)	II 3G Ex nA nC IIC T4 Gc (EPS 12 ATEX 1 442 X)	II 3G Ex nA nC IIC T4 Gc (PTZ 18 ATEX 0023 X)
IECEx approval	Yes (IECEx EPS 15.0071X)	Yes (IECEx EPS 14.0062X)	Yes (IECEx PTZ 18.0001X)
cCSAus HazLoc	cCSAus HazLoc Class I, Div 2, Group A,B,C,D T4		-
cULus HazLoc	-	-	cULus HazLoc Class I, Div 2, Group A,B,C,D T3
CB approval	Yes	Yes	Yes
SEMI F47	Yes	Yes	Yes
Marine approvals	DNV GL, ABS	DNV GL, ABS	DNV GL (ABS being prepared)

7.4 EMC

		6EP3436-8SB00-0AY0 (24 V/20 A) **6EP1437-3BA10 (24 V/40 A)** **6EP3437-8SB00-0AY0 (24 V/40 A)** **6EP3446-8SB10-0AY0 (36 V/13 A)** **6EP3446-8SB00-0AY0 (48 V/10 A)** **6EP3447-8SB00-0AY0 (48 V/20 A)** **6EP3424-8UB00-0AY0 (12 V/20 A)** **6EP3436-8UB00-0AY0 (24 V/17 A)** **6EP3437-8UB00-0AY0 (24 V/40 A)**
Electrostatic discharge	EN 61000-4-2	8 kV contact, 8 kV air
Electromagnetic fields	EN 61000-4-3	80 - 1000 MHz 25 V/m 1000 - 2700 MHz 10 V/m
High-speed transient disturbance variables (burst)	EN 61000-4-4	4 kV at line supply connections 2 kV at the DC output
Surge voltages	EN 61000-4-5	3 kV symmetrical at the line connections 6 kV unsymmetrical at the line connections 500 V symmetrical/unsymmetrical at DCoutput cables
High-frequency fields	EN 61000-4-6	10 V; 0.15 - 80 MHz
Magnetic fields	EN 61000-4-8	30 A/m; 50 Hz
Emitted interference	EN 55022	Class B
Line harmonics limit	EN 61000-3-2	Class A
Generic standards	EN 61000-6-2	Noise immunity for industrial environments
	EN 61000-6-3	Emission for residential areas

Ambient conditions

8

	6EP3436-8SB00-0AY0 (24 V/20 A) 6EP3446-8SB10-0AY0 (36 V/13 A) 6EP3446-8SB00-0AY0 (48 V/10 A) 6EP3424-8UB00-0AY0 (12 V/20 A) 6EP3436-8UB00-0AY0 (24 V/17 A)	6EP1437-3BA10 (24 V/40 A)	6EP3437-8SB00-0AY0 (24 V/40 A) 6EP3447-8SB00-0AY0 (48 V/20 A) 6EP3437-8UB00-0AY0 (24 V/40 A)
Ambient temperature	-25 ... 70 °C for natural convection (self convection)		-25 ... 70 °C for natural convection (self convection)
• Remark	In the range -25 ... 0 °C continuous starting at a rated input voltage ± 10 % is possible. The specified properties (see Technical data (Page 55)) are only guaranteed in the 0 … 70 °C range.		
	Tested according to: • EN 60068-2-1 cold • EN 60068-2-2 dry heat • EN 60068-2-78 humid heat, constant • EN 60068-2-14 temperature change		
Transport and storage temperature	-40 ... 85 °C Tests (packed for shipping) according to: • EN 60068-2-1 cold • EN 60068-2-2 dry heat • EN 60068-2-30 humid heat, cyclic		
Humidity class	Climatic class 3K3 acc. to EN 60721, 5 - 95 % without condensation		
Mechanical stressing during operation	Tested according to: • EN 60068-2-6 vibration, test Fc: 7 mm deflection in the range 5 – 8.4 Hz 2 g acceleration in the range 8.4 – 150 Hz • EN 60068-2-27 shock, test Ea: acceleration 150 m/s², test duration 11 ms	Tested according to: • EN 60068-2-6 Vibration, test Fc: 0.075 mm deflection in the range 10 - 58 Hz 1 g acceleration in the range 58 - 150 Hz • EN 60068-2-27 shock, test Ea: acceleration 150 m/s², test duration 11 ms	Tested according to: • EN 60068-2-6 vibration, test Fc: 3.5 mm deflection in the range 5 – 8.4 Hz 2 g acceleration in the range 8.4 – 150 Hz • EN 60068-2-27 shock, test Ea: acceleration 150 m/s², test duration 11 ms

	6EP3436-8SB00-0AY0 (24 V/20 A) **6EP3446-8SB10-0AY0 (36 V/13 A)** **6EP3446-8SB00-0AY0 (48 V/10 A)** **6EP3424-8UB00-0AY0 (12 V/20 A)** **6EP3436-8UB00-0AY0 (24 V/17 A)**	**6EP1437-3BA10 (24 V/40 A)**	**6EP3437-8SB00-0AY0 (24 V/40 A)** **6EP3447-8SB00-0AY0 (48 V/20 A)** **6EP3437-8UB00-0AY0 (24 V/40 A)**
Damaging gases	Class 3C2 acc. to EN 60721	Class 3C2 acc. to EN 60721	Class 3C3 acc. to EN 60721
	Tested according to: • EN 60068-2-42 sulfur dioxide • EN 60068-2-43 hydrogen sulfide		
Atmospheric pressure	Operation: • 1080 - 795 hPa (-1000 - 2000 m) • For operation at altitudes of 2000 - 6000 m above sea level: output must be derated by -7.5% / 1000 m or the ambient temperature must be reduced by 5 K / 1000 m (see Figure 4-10 Mounting height derating (Page 32)) • Overvoltage category: III to 2000 m (EN 50178) II from 2000 m to 6000 m (EN 50178) II to 2000 m (EN 60950-1) I from 2000 m to 6000 m (EN 60950-1) Storage: • 1080 - 660 hPa (-1000 - 3500 m)		

Applications

9

9.1 Parallel connection to increase power rating

To increase the power rating, power supplies of the same type can be directly connected in parallel.

The following must be observed:

- The cables connected to each power supply at terminals "+" and "-" must have identical lengths and the same cable cross-sections (or the same impedance) up to a common external connection point (terminal strip) if possible.
- The power supplies connected in parallel must be switched on simultaneously with a common switch in the line feeder cable (e.g. with the main switch available in control cabinets).
- The output voltages measured in no-load operation for the power supplies that are not yet connected in parallel should not deviate more than a maximum of 50 mV. This usually corresponds to the factory setting. If the output voltage is changed, you should connect the "-" terminals and then, in no-load operation, measure the voltage difference between the "+" terminals that have not yet been connected. The voltage difference should not exceed 50 mV.
- Switch selector switch "A" (see Figure 2-6 Selector switch A/B (Page 19)) to "Parallel operation".

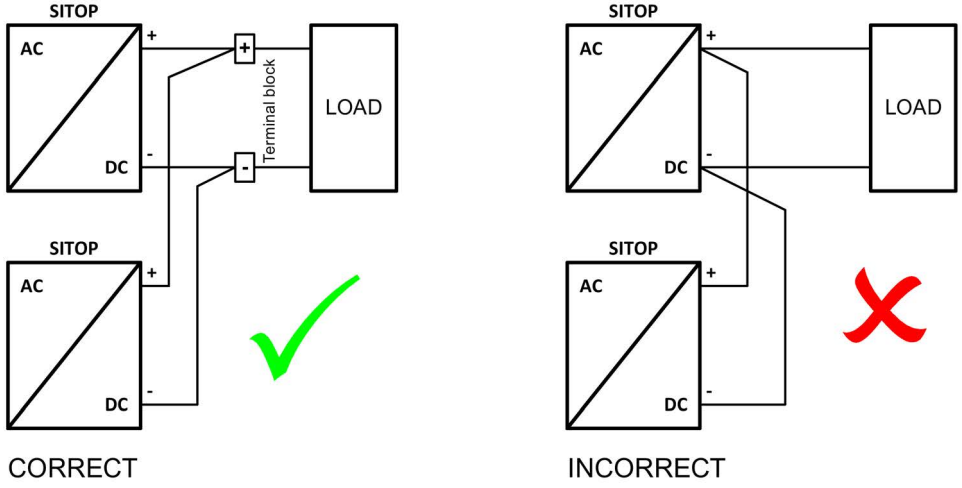


Figure 9-1 Parallel connection

Note

It is not permissible to take into account simultaneous overload capability (Extra-Power 150% for 5 s/min) of several power supplies connected in parallel when configuring the power supply system.

NOTICE

Protective circuit for the parallel connection of more than two power supplies

When connecting more than two power supplies in parallel, additional measures must be taken to prevent high reverse currents in the event of a secondary device fault. For this purpose, a suitable protective circuit (e.g. decoupling diode or DC-capable circuit breaker) must be installed between each "+" terminal of the power supply and the common connection point.

9.2 Parallel connection for redundancy

Connecting several 24 V power supplies in parallel for redundancy purposes is required if especially high demands are placed regarding the availability of a reliable 24 V power supply.
Using the SITOP PSE202U redundancy module, two power supplies of the same type up to 20 A can be decoupled (Figure 9-2 Redundant configuration with two power supplies and SITOP PSE202U redundancy module (Page 99)). When one of the devices fails, then the other automatically takes over the power supply. If one of the power supplies fails, then this is signaled using an LED on the redundancy module as well as an isolated relay contact.
For higher output currents, each power supply must be connected to a redundancy module (Figure 9-3 Redundant configuration with two power supplies and two SITOP PSE202U redundancy modules (Page 99)). When dimensioning the system, it must be ensured that n+1 redundant connected power supplies can handle the total power requirement of the remaining n power supplies.

Note

For a high reliability of the supply, it is recommended that the redundant switched power supplies are fused separately on the line-side and, if possible, be connected to different line supplies.

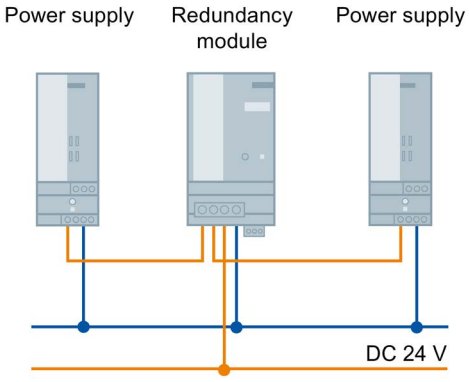


Figure 9-2 Redundant configuration with two power supplies and SITOP PSE202U redundancy module

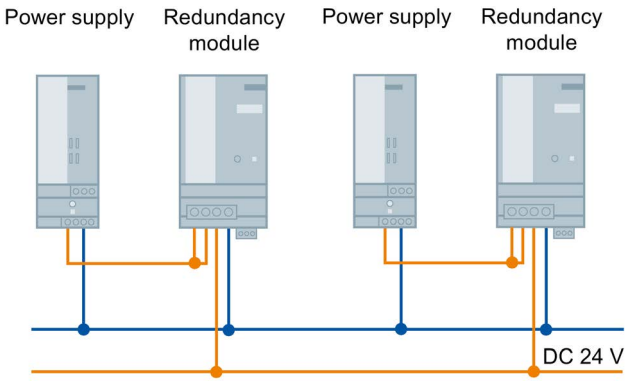


Figure 9-3 Redundant configuration with two power supplies and two SITOP PSE202U redundancy modules

You can find additional information at:

SITOP PSE202U manual (https://support.industry.siemens.com/cs/ww/en/view/42248598)

9.3 Series connection for increased voltage

To achieve an output voltage of 48 V DC, two 24 V SITOP power supplies of the same type can be connected in series.

Depending on the grounding point of the secondary output voltages, voltages of +48 V, ±24 V or -48 V can be realized.

Note

For additional details, see Catalog KT 10.1 Chapter 15 Technical information and configuring (see (https://support.industry.siemens.com/cs/ww/de/view/109745655)).

WARNING

SELV is not guaranteed in the case of a fault

When connecting two power supplies in series, the continuous, permissible SELV voltage of a maximum of 60 VDC according to EN 60950-1 cannot be guaranteed in the case of a fault.

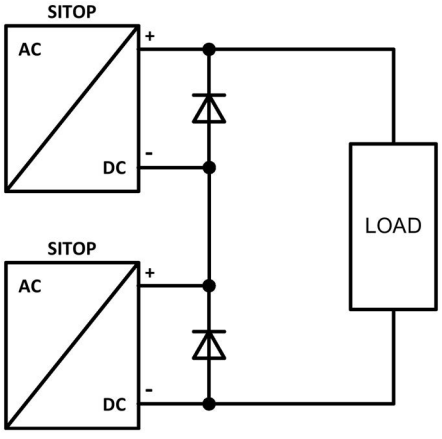


Figure 9-4 Series connection

9.4 Overload protection in the 24 V output circuit

If an overload occurs, the electronic current limiting function of the 24 V power supply limits the output current to a maximum value (see Section Technical data (Page 55)). The output cables are protected against a thermal overload if they are dimensioned corresponding to the maximum rms output current, or protected using additional components (for example, miniature circuit breaker, fuses).

However, a load circuit that fails as a result of overload, for instance, should frequently be reliably and quickly identified and specifically switched off before the power supply goes into current-limiting mode (in current-limiting mode, the supply voltage would also be reduced for all of the remaining 24 V loads).

The SITOP PSE200U selectivity module with 4 outputs (versions with adjustable output current range for each output from 0.5 - 3 A and 3 - 10 A) is available for this purpose; this monitors the 24 V branches for overload and short circuit (Figure 9-5 Electronic protection of 24 V loads using the SITOP PSE200U selectivity module (Page 102)). Brief current peaks, e.g. as a result of a high inrush current, are permitted, and branches with a longer overload are switched into a no-current condition. This is also ensured for cables in a high-ohmic condition and for short circuits that slowly develop over time.

When an output fails, the fault is signaled using a group signal contact or as a single channel signal, and the branch of the module involved is displayed using an LED.

For variants with single-channel signaling, function blocks for evaluation purposes are available for SIMATIC S7-1200/1500/300/400, for STEP 7 Classic and TIA Portal at no charge.

You can find additional information at:

Manual SITOP selectivity modules
(https://support.industry.siemens.com/cs/ww/en/view/108989004)

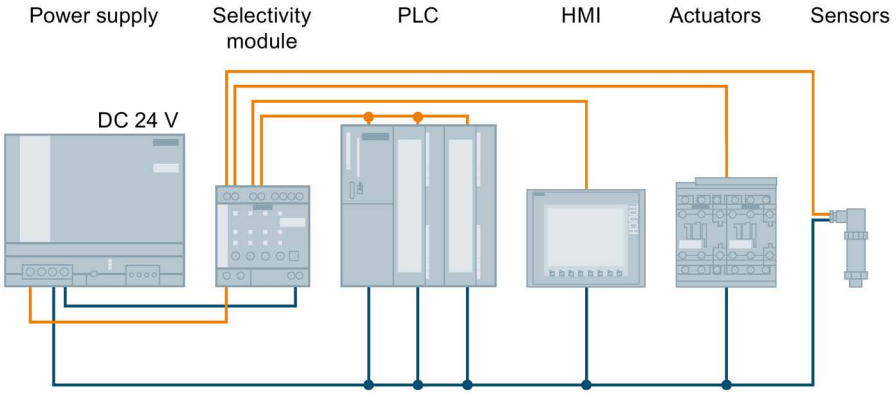


Figure 9-5 Electronic protection of 24 V loads using the SITOP PSE200U selectivity module

9.5 Protection against short-time voltage dips

For a drop in the line-side supply voltage, the 24 V power supply still maintains the output voltage for a short time in the millisecond range (see Chapter Technical data (Page 55)).

For line supplies that manifest frequent brief voltage dips, in order to increase the power supply reliability, it may make sense to increase the line buffering time in the device using an additional SITOP PSE201U buffer module.

The SITOP PSE201U buffer module, based on electrolytic capacitors, is connected in parallel to the power supply output (Figure 9-6 Buffering brief power failures using the SITOP PSE201U buffer module (Page 103)). The buffer time is 200 ms at 40 A up to 1.6 s for a load current of 5 A. This time can be increased a multiple number of times by connecting buffer modules in parallel; the maximum buffer time is 10 s.

You can find additional information at:

SITOP PSE201U manual (https://support.industry.siemens.com/cs/ww/en/view/41129219)

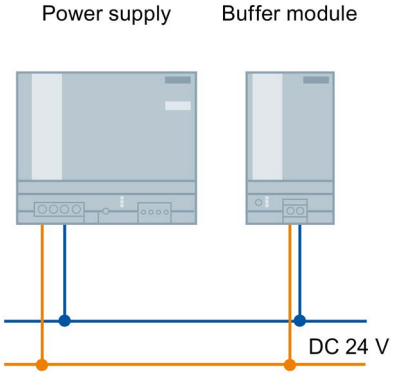


Figure 9-6 Buffering brief power failures using the SITOP PSE201U buffer module

9.6 Protecting against longer power failures

Sudden and longer failures of the line supply voltage can result in undefined states and significant danger as a result of the associated failure of the plant or system control. The SITOP power supply product portfolio includes various DC-UPS solutions to prevent the failure of the 24 V power supply voltage.

Power supply failures up into the minutes range can be buffered using the maintenance-free SITOP UPS500 DC-UPS modules based on capacitors (Figure 9-7 24 V buffering to allow the saving of process data and controlled shutdown of PCs (Page 104)).

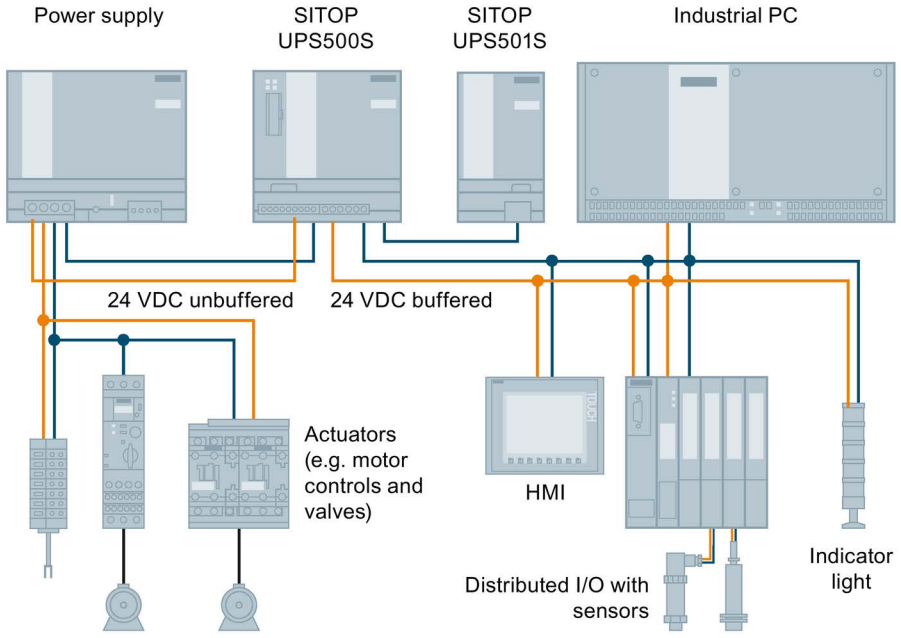


Figure 9-7 24 V buffering to allow the saving of process data and controlled shutdown of PCs

Using the free-of-charge SITOP DC-UPS software tool, DC-UPS systems can be simply integrated into PC-based automation solutions. This supports further processing of the status signals and safely running down the PC.

You can find additional information at:

Manual, DC UPS with capacitors
(https://support.industry.siemens.com/cs/ww/en/ps/18042/man)

Using DC UPS SITOP UPS1600 and SITOP UPS1100 battery modules, buffer times in the range of hours can be implemented. Intelligent battery management using Energy Storage Link automatically detects the UPS1100 energy storage device, and ensures optimum temperature-controlled charging and continuous monitoring. The UPS1600 can be flexibly integrated into the widest range of automation applications with its digital inputs/outputs as well as optional USB interface or Ethernet/PROFINET port.

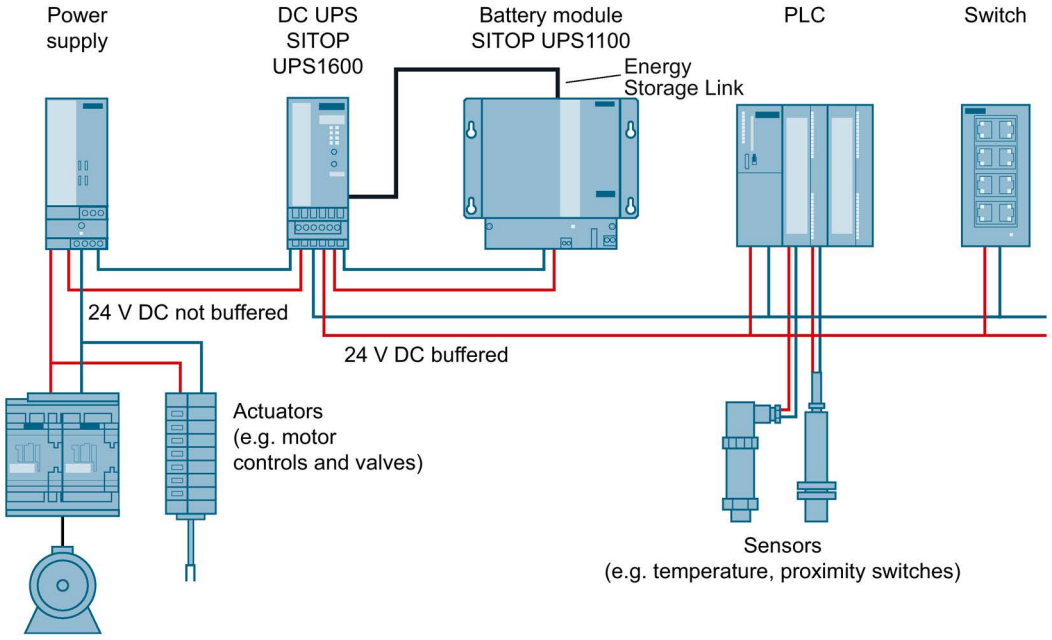


Figure 9-8 24 V buffering with SITOP UPS1600 to maintain communication, signaling functions, sensor measured values and position values

For open, PC-based automation systems, configuration and monitoring is realized using the SITOP UPS Manager PC software, which is available at no charge. This allows PC responses to the operating states of the DC UPS to be freely selected – and offers comprehensive diagnostic functions.

For TIA-based automation systems, the UPS1600 is engineered using the TIA Portal. Special function blocks for SIMATIC S7-300/400/1200 and S7-1500 – available at no charge – make it easy to integrate operating and diagnostics information into STEP 7 user programs. Preconfigured UPS faceplates for WinCC visualization can be downloaded at no charge.

You can find additional information at:

DC UPS SITOP UPS1600/UPS1100 Manual
(https://support.industry.siemens.com/cs/ww/en/view/84977415)

9.7 Battery charging with SITOP PSU3800

The SITOP PSU3800 power supplies are optimized for charging lead batteries. For a U-I characteristic curve set to parallel operation (DIP switch "A" at "ON", see Section Figure 2-6 Selector switch A/B (Page 19)), the battery to be charged is charged with a constant current until approximately 95 % of the set SITOP output voltage is reached (set using a potentiometer, see Section Potentiometer (Page 13)). The charging current then decreases continuously from 1.2 × rated current at 95 % of the set voltage to approx. 0 A or the self-discharging current of the battery at 100% of the set output voltage, i.e. the resistance characteristic in this range (see Figure 6-15 Output characteristic 6EP3436-8UB00-0AY0 parallel operation (Page 68), Figure 6-16 Output characteristic 6EP3424-8UB00-0AY0 parallel operation (Page 68) and Figure 6-20 Output characteristic 6EP3437-8UB00-0AY0 parallel operation (B OFF) (Page 70))

Note

The value recommended by the battery manufacturer (dependent on the battery temperature) must be set as end-of-charge voltage. A lead rechargeable battery temperature of 20 ... 30 °C is ideal; in this case, the recommended end-of-charge voltage is normally approx. 13.5 or 27 V.

Note

As protection against back emf and as polarity reversal protection, we recommend that a diode rated for at least 1.2 × rated current of the power supply with at least 40 V blocking voltage is connected in series to the "+" output (connect the anode with "+" output of the SITOP PSU8200/3800 and the cathode with the plus pole of the battery). The output voltage of the power supply under no load must be set to the end-of-charge voltage plus the voltage drop at the diode. For an end-of-charge voltage of, for example, 27.0 V DC (usual for 20 ... 30 °C battery temperature, although the specifications of the battery manufacturer must always be observed!) and 0.8 V voltage drop at the diode, the power supply without load should be set to 27.8 V.

LEDs and a potential-free signaling contact indicate the associated charge state of the battery (see Section Figure 2-5 Operating display and signaling (Page 16)):

Green LED ("12 V O.K.", "24 V O.K.") lit Signaling contact (13, 14) closed	Battery voltage > approx. 10 V or > approx. 20 V
Yellow LED (OVERLOAD) lit Signaling contact (13, 14) open	Battery voltage < approx. 10 V or < approx. 20 V

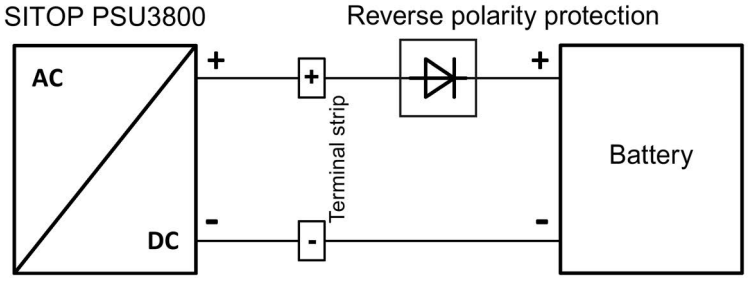


Figure 9-9 Battery charging with SITOP PSU3800

WARNING

The SITOP PSU3800 power supply is a built-in device. It must be installed in a housing or control cabinet, to which only qualified personnel have access.

If SITOP is used as the battery charging device, the VDE 0510 regulations or the appropriate national regulations must be observed and an adequate ventilation of the battery location ensured.

Environment

10

The devices are in conformance with RoHS.

As a rule, only non-silicon precipitating materials are used.

Disposal guidelines

Packaging and packaging aids can and should always be recycled. The product itself may not be disposed of as domestic refuse.

Service & Support

11

Technical support

Technical support for all IA/DT products can be accessed through the following communication channels:

- Telephone: + 49 (0) 911 895 7222
- Internet:
  Web form for support request (http://www.siemens.de/automation/support-request)

Technical documentation on the Internet

Operating instructions and manuals for SITOP are available in the Internet:
Operating instructions/manuals (http://www.siemens.com/sitop/manuals)

SITOP power supply homepage

General news about our power supplies is available in the Internet at the SITOP home page:
SITOP (http://www.siemens.com/sitop)

Information material

SITOP information can be downloaded from the Internet:
Information and download center (http://www.siemens.com/sitop-infomaterial)

CAx data

2D/3D data and circuit diagram macros can be downloaded from the Internet:
Siemens image database (http://www.siemens.com/sitop-cax)

Request all CAx data via the CAx download manager:
CAx shopping cart (http://www.siemens.com/cax)

SITOP Selection Tool

Simply and quickly select the optimum the power supply or DC-UPS:
SITOP Selection Tool (http://www.siemens.com/sitop-selection-tool)

Online catalog and ordering system

The online catalog and the online ordering system are available through the Industry Mall homepage:
Industry Mall (http://www.siemens.com/industrymall/de)

Contact persons

If you have any questions regarding the use of our products, then contact the Siemens contact person in your regional Siemens sales office.

You can find these addresses as follows:

- On the Internet (http://www.automation.siemens.com/partner)
- Industry Mall (http://www.siemens.com/industrymall/de)