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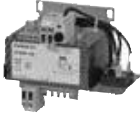
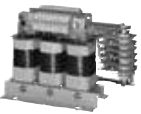
# Power Supplies

## Introduction






### Overview

#### 4AV non-stabilized power supplies

					
	4AV21/23	4AV20/22/24/26	4AV4	4AV3	4AV5
<b>Filtered for supply of electronic controls</b>					
Ripple	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %
Phases	1	1	1	3	3
Rated input voltage	V AC 115 ... 415	115 ... 415	230 ... 415	200 ... 600	400 ... 415
Rated output voltage according to EN 61131-2 suitable for SIMATIC systems	V DC 24	24	24	24	24
Rated output current	A 1 ... 3.5	2.5 ... 15	1.5 ... 10	15 ... 150	25, 35
Connection	Screw/flat connection	Screw/flat or Cage Clamp connection	Screw/flat or Cage Clamp connection	Screw/flat connection	Screw/flat connection
Mounting	Standard rail mounting	Screw and/or standard rail mounting	Screw and/or standard rail mounting	Screw mounting	Screw mounting
cULus certification	Yes	Yes	No	Partially	No

		
	4AV98	4AV96
<b>Unfiltered for supply of general loads</b>		
Ripple	48.3 %	< 5 %
Phases	1	3
Rated input voltage	V AC 230 or 400	400
Rated output voltage	V DC 24	30-27-24
Rated output current/ rated power	50 ... 500 W	4 ... 25 A
Connection	Screw/flat connection	Screw/flat connection
Mounting	Screw mounting	Screw mounting
cULus certification	No	No

#### 4FD<sup>1)</sup>, 6EP stabilized power supplies

					
	4FD <sup>1)</sup>	6EP1 LOGO!Power	6EP1 SITOP power	6EP1 SITOP modular	6EP1 SITOP power uninterruptible
Phases	1	1	1	1, 2, 3	1
Rated input voltage	V 115 ... 230 AC	100 ... 240 AC	48 ... 220 DC, 120 ... 230 AC, 120/230 AC	120/230 ... 500 AC, 120/230 AC, 3 x 400 ... 500 V AC	24 DC
Rated output voltage	V DC 5, 12, 15, 24	5, 12, 15, 24	24, 3 ... 52	24	24
Rated output current	A 3 ... 10	1.3 ... 6.3	0.375 ... 20	5 ... 40	6, 15, 40
Connection	Cage Clamp connection	Screw connection	Screw connection	Screw connection	Screw connection
Mounting	Standard rail mounting	Standard rail mounting	Standard rail mounting	Standard rail mounting	Standard rail mounting
Certification	cULus	UL, cUL	UL, cUL	UL, cUL	UL, cUL

Further products for power supplies can be found in Catalog KT 10.1 or on the Internet at <http://www.siemens.com/sidac> and <http://www.siemens.com/sitop>.

1) For more information see the interactive catalog CA 01 and A&D Mall.

# 4AV Non-Stabilized Power Supplies Filtered for Supply of Electronic Controls

## General data

### Overview

4AV2, 4AV3, 4AV4 and 4AV5 power supplies deliver an non-stabilized DC voltage of 24 V DC based on single-phase or three-phase safety isolating transformers with downstream rectifiers and capacitor filtering.

### Benefits

The rugged construction of the 4AV units makes them extremely reliable. They are extremely stable when confronted with external mains failures and have a damping effect on electromagnetic interference. They are also highly suitable for supplying capacitive loads, because when the loads are connected only minimal voltage dips occur.

### Application

The 4AV2, 4AV3, 4AV4 and 4AV5 units are used for:

- Supplying general electrical loads
- Supplying control circuits
- Power supply to electronic controllers They comply with the requirements of EN 61131-2 "Programmable logic controllers – equipment specifications and tests" and are suitable for SIMATIC or other systems.

### Rated output and rated current

The specifications in the selection tables are based on fixed reference conditions in which the devices have the rated output or rated current:

- Continuous operation  $P_n$
- Frequency AC 50 Hz ... 60 Hz
- Installation altitude up to 1000 m above sea level
- Degree of protection IP00
- Ambient temperature  $t_a$ .

### Ambient conditions

The units are designed for mounting in enclosed controllers and electronics cabinets. They are climate-proof for mounting in rooms with an external climate according to DIN 50010.

Limit values:

- Ambient temperature with rated output and rated current for types:
  - 4AV2 and 4AV3: up to +60 °C
  - 4AV4 and 4AV5: up to +40 °C
  - Lowest value for all types: –25 °C.
- Relative air humidity:
  - At +40 °C occasionally up to 100 %
  - Annual average up to 80 %
  - Occasional condensation possible.

## 4AV2, 4AV4 power supplies, filtered, single-phase

### Overview

- Rated output voltage  $U_{2N}$  24 V DC according to EN 61131-2<sup>1)</sup> and SIMATIC at input voltage +6 % to –10 % and load 0 % to 100 %
- Safety transformer according to EN 61558-2-6 ☒
- 4AV21, 4AV23: **CE, cULus**;  
4AV20, 4AV22, 4AV24, 4AV26: **CE, cULus**;  
4AV41: **CE**
- 4AV2:  $t_a = 60$  °C/B,  
4AV41:  $t_a = 40$  °C/B
- Varistor suppressor circuit
- Status LED
- 4AV2: suitable for connection to the public supply and industrial networks: EN 61000-3-2, -3-3; emitted interference: EN 50081-1; interference immunity: EN 50082-2; 4AV4: suitable for connection to industrial networks: EN 61000-3-2, -3-3; emitted interference: EN 50081-1; interference immunity: EN 50082-2
- Ripple < 5 %.



4AV21, 4AV23 (figure on the left) and 4AV20, 4AV22 to 4AV24 (figure on the right)

1) EN 61131-2: equipment specification for power supply and interface for programmable controllers. Limit values for 24 V DC see [Technical Information LV 1 T "Technical Specifications"](#).

### Selection and ordering data

**Rated input voltage  $U_{1N}$ <sup>1)</sup>**  
**230 (240)-115 (120) V,**  
**rated output voltage  $U_{2N}$  24 V DC**  
**CE, cULus, ☒**

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	DT	Integrated standard rail mounting		Copper weight per PU approx.	Total weight per PU approx.
		Order No.	Price per PU		
DC A				kg	kg

Screw/flat connections					
1		<b>4AV21 02-2EB00-0A</b>		0.600	1.500
3.5	▶	<b>4AV23 02-2EB00-0A</b>		0.900	2.500

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

# 4AV Non-Stabilized Power Supplies

## Filtered for Supply of Electronic Controls

**4AV2, 4AV4 power supplies,  
filtered, single-phase**

**Rated input voltage  $U_{1N}^{(1)}$  400 (415) V,  
rated output voltage  $U_{2N}$  24 V DC**

CE, cULus, 

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this  
quantity or a multiple thereof.)  
PG = 104



Rated output current $I_d$	DT	Integrated standard rail mounting		Copper weight per PU approx.	Total weight per PU approx.
		Order No.	Price per PU		
DC A				kg	kg

### Screw/flat connections

1	▶	<b>4AV21 06-2EB00-0A</b>	0.600	1.500
3.5	▶	<b>4AV23 06-2EB00-0A</b>	0.900	2.500

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

**Rated input voltage  $U_{1N}^{(1)}$   
400 (415)-230 (240) V with tapping  $\pm 15$  V,  
rated output voltage  $U_{2N}$  24 V DC**

**4AV2: CE, cULus, ; 4AV41: CE, **

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this  
quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	DT	Screw mounting <sup>2)</sup>		Copper weight per PU approx.	Total weight per PU approx.	DT	Standard rail mounting		Copper weight per PU approx.	Total weight per PU approx.
		Order No.	Price per PU				Order No.	Price per PU		
DC A				kg	kg			kg	kg	

### Screw/flat connections

1.5	▶	<b>4AV41 01-2EB00-0A</b>	0.300	1.400	B	<b>4AV41 01-2EB00-0B</b>	0.300	1.400
2.5	▶	<b>4AV20 00-2EB00-0A</b>	0.620	2.300	▶	<b>4AV20 00-2EB00-0A</b>	0.620	2.300
3	▶	<b>4AV41 03-2EB00-0A</b>	0.310	2.300	▶	<b>4AV41 03-2EB00-0A</b>	0.310	2.300
5	▶	<b>4AV22 00-2EB00-0A</b>	0.600	4.900	B	<b>4AV22 00-2EB00-0B</b>	0.600	4.900
6	▶	<b>4AV41 06-2EB00-0A</b>	0.510	4.000	▶	<b>4AV41 06-2EB00-0A</b>	0.510	4.000
10	▶	<b>4AV41 10-2EB00-0A</b>	1.100	5.300	B	<b>4AV41 10-2EB00-0B</b>	1.100	5.300
10	▶	<b>4AV24 00-2EB00-0A</b>	0.900	7.500	B	<b>4AV24 00-2EB00-0B</b>	0.900	7.500
15	▶	<b>4AV26 00-2EB00-0A</b>	1.500	9.000	--	--	--	--

### Cage Clamp connections

1.5	▶	<b>4AV41 01-2EB00-1A</b>	0.300	1.220	B	<b>4AV41 01-2EB00-1B</b>	0.300	1.400
2.5	B	<b>4AV20 00-2EB00-1A</b>	0.620	2.300	B	<b>4AV20 00-2EB00-1A</b>	0.620	2.300
3	▶	<b>4AV41 03-2EB00-1A</b>	0.310	2.300	▶	<b>4AV41 03-2EB00-1A</b>	0.310	2.300
5	B	<b>4AV22 00-2EB00-1A</b>	0.600	4.900	B	<b>4AV22 00-2EB00-1B</b>	0.600	4.900
6	▶	<b>4AV41 06-2EB00-1A</b>	0.510	4.000	▶	<b>4AV41 06-2EB00-1A</b>	0.510	4.000
10	▶	<b>4AV41 10-2EB00-1A</b>	1.100	5.300	B	<b>4AV41 10-2EB00-1B</b>	1.100	5.300
10	B	<b>4AV24 00-2EB00-1A</b>	0.900	7.500	B	<b>4AV24 00-2EB00-1B</b>	0.900	7.500
15	B	<b>4AV26 00-2EB00-1A</b>	1.500	9.000	--	--	--	--

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved for Type 4AV2 and 31.1 V can be achieved for Type 4AV4.

2) Types 4AV20, 4AV41 03 and 4AV41 06 are equipped with an integrated standard mounting rail fixing as standard.

**Rated input voltage  $U_{1N}^{(1)}$   
400 (415)-230 (240)-115 (120) V,  
rated output voltage  $U_{2N}$  24 V DC**

CE, cULus, 

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this  
quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	DT	Screw mounting <sup>2)</sup>		Copper weight per PU approx.	Total weight per PU approx.	DT	Standard rail mounting		Copper weight per PU approx.	Total weight per PU approx.
		Order No.	Price per PU				Order No.	Price per PU		
DC A				kg	kg			kg	kg	

### Screw/flat connections

2.5	▶	<b>4AV20 01-2EB00-0A</b>	0.620	2.300	▶	<b>4AV20 01-2EB00-0A</b>	0.620	2.300
5	▶	<b>4AV22 01-2EB00-0A</b>	0.600	4.900	B	<b>4AV22 01-2EB00-0B</b>	0.600	4.900
10	▶	<b>4AV24 01-2EB00-0A</b>	0.900	7.500	B	<b>4AV24 01-2EB00-0B</b>	0.900	7.500
15	▶	<b>4AV26 01-2EB00-0A</b>	1.500	9.000	--	--	--	--

### Cage Clamp connections

2.5	B	<b>4AV20 01-2EB00-1A</b>	0.620	2.300	B	<b>4AV20 01-2EB00-1A</b>	0.620	2.300
5	B	<b>4AV22 01-2EB00-1A</b>	0.600	4.900	B	<b>4AV22 01-2EB00-1B</b>	0.600	4.900
10	B	<b>4AV24 01-2EB00-1A</b>	0.900	7.500	B	<b>4AV24 01-2EB00-1B</b>	0.900	7.500
15	B	<b>4AV26 01-2EB00-1A</b>	1.500	9.000	--	--	--	--

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

2) Types 4AV20 are equipped with an integrated standard mounting rail fixing as standard.

# 4AV Non-Stabilized Power Supplies Filtered for Supply of Electronic Controls

4AV3, 4AV5 power supplies,  
filtered, three-phase

## Overview

- Rated output voltage  $U_{2N}$  24 V DC according to EN 61131-2<sup>1)</sup> and SIMATIC at input voltage +6 % to -10 % and load 0 % to 100 %
- Safety transformer according to EN 61558-2-6
- 4AV30 to 4AV35: **CE**, **cULus**;  
4AV36, 4AV38, 4AV51: **CE**
- 4AV3:  $t_a = 60$  °C/B,  
4AV51:  $t_a = 40$  °C/B
- Varistor suppressor circuit
- Status LED
- 4AV3: suitable for connection to public supply and industrial networks EN 61000-3-2, -3-3;  
emitted interference EN 50081-1; interference immunity EN 50082-2;  
4AV5: suitable for connection to industrial networks EN 61000-3-2, -3-3;  
emitted interference EN 50081-1; interference immunity EN 50082-2
- Ripple < 5 %.



4AV30 to 4AV33 (figure on the left) and 4AV38 (figure on the right)

1) EN 61131-2: equipment specification for power supply and interface for programmable controllers. Limit values for 24 V DC  
see "Technical Information LV 1 T" "Technical Specifications"

## Selection and ordering data

Rated input voltage  $U_{1N}$ <sup>1)</sup> **Y 400 (415) V**  
with tapping  $\pm 20$  V,  $\Delta$  230 V with tapping  $\pm 10$  V,  
rated output voltage  $U_{2N}$  24 V DC

**CE**, **cULus**,

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	Additional capacitance	Ripple	Backup time at $U_1 = U_{1N} - 10$ %	DT	Screw/flat connection		Copper weight per PU approx.	Total weight per PU approx.
					Order No.	Price per PU		
DC A	$\mu$ F	%	ms				kg	kg
<b>Standard designs</b>								
10	--	<5	--		<b>4AV30 00-2EB00-0A</b>		1.600	5.000
15	--	<5	--		<b>4AV31 00-2EB00-0A</b>		1.600	6.500
20	--	<5	--		<b>4AV32 00-2EB00-0A</b>		2.400	8.000
30	--	<5	--		<b>4AV33 00-2EB00-0A</b>		2.600	11.000
40	--	<5	--		<b>4AV34 00-2FB00-0A</b>		4.900	17.000
50	--	<5	--		<b>4AV35 00-2FB00-0A</b>		4.100	21.000
<b>Additional capacitors (aluminum electrolyte)</b>								
10	10000	2	1	B	<b>4AV30 00-2EB00-0C</b>		1.600	5.000
15	10000	3	0.6	B	<b>4AV31 00-2EB00-0C</b>		1.600	6.500
20	10000	3	0.4	B	<b>4AV32 00-2EB00-0C</b>		2.400	8.000
30	10000	4	0.7	B	<b>4AV33 00-2EB00-0C</b>		2.600	11.000
40	10000	3	0.7	B	<b>4AV34 00-2FB00-0C</b>		4.900	17.000
50	10000	4	0.3	B	<b>4AV35 00-2FB00-0C</b>		4.100	21.000

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

Rated input voltage  $U_{1N}$ <sup>1)</sup> **400 (415) V**  
with tapping  $\pm 20$  V,  
rated output voltage  $U_{2N}$  24 V DC

**CE**, **cULus**,

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	Ripple	DT	Screw/flat connection		Copper weight per PU approx.	Total weight per PU approx.
			Order No.	Price per PU		
DC A	%				kg	kg
<b>Standard designs</b>						
25	<5	A	<b>4AV51 25-2EB00-0A</b>		2.000	10.300
35	<5	A	<b>4AV51 35-2EB00-0A</b>		3.400	14.500

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC according to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 31.1 V can be achieved.






# 4AV Non-Stabilized Power Supplies Filtered for Supply of Electronic Controls

## 4AV3, 4AV5 power supplies, filtered, three-phase

Rated input voltage  $U_{1N}^{1)}$  500-400 (415) V,  
rated output voltage  $U_{2N}$  24 V DC

4AV31 to 4AV35: CE, cULus, ; 4AV36, 4AV38: CE, 

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this quantity or a multiple thereof.)  
PG = 104







Rated output current $I_d$	Additional capacitance	Ripple	Backup time at $U_1 = U_{1N} - 10\%$	DT	Screw/flat connection		Copper weight per PU approx.	Total weight per PU approx.
					Order No.	Price per PU		
DC A	$\mu\text{F}$	%	ms				kg	kg
<b>Standard designs</b>								
15	--	< 5	--		<b>4AV31 01-2EB00-0A</b>		1.600	6.500
30	--	< 5	--		<b>4AV33 01-2EB00-0A</b>		2.600	11.000
50	--	< 5	--		<b>4AV35 01-2FB00-0A</b>		4.100	21.000
80	--	< 5	--		<b>4AV36 01-2EB00-0A</b>		8.600	32.000
150	--	< 5	--		<b>4AV38 01-2EB00-0A</b>		14.400	46.000
<b>Additional capacitors (aluminum electrolyte)</b>								
15	10000	3	0.6	B	<b>4AV31 01-2EB00-0C</b>		1.600	6.500
30	10000	4	0.7	B	<b>4AV33 01-2EB00-0C</b>		2.600	11.000
50	10000	4	0.3	B	<b>4AV35 01-2FB00-0C</b>		4.100	21.000
80	2 × 10000	4	0.2	B	<b>4AV36 01-2EB00-0C</b>		8.600	32.000
150	3 × 10000	4	0.2	B	<b>4AV38 01-2EB00-0C</b>		14.400	46.000

1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

Rated input voltage  $U_{1N}^{1)}$   
575 (600)-500-460 (480)-400 (415)-230 (240)-200 V,  
rated output voltage  $U_{2N}$  24 V DC

CE, cULus, 

PU (UNIT, SET, M) = 1  
PS = 1 unit (You can order this quantity or a multiple thereof.)  
PG = 104

Rated output current $I_d$	Additional capacitance	Ripple	Backup time at $U_1 = U_{1N} - 10\%$	DT	Screw/flat connection		Copper weight per PU approx.	Total weight per PU approx.
					Order No.	Price per PU		
DC A	$\mu\text{F}$	%	ms				kg	kg
<b>Standard designs</b>								
9	--	<5	--		<b>4AV30 02-2EB00-0A</b>		1.600	5.000
13.5	--	<5	--		<b>4AV31 02-2EB00-0A</b>		1.600	6.500
18	--	<5	--		<b>4AV32 02-2EB00-0A</b>		2.400	8.000
27	--	<5	--		<b>4AV33 02-2EB00-0A</b>		2.600	11.000
36	--	<5	--		<b>4AV34 02-2FB00-0A</b>		4.900	17.000
45	--	<5	--		<b>4AV35 02-2FB00-0A</b>		4.100	21.000
<b>Additional capacitors (aluminum electrolyte)</b>								
9	10000	2	1	B	<b>4AV30 02-2EB00-0C</b>		1.600	5.000
13.5	10000	3	0.6	B	<b>4AV31 02-2EB00-0C</b>		1.600	6.500
18	10000	3	0.4	B	<b>4AV32 02-2EB00-0C</b>		2.400	8.000
27	10000	4	0.7	B	<b>4AV33 02-2EB00-0C</b>		2.600	11.000
36	10000	3	0.7	B	<b>4AV34 02-2FB00-0C</b>		4.900	17.000
45	10000	4	0.3	B	<b>4AV35 02-2FB00-0C</b>		4.100	21.000


1) During operation at the mains voltages listed in brackets, the upper limit for 24 V DC to EN 61131-2 at +6 % mains voltage is met for a basic load of 10 %. Under no-load operation, 29.9 V can be achieved.

# 4AV Non-Stabilized Power Supplies Unfiltered for Supply of General Loads

4AV98 power supplies,  
unfiltered, single-phase

## Overview

The 4AV98 power supplies comprise single-phase safety transformers according to EN 61558-2-6 with downstream bridge connection rectifiers without capacitor filtering.

- Rated output voltage  $U_d$  24 V DC
- Safety transformer according to EN 61558-2-6
- CE, 
- $t_a = 50$  °C/B
- Varistor suppressor circuit
- Short-circuit and overload protection on the output side with top-mounted fuse
- Ripple 48 %.



4AV98

## Application

The single-phase 4AV98 devices are especially suitable for supplying resistive and inductive loads whose rated voltages place no special demands with regard to ripple.

### Rated output and rated current

The specifications in the selection tables are based on fixed reference conditions in which the devices have the rated output or rated current:

- Continuous operation  $P_n$
- Frequency AC 50 Hz ... 60 Hz
- Installation altitude up to 1000 m above sea level
- Degree of protection IP00
- Ambient temperature  $t_a$ .

### Ambient conditions

The devices are climate-proof for use in rooms with an external climate according to DIN 50010.

Limit values:

- Ambient temperature
  - At rated power or rated current: +50 °C
  - Minimum value: –25 °C.
- Relative air humidity
  - At +40 °C occasionally up to 100 %
  - Annual average up to 80 %
  - Occasional condensation possible.

## Selection and ordering data

Rated input voltage  $U_{1N}$  230 V,  
rated output voltage  $U_d$  24 V DC

CE, 

Rated power $P_{2N}$	Voltage rise during no-load operation $u_A$	DT	Screw/flat connection	PU (UNIT, SET, M)	PS*	PG	Copper weight per PU approx.	Total weight per PU approx.
W	%		Order No. Price per PU				kg	kg
50	24	A	<b>4AV98 06-4CB00-2N</b>	1	1 unit	104	0.200	0.900
80	18	B	<b>4AV98 06-5CB00-2N</b>	1	1 unit	104	0.300	1.600
125	14	A	<b>4AV98 06-6CB00-2N</b>	1	1 unit	104	0.400	2.300
200	11	A	<b>4AV98 06-7CB00-2N</b>	1	1 unit	104	0.600	3.300
315	10	A	<b>4AV98 06-8CB00-2N</b>	1	1 unit	104	1.100	4.900
500	9	A	<b>4AV98 00-5CB00-2N</b>	1	1 unit	104	1.700	10.000

Rated input voltage  $U_{1N}$  400 V,  
rated output voltage  $U_d$  24 V DC

CE, 

Rated power $P_{2N}$	Voltage rise during no-load operation $u_A$	DT	Screw/flat connection	PU (UNIT, SET, M)	PS*	PG	Copper weight per PU approx.	Total weight per PU approx.
W	%		Order No. Price per PU				kg	kg
50	24	A	<b>4AV98 07-0CB00-2N</b>	1	1 unit	104	0.200	0.900
80	18	A	<b>4AV98 07-1CB00-2N</b>	1	1 unit	104	0.300	1.600
125	14	A	<b>4AV98 07-2CB00-2N</b>	1	1 unit	104	0.400	2.300
200	11	A	<b>4AV98 07-3CB00-2N</b>	1	1 unit	104	0.600	3.300
315	10	A	<b>4AV98 07-4CB00-2N</b>	1	1 unit	104	1.100	4.900
500	9	A	<b>4AV98 02-5CB00-2N</b>	1	1 unit	104	1.700	10.000


\* You can order this quantity or a multiple thereof.

# 4AV Non-Stabilized Power Supplies Unfiltered for Supply of General Loads

## 4AV96 power supplies, unfiltered, three-phase

### Overview

The 4AV96 power supplies comprise three-phase safety transformers according to EN 61558-2-6 with downstream bridge connection rectifiers without capacitor filtering.

- Rated output voltage  $U_d$  30-27-24 V DC
- Safety transformer according to EN 61558-2-6
- CE, 
- $t_a = 50$  °C/B
- Shield winding between input and output winding
- Varistor suppressor circuit
- Designed and approved according to VW equipment specification
- Ripple < 5 %.



4AV96

### Application

#### VW approval

The 4AV96 three-phase units are designed and approved in accordance with the VW equipment specifications.

#### Rated output and rated current

The specifications in the selection tables are based on fixed reference conditions in which the devices have the rated output or rated current:

- Continuous operation  $P_n$
- Frequency AC 50 Hz ... 60 Hz
- Installation altitude up to 1000 m above sea level
- Degree of protection IP00
- Ambient temperature  $t_a$ .

#### Ambient conditions

The devices are climate-proof for use in rooms with an external climate according to DIN 50010.

Limit values:

- Ambient temperature
  - At rated power or rated current: +50 °C
  - Minimum value: –25 °C.
- Relative air humidity
  - At +40 °C occasionally up to 100 %
  - Annual average up to 80 %
  - Occasional condensation possible.

### Selection and ordering data

Rated input voltage  $U_{1N}$  400 V with tapping  $\pm 5$  %,  
rated output voltage  $U_d$  30-27-24 V DC

CE, 

Rated output current $I_d$	Voltage rise during no-load operation $u_A$	Primary-side short-circuit and overload protection for the rectifier with circuit-breaker		VW material No.	DT	Screw/flat connection		PU (UNIT, SET, M)	PS*	PG	Copper weight per PU approx.	Total weight per PU approx.
		Type	Set value at 400 V AC			Order No.	Price per PU					
DC A	V	A									kg	kg
4	3.5	3RV10 11-0EA10	0.28	6142	A	<b>4AV96 04-1CB00-2N</b>		1	1 unit	104	0.800	3.500
12	3.3	3RV10 11-0JA10	0.8	6141	A	<b>4AV96 04-5CB00-2N</b>		1	1 unit	104	1.400	6.900
25	3.1	3RV10 11-1CA10	1.8	6145	A	<b>4AV96 04-2CB00-2N</b>		1	1 unit	104	2.500	10.600



# 6EP Stabilized Power Supplies SITOP 6EP Power Supplies

LOGO!Power

## Overview

The LOGO!Power stabilized power supplies are primary switched power supplies which are characterized by, among other features, a high degree of efficiency, safe electrical isolation (SELV) and light weight.

LOGO!Power power supplies can be supplied in up to three sizes according to the rating required, with the new generation offering more functionality with even greater compactness. The small version is now only 54 mm wide instead of 72 mm, and the large version has shrunk from 126 mm to 72 mm. With immediate effect the LOGO!Power range is rounded off by an extremely compact 4 A power supply unit with a width of just 90 mm. A green LED indicates whether the output voltage is OK, and in

the event of an overload or short-circuit the primary switched power supplies provide a constant current, i.e. without attempted restarts.

Power supplies with

- Single-phase connection with wide range input
- Adjustable output voltage
- For snap-mounting onto symmetrical 35 mm standard mounting rail (EN 50022)
- The stepped shape of the enclosure makes it also suitable for installation in standard N small distribution boards
- Degree of noise suppression Class B
- Ambient temperature  $-20\text{ }^{\circ}\text{C}$  to  $+55\text{ }^{\circ}\text{C}$ .

## Selection and ordering data

Version	Input Rated voltage $U_e$ Rated	Output Rated voltage $U_a$ Rated	Rated current $I_a$ Rated A	Dimensions (W x H x D) mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Power supplies 5 V</b>											
<b>3 A</b>	100 ... 240 V AC (85 ... 264 V)	5 V DC, $\pm 3\%$	3	54 x 90 x 55	▶	<b>6EP1 311-1SH02</b>		1	1 unit	400	0.170
<b>6.3 A</b>	100 ... 240 V AC (85 ... 264 V)	5 V DC, $\pm 3\%$	6.3	72 x 90 x 55	▶	<b>6EP1 311-1SH12</b>		1	1 unit	400	0.250
<b>Power supplies 12 V</b>											
<b>1.9 A</b>	100 ... 240 V AC (85 ... 264 V)	12 V DC, $\pm 3\%$	1.9	54 x 90 x 55	▶	<b>6EP1 321-1SH02</b>		1	1 unit	400	0.170
<b>4.5 A</b>	100 ... 240 V AC (85 ... 264 V)	12 V DC, $\pm 3\%$	4.5	72 x 90 x 55	▶	<b>6EP1 322-1SH02</b>		1	1 unit	400	0.250
<b>Power supplies 15 V</b>											
<b>1.9 A</b>	100 ... 240 V AC (85 ... 264 V)	15 V DC, $\pm 3\%$	1.9	54 x 90 x 55	▶	<b>6EP1 351-1SH02</b>		1	1 unit	400	0.170
<b>4 A</b>	100 ... 240 V AC (85 ... 264 V)	15 V DC, $\pm 3\%$	4	72 x 90 x 55	▶	<b>6EP1 352-1SH02</b>		1	1 unit	400	0.250
<b>Power supplies 24 V</b>											
<b>1.3 A</b>	100 ... 240 V AC (85 ... 264 V)	24 V DC, $\pm 3\%$	1.3	54 x 90 x 55	▶	<b>6EP1 331-1SH02</b>		1	1 unit	400	0.170
<b>2.5 A</b>	100 ... 240 V AC (85 ... 264 V)	24 V DC, $\pm 3\%$	2.5	72 x 90 x 55	▶	<b>6EP1 332-1SH42</b>		1	1 unit	400	0.250
<b>4 A</b>	100 ... 240 V AC (85 ... 264 V)	24 V DC, $\pm 3\%$	4	90 x 90 x 55	▶	<b>6EP1 332-1SH51</b>		1	1 unit	400	0.340



Enclosure  
54 mm and  
72 mm wide



Enclosure  
90 mm wide

For other units and versions, see Catalog KT 10.1.

\* You can order this quantity or a multiple thereof.

# 6EP Stabilized Power Supplies

## SITOP 6EP Power Supplies

SITOP power standard 24 V,  
single-phase

### Overview








The SITOP power primary switched-mode power supplies are characterized by, among other features, a high degree of efficiency, safe electrical isolation (SELV) and light weight.

Different versions are available to suit the output current and application.

Power supplies with

- Single-phase connection
- Status LED
- Adjustable output voltage, approx. 22.8 V to 26.4 V (from 2 A rated current)
- Enclosures can be snap-mounted onto symmetrical 35 mm standard mounting rail (EN 50022)
- Degree of noise suppression Class B
- Ambient temperature 0 °C to +60 °C.

### Selection and ordering data

Version	Input Rated voltage $U_e$ Rated	Output Rated voltage $U_a$ Rated	Rated current $I_a$ Rated	Dimensions (W x H x D) mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg	
<b>Power supplies 24 V</b>												
	<b>0.375 A</b>	48 ... 220 V DC (30 ... 264 V DC, 30 ... 187 V AC)	24 V DC, ±3%	0.375 A	22.5 x 80 x 91	▶	<b>6EP1 731-2BA00</b>		1	1 unit	400	0.140
	<b>0.5 A</b>	120 ... 230 V AC (93 ... 264 V AC)	24 V DC, ±3%	0.5 A	22.5 x 80 x 91	▶	<b>6EP1 331-2BA10</b>		1	1 unit	400	0.110
Limitation of input current harmonics according to EN 61000-3-2												
	<b>2.5 A</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	24 V DC, ±3%	2 A	33 x 125 x 125	▶	<b>6EP1 332-2BA10</b>		1	1 unit	400	0.400
Limitation of input current harmonics according to EN 61000-3-2												
	<b>5 A</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	24 V DC, ±3%	5 A	50 x 125 x 125	▶	<b>6EP1 333-2BA01</b>		1	1 unit	400	0.700
	<b>5 A</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	24 V DC, ±3%	5 A	50 x 125 x 125	▶	<b>6EP1 333-2AA01</b>		1	1 unit	400	0.500
Limitation of input current harmonics according to EN 61000-3-2												
	<b>10 A</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	24 V DC, ±3%	10 A	70 x 125 x 125	▶	<b>6EP1 334-2BA01</b>		1	1 unit	400	1.000
	<b>10 A</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	24 V DC, ±3%	10 A	70 x 125 x 125	▶	<b>6EP1 334-2AA01</b>		1	1 unit	400	0.800
Degree of protection IP65, adapted to ET 200X; wall mounting; degree of noise suppression Class A; ambient temperature -20 °C ... +55 °C												
	<b>10 A</b>	120/230 V AC (93 ... 132 V/ 187 ... 264 V)	24 V DC, ±3%	10 A	140 x 270 x 126	▶	<b>6EP1 334-2CA00</b>		1	1 unit	400	1.700
Limitation of input current harmonics according to EN 61000-3-2; ambient temperature 0 °C ... +55 °C												
	<b>20 A</b>	120/230 V AC (93 ... 132 V/ 187 ... 264 V)	24 V DC, ±3%	20 A	280 x 125 x 92	▶	<b>6EP1 336-2BA00</b>		1	1 unit	400	2.400
<b>Power supplies 3 V ... 52 V</b>												
Limitation of input current harmonics according to EN 61000-3-2; adjustable output voltage 3 V ... 52 V, output max. 10 A or 120 W												
	<b>max. 10 A or 120 W</b>	120/230 V AC (85 ... 132 V/ 170 ... 264 V)	3 V ... 52 V DC ±1%	10 A	75 x 125 x 125	▶	<b>6EP1 353-2BA00</b>		1	1 unit	400	0.900

For other units and versions, see Catalog KT 10.1.

# 6EP Stabilized Power Supplies SITOP 6EP Power Supplies

SITOP power standard 24 V,  
single-phase, 2-phase and 3-phase

## Overview

### Modular power supplies with additional modules

The modular concept is based on the power supply basic units in compact design with 24 V/5 A to 24 V/40 A output, for

- Standard rail mounting
- 5 A and 10 A units with single-phase and two-phase connection (L1 and N, L1 and L2)
- Degree of noise suppression Class B
- Limitation of input current harmonics according to EN 61 000-3-2; (except 6EP1 337-3BA00)
- Adjustable output voltage up to 28.8 V
- 3-way status LED
- Selectable short-circuit response, constant current or latching shutdown
- Changeover for parallel operation
- 20 A and 40 A units with single-phase or three-phase connection.

Three add-on modules offer further functions.

The signaling module can be snapped onto the side of the basic unit; with floating signaling contacts "Output voltage OK" and "Ready"; with signal input for remote ON/OFF switching of the basic unit.







The back-up module bridges mains interruptions in the range of milliseconds. 100 ms at 40 A, 800 ms at 5 A, up to max. 3 s at low load current; standard mounting rail fixing in any part of the control cabinet.

The redundancy module uses diodes to disconnect the basic units from one another so that a redundant 24 V power supply can be constructed.

Power supplies and add-on modules with

- Ambient temperature 0 °C to +60 °C.

## Selection and ordering data

	Version	Input Rated voltage $U_e$ Rated	Output Rated voltage $U_a$ Rated	Rated current $I_a$ Rated	Dimensions (W x H x D) mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Power supplies 24 V</b>												
	<b>5 A</b>	120/230 ... 500 V AC (85 ... 132 V/176 ... 550 V)	24 V DC, ±3%	5 A	70 x 125 x 125	▶	<b>6EP1 333-3BA00</b>		1	1 unit	400	1.200
	<b>10 A</b>	120/230 ... 500 V AC (85 ... 132 V/176 ... 550 V)	24 V DC, ±3%	10 A	90 x 125 x 125	▶	<b>6EP1 334-3BA00</b>		1	1 unit	400	1.400
	<b>20 A</b>	120/230 V AC (85 ... 132 V/176 V ... 264 V)	24 V DC, ±3%	20 A	160 x 125 x 125	▶	<b>6EP1 336-3BA00</b>		1	1 unit	400	2.200
	<b>20 A</b>	3 x 400 ... 500 V AC (320 ... 550 V)	24 V DC, ±3%	20 A	160 x 125 x 125	▶	<b>6EP1 436-3BA00</b>		1	1 unit	400	2.000
	<b>40 A</b>	120/230 V AC (85 ... 132 V/176 ... 264 V)	24 V DC, ±3%	40 A	240 x 125 x 125	▶	<b>6EP1 337-3BA00</b>		1	1 unit	400	2.900
	<b>40 A</b>	3 x 400 ... 500 V AC (320 ... 550 V)	24 V DC, ±3%	40 A	240 x 125 x 125	▶	<b>6EP1 437-3BA00</b>		1	1 unit	400	3.200
<b>Add-on modules</b>												
	<b>Signaling modules</b>				25 x 125 x 125	▶	<b>6EP1 961-3BA10</b>		1	1 unit	400	0.150
	<b>Back-up modules</b>	24 V DC (24 ... 28.8 V)	$U_e$ – approx. 1 V	40 A	70 x 125 x 125	▶	<b>6EP1 961-3BA00</b>		1	1 unit	400	1.200
	<b>Redundancy modules</b>	24 V DC (24 ... 28.8 V)	$U_e$ – approx. 0.5 V	20 A	70 x 125 x 125	▶	<b>6EP1 961-3BA20</b>		1	1 unit	400	1.000
												
												
												

For other units and versions, see Catalog KT 10.1.

\* You can order this quantity or a multiple thereof.

# 6EP Stabilized Power Supplies

## SITOP 6EP Power Supplies

SITOP power standard 24 V,  
SITOP select diagnostics modules

### Overview

The diagnostics module is used in combination with 24 V power supplies for distributing the load current among up to 4 current branches per module and for monitoring the individual partial currents.

Overloads or short-circuits in individual branches are selectively switched off and the remaining load current paths remain unaffected.

Rated current is adjustable from 2 A to 10 A, LED, group alarm contact, standard rail mounting.

### Selection and ordering data

Version	Input Rated voltage $U_e$ Rated	Output Rated voltage $U_a$ Rated	Rated current $I_a$ Rated	Dimensions (W x H x D)	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
				mm							kg
<b>4-way</b>	24 V DC	23.5 V DC	2 V ... 10 A	72 x 90 x 90	▶	<b>6EP1 961-2BA00</b>		1	1 unit	400	0.400



For other units and versions, see Catalog KT 10.1.

# 6EP Stabilized Power Supplies SITOP 6EP Power Supplies

SITOP power standard 24 V,  
uninterruptible

## Overview

Mains failures of a longer duration can be buffered without any interruption at all by combining a DC UPS module with at least one battery module and a SITOP power supply.



DC UPS modules with

- Interfaces for communication in PC-automated installations
- Ambient temperature 0 °C to +60 °C (natural convection).

Battery modules

- 2.5 Ah: Ambient temperature –40 °C to +60 °C
- 3.2 Ah to 12 Ah: Ambient temperature +5 °C to +40 °C.

## Selection and ordering data



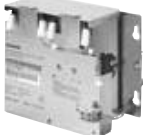


Version	Input Rated voltage $U_{e \text{ Rated}}$	Output Rated voltage $U_{a \text{ Rated}}$	Rated current $I_{a \text{ Rated}}$	Dimensions (W x H x D) mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>DC UPS modules</b>											
 6EP1 931-2.C.1	<b>6 A</b>	24 V DC (22 ... 29 V)	24 V DC (mains operation: 21.5 ... 28.5 V, battery operation: 27.0 ... 18.5 V)	6 A	50 x 125 x 125 ▶	<b>6EP1 931-2DC21</b>		1	1 unit	400	0.400
	<b>With serial interface</b>				50 x 125 x 125 ▶	<b>6EP1 931-2DC31</b>		1	1 unit	400	0.450
	<b>With USB interface</b>				50 x 125 x 125 ▶	<b>6EP1 931-2DC41</b>		1	1 unit	400	0.450
 6EP1 931-2FC.1	<b>15 A</b>	24 V DC (22 ... 29 V)	24 V DC (mains operation: 21.5 ... 28.5 V, battery operation: 27.0 ... 18.5 V)	15 A	50 x 125 x 125 ▶	<b>6EP1 931-2EC21</b>		1	1 unit	400	0.400
	<b>With serial interface</b>				50 x 125 x 125 ▶	<b>6EP1 931-2EC31</b>		1	1 unit	400	0.450
	<b>With USB interface</b>				50 x 125 x 125 ▶	<b>6EP1 931-2EC41</b>		1	1 unit	400	0.450
	<b>40 A</b>	24 V DC (22 ... 29 V)	24 V DC (mains operation: 21.5 ... 28.5 V, battery operation: 27.0 ... 18.5 V)	40 A	102 x 125 x 125 ▶	<b>6EP1 931-2FC21</b>		1	1 unit	400	1.100
	<b>With USB interface</b>				102 x 125 x 125 ▶	<b>6EP1 931-2FC41</b>		1	1 unit	400	1.100

\* You can order this quantity or a multiple thereof.

# 6EP Stabilized Power Supplies

## SITOP 6EP Power Supplies

SITOP power standard 24 V,  
uninterruptible

Version	Charging voltage at +25 °C $U_{\text{Charge}}$	Output Rated voltage $U_{\text{a Rated}}$	Dimensions (W x H x D) mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
<b>Battery modules</b>										
For 6 A and 15 A DC UPS modules										
 6EP1 935-6MC01	<b>1.2 Ah</b>	27.0 V DC	24 V DC (end of charge voltage: 27.0 V, exhaustive discharge protection: 18.5 V)	96 x 106 x 108 ▶	<b>6EP1 935-6MC01</b>		1	1 unit	400	2.000
 6EP1 935-6MD31	<b>2.5 Ah/ high temperature rechargeable battery</b>	27.7 V DC	24 V DC (end of charge voltage: 27.7 V, exhaustive discharge protection: 18.5 V)	265 x 151 x 91 ▶	<b>6EP1 935-6MD31</b>		1	1 unit	400	3.800
 6EP1 935-6MD11	<b>3.2 Ah</b>	27.0 V DC	24 V DC (end of charge voltage: 27.0 V, exhaustive discharge protection: 18.5 V)	190 x 151 x 82 ▶	<b>6EP1 935-6MD11</b>		1	1 unit	400	3.200
For 6 A to 40 A DC UPS modules										
 6EP1 935-6ME21	<b>7 Ah</b>	27.0 V DC	24 V DC (end of charge voltage: 27.0 V, exhaustive discharge protection: 18.5 V)	186 x 168 x 121 ▶	<b>6EP1 935-6ME21</b>		1	1 unit	400	6.000
 6EP1 935-6MF01	<b>12 Ah</b>	27.0 V DC	24 V DC (end of charge voltage: 27.0 V, exhaustive discharge protection: 18.5 V)	253 x 118 x 121 ▶	<b>6EP1 935-6MF01</b>		1	1 unit	400	9.000

For other units and versions, see Catalog KT 10.1.