



Switching power supplies

CP range

Linear power supplies

CP-L range

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Switching power supplies CP range

Ordering details



CP-5/3.0

1SVR 423 418 F 3000

The switching power supplies CP offer many advantages in comparison to conventional supplies:

- DIN-rail mount compact modules
 - Low weight
 - High efficiency
 - Low heating
 - Wide range of supply voltage
- Constant output voltage with good regulation
 - cULus listed, UL 1604 class I, Div. 2
 - EN 50178 (VDE 0160)
 - Short-circuit and overload proof
 - Fused input

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-5/3.0	90-260VAC/ 105-260VDC	5VDC/3A	1SVR 423 418 R 3000	1		0.220/0.49

Frequency, AC input: 47-400Hz
 Output load hold time: 10ms at 100% load
 Input current at nominal load: 0.4A (90VAC) / 0.2A (260VAC)

Inrush current 25° C (≤2 ms): 7.5A
 Internal input fuse: 3.0A(T)
 Output voltage: 5VDC ± 3%
 Output current: 3A

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-6/3.0	90-260VAC/ 105-260VDC	6VDC/3A	1SVR 423 418 R 4000	1		0.220/0.49

Frequency, AC input: 47-400Hz
 Output load hold time: 10ms at 100% load
 Input current at nominal load: 0.5A (90VAC) / 0.25A (260VAC)

Inrush current 25° C (≤2 ms): 7.5A
 Internal input fuse: 3.0A(T)
 Output voltage: 6VDC ± 3%
 Output current: 3A

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-12/2.0	90-260VAC/ 105-260VDC	12VDC/2A	1SVR 423 418 R 1000	1		0.220/0.49

Frequency, AC input: 47-400Hz
 Output load hold time: 10ms at 100% load
 Input current at nominal load: 0.6A (90VAC) / 0.27A (260VAC)

Inrush current 25° C (≤2 ms): 7.5A
 Internal input fuse: 3.0A(T)
 Output voltage: 12VDC ± 3%
 Output current: 2A

Adjustable output voltage

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-12/2.0 adj	90-260VAC/ 105-260VDC	12VDC/2A	1SVR 423 418 R 1100	1		0.220/0.49

Frequency, AC input: 47-400Hz
 Output load hold time: 10ms at 100% load
 Input current at nominal load: 0.7A (90VAC) / 0.3A (260VAC)
 Inrush current 25° C (≤2 ms): 33A

Internal input fuse: 3.0A(T)
 Output voltage: 12VDC ± 3% (9-15VDC adjust. with pot., max. 36W)
 Output current: 2A / 48 W

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/0.3	90-260VAC/ 105-260VDC	24VDC/0.3A	1SVR 423 418 R 2000	1		0.220/0.49

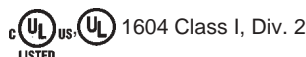
Frequency, AC input: 47-440Hz
 Output load hold time: 10ms at 100% load
 Input current at nominal load: 0.2A (90 V AC)/0.1A (260VAC)
 Inrush current 25°C (≤2ms): 7.5A
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3%
 Output current: 0.3A



CP-24/0.3

1SVR 423 418 F 2000

■ Approvals



Switching power supplies CP range

Ordering details



CP-24/0.5

1SVR 423 414 F 0000

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/0.5	90-260VAC/ 105-260VDC	24VDC/0.5A	1SVR 423 414 R 0000	1		0.220/0.49

Frequency, AC input: 47-440Hz
 Output load hold time: min.10ms at 100% load
 Input current at nominal load: 0.3A (90 V AC)/0.15A (230VAC)
 Inrush current 25°C (≤2ms): 33A
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3 %
 Output current: 0.5A/7.2W

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/1.0	90-260VAC/ 105-260VDC	24VDC/1A	1SVR 423 418 R 0000	1		0.220/0.49

Frequency, AC input: 47-440Hz
 Output load hold time: min.10ms at 100% load
 Input current at nominal load: max. 0.58A (90VAC)
 typ. 0.45A (115VAC) typ. 0.27A (230VAC)
 Inrush current 25°C (≤2ms): 7.5A (260V)
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3 %
 Output current: 1A

Adjustable output voltage


Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/1.5 adj	90-260VAC/ 105-260VDC	24VDC/1.5A	1SVR 423 418 R 5000	1		0.220/0.49

Frequency, AC input: 47-440Hz
 Output load hold time: min. 20ms at 100% load
 Input current at nominal load: max. 0.8A (90VAC)
 typ. 0.7A (115VAC) typ. 0.39A (230VAC)
 Inrush current 25°C (≤2ms): 33A (260V)
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3% (21-28VDC adjustable with pot. (max. 36W))
 Output current: 1.5A/36W

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/2.0	90-140VAC	24VDC/2A	1SVR 423 417 R 0000	1		0.300/0.66
CP-24/2.0	140-260VAC/ 160-260VDC	24VDC/2A	1SVR 423 417 R 1000	1		0.300/0.66

Frequency, AC input: 47-63Hz (90-140VAC)
 47-440Hz (140-260VAC /160-260VAC)
 Output load hold time: min.10ms at 100% load
 Input current at nominal load: max. 1.0A (90VAC) / max. 0.8A (140VAC)
 typ. 0.9A (230VAC) typ. 0.45A (230VAC)
 Inrush current 25°C (≤2ms): 23A (140VAC)/9A (260VAC)
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3 %
 Output current: 2A/48W

■ Approvals

 1604 Class I, Div. 2

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Ordering details



1SVR 423 417 F 0000

CP-24/2.0 adj



1SVR 423 416 F 1000

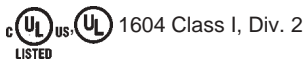
CP-24/4.2



1SVR 423 416 F 0100

CP-24/5.0 adj

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Adjustable output voltage

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/2.0 adj	140-260VAC/ 160-260VDC	24VDC/2A	1SVR 423 417 R 1100	1		0.280/0.62

Frequency, AC input: 47-440Hz
 Output load hold time: min. 10ms at 100% load
 Input current at nominal load: max. 0.8A (90VAC) / 0.45A (260VAC)
 Inrush current 25°C (≤2ms): 33A (260V)
 Internal input fuse: 3.0A (T)
 Output voltage: 24VDC ± 3% (21-28VDC adjustable with poti. (max. 48W)
 Output current: 2A/48W

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/4.2	90-260VAC/ 127-260VDC	24VDC/4.2A	1SVR 423 416 R 1000	1		0.580/1.28

Frequency, AC input: 47-63 Hz
 Output load hold time: min. 20ms at 100% load
 Input current at nominal load: max. 1.5A (90VAC)
 Inrush current 25°C (≤2ms): typ. 1.1A (115VAC) typ. 0.52A (230VAC)
 Internal input fuse: 40A (260V)
 Output voltage: 24VDC ± 3%
 Output current at T ≤ 55°C: V_{in} 90-260VAC - 4.2A / V_{in} 127-260VAC - 4.2A

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/5.0	90-260VAC/ 127-260VDC	24VDC/5A	1SVR 423 416 R 0000	1		0.580/1.28

Frequency, AC input: 47-63Hz
 Output load hold time: min. 10ms at 100% load
 Input current at nominal load: max. 1.8A (90VAC)
 Inrush current 25°C (≤2 ms): typ. 1.3A (115VAC) typ. 0.63A (230VAC)
 Internal input fuse: 40A (260V)
 Output voltage: 24VDC ± 3%
 Output current: T ≤ 40°C | T > 40°C | T = 55°C
 V_{in} > 45°C | 5A | - 0.054A/°C | 4.2A
 V_{in} < 90VDC or < 140VAC | 5A | - 0.054A/°C | 4.2A

Adjustable output voltage

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/5.0 adj	90-260VAC/ 127-260VDC	24VDC/5A	1SVR 423 416 R 0100	1		0.580/1.28

Frequency, AC input: 47-63Hz
 Output load hold time: min. 10ms at 100% load
 Input current at nominal load: max. 1.8A (90VAC)
 Inrush current 25°C (≤2ms): typ. 1.3A (115VAC) typ. 0.63A (230VAC)
 Internal input fuse: 40A (260V)
 Output voltage: 24VDC ± 3% (23-28VDC adjustable with poti., max. 120W)
 Output current: T ≤ 40°C | T > 40°C | T = 55°C
 V_{in} > 45°C | 5A/120W | - 1.33W/°C | 4.2A/100W
 V_{in} < 90VDC oder < 140VAC | 5A/120W | - 1.33W/°C | 4.2A/100W

Switching power supplies CP range

Ordering details



1SVR 423 415 F 0000

CP-24/10 adj

Adjustable output voltage

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/10 adj	93-132VAC/ 187-264VAC	24VDC/10A	1SVR 423 415 R 0000	1		1.050/2.31

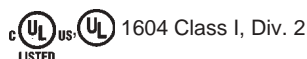
Frequency, AC input: 47-63Hz
 Output load hold time: min. 20ms at 100% load
 Input current at nominal load: max. 4.3A (93VAC) typ. 3.5A (115VAC) typ. 1.7A (230VAC)
 Inrush current 25°C (≤1ms): max. 69A (230V)
 Internal input fuse: 4 A (T)
 Output voltage: 24VDC ± 1 % (24-28VDC adjustable with screwdriver)
 Output current: T ≤60°C | T > 60°C | T = 70°C
 V_{in} 93-132VAC 10A | - 2 %/°C | 8A
 V_{in} 187-264VDC 10A | - 2 %/°C | 8A

Redundant module

Typ	Input current	Output current	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-RUD	5A max	5A max	1SVR 423 418 R 9000	1		0.150/0.33

Monitors two CP range power supplies up to 5A current each. If one power supply fails the CP-RUD automatically switches to the alternate supply without interruption of the load current. Max. voltage 40V.

■ Approvals



1SVR 423 415 F 1000

CP-24/20 adj

Adjustable output voltage

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-24/20 adj	93-132VAC/ 187-264VAC	24VDC/20A	1SVR 423 415 R 1000	1		2.200/4.84

Frequency, AC input: 47-63Hz
 Output load hold time: min. 15ms at 100% load
 Input current at nominal load: max. 8.9A (93VAC) typ. 7.2A (115VAC) typ. 3.5A (230VAC)
 Inrush current 25°C (≤2 ms): max. 65A (230V)
 Internal input fuse: 10A (T)
 Output voltage: 24VDC ± 1 % (24-28VDC adjustable with screwdriver)
 Output current: T ≤60°C | T > 60°C | T = 70°C
 V_{in} 93-132VAC 20A | - 2 %/°C | 16A
 V_{in} 187-264VAC 20A | - 2 %/°C | 16A



1SVR 423 418 F 6000

CP-48/0.7

Type	Supply voltage	Output voltage	Order code	Pack. unit piece	Price 1 piece	Weight 1 piece kg/lb
CP-48/0.7	90-260VAC/ 105-260VDC	48VDC/0.7A	1SVR 423 418 R 6000	1		0.220/0.484

Frequency, AC input: 47-440Hz
 Output load hold time: min. 10ms at 100% load
 Input current at nominal load: max. 0.8A (90V) typ. 0.7A (115V) typ. 0.35A (230V)
 Inrush current 25°C (≤2ms): 33A (260V)
 Internal input fuse: 3A (T)
 Output voltage: 48VDC ± 3 %
 Output current: 0.7A
 T_u > 45°C - 10 mA/°C
 V_{in} < 105VAC/120VDC - 6.667mA/V

■ Approval



Power supplies CP range

Technical data

	CP-5/3.0	CP-6/3.0	CP-12/2.0	CP-12/2.0 adj	CP-24/0.3
Residual ripple / noise	max.50mVpp		max.300mVss	max.200mVss	max.100mVss
Deviation of output with input change	max. ±0.5%		max. ±0.1%	max. ±0.5%	
Deviation of output with static load change	max. ±0.5%				
Dev. of output with dynamic load change 10-90%	max. 5%				
Short circuit protection	overcurrent switch off with automatic restart				
Overload protection	overtemperature and overcurrent switch off				
Reset after thermal overload	disconnection of AC power input min. 30 s				
Standards, tests					
Electrical safety standards	EN 50178 (VDE 0160) / UL 508 / CSA 22.2				
Galvanic isolation	reliable isolation acc.to IEC 664-1, DIN VDE 0106-101				
Voltage withstand input<->output	2.5kVAC, 3 kVAC type test				
Clearance and creepage distances	overvoltage category 2, pollution degree 2				
Electromagnetic compatibility (EMC-tests) acc. to EN 50082-2	ESD:		EN 61000-4-2 level 3	6/8kV	
	RF field:		EN 61000-4-4 level 3	10V/m	
	Burst:		EN 61000-4-5 level 4	4kV	
	Surge:		EN 61000-4-5 level 3	3kV	
	Conducted RF		EN 61000-4-6 level 3	10V	
Electromagn. compatibility (EMC) acc. to EN 50081-2, Radiated noise EN 55011	class B	class B	class B	class B	Klasse B
Input current harmonics	no limitation				
Degree of protection terminals	IP 20	IP 20	IP 20	IP 20	IP 20
Degree of protection enclosure	IP 50	IP 30	IP 50	IP 30	IP50
Protection class	1	1	1	1	1
General data					
Efficiency	approx. 81%	approx. 85%	approx. 80-83%	approx. 79-84%	approx. 70%
Status indication	green LED, power OK				
Operating temperature	0° - +55°C				
Storage temperature	-25° - +75°C				
Terminals	screw terminals, 2 x 14 AWG (2 x 2.5 mm ²)				
Weight	approx. 0.22kg (0.49 lb)				
Dimensions (W x H x D), mm	45 x 78 x 100				
	CP-24/0.5	CP-24/1.0	CP-24/1.5	CP-24/2.0	CP-24/2.0 adj
Residual ripple / noise	max.100mVss	max.300mVss			max.100mVss
Deviation of output with input change	max. ±0.5%	max. ±0.1%	max. ±0.5%	max. ±0.2%	max. ±0.5%
Deviation of output with static load change	max. ±0.5%				
Dev. of output with dynamic load change 10-90%	max. 5%				
Short circuit protection	overcurrent switch off with automatic restart				
Overload protection	overtemperature and overcurrent switch off				
Reset after thermal overload	disconnection of AC power input min. 30 s				
Standards, tests					
Electrical safety standards	EN 50178 (VDE 0160) / UL 508 / CSA 22.2				
Galvanic isolation	reliable isolation acc.to IEC 664-1, DIN VDE 0106-101				
Voltage withstand input<->output	2.5kVAC, 3kVAC type test				
Clearance and creepage distances	overvoltage category 2, pollution degree 2				
Electromagnetic compatibility (EMC-tests) acc. to EN 50082-2	ESD:		EN 61000-4-2 level 3	6/8kV	
	RF field:		EN 61000-4-3 level 3	10V/m	
	Burst:		EN 61000-4-4 level 4	4kV	
	Surge:		EN 61000-4-5	3kV	
	Conducted RF		EN 61000-4-6 level 3	10V	
Electromagn. compatibility (EMC) acc. to EN 50081-2, Radiated noise EN 55011	class B	class B	class B	class B	class B
Input current harmonics	no limitation				
Degree of protection terminals	IP 20	IP 20	IP 20	IP 20	IP 20
Degree of protection enclosure	IP50	IP 50	IP 30	IP 20	IP 30
Protection class	1	1	1	1	1
General data					
Efficiency	approx. 84%	approx. 82-84% (90-260VAC)	approx. 83-86% (102-260VAC)	approx. 82-86% (90-260VAC)	approx. 83-86% (140-260VAC)
Status indication	green LED, power OK				
Operating temperature	0° - +55°C				
Storage temperature	-25° - +75°C				
Terminals	screw terminals, 2x14 AWG (2.5 mm ²)				
Dimensions(W x H x D), mm	22.5x78x100	45x78x100	45x78x100	45x78x120	45x78x120
Mounting recommendations: Horizontal w/ 1 cm spacing and 5 cm vertically					

Power supplies CP range

Technical data, dimensional drawings

	CP-24/4.2	CP-24/5.0	CP-24/5.0 adj	CP-48/0.7	CP-24/10 adj	CP-24/20 adj
Residual ripple / noise	max.200mVss			max.300mVss	max.50mVss	max.100mVss
Deviation of output with input change	max.±0.05%			max.±0.5%	max.±0.2%	
Deviation of output with static load change				max.±0.5%		
Dev. of output with dynamic load change 10-90%				max.5%	max.±0.3% (±1.5% parallel operation)	
Short circuit protection	overcurrent switch off with automatic restart					
Overload protection	overtemperature and overcurrent switch off				overcurrent limiting	
Reset after thermal overload	disconnection of AC power input min. 30 s					
Overvoltage protection					triggerpoint at typ. 140% nom. output voltage	
Parallel operation (option)					up to 5 modules (must be enabled by internal jumper)	
Standards, tests						
Electrical safety standards	EN 50178 (VDE 0160)/ UL 508/CSA 22.2			EN 50178 (VDE 0160)/ EN9060/ UL 508 / CSA 22.2		
Galvanic isolation reliable isolation acc.to:	EN 60950 DIN/VDE 0106-101		IEC 664-1DIN/ VDE 0106-101	EN 60950 DIN/ VDE 0106-101	EN 60950	
Voltage withstand input<->output	1.5kVAC, 3kVAC type test			2.5kVAC, 3kVAC type test	3kVAC type test	
Clearance and creepage distances	overvoltage category 3, pollution degree 2			overvoltage category 2, pollution degree 2		
Electromagn. comp. (EMC-tests) to EN 50082-2	EN 61000-4-2 level 3		6/8kV	EN 61000-4-2 level 3		6/8kV
ESD:	EN 61000-4-3 level 3		10V/m	EN 61000-4-3 level 3		10V/m
RF field:	EN 61000-4-4 level 3		2kV (CP-48/0.7 4kV)	EN 61000-4-4 level 3		4kV
Burst:	EN 61000-4-5		2kV (CP-48/0.7 3kV)	EN 61000-4-5 level 4		2/4kV
Surge:	EN 61000-4-6 level 3		10V	EN 61000-4-6 level 3		10V
Conducted RF						
Electromagn. compatibility (EMC) acc. to EN 50081-2, Radiated noise EN 55011	class A	class A	class A	class B	class B	class B
Input current harmonics	no limitation					
Degree of protection terminals	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Degree of protection enclosure	IP 20	IP 20	IP 20	IP 30	IP 20	IP 20
Protection class	1	1	1	1	1	1
General data						
Efficiency	approx.77-85% (90-260VAC)	approx.77-85% (90-260VAC)	approx.77-85% (90-260VAC)	approx. 83-85% (90-260VAC)	typ. 90% (230VAC)	typ. 88% (230VAC)
Status indication	green LED, power OK					
Operating temperature	0°... +55°C			-25°... +70°C		
Storage temperature	-25°... +75°C			-25°... +85°C		
Screw terminals	2x14 AWG (2x2.5 mm ²)			14 AWG (2.5mm ²)		
Dimensions (W x H x D), mm	90x78x120			45x78x100	100x125x125	220x125x125
Mounting hints	Normal position: horizontal onto DIN-rail					
Spacing to other modules:	left 1 cm, vertical distances 5 cm				both sides min. 5 cm, vertical distances min. 8 cm	

Dimensions

