

# Power supplies

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**Power supplies**

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# Overview of power supply modules

## connectPower 1ph – WAVEpower



- Single-phase switched-mode power supply unit
- Slim design 22.5 mm
- Power category 12 W
- International approvals

## connectPower 1ph – ECOLINE



- Single-phase switched-mode power supply modules
- Compact form
- Metal housing
- Power category 70 ... 1000 W
- International approvals

## connectPower 1ph



- Single-phase switched-mode power supply modules
- Metal housing
- Power category 55 W and 160 W
- Universal input and output voltage 5 ... 48 V
- International approvals
- 300-watt performance category, with active PFC

## connectPower 1ph – INSTAPOWER



- Single-phase switched-mode power supply modules for the distribution board
- Compact form
- Power category 24 and 48 W
- Universal input and output voltage 5 ... 48 V
- International approvals

## connectPower 3ph – ECOLINE



- 3-phase switched-mode power supply modules
- Compact form
- Metal housing
- Power category 120 ... 1000 W
- International approvals

## connectPower 3ph



- 3-phase switched-mode power supply modules
- Metal housing
- Up to 5 devices can be directly connected in parallel
- Professional display and processing of all relevant signal states
- International approvals

**Diode modules – ECOLINE**



- Diode module for 100 % decoupling of switched-mode power supply modules
- Optimum doubling of output power
- Redundancy operation
- Up to 40 A output current can be set
- International approvals

**compactPower 1ph – unregulated power supplies**



- Single-phase unregulated power supplies
- Compact form
- Standard voltage ~230/400 V to IEC38 +/- 15 V tap
- Reliable short-circuit and overload protection

**UPS control unit**



- Uninterruptible power supplies
- Battery control module
- Ideal for charging 12 V and 24 V batteries
- Professional display and processing of all relevant signal states
- International approvals

**DC/DC converters – connectPower**



- Compact form
- Metal housing
- Universal input and output voltage of 5 V to 48 V
- International approvals

**compactPower 3ph – unregulated power supplies**



- Three-phase unregulated power supplies
- Compact form
- Nominal voltage to IEC38 +/- 5 V tap
- Reliable short-circuit and overload protection

**WAVEGUARD**



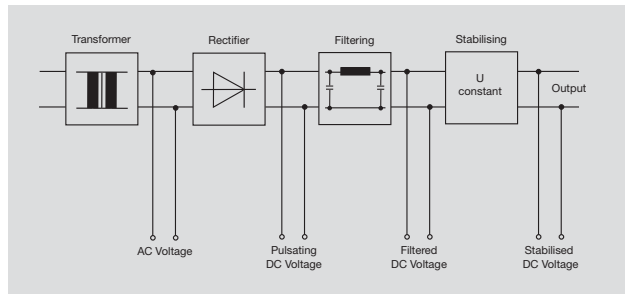
- Electronic fusing
- Visual fault indication and potential-free contact
- Reset input
- Compact form

# Introduction

Power supplies are important links in the energy supply chain of automation systems. Unregulated power supplies or regulated switched-mode power supplies are at the heart of every electrical cabinet. 24 VDC has emerged as the standard control voltage for the supply of electrical sub-assemblies and systems. However other supply voltages are also required.

The correct power supply is a critical factor for the reliable operation of the supplied components. Thus it must be chosen with particular attention.

## E



Power supplies from Weidmüller, whether regulated or unregulated, have proven themselves reliable over many years in the supply of electrical sub-assemblies and systems. Of course, they carry the CE mark and comply with all valid national and international standards.

They can be put to good use in an industrial environment, in process engineering, and in the building sector. They also function reliably under harsh environmental conditions.

Weidmüller offers user-compatible power supplies and components:

- Unregulated transformer power supplies
- Primary switch-mode power supplies
- DC/DC converters
- Diode modules
- UPS control modules
- Electronic fusing

## The principle

Power supply units consist of a transformer which transforms an alternating voltage into a different alternating voltage of any value.

A rectifier circuit is used to convert a secondary alternating voltage into a pulsating direct voltage which is then smoothed by means of a filter circuit.

The output voltage of a regulated power supply unit is kept constant with a stabilization unit.

## In use throughout the world

Weidmüller power supplies have the required international approvals endorsing their suitability for use in a wide range of applications throughout the world. They are used in machine construction, in industrial automation, in plant construction, in the process industry, and in the building sector.

## Temperature range

During operation, power supply units generate power losses which in turn are converted to heat. This generated heat is dissipated via a heat sink and via the surface of the housing. In addition, the air vents in the housing allow for heat dissipation by means of convection. Weidmüller power supply units can be used for ambient temperatures ranging from  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ , depending on the model.

## Compact designs

Weidmüller power supplies can also be used in confined spaces.

Models are available featuring minimal surface areas or low heights. This saves space in electrical cabinets or distribution boxes, and reduces costs.

# Standards and approvals

Standard/Approval	Description
DIN EN 50178 (VDE 0160)	Electronic equipment for use in power installations
DIN EN 60950-1 (VDE 0805-1)	IT Equipment - Safety - Part 1: General requirements
DIN EN 61558-1 (VDE 0570-1)	Safety of transformers, power supply units, throttles and similar devices - Part 1: General requirements and tests
DIN EN 61558-2-17 (VDE 0570 Part 2-17)	Safety of transformers, power supply units and similar devices Part 2-17: Special requirements for switch-mode power supply transformers
DIN EN 60204-1 (VDE 0113-1)	Safety of machinery - Electrical equipment of machinery - Part 1: General requirements
DIN VDE 0100-410	Construction of power installations with rated voltages up to 1000 V Part 4: Protective measures Chapter 41: Protection against electrical shock
DIN EN 61204-1	Power supply units for low voltages, with direct-current-output - properties
DIN EN 60947-1	Low-voltage switching devices - Part 1: General definitions
DIN EN 61140	Protection against electrical shock - common requirements for facilities and operating equipment
IEC 38	Supplementary notes relating to status of international standards and European harmonisation of mains voltages 230/400 V
73/23 EWG	Electrical equipment for use within specific voltage limits (Low Voltage Directive)
2004/108/EG (89/336 EWG)	Electromagnetic compatibility (EMC Directive)
2006/42/EG (98/37 EG)	Safety of machines (directive covering mechanical equipment)
UL	Safety approval for the United States market
CSA	Safety approval for the Canadian market
GL	Test specifications for electrical/electronic devices and systems for use in marine technology

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## Switch-mode power supplies

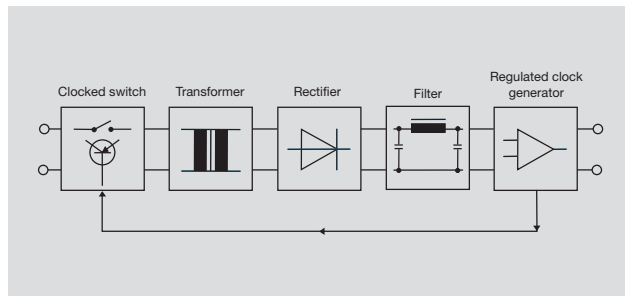


### Primary switch-mode power supplies connectPower

The switched-mode power supply units of the connectPower series are suitable for use anywhere because of their wide-range variable input from 85 VAC to 265 VAC or 340 to 575 VAC. The devices are interference-suppressed (in accordance with DIN EN 55022 Class B) and fulfill safety extra-low voltage (SELV) requirements.

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Equipped with an electronic short-circuit feedback control on the output side, the primary switch-mode power supplies are rated between 12 W and 1000 W. The power supplies are suitable for both industrial and building automation.



### Method of operation

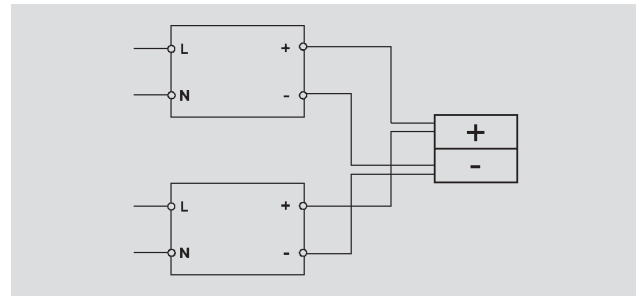
Primary switch-mode power supplies are distinguished by a high degree of efficiency and also by their compact dimensions and moderate generation of heat. The mains voltage is rectified directly. The rectified voltage is then chopped with a higher frequency than that of the mains frequency. A transformer – which can be quite small due to the high switching frequency – converts the voltage with the switching frequency to the required value.

The voltage is now rectified and smoothed by a filter. This regulator control itself is carried out by means of pulse-width modulation. The on and off times of the chopper transformers are regulated to ensure that the output voltage remains stable.

### Power distribution and redundancy

To increase performance, or for redundancy purposes, switch-mode power supplies from Weidmüller can be connected in parallel. Two techniques are available: an active and a passive power distribution. Active power distribution requires more complex switching. The advantage is the exact power distribution and uniform device loading.

Requiring less sophisticated switching, passive power distribution results in lower costs, but also in a load-dependent characteristic curve and less exact power distribution. Before connecting in parallel, the output voltages of the devices must be adjusted exactly ( $\pm 100 - 200$  mV).

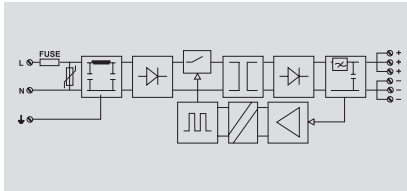
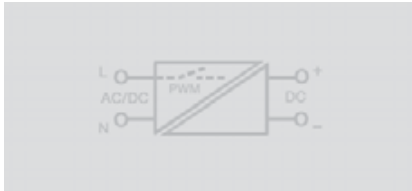
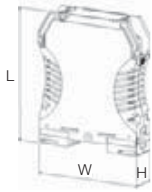


### Power factor correction (PFC)

Power factor correction ensures that the mains current drawn is sinusoidal. One positive side-effect is the regulation of the power factor to approx. 1.

connectPower single phase  
WAVEPOWER

CP SNT 12W 24V 0.5A



**Technical data**

**Input**

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

85...265 V AC, 120...300 V DC  
260 mA @ 115 V AC; 180 mA @ 230 V AC  
50/ 60 Hz  
2 A slow-blow fuse (internal)  
Varistor

**Output**

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option

24 V DC  
0.5 A  
12 W  
0,1 %  
Surge / thermal cut-out  
Varistor  
30 ms @ 115 V AC / 80 ms @ 230 V AC  
0,6 %  
no

**Insulation coordination**

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1.5 kV  
3 kV  
4 kV

**General data**

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Power factor correction  
Approvals

-20 °C...+50 °C  
-40 °C...+85 °C  
80 %  
green LED  
EN 50178, EN 60950, IEC950  
IEC 61000-6 /-2, -3  
no  
CSA;UL;CE;

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Screw connection**  
2.5 / 0.5 / 2.5  
112.4 x 22.5 x 92.4

**Note**

**Ordering data**

Type	Qty.	Order No.
CP SNT 12W 24V 0.5A	1	9918840024

**Note**

**Accessories**

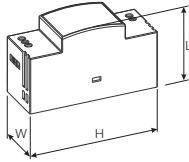
**Note**

Supply voltage 24V and 0V can be cross-connected with ZOV 2.5N/2



Switch-mode power supplies

connectPower single phase INSTAPOWER



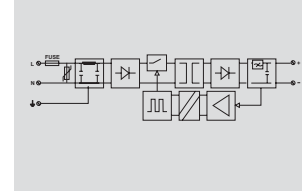
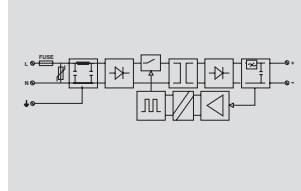
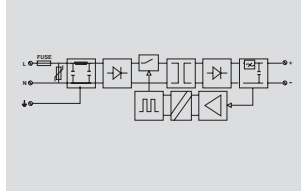
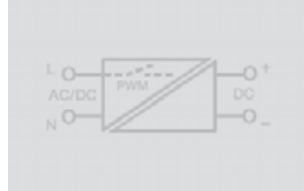
CP SNT 24 W 28 V 1 A



CP SNT 24 W 24 V 1 A



CP SNT 24 W 15 V 1.5 A



E

Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...265 V AC, 120...300 V DC  
460 mA @ 115 V AC; 250 mA @ 230 V AC  
50/ 60 Hz  
Thermistor  
2 A slow-blow fuse (internal)  
Varistor

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

28 V DC  
1 A  
28 W  
< 2 %  
Surge / thermal cut-out  
Varistor  
35 ms @ 115 V AC / 160 ms @ 230 V AC  
0.5 %  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1.5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-20 °C...+50 °C  
-40 °C...+85 °C  
78 %  
EN 50178, EN 60950, IEC950  
CSA / CE / cULus  
EN 61000-6 /-2, -3

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Screw connection

4 / 0.08 / 4  
62.5 x 52 x 90.5

Note

Derating loss: 33% @ 60°C

Ordering data

Note

Accessories

Note

85...265 V AC, 120...300 V DC  
460 mA @ 115 V AC; 250 mA @ 230 V AC  
50/ 60 Hz  
Thermistor  
2 A slow-blow fuse (internal)  
Varistor

24 V DC  
1 A  
24 W  
< 2 %  
Surge / thermal cut-out  
Varistor  
35 ms @ 115 V AC / 160 ms @ 230 V AC  
0.5 %  
8000 µF

0,5 kV  
1.5 kV  
3 kV  
4 kV

-20 °C...+50 °C  
-40 °C...+85 °C  
78 %  
EN 50178, EN 60950, IEC950  
CSA / CE / cULus  
EN 61000-6 /-2, -3

Screw connection

4 / 0.08 / 4  
62.5 x 52 x 90.5

Derating loss: 33% @ 60°C

85...265 V AC, 120...300 V DC  
460 mA @ 115 V AC; 250 mA @ 230 V AC  
50/ 60 Hz  
Thermistor  
2 A slow-blow fuse (internal)  
Varistor

15 V DC  
1.5 A  
23 V  
< 2 %  
Surge / thermal cut-out  
Varistor  
35 ms @ 115 V AC / 160 ms @ 230 V AC  
0.5 %  
8000 µF

0,5 kV  
1.5 kV  
3 kV  
4 kV

-20 °C...+50 °C  
-40 °C...+85 °C  
78 %  
EN 50178, EN 60950, IEC950  
CSA / CE / cULus  
EN 61000-6 /-2, -3

Screw connection

4 / 0.08 / 4  
62.5 x 52 x 90.5

Derating loss: 33% @ 60°C

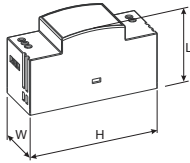
Type	(Qty.=1)	Order No.
CP SNT 24W 28V 1A		9928890028

Type	(Qty.=1)	Order No.
CP SNT 24W 24V 1A		9928890024

Type	(Qty.=1)	Order No.
CP SNT 24W 15V 1.5A		9928890015



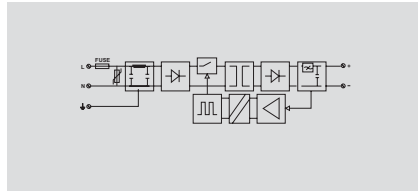
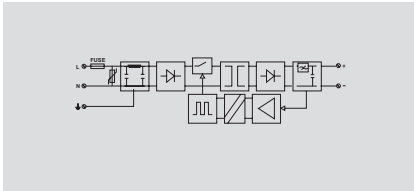
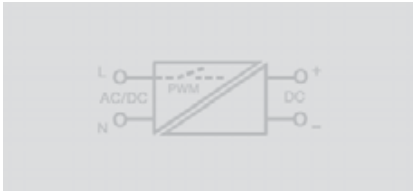
connectPower single phase  
INSTAPOWER



CP SNT 24 W 12 V 1.5 A



CP SNT 24 W 5 V 2 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...265 V AC, 120...300 V DC  
460 mA @ 115 V AC; 250 mA @ 230 V AC  
50/ 60 Hz  
Thermistor  
2 A slow-blow fuse (internal)  
Varistor

85...265 V AC, 120...300 V DC  
460 mA @ 115 V AC; 250 mA @ 230 V AC  
50/ 60 Hz  
Thermistor  
2 A slow-blow fuse (internal)  
Varistor

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

12 V DC  
1.5 A  
18 V  
< 2 %  
Surge / thermal cut-out  
Varistor  
35 ms @ 115 V AC / 160 ms @ 230 V AC  
0,5 %  
8000 µF

5 V DC  
2 A  
10 V  
< 2 %  
Surge / thermal cut-out  
Varistor  
35 ms @ 115 V AC / 160 ms @ 230 V AC  
0,5 %  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1.5 kV  
3 kV  
4 kV

0,5 kV  
1.5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-20 °C...+50 °C  
-40 °C...+85 °C  
78 %  
EN 50178, EN 60950, IEC950  
CSA / CE / cULus  
EN 61000-6 /-2, -3

-20 °C...+50 °C  
-40 °C...+85 °C  
78 %  
EN 50178, EN 60950, IEC950  
CSA / CE / cULus  
EN 61000-6 /-2, -3

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm

Screw connection

4 / 0.08 / 4  
62.5 x 52 x 90.5

Screw connection

4 / 0.08 / 4  
62.5 x 52 x 90.5

Note

Derating loss: 33% @ 60°C

Derating loss: 33% @ 60°C

Ordering data

Type	Qty.	Order No.
CP SNT 24W 12V 1.5A	1	9928890012

Type	Qty.	Order No.
CP SNT 24W 5V 2A	1	9928890005

Note

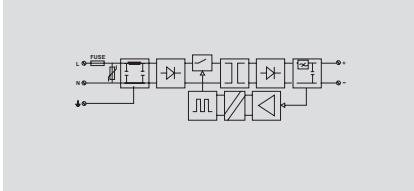
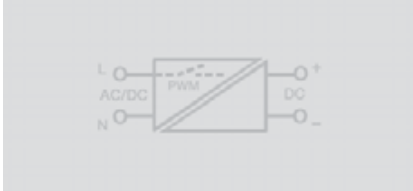
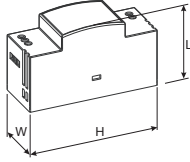
Accessories

Note

Switch-mode power supplies

connectPower single phase INSTAPOWERR

CP SNT 25 W 5 V 5 A



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Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...264 V AC / 110...370 V DC  
500 mA for rated load @ 230 V AC  
50/ 60 Hz  
yes  
Fusible link 2.5 A (T) / 250 V

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

4...8 V DC (adjustable with potentiometer)  
5 A  
25 W  
120 mV<sub>ss</sub>  
105 %...150 % I<sub>konst</sub> of max. output power, automatic restart

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

Varistor  
11 ms @ 115 V AC / 50 ms @ 230 V AC  
1%  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1,5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
70 %  
EN 60950 (SELV); EN 50178 (PELV)  
CE / UL 508 / cURus 60950 / GS / CSA  
EN 55011 / EN 55022 / EN 61000-3-2, -3 / EN 61000-6-2, -3, -4

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Screw connection**  
2.5 / 0.5 / 4  
62.5 x 70 x 90.5

Note

Ordering data

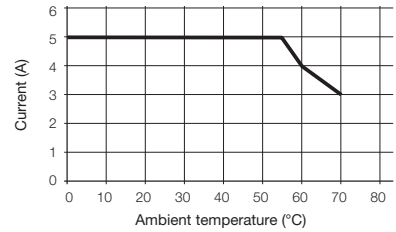
Type	Qty.	Order No.
CP SNT 25W 5V 5A	1	8754960000

Note

Accessories

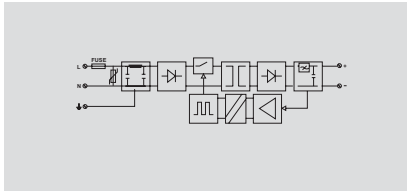
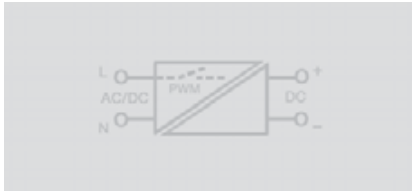
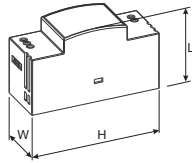
Note

Derating curve



connectPower single phase  
INSTAPOWER

CP SNT 48 W 12 V 4 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...264 V AC / 110...370 V DC  
500 mA for rated load @ 230 V AC  
50/ 60 Hz  
yes  
Fusible link 2.5 A (T) / 250 V

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

9...15 V DC (adjustable with potentiometer)  
4 A  
48 W  
120 mV<sub>es</sub>  
105 %...150 % I<sub>konst</sub> of max. output power, automatic restart

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

Varistor  
11 ms @ 115 V AC / 50 ms @ 230 V AC  
1%  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0.5 kV  
1.5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
75 %  
EN 60950 (SELV); EN 50178 (PELV)  
CE / UL 508 / cURus 60950 / GS / CSA  
EN 55011 / EN 55022 / EN 61000-3-2, -3 / EN 61000-6-2, -3, -4

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Screw connection**  
2.5 / 0.5 / 4  
62.5 x 70 x 90.5

Note

Ordering data

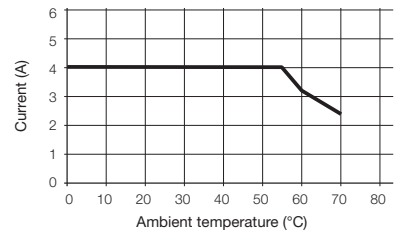
Type	Qty.	Order No.
CP SNT 48W 12V 4A	1	8754970000

Note

Accessories

Note

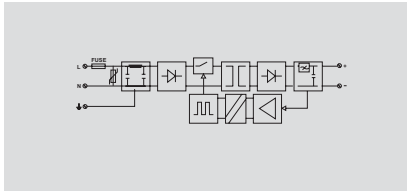
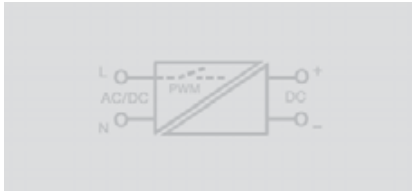
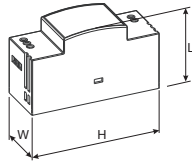
Derating curve



Switch-mode power supplies

connectPower single phase INSTAPOWERS

CP SNT 48 W 24 V 2 A



E

Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...264 V AC / 110...370 V DC  
500 mA for rated load @ 230 V AC  
50/ 60 Hz  
yes  
Fusible link 2.5 A (T) / 250 V

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

15...28 V DC (can be adjusted with potentiometer)  
2 A  
48 W  
120 mV<sub>es</sub>  
105 %...150 % I<sub>konst</sub> of max. output power, automatic restart

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

Varistor  
11 ms @ 115 V AC / 50 ms @ 230 V AC  
1%  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1,5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
78 %  
EN 60950 (SELV); EN 50178 (PELV)  
CE / UL 508 / cURus 60950 / GS / CSA  
EN 55011 / EN 55022 / EN 61000-3-2, -3 / EN 61000-6-2, -3, -4

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Screw connection**  
2.5 / 0.5 / 4  
62.5 x 70 x 90.5

Note

Ordering data

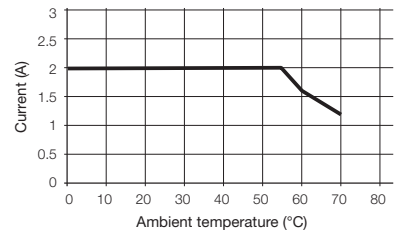
Type	Qty.	Order No.
CP SNT 48W 24V 2A	1	8739140000

Note

Accessories

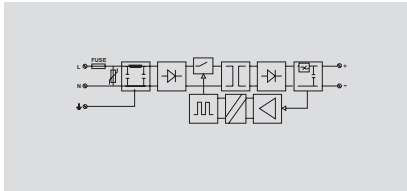
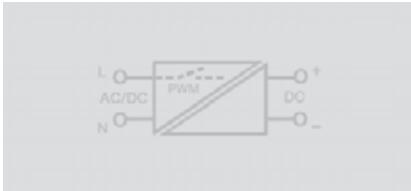
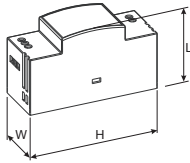
Note

Derating curve



connectPower single phase  
INSTAPOWER

CP SNT 48 W 48 V 1 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Making current limit  
Input fuse  
Surge protection

85...264 V AC / 110...370 V DC  
500 mA for rated load @ 230 V AC  
50/ 60 Hz  
yes  
Fusible link 2.5 A (T) / 250 V

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

46...55 V DC (adjustable with potentiometer)  
1 A  
48 W  
120 mV<sub>ss</sub>  
105 %...150 % I<sub>konst</sub> of max. output power, automatic restart

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
max. capacitance at output

Varistor  
11 ms @ 115 V AC / 50 ms @ 230 V AC  
1%  
8000 µF

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0,5 kV  
1,5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Standards  
Approvals  
EMC standards

-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
80 %  
EN 60950 (SELV); EN 50178 (PELV)  
CE / UL 508 / cURus 60950 / GS / CSA  
EN 55011 / EN 55022 / EN 61000-3-2, -3 / EN 61000-6-2, -3, -4

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm

<b>Screw connection</b>	
	2.5 / 0.5 / 4
	62.5 x 70 x 90.5

Note

Ordering data

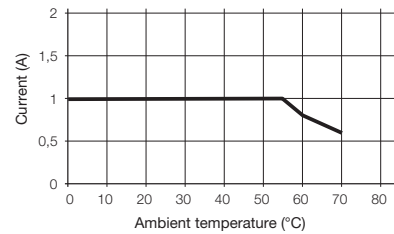
Type	Qty.	Order No.
CP SNT 48W 48V 1A	1	8879230000

Note

Accessories

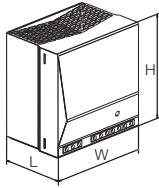
Note

Derating curve

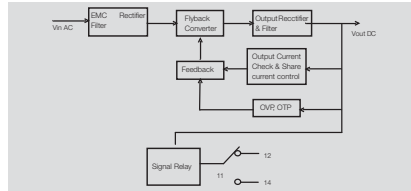
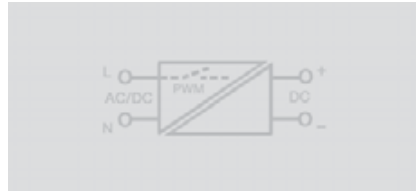


Switch-mode power supplies

connectPower single phase  
ECOLINE



CP SNT 70 W 24 V 3 A



E

Technical data

Input

- Input voltage
- Input current
- Input frequency
- Input fuse
- Surge protection

Output

- Output voltage
- Output current
- max. output power
- max. residual ripple
- Overload protection

- Surge protection
- Mains failure bridge-over time
- Control at 10...100% load
- Parallel connection option
- Status relay / Change-over contact

Insulation coordination

- Electrical isolation, output-earth
- Electrical isolation, input-earth
- Electrical isolation, input-output

General data

- Ambient temperature (operational)
- Storage temperature
- Degree of efficiency at max. load
- Status indication
- Standards
- EMC standards
- Mounting position horizontal
- Installation advice
- Weight
- Approvals

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm

Note

Ordering data

Note

Accessories

Note

85...264 V AC / 110...370 V DC
2 A @ 100...240 V AC
50/ 60 Hz
Fusible link 2.5 A (T) / 250 V
Varistor
24...28 V DC (adjustable via potentiometer)
3 A
72 W
< 100 mV <sub>ripple</sub> / bandwidth 20 MHz
105 %...130 % I <sub>konst</sub> of max. output power, automatic restart
29...34 V
10 ms @ 115 V AC / 20 ms @ 230 V AC
< 2 %
recommended with diode module
250 V AC (max. 30 V DC) / 1 A
0,5 kV
1,5 kV
3 kV
-10 °C...+70 °C (derating from 55 °C)
-20 °C...+85 °C
80 %
green LED
EN 60950 (SELV)
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
on mounting rail TS 35
Clearance: above/below ≥ 3 cm
0.55 kg
CE / cULus 508 / cURus 60950 / GL / GOST

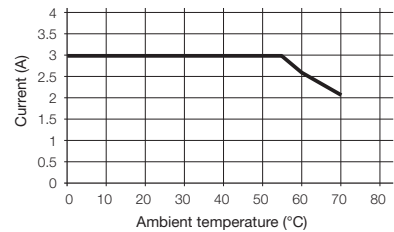
Screw connection

2.5 / 0.13 / 4
110 x 55.5 x 125

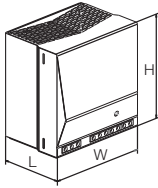
For redundancy operation or to maintain the alert function, only operate with diode module.

Type	Qty.	Order No.
CP SNT 70W 24V 3A	1	8708660000

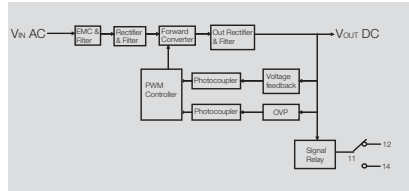
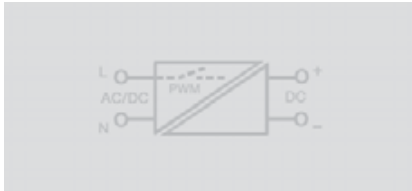
Derating curve



connectPower single phase  
ECOLINE



CP SNT 120 W 24 V 5 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option  
Status relay / Change-over contact

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Mounting position horizontal  
Installation advice  
Weight  
Approvals

88...132 V AC/176...264 V AC selectable; 250...370 V DC  
3 A @ 115 V AC / 2 A @ 230 V AC  
50/ 60 Hz  
Fusible link 4 A (T) / 250 V  
Varistor

24...28 V DC (adjustable via potentiometer)

5 A  
120 W  
< 100 mV<sub>ss</sub> / bandwidth 20 MHz  
105 %...130 % I<sub>konst</sub> of max. output power, automatic restart

29...34 V  
20 ms @ 115 V AC / 20 ms @ 230 V AC  
< 2 %  
recommended with diode module  
250 V AC (max. 30 V DC) / 1 A

0,5 kV  
1,5 kV  
3 kV

-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C

84 %  
green LED  
EN 60950 (SELV)  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
on mounting rail TS 35  
Clearance: above/below ≥ 3 cm  
0,65 kg  
CE / cULus 508 / cURus 60950 / GL / GOST

Screw connection

2,5 / 0,13 / 4  
110 x 65,5 x 125

For redundancy operation or to maintain the alert function, only operate with diode module.

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Ordering data

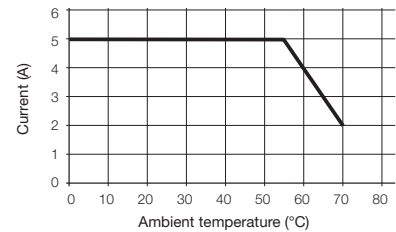
Type	Qty.	Order No.
CP SNT 120W 24V 5A	1	8708670000

Note

Accessories

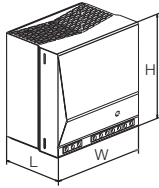
Note

Derating curve

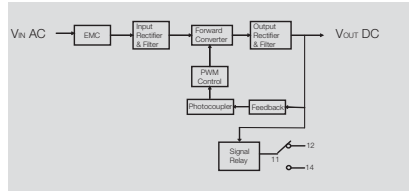
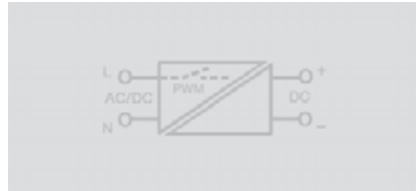


Switch-mode power supplies

connectPower single phase  
ECOLINE



CP SNT 250 W 24 V 10 A



E

Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option  
Status relay / Change-over contact

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Mounting position horizontal  
Installation advice  
Weight  
Approvals

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

88...132 V AC/176...264 V AC selectable; 250...370 V DC  
3.6 A @ 115 V AC / 2 A @ 230 V AC  
50/ 60 Hz  
Fusible link 5 A (T) / 250 V  
Varistor

24...28 V DC (adjustable via potentiometer)  
0.1...10 A  
240 W  
< 100 mV<sub>SS</sub> / bandwidth 20 MHz  
105 %...130 % I<sub>konst</sub> of max. output power, automatic restart  
30...36 V  
10 ms @ 115 V AC / 15 ms @ 230 V AC  
< 2 %  
recommended with diode module  
250 V AC (max. 30 V DC) / 1 A

0,5 kV  
1,5 kV  
3 kV

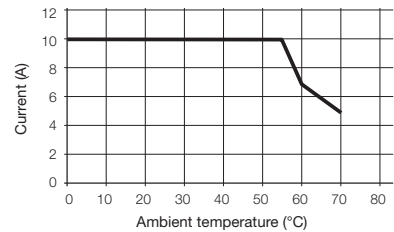
-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
84 % @ 230 V AC  
green LED  
EN 60950 (SELV)  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
on mounting rail TS 35  
Clearance: above/below ≥ 3 cm  
1.6 kg  
CE / cULus 508 / cURus 60950 / GL / GOST

Screw connection

4 / 0.13 / 6  
110 x 125.5 x 125

For redundancy operation or to maintain the alert function, only operate with diode module.

Derating curve



Ordering data

Type	Qty.	Order No.
CP SNT 250W 24V 10A	1	8708680000

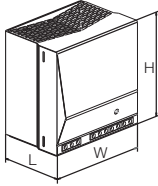
Note

Accessories

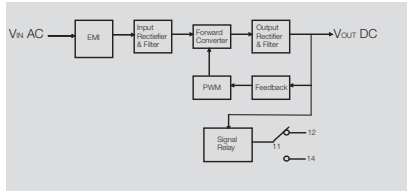
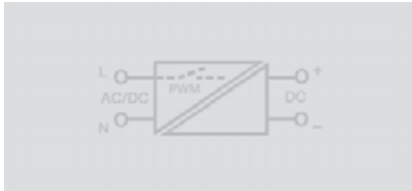
Note



connectPower single phase  
ECOLINE



CP SNT 500 W 24 V 20 A



Technical data

Input

- Input voltage
- Input current
- Input frequency
- Input fuse
- Surge protection

Output

- Output voltage
- Output current
- max. output power
- max. residual ripple
- Overload protection

- Surge protection
- Mains failure bridge-over time
- Control at 10...100% load
- Parallel connection option
- Status relay / Change-over contact

Insulation coordination

- Electrical isolation, output-earth
- Electrical isolation, input-earth
- Electrical isolation, input-output

General data

- Ambient temperature (operational)
- Storage temperature
- Degree of efficiency at max. load
- Status indication
- Standards
- EMC standards
- Mounting position horizontal
- Installation advice
- Weight
- Approvals

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm

Note

Ordering data

Note

Accessories

Note

88...132 V AC/176...264 V AC selectable; 250...370 V DC
9 A @ 115 V AC / 6 A @ 230 V AC
50/ 60 Hz
Fusible link 10 A (T) / 250 V
Varistor
24...28 V DC (adjustable via potentiometer)
2...20 A @ 200...240 V AC; 2...16 A @ 100...120 V AC
480 W
< 100 mV <sub>SS</sub> / bandwidth 20 MHz
105 %...130 % I <sub>konst</sub> of max. output power, automatic restart
30...36 V
10 ms @ 115 V AC / 15 ms @ 230 V AC
< 2 %
recommended with diode module
250 V AC (max. 30 V DC) / 1 A

0,5 kV
1,5 kV
3 kV

-10 °C...+70 °C (derating from 55 °C)
-20 °C...+85 °C
86 %
green LED
EN 60950 (SELV)
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
on mounting rail TS 35
Clearance: above/below ≥ 3 cm
2 kg
CE / cULus 508 / cURus 60950 / GL / GOST

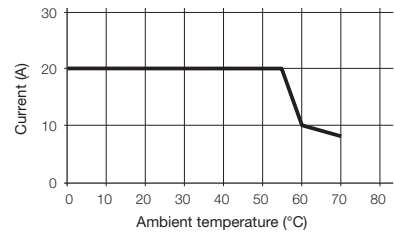
Screw connection

4 / 0.13 / 6
110 x 227.5 x 125

For redundancy operation or to maintain the alert function, only operate with diode module.

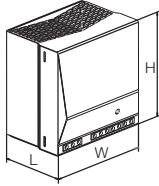
Type	Qty.	Order No.
CP SNT 500W 24V 20A	1	8778870000

Derating curve

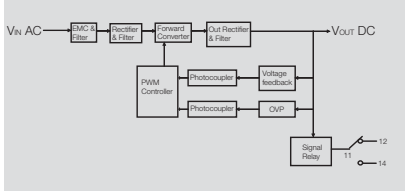


Switch-mode power supplies

connectPower single phase  
ECOLINE



CP SNT 1000 W 24 V 40 A



E

Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option  
Status relay / Change-over contact

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Mounting position horizontal  
Installation advice  
Weight  
Approvals

Clamping range (rating- / min. / max.)      mm<sup>2</sup>  
Length x width x height                              mm

Note

85...264 V AC  
12 A @ 115 V AC / 4,8 A @ 230 V AC  
50/ 60 Hz  
Fusible link 15 A (T) / 250 V  
Varistor

24...28 V DC (adjustable via potentiometer)  
40 A  
960 W  
< 100 mV<sub>ss</sub> / bandwidth 20 MHz  
105 %...125 % I<sub>konst</sub> of max. output power, automatic restart  
29...34 V  
20 ms @ 115 V AC / 20 ms @ 230 V AC  
< 2 %  
recommended with diode module  
250 V AC (max. 30 V DC) / 1 A

0,5 kV  
1,5 kV  
3 kV

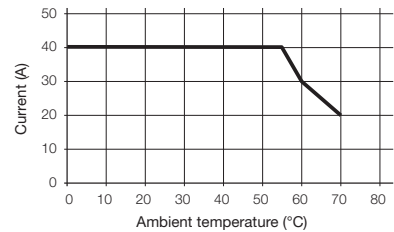
-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
89 %  
green LED  
EN 60950 (SELV)  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
on terminal rail TS 35  
Clearance: above/below ≥ 3 cm  
4,4 kg  
CE / UL in preparation / GOST

Screw connection

4 / 0.13 / 6  
125 x 240 x 150

For redundancy operation or to maintain the alert function, only operate with diode module.

Derating curve



Ordering data

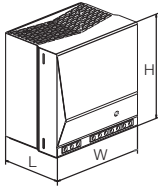
Type	Qty.	Order No.
CP SNT 1000W 24V 40A	1	8862780000

Note

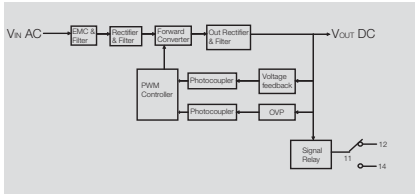
Accessories

Note

connectPower 3-phase  
ECOLINE



CP SNT3 120 W 24 V 5 A



Technical data

<b>Input</b>	
Input voltage	3x400 V AC / 340...575 V AC
Input current	0,8 A @ 400 V AC
Input frequency	47...63 Hz
Input fuse	External via 3 circuit-breakers up to 6...16 A, char. C
Surge protection	Varistor
<b>Output</b>	
Output voltage	24...28 V DC (adjustable via potentiometer)
Output current	5 A
max. output power	120 W
max. residual ripple	< 100 mV <sub>SS</sub> / bandwidth 20 MHz
Overload protection	105 %...130 % I <sub>konst</sub> of max. output power, automatic restart
Surge protection	29...34 V
Mains failure bridge-over time	> 20 ms @ 400 V AC
Control at 10...100% load	< 2 %
Parallel connection option	recommended with diode module
Status relay / Change-over contact	250 V AC (max. 30 V DC) / 1 A
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0,5 kV
Electrical isolation, input-earth	1,5 kV
Electrical isolation, input-output	3 kV
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+70 °C (derating from 55 °C)
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	85 % @ 400 V AC
Status indication	green LED
Standards	EN 60950 (SELV)
EMC standards	EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
Mounting position horizontal	on mounting rail TS 35
Installation advice	Clearance: above/below ≥ 3 cm
Weight	1,5 kg
Approvals	CE / cULus 508 / cURus 60950 / GOST

Clamping range (rating- / min. / max.)	mm <sup>2</sup>	4 / 0.13 / 4
Length x width x height	mm	110 x 90 x 125

**Note**

Ordering data

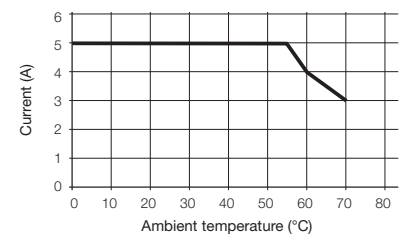
<b>Screw connection</b>		
For redundancy operation or to maintain the alert function, only operate with diode module.		
<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP SNT3 120W 24V 5A	1	8862730000

**Note**

Accessories

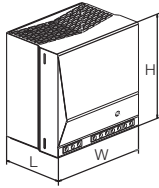
**Note**

Derating curve

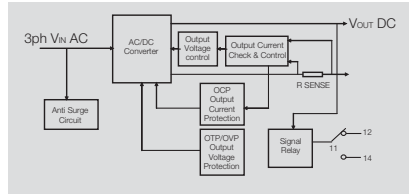
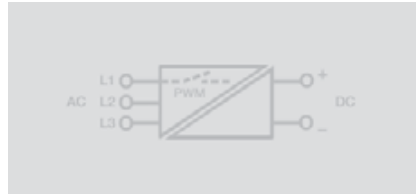


Switch-mode power supplies

connectPower 3-phase  
ECOLINE



CP SNT3 250 W 24 V 10 A



E

Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection

Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option  
Status relay / Change-over contact

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output

General data

Ambient temperature (operational)  
Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Mounting position horizontal  
Installation advice  
Weight  
Approvals

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

3x400 V AC / 340...575 V AC  
0.95 A @ 400 V AC  
47...63 Hz  
External via 3 circuit-breakers up to 2...3 A, char. C  
Varistor

24...28 V DC (adjustable via potentiometer)  
10 A  
250 V  
< 100 mV<sub>SS</sub> / bandwidth 20 MHz  
105 %...130 % I<sub>konst</sub> of max. output power, automatic restart  
29...34 V  
> 10 ms @ 400 V AC  
< 2 %  
recommended with diode module  
250 V AC (max. 30 V DC) / 1 A

0,5 kV  
1,5 kV  
3 kV

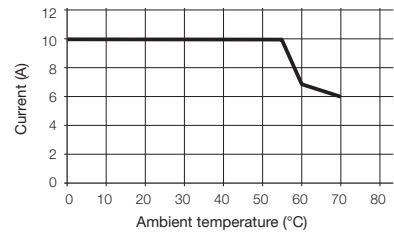
-10 °C...+70 °C (derating from 55 °C)  
-20 °C...+85 °C  
88 % @ 400 V AC  
green LED  
EN 60950 (SELV)  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
on mounting rail TS 35  
Clearance: above/below ≥ 3 cm  
1.5 kg  
CE / cULus 508 / cURus 60950 / GL / GOST

Screw connection

4 / 0.13 / 6  
110 x 125.5 x 125

For redundancy operation or to maintain the alert function, only operate with diode module.

Derating curve



Ordering data

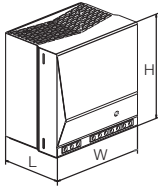
Type	Qty.	Order No.
CP SNT3 250W 24V 10A	1	8708700000

Note

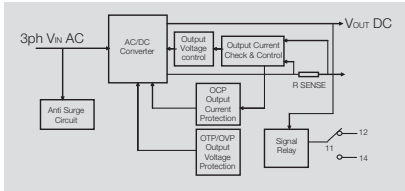
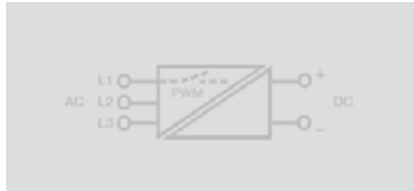
Accessories

Note

connectPower 3-phase  
ECOLINE



CP SNT3 500 W 24 V 20 A



Technical data

<b>Input</b>	
Input voltage	3x400 V AC / 340...575 V AC
Input current	1.7 A @ 400 V AC
Input frequency	47...63 Hz
Input fuse	External via 3 circuit-breakers up to 3...6 A, char. C
Surge protection	Varistor
<b>Output</b>	
Output voltage	24...28 V DC (adjustable via potentiometer)
Output current	20 A
max. output power	480 W
max. residual ripple	< 100 mV <sub>SS</sub> / bandwidth 20 MHz
Overload protection	105 %...130 % I <sub>konst</sub> of max. output power, automatic restart
Surge protection	30...34 V
Mains failure bridge-over time	> 10 ms @ 400 V AC
Control at 10...100% load	< 2 %
Parallel connection option	recommended with diode module
Status relay / Change-over contact	250 V AC (max. 30 V DC) / 1 A
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0,5 kV
Electrical isolation, input-earth	1,5 kV
Electrical isolation, input-output	3 kV
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+70 °C (derating from 55 °C)
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	88 %
Status indication	green LED
Standards	EN 60950 (SELV)
EMC standards	EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
Mounting position horizontal	on mounting rail TS 35
Installation advice	Clearance: above/below ≥ 3 cm
Weight	3 kg
Approvals	CE / cULus 508 / cURus 60950 / GL / GOST

Clamping range (rating- / min. / max.)	mm <sup>2</sup>	4 / 0.13 / 6
Length x width x height	mm	110 x 227.5 x 125

**Note**

Ordering data

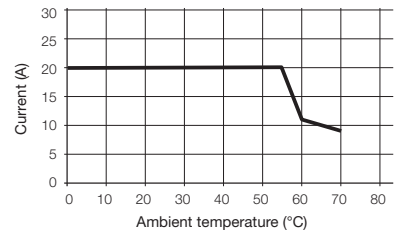
<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP SNT3 500W 24V 20A	1	8708710000

**Note**

Accessories

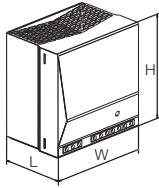
**Note**

Derating curve

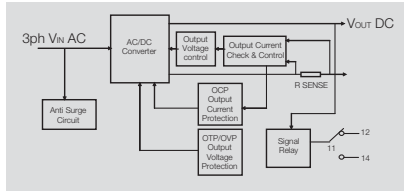
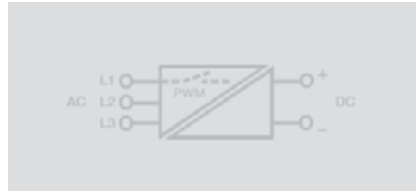


Switch-mode power supplies

connectPower 3-phase  
ECOLINE



CP SNT3 1000 W 24 V 40 A

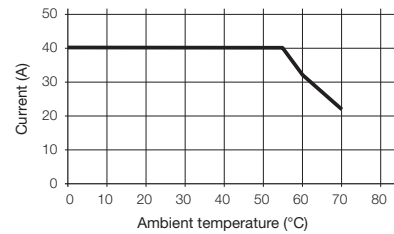


E

Technical data

<b>Input</b>	
Input voltage	3x400 V AC / 340...575 V AC (450...800 V DC)
Input current	3.4 A @ 400 V AC
Input frequency	47...63 Hz
Input fuse	External via 3 circuit-breakers up to 6...16 A, char. C
Surge protection	Varistor
<b>Output</b>	
Output voltage	24...28 V DC (adjustable via potentiometer)
Output current	40 A
max. output power	960 W
max. residual ripple	< 100 mV <sub>SS</sub> / bandwidth 20 MHz
Overload protection	105 %...130 % I <sub>konst</sub> of max. output power, automatic restart
Surge protection	29...34 V
Mains failure bridge-over time	> 10 ms @ 400 V AC
Control at 10...100% load	< 2 %
Parallel connection option	direct for same type
Status relay / Change-over contact	250 V AC (max. 30 V DC) / 1 A
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0.5 kV
Electrical isolation, input-earth	1.5 kV
Electrical isolation, input-output	3 kV
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+70 °C (derating from 55 °C)
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	88 %
Status indication	green LED
Standards	EN 60950 (SELV)
EMC standards	EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
Mounting position horizontal	on mounting rail TS 35
Installation advice	Clearance: above/below ≥ 3 cm
Weight	3.5 kg
Approvals	CE / cULus 508 / cURus 60950 / GL / GOST
<b>Screw connection</b>	
Clamping range Input (rating-/min./max)	4 / 0.1 / 6 mm <sup>2</sup>
Clamping range Output (rating-/ min./max)	10 / 0.3 / 16 mm <sup>2</sup>
Length x width x height	125 x 280 x 150 mm
<b>Note</b>	
Clamping range identical for input and signalling contact	

Derating curve



Ordering data

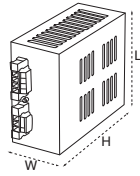
Type	Qty.	Order No.
CP SNT3 1000W 24V 40A	1	8708730000

Note

Accessories

Note

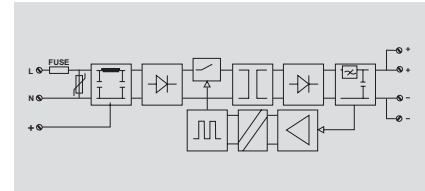
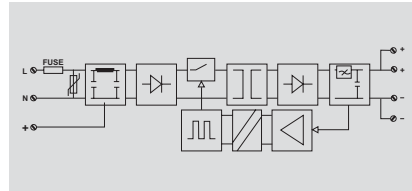
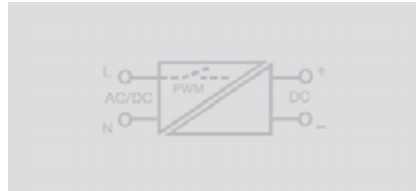
connectPower single phase



CP SNT 55 W 48 V 1.04 A



CP SNT 55 W 24-28 V 2.3 A



Technical data

<b>Input</b>	
Input voltage	85...265 V AC, 120...300 V DC
Input current	1.1 A @ 115 V AC; 0.55 A @ 230 V AC
Input frequency	50/ 60 Hz
Input fuse	2 A slow-blow fuse (internal)
Surge protection	Varistor
<b>Output</b>	
Output voltage	48 V DC
Output current	1.04 A
max. output power	50 W
max. residual ripple	< 50 mV <sub>rff</sub>
Overload protection	Surge / thermal cut-out
Surge protection	Varistor
Mains failure bridge-over time	30 ms @ 115 V AC / 180 ms @ 230 V AC
Control at 10...100% load	1%
Parallel connection option	no
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0.5 kV
Electrical isolation, input-earth	1.5 kV
Electrical isolation, input-output	3 kV
Electrical isolation, I/O rail	3 kV
<b>General data</b>	
Ambient temperature (operational)/Storage temperature	-20 °C...+40 °C / -40 °C...+85 °C
Degree of efficiency at max. load	78 %
Status indication	green LED
Standards	EN 50178, EN 60950, IEC950
EMC standards	IEC 61000-6 / -2, -3
Power factor correction	no
Approvals	CSA;UL;UR;CE;
<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	4 / 0.1 / 4 mm <sup>2</sup>
Length x width x height	131 x 57 x 98 mm
<b>Note</b>	Derating loss: 2.1A/ 24V @ 50°C; 1.5A/ 24V @ 60°C

<b>Input</b>	
Input voltage	85...265 V AC, 120...300 V DC
Input current	1.1 A @ 115 V AC; 0.55 A @ 230 V AC
Input frequency	50/ 60 Hz
Input fuse	2 A slow-blow fuse (internal)
Surge protection	Varistor
<b>Output</b>	
Output voltage	24...28 V DC
Output current	2.3 A
max. output power	55 W
max. residual ripple	< 50 mV <sub>rff</sub>
Overload protection	Surge / thermal cut-out
Surge protection	Varistor
Mains failure bridge-over time	30 ms @ 115 V AC / 180 ms @ 230 V AC
Control at 10...100% load	1%
Parallel connection option	no
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0.5 kV
Electrical isolation, input-earth	1.5 kV
Electrical isolation, input-output	3 kV
Electrical isolation, I/O rail	3 kV
<b>General data</b>	
Ambient temperature (operational)/Storage temperature	-20 °C...+40 °C / -40 °C...+85 °C
Degree of efficiency at max. load	78 %
Status indication	green LED
Standards	EN 50178, EN 60950, IEC950
EMC standards	IEC 61000-6 / -2, -3
Power factor correction	no
Approvals	CSA;UL;UR;CE;
<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	4 / 0.1 / 4 mm <sup>2</sup>
Length x width x height	131 x 57 x 98 mm
<b>Note</b>	Derating loss: 2.1A/ 24V @ 50°C; 1.5A/ 24V @ 60°C

<b>Input</b>	
Input voltage	85...265 V AC, 120...300 V DC
Input current	1.1 A @ 115 V AC; 0.55 A @ 230 V AC
Input frequency	50/ 60 Hz
Input fuse	2 A slow-blow fuse (internal)
Surge protection	Varistor
<b>Output</b>	
Output voltage	24...28 V DC
Output current	2.3 A
max. output power	55 W
max. residual ripple	< 50 mV <sub>rff</sub>
Overload protection	Surge / thermal cut-out
Surge protection	Varistor
Mains failure bridge-over time	30 ms @ 115 V AC / 180 ms @ 230 V AC
Control at 10...100% load	1%
Parallel connection option	no
<b>Insulation coordination</b>	
Electrical isolation, output-earth	0.5 kV
Electrical isolation, input-earth	1.5 kV
Electrical isolation, input-output	3 kV
Electrical isolation, I/O rail	3 kV
<b>General data</b>	
Ambient temperature (operational)/Storage temperature	-20 °C...+40 °C / -40 °C...+85 °C
Degree of efficiency at max. load	78 %
Status indication	green LED
Standards	EN 50178, EN 60950, IEC950
EMC standards	IEC 61000-6 / -2, -3
Power factor correction	no
Approvals	CSA;UL;UR;CE;
<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	4 / 0.1 / 4 mm <sup>2</sup>
Length x width x height	131 x 57 x 98 mm
<b>Note</b>	Derating loss: 2.1A/ 24V @ 50°C; 1.5A/ 24V @ 60°C

Ordering data

Type	Qty.	Order No.
CP SNT 55W 48V 1.04A	1	9927480048

Type	Qty.	Order No.
CP SNT 55W 24-28V 2.3A	1	9927480024

Type	Qty.	Order No.
CP SNT 55W 24-28V 2.3A	1	9927480024

Note

Accessories

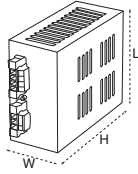
<b>Note</b>	Bracket for wall mounting: 7920560000
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<b>Note</b>	Bracket for wall mounting: 7920560000
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<b>Note</b>	Bracket for wall mounting: 7920560000
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## Switch-mode power supplies

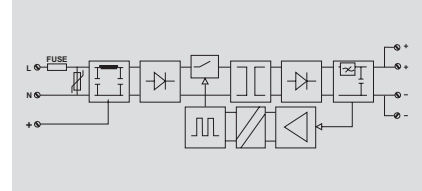
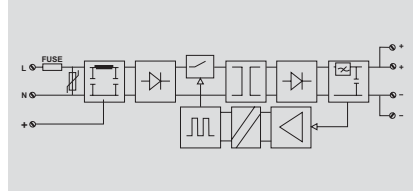
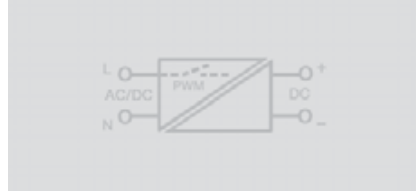
### connectPower single phase



### CP SNT 55 W 12-15 V 3 A



### CP SNT 55 W 5 V 3 A



## E

### Technical data

	CP SNT 55 W 12-15 V 3 A	CP SNT 55 W 5 V 3 A
<b>Input</b>		
Input voltage	85...265 V AC, 120...300 V DC	85...265 V AC, 120...300 V DC
Input current	1.1 A @ 115 V AC; 0.55 A @ 230 V AC	1.1 A @ 115 V AC; 0.55 A @ 230 V AC
Input frequency	50/ 60 Hz	50/ 60 Hz
Input fuse	2 A slow-blow fuse (internal)	2 A slow-blow fuse (internal)
Surge protection	Varistor	Varistor
<b>Output</b>		
Output voltage	12...15 V DC	5 V DC
Output current	3 A	3 A
max. output power	36 W	15 W
max. residual ripple	< 50 mV <sub>rff</sub>	< 50 mV <sub>rff</sub>
Overload protection	Surge / thermal cut-out	Surge / thermal cut-out
Surge protection	Varistor	Varistor
Mains failure bridge-over time	30 ms @ 115 V AC / 180 ms @ 230 V AC	30 ms @ 115 V AC / 180 ms @ 230 V AC
Control at 10...100% load	1%	1%
Parallel connection option	no	no
<b>Insulation coordination</b>		
Electrical isolation, output-earth	0.5 kV	0.5 kV
Electrical isolation, input-earth	1.5 kV	1.5 kV
Electrical isolation, input-output	3 kV	3 kV
Electrical isolation, I/O rail	3 kV	3 kV
<b>General data</b>		
Ambient temperature (operational)/Storage temperature	-20 °C...+40 °C / -40 °C...+85 °C	-20 °C...+40 °C / -40 °C...+85 °C
Degree of efficiency at max. load	78 %	78 %
Status indication	green LED	green LED
Standards	EN 50178, EN 60950, IEC950	EN 50178, EN 60950, IEC950
EMC standards	IEC 61000-6 / -2, -3	IEC 61000-6 / -2, -3
Power factor correction	no	no
Approvals	CSA;UL;UR;CE;	CSA;UL;UR;CE;
<b>Clamping range (rating- / min. / max.)</b> mm <sup>2</sup>		
Clamping range (rating- / min. / max.)	4 / 0.1 / 4	4 / 0.1 / 4
<b>Length x width x height</b> mm		
Length x width x height	131 x 57 x 98	131 x 57 x 98
<b>Note</b>		
Note	Derating loss: 2.1A/ 24V @ 50°C; 1.5A/ 24V @ 60°C	Derating loss: 2.1A/ 24V @ 50°C; 1.5A/ 24V @ 60°C

### Ordering data

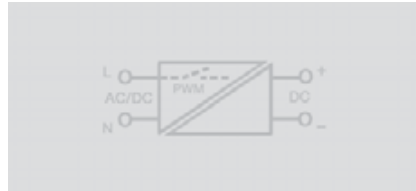
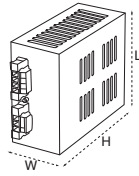
Type	Qty.	Order No.	Type	Qty.	Order No.
CP SNT 55W 12-15V 3A	1	9927480012	CP SNT 55W 5V 3A	1	9927480005
<b>Note</b>					

### Accessories

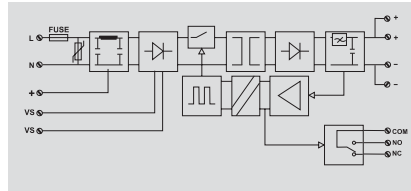
<b>Note</b>	Bracket for wall mounting: 7920560000	Bracket for wall mounting: 7920560000
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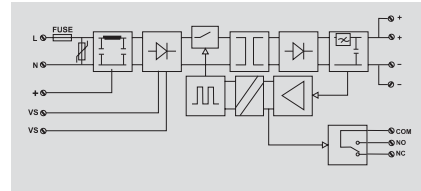
connectPower single phase



CP SNT 160 W 48 V 3.5 A



CP SNT 160 W 24-28 V 6.5 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

General data

Ambient temperature (operational)/Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Power factor correction  
Approvals

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Ordering data

Note

Accessories

Note

min. 85/138 V AC, max. 195/250 V AC, typ. 115...230 V AC

2.9 A @ 115 V AC; 1.45A @ 230 V AC

50/ 60 Hz

6.3 A slow-blow fuse (internal)

Varistor

48 V DC

3.5 A

168 V

0,2 %<sub>eff</sub>

Overcurrent and surge protection

Varistor

40 ms @ 115 V AC / 50 ms @ 230 V AC

1%

no

0.5 kV

1.5 kV

3 kV

3 kV

0 °C...+50 °C / -40 °C...+85 °C

85 %

green LED

EN 50178, EN 60950, IEC950

EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3

no

CSA;UL;UR;CE;

Screw connection

4 / 0.1 / 4

175 x 57 x 127

Derating loss: 10% @ 60°C

min. 85/138 V AC, max. 195/250 V AC, typ. 115...230 V AC

2.9 A @ 115 V AC; 1.45A @ 230 V AC

50/ 60 Hz

6.3 A slow-blow fuse (internal)

Varistor

24...28 V DC

6.5 A

156 V

0,2 %<sub>eff</sub>

Overcurrent and surge protection

Varistor

40 ms @ 115 V AC / 50 ms @ 230 V AC

1%

no

0.5 kV

1.5 kV

3 kV

3 kV

0 °C...+50 °C / -40 °C...+85 °C

85 %

green LED

EN 50178, EN 60950, IEC950

EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3

no

CSA;UL;UR;CE;

Screw connection

4 / 0.1 / 4

175 x 57 x 127

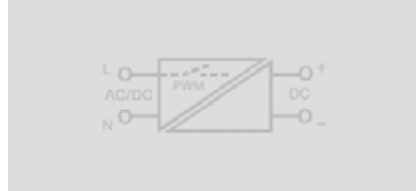
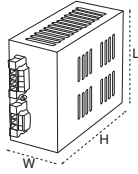
Derating loss: 10% @ 60°C

Type	Qty.	Order No.
CP SNT 160W 48V 3.5A	1	9925340048

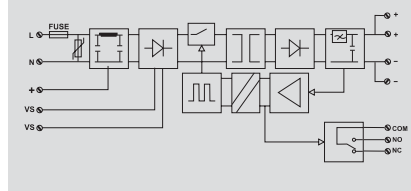
Type	Qty.	Order No.
CP SNT 160W 24-28V 6.5A	1	9925340024

## Switch-mode power supplies

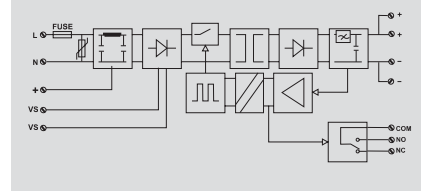
### connectPower single phase



### CP SNT 160 W 12-15 V 8 A



### CP SNT 160 W 5 V 8 A



## E

### Technical data

#### Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

#### Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option

#### Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

#### General data

Ambient temperature (operational)/Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Power factor correction  
Approvals

Clamping range (rating- / min. / max.)

mm<sup>2</sup>

Length x width x height

mm

#### Note

### Ordering data

#### Note

### Accessories

#### Note

min. 85/138 V AC, max. 195/250 V AC, typ. 115...230 V AC

2.9 A @ 115 V AC; 1.45A @ 230 V AC

50/ 60 Hz

6.3 A slow-blow fuse (internal)

Varistor

12...15 V DC

8 A

96 V

0,2 %<sub>eff</sub>

Overcurrent and surge protection

Varistor

40 ms @ 115 V AC / 50 ms @ 230 V AC

1%

no

0.5 kV

1.5 kV

3 kV

3 kV

0 °C...+50 °C / -40 °C...+85 °C

85 %

green LED

EN 50178, EN 60950, IEC950

EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3

no

CSA;UL/UR;CE;

#### Screw connection

4 / 0.1 / 4

175 x 57 x 127

Derating loss: 10% @ 60°C

Type	Qty.	Order No.
CP SNT 160W 12-15V 8A	1	9925340012

#### Note

Bracket for wall mounting: 7920560000

min. 85/138 V AC, max. 195/250 V AC, typ. 115...230 V AC

2.9 A @ 115 V AC; 1.45A @ 230 V AC

50/ 60 Hz

6.3 A slow-blow fuse (internal)

Varistor

5 V DC

8 A

40 V

0,2 %<sub>eff</sub>

Overcurrent and surge protection

Varistor

40 ms @ 115 V AC / 50 ms @ 230 V AC

1%

no

0.5 kV

1.5 kV

3 kV

3 kV

0 °C...+50 °C / -40 °C...+85 °C

85 %

green LED

EN 50178, EN 60950, IEC950

EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3

no

CSA;UL/UR;CE;

#### Screw connection

4 / 0.1 / 4

175 x 57 x 127

Derating loss: 10% @ 60°C

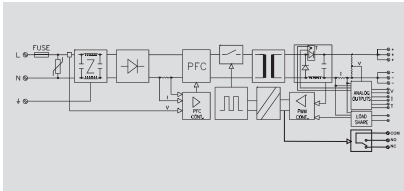
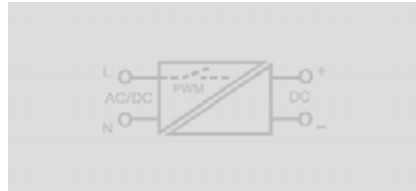
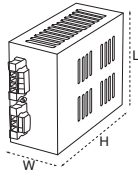
Type	Qty.	Order No.
CP SNT 160W 5V 8A	1	9925340005

#### Note

Bracket for wall mounting: 7920560000

connectPower single phase

CP SNT 300 W 24 V 12.5 A



Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Surge protection

86...265 V AC, 100...200 V DC; typ 115...230 V AC  
3.3 A @ 115 V AC; 1.65 A @ 230 V AC  
50/ 60 Hz  
Thermistor  
Varistor

Output

Output voltage  
Output current  
max. output power  
max. residual ripple  
Overload protection  
Surge protection  
Mains failure bridge-over time  
Control at 10...100% load  
Parallel connection option  
Signalling delay  
Monitoring function

Adjustable, 22-28 V DC  
12.5 A  
300 W  
at 100 kHz: 2 mV<sub>SS</sub>; bei 120 Hz: 20 mV AC<sub>eff</sub>  
Overcurrent and surge protection  
Varistor  
40 ms @ 115 V AC / 40 ms @ 230 V AC  
0.2 %  
Yes, max. 5 devices, active current splitting  
2 s  
Output voltage, current, temperature

Insulation coordination

Electrical isolation, output-earth  
Electrical isolation, input-earth  
Electrical isolation, input-output  
Electrical isolation, I/O rail

0.5 kV  
1.5 kV  
3 kV  
4 kV

General data

Ambient temperature (operational)/Storage temperature  
Degree of efficiency at max. load  
Status indication  
Standards  
EMC standards  
Power factor correction  
Derating  
Approvals

-15°C...+50°C (at 100% duty cycle) /-40 °C...+85 °C  
80 %  
Current limiting: yellow LED / Error: red LED / On: green LED  
EN 50178, EN 60950, IEC950  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
PFC passive  
Derating: 20% @ 60°C  
CSA;UL/UR;CE;

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Screw connection**  
4 / 0.1 / 4  
101 x 240 x 155

Note

Ordering data

Type	Qty.	Order No.
CP SNT 300W 24V 12.5A	1	9916250024

Note

Accessories

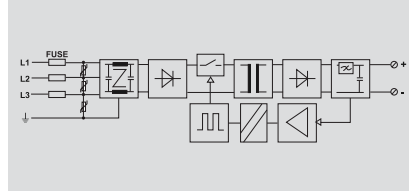
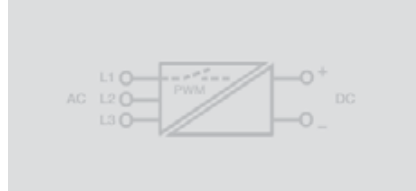
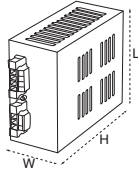
Note

Bracket for wall mounting: 7920560000

Switch-mode power supplies

connectPower 3-phase

CP-SNT 380-480 V AC/24 V



E

Technical data

Input

Input voltage	306... 550 V AC, typ.: 360...480 V AC
Input current	120 mA @ 360 V AC; 100 mA @ 230 V AC
Input frequency	50/ 60 Hz
Input fuse	3 x 1 A slow-blow fuse (internal)
Surge protection	Varistor

Output

Output voltage	24 V DC
Output current	2.3 A
max. output power	55 W
max. residual ripple	< 50 mV <sub>rff</sub>
Overload protection	Surge / thermal cut-out
Surge protection	Varistor
Mains failure bridge-over time	120 ms @ 360 V AC / 120 ms @ 480 V AC
Control at 10...100% load	1%
Parallel connection option	no
Overload protection	Surge / thermal cut-out

Insulation coordination

Electrical isolation, output-earth	0.5 kV
Electrical isolation, input-earth	1.5 kV
Electrical isolation, input-output	3 kV
Electrical isolation, I/O rail	3 kV

General data

Ambient temperature (operational)	0 °C...+50 °C
Storage temperature	-40 °C...+85 °C
Degree of efficiency at max. load	85 %
Status indication	green LED
Standards	EN 50178, EN 60950, IEC950
EMC standards	EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3
Power factor correction	no
Approvals	CSA;UL/UR;CE;

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm

Note

Screw connection

	4 / 0.1 / 4
	168 x 60 x 108
Derating loss: 10% @ 85°C	

Ordering data

Type	Qty.	Order No.
CP-SNT 380-480VAC/24V	1	9917790324

Note

Accessories

Note

Bracket for wall mounting: 7920560000



Diode modules



Power supplies to critical loads

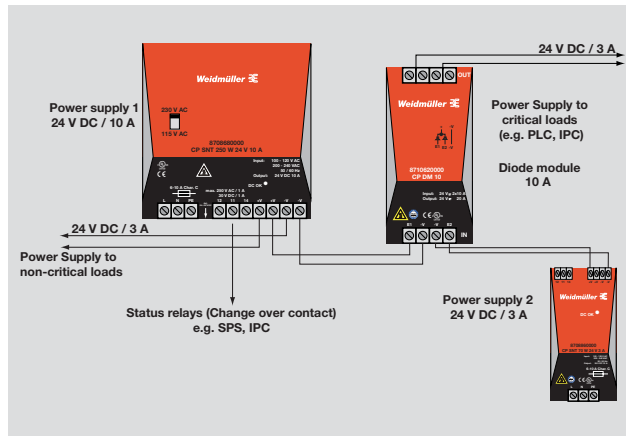
As a rule, actuators require relative high amounts of current, and a modern power supply concept should envisage supplying them separately. It is also recommended that a second power supply unit with lower output be used to supply the controls (for example, PLC, IPC). Together with a diode module, doubling up guarantees that the controls are constantly supplied with power should one of the devices fail; thus ensuring that no data is lost.

Redundant circuit for fail-safe power supplies to loads

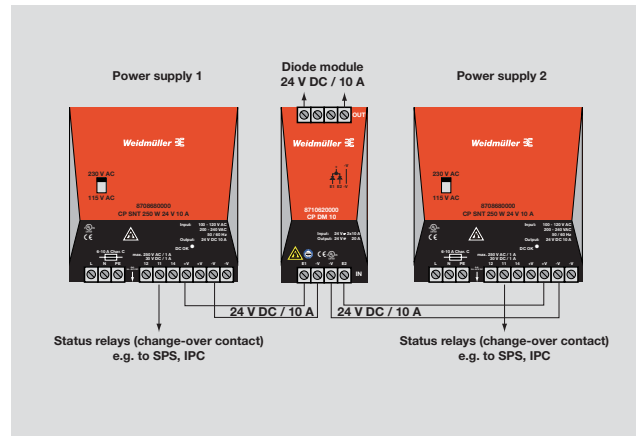
Both devices operate in parallel and share the load required by the equipment via the diode module. Should one of these devices fail, the second device immediately supplies the full amount of power. The diode module decouples both switch-mode power supplies to 100 %, so that they do not negatively affect each other if a failure occurs.

E

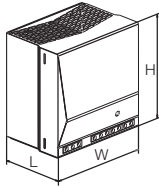
Power supplies to critical loads



Redundant circuit for fail-safe power supplies to loads



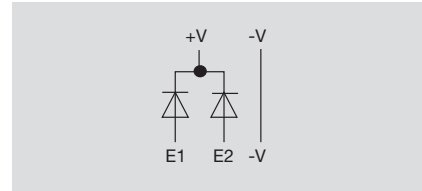
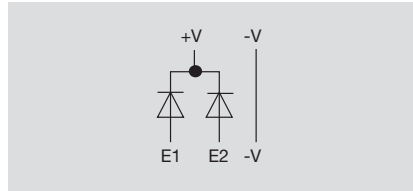
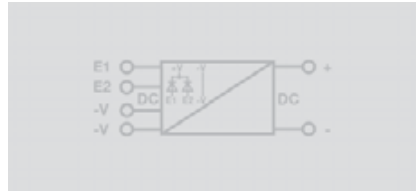
connectPower diode module  
ECOLINE



CP DM 10



CP DM 20



Technical data

<b>Input</b>	
Input voltage	40 V DC max.
Input current	2 x 0...10 A max.
<b>Output</b>	
Output voltage	$V_{in} - 0.5$ typical
Output current	0...20 A max. or 10 A max. for redundancy operation
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	96 %
DIN Rail compatibility	TS 35
Mounting position horizontal	on terminal rail TS 35
Installation advice	Clearance: side $\geq 2$ cm; above/below $\geq 10$ cm
Weight	406 g
Approvals	CE / cULus 508 / cURus 60950 / GOST

<b>Input</b>	
Input voltage	40 V DC max.
Input current	2 x 0...10 A max.
<b>Output</b>	
Output voltage	$V_{in} - 0.5$ typical
Output current	0...20 A max. or 10 A max. for redundancy operation
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	96 %
DIN Rail compatibility	TS 35
Mounting position horizontal	on terminal rail TS 35
Installation advice	Clearance: side $\geq 2$ cm; above/below $\geq 10$ cm
Weight	406 g
Approvals	CE / cULus 508 / cURus 60950 / GOST

<b>Input</b>	
Input voltage	40 V DC max.
Input current	2 x 0...20 A max.
<b>Output</b>	
Output voltage	$V_{in} - 0.5$ typical
Output current	0...40 A max. or 20 A max. for redundant operations
<b>General data</b>	
Ambient temperature (operational)	-10 °C...+55 °C
Storage temperature	-20 °C...+85 °C
Degree of efficiency at max. load	98 %
DIN Rail compatibility	TS 35
Mounting position horizontal	on terminal rail TS 35
Installation advice	Clearance: side $\geq 2$ cm; above/below $\geq 10$ cm
Weight	414 g
Approvals	CE / cULus 508 / cURus 60950 / GOST

Clamping range Input (rating-/min./max)	mm <sup>2</sup>	4 / 0.13 / 6
Clamping range Output (rating-/ min./max)	mm <sup>2</sup>	4 / 0.13 / 6
Length x width x height	mm	110 x 55.5 x 125

<b>Screw connection</b>		
Clamping range Input (rating-/min./max)	mm <sup>2</sup>	4 / 0.13 / 6
Clamping range Output (rating-/ min./max)	mm <sup>2</sup>	4 / 0.13 / 6
Length x width x height	mm	110 x 55.5 x 125

<b>Screw connection</b>		
Clamping range Input (rating-/min./max)	mm <sup>2</sup>	4 / 0.13 / 6
Clamping range Output (rating-/ min./max)	mm <sup>2</sup>	10 / 0.32 / 16
Length x width x height	mm	110 x 55.5 x 142

**Note**  
Identical clamping range for input and output

Ordering data

Type	Qty.	Order No.
CP DM 10	1	8710620000

Type	Qty.	Order No.
CP DM 10	1	8710620000

Type	Qty.	Order No.
CP DM 20	1	8768650000

**Note**

Accessories

**Note**

E

## DC/DC converters



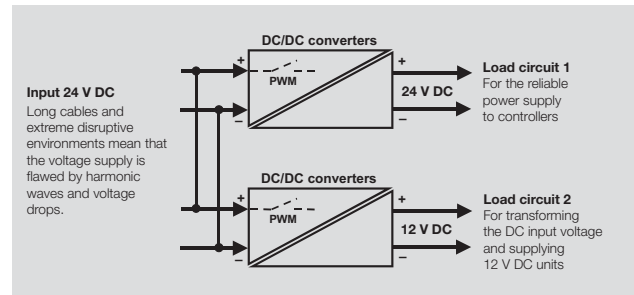
If there is no regulated and stable DC voltage available to supply sensitive equipment, DC/DC converters can guarantee a stabilised voltage. To a certain extent, other voltage levels are generated at the output; consequently, DC/DC converters can also be utilised for converting to other voltage levels. Electrical isolation of the input and output ensures reliable and safe separation of the circuits. The status of the output is reliably indicated by means of a status LED.

## DC/DC converters

DC/DC converters are particularly suitable for decentralised power supplies to circuitry, subassemblies and modules. DC/DC converters are often required in emergency power supplies supplying electrical devices from batteries and other DC systems.

## DC/DC converters for supplying sensitive loads for example, PLCs, mini controllers etc.

Power supply to loads with different voltage levels

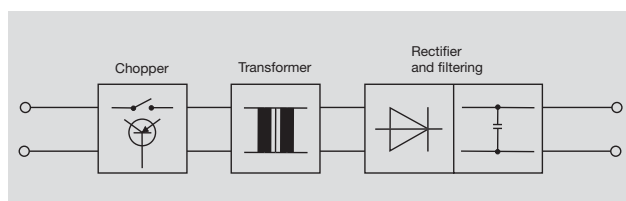




It is possible to supply both sides of an analogue coupling module with the help of a DC/DC converter without neutralising the electrical isolation. Weidmüller's DC/DC converters are available in housings suitable for mounting on DIN rails.

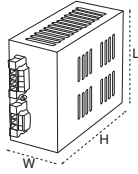
### Method of operation

DC/DC converters are a variation on switched-mode regulators. The DC current at the input is chopped with the switching frequency and brought up to the required voltage by a transformer. The voltage is then rectified, smoothed and regulated.



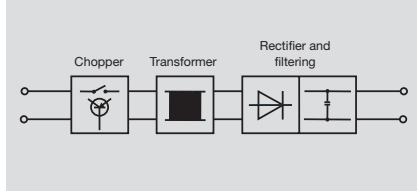
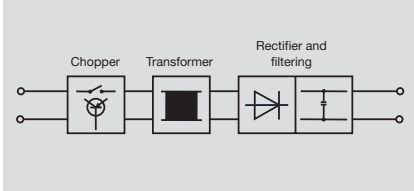
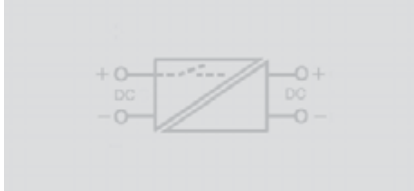
**DC/DC converters**

**connectPower**



**CP DCDC 50 W 22-24 V DC 2 A**

**CP DCDC 50 W 15 V DC 3 A**



**E**

**Technical data**

<b>Input</b>	
Input voltage	
Input fuse	
<b>Output</b>	
Output voltage	
Output current	
Overload behaviour	
<b>General data</b>	
Ambient temperature (operational)	
Storage temperature	
Status indication	
Switching frequency	
Approvals	

Input voltage	18...30 V DC, typ. 24 V DC
Input fuse	internal
Output voltage	22...24 V DC
Output current	2 A
Overload behaviour	Surge cut-out with self-reset
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

Input voltage	18...30 V DC, typ. 24 V DC
Input fuse	internal
Output voltage	15 V DC
Output current	3 A
Overload behaviour	Surge cut-out with self-reset
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

Clamping range (rating- / min. / max.)	mm <sup>2</sup>
Length x width x height	mm
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	4 / 0.1 / 4
Length x width x height	131 x 57 x 98
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	4 / 0.1 / 4
Length x width x height	131 x 57 x 98
<b>Note</b>	

**Ordering data**

<b>Connection system</b>	
	Screw connection
<b>Note</b>	

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 22-24V 2A	1	9919372424
<b>Note</b>		

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 15V 3A	1	9919372415
<b>Note</b>		

**Accessories**

<b>Note</b>
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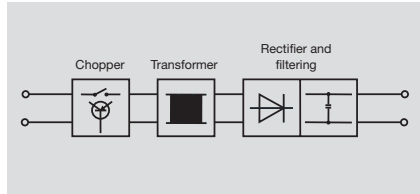
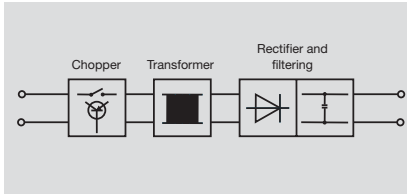
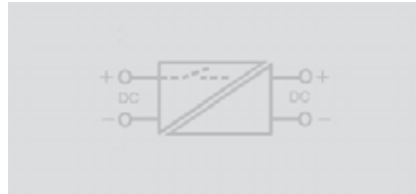
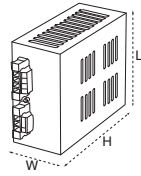
Bracket for wall mounting: 7920560000
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Bracket for wall mounting: 7920560000
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connectPower

CP DCDC 50 W 12 V DC 3 A

CP DCDC 50 W 5 V DC 8 A



Technical data

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	12 V DC
Output current	3 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	12 V DC
Output current	3 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	5 V DC
Output current	8 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

Ordering data

<b>Connection system</b>	
	Screw connection
<b>Note</b>	

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 12V 3A	1	9919371212
<b>Note</b>		

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 5V 8A	1	9919371205
<b>Note</b>		

Accessories

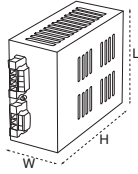
<b>Note</b>
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Bracket for wall mounting: 7920560000
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Bracket for wall mounting: 7920560000
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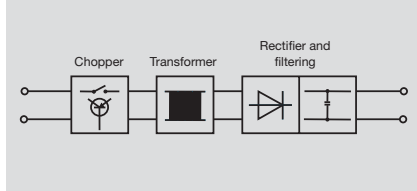
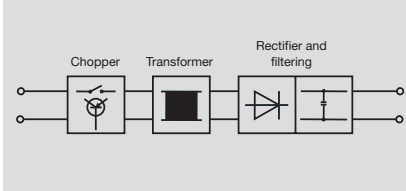
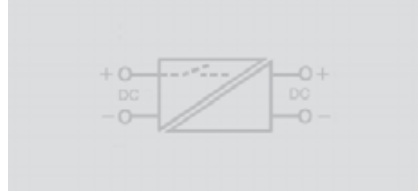
**DC/DC converters**

**connectPower**



**CP DCDC 50 W 22-24 V DC 2 A**

**CP DCDC 50 W 15 V DC 3 A**



**E**

**Technical data**

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	22...24 V DC
Output current	2 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	22...24 V DC
Output current	2 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Input</b>	
Input voltage	9...16 V DC, type 12 V DC
Input fuse	internal
<b>Output</b>	
Output voltage	15 V DC
Output current	3 A
Overload behaviour	Surge cut-out with self-reset
<b>General data</b>	
Ambient temperature (operational)	0 °C...+40 °C max. full rate load
Storage temperature	-40 °C...+85 °C
Status indication	green LED
Switching frequency	200 kHz
Approvals	CSA / UL/UR / CE

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

<b>Screw connection</b>	
Clamping range (rating- / min. / max.)	mm <sup>2</sup> 4 / 0.1 / 4
Length x width x height	mm 131 x 57 x 98
<b>Note</b>	

**Ordering data**

<b>Connection system</b>	
	Screw connection
<b>Note</b>	

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 22-24V 2A	1	9919371224
<b>Note</b>		

<b>Type</b>	<b>Qty.</b>	<b>Order No.</b>
CP DCDC 50W 15V 3A	1	9919371215
<b>Note</b>		

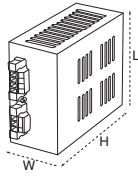
**Accessories**

<b>Note</b>
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Bracket for wall mounting: 7920560000
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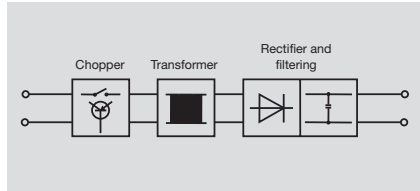
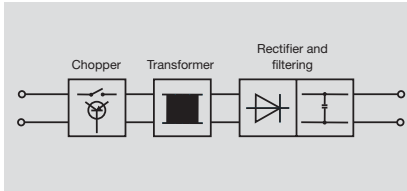
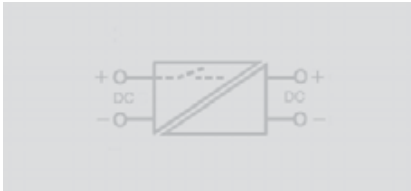
Bracket for wall mounting: 7920560000
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connectPower



**CP DCDC 50 W 12 V DC 3 A**

**CP DCDC 50 W 5 V DC 8 A**



**Technical data**

**Input**

Input voltage  
Input fuse

**Output**

Output voltage  
Output current  
Overload behaviour

**General data**

Ambient temperature (operational)  
Storage temperature  
Status indication  
Switching frequency  
Approvals

18...30 V DC, typ. 24 V DC  
internal

12 V DC  
3 A  
Surge cut-out with self-reset

0 °C...+40 °C max. full rate load  
-40 °C...+85 °C  
green LED  
200 kHz  
CSA / UL/UR / CE

18...30 V DC, typ. 24 V DC  
internal

5 V DC  
8 A  
Surge cut-out with self-reset

0 °C...+40 °C max. full rate load  
-40 °C...+85 °C  
green LED  
200 kHz  
CSA / UL/UR / CE

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

**Note**

**Screw connection**

4 / 0.1 / 4  
131 x 57 x 98

**Screw connection**

4 / 0.1 / 4  
131 x 57 x 98

**Ordering data**

**Connection system**

Screw connection

Type	Qty.	Order No.
CP DCDC 50W 12V 3A	1	9919372412

Type	Qty.	Order No.
CP DCDC 50W 5V 8A	1	9919372405

**Note**

**Accessories**

**Note**

Bracket for wall mounting: 7920560000

Bracket for wall mounting: 7920560000

E

## Unregulated power supplies



### Unregulated power supplies – compactPower

Compact power supply units are important links in the power supplies for controllers. They are utilised where processes or control voltages are required that vary from the mains voltage. Transformers provide the electrical isolation between the input circuit and the output circuit.

The minimum requirement (to VDE 0550) is 2000 V.

Screw terminals secure the input-side connection to the mains.

The single-phase devices are rated for a nominal voltage of  $\sim 230 \pm \sim 15\text{V}$ , or  $\sim 400 \text{ V} \pm \sim 15\text{V}$ , 50/60 Hz, the 3-phase devices for  $3 \times 400 \text{ V} \pm 5\%$ . The secondary DC voltage from the transformer is conducted to a bridge rectifier where it is rectified.

The pulsating DC voltage is then fed from the rectifier and filtered to a low residual ripple by means of an electrolytic capacitor. This DC voltage is then fed to the output terminal. These are designed as pluggable screw terminals. A varistor is integrated in the output circuitry to attenuate voltage peaks. The operating status is indicated by means of a green LED via the output circuit. Devices with 600 W and higher are equipped with a fan.

### Well-balanced spectrum for optimum economy

The output currents of these practical products are defined by way of two ambient temperatures.

Size selection is based on the maximum effectiveness of the components.

### Adapted to standard voltages in accordance with IEC 38

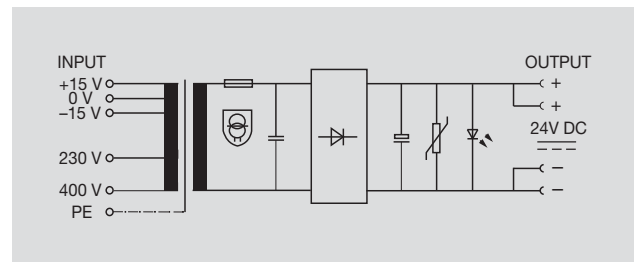
By choosing the appropriate terminals, the  $\pm 15 \text{ V}$  tapping capability allows the single-phase devices to be connected to six different nominal AC voltages: 215, 230, 245, 385, 400, 415 V.

The  $\pm 5\%$  tapping capability allows the 3-phase devices to be connected to three different nominal voltages: 380, 400, 415 V.

### Single-phase unregulated power supplies



### Block diagram for single-phase devices CP NT



**Reliable short-circuit and overload protection**

Integrated on the secondary side in device sizes up to CP NT 192W, the FKS fuse protects against overloads and short-circuits. For the devices CP NT 264W and CP NT 432W, this protection is achieved by means of a thermostatic switch built into the transformer.

**Easy mounting**

Keyhole assembly simplifies mounting and saves time. A snap-on fixing attachment for 35 mm DIN rails is available as an accessory for single-phase devices up to 144 W. Simply plugged into the device and secured with two screws, it ensures easiest possible mounting!

**Transformers, vacuum-impregnated, painted black**

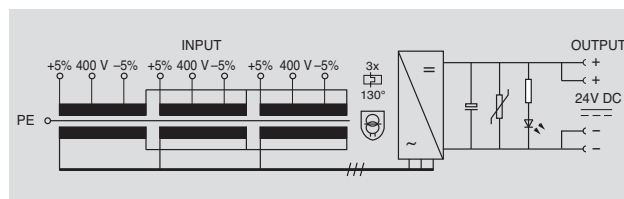
- No humming
- Moisture cannot ingress into the windings
- Windings mechanically secured
- Improved heat dissipation from the windings
- Good heat dissipation



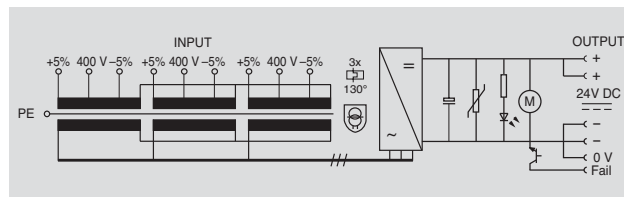
**3-phase unregulated power supplies**



**Block diagram for 3-phase devices  
CP NT3 250 / 400 / 500 W**

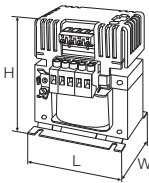


**Block diagram for 3-phase devices  
CP NT3 600 / 750 / 1000 W**



Unregulated power supplies

compactPower  
single phase



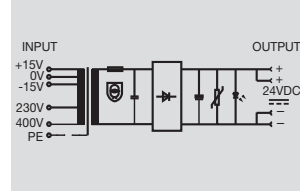
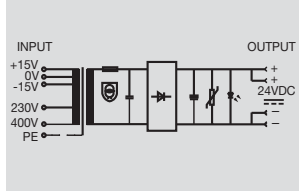
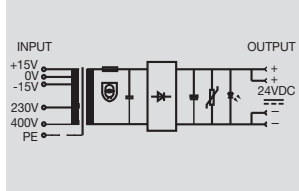
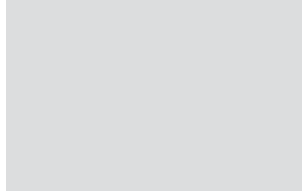
CP NT 36



CP NT 72



CP NT 144



E

Technical data

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	0.35 A/ 0.2 A
Input frequency	50/ 60 Hz
No-load input current	0.1 A / 0.06 A
External back-up fuse	0.63 A / 0.315 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	2 A
Output current at 55°C	1 A
max. output power	36 W
max. residual ripple	< 5 %
Fuse, max.	3 A time lag plug-in fuse
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	80 %
Mounting position horizontal/arbitrary	1A @ 55 °C; 1.5A @ 40 °C / 1 A @ 40 °C
Status indication	green LED
Weight	1.5 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting, TS 35 with clip-on plate
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	0.56 A/ 0.32 A
Input frequency	50/ 60 Hz
No-load input current	13 A / 0.08 A
External back-up fuse	1 A / 0.63 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	3 A
Output current at 55°C	3 A
max. output power	72 W
max. residual ripple	< 5 %
Fuse, max.	7.5 A time lag plug-in fuse
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	83 %
Mounting position horizontal/arbitrary	2.5A @ 55 °C; 3A @ 40 °C / 2.5 A @ 40 °C
Status indication	green LED
Weight	2.1 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting, TS 35 with clip-on plate
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	0.95 A/ 0.55 A
Input frequency	50/ 60 Hz
No-load input current	0.33 A / 0.19 A
External back-up fuse	1.6 A / 1.0 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	6 A
Output current at 55°C	5 A
max. output power	144 W
max. residual ripple	< 5 %
Fuse, max.	10 A time lag plug-in fuse
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	88 %
Mounting position horizontal/arbitrary	5A @ 55 °C; 6A @ 40 °C / 5 A @ 40 °C
Status indication	green LED
Weight	3.1 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting, TS 35 with clip-on plate
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

Clamping range In. (rating-/min./max)	mm <sup>2</sup>
Clamping range Out. (rating-/ min./max)	mm <sup>2</sup>
Length x width x height	mm

<b>Screw connection</b>	
2.5 / 0.13 / 2.5	
2.5 / 0.5 / 4	
68 x 78 x 123	

<b>Screw connection</b>	
2.5 / 0.13 / 2.5	
2.5 / 0.5 / 4	
85 x 84 x 125	

<b>Screw connection</b>	
2.5 / 0.13 / 2.5	
2.5 / 0.5 / 4	
92 x 96 x 135	

Note

Ordering data

Type	(Qty.=1)	Order No.
CP NT 36W 24V 1.5A		8575260000

Type	(Qty.=1)	Order No.
CP NT 72W 24V 3A		8575270000

Type	(Qty.=1)	Order No.
CP NT 144W 24V 6A		8575280000

Type	(Qty.=1)	Order No.
CP NT 144W 24V 6A		8575280000

Note

Accessories

Note	Clip-in plate for TS35: 8588900000
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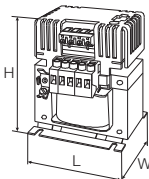
Note	Clip-in plate for TS35: 8588900000
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Note	Clip-in plate for TS35: 8588900000
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Note	Clip-in plate for TS35: 8588900000
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compactPower  
single phase



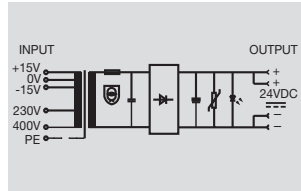
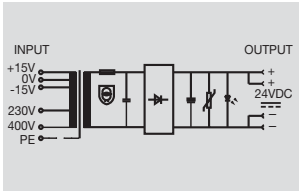
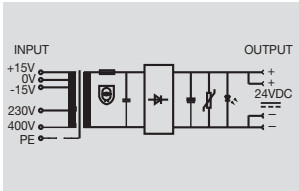
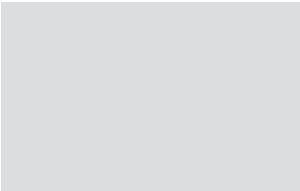
CP NT 192



CP NT 264



CP NT 432



Technical data

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	1.3 A/ 0.7 A
Input frequency	50/ 60 Hz
No-load input current	3 A / 0.16 A
External back-up fuse	2.0 A / 1.25 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	8 A
Output current at 55°C	7 A
max. output power	192 W
max. residual ripple	< 5 %
Fuse, max.	15 A time lag plug-in fuse
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	90 %
Mounting position horizontal/arbitrary	7A @ 55 °C; 8A @ 40 °C / 7 A @ 40 °C
Status indication	green LED
Weight	4.3 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	1.8 A/ 1 A
Input frequency	50/ 60 Hz
No-load input current	5 A / 0.28 A
External back-up fuse	3.15 A / 1.6 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	11 A
Output current at 55°C	10 A
max. output power	264 W
max. residual ripple	< 5 %
Fuse, max.	Thermal switch
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	93 %
Mounting position horizontal/arbitrary	10A @ 55 °C; 11A @ 40 °C / 10 A @ 40 °C
Status indication	green LED
Weight	6.1 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

<b>Input</b>	
Input voltage	230 V/ 400 V ±15 V
Input current	2.5 A/ 1.3 A
Input frequency	50/ 60 Hz
No-load input current	54 A / 0.31 A
External back-up fuse	4.0 A / 2.0 A time lag
<b>Output</b>	
Output voltage	24 V SELV
Output current at 40°C	18 A
Output current at 55°C	15 A
max. output power	432 W
max. residual ripple	< 5 %
Fuse, max.	Thermal switch
Protective circuit	varistor
<b>Insulation coordination</b>	
Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1
<b>General data</b>	
Ambient temperature (operational)	-20 °C...+55 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	95 %
Mounting position horizontal/arbitrary	15A @ 55 °C; 18A @ 40 °C / 15 A @ 40 °C
Status indication	green LED
Weight	9.1 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
DIN Rail compatibility	Direct mounting
EMC standards	EN 61000-6 /-2, -3
Approvals	CE;cURus;cULus

Clamping range In. (rating-/min./max) mm²	2.5 / 0.13 / 2.5
Clamping range Out. (rating-/ min./max)mm²	2.5 / 0.5 / 4
Length x width x height mm	105 x 105 x 145

<b>Screw connection</b>	
Clamping range In. (rating-/min./max) mm²	2.5 / 0.13 / 2.5
Clamping range Out. (rating-/ min./max)mm²	2.5 / 0.5 / 4
Length x width x height mm	113 x 120 x 165

<b>Screw connection</b>	
Clamping range In. (rating-/min./max) mm²	2.5 / 0.13 / 2.5
Clamping range Out. (rating-/ min./max)mm²	2.5 / 0.5 / 4
Length x width x height mm	135 x 135 x 185

Note

Ordering data

Type	(Qty.=1)	Order No.
CP NT 192W 24V 8A		857530000

Type	(Qty.=1)	Order No.
CP NT 264W 24V 11A		857531000

Type	(Qty.=1)	Order No.
CP NT 432W 24V 18A		857532000

Note

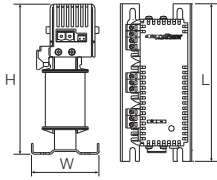
Accessories

Note

E

Unregulated power supplies

compactPower 3-phase



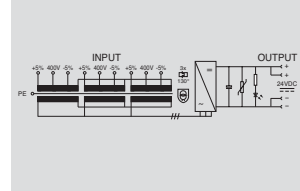
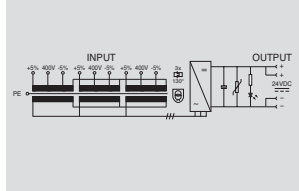
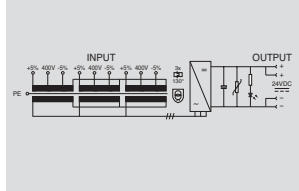
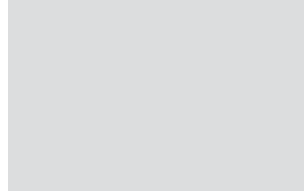
CP NT3 250



CP NT3 400



CP NT3 500



E

Technical data

Input

Input voltage	3 x 400 V ± 5 %
Input current	0.5 A
Input frequency	50/ 60 Hz
No-load input current	0.1 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 1.0 A time lag

Output

Output voltage	24 V SELV
Output current at 40°C/60°C	11 A/10 A
max. output power	250 W
max. residual ripple	< 2 %
Fuse, max.	external 10 A time lag
Protective circuit	varistor

Insulation coordination

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

General data

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	76 %
Mounting position horizontal/vertical	11 A @ 40 °C / 10 A @ 60 °C
Fan signal	no integral fan
Status indication	green LED
Weight	4.7 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

Clamping range In. (rating-/min./max)	mm <sup>2</sup> 2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm <sup>2</sup>	6 / 0.5 / 6
Length x width x height	mm 185 x 84 x 192

Note

Screw connection

2.5 / 0.5 / 2.5
6 / 0.5 / 6
185 x 84 x 192

Condensation not allowed

Ordering data

Type	(Qty.=1)	Order No.
CP NT3 250W 24V 10A		8628620000

Note

Accessories

Note

Input voltage	3 x 400 V ± 5 %
Input current	0.75 A
Input frequency	50/ 60 Hz
No-load input current	0.11 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 1.2 A time lag

Output voltage	24 V SELV
Output current at 40°C/60°C	18 A/16 A
max. output power	400 W
max. residual ripple	< 2 %
Fuse, max.	external 16/18 A time lag
Protective circuit	varistor

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	77 %
Mounting position horizontal/vertical	18 A @ 40 °C / 16 A @ 60 °C
Fan signal	no integral fan
Status indication	green LED
Weight	6.9 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

Clamping range In. (rating-/min./max)	mm <sup>2</sup> 2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm <sup>2</sup>	6 / 0.5 / 6
Length x width x height	mm 220 x 88 x 213

Condensation not allowed

Type	(Qty.=1)	Order No.
CP NT3 400W 24V 15A		8628630000

Note

Input voltage	3 x 400 V ± 5 %
Input current	0.9 A
Input frequency	50/ 60 Hz
No-load input current	0.13 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 1.6 A time lag

Output voltage	24 V SELV
Output current at 40°C/60°C	22 A/20 A
max. output power	500 W
max. residual ripple	< 2 %
Fuse, max.	external 20/22 A time lag
Protective circuit	varistor

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	78 %
Mounting position horizontal/vertical	22 A @ 40 °C / 20 A @ 60 °C
Fan signal	no integral fan
Status indication	green LED
Weight	10 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

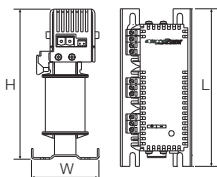
Clamping range In. (rating-/min./max)	mm <sup>2</sup> 2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm <sup>2</sup>	6 / 0.5 / 6
Length x width x height	mm 220 x 108 x 215

Condensation not allowed

Type	(Qty.=1)	Order No.
CP NT3 500W 24V 20A		8628650000

Note

compactPower 3-phase



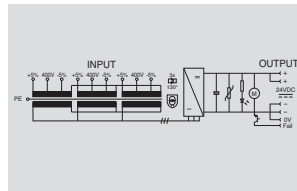
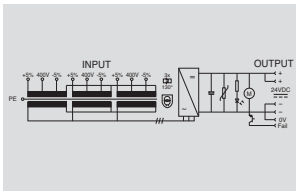
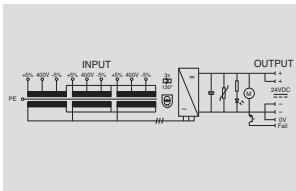
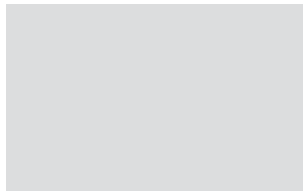
CP NT3 600



CP NT3 750



CP NT3 1000



Technical data

Input

Input voltage	3 x 400 V ± 5 %
Input current	1.2 A
Input frequency	50/ 60 Hz
No-load input current	0.15 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 2 A time lag

Output

Output voltage	24 V SELV
Output current at 40°C/60°C	26 A/25 A
max. output power	600 W
max. residual ripple	< 2 %
Fuse, max.	external 25/26 A time lag
Protective circuit	varistor

Insulation coordination

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

General data

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	78 %
Mounting position horizontal/vertical	26 A @ 40 °C / 25 A @ 60 °C
Fan signal	Open collector <30 V/ <5 mA during fault
Status indication	green LED
Weight	11 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

Clamping range In. (rating-/min./max) mm²	2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm²	6 / 0.5 / 6
Length x width x height mm	230 x 108 x 212

Note

Condensation not allowed

Ordering data

Type	(Qty.=1)	Order No.
CP NT3 600W 24V 25A		8628660000

Note

Accessories

Note

Input voltage	3 x 400 V ± 5 %
Input current	1.4 A
Input frequency	50/ 60 Hz
No-load input current	0.16 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 2.5 A time lag

Output voltage	24 V SELV
Output current at 40°C/60°C	32 A/30 A
max. output power	750 W
max. residual ripple	< 2 %
Fuse, max.	external 30/32 A time lag
Protective circuit	varistor

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	77 %
Mounting position horizontal/vertical	32 A @ 40 °C / 30 A @ 60 °C
Fan signal	Open collector <30 V/ <5 mA during fault
Status indication	green LED
Weight	14 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

Clamping range In. (rating-/min./max) mm²	2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm²	6 / 0.5 / 6
Length x width x height mm	270 x 121 x 255

Condensation not allowed

Input voltage	3 x 400 V ± 5 %
Input current	1.8 A
Input frequency	50/ 60 Hz
No-load input current	0.14 A
Input fuse	3 No. thermostatic switches in primary winding
External back-up fuse	3 x 3.15 A time lag

Output voltage	24 V SELV
Output current at 40°C/60°C	42 A/40 A
max. output power	1000 W
max. residual ripple	< 2 %
Fuse, max.	external 40/42 A time lag
Protective circuit	varistor

Electric shock protection	to BGV A3
Insulation strength	4 kV
Insulation class	B
Protection class	IP 20
pollution severity	1

Ambient temperature (operational)	-20 °C...+60 °C
Storage temperature	-20 °C...+80 °C
Degree of efficiency at max. load	77 %
Mounting position horizontal/vertical	42 A @ 40 °C / 40 A @ 60 °C
Fan signal	Open collector <30 V/ <5 mA during fault
Status indication	green LED
Weight	18 kg
Standards	EN 60950, EN 61558-2-4, -6, 72/23/EWG
EMC standards	EN 61000-6 /-2, -3
DIN Rail compatibility	Direct mounting
Approvals	CE;cURus;cCSAus;cULus

Clamping range In. (rating-/min./max) mm²	2.5 / 0.5 / 2.5
Clamping range Out. (rating-/ min./max)mm²	10 / 0.5 / 10
Length x width x height mm	280 x 122 x 275

Condensation not allowed

Type	(Qty.=1)	Order No.
CP NT3 1000W 24V 40A		8628680000

## UPS control unit



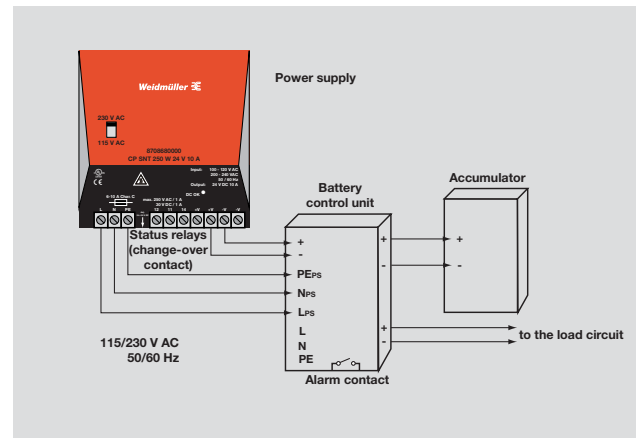
When the power supply fails, UPS control units take over the 12/24 V DC power supplies to the installation within seconds, and guarantee plant availability for a defined length of time.

Professional signalling guarantees that all relevant signal statuses can be evaluated on the spot. Critical statuses can also be immediately redirected to a higher-level controller.

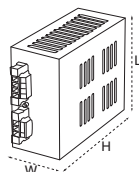
The battery module undertakes complete battery management of the connected lead-acid batteries. Constant charging and discharging plus electronic overcurrent protection guarantee an extremely long operational lifetime for the batteries.

E

### Switch-mode power supplies, battery control unit and battery providing an uninterrupted power supply.

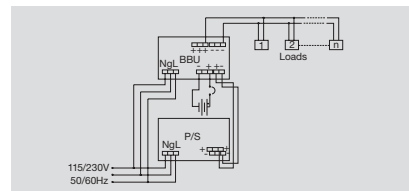
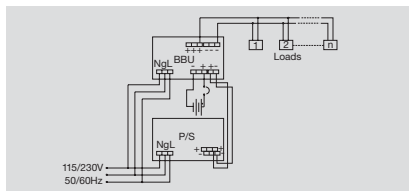


connectPower



CP-BBU 115-230 V AC / 12 V DC

CP-BBU 115-230 V AC / 24 V DC



Technical data

Input

Input voltage  
Input current  
Input frequency  
Input fuse  
Making current limit  
Surge protection

Output

Output voltage  
Output current  
Mains failure bridge-over time  
Battery charging current  
Battery voltage  
Control at input voltage

General data

Ambient temperature (operational)  
Storage temperature  
Status indication

Standards  
EMC standards  
Approvals

85...265 V AC; 120...300 V DC; typ.115-230 V AC ±10%  
0.8 A @ 115 V AC; 0.5 A @ 230 V AC  
50/ 60 Hz  
2 A slow-blow fuse (internal)  
Thermistor  
Varistor

12 V DC  
max. 15 A / max 9.2 A for power supply

2.00 A  
13.65 V  
0.2 %

-20 °C...+50 °C  
-20 °C...+85 °C  
LED green (Full Charge): Battery voltage > 14.75 V DC  
LED yellow (Battery Low): Battery voltage < 11 V DC  
LED yellow (Chargin): BBU charges Battery  
LED red (Fault): no AC input voltage  
LED red (Battery Reverse): Battery polarizing

EN 50178, EN 60950, IEC950  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
CSA;UL/UR;CE;

Screw connection

4 / 0.1 / 4  
161 x 72.5 x 127.5

85...265 V AC; 120...300 V DC; typ.115-230 V AC ±10%  
1 A @ 115 V AC; 0.6 A @ 230 V AC  
50/ 60 Hz  
2 A slow-blow fuse (internal)  
Thermistor  
Varistor

24 V DC  
max. 15 A / max 9.0 A for power supply

3.00 A  
27.3 V  
0.2 %

-20 °C...+50 °C  
-20 °C...+85 °C  
LED green (Full Charge): Battery voltage > 29.5 V DC  
LED yellow (Battery Low): Battery voltage < 22 V DC  
LED yellow (Chargin): BBU charges Battery  
LED red (Fault): no AC input voltage  
LED red (Battery Reverse): Battery polarizing  
LED red (Battery open): no battery connected

EN 50178, EN 60950, IEC950  
EN 55011, EN 55022, EN 55024, EN 61000-6-2, 3  
CSA;UL/UR;CE;

Screw connection

4 / 0.1 / 4  
161 x 72.5 x 127.5

Dimensions

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Ordering data

Connection system

Screw connection

Note

Type	Qty.	Order No.
CP-BBU 115-230VAC / 12VDC	1	9916280012

Type	Qty.	Order No.
CP-BBU 115-230VAC / 24VDC	1	9916280024

Accessories

Note

Bracket for wall mounting: 7920560000

Bracket for wall mounting: 7920560000

## WAVEGUARD electronic fusing

In automation engineering, it is common practice to divide the 24 VDC control voltage from the switch-mode power supply into multiple load circuits.

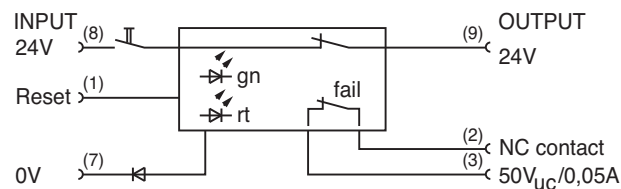
Thus the controls, the sensor level and the actuator level can be safely supplied, in separation from each other.

Typically, circuit breakers or safety fuses are used to protect the individual load circuits. However, in order to be triggered and to then shut off faulty load circuits, these protective components require a relatively high trigger current over a relative long period of time.

Due to their technical characteristics, switched-mode power supplies provide very little or no dynamic output current. To protect against damage, the devices limit the current during an overload and shut down the voltage supply. This adjustment is carried out in a relatively short time period.

In reality during an error in the load circuit, it is possible that the quick reaction of the switch-mode power supply can lead to the loss of the control voltage before the circuit breaker is triggered in the faulty load circuit.

This leads to a total outage for all load circuits. A selective electronic fusing, because of its quick reaction time, specifically switches off only the defective load circuit. This enables the facility or plant to be operational more often. Within the scope of machinery and facilities that are growing more and more complex, troubleshooting is then reduced to a minimum.



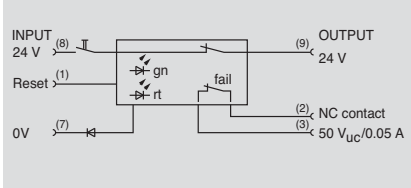
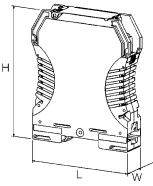
### Resetting

Besides the manual reset, it is also possible to perform a remote reset after the error is remedied. A reset contact can be connected to a voltage pulse and the load circuit is then re-enabled when the pulse edge falls. Note: A cyclical auto-reset is not permitted.

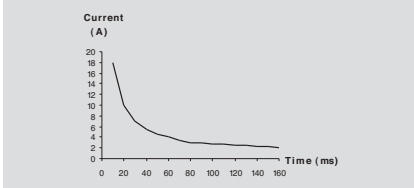
### Signalling / display

The triggering of an electronic fuse is indicated on an LED directly at the device. Remote display is also possible by means of a voltage-free NC contact. This speeds up troubleshooting procedures and reduces outage times and repair costs.

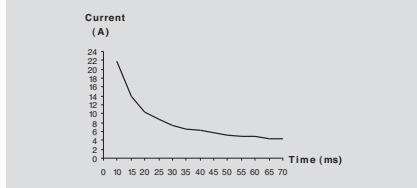
WAVEGUARD



24 V DC 1.6 A



24 V DC 3.15 A



Technical data

Input

Rated voltage  
Rated current  
Reset

Output

Status relay / Change-over contact  
Signalling delay

General data

Ambient temperature (operational)  
Storage temperature  
Status indication  
Standards  
EMC standards  
Sliding switch  
Approvals

24 V DC

1.6 A

Pulse > 100 ms +24 V, falling edge ON

NCC, max. 50 V / 0.05 A; for low voltage only!  
3.5 ms typically

0°C...+55°C (fitted)

-20 °C...+85 °C

LED green: OK, LED red: Tripped

EN 50178

EN 61000-6-1, 2, 4; EN 55011

OFF - wait 10 s - ON; on / off

CE / cURus

24 V DC

3.15 A

Pulse > 100 ms +24 V, falling edge ON

NCC, max. 50 V / 0.05 A; for low voltage only!  
3.5 ms typically

0°C...+55°C (fitted)

-20 °C...+85 °C

LED green: OK, LED red: Tripped

EN 50178

EN 61000-6-1, 2, 4; EN 55011

OFF - wait 10 s - ON; on / off

CE / cURus

Dimensions

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Screw connection

2.5 / 0.5 / 2.5

92.4 x 22.5 x 72

Tension clamp connection

1.5 / 0.5 / 2.5

92.4 x 22.5 x 72

Periodic auto-reset not permitted; Tu=23°C, single module

Screw connection

2.5 / 0.5 / 2.5

92.4 x 22.5 x 72

Tension clamp connection

1.5 / 0.5 / 2.5

92.4 x 22.5 x 72

Periodic auto-reset not permitted; Tu=23°C, single module

Ordering data

Connection system

Screw connection  
Tension clamp connection

Type

WGS 24Vdc 1.6A

WGZ 24Vdc 1.6A

Qty.

1

1

Order No.

8618890000

8621040000

Type

WGS 24Vdc 3.15A

WGZ 24Vdc 3.15A

Qty.

1

1

Order No.

8618910000

8621030000

Note

Accessories

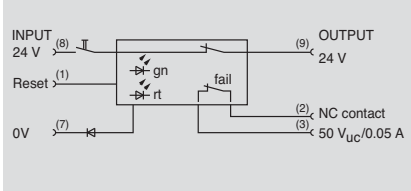
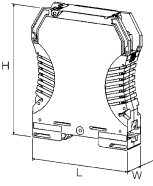
Note

Supply voltage +24V and 0V can be cross-connected with ZQV 2.5N/2

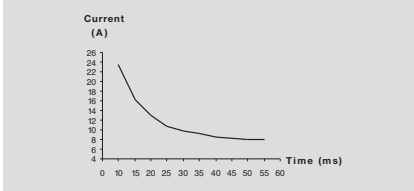
Supply voltage +24V and 0V can be cross-connected with ZQV 2.5N/2

Fuse protection for 24 V DC circuits

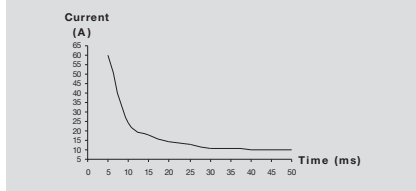
WAVEGUARD



24 V DC 6.3 A



24 V DC 8 A



E

Technical data

Input

Rated voltage  
Rated current  
Reset

Output

Status relay / Change-over contact  
Signalling delay

General data

Ambient temperature (operational)  
Storage temperature  
Status indication  
Standards  
EMC standards  
Sliding switch  
Approvals

24 V DC

6.3 A

Pulse > 100 ms +24 V, falling edge ON

NCC, max. 50 V / 0.05 A; for low voltage only!  
3.5 ms typically

0°C...+55°C (fitted)

-20 °C...+85 °C

LED green: OK, LED red: Tripped

EN 50178

EN 61000-6-1, 2, 4; EN 55011

OFF - wait 10 s - ON; on / off

CE / cURus

24 V DC

8 A

Pulse > 100 ms +24 V, falling edge ON

NCC, max. 50 V / 0.05 A; for low voltage only!  
3.5 ms typically

0°C...+55°C (fitted)

-20 °C...+85 °C

LED green: OK, LED red: Tripped

EN 50178

EN 61000-6-1, 2, 4; EN 55011

OFF - wait 10 s - ON; on / off

CE / cURus

Dimensions

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Screw connection

2.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

Tension clamp connection

1.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

Periodic auto-reset not permitted; Tu=23°C, single module

Screw connection

2.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

Tension clamp connection

1.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

Periodic auto-reset not permitted; Tu=23°C, single module

Ordering data

Connection system

Screw connection  
Tension clamp connection

Note

Type

WGS 24Vdc 6.3A  
WGZ 24Vdc 6.3A

Qty.

1  
1

Order No.

8618930000  
8621020000

Type

WGS 24Vdc 8.0A  
WGZ 24VDC 8.0A

Qty.

1  
1

Order No.

8618940000  
8621010000

Accessories

Note

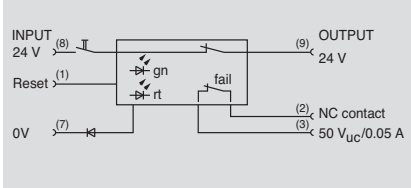
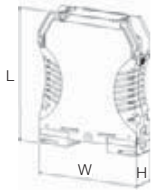
Supply voltage +24V and 0V can be cross-connected with ZQV 2.5N/2

Supply voltage +24V and 0V can be cross-connected with ZQV 2.5N/2



WAVEGUARD

24 V DC 0.5...5 A



Technical data

Input

Rated voltage  
Rated current  
Reset

Output

Status relay / Change-over contact  
Signalling delay

General data

Ambient temperature (operational)  
Storage temperature  
Status indication  
Standards  
EMC standards  
Sliding switch  
Approvals

24 V DC  
0.5...5 A adjustable  
Pulse > 100 ms +24 V, falling edge ON

NCC, max. 50 V / 0.05 A; for low voltage only!  
3.5 ms typically

0°C...+55°C (fitted)  
-20 °C...+85 °C  
LED green: OK, LED red: Tripped  
EN 50178  
EN 61000-6-1, 2, 4; EN 55011  
OFF - wait 10 s - ON; on / off  
CE / cURus

Dimensions

Clamping range (rating- / min. / max.) mm<sup>2</sup>  
Length x width x height mm

Note

Screw connection

Tension clamp connection

2.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

1.5 / 0.5 / 2.5  
92.4 x 22.5 x 72

Periodic auto-reset not permitted; T<sub>u</sub>=23°C, single module

Ordering data

Connection system

Screw connection  
Tension clamp connection

Type	Qty.	Order No.
WGS 24Vdc 0.5...5A	1	8710270000
WGZ 24Vdc 0.5...5A	1	8727630000

Note

Accessories

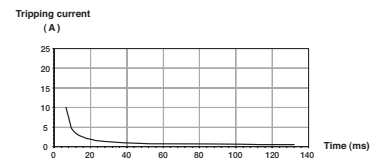
Note

Supply voltage +24V and 0V can be cross-connected with ZQV 2.5N/2

Derating curve

Dynamic tripping characteristic

Tripping current: 0.5 A



Tripping current: 5.0 A

