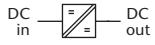




**Features**

- DC input: 10 - 800 V
- AC input: 1 or 3-phase, 47 - 400 Hz or with PFC, 47 - 65 Hz
- DC output: 5 / ... / 400 V
- Continuous short circuit protection
- Overvoltage protection with auto restart
- Thermal shutdown with auto restart
- Industrial grade components
- Compact and robust design



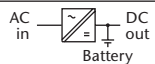
**DC / DC Converters**

▶ 1200 W		▶ 1700 W		▶ 2500 W			▶ 2500 W						Output VDC	
Input VDC													Output VDC	
10-16 VDC	Output Amps	20-32 VDC	Output Amps	40-64 VDC	50-80 VDC	Output Amps	80-160 VDC	160-320 VDC	320-380 <sup>1)</sup> VDC	320-640 <sup>3)</sup> VDC	450-800 <sup>3)</sup> VDC	Output Amps	Adj.	Range
C 4700	100	C 4720	160 <sup>3)</sup>	C 4730	C 4740	180 <sup>3)</sup>	C 4750	C 4770	C 4780 Z	C 4770 G	C 4770 K	180 <sup>3)</sup>	5	4.5 - 5.5
C 4701	80	C 4721	110	C 4731	C 4741	140	C 4751	C 4771	C 4781 Z	C 4771 G	C 4771 K	150	9	8 - 10
C 4702	68	C 4722	95	C 4732	C 4742	120	C 4752	C 4772	C 4782 Z	C 4772 G	C 4772 K	130	12	11 - 13
C 4703	58	C 4723	80	C 4733	C 4743	100	C 4753	C 4773	C 4783 Z	C 4773 G	C 4773 K	110	15	14 - 16
C 4704	46	C 4724	60	C 4734	C 4744	75	C 4754	C 4774	C 4784 Z	C 4774 G	C 4774 K	80	24	23 - 26
C 4705	40	C 4725	50	C 4735	C 4745	65	C 4755	C 4775	C 4785 Z	C 4775 G	C 4775 K	70	28	26 - 30
C 4709	22	C 4729	30	C 4739	C 4749	38	C 4759	C 4779	C 4789 Z	C 4779 G	C 4779 K	40	48	45 - 55
C 4706	18	C 4726	25	C 4736	C 4746	31	C 4756	C 4776	C 4786 Z	C 4776 G	C 4776 K	33	60	58 - 68
C 4707	10	C 4727	13	C 4737	C 4747	18	C 4757	C 4777	C 4787 Z	C 4777 G	C 4777 K	20	110	100 - 130
C 4707 J	6	C 4727 J	7	C 4737 J	C 4747 J	10	C 4757 J	C 4777 J	C 4787 ZJ	C 4777 GJ	C 4777 KJ	10	200	190 - 200
C 4708	5	C 4728	7	C 4738	C 4748	10	C 4758	C 4778	C 4788 Z	C 4778 G	C 4778 K	10	220	200 - 250
C 4708 J	3	C 4728 J	3.5	C 4738 J	C 4748 J	5	C 4758 J	C 4778 J	C 4788 ZJ	C 4778 GJ	C 4778 KJ	5	400	380 - 400



**AC / DC Power Supplies**

▶ 1700 W		▶ 2500 W						Output VDC	
Input VAC, 1-Phase					Input VAC, 3-Phase			Output VDC	
100-240 ±10% with PFC	Output Amps	115 ±20%	230 <sup>+15%</sup> <sub>-20%</sub>	115 ±20% / 230 <sup>+15%</sup> <sub>-20%</sub>	3x200 <sup>+15%</sup> <sub>-20%</sub>	3x400 <sup>+15%</sup> <sub>-20%</sub>	3x480 <sup>+10%</sup> <sub>-15%</sub>	Output Amps	Adj. Range
CP 4790	180 <sup>3)</sup>	C 4760	C 4780	C 4790	C 4760 V	C 4780 V	C 4790 V	180 <sup>3)</sup>	5 4.5 - 5.5
CP 4791	150	C 4761	C 4781	C 4791	C 4761 V	C 4781 V	C 4791 V	150	9 8 - 10
CP 4792	120	C 4762	C 4782	C 4792	C 4762 V	C 4782 V	C 4792 V	130	12 11 - 13
CP 4793	100	C 4763	C 4783	C 4793	C 4763 V	C 4783 V	C 4793 V	110	15 14 - 16
CP 4794	70	C 4764	C 4784	C 4794	C 4764 V	C 4784 V	C 4794 V	80	24 23 - 26
CP 4795	60	C 4765	C 4785	C 4795	C 4765 V	C 4785 V	C 4795 V	70	28 26 - 30
CP 4799	35	C 4769	C 4789	C 4799	C 4769 V	C 4789 V	C 4799 V	40	48 45 - 55
CP 4796	25	C 4766	C 4786	C 4796	C 4766 V	C 4786 V	C 4796 V	33	60 58 - 68
CP 4797	14	C 4767	C 4787	C 4797	C 4767 V	C 4787 V	C 4797 V	20	110 100 - 130
CP 4797 J	7	C 4767 J	C 4787 J	C 4797 J	C 4767 VJ	C 4787 VJ	C 4797 VJ	10	200 190 - 200
CP 4798	7	C 4768	C 4788	C 4798	C 4768 V	C 4788 V	C 4798 V	10	220 200 - 250
CP 4798 J	3.5	C 4768 J	C 4788 J	C 4798 J	C 4768 VJ	C 4788 VJ	C 4798 VJ	5	400 380 - 400



**Battery Chargers**

▶ 1700 W		▶ 2500 W						Output VDC	
Input VAC, 1-Phase					Input VAC, 3-Phase			Output VDC	
100-240 ±10% with PFC	Output Amps	115 ±20%	230 <sup>+15%</sup> <sub>-20%</sub>	115 ±20% / 230 <sup>+15%</sup> <sub>-20%</sub>	3x200 <sup>+15%</sup> <sub>-20%</sub>	3x400 <sup>+15%</sup> <sub>-20%</sub>	3x480 <sup>+10%</sup> <sub>-15%</sub>	Output Amps	Nom. Battery Voltage Range
BP 4791	100	B 4761	B 4781	B 4791	B 4761 V	B 4781 V	B 4791 V	110	12 12 - 16
BP 4792	56	B 4762	B 4782	B 4792	B 4762 V	B 4782 V	B 4792 V	70	24 24 - 32
BP 4794	28	B 4764	B 4784	B 4794	B 4764 V	B 4784 V	B 4794 V	35	48 48 - 64
BP 4796	22	B 4766	B 4786	B 4796	B 4766 V	B 4786 V	B 4796 V	30	60 60 - 80
BP 4797	12	B 4767	B 4787	B 4797	B 4767 V	B 4787 V	B 4797 V	18	110 110 - 145
BP 4798	6	B 4768	B 4788	B 4798	B 4768 V	B 4788 V	B 4798 V	9	220 220 - 290

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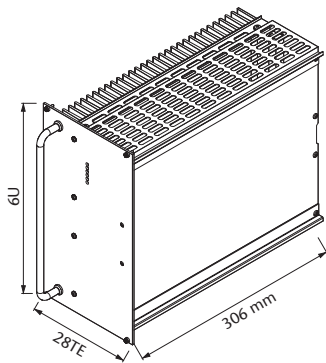
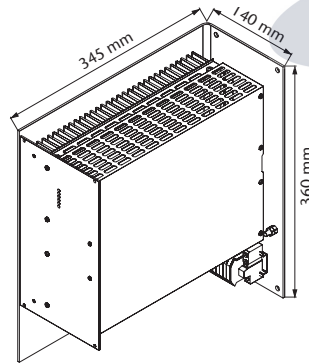
**Assistance in table use:**

- 1 Select the column for input voltage range.
- 2 Select the row for the appropriate output voltage.
- 3 The intersection of both results in the module required.

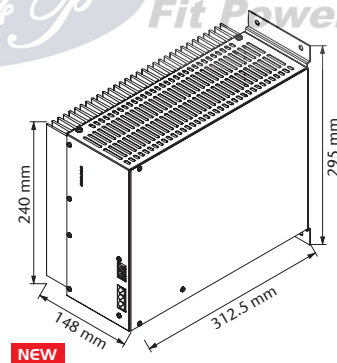
**For example:**

- 1 input voltage = 3 x 400 VAC
- 2 output voltage = 220 VDC @ 10 A
- 3 results in a C 4788 V module.

<sup>1)</sup> input supply from PFC also suitable  
<sup>3)</sup> suited for wall-mount, alternatives upon request

Eurocassette / approx. 9.0 kg  
(pluggable module for 19" sub-rack)

Wall mount / approx. 13.0 kg



Chassis mount / approx. 10.0 kg

## Specifications

### Input

Voltage range . . . . . see table, unit switches off  
at under- and overvoltage

No-load input power. . . . . 5 - 6 W

Switch-on time . . . . . 1 - 2 s

Inrush current . . . . . AC input: limited by thermistor

Hold-up time . . . . . AC input: 10 ms typical

Power factor correction . . . . . for CP and BP series,  
acc. to EN 61000-3-2 class D

### Immunity

- ESD . . . . . acc. to DIN / EN 61000-4-2 level 3

- Fast transients . . . . . acc. to DIN / EN 61000-4-4 level 3

- Surges . . . . . acc. to DIN / EN 61000-4-5 level 3

### Output

Line regulation ( $\pm 10\%$ ) . . . . . 0.1 %

Load regulation (10 - 90 %) . . . . . 0.2 %

Load transient (10-90-10 %) . . . . . 6 % typical

Response time to  $\pm 1\%$  . . . . . 2 - 3 ms

Turn-on rise time . . . . . Soft-start, 100 ms typical

Ripple . . . . .  $\leq 1\% + 30\text{ mV}_{\text{p-p}}$

Overload protection . . . . . current limited to 105 - 110 % of  $I_{\text{nom}}$

Overvoltage protection . . . . . OVP switches off module  
with automatic return to operation

Remote sense . . . . . standard for C and CP series, up to  
10 % of  $U_{\text{nom}}$  for output < 60 VDC,  
up to 6 V for output > 60 VDC

### General

Efficiency . . . . . 70 - 95 %

Operating temperature . . . . .  $-20$  to  $+75\text{ }^{\circ}\text{C}$

Load derating . . . . . 2.5 % /  $^{\circ}\text{C}$  from  $+55\text{ }^{\circ}\text{C}$

Storage temperature . . . . .  $-40$  to  $+85\text{ }^{\circ}\text{C}$

Humidity . . . . . up to 95 % RH, non-condensing

Cooling . . . . . natural convection  
(external fan recommended)

Temperature coefficient . . . . . 0.02 % /  $^{\circ}\text{C}$  typical

Safety / Construction . . . . . acc. to DIN / EN 60950-1: 2003

Protection category . . . . . IP 20, others or NEMA upon request

EMI . . . . . acc. to EN 55022, class A,  
optionally class B

MTBF . . . . . approx. 100,000 h @  $40\text{ }^{\circ}\text{C}$

acc. to MIL - HDBK - 217 E (notice 1)

### Connector for

eurocassette - std. design . . . . . H15 and high current connector  
for  $I > 50\text{ A}$  (details see page 103)

Marking . . . . . CE

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## Options (details see page 90 – 92)

### Input

- Inrush current limiting for DC input
- Reverse polarity protection for DC input
- Autoranging for 115 / 230 VAC input

### Output

- Parallel operation
- Redundant operation
- Inhibit (remote on / off)

### Signals

via open collector or relay contacts

- Power ok (input)
- DC ok (output)
- Sys-reset

### Programming

- Output voltage or current via
  - potentiometer
  - analog signal
  - interface card RS232 or IEEE488 (external)

### Battery charger

- Temperature compensated charging voltage
- Automatic / manual selection of charging characteristic

### Monitoring

- Input / output voltage or current via
  - analog signal
  - interface card RS232 or IEEE488 (external)

### Mechanics / environment:

- 19" sub-rack for eurocassette, refer to page 93
- Wall mount
- Chassis mount
- Increased mechanical strength
- Tropical protection
- Extended temperature range to  $-40\text{ }^{\circ}\text{C}$