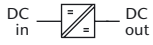


# Series C / B 5600 with high input voltage

## Features

- DC input: 80 - 800 V
- AC input: 1 or 3-phase, 47 - 400 Hz
- DC output: 5 / ... / 400 V
- Continuous short circuit protection
- Overvoltage protection
- Thermal shutdown with auto restart
- Industrial grade components
- High efficiency through ZVS topology
- Compact and robust design



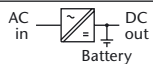
## DC / DC Converters

▶ 6 KW						Output VDC	
Input VDC					Output Amps	Adj.	Range
80-160 VDC	160-320 VDC	320-380 <sup>1)</sup> VDC	320-640 VDC	450-800 VDC			
▲ C 5650	▲ C 5670	▲ C 5680 Z	▲ C 5670 G	▲ C 5670 K	400	5	4.5- 5.5
▲ C 5651	▲ C 5671	▲ C 5681 Z	▲ C 5671 G	▲ C 5671 K	400	9	8- 10
▲ C 5652	▲ C 5672	▲ C 5682 Z	▲ C 5672 G	▲ C 5672 K	400	12	11- 13
▲ C 5653	▲ C 5673	▲ C 5683 Z	▲ C 5673 G	▲ C 5673 K	375	15	14- 16
● C 5654	● C 5674	● C 5684 Z	● C 5674 G	● C 5674 K	230	24	23- 26
● C 5655	● C 5675	● C 5685 Z	● C 5675 G	● C 5675 K	200	28	26- 30
● C 5659	● C 5679	● C 5689 Z	● C 5679 G	● C 5679 K	110	48	45- 55
● C 5656	● C 5676	● C 5686 Z	● C 5676 G	● C 5676 K	88	60	58- 68
● C 5657	● C 5677	● C 5687 Z	● C 5677 G	● C 5677 K	46	110	100- 130
● C 5657 J	● C 5677 J	● C 5687 ZJ	● C 5677 GJ	● C 5677 KJ	30	200	190-200
● C 5658	● C 5678	● C 5688 Z	● C 5678 G	● C 5678 K	24	220	200-250
● C 5658 J	● C 5678 J	● C 5688 ZJ	● C 5678 GJ	● C 5678 KJ	15	400	380-400



## AC / DC Converters

▶ 4.5 KW		▶ 6 KW				Output VDC		
Input VAC, 1-Phase		Input VAC, 3-Phase			Output Amps	Adj.	Range	
115 ±20%	Output Amps	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>
■ C 5660	400	■ C 5680	■ C 5660 V	■ C 5680 V	■ C 5690 V	400	5	4.5- 5.5
■ C 5661	380	■ C 5681	■ C 5661 V	■ C 5681 V	■ C 5691 V	400	9	8- 10
■ C 5662	310	■ C 5682	■ C 5662 V	■ C 5682 V	■ C 5692 V	400	12	11- 13
■ C 5663	265	■ C 5683	■ C 5663 V	■ C 5683 V	■ C 5693 V	375	15	14- 16
▼ C 5664	170	▼ C 5684	▼ C 5664 V	▼ C 5684 V	▼ C 5694 V	230	24	23- 26
▼ C 5665	150	▼ C 5685	▼ C 5665 V	▼ C 5685 V	▼ C 5695 V	200	28	26- 30
▼ C 5669	80	▼ C 5689	▼ C 5669 V	▼ C 5689 V	▼ C 5699 V	110	48	45- 55
▼ C 5666	65	▼ C 5686	▼ C 5666 V	▼ C 5686 V	▼ C 5696 V	88	60	58- 68
▼ C 5667	35	▼ C 5687	▼ C 5667 V	▼ C 5687 V	▼ C 5697 V	46	110	100- 130
▼ C 5667 J	22	▼ C 5687 J	▼ C 5667 VJ	▼ C 5687 VJ	▼ C 5697 VJ	30	200	190-200
▼ C 5668	18	▼ C 5688	▼ C 5668 V	▼ C 5688 V	▼ C 5698 V	24	220	200-250
▼ C 5668 J	11	▼ C 5688 J	▼ C 5668 VJ	▼ C 5688 VJ	▼ C 5698 VJ	15	400	380-400



## Battery Chargers

▶ 4.5 KW		▶ 6 KW				Output VDC		
Input VAC, 1-Phase		Input VAC, 3-Phase			Output Amps	Nom. Battery Voltage	Range	
115 ±20%	Output Amps	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>
■ B 5661	265	■ B 5681	■ B 5661 V	■ B 5681 V	■ B 5691 V	375	12	12- 16
▼ B 5662	140	▼ B 5682	▼ B 5662 V	▼ B 5682 V	▼ B 5692 V	190	24	24- 32
▼ B 5664	70	▼ B 5684	▼ B 5664 V	▼ B 5684 V	▼ B 5694 V	95	48	48- 64
▼ B 5666	55	▼ B 5686	▼ B 5666 V	▼ B 5686 V	▼ B 5696 V	75	60	60- 80
▼ B 5667	31	▼ B 5687	▼ B 5667 V	▼ B 5687 V	▼ B 5697 V	41	110	110- 145
▼ B 5668	16	▼ B 5688	▼ B 5668 V	▼ B 5688 V	▼ B 5698 V	21	220	220-290

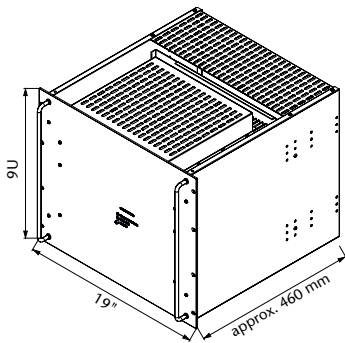
### Assistance in table use:

- 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.

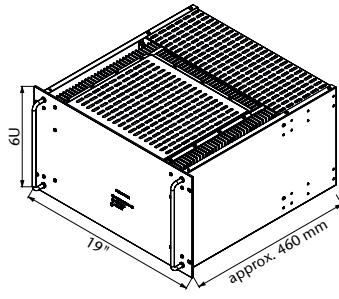
### For example:

- 1 input voltage = 3 x 400 VAC
- 2 output voltage = 220 VDC @ 24 A
- 3 results in a C 5688 V module.

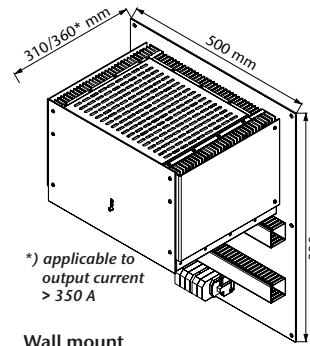
<sup>1)</sup> input supply from PFC also suitable



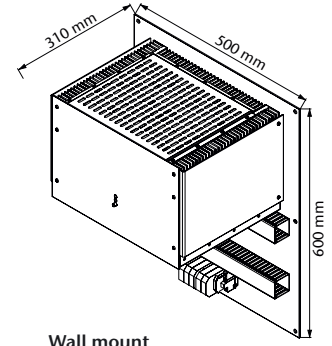
19" Plug-in module  
▲ 50-65 kg ■ 65-75 kg



19" Plug-in module  
● 35-50 kg ▼ 50-65 kg



Wall mount  
▼▲ 50-65 kg ■ 65-75 kg



Wall mount  
● 35-50 kg

## Specifications

### Input

Voltage range	.....	narrowing of input voltage range optimizes the efficiency (pls. specify), unit switches off at under- and overvoltage
No-load input power	.....	30 W typical
Switch-on time	.....	0.5 s typical
Inrush current	.....	230 VAC and 3-phase input: limited by thermistor
Hold-up time	.....	AC input: 5 ms typical

### 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 $\pm 1\%$	.....	10 ms typical
Turn-on rise time	.....	Soft-start, 300 ms typical
Ripple	.....	$\leq 1\% + 30\text{ mV}_{p-p}$
Overload protection	.....	current limited to 105 - 110 % of $I_{nom}$
Overvoltage protection	.....	OVP switches off module with automatic return to operation, after 5 seconds, the unit will remain latched off
Remote sense	.....	standard for C series up to 150 V output, up to 10 % of $U_{nom}$ for output < 60 VDC, up to 6 V for output > 60 VDC

### General

Efficiency	.....	80 - 95 %
Operating temperature	.....	-20 to +75 °C
Load derating	.....	2.5 % / °C from +55 °C
Storage temperature	.....	-40 to +85 °C
Humidity	.....	up to 95 % RH, non-condensing
Cooling	.....	with temperature controlled fans
Temperature coefficient	.....	0.02 % / °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. 70,000 h @ 40°C
	.....	acc. to MIL - HDBK - 217 E (notice 1)
Connector	.....	terminals / bolts / bars
Marking	.....	CE

## Options

### Input

- Inrush current limiting
- Reverse polarity protection for DC input

### Output

- Parallel operation
- Redundant operation
- Inhibit (remote on / off)
- Reducing of current limiting at high ambient temperature

### 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 RS232 or IEEE488

### Battery charger

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

### Monitoring

- Input / output voltage or current via
  - analog signal
  - interface RS232 or IEEE488

### Mechanics / environment:

- Wall mount
- Analog or digital V- and A-meter
- Increased mechanical strength
- Tropical protection
- Extended temperature range to -40°C