

Features

- DC input: 80 - 800 V
- AC input: 3-phase, 47 - 400 Hz
- DC output: 12 / ... / 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



front view



rear view



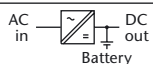
DC / DC Converters

▶ 5.6 kW			▶ 8 kW					
Input VDC							Output VDC	
80-160 VDC	Output Amps	160-320 VDC	320-380 ¹⁾ VDC	320-640 VDC	450-800 VDC	Output Amps	Adj.	Range
CW 5353	350	CW 5373	CW 5383 Z	CW 5373 G	CW 5373 K	350	15	14- 16
CW 5354	216	CW 5374	CW 5384 Z	CW 5374 G	CW 5374 K	310	24	23- 26
CW 5355	187	CW 5375	CW 5385 Z	CW 5375 G	CW 5375 K	270	28	26- 30
CW 5359	102	CW 5379	CW 5389 Z	CW 5379 G	CW 5379 K	146	48	45- 55
CW 5356	83	CW 5376	CW 5386 Z	CW 5376 G	CW 5376 K	118	60	58- 68
CW 5357	43	CW 5377	CW 5387 Z	CW 5377 G	CW 5377 K	62	110	100- 130
CW 5357 J	28	CW 5377 J	CW 5387 ZJ	CW 5377 GJ	CW 5377 KJ	40	200	190- 200
CW 5358	22.5	CW 5378	CW 5388 Z	CW 5378 G	CW 5378 K	32	220	200- 250
CW 5358 J	14	CW 5378 J	CW 5388 ZJ	CW 5378 GJ	CW 5378 KJ	20	400	380- 400



AC / DC Converters

▶ 8 kW					
Input VAC, 3-Phase			Output Amps	Output VDC	
3x200 ^{+15%} _{-20%}	3x400 ^{+15%} _{-20%}	3x480 ^{+10%} _{-15%}		Adj.	Range
CW 5363 V	CW 5383 V	CW 5393 V	350	15	14- 16
CW 5364 V	CW 5384 V	CW 5394 V	310	24	23- 26
CW 5365 V	CW 5385 V	CW 5395 V	270	28	26- 30
CW 5369 V	CW 5389 V	CW 5399 V	146	48	45- 55
CW 5366 V	CW 5386 V	CW 5396 V	118	60	58- 68
CW 5367 V	CW 5387 V	CW 5397 V	62	110	100- 130
CW 5367 VJ	CW 5387 VJ	CW 5397 VJ	40	200	190- 200
CW 5368 V	CW 5388 V	CW 5398 V	32	220	200- 250
CW 5368 VJ	CW 5388 VJ	CW 5398 VJ	20	400	380- 400



Battery Chargers

▶ 8 kW					
Input VAC, 3-Phase			Output Amps	Output VDC	
3x200 ^{+15%} _{-20%}	3x400 ^{+15%} _{-20%}	3x480 ^{+10%} _{-15%}		Nom. Battery Voltage	Range
BW 5361 V	BW 5381 V	BW 5391 V	350	12	12- 16
BW 5362 V	BW 5382 V	BW 5392 V	250	24	24- 32
BW 5364 V	BW 5384 V	BW 5394 V	125	48	48- 64
BW 5366 V	BW 5386 V	BW 5396 V	100	60	60- 80
BW 5367 V	BW 5387 V	BW 5397 V	56	110	110- 145
BW 5368 V	BW 5388 V	BW 5398 V	28	220	220- 290

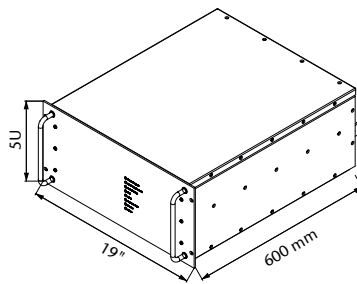
Assistance in table use:

- 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 @ 32 A
- 3 results in a CW 5388 V module.

¹⁾ input supply from PFC also suitable



19" Plug-in module / approx. 47 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 < 1 s typical

Inrush current AC 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. $\leq 1\%$

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 CW 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 $+75\text{ }^\circ\text{C}$

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 with water

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. 70,000 h @ $40\text{ }^\circ\text{C}$
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:

- Digital V- and A-meter (see photo)
- Tropical protection
- Extended temperature range to $-40\text{ }^\circ\text{C}$