

**Features**

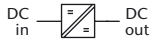
- DC input: 320 - 800 V
- AC input: 3-phase, 47 - 63 Hz
- DC output: 48 / ... / 800 V
- Continuous short circuit protection
- Overvoltage protection
- Thermal shutdown with auto restart
- Industrial grade components
- High efficiency through ZVS topology
- High power density
- Compact and robust design



front view



rear view



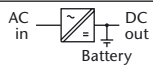
**DC / DC Converters**

▶ 30 KW					
Input VDC			Output VDC		
320–640 <sup>1)</sup> VDC	450–800 VDC	Output Amps	Adj.	Range	
CW 6679 G	CW 6679 K	450	48	45– 55	
CW 6676 G	CW 6676 K	442	60	58– 68	
CW 6677 G	CW 6677 K	231	110	100– 130	
CW 6677 GJ	CW 6677 KJ	150	200	190– 200	
CW 6678 G	CW 6678 K	120	220	200– 250	
CW 6678 GJ	CW 6678 KJ	75	400	380– 400	
CW 6677 GH	CW 6677 KH	50	tba <sup>2)</sup>	570– 600	
CW 6678 GH	CW 6678 KH	38	tba <sup>2)</sup>	760– 800	



**AC / DC Converters**

▶ 30 KW					
Input VAC, 3-Phase			Output VDC		
3x400 <sup>+15%</sup> <sub>-20%</sub>	3x480 <sup>+10%</sup> <sub>-15%</sub>	Output Amps	Adj.	Range	
CW 6689 V	CW 6699 V	450	48	45– 55	
CW 6686 V	CW 6696 V	442	60	58– 68	
CW 6687 V	CW 6697 V	231	110	100– 130	
CW 6687 VJ	CW 6697 VJ	150	200	190– 200	
CW 6688 V	CW 6698 V	120	220	200– 250	
CW 6688 VJ	CW 6698 VJ	75	400	380– 400	
CW 6687 VH	CW 6697 VH	50	tba <sup>2)</sup>	570– 600	
CW 6688 VH	CW 6698 VH	38	tba <sup>2)</sup>	760– 800	



**Battery Chargers**

▶ 30 KW					
Input VAC, 3-Phase			Output VDC		
3x400 <sup>+15%</sup> <sub>-20%</sub>	3x480 <sup>+10%</sup> <sub>-15%</sub>	Output Amps	Nom. Battery Voltage	Range	
BW 6684 V	BW 6694 V	386	48	48– 64	
BW 6686 V	BW 6696 V	275	60	60– 80	
BW 6687 V	BW 6697 V	208	110	110– 145	
BW 6688 V	BW 6698 V	104	220	220– 290	

**Assistance in table use:**

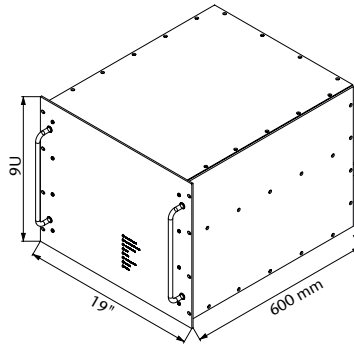
- 1 Select the column for input voltage range.
- 2 Select the row for the appropriate output voltage.
- 3 The intersection of both results in the module required.

**For example:**

- 1 input voltage = 3 x 400 VAC
- 2 output voltage = 220 VDC @ 120 A
- 3 results in a CW 6688 V module.

<sup>1)</sup> for input voltage < 400 VDC the output power needs to be reduced by 20%

<sup>2)</sup> tba = to be advised



19" Plug-in module / approx. 106 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  
 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 . . . . . 0.5 % rms  
 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, compensation up to 6 V

### General

Efficiency . . . . . 90 - 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 water  
 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:

- Digital V- and A-meter (see photo)
- Tropical protection
- Extended temperature range to -40 °C