

# Power Safety

## DC 1000 CAN

Modular switch-mode converter  
designed for Industrial applications



Output rating from a single converter:  
30 A (at 24 Vdc)  
15 A (at 48 Vdc)  
15 A (at 60 Vdc)



PERFECT IN FORM AND FUNCTION

**AEG**

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### Applications

The switch mode power supply DC 1000 CAN with communications capability from AEG Power Solutions is manufactured for the connection voltages 220 V DC and 110 V DC. It is designed for a wide variety of applications such as supplying power to the control room in conventional power stations and in nuclear power stations, as well as supplying power on board rail vehicles and ships. It is used to power the DC loads from a secured 220 V (110 V) DC busbar with high operating reliability. The DC 1000 makes it possible to set up redundant power supply units, either with or without batteries connected in parallel in the device output. The DC 1000 is used to supply power to all kinds of DC loads and implement constant voltage and current sources.

### Communication

This device is fully functional in individual operation and can furthermore be controlled and monitored via the interference-free, digital CAN BUS. The additionally available control and monitoring unit PSC 100 makes it possible to implement complex DC systems with very little effort. Therefore, in addition to the cabling of the power section, only a simple and clear bus wiring between the DC 1000 and the PSC 100 components is necessary.

### Ease of operation

The connections are provided on the front of the unit for easy access.

### Compact design

The compact design as a 19" panel mounting unit with only two height units allows redundant systems to be constructed even in very small spaces through parallel connection according to the n+1 principle.

### Key features

- Input voltage range - 23 % to + 30 % U in
- Future-oriented microprocessor technology
- Capable of communication (CAN BUS)
- When operated with PSC 100:
  - active current sharing
  - 4 charge characteristics
  - 1 charge characteristics is temperature-controlled
- Low start current through intelligent switch-on management, especially when devices are connected in parallel
- Permanently proof against short circuit
- CE-compliant
- ISO 9001 certified



TYP DC 1000 CAN	24 V/30 A	24 V/30 A	48 V/15 A	48 V/15 A	60 V/15 A	60 V/15 A
Type designation	G110 G 24/30 Wrg-Cpü	G220 G 24/30 Wrg-Cpü	G110 G 48/15 Wrg-Cpü	G220 G 48/15 Wrg-Cpü	G110 G 60/15 Wrg-Cpü	G220 G 60/15 Wrg-Cpü
Order-number	3 000 000 754	3 000 000 755	3 000 000 756	3 000 000 757	3 000 000 812	3 000 000 813

**INPUT**

Nominal input voltage	110 Vdc	220 Vdc	110 Vdc	220 Vdc	110 Vdc	220 Vdc
Voltage tolerance	- 23 % to + 30 %					
Current consumption (approx. values)	8,3 Adc	4 Adc	8,5 Adc	4 Adc	9,8 Adc	5 Adc
Inrush current	≤ rated input current					
Required mains fuses	gL 12 A	gL 6 A	gL 12 A	gL 6 A	gL 15 A	gL 10 A

**OUTPUT**

Set output voltage	26.76 Vdc ± 1 %		53.5 Vdc ± 1 %		66.9 Vdc ± 1 %	
Setting range	20 to 30 Vdc		40 to 60 Vdc		50 to 75 Vdc	
Set output current	30 Adc ± 2 %		15 Adc ± 2 %		15 Adc ± 2 %	
Setting range	1.5 to 30 Adc		0.75 to 15 Adc		0.75 to 15 Adc	
Voltage ripple	< 50 mV pp					
Interference voltage to CCITT	< 2 mV					
Efficiency (%)	91	92	92	93	92	93
Dynamic response	≤ 5% with sudden load fluctuations between 10% - 90% - 10% rated output current (adjustment time t < 1 ms)					
Short circuit response	Permanently short circuit proof					
Parallel operation / load sharing	Max. 31 units, load sharing approx. 10 %					
Characteristic line	IU-characteristic line to DIN 41772 / DIN 41773					

**MONITORING AND INDICATION**

Mains-side monitoring	Under-voltage / over-voltage with switch-off, self-acknowledging					
Undervoltage OFF	≤ 80 Vdc	≤ 159 Vdc	≤ 80 Vdc	≤ 159 Vdc	≤ 80 Vdc	≤ 159 Vdc
Undervoltage ON	≥ 85 Vdc	≥ 169 Vdc	≥ 85 V	≥ 169 Vdc	≥ 85 V	≥ 169 Vdc
Setting range OFF	80 V to 110 V	159 V to 220 V	80 V to 110 V	159 V to 220 V	80 V to 110 V	159 V to 220 V
Overtoltage OFF	≥ 148 Vdc	≥ 296 Vdc	≥ 148 Vdc	≥ 296 Vdc	≥ 148 Vdc	≥ 296 Vdc
Overtoltage ON	≥ 143 Vdc	≥ 286 Vdc	≥ 143 Vdc	≥ 286 Vdc	≥ 143 Vdc	≥ 286 Vdc
Setting range OFF	110 V to 148 V	220 V to 296 V	110 V to 148 V	220 V to 296 V	110 V to 148 V	220 V to 296 V
Output-side monitoring	Output voltage / heat sink temperature with derating and switch-off					
Undervoltage only message OFF	≤ 24 Vdc		≤ 48 Vdc		≤ 60 Vdc	
Undervoltage only message ON	≥ 25 Vdc		≥ 50 Vdc		≥ 62.5 Vdc	
Setting range OFF	20 V to 28 V		40 V to 56 V		49 V to 68 V	
Overtoltage with switch-off OFF	≥ 28 Vdc		≥ 56 Vdc		≥ 70 Vdc	
Overtoltage with switch-off ON	≤ 27.2 Vdc		≤ 54.4 Vdc		≤ 68 Vdc	
Setting range OFF	25 V to 36 V		50 V to 72 V		62 V to 90 V	
Messages and displays	Load : Green LED; fault : Red LED; Ua> : Red LED; Ua< : Red LED; φ : Red LED; fault message via potential-free relay contact, delay 10 seconds					

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## MECHANICAL

Design	19" plug-in module for installation in sub-frame to DIN 41494
Degree of protection	IP 20
Mechanical strength and vibration resistance	to EN 50178 section 9.4.3.2
Equipment colour	RAL 7035 (front panel)
Dimensions W x H x D (mm)	483 x 88 x 220 (19" x 2 HU)
Weight (kg)	approx. 5
DC input X1 / DC output X2	Screw terminal blocks 0.5 – 10 mm <sup>2</sup> (rigid), 0.5 – 6 mm <sup>2</sup> (flexible) AWG 20-7
Signal interface X11	CombiCon type MSTB 2.5/3-ST-5.08 3-pin 0.5 – 2.5 mm <sup>2</sup> AWG 22-12
Earth conductor	M4 thread
CAN BUS interface X12	16-pole clip connector
RS-232 service interface X13	9-pole SUB-D socket

## ENVIRONMENTAL

Type of cooling	Natural air cooling
Operating temperature	0 °C to 45 °C, (measured below the switch-mode power supply unit)
Storage temperature	-20 °C to 70 °C
Environmental conditions	EN 60721 part 3-3 class 3K3 / 3Z1 / 3B1 / 3C2 / 3S2 / 3M2
Installation height	up to 1000 m above sea level at nominal load

## STANDARDS

Interference emission	EN 61000-6-3
Interference resistance	EN 61000-6-2
Low voltage function with safe disconnection	EN 50178
Approvals	CE
Certification	ISO 9001

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Authorized distributor in Slovakia:

Rhea elektro s.r.o.  
Elektrárenská 1/ 12440, 831 04 Bratislava  
Tel.: +421 2 49101914, -18  
E-mail: info@rhea-elektro.sk  
www.rhea-elektro.sk

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