

# Power Safety

## DC 2000

Modular Switch-Mode DC/DC Converter designed for Industrial applications

Output Rating from a single Converter:

65 A (at 26 Vdc)

25 A (at 48-60 Vdc)

### Applications

The DC 2000 is a DC/DC-Converter converting 220 Vdc to either 26 Vdc with an output current of 20 A or to 48-60 Vdc with an output current of 25 A.

Applications include: DC- voltage transformers for supplying control-technology systems in nuclear and non-nuclear power stations from the secure 220 volt supply (high operating reliability), secured DC power in combination with a parallel battery, for supply of all types of DC consumers including constant voltage and current sources, as well as on-board power supplies for rail vehicles and ships and for power supply to telecommunications equipment.

### Compact 19" technology

The switch-mode power supply unit operates according to an IU characteristic line to DIN 41772/DIN 41773. It is a pre-wired unit supplied ready for installation. The connections are accessible from the front panel. The controls and display elements are installed at the front of the unit. Due to its high efficiency, it is designed as a compact 19" plug-in module of 4 height units. It is fully equipped for installation in sub-racks to DIN 41494.

### Operating principle

The unit is supplied with DC voltage. From this, transistors generate an AC voltage of 100 kHz. With the assistance of transformers, the potential separation and the voltage adjustment take place at the secondary side. The high-frequency AC voltage



is then rectified by means of rapid-acting diodes. An output filter is installed to reduce the voltage ripple. The output voltage and current are controlled by pulse-width modulation of the transistor switch on the primary side.

### Key features

- Compact design and low weight
- Low installation height
- High power density
- Low inrush current
- High efficiency
- Low voltage ripple
- Resistant to sustained short circuit
- Easy mounting and installation
- Excellent dynamic response



TYPE DC 2000	220 V/26 V / 65 A G220 G26/65 Wrg-Cü	220 V/48-60 V / 25 A G220 G48-60/25 Wrg-Cü
Part number	37204601	37204701
<b>INPUT</b>		
Nominal input voltage	220 Vdc + 30 % - 15 %	220 Vdc + 30 % - 15 %
Current consumption	8.7 Adc	8.0 Adc
Inrush current	≤ rated input current	
Required mains fuses	gL 16 A	
<b>OUTPUT</b>		
Output voltage	26 Vdc ± 1 %	63 Vdc ± 1 %
Setting range	21 - 26 Vdc	48 - 70 Vdc
Output current	65 Adc ± 2 %	25 Adc ± 2 %
Setting range	45 - 65 Adc	20 - 25 Adc
Efficiency, total (%)	88	90
Voltage ripple	≤ 10 mVPP	≤ 10 mVPP
Interference voltage to CCITT	≤ 1 mV	≤ 1.8 mV
Dynamic response	≤ 5% for sudden changes in load between 10 % - 90 % - 10 % rated output current (compensation time t < 1 ms)	
Short circuit response	resistant to sustained short circuit, 2 x rated output current for 1.0 s, thereafter 1 x rated output current	
Parallel operation	number unlimited, load sharing approx. 10 %	
Characteristic line	IU characteristic to DIN 41772 / DIN 41773	
<b>MONITORING AND INDICATION</b>		
Mains-side monitoring systems	over-/under-voltage with switch-off, self-acknowledging	
Output-side monitoring systems	over-temperature warning and switch-off, self-holding	
with LED indication	DC under-voltage with switch-off, self-holding DC over-voltage with switch-off and self-holding	
Indicators	LED operation; internal/external set value by LED; UA and IA via analogue measuring instruments	
External functions	central fault signal via potential-free relay contact; ON/OFF via external potential-free contact; external sensor lead for output voltage UA; external setting 0 to 4 V DC for UA or IA with LED indication	
<b>MECHANICAL</b>		
Design	19" module for installation in sub-frame to DIN 41494	
Ingress protection	IP 20	
Mechanical strength and vibration resistance	to Vde 0160, edition 5.88, item 7.2.2	
Equipment colour	RAL 7035 (front panel)	
Dimensions W x H x D (mm)	483 x 177 x 206 (19"x 4 HU)	483 x 177 x 206 (19"x 4 HU)
Weight	11.8 Kg	11.8 Kg
DC-output bolt-terminal	M8	M6
Earth bolt-terminal	M6	M6
Mains connection	angle plug type GDM2011, supplied with unit	
Signal interface	plug type MCVW 1.5/14- ST-3.81, supplied with unit	
<b>ENVIRONMENTAL</b>		
Type of cooling	Natural air cooling	
Operating temperature range	0 °C to 45 °C	(0 °C to 40 °C when installed in cabinet)
Storage temperature range	- 30 °C to + 70 °C	
Environmental conditions	IEC 721 part 3-3 class 3K3/3Z1/3B1/3C2/3S2/3M2	
Installation height	up to 1000 m above sea level at nominal load	
<b>STANDARDS</b>		
Interference emission	EN 50081-1 / EN 55022, class „B“	
Interference resistance	EN 50082-2 / IEC 801 part 2 -5	
Low voltage function		
with safe disconnection	VDE 0100 part 410 11.83 section 4.3.2/EN 60950 section 2	
Approvals	CE	
Certification	ISO9001	

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## AEG Power Solutions

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PERFECT IN FORM AND FUNCTION

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