

SWITCH-MODE DC 2000

SWITCH-MODE POWER SUPPLY

Application

The new DC 2000 series of power supply units by AEG SVS consists of two different types and was developed for a wide variety of applications. These include: DC-voltage transformers for supplying control-technology systems in conventional and nuclear power stations from the secure 220 volt (high operating reliability), secure power supply in combination with a parallel battery, direct supply of all types of DC consumers, constant voltage and current sources, on-board power supply for DC consumers in rail vehicles and ships, power supply to telecommunications equipment.

In contrast to units incorporating conventional technology, it is now possible to accommodate high power within confined spaces and to construct redundant systems through parallel operation in accordance with the n+1 principle. This unit makes possible reductions in weight and volume of approximately 66%.

Compact 19" Technology

The power supply unit functions on an IU characteristic line to DIN 41772/DIN 41773. It is supplied fully ready for installation. The connection points are accessible from the front. The operating and indicating 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 subracks to DIN 41494.

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Low volume through high cycle frequency

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.

- Low starting current
- High efficiency
- Low voltage ripple
- Permanently short circuit proof, double short circuit current for 1.0 s
- Excellent dynamic response
- CE-compliant

- Extremely compact design and low weight
- Low installation height
- High power density



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TECHNICAL DATA

TYPE	G220 G26/65 Wrg-Cü	G220 G48-60/25 Wrg-Cü
E-number	763 720 4601	763 720 4701
Rated connected voltage	220 V DC +30%/-15%	220 V DC +30%/-15%
Current consumption	8.7 A DC	8.0 A DC
Output voltage	26 V DC $\pm 1\%$	63 V DC $\pm 1\%$
Setting range	21 – 26 V DC	48 – 70 V DC
Output current	65 A DC $\pm 2\%$	25 A DC $\pm 2\%$
Setting range	45 – 65 A DC	20 – 25 A DC
Efficiency total (%)	88	90
Voltage ripple	≤ 10 mVPP	≤ 10 mVPP
Interference voltage to CCITT	≤ 1 mV	≤ 1.8 mV
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	
Start current	\leq rated input current	
Required mains fuses	gL 16 A	
Interference emission	to EN 50081-1 / EN 55022, class "B"	
Interference resistance	to EN 50082-2 / IEC 801 part 2-5	
Low funct. volt. with safe disconnection	to VDE 0100 part 410 11.83 section 4.3.2 / EN 60950 section 2	
Characteristic line	IU characteristic to DIN 41772 / DIN 41773	
Mains-side monitoring systems	over-/undervoltage with switch-off, self-acknowledging	
Output-side monitoring systems with LED indication	overtemperature warning and switch-off, self-holding DC undervoltage with switch-off, self-holding DC overvoltage with switch-off and self-holding	
Indicators	LED operation; internal/external set value by LED; UA and IA via analogue measuring instruments	
Dynamic response	$\leq 5\%$ for sudden changes in load between 10%-90%-10% rated output current (compensation time $t < 1$ ms)	
Short circuit response	permanently proof against short circuit, 2 x rated output current for 1.0 s, thereafter 1 x rated output current	
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	
Parallel operation	number unlimited, load division approx. 10%	
Design	19" module for installation in subframe to DIN 41494	
Type of cooling	air natural cooling	
Protective system	IP 20	
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	
Environment conditions	IEC 721 part 3-3 class 3K3/3Z1/3B1/3C2/3S2/3M2	
Installation height	up to 1000 m amsl at nominalload	
Mech. strength and vibration resistance	to VDE 0160, edition 5.88, item 7.2.2	
Equipment colour	RAL 7032 (front panel)	
Size 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 (kg)	11.8	11.8

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