AEG

POWER
SOLUTIONS

DC 3000 CAN

Modular switch-mode converter
designed for industrial applications

Output current of a single power supply:
100 A (for 24 VDC)

The DC 3000 from AEG Power Solutions is a DC/DC-Converter, converting either 110 VDC or 220 VDC to 24 VAC with an output current of 100 A. The switch-mode power supply is fed by the secure 110 V or 220 VDC supply for high operating reliability.

Low volume thanks to a high switching frequency
The equipment is powered by DC voltage. Transistors produce an alternating voltage with a frequency of 75 kHz. With the assistance of transformers, potential separation and the voltage adjustment are on 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.

Typical applications
Industrial applications such as 24 VDC power to supply power to control technology systems in nuclear and conventional power stations, chemical industrial processes and electrical sub-stations.

FEATURES

- Compact design which is lightweight
- High power density
- High efficiency
- Low voltage ripple
- Low inrush current
- Resistant to sustained short circuit, double current as short circuit for one second
- Communication capable (CAN-Bus)
- Single mode or parallel mode also without CAN-Bus
- CE-compliant

BENEFITS

- **Compact Design:**
  19" rack with 4U in height and a mounting depth of only 270 mm. The converter can be set up in the smallest space thanks to parallel connections built on the n+1 principle.

- **Easy Operation:**
  The switch mode power supply is a pre-wired unit. The connections can be easily accessed from the front panel. Programming is simple as controls and indicators are embedded in the front panel.

- **Communication:**
  The unit offers full functionality in stand-alone mode but can additionally be controlled and monitored via the digital CAN-Bus which is immune to interference.

Specifications

TYPE	110 V/24 A/100 A	220 V/24 V/100 A
Part Number	G110 G24/100 Wtug-Cpo	G220 G24/100 Wtug-Cpo
E-Number	3 000 000 069	3 000 000 117
INPUT		
Nominal input voltage	110 VDC + 35 % - 15 %	220 VDC + 35 % - 15 %
Inrush current	< Rated input voltage	
Required mains fuse	gL 40 A	gL 25 A
OUTPUT		
Current consumption	26 ADC	13 ADC
Output voltage (U1)	26.0 VDC ± 1%	
Output voltage (U2)	25.5 VDC ± 1%	
Output voltage (U3)	24.0 VDC ± 1%	
Output voltage (U4) Setting range (U1 - U4)	28.0 VDC ± 1% 1 - 28 VDC	
Output current (I1 - I4) Setting range (I1 - I4)	100 ADC ± 2% 5 - 100 ADC	
Efficiency	90 % with 26 V/100 A	
Voltage ripple	≤ 50 mV pp	
Interference voltage to CCITT	≤ 1.8 mV	
Dynamic response	≤ 5 % for sudden changes in load between 10 % - 90 % - 10 % rated output current (Compensation time t <5 ms)	
Short-circuit response	Resistant to sustained short circuit. 2 x rated output current for a second, thereafter rated current	
Parallel operation	Load distribution approx. 10 %, when connected to CAN-Bus, load distribution approx. 5 %	
Characteristic line	IU Characteristic to DIN 41772/DIN 41773	
MONITORING AND INDICATION		
Mains-side monitoring	Under-voltage with switch-off, self-acknowledging	
Response values	ON/OFF 93/86 VDC	ON/OFF 186/175 VDC
	Over-voltage with shut-off, self-acknowledging	
Response values	ON/OFF 150/160 VDC	ON/OFF 290/300 VDC
Output-side monitoring	Overheating with switch-off	
With indication of LED	Under-voltage with switch-off and self-restarting, voltage value 22.8 VDC Over-voltage with shut-off and locking, response value 29.0 VDC	
Indicators Mains	Power available, operating and fault message via LED; UA and IA via LCD display	
External Functions	Group fault message via floating relay contact; ON/OFF via external floating contact; external sensor cables output voltage UA; selection of 2. / 3. / 4. U characteristic line; external set-point specification 0 - 4 VDC for UA and IA with LCD display; external set-point specification via CAN interface	
MECHANICAL		
Design	19" plug-in module for installation in subframe to DIN 41494	
Ingress 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 177 x 270 (19" x 4 HE)	
Weight	Approx. 15 kg	
Mains connection	Phoenix terminal HDFKV 10-VP	
DC output	Thread bolt M8	
Conductor	Thread bolt M6	
Signal interface	Plug type MCVW 1.5 / 14 - ST- 3.81, supplied with unit	
ENVIRONMENTAL		
Type of cooling	Natural air cooling	
Operating temperature	Range 0 °C to 45 °C, when installed in cabinet	
Storage temperature	Range - 20 °C to 70 °C	
Environment conditions	EN 60721 part 3 - 3, class 3K3 / 3Z1 / 3B1 / 3C2 / 3S2 / 3M2	
Installation height	Max. 1,000 m above sea level, at nominal load	
STANDARDS		
Interference emission	To EN 61000-6-4	
Interference resistance	To EN 61000-6-2	
Low voltage function with safe disconnection	To EN 60950-1	
Approvals	CE	
Certification	ISO 9001	