Power Safety

AC 7000

Modular switch-mode rectifier
designed for industrial applications

Output Rating from a single rectifier:
220 A (at 24 Vdc)
125 A (at 48 Vdc)
60 A (at 106 Vdc)
30 A (at 212 Vdc)

Applications

For all industrial applications. Provides 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 as well as power supply to telecommunications systems.

Compact in 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. The connections can be accessed from the front panel. The controls and display elements are installed on the front of the device. The extremely high level of efficiency means it has a compact structure as a 19" fully featured withdrawable part with 5 or 6 height units. It is prepared for installation in sub racks to DIN 41494.

Operating principle

The unit is powered by three phase AC voltage which is converted into a smoothed DC voltage. Transistors create an AC voltage of 75 kHz from it. Transfer devices are used for electrical isolation as well as adaptation of the voltage to the secondary side. The high frequency AC voltage is rectified using fast diodes. An output filter is installed in order to reduce the voltage ripple. The output voltage and the output current are controlled by pulse width modulation of the transistor switch on the primary side.

Key features

Extremely compact design and low weight

- High power-to-weight ratio
- Low start current
- High efficiency
- High power factor
- Low voltage ripple
- Resistant to sustained short circuit
- Excellent dynamic characteristics

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AC 7000: Specification

TYPE	D400 G24/220 BWrg-CFü	D400 G48/125 BWrg-CFü	D400 106/60 BWrg-CFü	D400 G212/30 BWrg-CFü
Part number	37205602	37205702	37208202	37205902
INPUT				
Nominal input voltage	3 x 400 Vac ± 10 %	3 x 400 Vac ± 10 %	3 x 400 Vac ± 10 %	3 x 400 Vac ± 10 %
Frequency	47–63 Hz	47–63 Hz	47–63 Hz	47–63 Hz
Current consumption	3 x 10.5 Aac	3 x 11.5 Aac	3 x 12 Aac	3 x 12 Aac
Inrush current	≤ rated input current			
Required mains fuse	gL 16 A			
OUTPUT				
Output voltage	26.8 Vdc ± 1 %	53.5 Vdc ± 1 %	118.2 Vdc ± 1 %	236.4 Vdc ± 1 %
Setting range	18–32 Vdc	35–62 Vdc	105–135 Vdc	180–280 Vdc
Output current	220 Adc ± 2 %	125 Adc ± 2 %	60 Adc ± 2 %	30 Adc ± 2 %
Setting range	150–220 Adc	75–125 Adc	25–60 Adc	17–30 Adc
Number of battery cells lead acid (nickel cadmium on request)	11–12	23–24	53–55	106–110
Power factor	0.92	0.94	0.92	0.93
Efficiency total (%)	89	91	91	91
Interference voltage to CCITT-A filter	≤ 1.0 mV	≤ 1.8 mV		
Dynamic characteristics	≤ 5 % for sudden changes in load between 10 %-90 %-10 % IA rated (settling time t < 10 ms)			
Short circuit response	resistant to sustained short circuit, 1 x rated output current			
Parallel operation	Unlimited number, load distribution approx. 10 %			
Characteristic line	IU characteristic curve to DIN 41772/DIN 41773			
MONITORING AND INDICATION				
Mains-side monitoring systems	Phase failure; over-voltage/under-voltage with shut-off, auto-acknowledgement			
Output-side monitoring systems	Over-temperature with shut-off and locking			
with LED display	DC under-voltage without shut-off, auto-acknowledgement DC over-temperature with shut-off and locking			
Indicators	Operation by LED; set point internal/external by LED; UA and IA via analog measuring instruments			
External functions	Group fault message via floating relay contact; over-temperature signal via floating relay contact; ON/OFF via external floating contact; external sensor cable output voltage UA; external set point specification 0 to 4 Vdc for UA and IA, with indication by LED			
MECHANICAL				
Design	19" fully featured plug-in unit for installation in sub-rack to DIN 41494			
Ingress protection	IP 20			
Mechanical strength and vibration resistance	EN 50178			
Equipment colour	RAL 7035 (front panel)			
Dimensions W x H x D (mm)	483 x 265.9 x 400 (19" x 6 HUs)	483 x 221.4 x 400 (19" x 5 HUs)	483 x 221.4 x 400 (19" x 5 HUs)	483 x 221.4 x 400 (19" x 5 HUs)
Weight (kg)	32.5	31.5	30.0	30.0
DC output	Rail with hole Ø 11	Threaded bolt M10	Threaded bolt M8	Threaded bolt M6
Protective conductor	M8 thread	Threaded bolt M6	Threaded bolt M6	Threaded bolt M6
Mains connection	Angle plug type GDME 3013, included in scope of delivery			
Signal interface	Connector type MVSTBR 2,5/10-ST-5.08, included in scope of delivery			
ENVIRONMENTAL				
Type of cooling	Forced-air cooling			
Operating temperature	0 °C-45 °C	0 °C-45 °C	0 °C-40 °C	0 °C-40 °C
Storage temperature	–30 °C to +70 °C			
Ambient conditions	EN 60721 part 3 - 3 class 3K3/3Z1/3B1/3C2/3S2/3M2			
Installation altitude	Up to 1000 m above sea level at nominal load			
STANDARDS				
Interference emission	EN 61000-6-4			
Interference resistance	EN 61000-6-2			
Low voltage function with safe disconnection	EN 60950-1			
Safe electrical disconnection	EN 50178 EN 60950-1			
Approvals	CE			
Certification	ISO9001			

For further information
please refer to our website:

www.aegps.com

PERFECT IN FORM AND FUNCTION

AEG