AEG

POWER
SOLUTIONS

AC 2000

Modular switch-mode rectifier
designed for industrial applications

Output rating from a single rectifier:
65 A (at 24 VDC)

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 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.

Typical applications
For all industrial applications
- Power generation
- Nuclear power plant
- Oil & Gas
- Petrochemical and chemical
- Transportation and signalling

OPERATION

The single phase mains AC voltage is transformed to smoothed DC voltage for sinusoidal current consumption. This allows it to achieve a power factor of > 0.99. 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.

- Sinusoidal input current
- Low voltage ripple

BENEFITS

- High efficiency provides secured DC power in combination with a parallel battery supply for all types of DC current sources including constant voltage
- Natural air cooling
- Robust technology
- Can also be used as a direct power supply without batteries
- Compact design and low weight
- Low mounting depth
- High power density
- Low inrush current
- Resistant to sustained short circuit
- Excellent dynamic response

Specifications

TYPE	24 V/65 A
Part number	E230 G24/65 BWrg-Cü
E-Number	37 204 101
INPUT	
Nominal input voltage	230 VAC + 10 % – 15 %
Current consumption	8.8 AAC
Frequency	47 to 63 Hz
Inrush current	≤ rated input current
Required mains fuse	gL 16 A
OUTPUT	
Output voltage	26.8 VDC
– Setting range	±1 % 22 to 29 VDC
Output current	65 ADC
– Setting range	±2 % 40 to 65 ADC
Voltage ripple	≤20 mV pp
Number of battery cells lead acid (Nickel cadmium on request)	11 to 12
Power factor	0.99
Efficiency total	86.5 %
Interference voltage to CCITT	≤1.0 mV
Dynamic response	≤5 % for sudden changes in load between 10 % – 90 % – 10 %; rated output current (compensation time t <1 ms)
Short circuit response	Permanent proof against short circuit, 1 x rated output current
Parallel operation	Number unlimited, load sharing approx. 10 %
Characteristic line	IU characteristic to DIN 41772/DIN 41773
MONITORING AND INDICATION	
Mains-side monitoring systems	Over/under-voltage with switch-off, self-acknowledging
Output-side monitoring systems	Over-temperature with switch-off, self-acknowledging
– with LED indication	DC under-voltage without switch-off, self-acknowledging, 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 VDC for UA or IA with LED indication
MECHANICAL	
Design	19" module for installation in sub-frame to DIN 41494
Ingress protection	IP 20
Mechanical strength and vibration resistance	To EN 50178
Equipment colour	RAL 7035 (front panel)
Dimensions W x H x D (mm)	483 x 177 x 206 (19" x 4 HU)
Weight (kg)	11.8
DC-output bolt-terminal	M8
Earth bolt-terminal	M6
Mains connection	Angle plug type GDM2011, supplied with unit
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, 0 °C to 40 °C, when installed in cabinet
Storage temperature	-30 °C to 70 °C
Environmental conditions	EN 60721 part 3 - 3, class 3K3 /3Z1 / 3B1 / 3C2 / 3S2 / 3M2
Installation height	Max. 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	ISO 9001

AEG Power Solutions

Approach your local AEG Power Solutions representative for further support. Contact details can be found on: www.aegps.com