PROTECT D.

SINGLE PHASE IN/OUT UPS SYSTEM

Uninterruptible Power Supply

1-Phase Input; 1-Phase Output

1000–10000 VA power supply
with integrated batteries

36 Months Warranty UPS & Battery

VFI

Efficient high-performance UPS for rack use

With a high power factor of 0.9lag the Protect D. series exceeds the power of conventional UPS systems by 20 %. Efficiency is significantly increased during normal operation as well as in the energy-efficient ECO and ECO+ operating modes.

Compact and flexible

The height of the UPS electronics and battery together is only 2 U. With the flap front cover, battery replacement is very easy.

The autonomy times can be increased with additional battery packs; connected battery packs are automatically detected.

All batteries can be replaced during operation (hot-swappable). Our advanced battery charging technology allows for short charging times and battery-preserving charging characteristics at the same time.

Many interfaces (RS232/USB/Slot/EPO) as well as a potential-free contact within the series ensure an outstanding communication capacity.

Secure and easy to use

An innovative locking mechanism at the UPS outputs prevents accidental separation of the loads.

The multilingual graphic screen is very easy to read, even from a longer distance, thanks to its large format. Together with three LEDs at the top, it displays the essential operating conditions. The UPS can be directly administered with the control panel.

A real-time event logger ensures careful observation and analysis of events as they occur. In addition, a regular automated battery test can be planned.

Main characteristics

- VFI topology (online/double conversion) protects against all network problems
- An increase of the available performance by approx. 20 % through a 0.9lag power factor
- Increased efficiency through the ECO and ECO+ mode
- Advanced battery charging technology for maximum durability of the battery
- Hot-swappable batteries, easy replacement through hinged front
- Additional battery packs for easy scaling of the autonomy times
- Extension slot for communication cards, communication in parallel is possible through the RS232/USB interface and SNMP
- Low height (2 U) including integrated batteries
- Switchable UPS outputs with innovative locking mechanism
- Display of the UPS parameters on a graphic LCD, direct configuration is possible with the control panel
- Freely programmable potential-free contact plus emergency shutdown contact
- May also be used as a frequency converter
- 36-month warranty with replacement service in advance (free registration required)

AEG
POWER SOLUTIONS

Classification VFI SS 211 acc. to IEC 62040-3	D. 1000	D. 1500	D. 2000	D. 3000
Power type rating	1000 VA	1500 VA	2000 VA	3000 VA
	900 W	1350 W	1800 W	2700 W
Part number (UPS including integrated battery system)	600 000 8434	600 000 8436	600 000 8437	600 000 8438
Part number (additional battery pack)	600 000 8441	600 000 8442	600 000 8443	
UPS INPUT				
Input voltage	220 V AC / 230 V AC / 240 V AC			
Voltage range without battery mode (load dependent)	120 – 276 V AC		140 – 276 V AC	
Frequency (auto selection)	50 Hz / 60 Hz ± 5 Hz			
Mains current (system reaction)	λ ≥0.99 (THDi ≤8 %)			
Current consumption at nominal load (max.)	4.8 A	7.2 A	9.6 A	13.7 A
UPS OUTPUT				
Rated output voltage (adjustable)	200 V AC / 208 V AC / 220 V AC / 230 V AC (default) / 240 V AC ±2%			
Frequency in battery-/ frequency converter mode	50 Hz / 60 Hz ±0.25 Hz			
Output current (at 230 V AC)	4.3 A	6.5 A	8.7 A	13 A
Transfer time at mains outage	0 ms (without interruption)			
Voltage waveform	Sinusoidal, distortion THD <3 %			
Overload response (double conversion mode)	<130 % for 5 min. / 130 % – 150 % for 15 s			
Overload response (battery mode)	<130 % for 12 s / 130 % – 150 % for 2 s			
Crest factor	3 : 1			
Short circuit response	Short circuit proof (4 x I_N for 100 ms)			
BATTERY				
Type	Sealed, maintenance free (proprietary brand), integrated, hot swappable			
Rated voltage (linked)	36 V DC	48 V DC	72 V DC	
Battery management	Temperature compensated with discharge protection, automatic battery test (programmable) and battery pack detection			
Charging time (to 90 % rated capacity)	3 h			
COMMUNICATION				
Interfaces (dual monitoring)	RS232, USB, communication slot (can be used parallel with RS232 / USB), input contact for emergency shutdown, programmable potential free contact			
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac, Unix, Sun etc.)			
Failure indicators (acoustic/visual)	3 LED's with traffic light display, detailed indication via LCD display (alarms: at mains failure, overload, battery charging, battery replacement, fan fault, data logger – with clear text display incl. date and time history)			
GENERAL DATA				
Efficiency (ECO+ mode)	>95 %		>98 %	
Efficiency at nominal load (double conversion mode)	≥88 %	>88 %	>89 %	≥90 %
Audible noise (1 m distance)	<44 dB(A)	< 45 dB(A)	<52 dB(A)	
Operating temperature range	0°– 40°C			
Humidity	0 – 95 % (without condensation)			
Operation altitude	Up to 3000 m at nominal load			
EMC conformity	EN 62040-2 Class C1, EN 61000-3-2, EN 61000-3-3			
Product safety	EN 62040-1			
Number of outputs (switchable) automatically locked	6 x IEC 320 C13 (2+2)		8 x IEC 320 C13 (2+2)	6 x IEC 320 C13 (3+3) + 1 x IEC 320 C19
Housing	Blackline metal case with aluminum front			
Dimensions approx. W x H x D (mm) UPS	482.6 (19") x 88 (2 U) x 430		482.6 (19") x 88 (2 U) x 600	
Dimensions approx. W x H x D (mm) battery	482.6 (19") x 88 (2 U) x 430		482.6 (19") x 88 (2 U) x 430	
Weight approx. UPS incl. integrated battery	16 kg	19.5 kg	19 kg	29.5 kg
Weight approx. battery extension unit	23 kg	28 kg	41 kg	41 kg
Shipment	Mains input cord (1 x EU, 1 x UK), UPS management software "CompuWatch" (CD), communications cables (RS232 & USB), operating instructions, rack rails, device cables: 3 x IEC 320 C13 (D. 1000 – D. 2000), 3 x IEC 320 C13 +1 x IEC 320 C19 (D. 3000)			
Conformity	CE			

PROTECT D. 6000/10000

Top performance in rack format

Protect D. 6000 and D. 10000 compliment the range of the successful Protect D. series. With Protect D. 10000, a power level of 10 kVA in rack design is available for the first time.

Protect D. 6000 and Protect D. 10000 have the same advantages and characteristics as the smaller models, including the high power factor of 0.9lag.

Compact housing dimensions

Thanks to their compact design, the devices can also be used in IT cabinets with a depth of only 800 mm.

Protect D. 6000 including battery, connection unit and manual bypass unit fits within 3 standard height units. The 10 kVA version, with a complete battery system, connection unit and integrated manual maintenance bypass fits within 5 standard height units.

The sophisticated design with removable connection unit and battery systems with plug-in technology make the assembly in the rack and the electrical installation as easy as possible. The weight is unimportant as the batteries can be mounted at the end of the installation.

Flexible and maintenance friendly

The equipment offers separate feed for the rectifiers and bypass, Protect D. 6000 and 10000 can also be operated with only one feed. Both options are provided to deliver highest flexibility and security.

To increase power or to be able to serve the demand for active redundancy, Protect D. 6000 and Protect D. 10000 are prepared for parallel operation.

In order to ease maintenance work, a manual bypass is already integrated into the removable connection unit.

Special characteristics

- Suitable for IT cabinets with a depth of 800 mm
- High power density in a compact housing
- Very easy assembly through removable connection unit and batteries with plug-in technology
- Dual or single input
- Prepared for parallel operation
- Integrated manual maintenance bypass (foolproof operation)
- 36-month warranty with replacement service in advance (free registration required)

Classification VFI SS 111 acc. to IEC 62040-3	D. 6000	D. 10000
Power type rating (Ready for redundant or increased performance parallel operation)	6000 VA 5400 W	10000 VA 9000 W
Part number (UPS incl. internal battery system)	600 000 8439	600 000 8440
Part number (additional battery pack)	600 001 1042	600 001 1044
UPS INPUT		
Input voltage	220 V AC / 230 V AC / 240 V AC	
Voltage range without battery mode	176 V AC (120 V AC to 50 % utilization) – 276 V AC	
Voltage range bypass input	184 – 264 V AC	
Frequency (auto selection)	50 Hz / 60 Hz ±10 %	
Mains current (system reaction)	λ ≥0.99 (THDi <5 %)	
Current consumption at nominal load (max.)	29 A	47 A
UPS OUTPUT		
Rated output voltage (adjustable)	200 V AC / 208 V AC / 220 V AC / 230 V AC (default) / 240 V AC ±1%	
Frequency in battery / frequency converter mode	50 Hz / 60 Hz ±0.5 %	
Output current (at 230 V AC)	26 A	43.4 A
Transfer time at mains outage	0 ms (without interruption)	
Voltage waveform	Sinusoidal, distortion THD <2 %	
Overload response (double conversion mode)	<130 % for 2 min. / 130 – 150 % for 30 s, then automatically switches over to electronic bypass: 0 ms	
Crest factor	3 : 1	
Short circuit response	Short circuit proof (3 x I_N for 100 ms)	
BATTERY		
Type	Sealed, maintenance free (proprietary brand), integrated, hot swappable	
Rated voltage (linked)	180 V DC	240 V DC
Battery management	Temperature compensated with discharge protection, automatic battery test (programmable) and battery pack detection	
Charging time (to 90 % rated capacity)	3 h	
COMMUNICATION		
Interfaces (dual monitoring)	RS232, USB, communication slot (can be used parallel with RS232 / USB), input contact for emergency shutdown, programmable potential free contact	
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac, Unix, Sun etc.)	
Failure indicators (acoustic/visual)	3 LED's with traffic light display, detailed indication via LCD display (alarms: at mains failure, overload, battery charging, battery replacement, fan fault, data logger – with clear text display incl. date and time history)	
GENERAL DATA		
Efficiency (ECO mode)	>96 %	>97 %
Efficiency at nominal load (double conversion mode)	>92 %	>93 %
Audible noise (1 m distance)	<55 dB(A)	
Operating temperature range	0° – 40°C	
Humidity	0 – 95 % (without condensation)	
Operation altitude	Up to 1000 m at nominal load	
EMC conformity	EN 62010-2 Class C2	
Product safety	EN 62040-1	
AC input	Permanent connection via terminals, separate power option from rectifier and bypass connector unit with removable integrated manual bypass (for installation or subsequent maintenance of UPS) with optional cable entry from top or rear	
Number of outputs automatically locked	1 x fixed connection on terminal block plus 2 x IEC 320 C13, 1 x IEC 320 C19	1 x fixed connection on terminal block plus 4 x IEC 320 C19
Housing	Metal casing, blackline with aluminum cabinet front	
Dimensions approx. W x H x D (mm) without front panel	48.6 (19") x 132 (3 U) x 715 depth with front panel plus 35 mm	48.6 (19") x 220 (5 U) x 715 depth with front panel plus 35 mm
Dimensions approx. W x H x D (mm) battery extension unit incl. front panel	482.6 (19") x 132 (3 U) x 595	
Weight approx. without batteries	20 kg	32.5 kg
Weight approx. with batteries	46 kg	82.5 kg
Weight approx. battery extension unit	44.5 kg	63 kg
Shipment	Rack rails kit, 16 A IEC device cable, UPS management software "CompuWatch" (CD) incl. 5 network licenses, RS232 and USB cable, operating instructions	
Conformity	CE	

AEG Power Solutions

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

www.aegps.com

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