

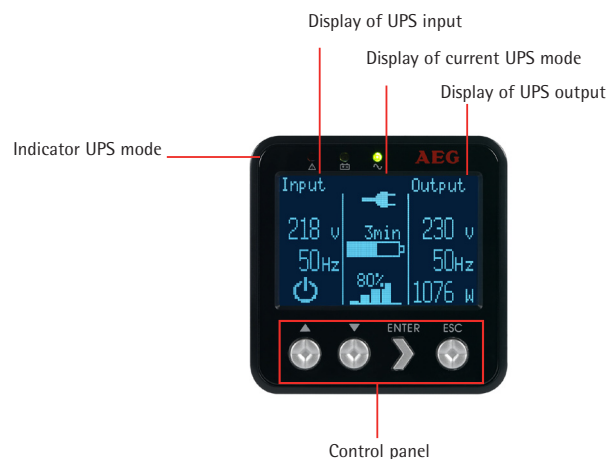
Reliability

Protect D.

Efficient high-performance UPS ideal for rack usage

Valuable features and easy control

- VFI topology (online double-conversion): protects against all mains power disturbances
- approx. 30% higher available power by 0.9 lagging power factor
- Increase of efficiency through ECO and ECO+ mode
- Improved battery charging technology for optimal battery lifetime
- Hot-swappable batteries, easy exchange via flip-over cover
- Additional BatteryPacks for individual scaling of autonomy times
- Expansion slot for communication cards, parallel operation via RS232/USB and SNMP
- Maximized rack space as the UPS is only 2U including integrated batteries
- Controllable UPS outlets with innovative lock mechanism, prevents accidental disconnection of connected cables
- Graphical display shows UPS parameters, easy configuration of settings via control panel
- Data logger synchronized to real time clock
- Programmable potential-free contact & EPO switch
- Frequency converter mode
- Free 36 months warranty on UPS and battery with advanced replacement service (registration required)



PERFECT IN FORM AND FUNCTION

AEG

Reliability

Protect D.

You expect a technically convincing solution, with the flexibility to adapt to ever increasing requirements. Easy to operate and designed for easy maintenance.

High efficiency

The Protect D. achieves more than 30% higher power in comparison to conventional uninterruptible power systems, due to its new power factor rating of 0.9 lagging across its operating range. Through careful component selection our UPS can provide outstanding performance, superior reliability and longer autonomy times. The reliable AEG electronics enables universal operation across the whole apparent and effective power range without loss of power, allowing the inverter to handle even very complex loads.

Continuous improvements in the efficiency of our double conversion, ECO and ECO+ modes is really evident when power consumption lowers, lowering the need for cooling and decreases the overall operating expense.

Saves 200€ per year

Protect C.3000 @ 2100 W:

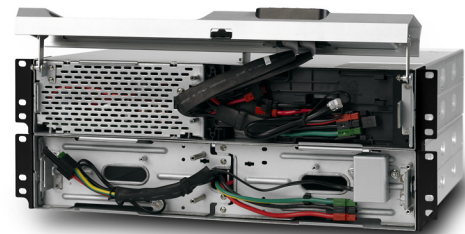
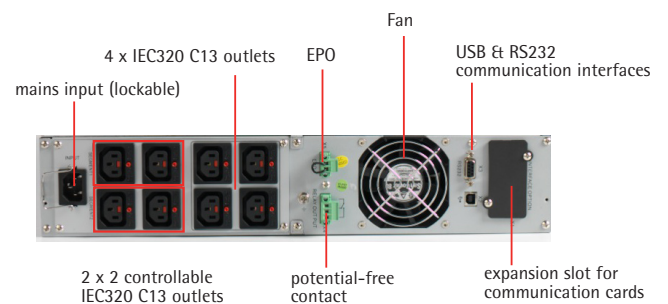
88% efficiency = 2508 kWh losses / year

Protect D.3000 @ 2100 W:

90% efficiency + ECO mode (@ weekends)
= 1569 kWh losses / year

= approx. **1000 kWh** lower losses / year

Connectors



battery extensions and replacements via front access

Protect D. (cos φ = 0,9 lagging)	autonomy time (full-/Halfload) [in min.]			
	1000 VA	1500 VA	2000 VA	3000 VA
Standard autonomy time	6/16	5,5/14	6/16,5	3,5/9
1 additional BatteryPack	31/68	25/61	33/71	18/45
2 additional BatteryPacks	51/110	46/112	59/129	34/84
3 additional BatteryPacks	82/192	69/172	88/183	53/122
4 additional BatteryPacks	100/246	90/221	119/260	69/165

Protect D. (cos φ = 0,7 lagging)	autonomy time (full-/Halfload) [in min.]			
	1000 VA	1500 VA	2000 VA	3000 VA
Standard autonomy time	9/19	8/18	10/21	6/14
1 additional BatteryPack	35/71	31/65	37/77	24/51
2 additional BatteryPacks	63/130	56/119	67/141	44/92
3 additional BatteryPacks	94/194	83/178	99/210	64/137
4 additional BatteryPacks	126/261	112/240	134/283	87/185

Compact Design

UPS electronics and battery are combined in only 2U of rack space. With the flip-over front cover it is easy to change the hot-swappable battery or to add external battery packs.



Autonomy time can be extended by preconfigured battery packs. The number of connected battery packs will be detected automatically. All battery packs are hot-swappable and can be connected without disconnecting the UPS, simply open the cover to swap.

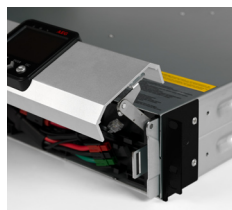
Communication options

Extraordinary communication options are provided by the several interfaces including programmable potential-free contacts, emergency power off switch, RS232, USB and an extension slot that can be used in parallel mode with RS232/USB. The extension slot is compatible with optional accessories such as relay cards or SNMP adapter.



Battery management

The improved battery charging technology provides quicker charging time with a gentle charging characteristic. The battery management system is able to differentiate between initialization during setup, the battery charging phase (temperature compensated) and the standby phase. This enables the system to extend battery lifetime as there is a decrease of pole corrosion. An uncoupled battery charger avoids battery heating and inverter reflection effects.



Innovative output control

All UPS outlets are equipped with an innovative lock mechanism that prevents the connected cables from accidental disconnection. The UPS outlets can be managed by the user, allowing applications to be prioritized in the event of a power failure. These programmable outlets allow for easy load management or load shedding, enabling the user full flexibility in power distribution and energy management.



Graphical display

The multi-language graphical display supports better readability. It displays several parameters of the input, UPS mode and the output. Three LEDs at the top of the display indicate



the current operating mode. From the control panel the user is able to configure the UPS setting and activate an audible alarm. All events are logged by an internal logger to allow events analysis. From the settings menu the user can control the UPS outputs according to the battery capacity and the delay after a power failure

for the UPS to initialize a shut down. It is also possible to schedule for a battery test either daily, weekly or monthly.

Additional features

With the converter mode the UPS can be used as frequency converter or works as a line conditioner with an effective output voltage of 200V or 208V.

Protect D: technical specifications

Classification VFI SS 211 acc. to IEC 62040-3	D. 1000	D. 1500	D. 2000	D. 3000
Type rating	1000 VA	1500 VA	2000 VA	3000 VA
	900 W	1350 W	1800 W	2700 W
AEG part number (UPS)	600 000 8434	600 000 8436	600 000 8437	600 000 8438
AEG part number (BatteryPack)	600 000 8441	600 000 8442	600 000 8443	
UPS INPUT				
Nominal input voltage	220 Vac/230 Vac/240 Vac			
Voltage range w/o battery operation (load-dependent)	160–276 Vac		180–276 Vac	
Frequency (automatic detection)	50 Hz/60 Hz ± 10%			
Mains current (system disturbance factor)	$\lambda \geq 0,99$ (THDi ≤ 8%)			
Current consumption at full load (max.)	5 A	7,5 A	10 A	14 A
UPS OUTPUT				
Rated output voltage (adjustable)	208 Vac / 220 Vac / 230 Vac (default) / 240 Vac ± 2 %			
Frequency in battery / converter mode	50 Hz/60 Hz ± 0,25 Hz			
Nominal output current (at 230 Vac)	4,3 A	6,5 A	8,7 A	13 A
Changeover time at mains failure	0 ms (without interruption)			
Voltage curve shape	Sinusoidal, distortion THD < 3 %			
Overload ability (double-conversion mode)	< 130% for 5 min. / 130% - 150% for 15s			
Overload ability (battery mode)	< 130% for 12s / 130% - 150% for 2s			
Crest factor	3 : 1			
Short circuit ability	short-circuit-proof (4 x In for 100ms)			
BATTERY				
Type	sealed, maintenance-free, lead acid, integrated, hot-swappable			
Nominal DC voltage (intermediate circuit)	36 Vdc	48 Vdc	72 Vdc	
Battery management	temperature compensated with deep discharge protection, autom. battery test & battery pack detection			
Charging time (to 90 % of rated capacity)	3 h	3 h	3 h	3 h
COMMUNICATION				
Interfaces	RS232, USB, communication slot (can be used parallel to RS232/USB), terminals for EPO N.C. (default) or N.O. and a programmable potential-free contact			
Shutdown software (on CD)	five network licences included (Windows, Linux, Mac, Unix, Sun etc.)			
Alarms (acoustic/optical)	3 LEDs arranged for quick operational status check, detailed indication via LCD display, (alarms at mains failure, overload, battery discharged, replace battery, fan fault, RTC event logger)			
GENERAL DATA				
Efficiency at full load (ECO+ mode)	≥ 95 %		≥ 98 %	
Efficiency at full load (double-conversion mode)	> 88 %	> 89 %	> 90 %	
Operating temperature range	-15° to 40° C			
Inherent noise (1m distance/full load)	< 45 dB (A)		< 52 dB (A)	
Humidity	< 95% (without condensation)			
EMC Conformity	EN 61000-4 parts 2 to 5			
EMC Emitted Interference	EN 61000-6-3 class B			
Max. site altitude	up to 3000 m at full load			
Load outputs (controllable)	Rack	6 x IEC320 C13 (2+2)	8 x IEC 320 C13 (2+2) + 1 x IEC 320 C19	6 x IEC 320 C13 (3+3) + 1 x IEC 320 C19
Casing Material	Metal case with Aluminium front			
Dimensions W x H x D (mm)	Rack	482,6 (19") x 88 (2U) x 430	482,6 (19") x 88 (2U) x 600	
	Battery	482,6 (19") x 88 (2U) x 430	482,6 (19") x 88 (2U) x 600	
Weight approx.	Rack	16 kg	19,5 kg	29 kg
	Battery	23 kg	28 kg	41 kg
Delivery scope	mains input cable (1 x EU, 1 x UK), UPS management software „CompuWatch“ (CD), communication cables (RS232 & USB), operating and safety instructions, rack sliders, device connection cables 3 x IEC320 C13 (D.1000–D.2000), 3x IEC320 C13 + 1 x IEC320 C19 (D.3000)			
Conformity	CE			

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AEG Power Solutions GmbH
Emil-Siepmann-Str. 32
59581 Warstein-Belecke
Germany
Tel.: +49 (0) 2902 763 168
Fax: +49 (0) 2902 763 169
www.aegpartnernet.com

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