

Corporate UPS BROCHURE

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PROTECT A.

SINGLE PHASE IN / OUT UPS SYSTEM

Uninterruptible Power Supply

1-Phase Input; 1-Phase Output

500–1400 VA power supply
with integrated batteries



Uninterruptible security for PC's, workstations and communications

Provide yourself with optimum protection with an uninterruptible power supply against data loss.

Thanks to its wide performance spectrum from 500 VA to 1400 VA, Protect A. series protects your data effectively and inexpensively from the unwanted consequences of power outages, fluctuations and dangerous spikes.

Protect A. performs confidently in critical situations where high availability is required, thanks to modern line interactive (VI) technology delivering robust protection from overload and overvoltage and a very wide supply range.

Easy to use

The reliable "one-board" design and the clear LCD display A. 1000/A. 1400 on the front clearly informs you about the most important operating conditions.

All models feature simple controls, an audible alarm and automatic frequency detection (50/60 Hz).

Ease of use is guaranteed by the inclusion of a cable set for a straightforward set up.

Easy to control

All functions are microprocessor controlled and monitored; measurement values and messages are always available because Protect A. communicates via an RS232 or a USB interface to your MAC or PC. Through the included AEG shutdown software "CompuWatch", the unit allows you to control the most important operations as well as providing automatic shutdown during longer power outages.

Main characteristics

- » Modern VI (line interactive) technology for power outages and dangerous over voltages
- » Automatic voltage regulation against line voltage deviations (AVR)
- » Double mains filter against voltage spikes
- » Easy installation ensured by cables supplied for optimum operation
- » Sealed, maintenance free lead-acid batteries with exhaustive charge protection
- » USB port and RS232 interface for control and data acquisition – PC or MAC
- » Data line protection

PROTECT A.

SPECIFICATION

Classification VI SY 322 acc. to IEC 62040-3	A. 500	A. 700	A. 1000	A. 1400
Power type rating	500 VA	700 VA	1000 VA	1400 VA
	300 W	420 W	600 W	840 W
Part number	600 000 6435	600 000 6436	600 000 6437	600 000 6438
UPS INPUT				
Input voltage	220 V AC / 230 V AC / 240 V AC			
Voltage range without battery mode	170 – 280 V AC			
Frequency (automatic selection)	50 Hz / 60 Hz ±5 Hz			
UPS OUTPUT				
Rated output voltage/AVR technology	230 V AC			
Rated output in battery mode	±10 %			
Frequency in battery mode	50 Hz / 60 Hz ±1 Hz			
Nominal output current (at 230 V AC)	2.2 A	3 A	4.3 A	6.1 A
Transfer time at mains outage	2 – 6 ms (typical)			
Voltage waveform	Approximated sinusoidal			
Overload protection	Yes			
BATTERY				
Type	Sealed, maintenance free (proprietary brand)			
Autonomy time for 1 PC with 17" TFT	~15 min.	~20 min.	~30 min.	~40 min.
Exhaustive discharge protection/ protection against excess load	Yes			
Charging time (to 90 % of rated capacity)	8 h			
COMMUNICATION				
Interfaces	USB and RS232 (with status messages measured values)			
Shutdown software (on CD)	Included in delivery for all major operating systems (e.g. Windows, Linux, Mac)			
Alarm messages (acoustic/visual)	Mains failure, overload, battery discharged, replace battery, fault			
			LCD display for input and output voltage [V] / efficiency [%] / autonomy time [min.]	
GENERAL DATA				
Audible noise (1 m distance)	<40 dB(A)		<45 dB(A) (AC-operation <40 dB(A))	
	Fanless		Speed controlled fan	
Operating temperature range	0° – 40°C			
Humidity	0 – 90 % (without condensation)			
Operation altitude	Up to 1000 m at nominal load			
EMC conformity	EN 62040-2 Class C2, EN 61000-3-2, EN 61000-3-3			
Product safety	EN 62040-1			
Data line protection	RJ11 (telephone, fax, modem)		RJ11 / RJ45 (add. network), Ethernet 10 and 100 Mbit/s	
Outputs	3 + 1 x IEC 320 C13		4 + 2 x IEC 320 C13	
Equipment color	Blackline			
Dimensions approx. W x H x D (mm)	100 x 140 x 330		145 x 205 x 405	
Weight approx.	6 kg	6.5 kg	9.5 kg	10 kg
Shipment	Mains input cord (1 x EU, 1 x UK), 2 device connecting cables, management software "CompuWatch" (CD) incl. 1 network license USB and RS232 communication cable, operating instructions			
Conformity	CE			

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Ease of use

Protect B.

Uninterruptible security with sine wave output for server and network components.

The VI (Line-interactive) technology of the Protect B. reliably protects sensitive company data against power failure, line transients as well as HF disturbances. Large voltage fluctuations are efficiently dealt with by the configuration of the Protect B. automatic voltage regulation (AVR).

The output voltage in all operational modes is a sine wave. Advanced battery management charges the batteries optimally with a highly efficient charger. As a result of the wide input voltage window, the service free batteries have added protection, any battery defect is registered immediately by the electronics.

Easy handling, variable set-up:

All Protect B. can be mounted as a tower or by using the 19" kits can be rack mounted whereby each model irrespective of its power rating requires only 2 U! The display with its clear organisation of functions provides an easy to use interface for configuration and troubleshooting with the added benefit of separate indicators for UPS load and remaining battery capacity.

Remote via PC:

Important UPS data is permanently monitored and available via the USB or RS232 interface. Web browser remote monitoring and multi-server shutdown is possible with an optional SNMP adapter.



The battery capacity of the more powerful models (from 1500 VA) can be flexibly extended using external batteries.



High level flexibility, intelligent functions:

- Modern VI (line-interactive) protection technology with sine wave output voltage
- Compact construction / variable use due to combination design tower / rack
- Robust design: overload capability and short circuit protection
- Intelligent monitoring system with USB and RS232 interfaces
- User-friendly battery design in hot-swappable version (as of 1500 VA)
- Operator friendly display for optimal readability / configuration
- Over voltage protection (RJ11 / RJ45) for ISDN, Fax, modem and network
- Expansion slot for extension cards SNMP / potential free contacts (as of 1500 VA)



Protect B: technical specifications

Classification VI SS 211 acc. to IEC 62040-3	B. 750	B. 1000	B. 1500	B. 2000	B. 3000
Type power	750 VA	1000 VA	1500 VA	2000 VA	3000 VA
	500 W	700 W	1050 W	1340 W	2100 W

UPS-input

Input voltage	220 Vac / 230 Vac / 240 Vac				
Input voltage range without battery mode	161 / 184 – 276 Vac (adjustable)				
Frequency (auto selection)	50 Hz / 60 Hz \pm 5 Hz (> 40 Hz generator operation)				
Current consumption (max.)	5 A	8 A	10 A	10 A	16 A

UPS-output

Rated output voltage / AVR-technology	220 Vac / 230 Vac / 240 Vac				
Rated output voltage in battery mode	\pm 5 %				
Frequency in battery mode	50 Hz / 60 Hz \pm 0.1 Hz				
Output current (at 230 Vac)	3.2 A	4.3 A	6.5 A	8.7 A	13.0 A
Transfer time at mains outage	2 – 4 ms (typical), 6 ms max.				
Voltage waveform	Sinusoidal				
Overload response at mains operation	110 % for 3 min / 150 % for 200 ms				
Overheat and short-circuit protection	Yes	Yes	Yes	Yes	Yes

Battery

Type	Sealed, maintenance free; hot swappable (from 1500 VA)				
Rated voltage	24 Vdc		48 Vdc		96 Vdc
Autonomy time at rated load	5 min	5 min	5 min	5 min	5 min
	-	-	Runtime extension with scalable ext. battery packs		
Overload / deep discharge protection	Yes	Yes	Yes	Yes	Yes
Recharge time (to 90% of rated capacity)	3 h	3 h	3 h	3 h	3 h

Communication

Interfaces	USB and RS232 for status and measurement levels, Slot for enhanced communications (pot.-free contacts / SNMP), EPO port for emergency power off				
	Configuration panel for voltage preselection and setting of operating mode				
Shutdown software (on CD)	Included for all typical operating systems (e.g. Windows, Linux, Mac), single licence CompuWatch with a 5 fold network licence				
Failure indicators (acoustical / optical)	Separate LED bar graphs for UPS load and battery capacity, indicators for mains failure, overload, battery discharge, battery replace, failure				

General data

Audible noise (1 m distance)	< 45 dB(A)		
Operating temperature range	0° – 35°C		
EMC immunity	EN 50091-2, EN 61000-3-2, EN 61000-3-3		
	EN 61000-6-3 Class A		
Data lines protection	RJ11 (Phone, Fax, Modem) / RJ45 (Ethernet 10 Mbit/s / 100 Mbit/s)		
Humidity	0 – 90 % (non condensing)		
Installation height	Up to 1000 m, at nominal load		
Number of outlets	4 x IEC 320 C13	6 x IEC 320 C13	8 x IEC 320 C13
		removable module	1 x IEC 320 C19
Equipment colour	Blackline		
Size appr. W x H x D (mm) UPS unit	235 x 88 x 383	217 x 88 x 414	438 x 88 x 582
Size appr. W x H x D (mm) battery unit	-	217 x 88 x 414	438 x 88 x 582
Weight appr. (kg) UPS uni	8.5 kg	6.5 kg	31.5 kg
Weight appr. (kg) battery unit	-	12 kg	40.5 kg
Shipment	Mains-cord, 2 load-cords IEC 320-10A, USB and RS232 communication cable, management software "CompuWatch" (CD), user-manual		
Certification	CE		

Specifications are subject to change without notice.

PROTECT B. PRO

SINGLE PHASE IN/OUT UPS SYSTEM

Uninterruptible Power Supply

1-Phase Input; 1-Phase Output

750–3000 VA power supply
with integrated batteries



Efficient and innovative UPS solutions for servers and networks

With its high power factor of 0.9lag, Protect B. PRO is one of the most efficient systems with VI protection technology.

Many ways of communication are possible, thanks to parallel operation of the RS232 or USB interfaces and the extension slot.

Also, the adaptation of the UPS to the requirements of modern IT environments is reflected by the design. The UPS can be configured directly with the control panel. Batteries can be easily replaced by means of the innovative flap mechanism at the front.

By means of the included accessories and the rotary screen, the UPS can be operated in the rack as well as in the tower mode.

Main characteristics

- » Modern VI (line interactive) protection technology with sinus-shaped output voltage
- » Low operating costs through high efficiency, power factor 0.9lag
- » Compact shape, flexible use through combined design tower/rack, rotary screen
- » Surge protection (RJ11/RJ45) for telephone, fax, modem and network
- » Configuration directly on the LCD
- » Full display of the essential parameters on the screen, e.g. the remaining runtime in minutes
- » Intelligent monitoring system with USB and RS232 interface; parallel operation of USB/RS232 and extension slot is possible
- » 36-month warranty with replacement service in advance (free registration required)

Classification VI SS 211 acc. to IEC 62040-3	B. 750 PRO	B. 1000 PRO	B. 1400 PRO	B. 1800 PRO	B. 2300 PRO	B. 3000 PRO
Power type rating	750 VA	1000 VA	1400 VA	1800 VA	2300 VA	3000 VA
	675 W	900 W	1260 W	1620 W	2070 W	2700 W
Part number (UPS incl. internal battery)	600 000 8422	600 001 3872	600 000 8426	600 001 3873	600 000 8431	600 001 3875
Part number (battery pack)		600 001 3876		600 001 3874		600 001 3877
UPS INPUT						
Input voltage	220 V AC / 230 V AC / 240 V AC					
Voltage range without battery mode	±20 %					
Frequency (auto selection)	50 Hz / 60 Hz ±5 Hz					
Current consumption at nominal load (max.)	4 A	5.4 A	7.5 A	9.7 A	12.4 A	16.1 A
UPS OUTPUT						
Rated output voltage/AVR technology	208 V AC / 220 V AC / 230 V AC (default) / 240 V AC ±10 % (±3 % free running)					
Frequency in battery mode	50 Hz / 60 Hz ±1 Hz					
Output current (at 230 V AC)	3.2 A	4.3 A	6.1 A	7.8 A	10 A	13 A
Transfer time at mains outage	2 – 6 ms (typical), 8 ms max.					
Voltage waveform	sinusoidal					
Overload response (VI operation)	<120 % for 5 min. / 120 – 150 % for 10 s / >150 % for 1 s					
Overload response (battery operation)	<110 % for 1 min. / 110 – 150 % for 10 s / 150 – 200 % for 500 ms					
BATTERY						
Type	Sealed, maintenance free (proprietary brand), hot swappable					
Integrated	Yes	Yes	Yes	Yes	Yes	Yes
Rated voltage	24 V DC		48 V DC		72 V DC	
Battery management	Temperature compensated with overload and deep discharge protection; automatic battery test; battery pack detection					
Autonomy time in min. (full/half-load, cos φ = 0.9lag)	3.5 / 10	3.5 / 11	5 / 13	4.5 / 13.5	3.5 / 13.5	4 / 11
Ditto UPS incl. battery expansion unit		14 / 36		17.5 / 43.5		15 / 36
Charging time (to 90 % rated capacity)	8 h					
COMMUNICATION						
User interface	LCD display with digital indication of relevant UPS values					
Interface (dual monitoring)	RS232 and USB (with status notification and UPS data), additional communication slot in parallel mode (SNMP / relay card); input contact for emergency power off					
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac)					
Failure indicators (acoustic/visual)	3 LED indicators show UPS status, detailed indication via LCD display (mains failure, overload, battery discharge, battery replace, fan failure)					
GENERAL DATA						
Efficiency (in ECO mode)	>97 %					
Efficiency (at whole AVR range)	>90 %					
Audible noise (1 m distance)	≤45 dB(A)				≤55 dB(A)	
Ditto in ECO mode and max. 70 % load	≤40 dB(A)				≤45 dB(A)	
Operating temperature range	0° – 40°C					
Humidity	0 – 90 % (without condensation)					
Operation altitude	Up to 1000 m at nominal load					
EMC conformity	EN 62040-2 Class C2, EN 61000-3-2, EN 61000-3-3					
Product safety	EN 62040-1					
Data line protection	RJ11 (telephone, fax, modem) / RJ45 (Ethernet 10 Mbit / s / 100 Mbit / s)					
Mains input	IEC 320 C14				IEC 320 C20	
Number of outputs/controllable via connectors	8 / 4 8 x IEC 320 C13				7 / 3 6 x IEC 320 C13, 1 x IEC 320 C19	
Equipment color	Black metal case / silver front					
Dimensions approx. W x H x D (mm)	482.6 (19") x 88 (2 U) x 420		482.6 (19") x 88 (2 U) x 520		482.6 (19") x 88 (2 U) x 640	
Weight approx. UPS incl. battery system	14.5 kg	15 kg	24 kg	25 kg	29 kg	29.5 kg
Battery expansion unit		16 kg (BP)		26.5 kg (BP)		39 kg (BP)
Shipment	Mains input cord (1 x EU, 1 x UK), 2 x device connection cables (10 A), additional cable (16 A) for Protect B. 2300 PRO and Protect B. 3000 PRO, 2 x mounting brackets, 2 x base feet, 1 x management software "CompuWatch" (CD), 5 network licenses, RS232 and USB cable, operating instructions					
Conformity	CE					

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PROTECT C.

SINGLE PHASE IN / OUT UPS SYSTEM

Uninterruptible Power Supply

1-Phase Input; 1-Phase Output

1000–10000 VA power supply
with integrated batteries



High-performance UPS system for IT applications

Thanks to genuine VFI technology (online / double conversion), Protect C. is suitable for all critical business applications.

The proven VFI topology of Protect C. protects against all network problems as a matter of principle. A sinus-shaped power feed is achieved under all load conditions at the input.

Highly integrated switches and a robust IGBT module reduce the number of electrical connections and components and therefore provide for increased reliability. A static bypass switch (SBS) and/or an automated bypass ensure additional safety in case of overload.

Maximum control

The bar displays for UPS load and battery capacity, as well as the clear pictogram of the system components provide information on the essential operating conditions.

Data is transmitted through an RS232 interface. With an optional SNMP (PRO) adapter, remote monitoring via a web browser and multi-server shutdown are possible.

The special AEG shutdown software "CompuWatch" is of course included.

Switchable in parallel

Protect C. 6000 and C. 10000 offer the possibility of parallel operation. Both active redundancy and higher availability are achieved with higher power requirements being taken into account.

The combination of power increase and active redundancy is also possible, as up to 3 devices can be switched in parallel.

Protect C. meets the highest security and availability requirements and allows for an economical implementation.

Main characteristics

- » VFI topology (online / double conversion) protects against all network problems
- » Micro processor control / digital signal processors for maximum availability
- » Sinus-shaped power feed (high-frequency pulse width modulation with IGBTs)
- » Static bypass switches (SBS) for Protect C. 6000 and C. 10000, additionally integrated maintenance bypass
- » n+x technology for Protect C. 6000 and C. 10000 for redundancy and performance increase
- » Extension slot for SNMP, potential-free contacts, remote panel
- » Also available as an S-version with reinforced charging rectifier
- » 36-month warranty with replacement service in advance (free registration required)

Classification VFI SS 211 acc. to IEC 62040-3	C. 1000	C. 2000	C. 3000		
Classification VFI SS 111 acc. to IEC 62040-3				C. 6000	C. 10000
Power type rating	1000 VA	2000 VA	3000 VA	6000 VA	10000 VA
	700 W	1400 W	2100 W	4200 W	7000 W
				Parallel connection	Parallel connection
Part number (UPS including integrated battery system)	600 000 5735	600 000 5736	600 000 5738	600 000 5877	600 000 5878
Part number (battery pack)	600 000 5739	600 000 5740	600 000 5740	600 000 5879	600 000 5880
Part number (UPS S-version)	600 000 4337	600 000 4338	600 000 4339	600 000 4340	600 000 4341
UPS INPUT					
Input voltage	220 V AC / 230 V AC / 240 V AC				
Voltage range without battery mode	160 – 300 V AC			176 – 276 V AC	
Frequency (auto selection)	50 Hz / 60 Hz ±4 Hz				
Mains current (system reaction)	λ ≥0.96			λ ≥0.98	
Current consumption at nominal load (max.)	7 A	10 A	16 A	31 A	50 A
UPS OUTPUT					
Rated output voltage (adjustable)	220 V AC / 230 V AC / 240 V AC ±2 %			220 V AC / 230 V AC / 240 V AC ±1 %	
Frequency in battery mode	50 Hz / 60 Hz ±0.2 %			50 Hz / 60 Hz ±0.1 %	
Output current (at 230 V AC)	4.3 A	8.7 A	13 A	26 A	43.4 A
Transfer time at mains outage	0 ms (without interruption)				
Voltage waveform	Sinusoidal, distortion THD <4 %				
Overload response (online operation)	<150 % for 30 s / 150 % for 300 ms			<130 % for 10 min. / 130 % for 1 s	
	Subsequent, transfer to bypass mode				
Crest factor	3 : 1				
Short circuit response	Short circuit proof (3 x I _N for 140 ms)				
BATTERY					
Type	Sealed, maintenance free, integrated (proprietary brand)				
Rated voltage (linked)	36 V DC	96 V DC		240 V DC	
Overload/ deep discharge protection	Yes				
Charging time (to 90 % rated capacity)	5 h			7 h	
COMMUNICATION					
Interfaces	RS232 (with status display and data), communications slot for SNMP, potential free relay contact				
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac)				
Failure indicators (acoustic/ visual)	LED display for UPS summary /battery capacity display, status display Indicators for mains failure, overload, battery charging, battery replacement, failure				
GENERAL DATA					
Efficiency AC – AC (at nominal load)	≥85 %		≥88 %	≥90 %	
Audible noise (1 m distance)	<45 dB(A)		<50 dB(A)	<55 dB(A)	
Operating temperature range	0° – 40°C				
Humidity	0 – 90 % (without condensation)				
Operation altitude	Up to 1000 m at nominal load				
EMC conformity	EN 62040-2 Class C1, EN 61000-3-2, EN 61000-3-3			EN 62040-2 Class C3	
Product safety	EN 62040-1				
Data line protection	RJ11 (telephone, fax, modem) / RJ45 (Ethernet 10 Mbit / s / 100 Mbit / s)				
Number of outputs	4 x IEC 320 C13	6 x IEC 320 C13	4 x IEC 320 C13	Secured terminal block	
			+ 1 x IEC 320 C19		
Equipment color	Blackline				
Dimensions approx. W x H x D (mm) UPS	145 x 220 x 400	192 x 340 x 460		260 x 720 x 570	
Dimensions approx. W x H x D (mm) battery	Integrated (not S-version battery pack same dimensions as UPS)				
Weight approx. UPS	15 kg	34 kg	35 kg	90 kg	93 kg
Weight approx. battery	19 kg	52 kg	52 kg	65 kg	68 kg
Shipment	Mains input cord, 3 device cords (Type C. 1000, C. 2000, C. 3000), parallel management cable (C. 6000 / C. 10000), management software “CompuWatch” (CD), communications cable, operating instructions				
Conformity	CE				

PROTECT C

SINGLE PHASE IN / OUT UPS SYSTEM

Uninterruptible Power Supply

1-Phase Input; 1-Phase Output

1000–10000 VA power supply
with integrated batteries



Uninterruptible security for applications in the SMB sector

Real VFI / double conversion online technology suitable for safe supply application-critical consumers in the IT environment such as workstations, servers, storage systems, as well as in the area of sensitive switching and control systems.

The new Protect C models in the performance levels in 1000, 2000 and 3000 VA range represent consistent further development of the well-proven and highly reliable series.

With the lag increased to 0.8, the power factor was taken into account for the demand for higher performance active consumers. The ECO and frequency inverter for operation mode highlights the requirements for a modern versatile UPS.

Optimal control and information

"Dual-monitoring" enabled interfaces extend communication opportunities. The universally usable communication slot also allows for the integration of SNMP network interface cards that allow for monitoring and management options, particularly multi-server shutdown. The AEG "CompuWatch" shutdown software is always included.

The multilingual graphical LCD display provides all the important operating states and values that can be stored and retrieved in addition to real-time data storage in plain text.

Main characteristics

- » VFI topology (online / double conversion) protection against all mains network problems
- » Extremely wide input voltage window of 110 VAC to 300 VAC without stress on the internal battery system and with a stable output voltage
- » ECO and frequency operating voltage possible
- » Expansion slot for SNMP, potential free contacts, remote display
- » Graphic LCD display with interactive multilingual user interface
- » Configuration options (password protected) via the operator terminal
- » Internal hardware data logger with plain text display and date / time stamp
- » Emergency power off on terminal block (potential-free)

Classification VFI SS 111* acc. to IEC 62040-3		C. 1000	C. 2000	C. 3000
Power type rating		1000 VA	2000 VA	3000 VA
		800 W	1600 W	2400 W
Part number (UPS including integrated battery system)	600 001 6103	600 001 6104		600 001 6105
Part number (additional battery pack)	600 001 6106	600 001 6107		
UPS INPUT				
Input voltage	220 VAC / 230 VAC / 240 VAC			
Voltage range without battery mode (load dependent)	110 – 300 VAC			
Frequency (auto selection)	50 Hz / 60 Hz ±10 Hz			
Mains current (system reaction)	λ ≥0.99 (THDi <5%)			
Current consumption at nominal load (max.) (at 230 VAC incl. max. battery charging current)	4.6 A	8.5 A	12.5 A	
UPS OUTPUT				
Rated output voltage (adjustable)	200 VAC / 208 VAC / 220 VAC / 230 VAC (default setting) / 240 VAC ±2 %			
Frequency in battery / frequency converter mode	50 Hz / 60 Hz ±0.2 Hz			
Nominal output current (at 230 VAC)	4.3 A	8.7 A	13 A	
Transfer time at mains outage	0 ms (without interruption)			
Voltage waveform	Sinusoidal, distortion <3 %			
Overload response (double conversion & battery mode)	<110 % for 60 s / 110 % up to <125 % for 30s / 125 % up to 150 % for 10s Subsequent, transfer to bypass mode (if bypass available)			
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			
Rated voltage (linked)	36 VDC	96 VDC		
Battery management	Exhaustive discharge protection / Protection against excess load Automatic battery test (daily, weekly, monthly)			
Charging time (to 90 % rated capacity)	5 h			
COMMUNICATION				
Interfaces (dual monitoring)	RS232, USB, communication slot (can be used parallel with RS232 / USB), input contact for emergency power off			
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac, Unix)			
User interface / failure indication (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)	>93 %	>94 %		
Efficiency at nominal load (double conversion mode)	>87%	>88 %		
Audible noise (1 m distance)	≤44 dB(A)	≤49 dB(A)		
	with intelligent fan speed control and fan monitoring			
Temperature range	0 – 45 %			
Humidity	0 – 95 % (no condensation)			
Operation altitude	Up to 1000 m at nominal load			
EMC conformity	EN 62040-2 Class C1, EN 61000-3-2, EN 61000-3-3			
Product safety	EN 62040-1			
Mains input	IEC 320 C14		IEC 320 C20	
Number of outputs	4 x IEC 320 C13	6 x IEC 320 C13	4 x IEC 320 C13	
			1 x IEC 320 C19 + terminal	
Equipment color	Blackline with silver colored front cover			
Dimensions approx. W x H x D (mm) UPS	145 x 220 x 400	190 x 345 x 460		
Dimensions approx. W x H x D (mm) battery	Integrated (additional battery pack same dimensions as UPS)			
Weight approx. UPS	13 kg	31 kg		
Weight approx. battery	19 kg	52 kg		
Shipment	Mains input cord, 2 device cords, communication cable (USB), management software "CompuWatch" (CD), incl. 5 network licences, operating instructions			
Conformity	CE			

* excl. ECO / Bypass mode

PROTECT C.
6000/10000



High-performance UPS system for IT applications

Thanks to genuine VFI technology (online/double conversion), Protect C is suitable for all critical business applications.

The proven VFI topology of Protect C protects against all network problems as a matter of principle. A sinus-shaped power feed is achieved under all load conditions at the input.

Highly integrated switches and a robust IGBT module reduce the number of electrical connections and components and therefore provide for increased reliability. A Static Bypass Switch (SBS) and/or an automated bypass ensure additional safety in case of overload.

Maximum control

The bar displays for UPS load and battery capacity, as well as the clear pictogram of the system components provide information on the essential operating conditions.

Data is transmitted through an RS232 interface. With an optional SNMP (PRO) adapter, remote monitoring via a web browser and multi-server shutdown are possible.

The special AEG shutdown software "CompuWatch" is of course included.

Switchable in parallel

Protect C. 6000 and C. 10000 offer the possibility of parallel operation. Both active redundancy and higher availability are achieved with higher power requirements being taken into account.

Also, the combination of power increase and active redundancy is possible, as up to 3 devices can be switched in parallel.

Protect C meets the highest security and availability requirements and allows for an economical implementation.

Main characteristics

- » VFI topology (online/double conversion) protects against all network problems
- » Micro processor control/digital signal processors for maximum availability
- » Sinus-shaped power feed (high-frequency pulse width modulation with IGBTs)
- » n+x technology for redundancy and performance increase
- » Extension slot for SNMP, potential-free contacts, remote panel
- » Also available as an S-version with reinforced charging rectifier
- » Space saving design with integrated battery system
- » Integrated fault operation security for manual bypass switch

Classification VFI SS 111 acc. to IEC 62040-3	C. 6000	C. 10000
Power type rating	6000 VA	10000 VA
	4200 W	7000 W
	Parallel connection	Parallel connection
Part number (UPS including integrated battery system)	600 000 5877	600 000 5878
Part number (battery pack)	600 000 5879	600 000 5880
Part number (UPS S-version)	600 000 4340	600 000 4341
UPS INPUT		
Input voltage	220 VAC / 230 VAC / 240 VAC	
Voltage range without battery mode	176 – 276 VAC	
Frequency (auto selection)	50 Hz / 60 Hz ±4 Hz	
Mains current (system reaction)	λ ≥0.98	
Current consumption at nominal load (max.)	31 A	50 A
UPS OUTPUT		
Rated output voltage (adjustable)	220 VAC / 230 VAC (default) / 240 VAC ±1 %	
Frequency in battery mode	50 Hz / 60 Hz ±0.1 %	
Output current (at 230 VAC)	26 A	43.4 A
Transfer time at mains outage	0 ms (without interruption)	
Voltage waveform	Sinusoidal, distortion THD <4 %	
Overload response (online operation)	<130 % for 10 min. / 130 % for 1 s Subsequent, transfer to bypass mode	
Crest factor	3 : 1	
Short circuit response	Short circuit proof (3 x I _N for 140 ms)	
BATTERY		
Type	Sealed, maintenance free, integrated (proprietary brand)	
Rated voltage (linked)	240 VDC	
Overload/deep discharge protection	Yes	
Charging time (to 90 % rated capacity)	7 h	
COMMUNICATION		
Interfaces	RS232 (with status display and data), communications slot for SNMP, potential free relay contact	
Shutdown software (on CD)	5 network licenses for all common OS (e.g. Windows, Linux, Mac)	
Failure indicators (acoustic/visual)	LED display for UPS summary /battery capacity display, status display Indicators for mains failure, overload, battery charging, battery replacement, failure	
GENERAL DATA		
Efficiency AC – AC (at nominal load)	≥90 %	
Audible noise (1 m distance)	<55 dB(A)	
Operating temperature range	0° – 40°C	
Humidity	0 – 90 % (without condensation)	
Operation altitude	Up to 1000 m at nominal load	
EMC conformity	EN 62040-2 Class C3	
Product safety	EN 62040-1	
Mains input	Secured terminal block	
Consumer outputs	Secured terminal block	
Equipment color	Blackline with silver colored front cover	
Dimensions approx. W x H x D (mm) UPS	260 x 720 x 570	
Dimensions approx. W x H x D (mm) battery	Integrated (not S-version battery pack same dimensions as UPS)	
Weight approx. UPS	90 kg	93 kg
Weight approx. battery	65 kg	68 kg
Shipment	Parallel connection cable, management software “CompuWatch” (CD), communications cable, operating instructions	
Conformity	CE	

Ease of use

Protect C.

High performance UPS-system for IT and electronic data processing in medium-sized companies.

Due to true online / double-conversion technology Protect C. is well suited for mission-critical applications such as sensitive networks, small computer centers, Intranet and Internet servers, telecom applications as well as for industrial applications. The Protect C. employs VFI topology to protect loads against all public grid disturbances. On the input side sine wave shape current consumption is achieved for all load conditions. High integrated circuits reduce the number of electric connections and components as well as a robust IGBT module, the result: less and more robust components increasing reliability. An automatic bypass provides security during overload.

Maximum control:

Bar displays UPS load and battery capacity and the clearly organized pictogram also informs the operator about the most important aspects of the operating status. Important UPS data can be transmitted via RS232 interface.

Web browser remote monitoring and multi-server shutdown are all possible with an optional SNMP adapter. "CompuWatch" shutdown and reboot software is included for implementing these features.

Parallel operations:

Protect C. 6000 and C. 10000 are also able to be switched parallel. Demand for greater availability by providing an active redundancy as well as a need for increased output power is met here. The combined power increase in connection with active redundancy can be achieved by the parallel switch having the ability to switch a maximum of 3 devices. The key factors are meeting the highest requirements for safety and availability as well as maintaining a cost efficient implementation.



AEG Protect C.
Available as Tower or for 19"
rack mounting.



Intelligent functions, high level protection:

- VFI-topology (double-conversion): Protects against all mains power disturbances
- Microprocessor control / DSP guarantees highest availability
- Sine wave shaped current consumption (High frequency PWM with IGBTs)
- Automatic bypass, additional integrated service bypass at 6 and 10 kVA (tower)
- Redundancy due to n+x configuration at 6 and 10 kVA; increase in power output / safety and availability
- Expansion slot for extension cards SNMP / relay-card / USB / potential free contacts



PERFECT IN FORM AND FUNCTION

AEG

Protect C: technical specifications

Classification VFI SS 211 acc. to IEC 62040-3	C. 1000	C. 2000	C. 3000		
Classification VFI SS 111 acc. to IEC 62040-3				C. 6000	C. 10000
Type rating	1000 VA	2000 VA	3000 VA	6000 VA	10000 VA
	700 W	1400 W	2100 W	4200 W	7000 W
				Parallel operations (n+x)	

UPS-Input

Input voltage	220 Vac / 230 Vac / 240 Vac				
Input voltage range without battery mode	160 – 300 Vac			176 – 276 Vac	
Frequency	50 Hz / 60 Hz ± 4 Hz				
Power factor	≥ 0.96			≥ 0.98	
Current consumption (max.)	7 A	10 A	16 A	31 A	50 A

UPS-Output

Rated output voltage	220 Vac / 230 Vac / 240 Vac ± 2 %			± 1 %			
Frequency in battery mode	50 Hz / 60 Hz ± 0.2 %			± 0.1 %			
Output current (at 230 Vac)	4.3 A	8.7 A	13 A	26 A	43.4 A		
Transfer time at mains outage	0 ms (zero transfer)						
Voltage waveform	Sinusoidal, THD < 4%						
Overload response (online mode)	140 % 30 s / 150 % 300 ms			125 % 10 min / 130 % 1 s			
	subsequent, transfer to bypass mode						
Crest factor	3						
Short-circuit response	Short-circuit-proof						

Battery

Type	Sealed, maintenance free				
Rated voltage	36 Vdc	96 Vdc		240 Vdc	
Autonomy time (full load / half load)	6 min./20 min.	10 min./30 min.	5 min./16 min.	8 min./ 25 min.	5 min./15 min.
	Runtime extension with scalable external battery packs				
Overload / deep discharge protection	Yes	Yes	Yes	Yes	Yes
Recharge time (to 90 % of rated capacity)	5 h	5 h	5 h	5 h	7 h

Communication

Interfaces	RS232 for UPS configuration, status and measurement levels, SNMP, AS 400, USB optional				
Shutdown software	Included for all typical operating systems (e.g. Windows, Mac, Linux, Unix, Sun, etc), single licence CompuWatch with a 5 fold network licence				
Failure indicators (acoustical / optical)	LED bar graph for UPS load and battery capacity, indicators for mains failure, overload, battery discharge, battery replace, failure				

General data

Efficiency total	≥ 85 %			≥ 88 %		> 90 %	
Audible noise (1 m distance)	< 45 dB (A)			< 50 dB (A)		< 55 dB (A)	
Operating temperature range	0° – 40°C						
EMC immunity	EN 50091-2, EN 61000-3-2					EN 50091-2	
EMC emission	EN 61000-6-3 Class B					EN 61000-6-3 > 25 A	
Data lines protection	RJ11 (Phone, Fax, Modem) / RJ45 (Ethernet 10 Mbit/s / 100 Mbit/s)						
Humidity	0 - 90 % (non condensing)						
Installation height	Up to 1000 m, at nominal load						
Number of outlets	Tower	4 x IEC 320 C13	6 x IEC 320 C13	4 x IEC 320 C13	Terminal block		
				+ 1 x IEC 320 C19			
	Rack	4 x IEC 320 C13		1 x IEC 320 C13	Groundline		
				+ 1 x IEC 320 C19	+ 4 x IEC 320 C13	-	
Equipment colour	Blackline						
Size appr.W x H x D (mm)	Tower	145 x 220 x 400	192 x 340 x 460		260 x 717 x 570		
	Battery	integrated	integrated		integrated		
	Rack	482.6 x 88 x 450	482.6 x 88 x 450		482.6 x 132 x 600		-
	Battery	integrated	482.6 x 88 x 450		482.6 x 132 x 600		-
Weight appr. (kg)	Tower	15 kg	34 kg	35 kg	90 kg	93 kg	
	Rack	16.5 kg	10 kg + 29 kg	11 kg + 29 kg	18 kg + 64 kg	-	
Shipment	Mains-Cord, 3 load-cords (type C.1000, C.2000, C.3000), communication cable, management software "CompuWatch", user-manual						
Certification	CE						

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



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)

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 complement 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	10000 VA
	5400 W	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	

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