

Ease of use

Protect 1.M

Modular high performance UPS system for IT environments.



Conceived for all IT applications, where high availability and safety reserves are required whilst at the same time maintaining complete flexibility.

PERFECT IN FORM AND FUNCTION

AEG

Protect 1.M: technical specifications

Classification VFI SS 111 acc. to IEC 62040-3	Protect 1.M	
	UPS module	System unit with max. 6 x 4 kVA
Type power	4 kVA	24 kVA
	2.8 kW	16.8 kW
n+x scalable technology		
UPS-input		
Input voltage (auto. detection)	230 Vac (1/N/PE~) or 400 / 230 Vac (3/N/PE~)	
Input voltage range without battery mode	160 – 300 Vac (1ph~) or 277 – 520 Vac (3ph~)	
Frequency	50 Hz / 60 Hz \pm 4 Hz	
Current consumption (max.)	22 A (1ph~) / 7.3 A (3ph~)	132 A (1ph~) / 44 A (3ph~)
Power factor	$\lambda \geq 0.98$	
USV-output		
Rated output voltage	220 Vac / 230 Vac / 240 Vac \pm 2 % (adjustable)	
Frequency in battery mode	50 Hz / 60 Hz \pm 0,2 Hz	
Output current	17.4 A	104.4 A
Transfer time at mains outage	0 ms (zero transfer)	
Voltage waveform	Sinusoidal, THD < 3%	
Overload response (online mode)	125 % for 30 s / 130 % for 2 s subsequent, transfer to bypass mode (zero transfer)	
Crest factor	3:1	
Battery		
Nominal voltage	120 Vdc	
Load characteristic	IU - characteristic curve (charging voltage 137 Vdc/charging current max. 3.5 Adc)	
Autonomy time	Free to choose runtime extension with scalable external battery pack (available modules with 28, 42 or 65 Ah), service life: 10 – 12 years (EUROBAT)	
Overload / deep discharge protection	Yes	
Communication		
Interfaces (dual monitoring)	RS232 / RS485 for status and measurement levels, communication slot (for volt free contacts / SNMP)	
Shutdown software (on CD)	Included for all typical operating systems (e.g. Windows, Mac, Linux, Unix, FreeBSD, Novell, Sun, etc.), single licence CompuWatch with a 5 fold network licence	
Failure indicators (acoustic / visual display)	LCD with digital information of input and output parameters (voltage, frequency, power etc.), battery parameter incl. failure diagnosis by password protected level, LED for status and main failures	
General data		
Efficiency	> 89 %	> 88 %
Audible noise (1 m distance)	< 55 dB (A)	< 62 dB (A)
Operating temperature range	0° – 40°C	
EMC immunity	EN 50091-2, EN 61000-3-2, EN 61000-3-3	
EMC emission	EN 61000-6-3 Class A	
Humidity	20 % – 90 %	
Installation height	Up to 1500 m, at nominal load	
Equipment colour	Black	
Size appr. W x H x D (mm) UPS unit	442 x 965 x 700 (chassis) / module: 405 x 87 x 530	
Size appr. W x H x D (mm) battery unit	442 x 965 x 700	
Weight appr. (kg) UPS unite	75 kg (chassis) + 15 kg each module	
Weight appr. (kg) battery unit	MBP 28: 160 kg, MBP 42: 200 kg, MBP 56: 255 kg, MBP 65: 270 kg, MBP 84: 335 kg	
Shipment	Parallel operation cable, communication cable, management software "CompuWatch" (CD), user-manual	
Certification	CE	

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You expect a technically convincing solution, which can be adapted flexibly to increasing requirements. With sufficient power and safety reserves. Easy to operate and designed to be easy to maintain. With an optimal price / performance ratio.

Power failure as well as over and under voltages mean in the worst case complete loss of data. Denied access to company critical applications almost always leads to operational disturbances even to loss of production. A nightmare scenario for all those responsible for IT and EDP.

Networks, workstations, Intra and Internet servers, telecommunication applications and all other company services must therefore be permanently available as well as being protected against all kinds of disturbances to the power supply.

Implementation of the VFI (double conversion) technology of AEG Protect 1.M reliably protects your system against all power supply problems e.g. power failure, excess voltage, reduced voltage, voltage fluctuations, non-linear distortions, frequency fluctuations etc.

Modularity provides safety reserves:

Protect 1.M is an uninterruptible power supply which is highly reliable and efficient. The compact modular design of Protect 1.M permits flexible increase of the UPS power to max. 24kVA with 4kVA automatic contact hot-swap modules, allowing the system to be extended during live operation.

For this, each module provides an independent UPS with complete function and works independently from a central control unit.



Modules are hot swappable. Additional cabling is not necessary.



Intelligent monitoring:

Protect 1.M uses the installed, efficient communication module to collect the information of the individually monitored modules, via the network within the unit. All information is clearly shown on a LCD display, which simplifies the operation of the UPS. All technical parameters can also be called up and controlled online using the "CompuWatch" software.

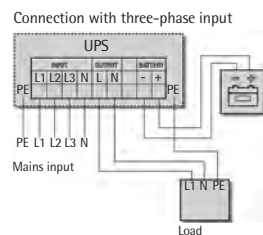
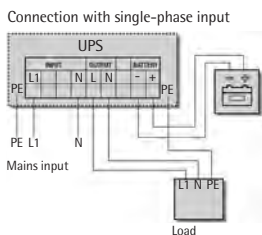


Parallel operation:

On the one hand, n+x technology allows a flexible adjustment of the power capacity of your UPS at any time. On the other hand, the modular construction provides an active parallel redundancy and thereby a high safety reservoir.

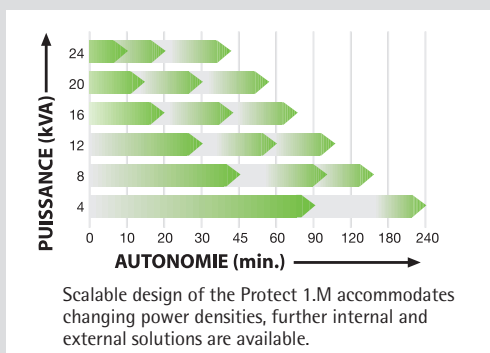
Intelligent monitoring via display or software, as well as the possibility of using standard batteries, or AEG Power Solutions bespoke battery systems make the Protect 1.M in terms of operation and service, the complete system of choice.

- **High power reserves max. 24 kVA total output**
Up to 6 UPS modules each with 4 kVA power can be installed
- **High safety reserves n+x technology**
Flexible capacity adjustment by increasing or decreasing the number of modules; Active multi parallel redundancy as a result of individual module autonomy (no central control unit!)
- **Integrated static bypass switch**
 - Passive redundancy as a result of the integrated static bypass switch again increases the availability of the total system and provides security during overload
 - An additional integrated manual bypass switch, secured against operation error, allows bypassing the UPS for service purpose
- **3 phase or 1 phase connection of the complete system; 1 phase output**
Automatic network recognition enables operation of Protect 1.M to be selected for single phase or three phase current
- **High autonomy time during power failure**
Standard modules available ex factory
- **Manufacturer independent standard batteries**
For initial equipment or later replacement
- **Intelligent battery management**
Several algorithm to select for automatic monitoring of the batteries as well as protective, fast re-charging intelligent battery charger
- **Hot-swappable – easy to exchange modules**
 - Simple plug & play principle for replacing modules
 - Module removal / addition during operation
 - Automatic connection, no additional cable connections necessary
- **Module design in slide-in type in the compact tower**
Suitable for 19" rack
- **Communication module with LCD display, Dual monitoring interface with extension slot**
SNMP cards (amongst other things with connector for additional measurement sensors monitoring and intelligent load switch), also RS232 / RS485 interfaces
- **Software "CompuWatch" on CD**
Available for Windows (MS Windows 98 or higher), MAC (OS X), Linux, Free BSD, Sun, UNIX, Novel, etc.



The AEG UPS Protect 1.M includes two input modes, single-phase input and three-phase input.

It also recognizes the input mode and chooses the corresponding operating mode automatically.



PROTECT 1.M provides RS232, RS485 connectors and an expansion slot e.g. for relaycard and SNMP.



Connecting terminal.