

# Power Safety

## Protect 3.M 2.0

Modular UPS System

Uninterruptible Power Supply

3-Phase Input; 3-Phase Output

Hot swappable power modularity

20 – 80 kVA

20 – 120 kVA



### Energy management is our Business

UPS solutions engineered by AEG Power Solutions have been protecting Data Centers and all type of industrial applications for more than 60 years.

AEG Power Solutions new modular UPS P3.M 2.0 is a technically convincing solution that can be flexibly adapted to increasing requirements. With sufficient power and safety reserves. Easy to operate and easy to maintain. Optimal price-performance ratio.

- Hot-swappable modular design for replacing or adding power modules without shutting down load.
- N+X parallel redundancy for reliability and flexibility
- Parallel configuration up to 4 times P3.M 2.0 for power expansion (up to 480 kVA)
- Easy servicing
- Built in maintenance and static bypass switches
- High Input power factor (pf>0,99) and low harmonic distortion
- High efficiency (up to 97%)

PERFECT IN FORM AND FUNCTION

**AEG**

# Power Safety

## Protect 3.M 2.0

Modular UPS System, Parallel Redundancy,  
Fully Digital, 20 – 120 kVA

Power failures, overloads and undervoltage can lead in the worst case to loss of data. Denied access to company-critical applications almost always leads to operational disturbances, even to loss of production. Networks, workstations, intranet and internet servers, telecommunications and other company applications must therefore be available at all times and must also be protected against any disturbances to the power supply. Implementation of the VFI (double conversion) technology of AEG's Protect 3.M 2.0 protects your system reliably against all power supply problems, e.g. power failure, surges, undervoltage, voltage fluctuations, non-linear distortions, frequency fluctuations, etc.

### Modularity provides safety reserves

Protect 3.M 2.0 is an uninterruptible power supply which is highly reliable and efficient. The modular design of Protect 3.M 2.0 permits a flexible increase of the UPS power up to 480 kVA maximum with 20 kVA automatic contact hot-swap modules. This technology allows the system to be extended during operation.

Modules are hot-swappable.

Additional cabling is not necessary.

- **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
- **High-power reserves with a maximum total power output of 480 kVA**
  - Up to 6 UPS modules with 20 kVA each can be installed in one P3.M 2.0 cabinet
  - Up to 4 UPS cabinets up to 120 kVA each can be paralleled
- **Parallel Operation**

N+X technology allows a flexible adjustment of the power capacity of your UPS at any time. At the same time the modular construction provides active parallel redundancy and thereby a high safety reservoir.

### Intelligent Supervision

Protect 3.M 2.0 uses an efficient communication module to collect information from the individually monitored power modules via the network within the unit. All information is clearly shown on a LCD display, which simplifies operation of the UPS.



- **Multilingual and wide LCD display** for user friendly operation.
- **Monitoring interface** with SNMP adapter and RS232/RS485 interfaces.



Classification VFI SS 111 acc. to IEC 62040-3	Protect 3.M small rack	Protect 3.M tall rack
Type power	80 kVA	120 kVA
	64 KW	96 KW
Max. modules per rack	4	6

**UPS input**

Input voltage	400/230Vac
Frequency	50/60Hz (Auto-Selectable)
Frequency range	+/-5 Hz
Power factor	> 0.99 (Full Load)
THD (i)	<5%

**UPS output**

Rated output voltage	400/230Vac
Frequency	50/60Hz +/-0,05%
THD (v)	≤3%
Transfer time at mains outage	0 ms (zero transfer)
Voltage waveform	sinusoidal
Overload response (online mode)	<125% for 10 min. <150% for 1 min >150% for 0,3 sec
Crest factor	≤ 2,5

**BATTERY**

Nominal voltage	± 240 Vdc
Autonomy time	Free to choose runtime extension with additional external battery
Overload/deep discharge protection	yes

**COMMUNICATION**

Interfaces	RS232/RS485 for status and measurement values, communication slot (for pot.-free contacts and SNMP adapter)
Failure indicators (acoustic/optical)	LCD with digital information of input and output parameters (voltage, frequency, power etc.) battery parameter etc., LED for status and main failures

**GENERAL DATA**

Efficiency (total)	> 94 % (>97% in ECO Mode)
Audible noise (1 m distance)	< 70dBA
Operating temperature range	0 – 40 °C
Humidity	<90%
Installation height	Up to 3000m at nominal load
Equipment colour	RAL 7035

**WEIGHTS AND DIMENSIONS**

Weight approx. (module)	30 kg
(Empty rack)	139 kg
(with maximum modules)	259 kg
Size approx. W x H x D (mm)	520 x 1165 x 910
	204 kg
	384 kg
	520 x 1665 x 975

# Protect 3.M 2.0 Modular UPS System

## Battery management

As far as operation and service are concerned, intelligent monitoring via the display or system software, as well as the possibility of using standard batteries, make Protect 3.M 2.0, your preferred choice system.

- **Manufacturer-independent standard batteries** for initial equipment or later replacement.
- **Scheduled battery test** for extended battery lifecycle.
- **Intelligent battery management;** battery current measuring to provide useful charging & discharging measuring data for "advanced battery management" and useful information to users.

## Protect 3.M 2.0:

### Customer benefits:

- Low purchasing & installation costs
- Low electricity costs
- Low maintenance costs
- Low cooling costs
- Low space costs
- Low up-scaling costs
- Low generator costs

### Highlights:

- N+X redundancy capability
- Easy inventory management
- High flexibility in system configuration
- High input power (pf>0,99)
- Low harmonic distortion (THDi <5%)
- High efficiency >94%
- ECO mode
- IGBT technology
- dual input-separated rectifier and bypass input
- Fan speed control

## Services

With over 60 years of expertise in power systems and solutions, AEG Power Solutions is renowned for its unparalleled services and technical support in critical application environments. As the world class system provider, you can rely on a global network of 20 Service Centers supported by over 150 field engineers and more than 100 certified service partners around the world. From the power solution selection to your process installation and commissioning, our certified experts go beyond your expectations by offering service excellence that will ensure the lowest operational cost for your mission-critical equipment. The reliability of your installed power solution is supported by a Global Service Team renowned for its short response time and trouble shooting efficiency. Choosing one of the Pro Care™ Preventive Maintenance Options gives you the ultimate peace of mind reassuring complete cost control, security and uninterrupted power supply in utmost critical situations.

You can also benefit from a full range of professional services that will protect and ensure the durability of your investment and will take over when you need it the most:

- Pro Care™ Preventive Maintenance Options
- Turnkey solutions
- Installation & commissioning
- Maintenance services
- E-Service / remote monitoring
- 24/7 hotline
- Onsite training
- Hot swapping
- Onsite battery replacement
- Battery monitoring
- Facility and equipment management
- 24/7 global onsite contracts
- Power quality assessment
- Load bank & site capacity analysis
- Trouble shooting and repair.

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