

Protect 8 - 220V DC BROCHURE

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PROTECT 8.

INDUSTRIAL UPS

Protect 8.31 Single Phase output
10 kVA – 120 kVA

Protect 8.33 Three Phase output
10 kVA – 120 kVA

400 V AC Input
220 V DC Link

The "Building Block" UPS



Engineering is our business

UPS systems from AEG Power Solutions ensure the continuous availability of all your global industrial requirements in Oil & Gas, Petrochemical, Power Generation, Transportation and other heavy industries.

Designed for all Industrial Applications

The state-of-the-art, double-conversion topology and "building block" design of the Protect 8 Uninterruptible Power Supply (UPS) is flexible, meets practically all conceivable customer requirements, and is suitable for use in harsh environments.

With the Protect 8, you will benefit from a robust and easy to operate UPS meeting the relevant EMC and other international standards. With an expected lifetime of at least 20 years, the Protect 8 is a robust and cost-effective solution optimized for minimal operating costs. Designed for highly demanding applications including Oil & Gas, Petrochemical, Power Generation and Heavy Industry, the Protect 8 will ensure safe operation of your critical loads and give you peace of mind, wherever reliability, availability and maintainability are required.

Unique Design

The Protect 8 is designed with a modular "building block" approach to meet the toughest product customization requirements:

- » Specific ingress protection degrees
- » Specific input & output voltages
- » Specific batteries and autonomy times
- » Documentation
- » Communication

Further benefits include a guaranteed short lead time, extremely high electrical and mechanical robustness, high reliability and a small footprint.

PROTECT 8.31

SPECIFICATION
SINGLE PHASE OUTPUT



| MODEL | P8.31-10 | P8.31-20 | P8.31-30 | P8.31-40 | P8.31-60 | P8.31-80 | P8.31-100 | P8.31-120 |
|---|--|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Nominal rating (at cos φ 0.8 lag) in kVA | 10 | 20 | 30 | 40 | 60 | 80 | 100 | 120 |
| RECTIFIER UNIT | | | | | | | | |
| Input nominal voltage | 3 x 400 V (3 x 380 V, 3 x 415 V) | | | | | | | |
| Input operating range (min./max.) | 340 V–460 V | | | | | | | |
| Frequency | 50/60 Hz ±10 % | | | | | | | |
| Input current in A at nominal load | 16 | 35 | 56 | 68 | 100 | 134 | 166 | 200 |
| Charging characteristic to IEC 478-10 | IU | | | | | | | |
| Nominal DC voltage | 220 V | | | | | | | |
| Rectifier type - Standard - Optional | 6 pulse Filter | 6 pulse Filter | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse |
| INVERTER UNIT | | | | | | | | |
| DC input | 216 V ± 20 % | | | | | | | |
| Nominal AC voltage | 230 V (220 V, 240 V) | | | | | | | |
| Output voltage static response | < ± 1 % | | | | | | | |
| Output voltage dynamic response | < ± 2 % | | | | | | | |
| Recovery time | 1 ms | | | | | | | |
| Frequency | 50/60 Hz | | | | | | | |
| Frequency tolerance without mains | ± 0.1 % | | | | | | | |
| Frequency synchronisation range | ± 1 % (± 2 %, ± 3 %) | | | | | | | |
| Allowable load power factor | 0.0 lag to 0.0 lead | | | | | | | |
| Output phase current in A | 43 | 87 | 130 | 174 | 261 | 348 | 435 | 522 |
| Voltage wave form | sinusoidal | | | | | | | |
| Voltage distortion | ≤ 3% | | | | | | | |
| Crest factor | max. 3 | | | | | | | |
| Overload response 1 min. | 150 % | | | | | | | |
| Overload response 10 min. | 125 % | | | | | | | |
| Max short circuit current | > 3 x I nom | | | | | | | |
| STATIC BYPASS SWITCH | | | | | | | | |
| AC voltage | 230 V (220 V, 240 V) | | | | | | | |
| Frequency | 50/60 Hz | | | | | | | |
| Nominal power in kVA | 10 | 20 | 30 | 40 | 60 | 80 | 100 | 120 |
| GENERAL DATA | | | | | | | | |
| Efficiency (AC to AC) – typical | up to 90 %/> 95 % with ECO Mode | | | | | | | |
| Noise level depending on rating | < 55–70 dB (A) | | | | | | | |
| EMC compatibility | EN 62040-2 | | | | | | | |
| Air cooling with redundant and monitored fans | Yes | | | | | | | |
| Operating temperature range min./max. (without de-rating) | – 5° C/+ 40° C | | | | | | | |
| Storage temperature range min./max. | – 30° C/+ 75° C | | | | | | | |
| Maximum altitude without de-rating | 1000 m | | | | | | | |
| Protection degree IEC 529/EN 60529 standard system | IP20, IP21/as option IP43 (>IP43 engineered) | | | | | | | |
| Equipment colour | RAL 7035 | | | | | | | |
| WEIGHTS AND DIMENSIONS | | | | | | | | |
| Height standard UPS (mm) | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 |
| Height with max. options (mm) | 1915 | 1915 | 1915 | 1915 | 2015 | 2015 | 2015 | 2015 |
| Width (mm) | 600 | 900 | 900 | 900 | 1200 | 1500 | 1800 | 1800 |
| Depth (mm) | 860 | 860 | 860 | 860 | 860 | 860 | 860 | 860 |
| Weight (kg) ~ | 350 | 500 | 700 | 700 | 1000 | 1200 | 1500 | 1500 |

PROTECT 8.33

SPECIFICATION
THREE PHASE OUTPUT



| MODEL | P8.33-10 | P8.33-20 | P8.33-30 | P8.33-40 | P8.33-60 | P8.33-80 | P8.33-100 | P8.33-120 |
|---|--|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Nominal rating (at cos φ 0.8 lag) in kVA | 10 | 20 | 30 | 40 | 60 | 80 | 100 | 120 |
| RECTIFIER UNIT | | | | | | | | |
| Input nominal voltage | 3 x 400 V (3 x 380 V, 3 x 415 V) | | | | | | | |
| Input operating range (min./max.) | 340 V–460 V | | | | | | | |
| Frequency | 50/60 Hz ±10 % | | | | | | | |
| Input current in A at nominal load | 16 | 35 | 56 | 68 | 100 | 134 | 166 | 200 |
| Charging characteristic to IEC 478-10 | IU | | | | | | | |
| Nominal DC voltage | 220 V | | | | | | | |
| Rectifier type - Standard - Optional | 6 pulse Filter | 6 pulse Filter | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse |
| INVERTER UNIT | | | | | | | | |
| DC input | 216 V ± 20 % | | | | | | | |
| Nominal AC voltage | 3 x 400 V (3 x 380 V, 3 x 415 V) | | | | | | | |
| Output voltage static response | < ± 1 % | | | | | | | |
| Output voltage dynamic response | < ± 2 % | | | | | | | |
| Recovery time | 1 ms | | | | | | | |
| Frequency | 50/60 Hz | | | | | | | |
| Frequency tolerance without mains | ± 0.1 % | | | | | | | |
| Frequency synchronisation range | ± 1 % (± 2 %, ± 3 %) | | | | | | | |
| Allowable load power factor | 0.0 lag to 0.0 lead | | | | | | | |
| Output phase current in A | 14 | 29 | 43 | 58 | 87 | 116 | 145 | 173 |
| Voltage wave form | sinusoidal | | | | | | | |
| Voltage distortion | ≤ 3% | | | | | | | |
| Crest factor | max. 3 | | | | | | | |
| Overload response 1 min. | 150 % | | | | | | | |
| Overload response 10 min. | 125 % | | | | | | | |
| Max short circuit current | > 3 x I nom | | | | | | | |
| STATIC BYPASS SWITCH | | | | | | | | |
| AC voltage | 3 x 400 V (3 x 380 V, 3 x 415 V) | | | | | | | |
| Frequency | 50/60 Hz | | | | | | | |
| Nominal power in kVA | 10 | 20 | 30 | 40 | 60 | 80 | 100 | 120 |
| GENERAL DATA | | | | | | | | |
| Efficiency (AC to AC) – typical | up to 90 %/> 95 % with ECO Mode | | | | | | | |
| Noise level depending on rating | < 55–70 dB (A) | | | | | | | |
| EMC compatibility | EN 62040-2 | | | | | | | |
| Air cooling with redundant and monitored fans | Yes | | | | | | | |
| Operating temperature range min./max. (without de-rating) | – 5° C/+ 40° C | | | | | | | |
| Storage temperature range min./max. | – 30° C/+ 75° C | | | | | | | |
| Maximum altitude without de-rating | 1000 m | | | | | | | |
| Protection degree IEC 529/EN 60529 standard system | IP 20, IP 21 & IP43 (>IP43 engineered) | | | | | | | |
| Equipment colour | RAL 7035 | | | | | | | |
| WEIGHTS AND DIMENSIONS | | | | | | | | |
| Height standard UPS (mm) | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 | 1810 |
| Height with max. options (mm) | 1915 | 1915 | 1915 | 1915 | 2015 | 2015 | 2015 | 2015 |
| Width (mm) | 900 | 900 | 900 | 900 | 1200 | 1500 | 1800 | 1800 |
| Depth (mm) | 860 | 860 | 860 | 860 | 860 | 860 | 860 | 860 |
| Weight (kg) ~ | 600 | 600 | 700 | 700 | 1100 | 1100 | 1700 | 1700 |

Protect 8. Highlights

- » The new generation of AEG Power Solution UPS
- » More than 60 years experience in UPS business summarized in Protect 8
- » Modern modular „Building block“ to meet all customization requirements
- » True on-line double conversion UPS (VFI SS 111)
- » UPS designed for industrial applications
- » Short lead time
- » High robustness for harsh working environments
- » Redundant controls for high reliability
- » Small footprint
- » High efficiency even at low output power
- » Compatible with every type of battery
- » Full digital control
- » Top class communication platform.

Batteries

AEG Power Solutions has considerable in-house knowledge in battery technology and is able to offer expert advice on the specifying, selection, operation and testing of batteries. Our total system solutions include a wide range of products using lead acid and nickel-cadmium batteries in vented and gas recombination technologies. Replacement batteries can be supplied and installed by our Global Service Team.

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 Services 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 uninter-

rupted 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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