

PROTECT 3

INDUSTRIAL UPS

Protect 3.31 Single Phase output
10 kVA – 60 kVA

Protect 3.33 Three Phase output
10 kVA – 120 kVA

400 V AC input
384 V DC

Uninterruptible Power Supplies (UPS)



Designed for all Industrial applications

- » **Oil & Gas, Petrochemicals**
Offshore, Onshore, Pipelines
- » **Energy and Power**
Generation, Transmission, Distribution
- » **Transportation**
Rail, Airports, Shipping
- » **Water**
Desalination, Treatment
- » **Instrumentation & Process Control**
Chemicals, Mining, Steel, Paper, Emergency Lightning
- » **All Industrial applications**

Engineering is our Business

UPS solutions engineered by AEG Power Solutions have been protecting Oil & Gas infrastructure, Power Stations and other industrial installations for more than 60 years. Protect 3. is just part of our Protect Product Range of true on-line UPS suitable for all Industrial applications. See also our Protect 4., Protect 5. and Protect 8. ranges.

Robust and Reliable

Protect 3. is extremely robust, both electrically and mechanically. It is custom-designed for use in harsh industrial environments.

PROTECT 3.

SPECIFICATION
SINGLE PHASE OUTPUT



| MODEL | P3.31-10 | P3.31-20 | P3.31-30 | P3.31-40 | P3.31-60 |
|---|--|--------------|--------------|----------|----------|
| Nominal rating (at $\cos \varphi$ 0,8 lag) in kVA | 10 | 20 | 30 | 40 | 60 |
| 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 \pm 10 % | | | | |
| Input current in A at nominal load | 17 | 33 | 50 | 66 | 98 |
| Charging characteristic to IEC 478-10 | IU | | | | |
| Nominal DC voltage | 384 V | | | | |
| Rectifier type | | | | | |
| - Standard | 6 pulse | | | | |
| - Optional 12 pulse | Mains filter | Mains filter | Mains filter | 12 pulse | 12 pulse |
| INVERTER UNIT | | | | | |
| DC input | 384 V \pm 20 % | | | | |
| Nominal AC voltage | 230 V (220 V, 240 V) | | | | |
| Output voltage static response | < \pm 1 % | | | | |
| Output voltage dynamic response | < \pm 2 % | | | | |
| Recovery time | 1 ms | | | | |
| Frequency | 50/60 Hz | | | | |
| Frequency tolerance without mains | \pm 0,1 % | | | | |
| Frequency synchronisation range | \pm 1 % (\pm 2 %, \pm 3 %) | | | | |
| Power factor range | capacitive to inductive over entire $\cos \varphi$ -range | | | | |
| Unbalanced-load response | at 100% unbalanced load: voltage deviation <2%; angle deviation <2 degrees el. | | | | |
| Output phase current in A | 43 | 87 | 130 | 174 | 261 |
| Voltage wave form | sinusoidal | | | | |
| Voltage distortion | \leq 3 % | | | | |
| Crest factor | max. 3 | | | | |
| Overload response 1 min. | 150 % | | | | |
| Overload response 10 min. | 125 % | | | | |
| Short circuit response | short circuit proof, short circuited current 2.7 x Inom | | | | |
| STATIC BYPASS SWITCH | | | | | |
| AC voltage | 230 V (220 V, 240 V) | | | | |
| Frequency | 50/60 Hz | | | | |
| Nominal power in kVA | 10 | 20 | 30 | 40 | 60 |
| GENERAL DATA | | | | | |
| Efficiency (AC to AC) - typical | 92 % | | | | |
| Noise level depending on rating | < 55–65 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 to IEC 529/ EN 60529 (standard system) | IP 20 | | | | |
| Equipment colour | RAL 7035 | | | | |
| WEIGHTS AND DIMENSIONS | | | | | |
| Height standard UPS (mm) | 1810 | 1810 | 1810 | 1810 | 1810 |
| Height with max. options (mm) | 1915 | 1915 | 1915 | 1915 | 1915 |
| Width (mm) | 600 | 600 | 750 | 1200 | 1200 |
| Depth (mm) | 860 | 860 | 860 | 860 | 860 |
| Weight (kg) | 275 | 325 | 375 | 550 | 650 |

PROTECT 3.

SPECIFICATION
THREE PHASE OUTPUT



| MODEL | P3.33-10 | P3.33-20 | P3.33-30 | P3.33-40 | P3.33-60 | P3.33-80 | P3.33-100 | P3.33-120 |
|---|--|-------------------------|-------------------------|-------------------------|-------------------------|---------------------|---------------------|---------------------|
| Nominal rating (at $\cos \varphi$ 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 \pm 10 % | | | | | | | |
| Input current in A at nominal load | 17 | 33 | 50 | 66 | 98 | 130 | 163 | 195 |
| Charging characteristic to IEC 478-10 | IU | | | | | | | |
| Nominal DC voltage | 384 V | | | | | | | |
| Rectifier type | 6 pulse | | | | | | | |
| - Standard | Mains filter | | | | | | | |
| - Optional 12 pulse | 6 pulse Mains filter | 6 pulse Mains filter | 6 pulse Mains filter | 6 pulse Mains filter | 6 pulse Mains filter | 6 pulse 12 pulse | 6 pulse 12 pulse | 6 pulse 12 pulse |
| INVERTER UNIT | | | | | | | | |
| DC input | 384 V \pm 20 % | | | | | | | |
| Nominal AC voltage | 3 x 400 V (3 x 380 V, 3 x 415 V) | | | | | | | |
| Output voltage static response | < \pm 1 % | | | | | | | |
| Output voltage dynamic response | < \pm 2 % | | | | | | | |
| Recovery time | 1 ms | | | | | | | |
| Frequency | 50/60 Hz | | | | | | | |
| Frequency tolerance without mains | \pm 0,1 % | | | | | | | |
| Frequency synchronisation range | \pm 1 % (\pm 2 %, \pm 3 %) | | | | | | | |
| Power factor range | capacitive to inductive over entire $\cos \varphi$ -range | | | | | | | |
| Unbalanced-load response | at 100% unbalanced load: voltage deviation <2%; angle deviation <2 degrees el. | | | | | | | |
| Output phase current in A | 14 | 29 | 43 | 58 | 87 | 116 | 145 | 173 |
| Voltage wave form | sinusoidal | | | | | | | |
| Voltage distortion | \leq 3% | | | | | | | |
| Crest factor | max. 3 | | | | | | | |
| Overload response 1 min. | 150 % | | | | | | | |
| Overload response 10 min. | 125 % | | | | | | | |
| Short circuit response | short circuit proof, short circuit current 2.7 x Inom | | | | | | | |
| STATIC BYPASS SWITCH | | | | | | | | |
| AC voltage | 400 V (380 V, 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 | 94 % | | | | | | | |
| Noise level depending on rating | < 55–65 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 to IEC 529/ EN 60529 (standard system) | IP 20 | | | | | | | |
| Equipment colour | RAL 7035 | | | | | | | |
| WEIGHTS AND DIMENSIONS | | | | | | | | |
| Height standard UPS (mm) | 1710 | 1710 | 1710 | 1710 | 1710 | 1710 | 1710 | 1710 |
| Height with max. options (mm) | 1815 | 1815 | 1815 | 1815 | 1815 | 1815 | 1815 | 1815 |
| Width (mm) | 600 | 600 | 600 | 600 | 750 | 1200 | 1200 | 1200 |
| Depth (mm) | 735 | 735 | 735 | 735 | 735 | 735 | 735 | 735 |
| Weight (kg) | 350 | 370 | 450 | 470 | 550 | 800 | 900 | 900 |



Protect 3. Highlights

- » More than 60 years experience in UPS business
- » 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 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

For further information
please refer to our website:

www.aegps.com

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POWER SOLUTIONS