

# Protect 8 - 384V DC BROCHURE

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# PROTECT 8

## INDUSTRIAL UPS

**Protect 8.31 Single Phase output**  
10 kVA – 60 kVA

**Protect 8.33 Three Phase output**  
10 kVA – 120 kVA

**400 V AC input**  
**384 V DC**

**Uninterruptible Power Supplies (UPS)**



### Engineering is our business

UPS systems from AEG Power Solutions ensure the continuous availability of all global industrial requirements in oil & gas, petrochemical, power generation, transportation and other heavy industries.

### Robust, efficient, reliable und flexible

The state-of-the-art, double-conversion topology and design of the Protect 8 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. It can be custom-designed for use in harsh industrial environments. 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, the Protect 8 will ensure safe operation of your critical loads, delivering total control wherever reliability, availability and maintainability are required.

### Designed for all industrial applications

- » Oil & Gas, Petrochemicals (offshore, onshore, pipelines)
- » Energy and Power (generation, transmission, distribution)
- » Transportation (rail, airports, shipping, highways, tunnels)
- » Water (desalination, treatment)
- » Instrumentation & Process Control (chemicals, mining, steel, paper, emergency lightning)
- » All industrial production processes

# PROTECT 8.

384 V DC  
SPECIFICATION  
SINGLE PHASE OUTPUT



MODEL	P8.31-10	P8.31-20	P8.31-30	P8.31-40	P8.31-60
Nominal rating (at cos φ 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 ±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 - Optional 12 pulse	6 pulse Mains filter	6 pulse Mains filter	6 pulse Mains filter	6 pulse 12 pulse	6 pulse 12 pulse
INVERTER UNIT					
DC input	384 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 %)				
Power factor range	capacitive to inductive over entire cos φ-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	≤ 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	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	up to 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/optional IP 21, IP 31				
Equipment colour	RAL 7035				
Certificate	ISO 9001:2008; ISO 14001:2004; ISO 5001:2011; BS OHSAS 18001:2007; SCC Version 2011; Ghost				
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 8.

384 V DC  
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	17	33	50	66	98	130	163	195
Charging characteristic to IEC 478-10	IU							
Nominal DC voltage	384 V							
Rectifier type - Standard - 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 ± 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 %)							
Power factor range	capacitive to inductive over entire cos φ-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	≤ 3%							
Crest factor	max. 3							
Overload response 1 min.	150 %							
Overload response 10 min.	125 %							
Short circuit response	short circuit proof, short circuint 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	up to 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/optional IP 21, IP 31							
Equipment colour	RAL 7035							
Certificate	ISO 9001:2008; ISO 14001:2004; ISO 5001:2011; BS OHSAS 18001:2007; SCC Version 2011; Ghost							
WEIGHTS AND DIMENSIONS								
Height standard UPS (mm)	1810	1810	1810	1810	1810	1810	1810	1810
Height with max. options (mm)	1915	1915	1915	1915	1915	1915	1915	1915
Width (mm)	600	600	600	600	750	1200	1200	1200
Depth (mm)	860	860	860	860	860	860	860	860
Weight (kg)	370	390	470	490	570	820	920	940



## Protect 8. 384 V DC 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

## Contactos/Contacts:

### Comercial/Commercial:

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