AEG

POWER
SOLUTIONS

PROTECT FLEX

Industrial-grade modular UPS
10 to 40 kVA
Compact footprint

The Protect FLEX from AEG Power Solutions is a new UPS system concept that combines a modular architecture based on 10 and 15 kVA/kW hot swappable power modules, with a large customizable set of options.

The system has a robust design which encapsulates AEG Power Solutions' unmatched expertise for industrial applications. It is suitable for harsh environments and is the only one in its category to be configurable to all electrical system schemes with the benefit of power modularity.

Typical applications
Where flexible, reliable and robust solutions, with customized options, are needed.

- Chemical and Petrochemical Industry
- Power generation
- Mining
- Transport application (i.e. signaling, driverless trains, passenger security, satellite services, ticket services, on-board services on ferry boats)
- Continuous manufacturing processes
- Industrial automation applications
- Healthcare environments (group 0-1 according to IEC 60364-7-710)

FEATURES

- On-line double conversion UPS with an internal modular design
- Optional transformers (inbuilt or external cabinet) available to meet all types of voltage requirements as well as electrical isolation when needed*
- N+1 inbuilt power redundancy architecture
- VFI SS 111 technology
- ECO Mode available
- Input PF > 0.99, THDi < 4 % (without additional filters)
- Output PF up to unity and compatible with inductive or capacitive loads without derating
- Degree of protection up to IP43 (more rugged environmental protection available upon request)
- Integrated static and manual bypass lines
- Parallel capability up to 160 kVA (4 x 40 kVA in parallel)*
- 7" color Touch Screen graphic
- Connectivity options: SNMP, Modbus, BACnet®
- Phase configuration options: 1/1, 3/1 and 3/3
- Large set of functional options to meet all specific requirements and challenging conditions

BENEFITS

- **Tailor made**, highly flexible and reliable power protection suitable for difficult environments.
- **Maximize savings** in terms of footprint (m^2), power installed (kVA), electrical system (cabling and protection devices), security (MTTR and MTBF) and most importantly, power management (kW and cost).
- **Scalable architecture** reduces CAPEX and optimizes OPEX costs. The power modules use the latest IGBT technology with a low input THDi and almost unity input power factor, even when a low percentage of load is applied: no need for any additional power-consuming filter.
- **Fast recharge time** even with higher capacity: for long runtimes, the UPS can be installed with one (or more) optional 15 A battery charger.
- **Upon demand:** full compliance with EN 50121-4 and EN 50121-5 (Railway applications standards for Electromagnetic compatibility).

* According to the UPS system configuration

Specifications

CABINET	20	30	40
Maximum power capacity (kVA/kW)	20/20	30/30	40/40
Maximum number of power modules connected	2 x 10 kVA	2 x 15 kVA	4 x 10 kVA
Dimensions with IP20, W x D x H (mm)	600 x 800 x 1800		
Weight of standard cabinet IP20 without transformer (kg)	205	205	215
Phase configuration	3/3; 3/1; 1/1	3/3	3/3; 3/1; 1/1
Color of the frame	RAL 7035		
Ventilation	Dual ventilation system: In each power module with inbuilt fan fault detection and inside the cabinet (forced ventilation from front to top)		
POWER MODULE 10 KVA/KW			
Dimensions W x D x H (mm)	438 x 590 x 85 (2U)		
Weight (kg)	15.3		
POWER MODULE 15 KVA/KW			
Dimensions W x D x H (mm)	438 x 590 x 85 (2U)		
Weight (kg)	15.5		
INPUT			
Rectifier type	IGBT based, Vienna bridge		
Nominal voltage	(3 phase+N+G) 380/400/415 I Only with 10 kVA/kW Power Module: (1 phase+N+G) 220/230/240		
Voltage range (V)	304 to 478 V (at full load) I 228 to 304 V (with load decreasing linearly)		
Frequency (Hz)	50/60 (input frequency range: 40/70 Hz)		
Input power factor	> 0.99		
Input THDi	< 4 % (with full linear load)		
OUTPUT			
Inverter type	3-level IGBT based		
Voltage (V)	(3 phase) 380/400/415 I Only with 10 kVA/kW Power Module: (1 phase+N+G) 220/230/240		
Output THDv (according to IEC EN 62040-3)	< 1 % (with linear load) < 5.5 % (with non linear load)		
Output PF	Up to 1		
Crest factor	3:1		
Frequency (Hz)	50/60		
Overload capacity (through inverter line)	110 % for 60 min 125 % for 10 min 150 % for 1 min > 151 % for 200 ms		
AC/AC efficiency in double conversion (VFI) of 10/15 kVA Power Module	96,6% (at 25% of load) 94,9% (at 50% of load) 95,1% (at 75% of load) 94,8% (at 100% of load)		
AC/AC efficiency in ECO Mode (VFD)	> 98 % (at nominal load)		
BATTERY LINE			
Nominal DC voltage (VDC)	± 240 (with +/N/- connections)		
Number of cells	240 (settable from 192 to 264)		
Recharge power	10 % x System Power (nominal value); settable: from 0 to 20 % x System power		
USER INTERFACE			
Display	7" LCD touch screen (central) display		
IP protection degree	Standard: IP20; customizable: up to IP43		
Standard communication ports	RS232; RS485, dry contacts		
Optional communication ports	SNMP, expansion dry contact card		
ENVIRONMENTAL			
Operating temperature (°C)	0 to 40		
Storage temperature (°C)	-20 to 70		
Relative humidity	0 to 95 %		
Altitude	Up to 1000 m (without derating), up to 3000 m (load derated 1 % every 100 m)		
Noise at 1 m distance at 100 % of load (dB)	62	64	66
STANDARDS AND CERTIFICATIONS			
UPS Standards	UPS Safety: IEC EN 62040-1 | EMC: IEC EN 62040-2 | UPS Test and Performance: IEC EN 62040-3		
Railways applications standars for Electromagnetic compatibility	EN 50121-4, EN 50121-5		

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Approach your local AEG Power Solutions representative for further support. Contact details can be found on: www.aegps.com