AEG

POWER SOLUTIONS

PROTECT PLUS S400

Three phase transformer less full IGBT UPS
From 20 to 80 kVA

High performance, compact size and strong reliability

Compatible with **LI-ION**

Protect Plus S400 is the new transformer-less UPS from AEG Power Solutions, best in class system for its compact footprint and flexible configurations.

Thanks to its full IGBT double-conversion technology (VFI-SS-11), Protect Plus S400 combines low input THDi with close to unity input power factor. The system also operates in ECO mode, achieving efficiency over 99%.

Protect Plus S400 provides high-level power protection for critical applications where power quality, power consumption, availability, reliability and installation & service space are key parameters.

By combining excellent performance, industry-leading battery charging power and compact footprint, this UPS ensures power quality for even the most sensitive critical loads.

Typical applications

For this UPS the typical market applications are:

- Transportation
- Building infrastructure
- Manufacturing
- Data & IT

FEATURES

- Transformer-less and full IGBT architecture
- Classification VFI-SS-11
- Output power factor up to 1
- AC/AC efficiency > 95% (VFI) and > 99% in VFD
- Flexible battery solutions: VRLA & Lithium*
- High battery charging current
- High MTBF and low MTTR
- User friendly HMI
- Optional SNMP, Modbus and relay card
- Back feed protection
- Parallel operation up to 4 units
- Frequency converter option
- External battery cabinet
- Optimized Battery Management
- Wide range of options
- Individual and common battery compatibility
- Integrated maintenance bypass
- Integrated input and output switches

BENEFITS

- **Easy installation, operation and maintenance:** front-access to the main components, for easy maintenance or inspection. Parallel upgrade is easy and simple
- **Unity output PF:** 1 kVA = 1 kW
- **Powerful charger** for high-capacity batteries configuration for long backup times
- **Maximized savings** in terms of footprint (m^2), installed power (kVA), electrical system (cabling and protection devices), availability and reliability (MTTR and MTBF), power management (kW vs cost)
- **Full control and parameters setting** through the display

*Under development

PROTECTPLUS S400

20 ÷ 80kVA, S model – accessories

Our new three-phase Protect Plus S400 is designed not only for outstanding performance and reliability, but also for maximum adaptability.

A comprehensive range of accessories allows for full customization of your power protection system, enabling advanced monitoring, communication, and battery management.

These accessories are engineered to integrate seamlessly into critical infrastructure, providing enhanced safety, visibility, and control.

To meet the diverse needs of modern infrastructure, our Protect Plus S400 supports a full suite of optional accessories, grouped into two main categories:

- **Connectivity accessories:** designed to enhance communication, monitoring, and integration with external systems
- **Mechanical accessories:** developed to improve the physical protection and adaptability of the UPS in different environmental conditions.

This modular approach allows for complete customization, ensuring your power system is precisely tailored to your technical and environmental requirements.

CONNECTIVITY

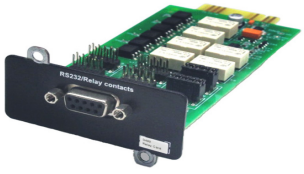
AEG Network Card

Enables remote monitoring and management of the UPS over using the SNMP protocol. It allows real-time status updates, automated alerts, and integration with existing network management systems for proactive response to power events.

S400 ModBus Card

Provides seamless communication via Modbus protocol. This card allows for real-time data exchange, detailed diagnostics, and enhanced control within industrial automation environments.

S400 Relay Card



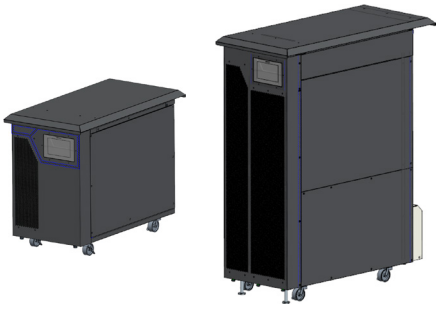
Offers programmable dry contacts to signal key UPS events such as alarms, battery operation, bypass mode, and system faults. It's ideal for interfacing with external systems such as PLCs, alarms, or indicator panels, ensuring immediate and reliable feedback on the UPS operating status.

S400 Battery Temp Sensor

Monitors the temperature of external battery packs to ensure optimal charging conditions. By adjusting the charging parameters based on actual temperature, it helps extend battery life, prevent overheating, and maintain peak battery performance.

MECHANICAL

IP21 Protection Kit



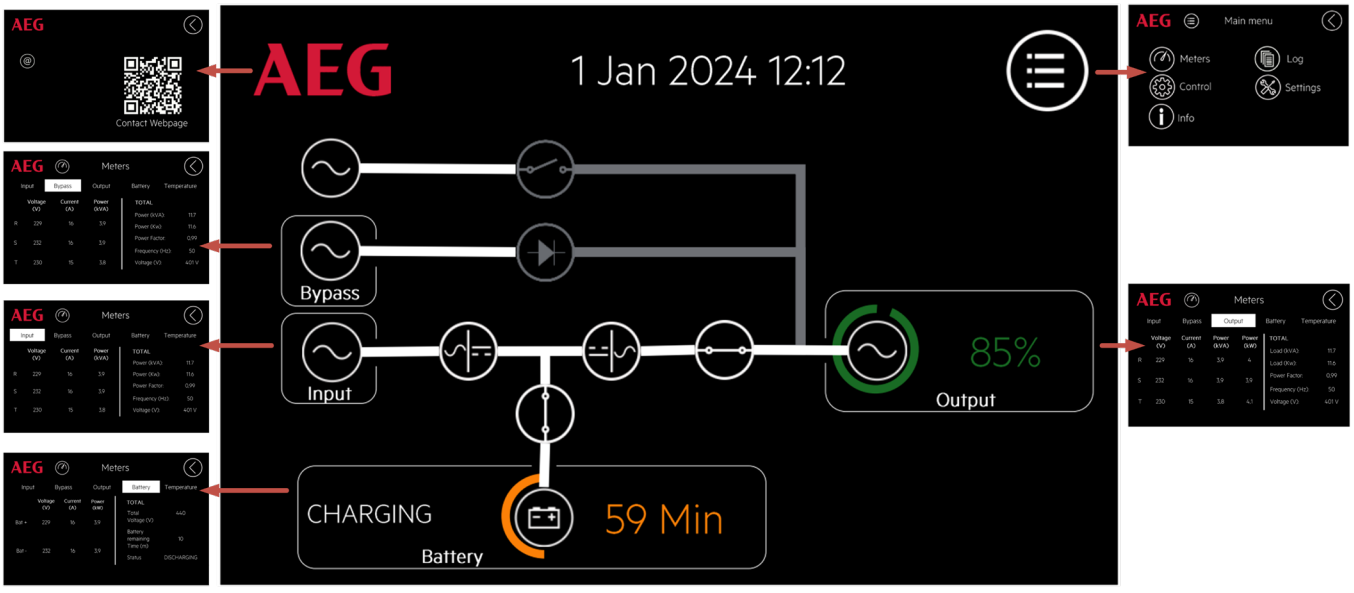
This mechanical accessory enhances the UPS's environmental protection by increasing its ingress protection rating to IP21, safeguarding internal components from solid objects and vertical water drops. Especially suitable for installation in light industrial or semi-controlled environments, the IP21 kit helps maintain system integrity and reliability even in areas exposed to dust or moisture.

PROTECTPLUS S400

20 ÷ 80kVA, S model – HMI

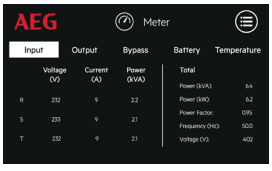
The integrated 5-inch touchscreen HMI redefines user interaction with the UPS, combining easy of use, clarity, and functional actions. Through its modern design and clear graphical layout, the HMI empowers users to monitor system status in real-time, adjust settings with precision, and respond promptly to events.

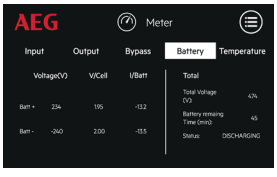
HMI Overview: UPS Control & Monitoring

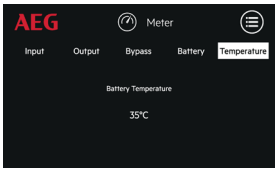


This screen provides direct access to the main operating modes, allowing users to start, stop, or change the UPS operating status with a single touch. It also displays real-time data such as load levels, battery status, alarms, and input/output conditions. From here, users can access all key UPS functions for efficient daily operation and immediate system feedback.

Meters: Input / Bypass / Output / Battery / Temperature

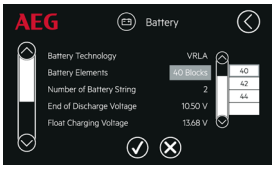


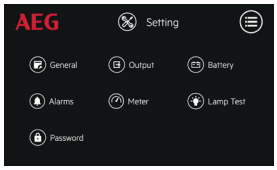


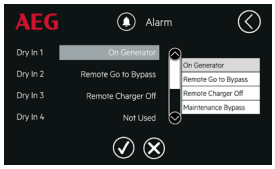


This section of the HMI displays detailed electrical measurements in real time, covering: input, bypass, output, battery and temperature (if sensor is connencted). Clear sections and numeric values allow for instant visual diagnostics, helping users ensure that the system operates within safe and optimal parameters.

UPS Settings







Users can customize key operating parameters of the UPS. Available options include battery technology, battery elements, and discharge/charge voltages. For this UPS, it is possible to select either VRLA or Lithium-Ion battery technology. The Dry-in configuration gives the possibility to configure up to four signals.

Specifications

RANGE	20 KVA	30 KVA	40 KVA	60 KVA	80 KVA
Article number	30006922	30006923	30006924	30006925	30006926
Rated power (kVA / kW)	20/20	30/30	40/40	60/60	80/80
Classification	VFI-SS-11				
Dimensions W x D x H (mm)	330 x 700 x 525			330 x 772 x 977	
Weight (kg)	45	48	48	96	96
Color	RAL 9005				
MAINS INPUT LINE (RECTIFIER)					
Phases	3 Ph + N + G				
Rated input voltage (V)	230 (phase to neutral) / 400 (phase to phase)				
Voltage range (V) (ph-n / ph-ph)	116 ÷ 190 / 200 ÷ 329 @ 50% load 190 ÷ 276 / 329 ÷ 478 @ 100 % load				
Frequency (Hz)	50 / 60				
Frequency range (Hz)	40 ÷ 72				
Input power factor	0,99 (100 % rated resistive load, rated voltage and frequency)				
Input THDi	< 3 % (100 % rated resistive load, rated voltage and frequency)				
Input rated current (A @ 400 VAC)	36	54	72	107	143
BYPASS INPUT LINE					
Nominal bypass input voltage (V)	230 (phase to neutral) / 400 (phase to phase)				
Bypass input voltage range (ph-n / ph-ph)	195 ÷ 264 / 338 ÷ 457				
Bypass input frequency (Hz)	50/60				
Overload capacity (through static bypass line)	up to 115% continuously				
OUTPUT LINE (INVERTER)					
Rated output voltage (V) (ph-n / ph-ph)	230 / 400 (220 / 380 or 240 / 415 selectable)				
Rated output frequency (Hz)	50 / 60				
Phases	3 Ph + N				
Output THDv (according to IEC EN 62040 – 3)	< 2 % (linear load), < 5 % (non linear load)				
Crest factor	3 : 1				
Synchronization output frequency with bypass (Hz)	46 ÷ 54 (for 50 Hz system), 56 ÷ 64 (for 60 Hz system)				
Output power factor	1				
Output rated current (A @ 400 VAC)	29	44	58	87	116
Overload capacity through inverter line (online mode)	102 % ÷ 110 % load with transfer to bypass after 60 minutes 110 % ÷ 125 % load with transfer to bypass after 10 minutes 125 % ÷ 150 % load with transfer to bypass after 1 minute >150 % load with transfer to bypass after 150 msec				
EFFICIENCY (100 % LOAD)					
Online mode (VFI)	95,34 %	95,81 %	95,53 %	95,71 %	95,58 %
Eco mode (VFD)	99,08 %	99,14 %	99,08 %	99,18 %	99,06 %
BATTERY LINE					
Nominal DC voltage (V)	480 (± 240)				
DC voltage range (V)	320 ÷ 607				
Number of batteries in series	32 ÷ 44				
Maximum charging current (A)	20	30	40	60	80
USER INTERFACE AND COMMUNICATIONS					
Display	5" touch screen LCD, up to 9 languages				
Standard communication ports	RS232 (DB9), USB (type B)				
Optional connectivity cards	SNMP, Modbus, dry contact and temperature sensor				
ENVIRONMENT					
Operating temperature (°C)	0 ÷ 40 (without derating), 40 ÷ 50 (with derating)				
Storage temperature (°C)	-25 ÷ 70				
Relative humidity	5 % ÷ 95 %				
Noise in online mode with 75 % load (dB)	≤ 63			≤ 65	
STANDARDS AND CERTIFICATIONS					
Safety, EMC, testing and performance	IEC EN 62040 – 1, IEC EN 62040 – 2, IEC EN 62040 – 3				

AEG Power Solutions

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

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