

# PROTECT 5.31

## Robustness and Reliability for all industrial processes 10-120 kVA

**AEG**

**SVS** POWER SUPPLY  
SYSTEMS

**General Classification** according IEC 62040-3

### Robust and reliable

Protect 5.31 is the industrial range of UPS units from AEG SVS PSS.

In online mode, it ensures the reliable supply of electrical power to all connected consumers. Permanent, reliable and completely free from any switching operations.

### Complete system

Protect 5.31 transforms the alternating current from the mains, charges and monitors the stand-by batteries, and provides an alternating current output to the load, via a single phase inverter, which is free from disruption or interruption. Isolation transformers in the rectifier and inverter mean disruptions are eliminated.

### Protection without a limit

Protect 5.31 carries on protecting when other units have long since given up. Its intermittent overload capacity is 500 %. In addition, its high level short-circuit strength and above average crest factor (factor 3) provide customer systems and processes with absolute reliability.

High cyclic loads do not cause any problems thanks to the unit's excellent dynamic response.

### Engineering our business

UPS systems engineered by AEG SVS PSS have been protecting industrial installations and power stations for more than 50 years. AEG SVS PSS provides comprehensive information and skilled engineering in all aspects of high-performance direct and alternating current power supplies - straight from the specialists.

### Key features

- Optimum efficiency, even in the part-load range
- More EMC robust than the UPS Standard by a factor of 2 to 3
- Floating 220 V battery voltage for linking to existing DC busbars
- Isolating transformer in rectifier and inverter
- Ergonomic control unit with four-row text display
- Intelligent battery management and status diagnostics
- Short-circuit resistant
- Overload-protected
- Ground-fault monitoring
- Can be operated with a central battery
- Suitable for lead-acid or NiCd batteries
- Remote monitoring and control capabilities (programmable)
- Capable of communicating with computer and control systems
- Signalling contact for all important operating states
- Standardized modules
- Low maintenance - no rotating mechanical components
- CE - compliant
- Redundant fans



Power  
Reliability

### SPECIFICATION

|   |  |          |          |          |          |          |          |          |
|---|--|----------|----------|----------|----------|----------|----------|----------|
| <b>Type Protect 5.31</b>                    | 010  | 020      | 030      | 040      | 060      | 080      | 100      | 120      |
| <b>Type power at w φ 0.8 ind. (kVA)</b>     | 10   | 20       | 30       | 40       | 60       | 80       | 100      | 120      |
| <b>RECTIFIER UNIT</b>                       |  |          |          |          |          |          |          |          |
| <b>Rated connected voltage</b>              | 3 x 380 Vac, 3 x 400 Vac ± 15 %, 3 x 415 Vac   |          |          |          |          |          |          |          |
| <b>Frequency</b>                            | 50 Hz or 60 Hz ± 10 %  |          |          |          |          |          |          |          |
| <b>Current consumption at full-load (A)</b> |  |          |          |          |          |          |          |          |
| - with trickle charge                       | 17   | 35       | 51       | 69       | 101      | 136      | 170      | 204      |
| - with max. battery charge                  | 23   | 44       | 66       | 88       | 125      | 175      | 211      | 253      |
| <b>System perturbation</b>                  | 6 pulse  | 6 pulse  | 12 pulse | 12 pulse | 12 pulse | 12 pulse | 12 pulse | 12 pulse |
| <b>Mains filter</b>                         | optional   | optional |          |          |          |          |          |          |
| <b>Charging characteristics</b>             | IU to IEC 478-1  |          |          |          |          |          |          |          |
| <b>INVERTER UNIT</b>                        |  |          |          |          |          |          |          |          |
| <b>Rated DC voltage (link voltage)</b>      | 220 V ± 20%, operating with lead-acid or NiCd batteries                                  |          |          |          |          |          |          |          |
| <b>Rated AC voltage</b>                     | 230 V (can be optionally set from 220 to 240 V)  |          |          |          |          |          |          |          |
| <b>Dynamic characteristics</b>              | for 0% - 100% - 0% load cycle, voltage decline < ±2 %; recovery time approx. 1 ms        |          |          |          |          |          |          |          |
| <b>Frequency tolerance without mains</b>    | 50 Hz ± 0,1%, optionally 60 Hz ± 0.1%  |          |          |          |          |          |          |          |
| <b>Frequency tolerance (sync. range)</b>    | 50 Hz ± 1 %, optionally 60 Hz ± 1 %  |          |          |          |          |          |          |          |
| <b>Power factor range</b>                   | capacitive to inductive over the entire cos φ range                                      |          |          |          |          |          |          |          |
| <b>Output current (A)</b>                   | 43   | 87       | 130      | 174      | 260      | 348      | 435      | 522      |
| <b>Voltage wave form</b>                    | sinusoidal   |          |          |          |          |          |          |          |
| <b>Voltage distortion</b>                   | <3% over the entire DC voltage, load and power factor ranges                             |          |          |          |          |          |          |          |
| <b>Crest factor with non-linear load</b>    | 3, THD <5%   |          |          |          |          |          |          |          |
| <b>Non-linear load</b>                      | up to 100 % of the UPS nominal load  |          |          |          |          |          |          |          |
| <b>Overload response</b>                    | overload capacity of 150 % for 60 s.; 125 % for 10 min.                                  |          |          |          |          |          |          |          |
| <b>Short circuit proof</b>                  | Short circuit current 3 x Inom   |          |          |          |          |          |          |          |
| <b>STATIC BYPASS SWITCH</b>                 |  |          |          |          |          |          |          |          |
| <b>Rated connected voltage</b>              | 230 Vac or 240 Vac or 220 Vac 1 phase + neutral  |          |          |          |          |          |          |          |
| <b>Frequency</b>                            | 50 Hz or 60 Hz   |          |          |          |          |          |          |          |
| <b>Rated connected power (kVA)</b>          | 10   | 20       | 30       | 40       | 60       | 80       | 100      | 120      |
| <b>Overload</b>                             | 500%   |          |          |          |          |          |          |          |
| <b>GENERAL DATA</b>                         |  |          |          |          |          |          |          |          |
| <b>Total efficiency, in online mode</b>     | >88 % (depending on model)   |          |          |          |          |          |          |          |
| <b>Noise level, in online mode</b>          | <55 - 70 dB(A)   |          |          |          |          |          |          |          |
| <b>EMC emissions</b>                        | to EN 50091-2 , Class A  |          |          |          |          |          |          |          |
| <b>EMC immunity</b>                         | to EN 50082-2  |          |          |          |          |          |          |          |
| <b>Operating temperature range</b>          | - 5°C to +40°C   |          |          |          |          |          |          |          |
| <b>Storage temperature range</b>            | - 35°C to +75°C  |          |          |          |          |          |          |          |
| <b>Type of cooling</b>                      | reinforced natural air cooling with integrated fans in redundant configuration           |          |          |          |          |          |          |          |
| <b>Installation height</b>                  | up to 1000 m above sea level at nominal load   |          |          |          |          |          |          |          |
| <b>Protective system</b>                    | IP 20 to IEC 529/EN 60 529   |          |          |          |          |          |          |          |
| <b>Equipment colour</b>                     | RAL 7032, powder coating   |          |          |          |          |          |          |          |
| <b>Size (mm) Width</b>                      | 600  | 900      | 1200     | 1200     | 1500     | 2100     | 2100     | 2100     |
| <b>Height</b>                               | 1800   | 1800     | 1800     | 1800     | 1800     | 1800     | 1800     | 1800     |
| <b>Depth*</b>                               | 800  | 800      | 800      | 800      | 800      | 800      | 800      | 800      |
| <b>Weight excl. battery system (kg)</b>     | 350  | 520      | 800      | 800      | 1400     | 1400     | 1900     | 1900     |
| <b>1. interface</b>                         | RS 232 serial, subminiature, 9-pin, (e.g. PC connection)                                 |          |          |          |          |          |          |          |
| <b>2. interface</b>                         | potential-free contacts  |          |          |          |          |          |          |          |
| <b>Communication software</b>               | CompuWatch   |          |          |          |          |          |          |          |
| <b>OPTIONS</b>                              | several options available, e.g. protective system IP 43, different cabinet heights, etc. |          |          |          |          |          |          |          |

\* plus 50 mm for door and control unit

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