

# Generate your Power

## Protect PV Utility Scale Inverter

### Solar Inverter for Grid Connection Utility Scale

250 kW and 500 kW

### Container application

500 kW and 1 MW

AEG Power Solutions have designed the new Solar Inverter for Utility Scale applications, on industrial roofs and ground area installations. One main feature is the power stack together with advanced peripheral equipment to allow DC voltages up to 1000 Vdc. Projects with thin film modules will benefit the most from this wide DC range.

Design of generator connector boxes is flexible, even with the option to group them independently switchable. Two units can act in a "Copain mode" (high efficient master/slave functionality).

Maximum Power Point Tracking is designed to meet the latest requirements for fast responses to dynamic changes in clear and cloudy conditions, plus reliable active/sleep detection for day and night shift.

Conversion efficiency will meet and exceed expectations for this type of inverter topology. The Solar Inverter can be adapted to the LV (400 Vac) or MV (10, 20, 33 kV) grid.



Monitoring and power plant integration is based on Modbus Protocol and advanced CAN BUS communication. This may include advanced string monitoring and failure analysis, regular reporting and performance statistics. Remote monitoring and access is available through different means: GSM, DSL and WebPortal, plus programmable alarm functions and settings via email/SMS. Future requirements from grid operators are supported.

Turnkey container solutions can be supplied ready for connection at site.

With over 60 years of experience in power conversion, the AEG service experts provides the ultimate peace of mind and minimum yields of your PV installation with a full range of services providing up to 99% inverter availability per year.



PERFECT IN FORM AND FUNCTION

**AEG**

## Protect PV: Technical Data

|  | Protect PV.250  | Protect PV.500       |
|--|---|----------------------|
| <b>DC INPUT</b>  |   |                      |
| Recom. PV power  | 280–320 kWp   | 530–580 kWp          |
| DC voltage window  | up to 1000 V  | up to 1000 V         |
| Max. DC voltage  | 1000 V  | 1000 V               |
| Max. DC current  | 600 A   | 1200 A               |
| Quantity DC inputs   | 3 MCCB'S, each with 3 fuses   |                      |
| Over voltage protection  | Class 2   | Class 2              |
| <b>AC OUTPUT</b>   |   |                      |
| Nom. AC power at $\cos \varphi = 1$                                      | 255 kVA   | 510 kVA              |
| Mains voltage:   |   |                      |
| - LV-connection  | 400 VAC   | -/-                  |
| - MV-connection  | 10, 20, 33 kV   | 10, 20, 33 kV        |
| Mains frequency  | 50 Hz   | 50 Hz                |
| Current distortion   | < 3 %   | < 3 %                |
| Over voltage protection  | Class 2   | Class 2              |
| <b>GENERAL DATA</b>  |   |                      |
| Max. efficiency *1   | > 97 %  | > 97 %               |
| Protection degree, EN 60529  | IP 21   | IP 21                |
| Operating temperature  | -10 °C to +45 °C  |                      |
| Rel. humidity  | 15 ... 95 % max, non condensing   |                      |
| Altitude above sea level   | 1.000 m   | 1000 m               |
| Dimensions (W x H x D) *1  | 2100 x 2000 x 600 mm  | 2400 x 2000 x 600 mm |
| Weight *1  | approx. 900 kg  | approx. 1050 kg      |
| Equipment color  | RAL 7035  | RAL 7035             |
| CE certificate   | Yes   | Yes                  |
| Standards  | according to FNN (VDN, BDEW)  |                      |
| <b>ALARMS &amp; CONTROLS</b>   |   |                      |
| Earth fault monitoring   | Yes   | Yes                  |
| Monitored over voltage protection  | Yes   | Yes                  |
| Contactors and Breaker position  | Yes   | Yes                  |
| Emergency Power Off  | Yes   | Yes                  |
| Failure indicators (acoustic/optical)                                    | 3 status LED, detailed history  |                      |
| <b>COMMUNICATION</b>   |   |                      |
| Display Operating Unit   | 240 x 64 graphical LC-Display and 4 display keys  |                      |
| Hardware   | RS 485, RS 232, CAN BUS, Ethernet<br>Free programmable opto coupler inputs and dry-contacts |                      |
| Telecom line   | ISDN, GSM, GPRS, DSL  |                      |
| Software/Protocol  | Modbus, Profibus DP, Web portal, CANopen CiA 437  |                      |
| Over voltage protection  | Option  | Option               |
| <b>OPTIONS</b>   |   |                      |
| Container solution   | 500 kW: 2 x 255 kVA   | 1 MW: 2 x 510 kVA    |
| Transformer  | 3-port 500 kVA  | 3-port 1 MVA         |
| MV Switchgear  | Yes   | Yes                  |
| String Monitoring  | Yes   | Yes                  |
| PV Plant operation   | Yes   | Yes                  |
| Copain mode (Partner-Master/Slave)                                       | Yes   | Yes                  |
| Standards  | RD 1663, DK 5940 edition 2.2  |                      |
| *1: Without transformer (LV/MV)  |   |                      |
| Technical data is preliminary and subject to change without prior notice |   |                      |

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