

# PROTECT PV.MH

## COMPACT OUTDOOR UNITS FOR PV POWER STATIONS



The Protect PV solar inverter product line, designed by AEG Power Solutions, offers professional solutions for utility-scale applications on industrial roofs and ground area installations.

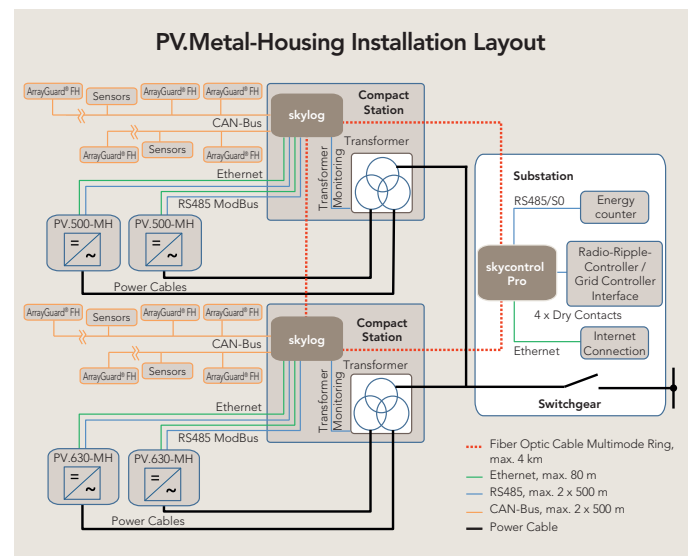
The PV.MH system is a light and compact connection comprised of an outer metal housing (with optimum corrosion protection) and an integrated Protect PV.500 or PV.630 solar central inverter. The system is characterised by its low weight and small dimensions; it can be used virtually anywhere.

With this system, owners of large solar power plants benefit from the compact design and reduced transportation and assembly costs. The PV.MH is made of specially treated galvanised sheet steel mounted on a concrete foundation. Components such as the transformer and medium-voltage switchgear are located in a separate compact station, that can connect two PV.MH units with the medium-voltage grid.

Ethernet and fiber optic communication channels connected to the skylog via open standards such as ModBus or Ethernet form the foundation for communications in PV power plants using AEG PS solar central inverters.

A powerful online communications platform allows owners and operators to view the current and historical system status instantaneously.

With over 60 years of experience in power supply systems and solutions for power plants, AEG Power Solutions offers a comprehensive range of services aimed at securing maximum yields for your PV power installation. These services include contractual solutions with service guarantees and high inverter availability.



# PROTECT PV

TECHNICAL DATA

	Protect PV.500-MH	Protect PV.630-MH
<b>DC INPUT</b>		
Recom. PV power	500 - 580 kWp	630 - 945 kWp
DC voltage window	400 - 1000 V	470 - 1000 V
Max. DC voltage	1000 V	
U <sub>MPPPT</sub> voltage range	500 - 820	550 - 820
Max. DC current	1060 A	1170 A
Quantity DC inputs	1 MCCB	
Quantity DC fuses	up to 8 pcs. (pos & neg)	
Oversvoltage protection	Grade 2	
<b>AC OUTPUT</b>		
Nom. AC power at cos $\varphi$ = 1 (@ 45 °C)	510 kVA	630 kVA
Nom. AC power at cos $\varphi$ = 1 (@ 25 °C)	560 kVA	690 kVA
Power factor, adjustable	lag 0.9 – 1 – lead 0.9	
Output voltage without transformer	283 V	345 V
Mains voltage: MV-connection <sup>*1</sup>	10, 20, 33 kV and others as required	
Mains frequency	50/60 Hz	
Current distortion	< 3%	
Oversvoltage protection	Grade 2	
<b>DEVICE DATA</b>		
Efficiency <sup>*2</sup> (Max. / Euro / CEC)	98,4 % / 98,15 % / 98,2 %	>98,4 % / >98,15 % / >98,2%
External auxiliary power supply	TN-S, 230 V 50/60 Hz	
Operating temperature	- 10 °C to + 45 °C	- 10 °C to + 50 °C
Relative humidity	15 ... 95 % max, non condensing	
Protection grade, EN 60529	IP 23D	
Altitude above sea level	1,500 m (3000 m max 40 °C)	
Dimensions (W x H x D)	3180 x 2792 x 1300 mm	
Weight	2900 kg	
Consumption of auxiliaries during night	100 W	
Method of cooling	Air	
Range of application	Outdoor	
Required air flow	6000 m <sup>3</sup> /h	
Equipment color	RAL 7035	
Certificate	EZE, CE, No.11TH0129-ENELguide	
Standards, grid codes	according to FNN (VDN, BDEW), RD 1663	
<b>ALARMS &amp; MONITORING</b>		
Earth fault monitoring	Yes	
Oversvoltage protection	Yes	
Contact and breaker position	Yes	
Emergency power off	Yes	
Failure indicators (acoustic/optical)	3 status LED, detailed history	
<b>COMMUNICATIONS</b>		
Display	240 x 64 graphical LC Display and 4 display keys	
Hardware	RS 485, RS 232, CAN BUS, Ethernet Freely programmable opto coupler inputs and dry contacts	
Telecom line	ISDN, GSM, GPRS, DSL	
Software/Protocol	Modbus, Profibus DP, Web portal, CANopen CiA 437	
Oversvoltage protection	Option	
<b>OPTIONS</b>		
Transformer	3-Port 1 MVA in separate compact stations	3-Port 1.25 MVA in separate compact stations
MV switchgear	in separate compact stations	
String monitoring	Yes	
PV plant operation	Yes	

\*1: External transformer necessary - \*2: Without transformer (LV/MV) - Technical data is preliminary and subject to change without prior notice.

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