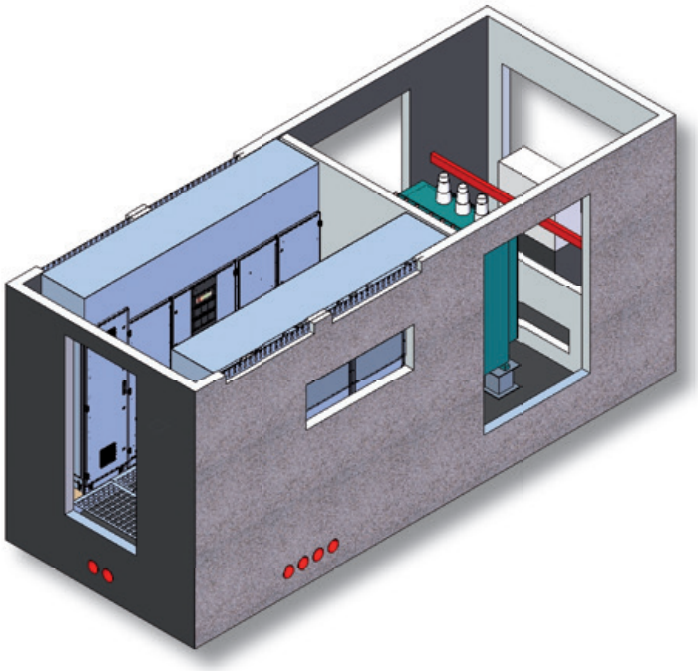
TKS-C

TURNKEY SOLUTION FOR SOLAR POWER PLANTS

Container Installation

1 MVA to 1.6 MVA



The TKS-C (Turnkey Solution Container) is a fully integrated solution that has been developed specifically for use in photovoltaic power plants. It comprises

- up to two solar central inverters,
- switchgear,
- a medium-voltage transformer,
- measuring and monitoring components, and
- data communication capabilities.

The container is split into two areas: the inverter compartment and the medium-voltage compartment containing the switchgear and transformer. Furthermore AEG PS has developed two separate cooling circuits for the inverter cubicle; the cooling air from these is purified by filters.

The features that really make the TKS-C concrete solution stand out are not only its ability to be put into operation rapidly, but also its durability, thermal and sound insulation, and superior fire protection properties.

Straightforward installation in utility-scale projects

The TKS-C is a turnkey system. It is connected to the PV panel on one side, to the transfer station on the other side, and can be put into operation immediately. The TKS-C is also delivered to the installation site fully equipped and tested. This means that there is no need for on-site integration work – saving constructors considerable time and costs.

Efficiency, adaptability

The TKS-C system includes tried-and-tested high-performance central inverters from AEG Power Solutions' Protect PV product range. These are able to reach proven peak efficiency levels of more than 98%. The maximum efficiency that the inverters offer is also accompanied by superior availability. The innovative FPGA circuit ensures flexible, precise and rapid control, while the ability to assign parameters freely and flexibly enables compatibility with all grid standards. Not only this, but the system also offers an unrivalled thermal operating range of -20 °C to +40 °C.

The TKS-C container solution is used in PV systems across the world and consistently proves an outstanding choice thanks to the long service life it offers in harsh environments.

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POWER SOLUTIONS

TKS-C
TECHNICAL DATA

	TKS-C 1000	TKS-C 1250	TKS-C 1600
DC INPUT			
Recom. PV power[*1]	2 x 680 kWp	2 x 890 kWp	2 x 1150 kWp
DC voltage window	385 - 1000 V	465 - 1000 V	486 - 1000 V
Max. DC voltage		1000 V	
Nominal DC voltage	660 V	685 V	696 V
UMPPT voltage range according EN50530	500 - 820 V	550 - 820 V	573 - 820 V
Max. DC current	2 x 1060 A	2 x 1170 A	2 x 1440 A
Number of independent MPP inputs		2	
Number of fused DC inputs		up to 16 pairs	
Quantity DC circuit breaker		2 MCCB	
Fuse size	max. 250 A	max. 315 A	max. 400 A
Over voltage protection		Grade 2	
AC OUTPUT			
Nom. AC power at cos φ = 1 (@ 45 °C)	1000 kVA	1250 kVA	1590 kVA
Nom. AC power at cos φ = 1 (@ 25 °C)	1100 kVA	1375 kVA	1750 kVA
Power factor, adjustable		lag 0.9 – 1 – lead 0.9	
MV-connection[*2]		10 kV-20 kV, as required	
Output Current (max) @25 °C	64.7 A/32.3 A	79.67 A/39.83 A	101.61 A/50.80 A
Mains frequency		50/60 Hz	
Current distortion		< 3%	
GENERAL DATA			
Efficiency[*3] **(Max./Euro/CEC)**	98.4 %/98.2 %/98.2 %	98.4 %/98.2 %/98.2 %	98.9 %/98.6 %/98.7 %
External power supply		TN-S, 230 V 50/60 Hz	
Operating temperature		-20 °C to +40 °C	
Rel. humidity		15 - 95 % non condensing	
Protection grade, EN 60529		IP 23 D	
Altitude above sea level		1,500 m (3000 m max. 30 °C)	
Dimensions (W x H x D)	2.75 x 3.28 x 6.05	2.75 x 3.30 x 6.05	2.75 x 3.32 x 6.85
Weight	ca. 33 T	ca. 34 T	ca. 35 T
Equipment color		customized	
Consumption of auxiliaries during operation		< 4000 W	
Consumption of auxiliaries during night		200 W	
Air quality (EN60721-3-4)		Class 4S2	
CE Certificate		Yes	
Grid monitoring		FNN (VDN, BDEW)	
ALARM & CONTROLS			
Earth fault monitoring		Yes	
Monitored over voltage protection		Yes	
Contactor and breaker position		Yes	
System off		Yes	
Failure indicators (acoustic/optical)		3 status LED, detailed history	
COMMUNICATION			
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	
Over voltage protection		Option	
OPTIONS			
MV transformer		Yes	
MV switchgear		Yes	
String monitoring		Yes	
Zone monitoring	No		Yes
PV plant control		Yes	
"Copain" mode (Team-Master/Slave)	Yes		No

*1: Depending on local environmental conditions - *2: External transformer necessary
*3: Without transformer (LV/MV) - Technical data is preliminary and subject to change without prior notice.

For further information
please refer to our website:

solar@aegps.com
www.aegps.com

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