

# OFF-GRID SOLAR PANELS



GermanSolar  
The Partner For Your Solar Lifetime!



## CUSTOMIZED SOLAR PANELS

GermanSolar is a specialist in customization, introducing colored glass, frames, and back-sheet material and shapes to aesthetically match your ideas with the prospective application. With innovative technology and design, GermanSolar offers high quality solar panels with enhanced aesthetic appearance for building structures and facades. By providing outstanding customization options, GermanSolar supports your required project needs with colored and shaped panels of your choice, and consults with you in choosing the right size, thickness, shape, and color to complement the design of your application and your building.

### FEATURES



Unique design, backed by GermanSolar standards of engineering



Use of bypass diodes to avoid hot-spot effect



EL tested and micro cracks inspected



Easy and quick installation



Every solar panel flash tested



UL 61215, 61730 & UL 1703, C1D2



Choices of colors, front and back materials & frames



5-year product warranty and 10-year limited performance warranty



Model	GSP-005W-12	GSP-010W-12	GSP-020W-12	GSP-030W-12	GSP-040W-12	GSP-050W-12	GSP-060W-12	GSP-070W-12	GSP-080W-12	GSP-090W-12	GSP-100W-12	
<b>ELECTRICAL CHARACTERISTICS</b>	Nominal Max. Power (W)	5	10	20	30	40	50	60	70	80	90	100
	Open Circuit Voltage (Voc) (V)	21.80	21.80	22.00	22.10	22.00	22.30	22.00	22.54	22.50	22.1	22.75
	Short Circuit Current (Isc) (A)	0.31	0.62	1.20	1.75	2.35	2.80	3.56	3.95	4.53	5.31	5.58
	Max. Power Voltage (Vmpp) (V)	18.10	18.10	18.20	18.20	18.20	18.90	18.20	18.98	18.90	18.40	19.15
	Max. Power Current (Impp) (A)	0.28	0.55	1.10	1.65	2.20	2.65	3.29	3.69	4.24	4.89	5.22
	Power Tolerance (%)	± 3										
<b>MECHANICAL CHARACTERISTICS</b>	Module Dimensions (LxWxH, mm)	280 × 195 × 17	355 × 265 × 17	680 × 290 × 25	680 × 380 × 30	680 × 475 × 30	680 × 545 × 30	680 × 640 × 30	680 × 720 × 35	680 × 800 × 35	680 × 980 × 35	1106 × 680 × 35
	Cell Dimensions (mm)	76 × 9.92	76 × 19.61	157 × 24.42	157 × 34.51	157 × 44.09	157 × 52.33	157 × 63.5	157 × 72.15	157 × 78.8	157 × 99.21	157 × 99.21
	Cell Type	Poly crystalline silicon										
	Cell String	9 × 4										
	Front Glass	3.2 mm tempered glass										
	Cell Encapsulation	EVA (Ethylene-Vinyl Acetate)										
	Frame	Anodized aluminum frame; original, black, or customized										
	Back Cover	White, black fluorochemical backsheet or customized										
	Junction Box	IP65 / IP67										
Weight (Kg)	1.0	1.6	4.0	4.9	6.1	7.5	8.2	8.8	9.5	10.3	10.3	
<b>WARRANTY &amp; TEMP. CHARACTERISTICS</b>	NMOT (°C)	41 ± 3										
	Temperature Coefficient	γ Pmax: -0.41 % / °C, α Voc: -0.331 % / °C, β Isc: 0.059 % / °C										
	Operating Temperature Range (°C)	-40 ~ +85										
	Certification	C1D2 / ETL EU / ETL CUS / IECEx / ATEX / ISO9001 / ROHS / CE										
	Product Warranty	5 years										
	Performance Warranty	25 years										

\*STC: Irradiance 1000 W / m<sup>2</sup>, cell temperature 25 °C, AM = 1.5, Tolerance of Pmax is within + / - 3 %.  
For more details or other specifications not listed above, please feel free to contact us.



Model		GSP-160W-12	GSP-170W-12	GSM-190W-12	GSM-200W-12	GSM-210W	GSM-215W	GSM-220W	
ELECTRICAL CHARACTERISTICS	Nominal Max. Power (W)	160	170	190	200	210	215	220	
	Open Circuit Voltage (Voc) (V)	22.65	22.90	24.00	24.66	41.50	42.10	42.66	
	Short Circuit Current (Isc) (A)	9.05	9.29	9.94	10.17	5.06	5.11	5.16	
	Max. Power Voltage (Vmpp) (V)	18.90	19.44	20.12	20.78	47.96	48.57	48.92	
	Max. Power Current (Impp) (A)	8.47	8.75	9.44	9.62	5.43	5.46	5.50	
	Power Tolerance (%)	± 3							
MECHANICAL CHARACTERISTICS	Module Dimensions (LxWxH, mm)	1515 × 680 × 35				1590 × 710 × 35			
	Cell Dimensions (mm)	157		158.75		166			
	Cell Type	Poly crystalline silicon			Mono crystalline silicon				
	Cell String	9 x 4				12 x 6			
	Front Glass	3.2 mm tempered glass							
	Cell Encapsulation	EVA (Ethylene-Vinyl Acetate)							
	Frame	Anodized aluminum frame; original, black, or customized							
	Back Cover	White, black fluorochemical backsheet or customized							
	Junction Box	IP65 / IP67							
	Weight (Kg)	14.0				14.5			
WARRANTY & TEMP. CHARACTERISTICS	NMOT (°C)	41 ± 3							
	Temperature Coefficient	γ Pmax: -0.41 % / °C, α Voc: -0.331 % / °C, β Isc: 0.059 % / °C							
	Operating Temperature Range (°C)	-40 ~ +85							
	Certification	C1D2 / ETL EU / ETL CUS / IECEx / ATEX / ISO9001 / ROHS / CE							
	Product Warranty	5 years							
	Performance Warranty	10 years							

\*STC: Irradiance 1000 W / m<sup>2</sup>, cell temperature 25 °C, AM = 1.5, Tolerance of Pmax is within + / - 3 %.  
For more details or other specifications not listed above, please feel free to contact us.

# Steps we request and follow when designing your special solar panels or solar solutions to meet your requirements.

