



**GermanSolar**  
The Partner For Your Solar Lifetime!®



# Premiumline Plus Perc Mono G1 144 Cells Solar Panel

GSM - 400W 405W 410W 415W 420W-H

GermanSolar is a specialist in customization, utilizing colored glass, frames, and back-sheet material and shapes to expertly match your ideas with the prospective application. With innovative technology and design, GermanSolar offers high-quality modules 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 advises you to choose the right size, thickness, shape, and color to complement the design of your application and your building.

## FEATURES

<p>Best price-performance ratio</p>	<p>Fully automated production line with German quality engineering and design standards</p>	<p>Withstands wind loads up to 2400Pa / heavy snow loads up to 5400Pa</p>
<p>Positive power of up to +5.00 Wp</p>	<p>Better performance in diffused sunlight and high temperature</p>	<p>12-year limited product warranty</p>
<p>EL tested and micro cracks inspected</p>	<p>High ammonia &amp; salt mist resistant certified, and PID-free</p>	<p>25-year linear performance warranty</p>

## PRODUCT CERTIFICATES



# Premiumline Plus



Electrical Data					
Nominal Max. Power (P <sub>max</sub> )*	400W	405W	410W	415W	420W
Open Circuit Voltage (V <sub>oc</sub> )	49.8	50.1	50.4	50.67	50.95
Short Circuit Current (I <sub>sc</sub> )	10.21	10.26	10.3	10.37	10.42
Max. Power Voltage (V <sub>mpp</sub> )	41.7	42	42.3	42.52	42.73
Max. Power Current (I <sub>mpp</sub> )	9.6	9.65	9.69	9.76	9.83
Module Efficiency (%)	19.88	20.13	20.38	20.62	20.87
Power Tolerance	0 ~ +5W				
Temperature Coefficient (P <sub>max</sub> )	-0.35% / °C				
Temperature Coefficient (I <sub>sc</sub> )	+0.04% / °C				
Temperature Coefficient (V <sub>oc</sub> )	-0.25% / °C				

\* STC: Irradiance 1000W/m, Cell Temperature 25°C, Air Mass AM1.5.

Electrical Data, NMOT *					
Nominal Max. Power (P <sub>max</sub> )	303W	307W	310W	314W	318W
Open Circuit Voltage (V <sub>oc</sub> )	47.05	47.35	47.54	47.85	48.07
Short Circuit Current (I <sub>sc</sub> )	8.14	8.18	8.22	8.28	8.34
Max. Power Voltage (V <sub>mpp</sub> )	39.40	39.69	39.97	40.18	40.38
Max. Power Current (I <sub>mpp</sub> )	7.69	7.72	7.76	7.82	7.87
NMOT (Nominal Module Operating Temperature)	41°C ± 3°C				

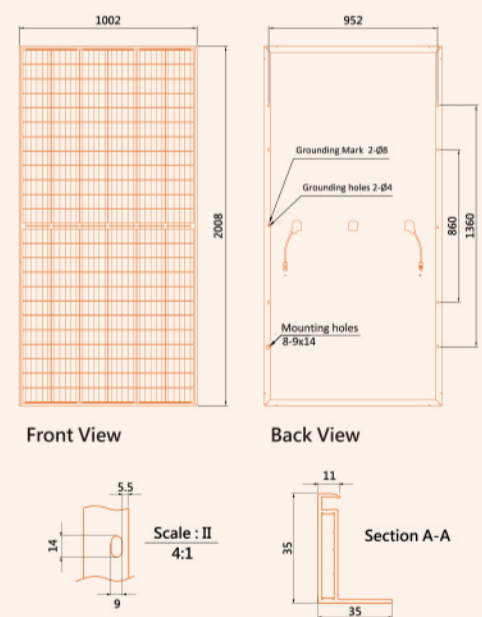
\* NMOT: Irradiance at 800W/m, Ambient Temperature 20°C, Wind Speed 1m/s.

Mechanical Data	
Dimensions	2008x 1002x 35mm (79.06x 39.45x 1.38inches)
Weight	21.5kg (47.40lb)
Solar Cell	Perc monocrystalline G1
Front glass	3.2mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Frame	Anodized aluminium alloy, original or black
Junction Box	IP68, 3 diodes
Cable	4 mm <sup>2</sup> (IEC), 12AWG (UL), 350mm
Connector	MC4 or MC4 compatible
Application Classification	Class A
Module Fire Performance	Type 1 (UL 1703) or Class C (IEC 61730)

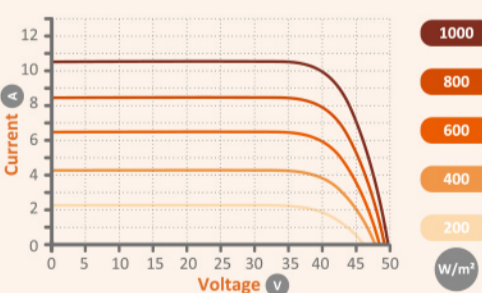
Operating Conditions	
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)
Operating Temperature	-40°C ~ +85°C
Max. Series Fuse Rating	25A
Front Side Maximum Static Loading/ Rear Side Maximum Static Loading	5400 Pa/2400 Pa

Packaging	
Standard packaging	30pcs /pallet
Module quantity per 20' container	300pcs
Module quantity per 40' container	660pcs /40' HQ container

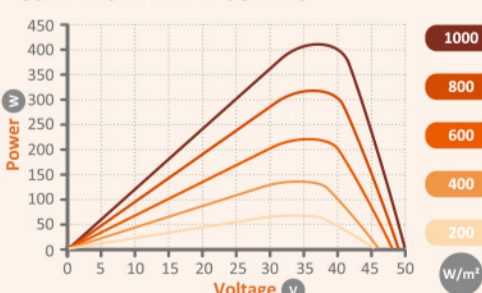
## Design (mm)



## GSM-410W-H I-V CURVES



## GSM-410W-H P-V CURVES



## LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty | 25 years Linear Power warranty

