



OGRE

energy

90 WATT SOLAR PANEL



OGRE Solar is engineered for applications that require maximum power, reliability, and durability. OGRE is field-proven in remote locations and harsh environments across the U.S.

- Flash data (sun simulator) & EL test is performed on every panel, ensuring quality
- Potential induced degradation free= better performance in diffused sunlight & high temperatures
- Excellent power tolerance: $\pm 3\%$ = more power
- Anti-reflective coating on glass increases the absorption of sunlight
- Heavy gauge anodized aluminum frame resists wind torque and is chamfered for better rain/snow runoff
- Junction box is approved for hazardous locations & is rain tight and includes 1/2" conduit knock-outs

90 WATT SPECIFICATIONS

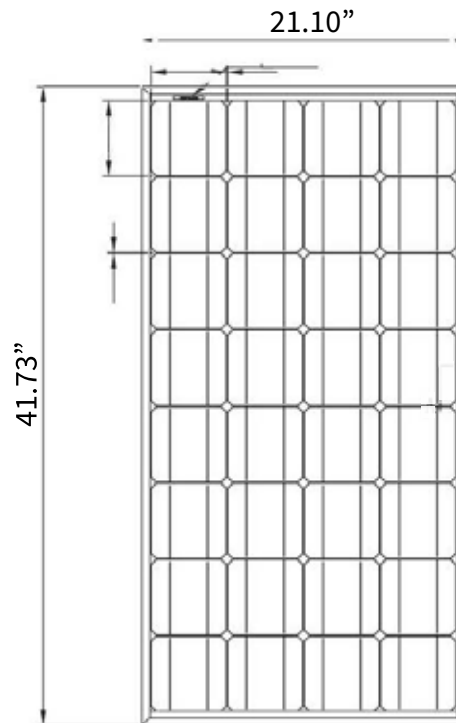
MODEL: OGRE P90-J12, ORDER #: 05208

Max Power	90 Watts
Max Power Voltage	17.0 Vmp
Max Power Current	5.30 Imp
Open Circuit Voltage	20.4 Voc
Short Circuit Current (Isc)	5.92 A
Maximum System Voltage	600 V
Series Fuse Rating	15 A

MECHANICAL

Weight	14.34 lbs
Dimension	41.73" x 21.10" in.
Thickness, with junction box	1.81" in.
Frame-aluminum	>10 μ m anodized

ELECTRICAL PARAMETERS AT STANDARD TEST CONDITIONS



25-YEAR LINEAR PERFORMANCE WARRANTY

OGRE's warranty covers for power loss less than 3% in the first year and only 0.35% degradation per year thereafter. 12-year product warranty.

BUILT-IN DURABILITY

OGRE uses premium cell materials to ensure a long lasting module. Our strict control criteria mandates a thermal picture of each cell before and after processing which eliminates the possibility of hotspot formation.

FM APPROVAL

Class 1, Division 2, Groups A, B, C, D
Hazardous Locations Type IP65
T3C@Ta=-40°C to +85°C
Manf. in ISO 9001 certified factory



TO ORDER: 800.898.2899 AUTOMATION-X.COM

SALES@AUTOMATION-X.COM

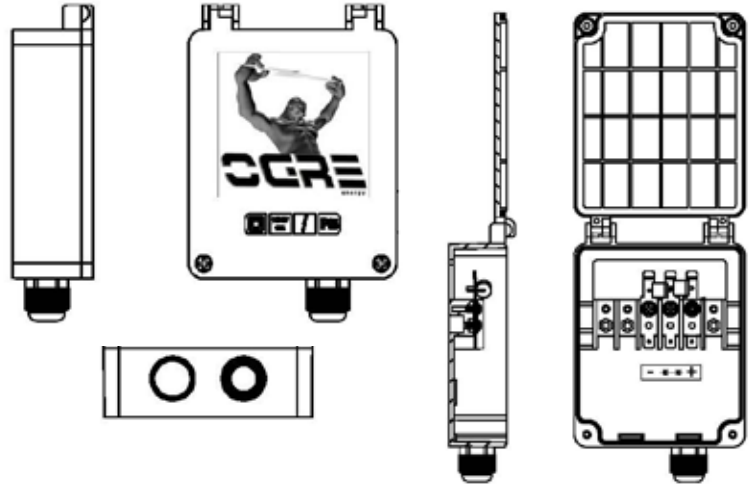
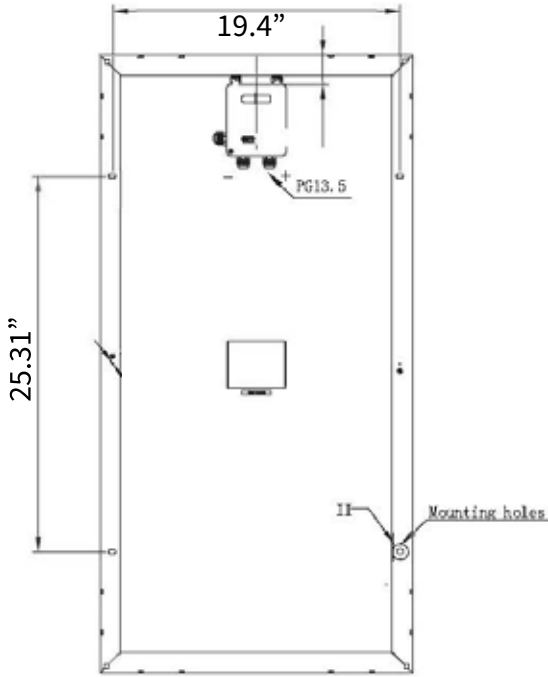
OGRE solar panels undergo strict in-house and independent testing, guaranteeing the highest level of quality, which we stand behind. These panels are field-proven to be the best for off-grid applications across the U.S.



OGRE
energy

90 WATT SOLAR PANEL

PANEL PHYSICAL SPECIFICATIONS & JUNCTION BOX

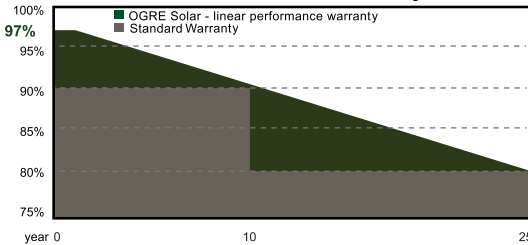


TEMPERATURE CO-EFFICIENTS & CELL SPECS

Power	-0.36%/K
Voltage	-0.36 %K
Current	+0.06%K
Cell Efficiency	19.20%
Number of Cells in Series	32
Cell Type BC	Mono
Number of Strings in Parallel	1
Max Power Tolerance	± 5%

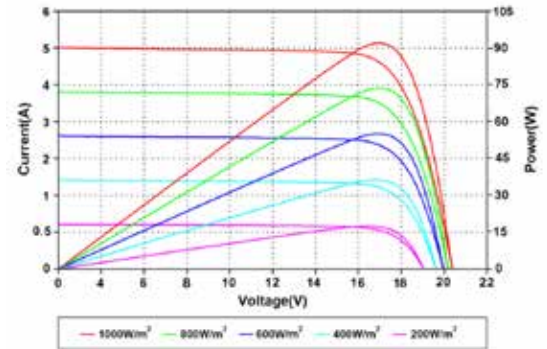
ELECTRICAL PARAMETERS AT STANDARD TEST CONDITIONS

25-Year Linear Performance Warranty

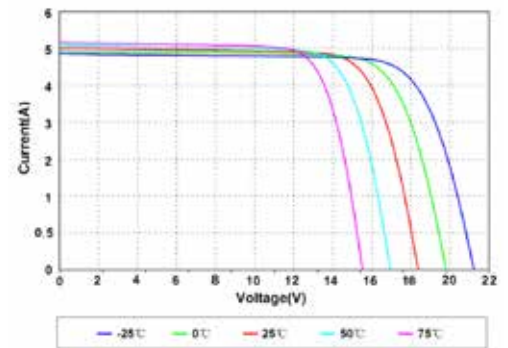


STC-Standard Conditions, measurement conditions: intensity irradiation 1000 W/m², spectral distribution AM 1.5 temperature 25°C, according to standard EN 60904-1
NOCT-Normal operation Cell Temperature, measurement conditions: irradiation intensity 800 W/m², AM 1.5 temperature 20°C, wind 1 m/s
Reduced efficiency with the decrease in the intensity of irradiation of 200 W/m² and 200 W/m², temperature 25°C according to EN 60904-1
Reverse current power rating: operation of the modules with an external power source is only permitted with a string fuse and reverse current of $+2 \text{ A}$ @ STC
Measuring tolerance of P_{max} @ STC ± 5%, all other electric parameters ± 10%
sizing tolerance of P_{max} @ STC ± 5% all other electric parameters ± 10%

I-V Curves



Current-Voltage Curves at Different Irradiance



Current-Voltage Curves at Different Temperatures

POSITIVE CLASSES: (-0/+3)

All OGRE modules are positively classed. This means that the OGRE module is up to 3 Watt Capacity (Wp) above its rated power-you are guaranteed up to 3 Wp more.

Subject to change without notice. April 2018

TO ORDER: 800.898.2899 AUTOMATION-X.COM

SALES@AUTOMATION-X.COM

OGRE solar panels undergo strict in-house and independent testing, guaranteeing the highest level of quality, which we stand behind. These panels are field-proven to be the best for off-grid applications across the U.S.