



OGRE
energy

20 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.

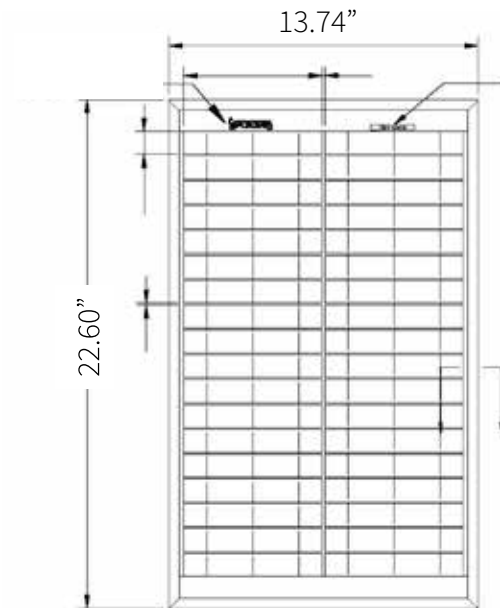
- Flash data (sun simulator) & EL test is performed on every panel, ensuring quality
- Potential induced degradation (PID) Free= better performance in diffused sunlight & high temperatures
- Excellent power tolerance: $\pm 3\%$ = more power
- Anti-reflective coating on glass increases the absorption 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

20 WATT SPECIFICATIONS

MODEL: OGRE P20-J12, ORDER #: 06535

Max Power	20 Watts
Max Power Voltage	17.6 Vmp
Max Power Current	1.14 Imp
Open Circuit Voltage	21.7 Voc
Short Circuit Current (Isc)	1.21 A
Maximum System Voltage	600 V
Series Fuse Rating	15 A
MECHANICAL	
Weight	7.72 lbs
Dimension	22.60" x 13.74" in.
Thickness	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.

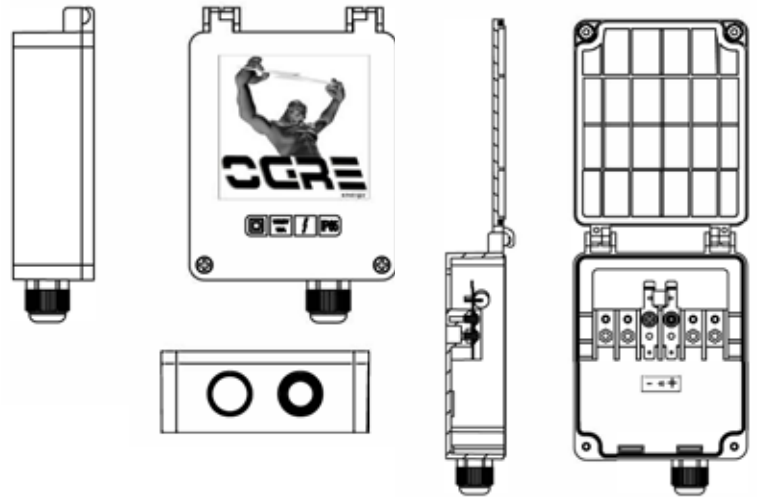
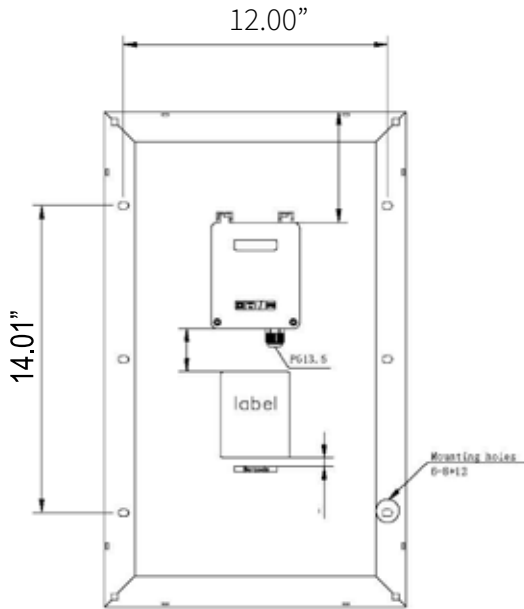


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PANEL PHYSICAL SPECIFICATIONS & JUNCTION BOX



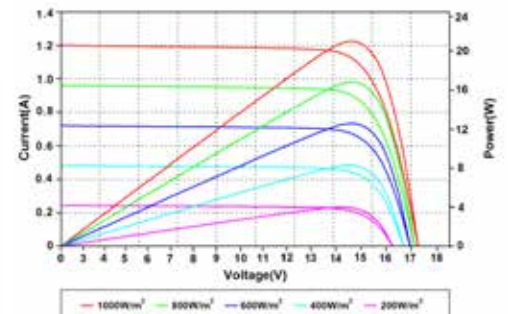
TEMPERATURE CO-EFFICIENTS & CELL SPECS

Power	-0.42%/K
Voltage	-0.36%/K
Current	+0.06%/K
Cell Efficiency	16.80%
Number of Cells in Series	36
Cell Type BC	Poly
Number of Strings in Parallel	1
Max Power Tolerance	± 5%

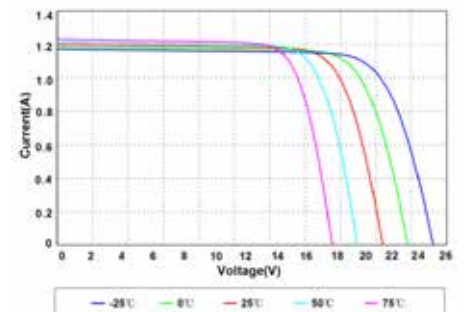
ELECTRICAL PARAMETERS AT STANDARD TEST CONDITIONS



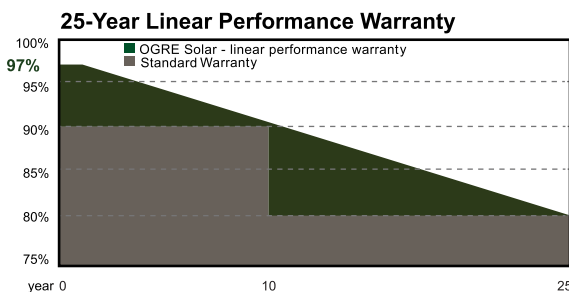
I-V Curves



Current-Voltage Curves at Different Irradiances



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.

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Subject to change without notice. May 2018