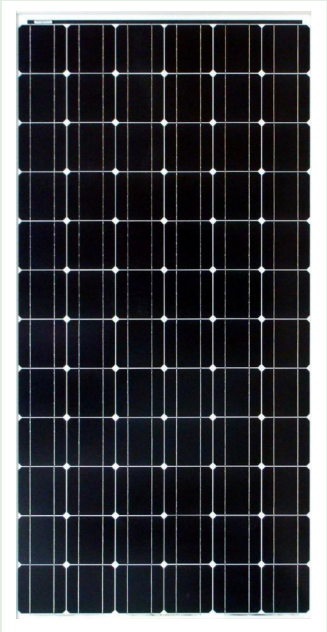
AMERESCO SOLAR
Green • Clean • Sustainable



# 190W and 200W Photovoltaic Modules 190J-V and 200J-V

This line of modules is the direct result of over three decades of design, manufacturing and use. Attending to every detail in the design and manufacture of our products, our process controls and testing methods have optimized module life and electrical energy production.

Ameresco Solar's off-grid module line offers the following features and benefits:

### ► Built to last

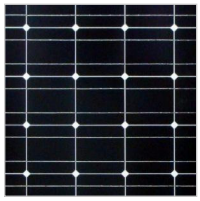
From mountaintops to off-shore platforms, on weather stations in the bitter cold of Antarctica and on telephone signal repeaters in the hot Australian outback, the technology has been proven in the harshest environments.

### ► Accessible junction box for off-grid connections

J-type junction box has accessible terminals for easier module interconnections in off-grid applications, and it allows fitting cable glands for various sections.

### ► Thick, durable scratch resistant back sheet

The thick back sheet provides extra insulation and increased resistance to protect your module against rough handling. Made of white polyester, it ensures longer term performance and increased energy production.



### ► High reliability

Cell interconnections and diode placement use well-established industry practice and are field-proven to provide excellent reliability.

ISO 9001

C US

### ► Quality and certifications

ISO 9001 factory certification ensures that our manufacturing facilities use proven manufacturing and quality control processes.

Certified to UL1703 3rd Edition and ULC 1703-01
Certified for use in Class I, Division 2, Groups ABCD Hazardous locations

## ectrical characteristics

| | 190J-V / 200J-V | |
|---|---|---|
| | (1) STC 1000W/m² | (2) NOCT 800W/m² |
| imum power ($P_{max}$) | 190W / 200W | 137W / 144W |
| age at $P_{max}$ ($V_{mpp}$) | 37.6V / 37.6V | 33.6V / 33.6V |
| ent at $P_{max}$ ($I_{mpp}$) | 5.06A / 5.32A | 4.05A / 4.26A |
| t circuit current ($I_{sc}$) | 5.56A / 5.84A | 4.55A / 4.78A |
| n circuit voltage (Voc) | 45.3V / 45.3V | 41.0V / 41.0V |
| ule efficiency | 15.2% / 16.0% | |
| rance (Pmax) | -0/+3% | |
| inal voltage | 24V | |
| iency reduction | <5% reduction | |
| at 200W/m² | efficiency 14.4% / 15.2% | |
| ting reverse current | 5.56 / 5.84 | |
| perature coefficient of Isc | 0.105%/°C | |
| perature coefficient of Voc | -0.360%/°C | |
| perature coefficient of (Pmax) | -0.45%/°C | |
| IOCT | 47±2°C | |
| imum series fuse rating | 20A | |
| imum system voltage | 600V (U.S. NEC) | |

es at Standard Test Conditions (STC): 1000W/m² irradiance, AM1.5 solar spectrum and 25ºC module rature

es at 800W/m² irradiance, Nominal Operation Cell Temperature (NOCT) and AM1.5 solar spectrum inal Operation Cell Temperature: Module operation temperature at 800W/m² irradiance, 20ºC air rature, 1m/s wind speed

## chanical characteristics

| | |
|---|---|
| r cells | 72 crystalline 5” silicon cells (125 x 125mm) in series |
| t cover | High transmission 3.2mm (1/8th in) glass |
| apsulant | EVA |
| k cover | White polyester |
| ne | Silver anodized aluminum |
| tion box | IP65 with 4 terminal screw connection block; accepts PG 13.5, M20 13mm (½”) conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5-10mm² (8-14 AWG) wire |
| ensions | 1587 x 790 x 50mm / 62.5 x 31.1 x 2in |
| ght | 15.4kg / 33.95lbs |

mensional tolerances within ±1% unless otherwise stated.

## rranty*

ree from defects in materials and workmanship for 2 years
0% min. power output over 12 years
ptional 25 years available
r to warranty document for terms and conditions.

## rtification

d to UL1703 3rd Edition & ULC ORD-C1703-01 Standard for Safety
SA Module Fire Performance Type 4 (for USA) or Class C fire rating Canada)

roved by CSA according to CAN/CSA C22.2 No. 213-17
UL 12.12.01-Ninth Edition for use in Class I, Division 2, Groups ABCD ardous (Classified) Locations

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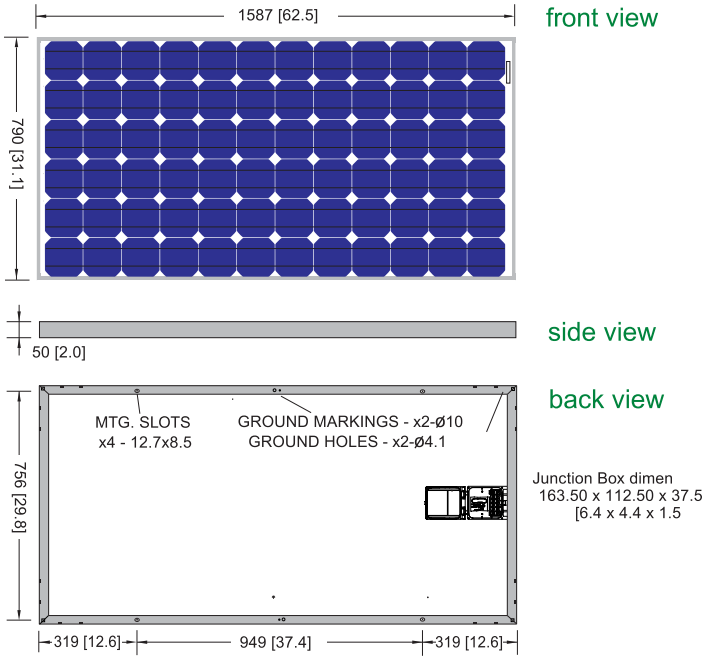
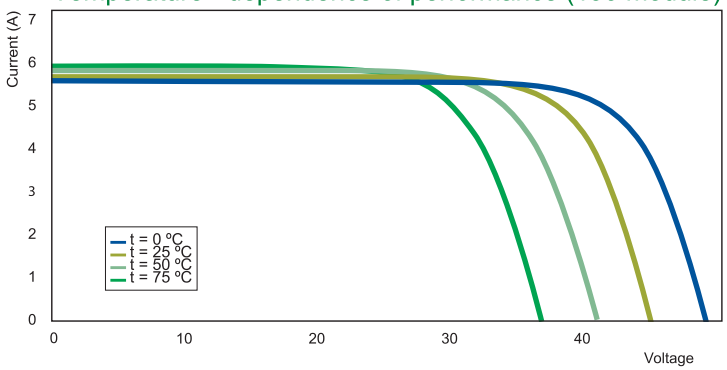
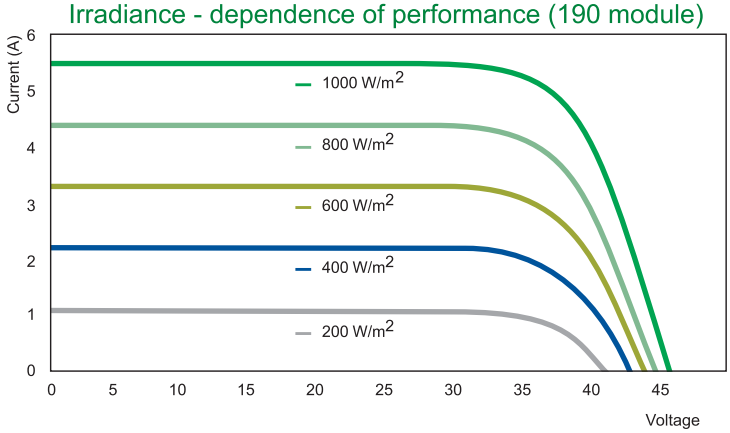



Dimensions in mm [in].

Temperature - dependence of performance (190 module)




Irradiance - dependence of performance (190 module)




For more information, call 855-43-SOLAR or visit www.amerescosolar.com.