

Beam N DUAL GLASS Solar Panel

440-450W

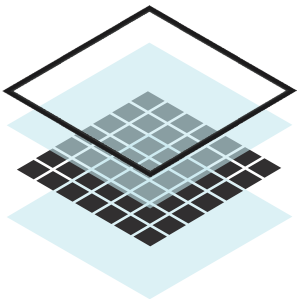
Black Profile (182mm)

Mono PERC Half Cell Module

ENSP54NDGT2S440BL ENSP54NDGT2S450BL
ENSP54NDGT2S445BL



Built using Mono-crystalline PERC technology, the Energizer® Solar Panels range combine two of the best technologies in the market.



Dual Glass Construction

- Panel Frame
- Front Glass Panel
- Solar Cells
- Rear Glass Panel

Dual glass technology

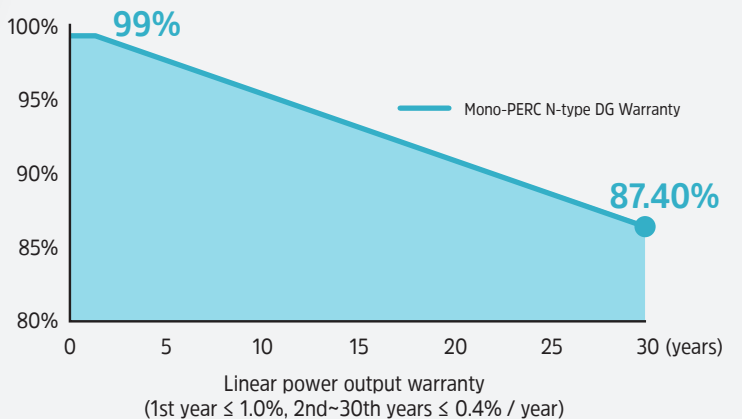
Lower operating temperatures

Improved fire & water resistance

Improved durability with no extra weight

Quality controlled by artificial intelligence

Positive power tolerance of 0~+5W



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Electrical Specifications

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|---------------------|--|--|---------|---------|---------|---------------------------------------|--|------------|--|--------------------------------------|--|-------------|--|--------------------------------------|--|------------|--|---|--|--------|--|---------------------------------|--|---------------------|--|------------------|--|---|--|------------------------|--|-------|--|----------------------------|--|------|--|
| STC rated output (P_{mpp}) | 440 Wp | 445 Wp | 450 Wp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage (V_{mpp}) at STC | 33.05 V | 33.22 V | 33.39 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated current (I_{mpp}) at STC | 13.31 A | 13.40 A | 13.48 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Open circuit voltage (V_{oc}) at STC | 39.00 V | 39.20 V | 39.40 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Short circuit current (I_{sc}) at STC | 14.10 A | 14.19 A | 14.28 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Module efficiency | 22.0% | 22.3% | 22.5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated output (P_{mpp}) at NMOT | 330.9 Wp | 334.6 Wp | 338.4 Wp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage (V_{mpp}) at NMOT | 31.11 V | 31.27 V | 31.43 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated current (I_{mpp}) at NMOT | 10.64 A | 10.70 A | 10.77 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Open circuit voltage (V_{oc}) at NMOT | 37.04 V | 37.23 V | 37.42 V </tr <tr> <td>Short circuit current (I_{sc}) at NMOT</td> <td>11.38 A</td> <td>11.46 A</td> <td>11.54 A</td> </tr> <tr> <td>Temperature coefficient (P_{mpp})</td> <td></td> <td>- 0.29%/°C</td> <td></td> </tr> <tr> <td>Temperature coefficient (I_{sc})</td> <td></td> <td>+ 0.043%/°C</td> <td></td> </tr> <tr> <td>Temperature coefficient (V_{oc})</td> <td></td> <td>- 0.25%/°C</td> <td></td> </tr> <tr> <td>Nominal module operating temperature (NMOT)</td> <td></td> <td>41±2°C</td> <td></td> </tr> <tr> <td>Maximum system voltage (IEC/UL)</td> <td></td> <td>1500V_{oc}</td> <td></td> </tr> <tr> <td>Number of diodes</td> <td></td> <td>3</td> <td></td> </tr> <tr> <td>Junction box IP rating</td> <td></td> <td>IP 68</td> <td></td> </tr> <tr> <td>Maximum series fuse rating</td> <td></td> <td>30 A</td> <td></td> </tr> | Short circuit current (I_{sc}) at NMOT | 11.38 A | 11.46 A | 11.54 A | Temperature coefficient (P_{mpp}) | | - 0.29%/°C | | Temperature coefficient (I_{sc}) | | + 0.043%/°C | | Temperature coefficient (V_{oc}) | | - 0.25%/°C | | Nominal module operating temperature (NMOT) | | 41±2°C | | Maximum system voltage (IEC/UL) | | 1500V _{oc} | | Number of diodes | | 3 | | Junction box IP rating | | IP 68 | | Maximum series fuse rating | | 30 A | |
| Short circuit current (I_{sc}) at NMOT | 11.38 A | 11.46 A | 11.54 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature coefficient (P_{mpp}) | | - 0.29%/°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature coefficient (I_{sc}) | | + 0.043%/°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature coefficient (V_{oc}) | | - 0.25%/°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal module operating temperature (NMOT) | | 41±2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum system voltage (IEC/UL) | | 1500V _{oc} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of diodes | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Junction box IP rating | | IP 68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum series fuse rating | | 30 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5
 NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s
 Name plate tolerances: Pmax +/-3.5%, Voc +/-3.5%, Isc +/-5%

Electrical Specifications (Integrated power)

| Pmpp Gain | Pmpp / Wp | Vmpp / V | Impp / A | Voc / V | Isc / A |
|-----------|-----------|----------|----------|---------|---------|
| 5% | 462 | 33.05 | 13.98 | 39.00 | 14.81 |
| 10% | 484 | 33.05 | 14.64 | 39.00 | 15.51 |
| 15% | 506 | 33.05 | 15.31 | 39.00 | 16.22 |
| 20% | 528 | 33.05 | 15.98 | 39.00 | 16.92 |
| 25% | 550 | 33.05 | 16.64 | 39.00 | 17.63 |

Other Specifications

| | |
|---|---|
| Outer dimensions (L x W x H) | 1762 x 1134 x 30 mm |
| Cell type | N type Mono-crystalline |
| No. of cells | 108 (6*18) |
| Frame technology | Black Aluminum frame |
| Front glass thickness | 1.6+1.6 mm |
| Cable length (IEC/UL) | Portrait: (+) 350mm, (-) 250mm |
| Cable diameter (IEC/UL) | 4 mm ² / 12 AWG |
| Maximum mechanical test load | 5400 Pa (front) / 2400 Pa (back) |
| Connector type (IEC/UL) | PV-HCB40 (Astronergy) or PV-KST4-EVO2/xy-UR, PVKBT4-EVO2/xy (Stäubli) |
| Module weight | 21.5 kg |
| Packing unit | 36 pcs / box |
| Weight of packing unit (40ft container) | 820 kg |
| Modules per 40ft container | 936 pcs |
| Fire Class Rating | Class A |
| Country of Manufacturer | China |

Curve

