

High-efficiency PV Module LA40-12S

Technology

The LORENTZ LA-Series of PV modules offer a conversion efficiency of 17-20% due to the unique back-contact technology.

Our monocrystalline silicon solar cells yield a higher voltage per cell. Therefore 32 cells are sufficient to provide the same voltage as traditional 36-cell modules. As a result, LORENTZ modules are lighter and smaller.

In combination with an extremely low voltage-temperature coefficient, this guarantees a superior battery charging performance, even at high operating temperatures.

Exceptional low-light performance and broad spectral response further enhance energy delivery in all weather conditions, year round.

Features

- aerospace style cell interconnects with in-plane strain relief
- advanced EVA encapsulation system with multi-layer backsheet for long-term package durability
- bypass diodes to minimize the power drop caused by shade
- high reliability

Warranty

- Warranty: 2 years
- Performance guarantee:
10 years (90% power output)
20 years (80% power output)

Details according to warranty issued by LORENTZ

Standards

LA40-12S meets the requirements for IEC and CE.



Applications

- remote village lighting
- solar home systems
- street and camp lights
- traffic signals
- medical facilities in remote areas
- microwave/radio repeater stations
- battery charging
- water pumping
- water purification systems



Specifications

Electrical Data

| | | | |
|---|------------------|---------|----------|
| Peak power | P _{max} | [Wp] | 40 |
| Tolerance | | [%] | +15 / -5 |
| Max. power current | I _{mp} | [A] | 2.4 |
| Max. power voltage | V _{mp} | [V] | 16.8 |
| Short circuit current | I _{sc} | [A] | 2.7 |
| Open circuit voltage | V _{oc} | [V] | 21.1 |
| Efficiency of cells | | [%] | 18.0 |
| Temperature co-efficient for P _{max} | | [%/°C] | -0.38 |
| Temperature co-efficient for V _{oc} | | [mV/°C] | -60.8 |
| Temperature co-efficient for I _{sc} | | [mA/°C] | 1.8 |
| Max. system voltage | | [V] | 600 |

All technical data at standard test condition:

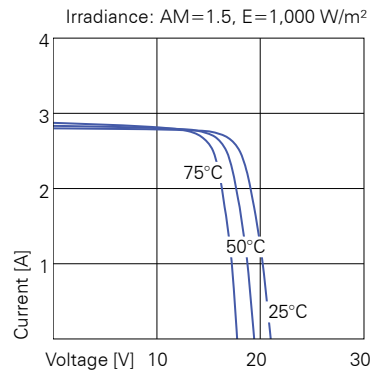
AM = 1.5, E = 1,000W/m², cell temperature: 25 °C

Cells

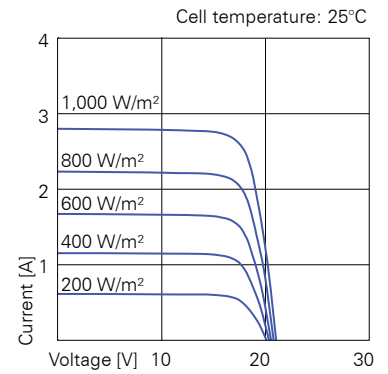
| | |
|----------------------------|-----------------|
| Number of cells per module | 32* |
| Cell technology | monocrystalline |
| Cell shape | rectangular |

* Due to the back-contact cell technology only 32 cells are required to yield the same V_{mp} voltage as traditional SI products with 36 cells.

Electrical Performance

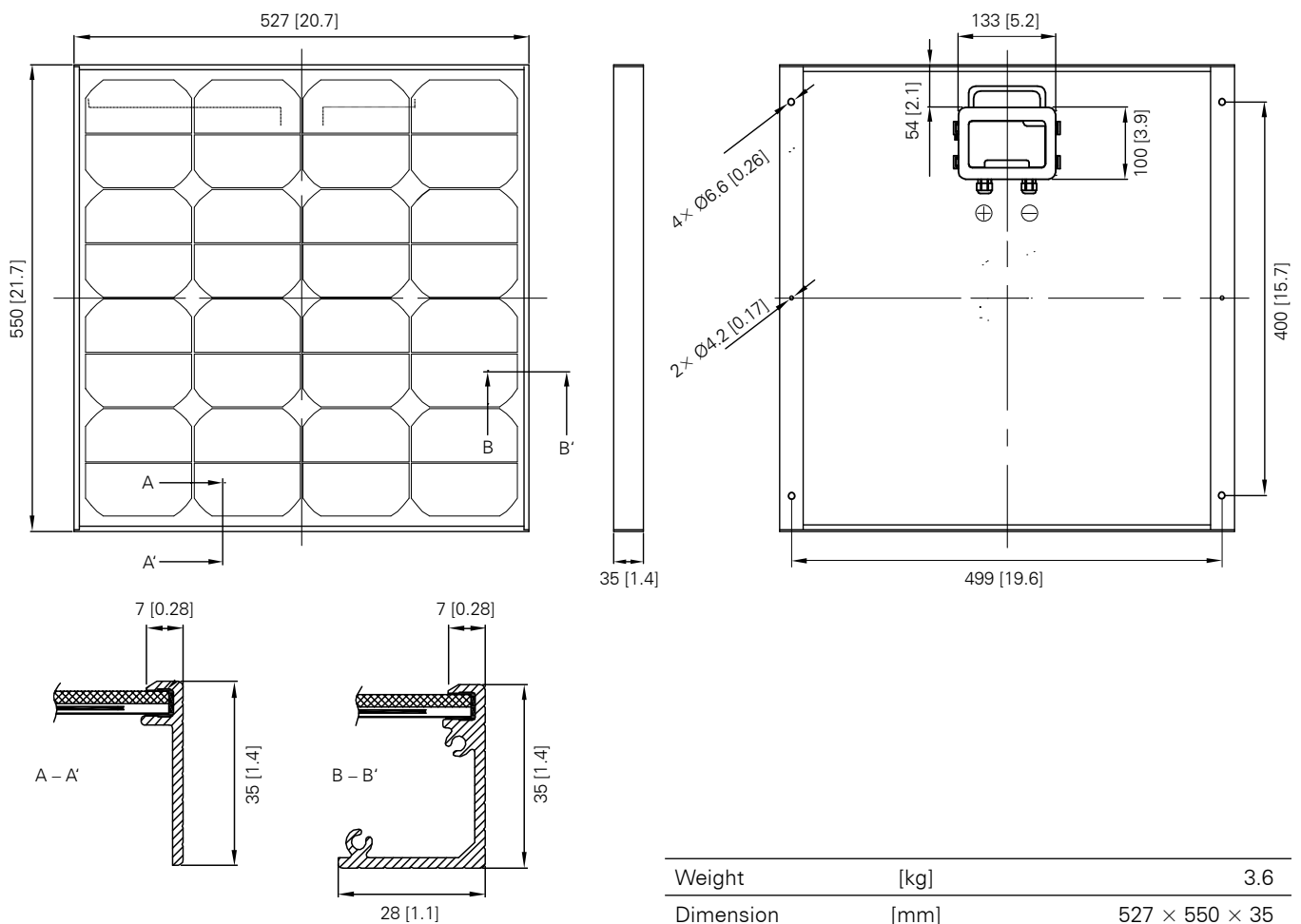


Current-voltage characteristics of PV module LORENTZ LA40-12S at various cell temperatures.



Current-voltage characteristics of PV module LORENTZ LA40-12S at various irradiation levels.

Physical Specifications mm [in]



| | | |
|-----------|------|----------------|
| Weight | [kg] | 3.6 |
| Dimension | [mm] | 527 × 550 × 35 |