

High-efficiency PV Module LA50-12S

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

LA50-12S meets the requirements for IEC and CE.



Applications

- remote village lightning
- 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]	50
Tolerance		[%]	+15 / -5
Max. power current	I _{mp}	[A]	3.0
Max. power voltage	V _{mp}	[V]	17.4
Short circuit current	I _{sc}	[A]	3.4
Open circuit voltage	V _{oc}	[V]	21.0
Efficiency of cells		[%]	17.4
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]	2.0
Max. system voltage		[V]	600

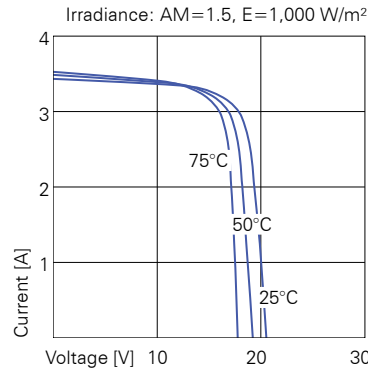
All technical data at standard test condition:
AM = 1.5, E = 1,000W/m², T_c = 25 °C

Cells

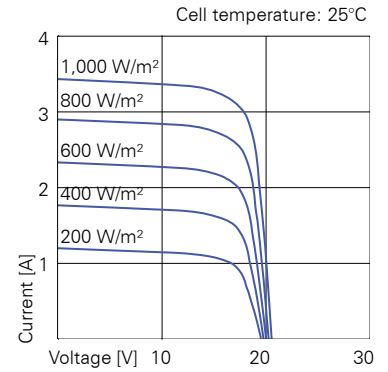
Number of cells per module	32*
Cell technology	monocrystalline
Cell shape	rectangular

* 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

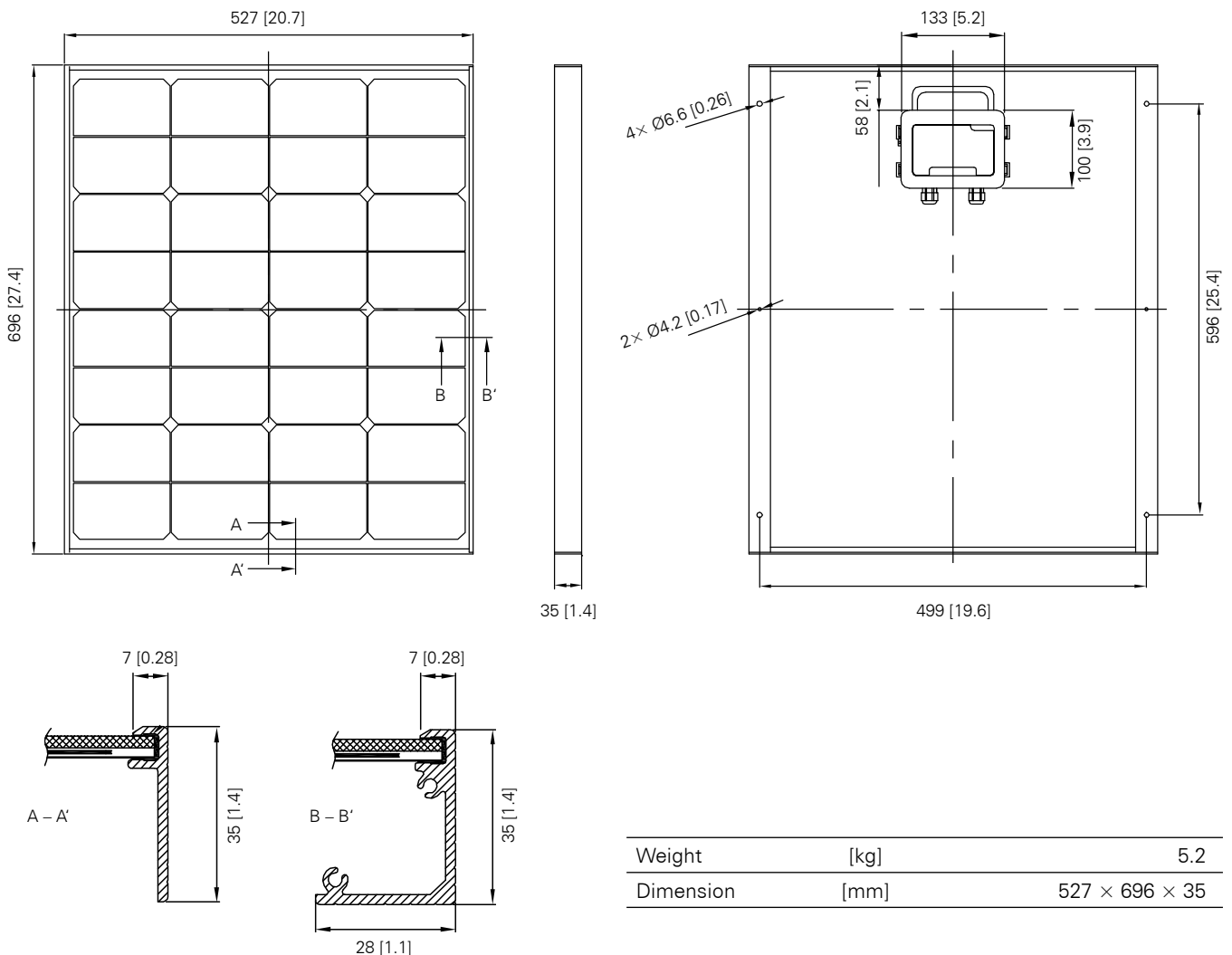


Current-voltage characteristics of PV module LORENTZ LA50-12S at various cell temperatures.



Current-voltage characteristics of PV module LORENTZ LA50-12S at various irradiation levels.

Physical Specifications mm [in]



Weight	[kg]	5.2
Dimension	[mm]	527 × 696 × 35