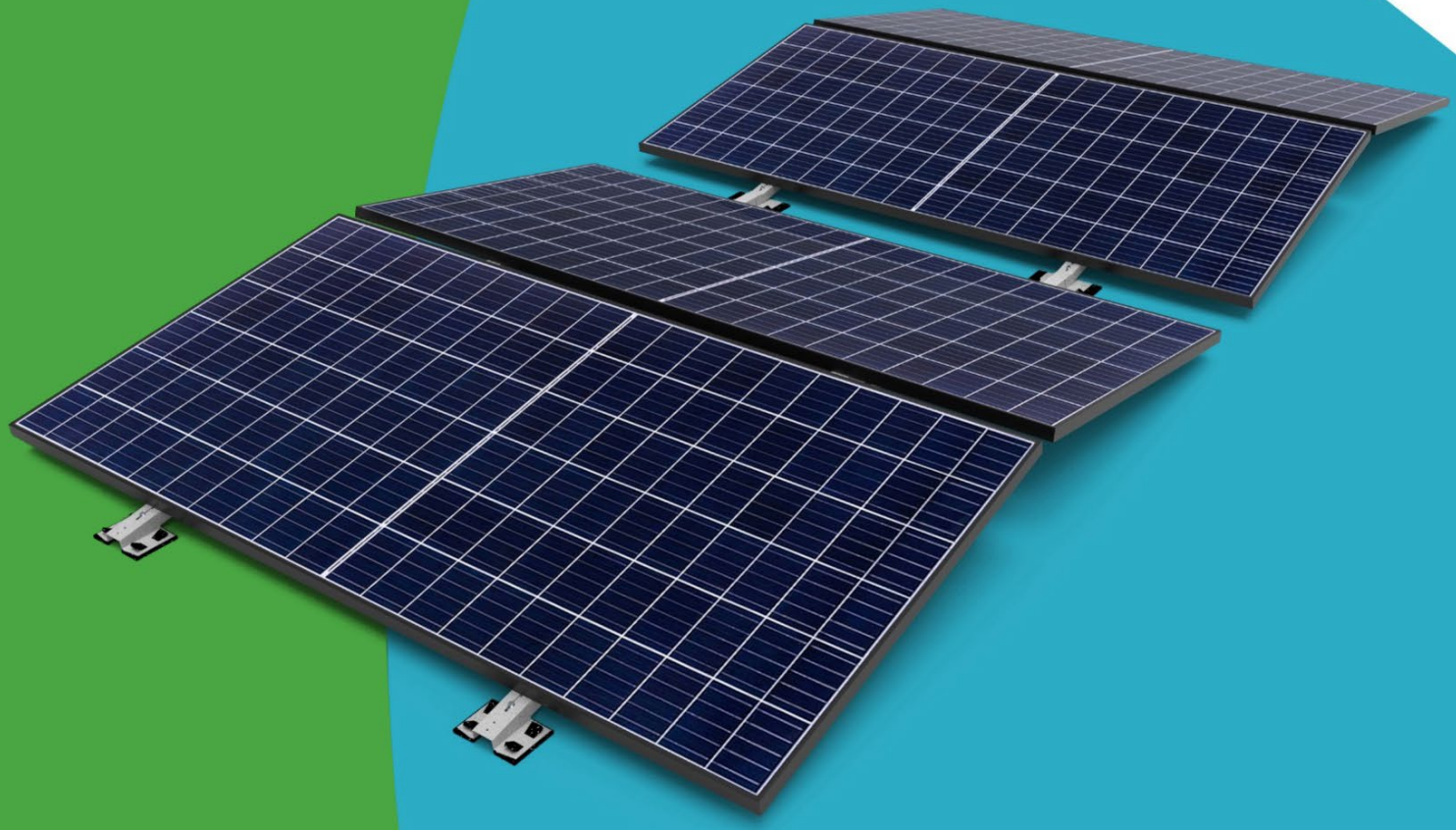
SmartSolarBox

The Power-Package

The revolution in flatroof PV-Systems

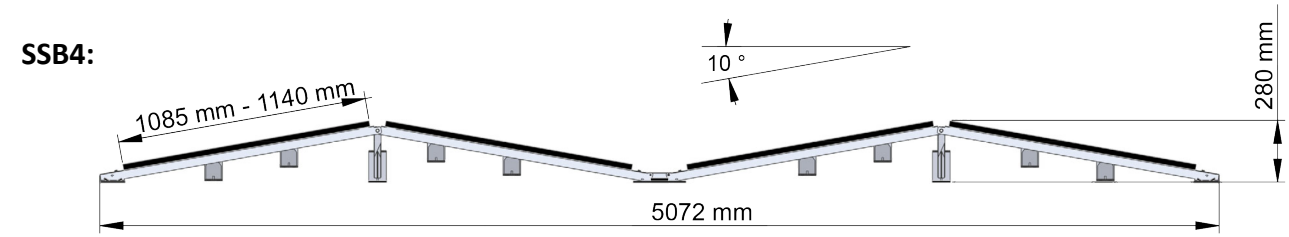


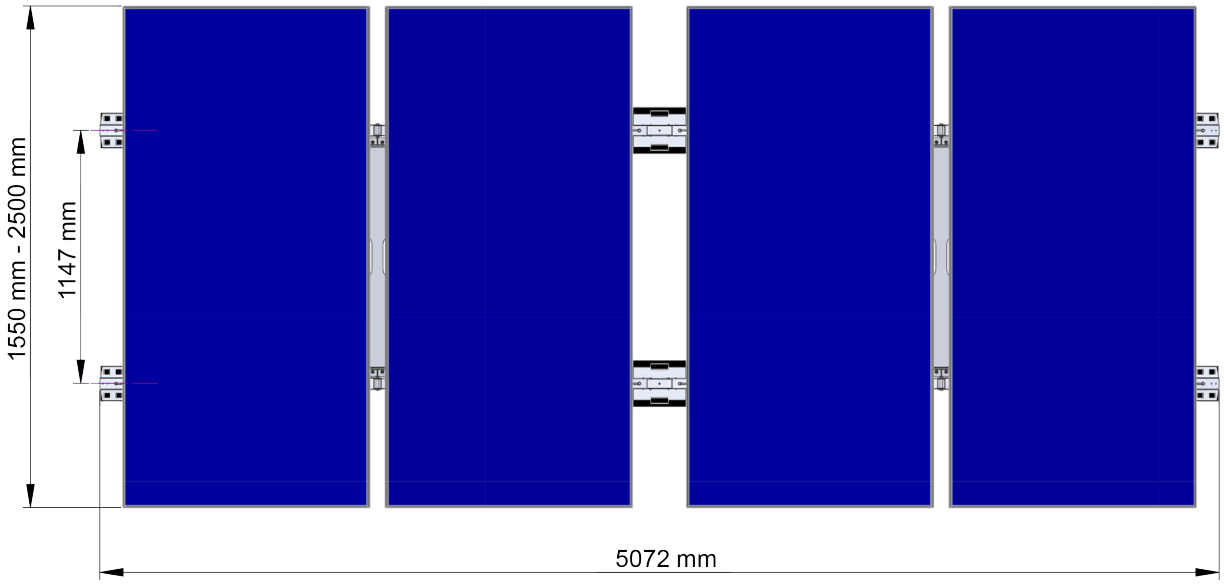
Technical Datasheet
SmartSolarBox Version 5.0

Smartvolt AG

The Path to Smart Energy

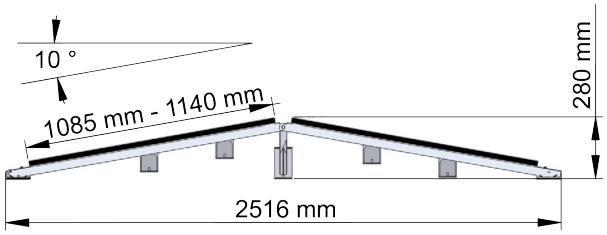
SSB4:

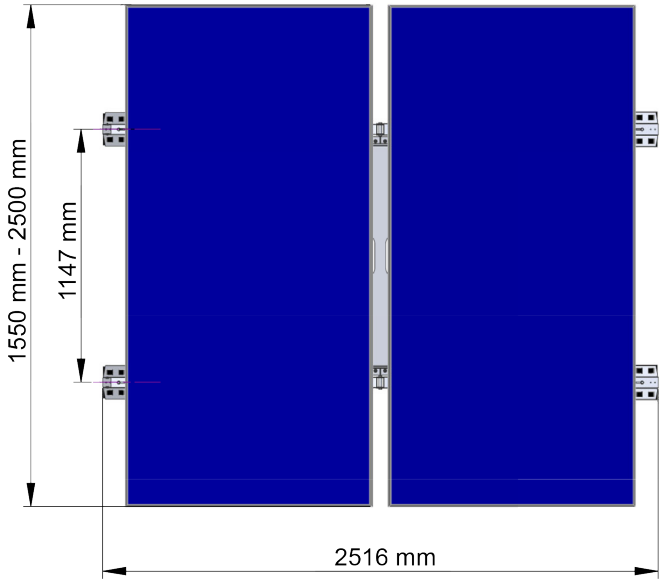




Technical Data	
Scope of application	Flat roofs with a pitch of ≤ 5° with foil or bitumen covering, on concrete, gravel or green roofs; also suitable for trapezoidal sheet metal roofs [1)]
Ballast[2)]	Built in concrete ballast elements – no roof penetration
Module Angle	10°
Orientation	East-West
Material of structure	Magnelis® ZM310 [3)]
Roof contact	Building protection mat 8mm (PUR-bond rubber granules) [4)]
DC-cable	integrated – connector: original Stäubli MC4-Evo 2
Power optimizer/ Module-inverter	Optional power-optimizer or module inverter can be integrated into the SmartSolarBox system during production
Weight (excl. PV-Module)	226kg / 150kg / 74kg (SSB4 in version CORNER / HEAVY / LIGHT)
Distributed load[5)]	17.3kg/m^2 up to 34.0kg/m^2 (depending on version, without snow)
Maximum bearing pressure[5)]	19’500Pa without and 60’300Pa including snow load
Usable PV-module dimensions[6)]	Width: 1085 – 1140 mm[7)] Length: 1550 – 2500 mm Frame thickness: 30 – 35 mm
Lightning protection	Lightning current carrying capability classification N (50kA) optional
Approvals	Wind evaluation by I.F.I. Institut für Industrieaerodynamik GmbH Wind- and snowload test by REECH Renewable Energy Solutions Lightning current carrying capability test by DEHN Test Centre

SSB2:





1) When used on trapezoidal roofs, additional support for the outer and central feet may be necessary.

2) The maximum ballast that can be integrated into the SmartSolarBox is 50kg per PV module ("CORNER" version). If this is not sufficient in the specific project, additional ballast stones of 25kg each can be installed in the solar generator after the SSBs have been placed.

3) In September 2019, the German Institute for Construction Technology (DIBt) granted ArcelorMittal's Magnelis® coating a general building approval (No. Z-30.11-51). The DIBt confirms the protection period of ZM310 when used in an environment of corrosivity class C4 with up to 30 years.

4) PUR Building protection mats contain plasticizers.

5) Distributed load and bearing pressure was calculated by using the Jinko Tiger Neo 54 (1134x1762x30mm / 22kg). Snow load s_k = 0.85 kN/m^2

6) The maximum size of the PV module that can be used must be clarified on a project-specific basis and depends on the expected snow and wind loads at the place of use.

7) Because the solar modules are clamped from underneath, the module width that can be used depends on various parameters. If in doubt, the suitability of PV modules should be tested in advance or checked by SmartVolt according to the module manufacturer's data sheet.

SmartSolarBox

Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. Smartvolt AG has the sole right to make such modification at anytime without further notice;

Smartvolt AG
The Path to Smart Energy

Bitte kontaktieren sie uns:
Smartvolt AG
Bettlacherstrasse 4
2545 Selzach
SWITZERLAND

info@smartvolt.ch
+41 62 961 92 10
www.smartvolt.ch

16.07.2024