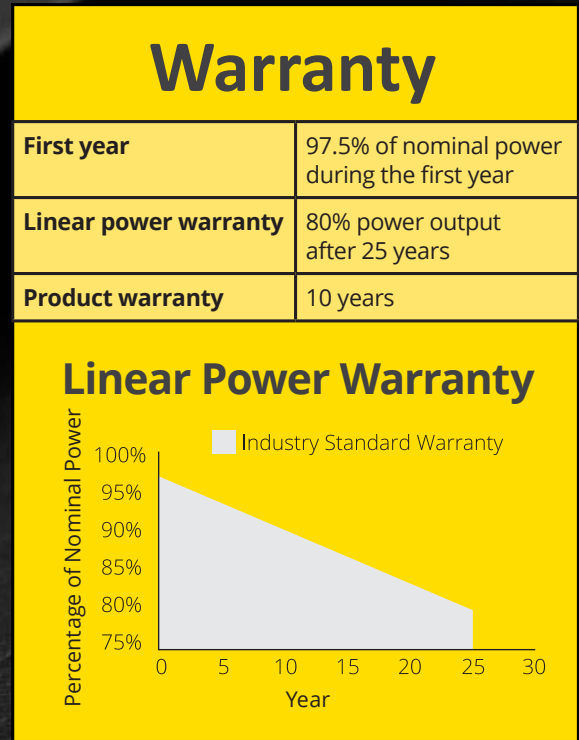


Roofit 3x12/160W/RR33/B/DS

Building integrated photovoltaic module

-  **High mechanical load resistance because of metal back sheet**
-  **Snail trail free structure**
-  **Strictly positive 0...+5 % power tolerance**
-  **Superior linear power warranty
Maximum 0.8 % degradation per year**
-  **Made in EU**
-  **Outstanding low light performance**
-  **Roofing material and photovoltaic module
2in1**
-  **Suitable for historic buildings**
-  **Ideal photovoltaic solution for sloped roofs**
-  **Patent pending technology**



Mechanical Specifications

Cells	3 x 12 mono PERC
Junction boxes	decentralized three bypass diodes protection class IP67 PV4 connections
Effective roof coverage	1973 mm x 545 mm
Mounting method	double seam technology
Weight	16.0 kg
Front glass	3.2 mm temperad low-iron glass with anti-reflective technology
Back sheet	0.5 mm metal sheet with highly durable PUR coating
Impact resistance	d = 35 mm hailstone 46 m/s = 165.5 km/h
Minimum roof slope	10 degrees
Minimum ventilation below	50 mm



Working Conditions

Maximum System Voltage	1000 VDC
Operating Temperature	-40 °C ... +85 °C
Maximum Series Fuse Rating	15 A

Electrical Characteristics

Standard Test Conditions (irradiance 1000 W/m², cell temperature 25 °C, spectrum AM1.5)

Nominal Power	P_{mpp} (W)	160
Power Tolerance		0...+5 %
MPP Voltage	V_{mpp} (V)	19.0
MPP Current	I_{mpp} (A)	8.44
Open Circuit Voltage	V_{oc} (V)	23.9
Short Circuit Current	I_{sc} (A)	9.00

Normal Operating Conditions (irradiance 800 W/m², air temperature 20 °C, wind 1 m/s, spectrum AM1.5)

Power	P_{mpp} (W)	117.5
MPP Voltage	V_{mpp} (V)	17.6
MPP Current	I_{mpp} (A)	6.67
Open Circuit Voltage	V_{oc} (V)	22.0
Short Circuit Current	I_{sc} (A)	7.16

Power Measurement Tolerances ± 3 %
Other Parameter Tolerances 0...5 %

Thermal Characteristics

Normal Operating Cell Temperature	NOCT	45 ± 2 °C
Temperature Coefficient of P_{mpp}	γ	-0.39 %/°C
Temperature Coefficient of V_{oc}	β	-0.30 %/°C
Temperature Coefficient of I_{sc}	α	0.06 %/°C

- Roofit.solar modules are tested according to **CEN TS 1187** for fire safety and comply with **EN 13501-5:2016 B_{roof}(t2)** classification criteria when installed.

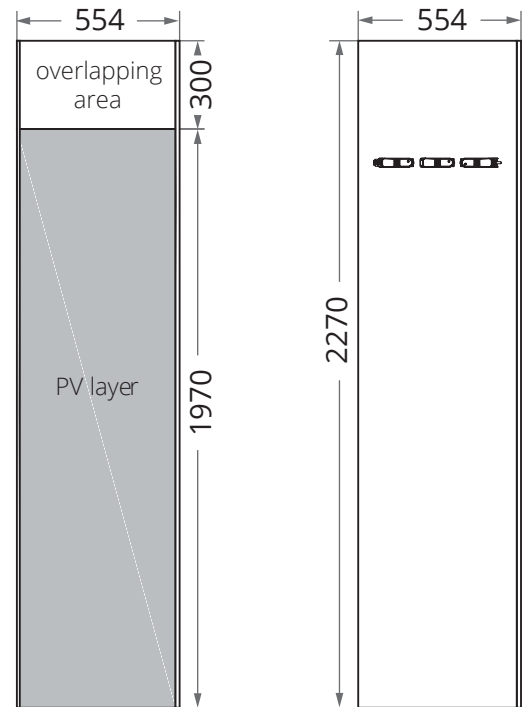
- Roofit.solar modules completed and passed **Electrical Shock Hazard Tests by Kiwa Inspecta** according to standard **EVS-EN IEC 61730-2:2018**.

- Metal parts of Roofit.solar modules are **CE** marked according to standard **EN 14782:2006**.

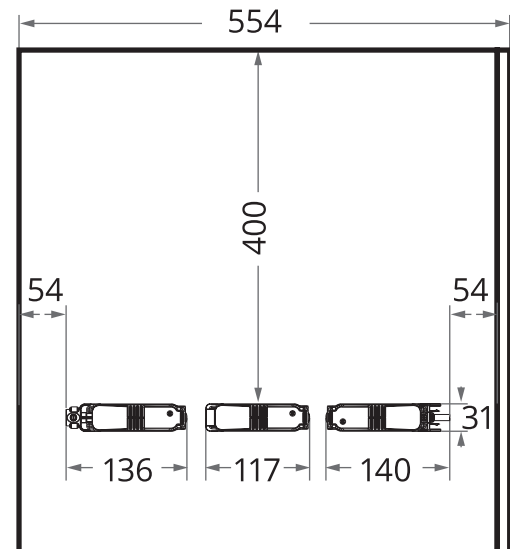
Engineering Drawings (units mm)

View from the Front

View from the Back



Junction boxes location



View from the Bottom Edge



View from the Bottom Edge (installed module)



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Photovoltaic metal roofs