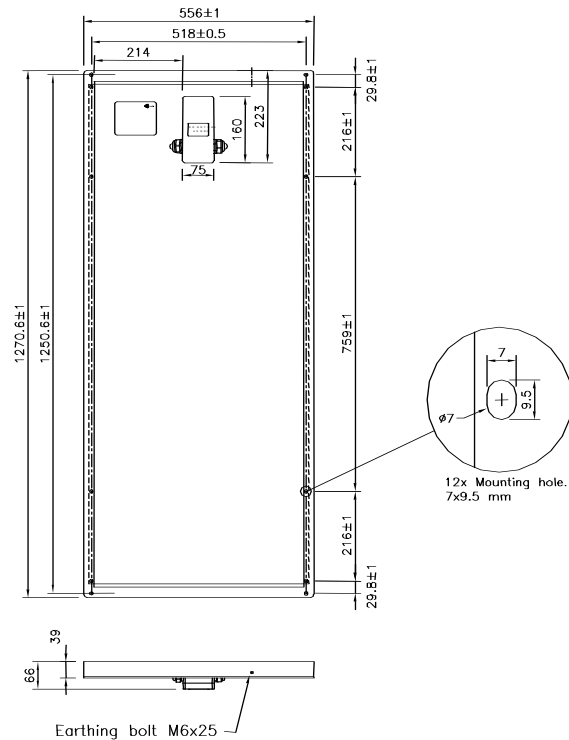


Front view



Dimensions

**Designed for hazardous areas:** the TSM85-EX solar module is particularly suited for use in hazardous areas. (Zone 1 according to EN 60079-0, EN 60079-18, EN 60079-7).


**Strong and well protected:** the solar cells are embedded in ultraviolet stabilised ethyl vinyl acetate (EVA) and encapsulated between 2 highly transparent tempered glass, offering the solar module excellent protection against environmental hazards such as hail, snow, ice and storms. This entire laminate is assembled in an anodised aluminium frame to provide structural strength and easy mounting either from the front or from the rear side. A dust and watertight IP66-rated glass fibre reinforced polyester Ex-e junction box is mounted on the rear side of the laminate for electrical connections. The junction box is provided with 2 EEx-e M25 glands for cables with a maximum diameter of 18mm.

**Powerful:** it contains 36 (5") in series connected polycrystalline silicon solar cells and generates a typical peak power of 85 watt at 17.6 Volt with a conversion efficiency of the cells of approx. 15%.

### Features

- Built in by-pass diodes to prevent hotspot situations
- Only one interconnection cable is necessary to connect solar modules in series, in parallel or a combination of these.

### Qualifications and Certificates

- Hazardous area certification by KEMA according EN 60079-0, EN 60079-18, EN 60079-7
- TSM85EX solar modules are produced according IEC 61215
- Ex certificate: 06ATEX0020X
- Execution:  II 2 G Ex emb II T4

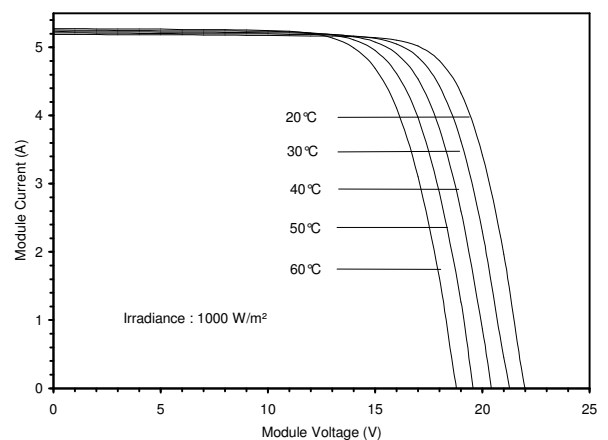
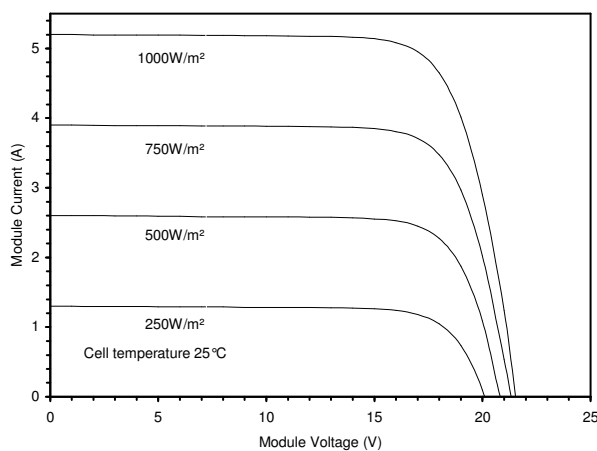


<b>Mechanical specifications</b>	
Dimensions (L x W x D)	127,0 x 55,6 x 6,6 cm
Weight	13 kg
Shipping dimensions (L x W x D)	131 x 60 x 9 cm
Shipping weight	16 kg

<b>Electrical characteristics</b>	
Typical data <sup>(1)</sup>	
Typical peak power ( $P_{mpp}$ )	85 W
Minimum power ( $P_{mpp\ min}$ )	80,1 W
Nominal voltage	12 V
Voltage at typical power ( $V_{mpp}$ )	17,6 V
Current at typical power ( $I_{mpp}$ )	4,8 A
Open circuit voltage ( $V_{oc}$ )	21,6 V
Short circuit power ( $I_{sc}$ )	5,2 A
<b>Temperature coefficients</b>	
$\alpha P_{mpp}$	-0,43 %/°C
$\alpha V_{mpp}$	-79 mV/°C
$\alpha I_{sc}$	+1,46 mA/°C
Maximum system voltage	50V
Operating temperature	-20 °C to +55 °C

<sup>(1)</sup> Measured at Standard Test Conditions (STC): 1000 W/m<sup>2</sup> irradiation level, AM 1,5 spectrum at 25 °C cell temperature.

### Typical I/V characteristics:



The I/V characteristic above shows the typical performance of the solar module at various cell temperatures and at various levels of irradiance (T = 25°C)