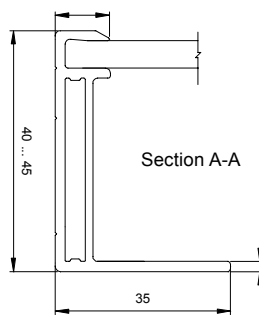
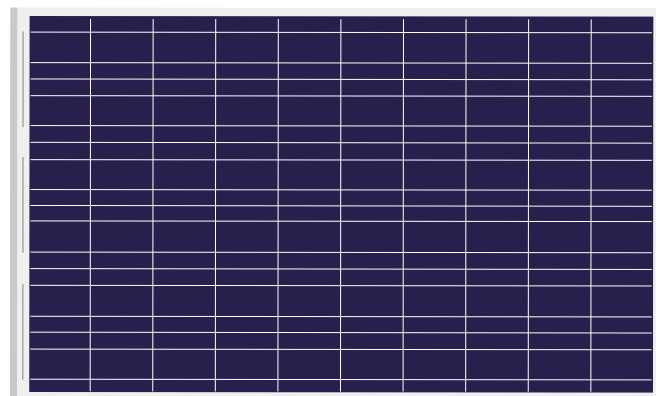
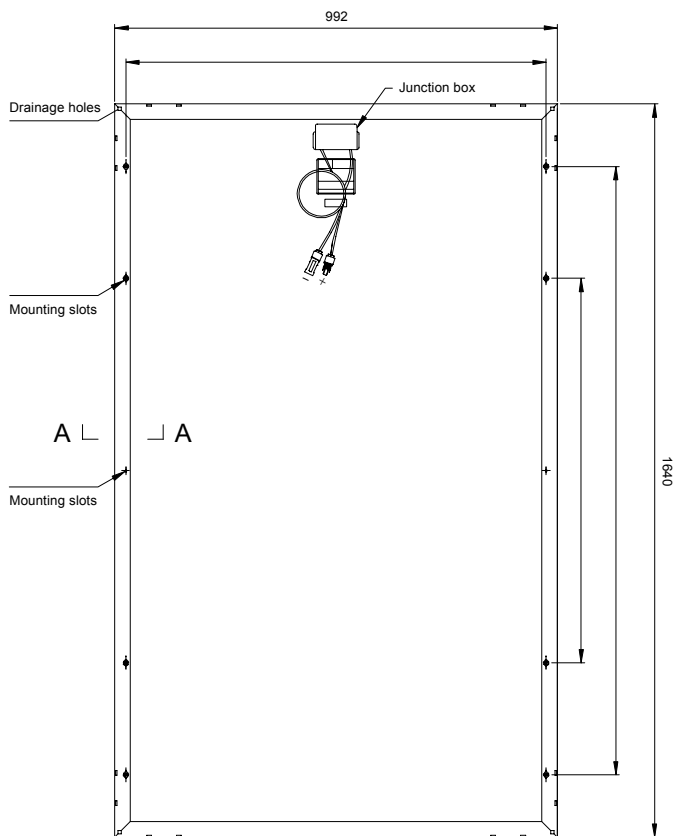


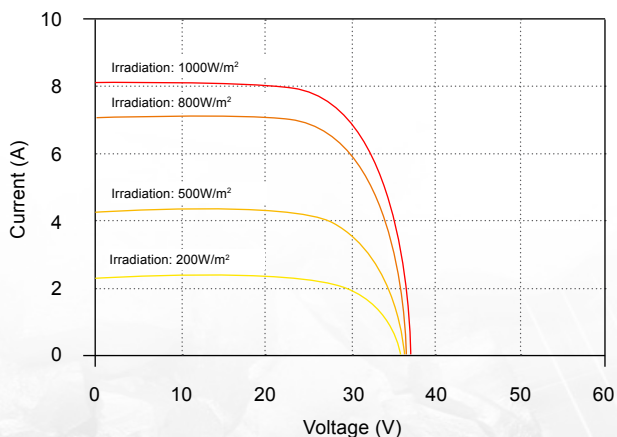
## TPV220-PO Photovoltaic panel family

It adopts high transparent low iron, tempered glass and self-supporting solar cells in order to improve conversion efficiency on our solar modules. The TVP220-PO series modules consists of 60pcs 156×156mm poly-crystalline silicon solar cells which are in high efficiency, individually characterized and electronically matched before interconnection. Laminated with high quality toughened glass, the operating characteristics of solar cells can be ensured under any climatic conditions. After assembled by anodized aluminum alloy frame and cable with connector, the solar modules are designed for long service life, easy to install, withstand the storm, high wind and hail impact etc.



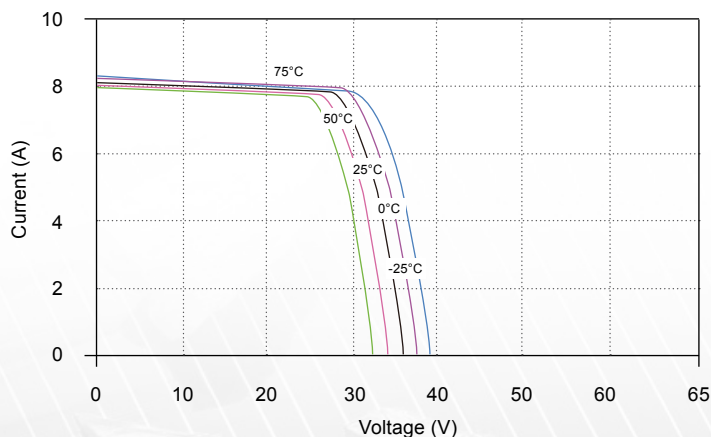
### IV-Curves

IV-Curve (STC)



Test condition: @STC 1000W/m<sup>2</sup>, AM1.5, 25°C, Pmpp: ± 1.5% rel.  
Test Method according to: IEC6094-8 6094-3-ED/2008, 60904-1

IV-Curve (Temperature)



Test condition: @1000W/m<sup>2</sup>, AM1.5, -25 / 0 / 50 / 75°C  
Pmpp: ± 1.5% rel.

## TPV220-PO Photovoltaic panel family

Module family		TPV 220-PO / XXX Wp			
Module Type		TPV 220-PO 240W	TPV 220-PO 245W	TPV 220-PO 250W	TPV 220-PO 260W
<b>Electrical parameter</b> <i>1000W/m<sup>2</sup> (STC)</i>					
Maximum Power (P Max)	[W]	<b>240</b>	<b>245</b>	<b>250</b>	<b>260</b>
Maximum system Voltage (V)	[V]	1000			
Maximum Power Voltage (Vmp)	[V]	30,6	30,8	30,91	31,7
Maximum Power Current (Imp)	[A]	7,85	7,96	8,09	8,21
Open Circuit Voltage (Voc)	[V]	37,7	37,98	38,11	38,14
Short Circuit Current (Isc)	[A]	8,38	8,49	8,62	9,03
Cell Efficiency	%	17	17,2	17,6	17,8
Operating temperature	°C	-40 ... +85			
NOCT	°C	48±2			
Short-circuit Current temperature coefficient	% / °C	0,09			
Open-circuit Voltage temperature coefficient	% / °C	-0,43			
Peak power temperature coefficient	% / °C	-0,43			
Junction box		1000V / IP65 TÜV			
IP safety		IP65			
Cable		4 mm <sup>2</sup> / 900mm / 1000V TÜV			
Connector		MC4 compatible			
<b>Cells</b>					
Cell technology		Polycrystalline silicon cells			
Quantity of cells	db	60 (6x10)			
Dimension of cells	[mm]	156x156			
Cells connection		copper conductor			
<b>Dimensions of module</b>					
Lenght	[mm]	1640			
Width	[mm]	992			
Thickness	[mm]	40 ... 45			
Thickness of glass	[mm]	3,2			
Weight	[kg]	19-20			
<b>Common data</b>					
Power tolerance		0 ... +3%			
Glass type		High Transmiss, Low Iron, tempered glass			
Frame type		Aluminium alloy			
Backsheet type		TPE			
Hail protection		227g steel ball fall down from 1m height and 60m/s wind			
Snow load	Pa	5400			
Wind load	Pa	2400			
Performance warranty	% / year	Pm is not less than 90% in 10years and 80% in 25years			
Warranty	year	10			