

Think **Black** series



PERLIGHT
smart.black

280W / 285W / 290W / 300W **60 CELLS**
High Efficiency PERC Cells



THE REAL BLACK IN SOLAR SLEEK, POWERFUL, STYLISH MONOCRYSTALLINE SILICON SOLAR MODULE

- HIGH QUALITY BLACK WELDING STRIPS - Prevents over heating of the panel (Patent pending)
- LONGER LIFE - Less panel degradation over the life of the panel
- ULTRA SMOOTH TEMPERED GLASS - Less dust and grime collecting on the panels
- NEW GENERATION ANTI REFLECTIVE GLASS COATING - Increases light transmittance
- HIGH QUALITY EVA FILM - Widens light transmittance range



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ELECTRICAL PERFORMANCE

Module type	PLM-290MA-60 Series							
Power output	P_{max}	W	270	280	285	290	295	300
Power output tolerances	ΔP_{max}	%	0 - 3					
Voltage at Pmax	V_{mpp}	V	31.40	32.08	32.39	32.70	32.93	33.12
Current at Pmax	I_{mpp}	A	8.60	8.73	8.80	8.87	8.96	9.06
Open-circuit voltage	V_{oc}	V	37.99	38.82	39.19	39.57	39.85	40.08
Short-circuit current	I_{sc}	A	9.22	9.34	9.41	9.48	9.55	9.65
Solar Module Efficiency	Eff.	%	16.60	17.21	17.52	17.83	18.13	18.44

STC:1000W/m² irradiance, 25°C cell temperature, AM 1.5g spectrum according to EN 60904-3.

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	45±2
Temperature coefficient of Pmax	β	%/°C	-0.40
Temperature coefficient of Voc	β_{Voc}	%/°C	-0.30
Temperature coefficient of Isc	α_{Isc}	%/°C	0.06
Temperature coefficient of Vmpp	β_{Vmpp}	%/°C	-0.35

OPERATING CONDITIONS

Max. system voltage	1000V _{DC}
Limiting reverse current	15A
Operating temperature range	-40°C to 85°C
Max. static load front (e.g., snow)	5400Pa
Max. static load back (e.g., wind)	2400Pa
Max. hailstone impact (diameter / velocity)	25mm / 23m/s

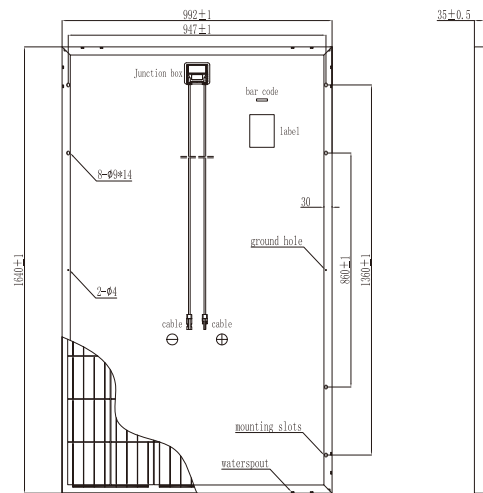
MECHANICAL CHARACTERISTICS

Front cover (material / thickness)	low-iron tempered glass / 3.2mm
Backsheet (color)	black
Cell (quantity/material/dimensions)	60/monocrystalline silicon/156.75x156.75mm
Frame (material / color)	anodized aluminum alloy / black
Junction box (protection degree)	≥IP67
Cables & Plug connectors	900mm/4mm ² & MC4 compatible/IP67
Module Dimensions (L / W / H)	1640mm x 992mm x 35mm
Module Weight	18 kg

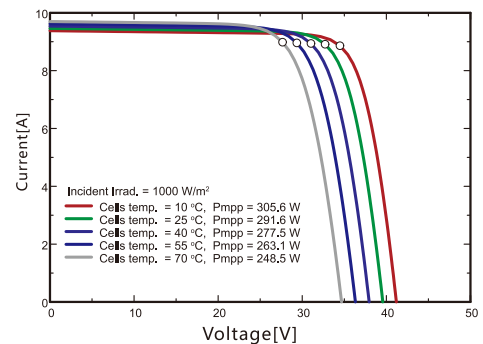
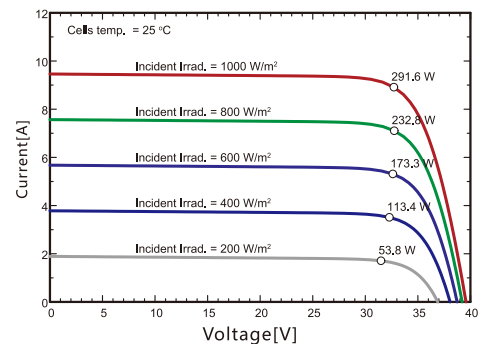
PACKING DETAILS

Container	20'GP	40'HQ
Pieces per pallet	60	66
Pallets per container	6	14
Pieces per container	360	924

Module Diagram:



Electrical Curves:



Perlight Partners

