

380~410 Watt

HORAY



HS 210R-96 TC-D Grey N-type Bifacial Modules

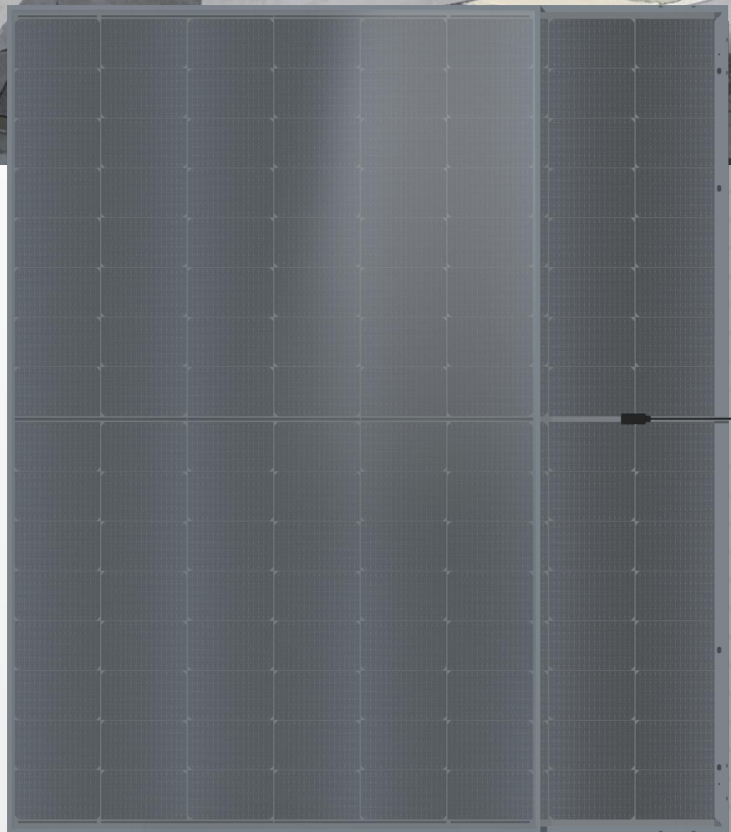


Grey colored glass and frame (similar to RAL 7016*)



Ideal for contemporary roofs or facades

*All images and colour reference (RAL) shown are for illustration purpose only. Product appearance may vary according to the installation, light and ambient reflection



SMBB Half-Cell Technology

More uniform current collection capability, reducing the current heat loss of the internal cells.



Higher Output Power

The output power of 96 half-cells monocrystalline modules is up to 410W.



Mechanical Load Enhanced

Heavy snow load up to 5400 Pa, wind load up to 2400 Pa.



Better Weather Adaptability

Excellent low light performance, lower temperature coefficients and power loss under high temperature.



Lower Power Attenuation

Anti PID and negligible LID/LeTID attenuation, which can reduce power loss.

IEC61215:2021

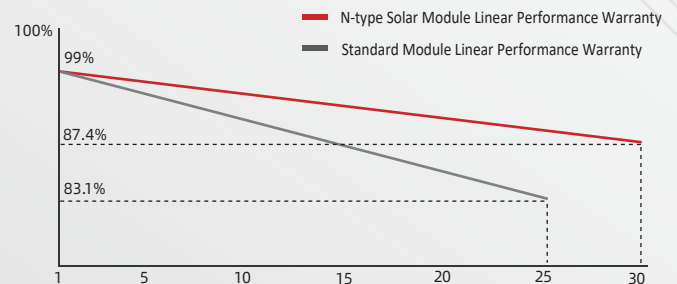
IEC61730:2023

ISO9001:2015 Quality Management System

ISO14001:2015 Environmental Management System

ISO45001:2018 Occupational Health and Safety Management System

CE: Europe Standard



12-year product warranty



25-year linear power output warranty

HEADQUARTER: HORAY SOLAR CO., LTD.

GLOBAL MARKETING AND SERVICE: HORAY SOLAR GMBH

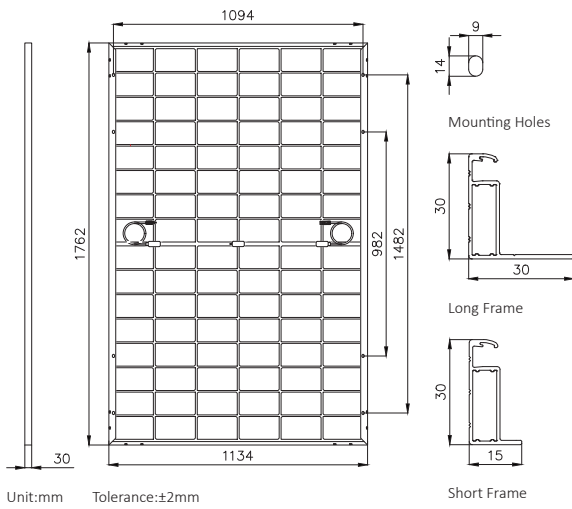
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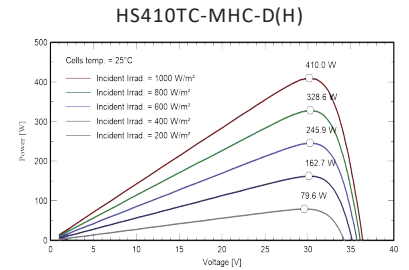
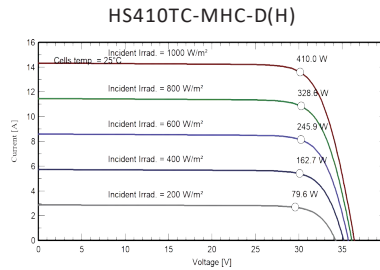
MECHANICAL DIAGRAMS



MECHANICAL PARAMETERS

Weight	24.5kg
Dimension	1762×1134×30mm
Cell Orientation	96 (6×16)
Junction Box	IP68, three diodes
Output Cable	4mm ² ,±300mm (length can be customized)
Connector	MC4 compatible
Glass	2.0+2.0mm AR coated heat strengthened glass
Frame	Anodized aluminum alloy frame
Packaging	37pcs per pallet/962pcs per 40'HC

CURVES OF PV MODULE



ELECTRICAL CHARACTERISTICS

Module Type	HS380TC-MHC-D(H)		HS390TC-MHC-D(H)		HS400TC-MHC-D(H)		HS410TC-MHC-D(H)	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power(Pmax/W)	380	296	390	304	400	312	410	320
Open Circuit Voltage(Voc/V)	35.35	35.10	35.69	35.44	36.04	35.79	36.39	36.13
Short Circuit Current(Isc/A)	13.66	10.66	13.88	10.83	14.10	11.00	14.32	11.17
Maximum Power Voltage(Vmp/V)	29.38	29.06	29.66	29.34	29.95	29.63	30.24	29.91
Maximum Power Current(Imp/A)	12.94	10.20	13.15	10.37	13.35	10.53	13.56	10.69
Module Efficiency(%)	19.0		19.5		20.0		20.5	

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO (BNPI)

Maximum Power(Pmax/W)	418	429	440	451
Open Circuit Voltage(Voc/V)	35.35	35.69	36.04	36.39
Short Circuit Current(Isc/A)	15.16	15.41	15.66	15.89
Maximum Power Voltage(Vmp/V)	29.38	29.66	29.95	30.24
Maximum Power Current(Imp/A)	14.23	14.46	14.69	14.91

*Rear side power gain:The additional gain from the rear side compared to the power of the front side at the standard test condition.It depends on mounting (structure,height,tilt angle etc.)and albedo of the ground.

OPERATING PARAMETERS

Operational Temperature	-40°C~+85°C
Power Output Tolerance	0~3%
Maximum System Voltage	1500V
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	80±5%
Fire Rating	IEC Class A

*The actual test value may be slightly deviated from the technical parameters due to the difference in test methods.

MECHANICAL LOADING

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

TEMPERATURE RATINGS (STC)

Temperature Coefficient of Isc	+0.04%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Pmax	-0.28%/°C

