

# 380~410 Watt

# HORAY

**TIER1**  
BlombergNEF

## HS 182-108 TC-D Orange N-type Bifacial Modules

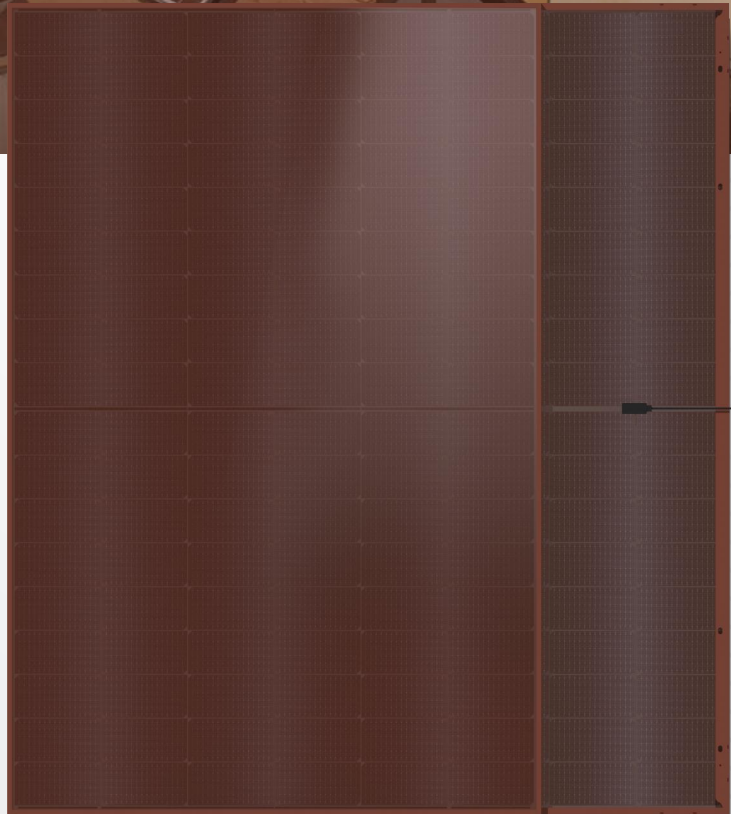


Orange colored glass and frame (similar to RAL 8001\*)



Ideal for traditional roofs with terracotta tiles and historical areas

\*All images and colour reference (RAL) shown are for lustration purpose only. Product appearance may vary according to the instalation, light and ambient refection.



### 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 108 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, witch can reduce power loss.

IEC61215:2021

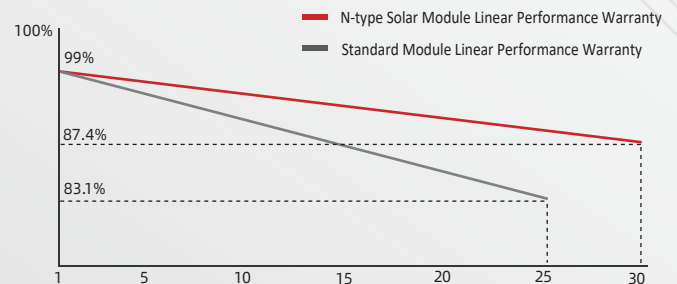
IEC61730:2023

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

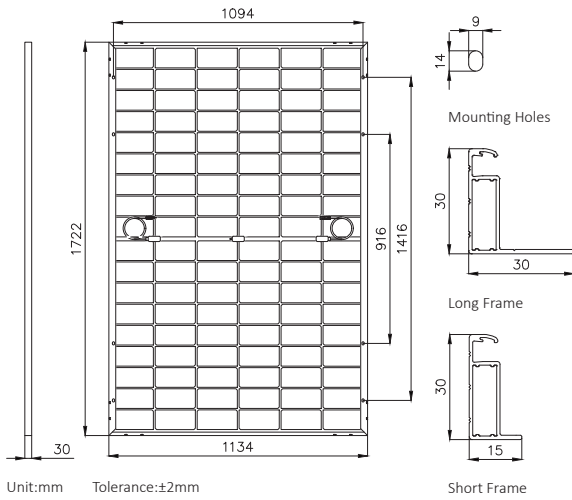
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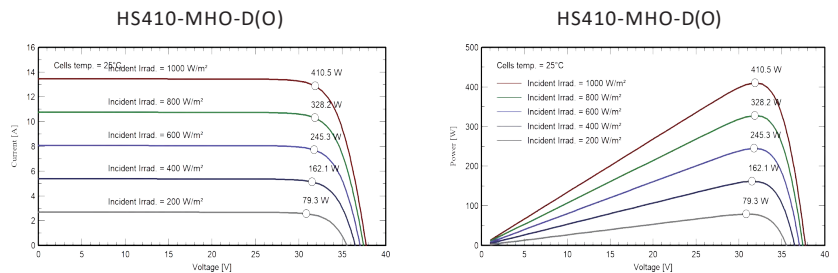
## MECHANICAL DIAGRAMS



## MECHANICAL PARAMETERS

Weight	24.0kg
Dimension	1722×1134×30mm
Cell Orientation	108 (6×18)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> ,±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	HS380-MHO-D(O)		HS390-MHO-D(O)		HS400-MHO-D(O)		HS410-MHO-D(O)	
	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)	37.14	36.88	37.34	37.08	37.54	37.28	37.74	37.48
Short Circuit Current(Isc/A)	12.70	9.91	12.95	10.10	13.20	10.30	13.45	10.49
Maximum Power Voltage(Vmp/V)	31.02	30.68	31.22	30.88	31.42	31.08	31.62	31.28
Maximum Power Current(Imp/A)	12.25	9.66	12.49	9.85	12.73	10.04	12.97	10.23
Module Efficiency(%)	19.5		20.0		20.5		21.0	

\* Under Standard Test Conditions (STC) of irradiance of 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C.

\* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m<sup>2</sup>, 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)	416	427	438	449
Open Circuit Voltage(Voc/V)	37.14	37.34	37.54	37.74
Short Circuit Current(Isc/A)	14.00	14.30	14.58	14.87
Maximum Power Voltage(Vmp/V)	31.02	31.22	31.42	31.62
Maximum Power Current(Imp/A)	13.41	13.68	13.94	14.20

\*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	25A
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



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