

Mono

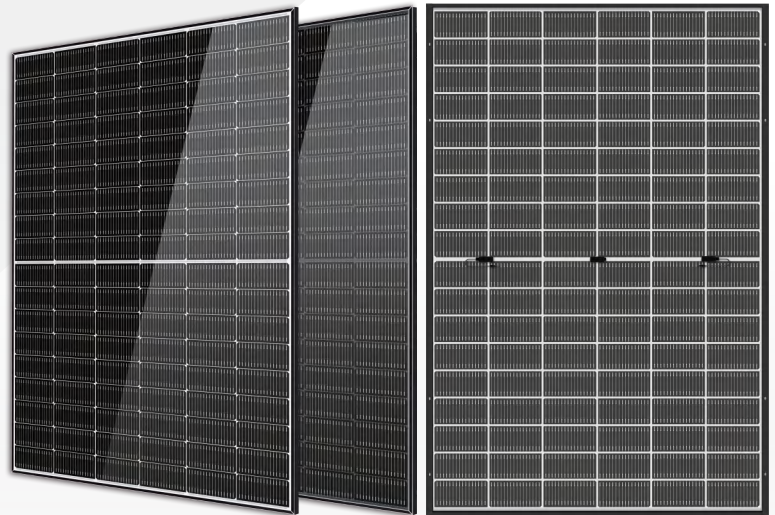
Bifacial

# HORAY

## Solar Ocean

### 420-435 Watt TOPCon BIFACIAL MODULE

- IEC61215: 2021
- IEC61730: 2016
- TUV Rheinland Standard
- Lloyd'S Ariel Re
- Solar Performance Insurance
- ISO9001: 2015
- Quality Management System
- ISO14001:
- Environmental Management System
- CE: Europe Standard
- Inmetro Certificate
- Japan JP-AC



#### KEY FEATURES



##### MBB Cell

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



##### Low Light Features

Higher performance under low light environment.



##### Higher Output Power

The output power of 108 half-cells Monocrystalline modules is up to 435W.



##### LID Free

N-type solar cell has no LID naturally which can increase power generation.



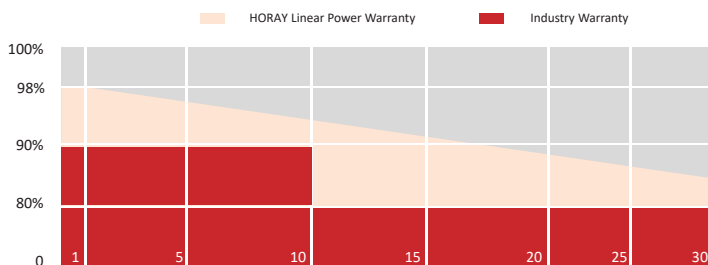
##### Harsh Environmental Adaptability

Strict salt spray and ammonia corrosion test by the third party.



##### Load Capacity

Mechanical load tests including wind load 2400 Pa and snow load 5400 Pa.



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## SPECIFICATIONS

Weight	24kg
Dimension	1722mm*1134mm*30mm
Cell Dimension	182*91mm
Cell Amount	54*2 pcs
Maximum System Voltage	1500V
Junction Box	IP68
Type of the front glass	2.0mm Coated ultra clear glass
Type of the back glass	2.0mm Heat-strengthened glass
Frame	Aluminum Alloy
Cable	4mm <sup>2</sup> , +300,-300mm/±1100mm Length can be customized
Connector	MC4 compatible
Application Level	Class A

## ELECTRICAL PARAMETERS AT STC

Module Type	HS420TC-MHO-D	HS425TC-MHO-D	HS430TC-MHO-D	HS435TC-MHO-D
Power	420W	425W	430W	435W
Open Circuit Voltage	38.11V	38.36V	38.70V	39.01V
Short Circuit Current	13.36A	13.42A	13.46A	13.52A
Maximum Power Voltage	33.14V	33.36V	33.65V	33.92V
Maximum Power Current	12.68A	12.74A	12.78A	12.83A
Module Efficiency	21.51%	21.76%	22.02%	22.28%

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

## ELECTRICAL PARAMETERS AT BNPI

Power	458W	464W	469W	475W
Open Circuit Voltage	38.11V	38.36V	38.70V	39.01V
Short Circuit Current	14.57A	14.65A	14.69A	14.76A
Maximum Power Voltage	33.14V	33.36V	33.65V	33.92V
Maximum Power Current	13.83A	13.91A	13.94A	14.01A

\*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.

## ELECTRICAL PARAMETERS AT NMOT

Power	336W	340W	344W	348W
Open Circuit Voltage	37.75V	38.04V	38.37V	38.67V
Short Circuit Current	10.69A	10.74A	10.77A	10.82A
Maximum Power Voltage	33.11V	33.37V	33.66V	33.92V
Maximum Power Current	10.15A	10.19A	10.22A	10.26A
Module Efficiency	17.21%	17.41%	17.62%	17.82%

\* 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.

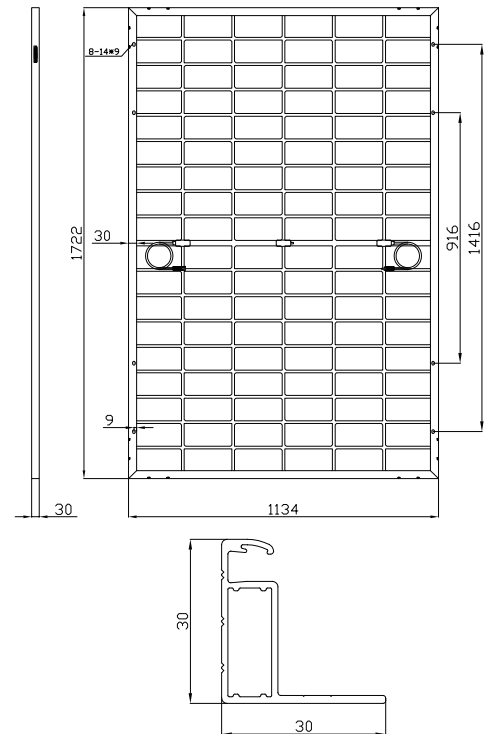
## TEMPERATURE CHARACTERISTICS

NMOT	45±2°C
Temp Coefficient of ISC	+0.046%/°C
Temp Coefficient of VOC	-0.26%/°C
Temp Coefficient of Pmax	-0.32%/°C

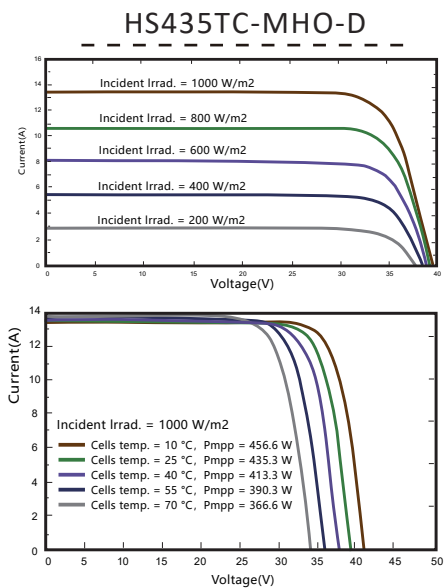
## PACKING CONFIGURATION

Modules/Pallet	36 Pieces
Packaging Description	26 Pallets, Total=(36+36)x13=936 Pieces
Modules/40' Container	936 Pieces

## MECHANICAL DIAGRAMS



## CHARACTERISTICS



## MAXIMUM RATING

Power selection	0~+5W
Measuring uncertainty of Pm	0~±3%
Operating Temperature	-40°C~+85°C
Wind Load/Snow Load	2400pa/5400pa
Fuse Current	25A

**30** YEARS Quality Warranty

**30** YEARS Power Warranty