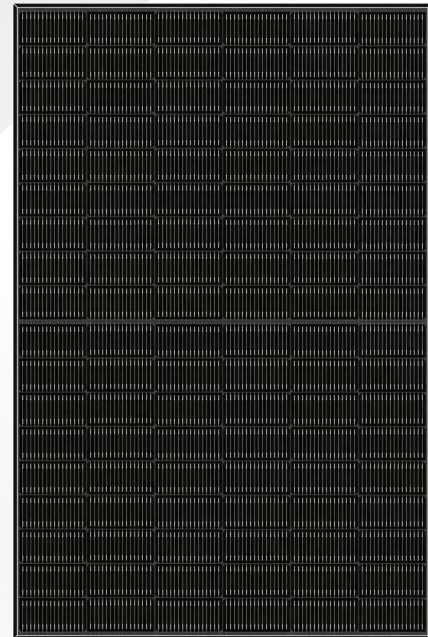


Solar Ocean

420–440 Watt TOPCon MONO-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



SMBB 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 440W.



LID Free

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



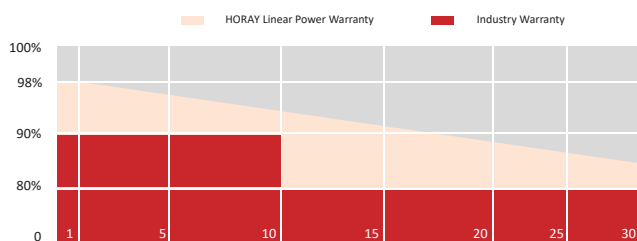
Harsh Environmental Adaptability

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.



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 ² , +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	HS440TC-MHO-D
Power	420W	425W	430W	435W	440W
Open Circuit Voltage	38.73V	38.93V	39.13V	39.33V	39.53V
Short Circuit Current	14.01A	14.07A	14.15A	14.22A	14.33A
Maximum Power Voltage	32.44V	32.64V	32.84V	33.04V	33.24V
Maximum Power Current	12.95A	13.03A	13.11A	13.17A	13.24A
Module Efficiency	21.51%	21.80%	22.02%	22.28%	22.53%

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

ELECTRICAL PARAMETERS AT BNPI

Power	463W	468W	474W	479W	485W
Open Circuit Voltage	38.91V	39.10V	39.30V	39.5V	39.70V
Short Circuit Current	15.41A	15.48A	15.56A	15.64A	15.73A
Maximum Power Voltage	31.81V	32.01V	32.22V	32.43V	32.52V
Maximum Power Current	14.56A	14.64A	14.73A	14.81A	14.89A

*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	320W	324W	328W	332W	336W
Open Circuit Voltage	36.61V	36.92V	37.12V	37.32V	37.53V
Short Circuit Current	11.31A	11.37A	11.43A	11.49A	11.55A
Maximum Power Voltage	30.11V	30.32V	30.51V	30.73V	30.92V
Maximum Power Current	10.62A	10.68A	10.74A	10.8A	10.86A

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

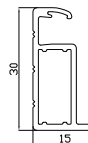
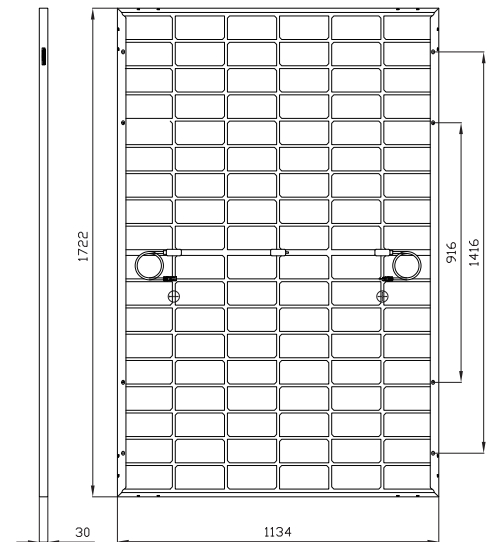
TEMPERATURE CHARACTERISTICS

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

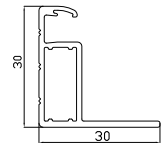
PACKING CONFIGURATION

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

MECHANICAL DIAGRAMS

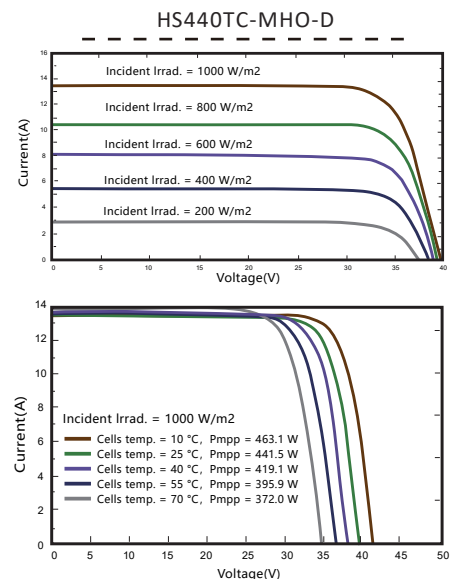


Section diagram of short frame profile



Section diagram of long frame profile

CHARACTERISTICS



MAXIMUM RATING

Power selection	0~+5W
Measuring uncertainty of P _m	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

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

©2023 Horay Solar Co.,Ltd. All rights reserved. Specifications included in this datasheet are subject to change without notice.

Version number: TC_MHO_D_EN_2024_A