

# 390~420 Watt

# HORAY

**TIER1**  
BlombergNEF

## HS 210R-96 TC Orange N-type Mono-facial Modules

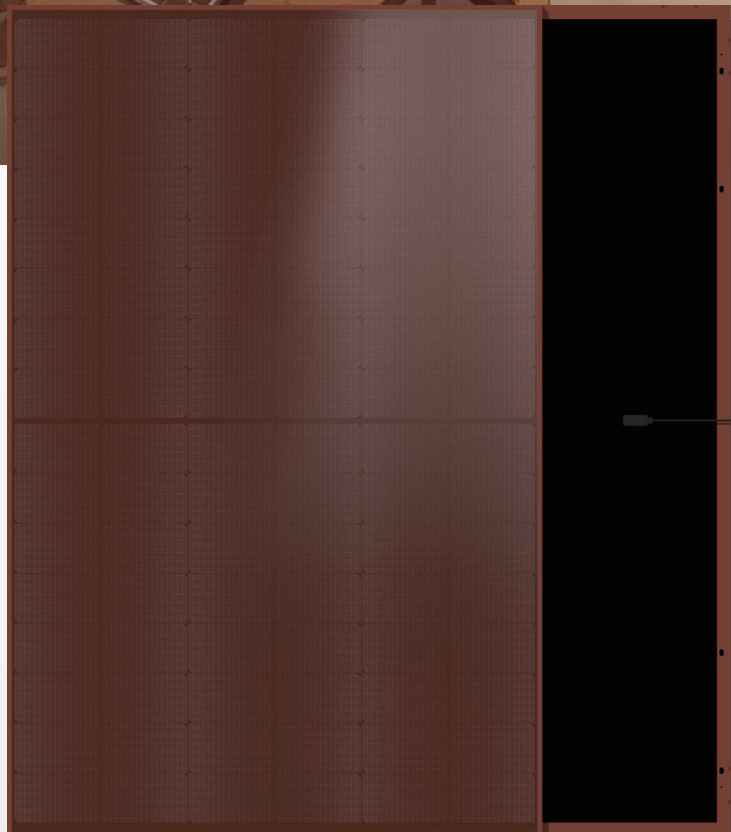


Orange colored glass and frame  
(similar to RAL 8001\*)



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 96 half-cells monocrystalline  
modules is up to 420W.



### 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

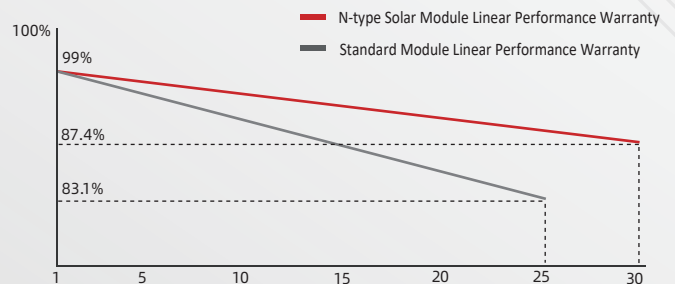
IEC61730:2023

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

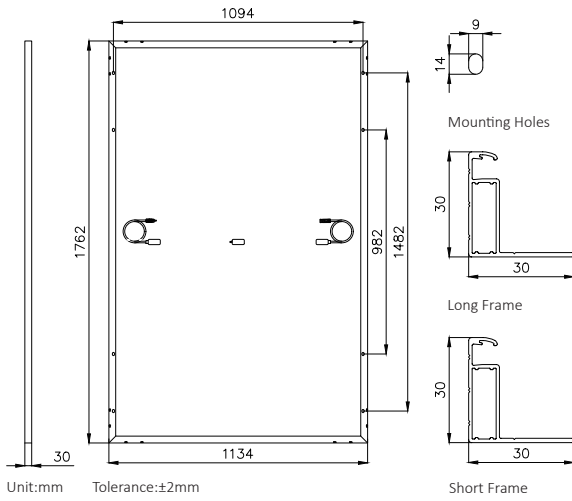
sales@horaysolar.com www.horaysolar.com +86-510 83580688

info@horaysolar.com www.horaysolar.com

No.300 Huiming Road, Huishan District, 214177 Wuxi, Jiangsu, P.R. China

Robert-Bosch-Straße 27-29, 63225 Langen, Germany

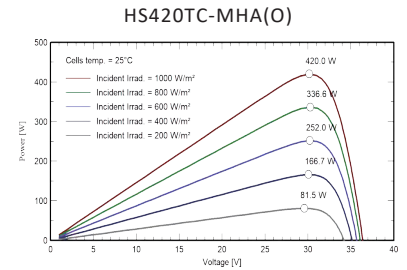
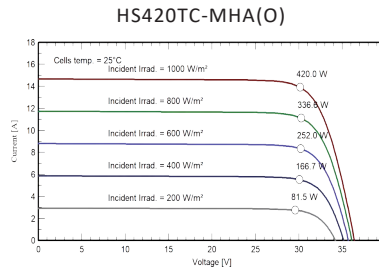
## MECHANICAL DIAGRAMS



## MECHANICAL PARAMETERS

Weight	22.0kg
Dimension	1762×1134×30mm
Cell Orientation	96 (6×16)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , ±300mm (length can be customized)
Connector	MC4 compatible
Glass	3.2mm AR coated heat strengthened glass
Frame	Anodized aluminum alloy frame
Packaging	37pcs per pallet/962pcs per 40'HC

## MECHANICAL PARAMETERS



## ELECTRICAL CHARACTERISTICS AT STC

Module Type	HS390TC-MHA(O)	HS400TC-MHA(O)	HS410TC-MHA(O)	HS420TC-MHA(O)
Testing Condition	STC	STC	STC	STC
Maximum Power(Pmax/W)	390	400	410	420
Open Circuit Voltage(Voc/V)	35.35	35.69	36.04	36.39
Short Circuit Current(Isc/A)	14.02	14.24	14.46	14.67
Maximum Power Voltage(Vmp/V)	29.38	29.66	29.95	30.24
Maximum Power Current(Imp/A)	13.28	13.48	13.69	13.89
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.

## ELECTRICAL CHARACTERISTICS AT NMOT

Module Type	HS390TC-MHA(O)	HS400TC-MHA(O)	HS410TC-MHA(O)	HS420TC-MHA(O)
Testing Condition	NMOT	NMOT	NMOT	NMOT
Maximum Power(Pmax/W)	304	312	320	328
Open Circuit Voltage(Voc/V)	35.10	35.44	35.79	36.13
Short Circuit Current(Isc/A)	10.94	11.11	11.28	11.44
Maximum Power Voltage(Vmp/V)	29.06	29.34	29.63	29.91
Maximum Power Current(Imp/A)	10.47	10.63	10.79	10.95

\* 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.

## 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
Fire Rating	IEC Class C

\*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

