



FROM STRENGTH TO STRENGTH IN NATURE

NESE 450-60MHB-M10

MONO PERC HALF-CELL BIFACIAL SOLAR MOUDLE

FROM CAMBODIA

KEY FEATURES



High efficiency PERC

A high efficiency 182 (M10) PERC solar cell with 10 busbars technology to ensure the efficiency of the solar module up to 20.73% and stable operation.



Bifacial power generation

Increases 10-30% power generation revenue.



Excellent performance with weak light

More power output with a weak light condition-through advanced glass and solar cells.



Wind/Snow load

Wind load 2400 pa, snow load 5400 pa.



PID

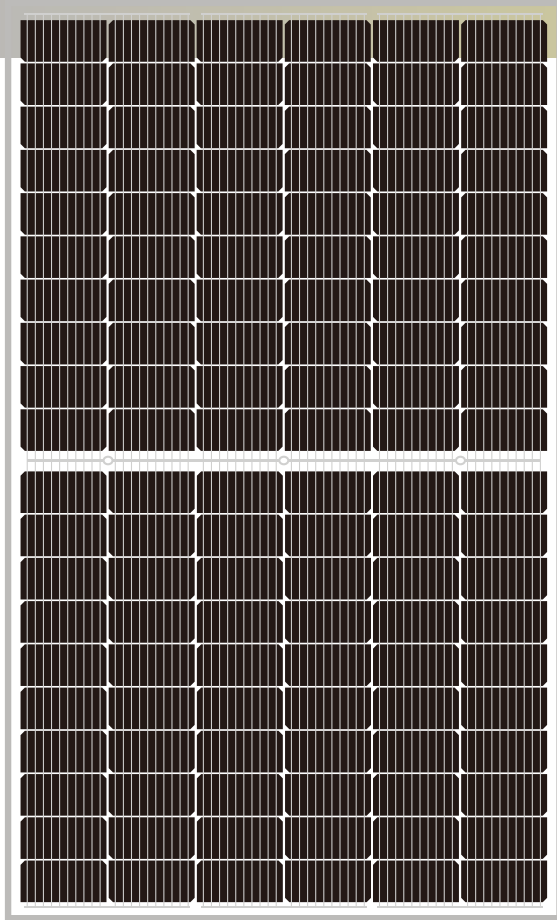
Pid Free

Excellent Anti-PID performance, minimized the degradation of power.



Resistance of extreme environment conditions

High Salt Mist and Ammonia resistance certified by TUV.

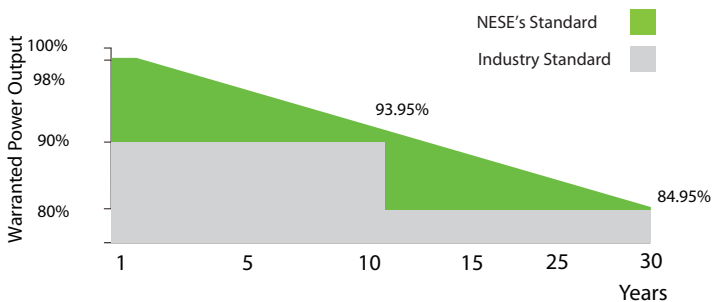


INSURED BY

CHUBB® Munich RE 

LINEAR PERFORMANCE WARRANTY

12 years product warranty. 30 years linear power warranty.



MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015/QUALITY MANAGEMENT SYSTEM
ISO 14001:2015/STANDARDS FOR ENVIRONMENTAL MANAGEMENT SYSTEM

PRODUCT CERTIFICATES

IEC 61215/IEC 61730:VDE/CE/CEC AU
UL 61730: CSA



PHUM TANOUN, SANGKAT KOMBOUL, KHAN POSENCHAY, PHNOM PENH, KINGDOM OF CAMBODIA

WWW.NESOLAR.COM.KH

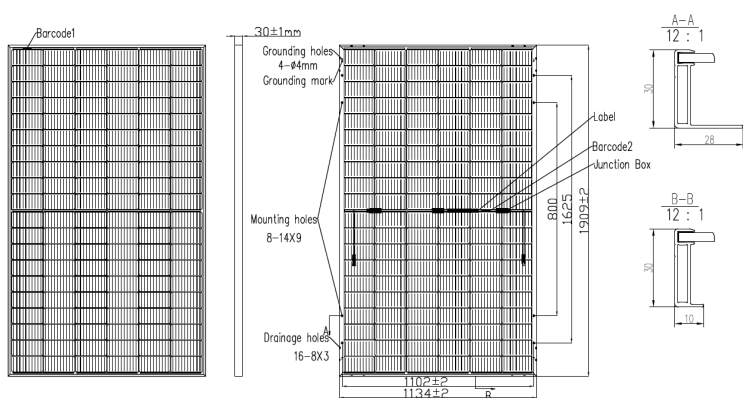
SPECIFICATIONS

Module type	NESE430-60MHB-M10		NESE435-60MHB-M10		NESE440-60MHB-M10		NESE445-60MHB-M10		NESE450-60MHB-M10	
	STC	(NOCT)	STC	(NOCT)	STC	(NOCT)	STC	(NOCT)	STC	(NOCT)
Maximum power(Pmax)	430Wp	322Wp	435Wp	325Wp	440Wp	329Wp	445Wp	333Wp	450Wp	336Wp
Maximum power voltage(Vmp)	33.7V	31.3V	33.9V	31.5V	34.1V	31.7V	34.3V	31.9V	34.5V	32.1V
Maximum power current (Imp)	12.76A	10.26A	12.84A	10.31A	12.91A	10.37A	12.98A	10.43A	13.05A	10.48A
Open-circuit voltage(Voc)	40.6V	38.0V	40.8V	38.1V	41.0V	38.3V	41.2V	38.5V	41.4V	38.7V
Short-circuit current(Isc)	13.50A	10.90A	13.57A	10.96A	13.64A	11.02A	13.71A	11.07A	13.78A	11.13A
Module efficiency STC (%)	19.81%		20.04%		20.27%		20.50%		20.73%	
Operating temperature(°C)	-40°C ~ 85°C									

ELECTRICAL CHARACTERISTICS WITH 25% REAR SIDE POWER GAIN

Front power Pmax/W	430	435	440	445	450
Total power Pmax/W	538	544	550	556	563
Vmp/V(Total)	33.8	34.0	34.2	34.4	34.7
Imp/A(Total)	15.90	16.00	16.08	16.17	16.26
Voc/V(Total)	40.7	40.9	41.1	41.2	41.3
Isc/A(Total)	16.64	16.74	16.82	16.92	17.00

ENGINEERING DRAWING



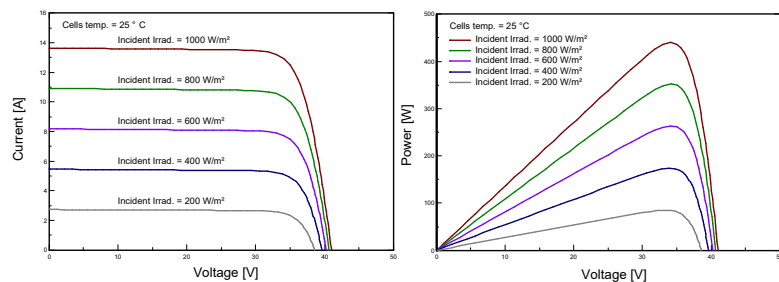
TEMPERATURE RATINGS

NOCT	44 ± 2°C
Temperature coefficients of Pmax	-0.35%/°C
Temperature coefficients of Voc	-0.29%/°C
Temperature coefficients of Isc	+0.05%/°C
Refer. Bifacial Factor	70 ± 5%

MATERIAL CHARACTERISTICS

Number of cell	120 (6 * 20)
Dimensions	1909*1134*30/40
Weight	28/28.2kg
Front glass	2.0mm+2.0mm heat strengthened glass
Frame	Anodized aluminium alloy

IV CURVES OF THE PV MODULES



Current-voltage & power-voltage curves (450W)

WORKING CONDITIONS

Maximum system voltage	1000/1500 VDC	Junction box	Ip68 , 3 diodes
Maximum series fuse rating	30A	Cables	12 AWG, length: 350 mm or Customized
		Connectors	MC4-Compatible

PACKAGING CONFIGURATION

40HQ 864/648PCS