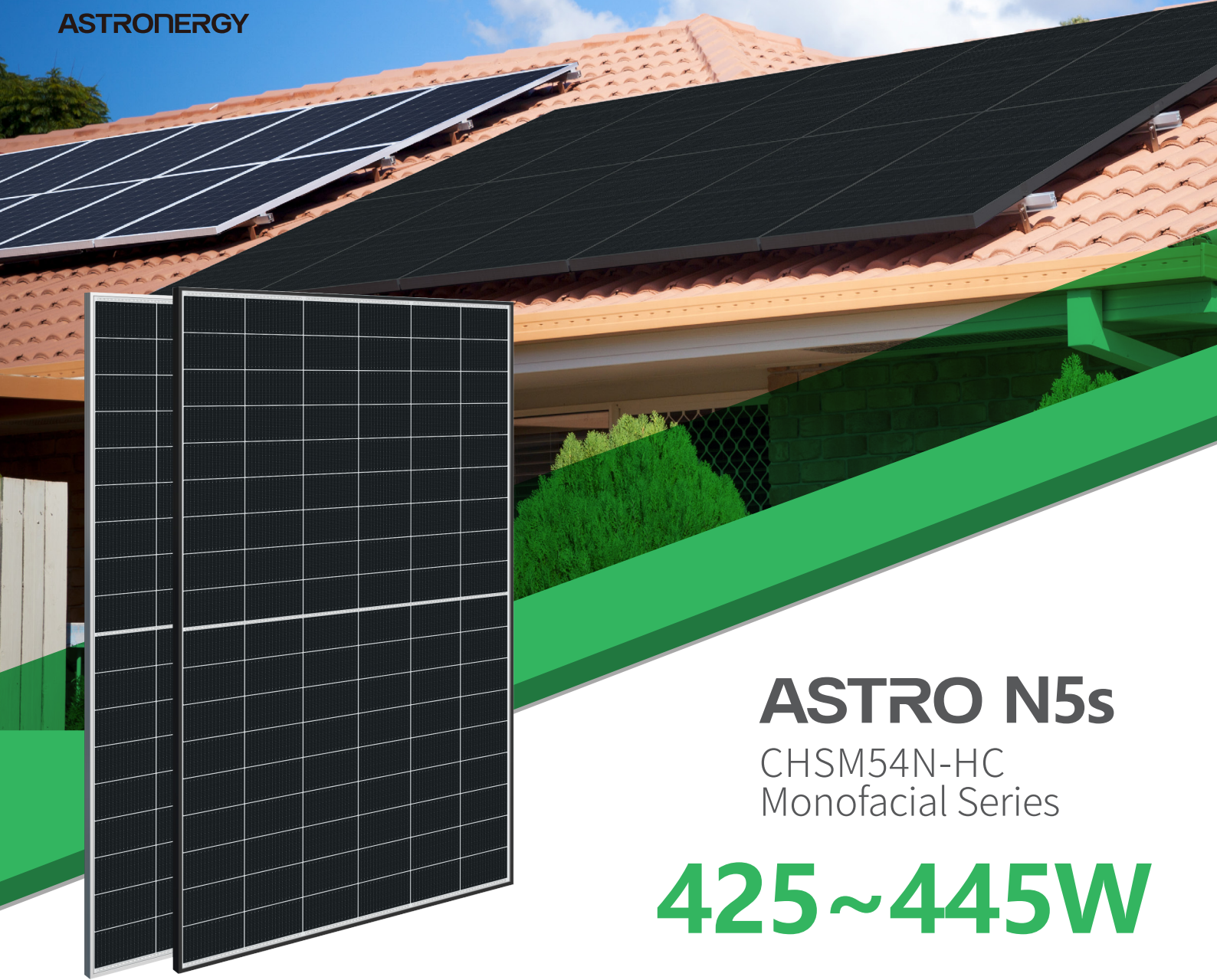




ASTRONERGY

VIESSMANN



ASTRO N5s

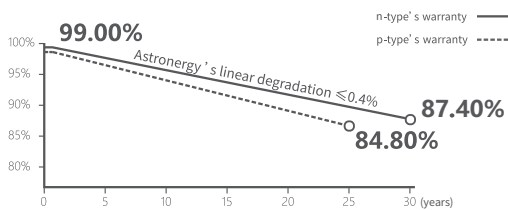
CHSM54N-HC
Monofacial Series

425~445W

Warranty

15 15-year Product Warranty

30 30-year Linear Power Warranty



Key Features

- Suitable for distributed projects
- High power
- High reliability
- Easy to install and transport



ISO 9001:2015:ISO Quality Management System
ISO 14001:2015:ISO Environment Management System
ISO 45001:Occupational Health and Safety
The first solar company which passed the Nord IEC/TS 62941 certification audit



Tier 1
BloombergNEF



425~445W

POWER RANGE

0~+3%

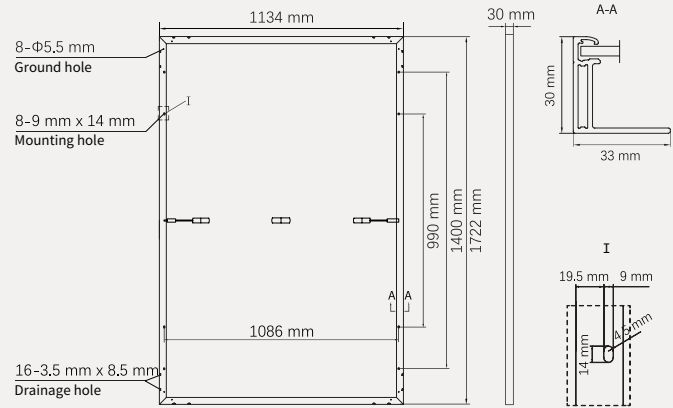
POWER SORTING

22.8%MAX MODULE
EFFICIENCY**≤ 1.0%**FIRST YEAR
POWER DEGRADATION**≤ 0.4%**YEAR 2-30
POWER DEGRADATION

Mechanical Specifications

| | |
|--|--|
| Outer dimensions (L x W x H) | 1722 x 1134 x 30 mm |
| Cell type | n-type mono-crystalline |
| No. of cells | 108 (6*18) |
| Frame technology | Aluminum, black or silver anodized |
| Front glass thickness | 3.2 mm |
| Cable length (Including connector) | Portrait: (+)350 mm, (-)250 mm; Customized length |
| Cable diameter (IEC/UL) | 4 mm ² / 12 AWG |
| ① Maximum mechanical test load | 5400 Pa (front) / 2400 Pa (back) |
| Connector type (IEC/UL) | HCB40 (Standard) / MC4-EVO2A (Optional) |
| Module weight | 21.3 kg |
| Packing unit | 36 pcs / box |
| Weight of packing unit (for 40'HQ container) | 811 kg |
| Modules per 40' HQ container | 936 pcs (Subject to sales contract) |

① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.



Electrical Specifications

STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

| Rated output (Pmpp / Wp) | 425 | 430 | 435 | 440 | 445 |
|---------------------------------|-------|-------|-------|-------|-------|
| Rated voltage (Vmpp / V) | 32.10 | 32.27 | 32.44 | 32.61 | 32.77 |
| Rated current (Impp / A) | 13.24 | 13.33 | 13.41 | 13.49 | 13.58 |
| Open circuit voltage (Voc / V) | 38.20 | 38.40 | 38.60 | 38.80 | 39.00 |
| Short circuit current (Isc / A) | 13.98 | 14.09 | 14.19 | 14.30 | 14.41 |
| Module efficiency | 21.8% | 22.0% | 22.3% | 22.5% | 22.8% |

NMOT: Irradiance 800W/m², Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

| Rated output (Pmpp / Wp) | 319.6 | 323.4 | 327.1 | 330.9 | 334.6 |
|---------------------------------|-------|-------|-------|-------|-------|
| Rated voltage (Vmpp / V) | 30.21 | 30.37 | 30.53 | 30.70 | 30.84 |
| Rated current (Impp / A) | 10.58 | 10.65 | 10.71 | 10.78 | 10.85 |
| Open circuit voltage (Voc / V) | 36.29 | 36.48 | 36.67 | 36.85 | 37.04 |
| Short circuit current (Isc / A) | 11.28 | 11.37 | 11.46 | 11.54 | 11.63 |

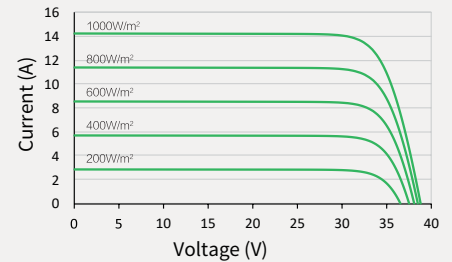
Temperature Ratings (STC)

| | | | |
|---|------------|------------------------------|---------------------|
| Temperature coefficient (Pmpp) | -0.29%/°C | No. of diodes | 3 |
| Temperature coefficient (Isc) | +0.043%/°C | Junction box IP rating | IP 68 |
| Temperature coefficient (Voc) | -0.25%/°C | Max. series fuse rating | 25 A |
| Nominal module operating temperature (NMOT) | 41±2°C | Max. system voltage (IEC/UL) | 1500V _{DC} |

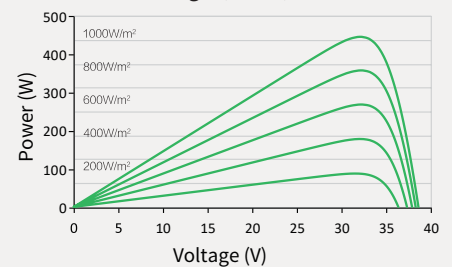
Operating Parameters

Curve

Current-Voltage (435W)



Power-Voltage (435W)



Current-Voltage (435W)

