

# AGROFOTOVOLTAICO TRE TORRI AGRICOLTURA 4.0

IMPIANTO DI PRODUZIONE DI ENERGIA ELETTRICA DA FONTE FOTOVOLTAICA,  
CON PANNELLI COLLOCATI IN ALTEZZA, DI POTENZA IN GENERAZIONE  
PARI A 26,8643 MW E POTENZA IMMESSA IN RETE PARI A 25,82 MW,  
**DENOMINATO "AFV TRETORRI AGRICOLTURA 4.0"**

REGIONE PUGLIA  
PROVINCIA di BRINDISI  
COMUNI di SAN PANCRAZIO SALENTINO ed ERCHIE  
opere connesse nel COMUNE DI ERCHIE (Br) contrada "Tre Torri"  
Località ubicazione impianto AFV: Masseria Tre Torri - Erchie (Br)

PROGETTO DEFINITIVO  
Id AU 3A3A5H1

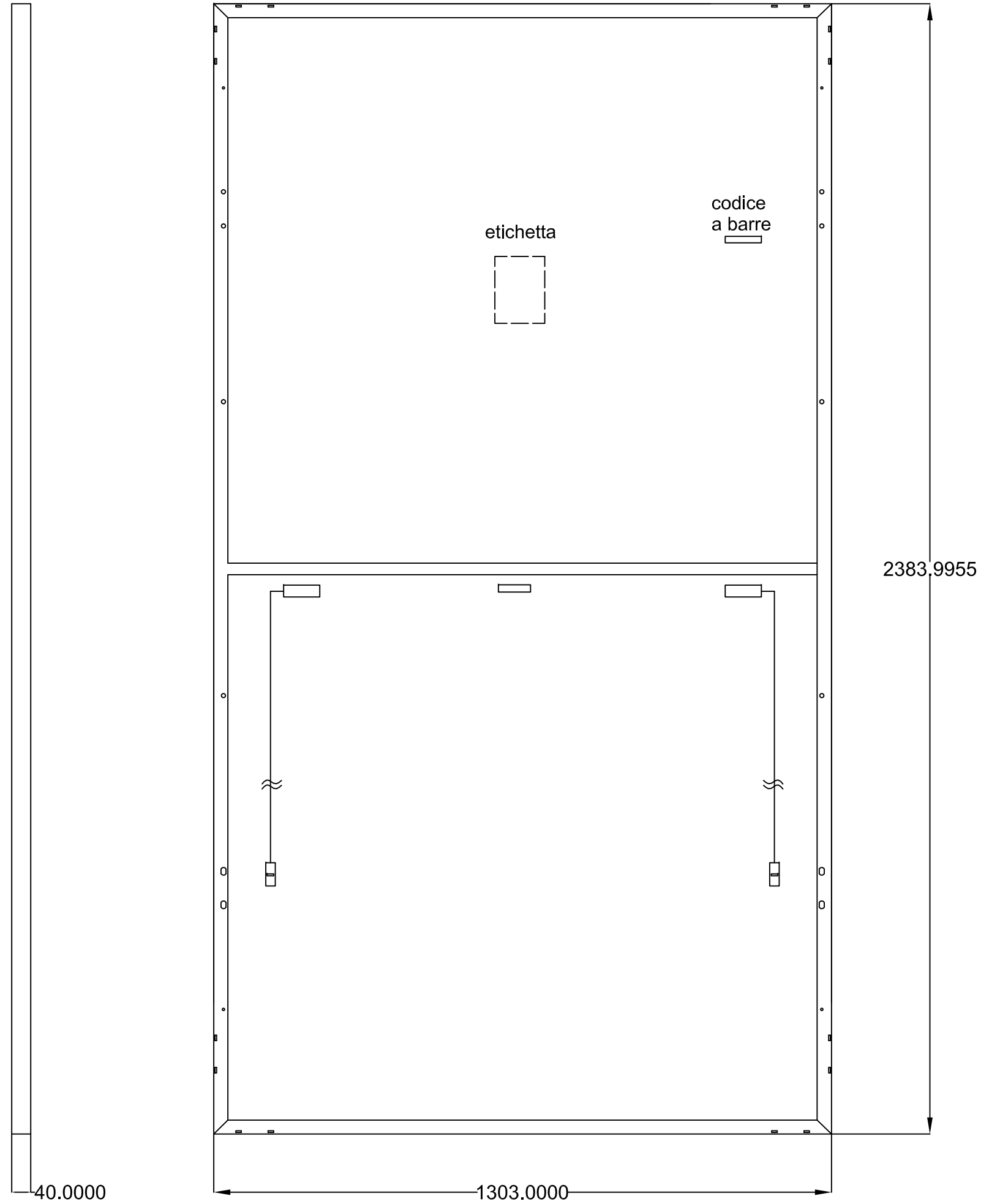
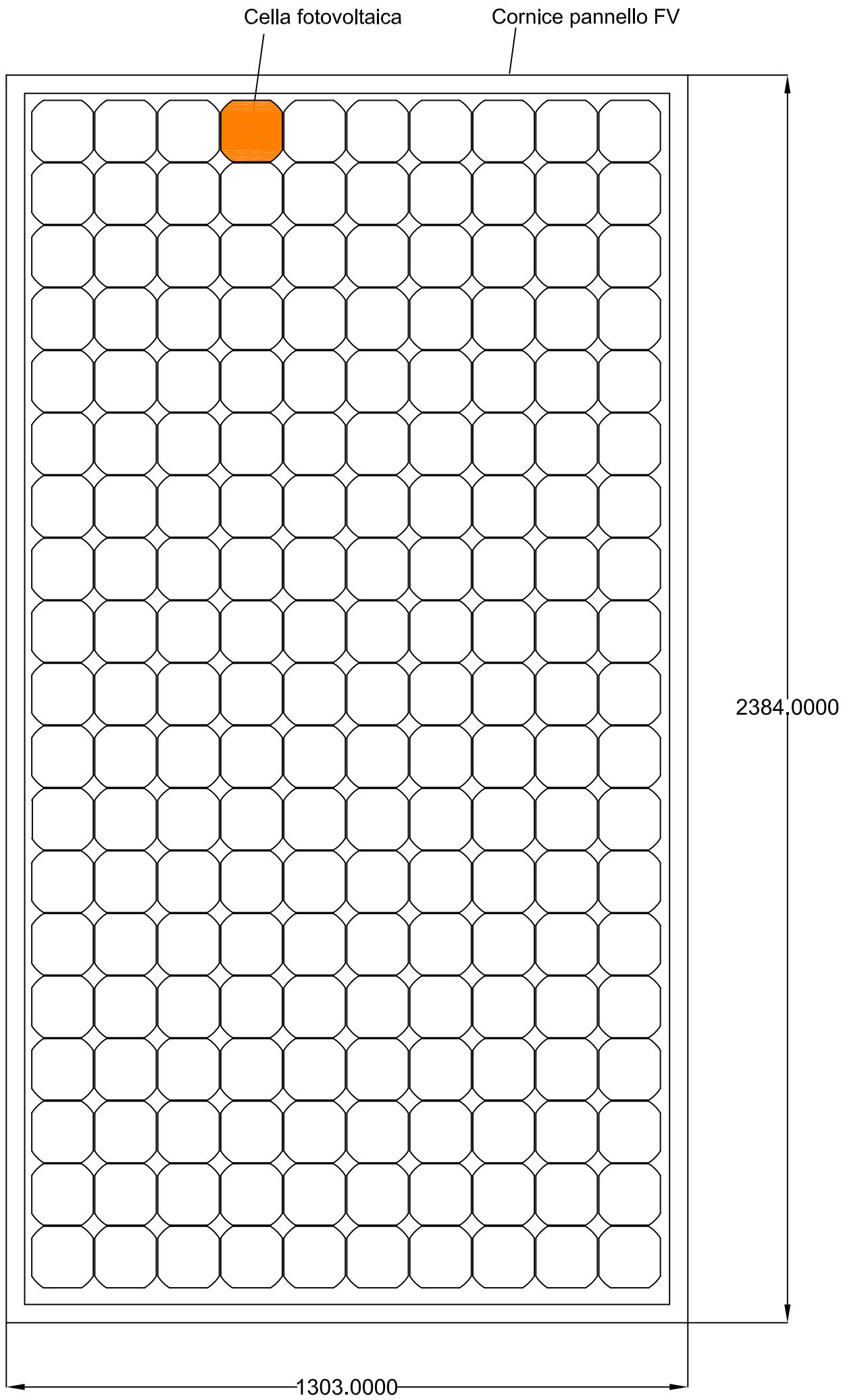


Tav.: <b>2_13</b>	Titolo: <b>Caratteristiche dimensionali generatore fotovoltaico</b>	
Scala:	Formato Stampa:	Codice Identificatore Elaborato
n.a.	A3	3A3A5H1_ElaboratoGrafico_2_13

Progettazione:	Committente:
<b>ENERWIND s.r.l.</b> Via San Lorenzo 155 - cap 72023 MESAGNE (BR) P.IVA 02549880744 - REA BR-154453 - enerwind@pec.it  <b>MSC innovative solutions s.r.l.s.</b> Via Milizia n.55 - 73100 LECCE (ITALY) P.IVA 05030190754 - msc.innovativesolutions@pec.it  Ing. Santo Masilla Responsabile progetto Ing. Fabio Calcarella	<b>TRE TORRI ENERGIA s.r.l.</b> Piazza del Grano n.3 - 39100 BOLZANO (BZ) p. iva 0305799214 - REA BZ 283988 tretorrienergia@legalmail.it  <b>SOCIETA' DEL GRUPPO FRI-EL GREEN POWER S.p.A.</b> Piazza della Rotonda, 2 - 00186 Roma (RM) - Italia Tel. +39 06 6880 4163 - Fax. +39 06 6821 2764 Email: Info@fri-el.it - P. IVA 01533770218

Data	Motivo della revisione:	Redatto:	Controllato:	Approvato:
Luglio 2022	Prima emissione	M.S.C. S.r.l.s.	Santo Masilla	Tre Torri Energia S.r.l.

N.B. in fase di progettazione esecutiva il modello del pannello potrebbe essere differente a seconda della disponibilità dello stesso sul mercato.





# HiKu7 Mono PERC

**640 W ~ 670 W**

**CS7N-640 | 645 | 650 | 655 | 660 | 665 | 670MS**

## MORE POWER



Module power up to 670 W  
Module efficiency up to 21.6 %



Up to 3.5 % lower LCOE  
Up to 5.7 % lower system cost



Comprehensive LID / LeTID mitigation technology, up to 50% lower degradation



Better shading tolerance

## MORE RELIABLE



40 °C lower hot spot temperature, greatly reduce module failure rate



Minimizes micro-crack impacts



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa\*



**Enhanced Product Warranty on Materials and Workmanship\***



**Linear Power Performance Warranty\***

**1<sup>st</sup> year power degradation no more than 2%  
Subsequent annual power degradation no more than 0.55%**

\*According to the applicable Canadian Solar Limited Warranty Statement.

## MANAGEMENT SYSTEM CERTIFICATES\*

ISO 9001:2015 / Quality management system  
ISO 14001:2015 / Standards for environmental management system  
ISO 45001: 2018 / International standards for occupational health & safety

## PRODUCT CERTIFICATES\*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA  
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68  
UNI 9177 Reaction to Fire: Class 1 / Take-e-way



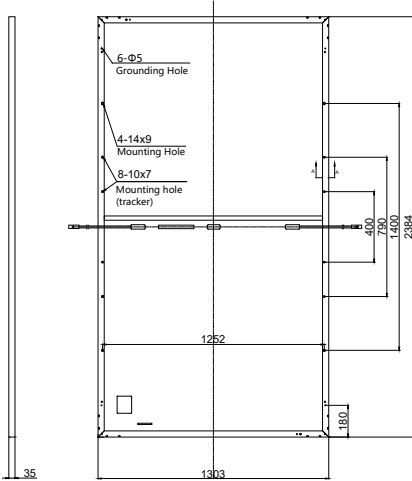
\* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

**CSI Solar Co., Ltd.** is committed to providing high quality solar products, solar system solutions and services to customers around the world. Canadian Solar was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey, and is a leading PV project developer and manufacturer of solar modules, with over 55 GW deployed around the world since 2001.

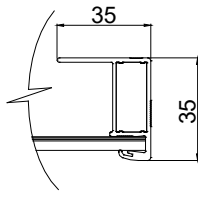
\* For detailed information, please refer to the Installation Manual.

## ENGINEERING DRAWING (mm)

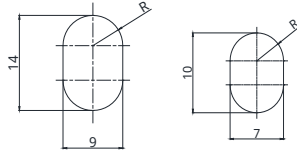
### Rear View



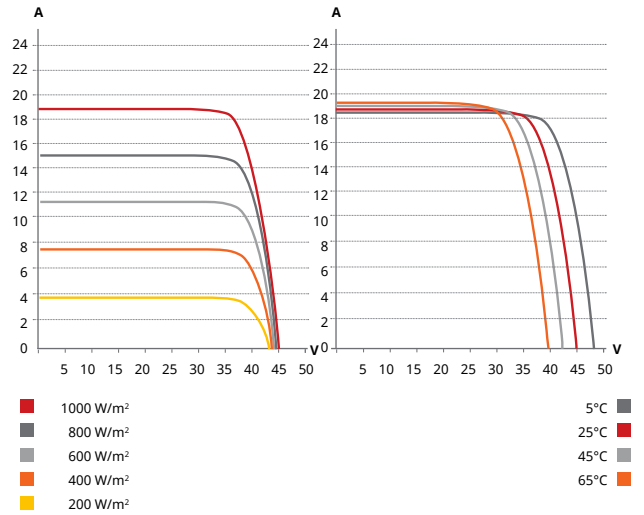
### Frame Cross Section A-A



### Mounting Hole



## CS7N-650MS / I-V CURVES



## ELECTRICAL DATA | STC\*

CS7N	640MS	645MS	650MS	655MS	660MS	665MS	670MS
Nominal Max. Power (Pmax)	640 W	645 W	650 W	655 W	660 W	665 W	670 W
Opt. Operating Voltage (Vmp)	37.5 V	37.7 V	37.9 V	38.1 V	38.3 V	38.5 V	38.7 V
Opt. Operating Current (Imp)	17.07 A	17.11 A	17.16 A	17.20 A	17.24 A	17.28 A	17.32 A
Open Circuit Voltage (Voc)	44.6 V	44.8 V	45.0 V	45.2 V	45.4 V	45.6 V	45.8 V
Short Circuit Current (Isc)	18.31 A	18.35 A	18.39 A	18.43 A	18.47 A	18.51 A	18.55 A
Module Efficiency	20.6%	20.8%	20.9%	21.1%	21.2%	21.4%	21.6%
Operating Temperature	-40°C ~ +85°C						
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)						
Module Fire Performance	TYPE 1 (UL 61730 1500V) or TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730)						
Max. Series Fuse Rating	30 A						
Application Classification	Class A						
Power Tolerance	0 ~ + 10 W						

\* 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 DATA | NMOT\*

CS7N	640MS	645MS	650MS	655MS	660MS	665MS	670MS
Nominal Max. Power (Pmax)	480 W	484 W	487 W	491 W	495 W	499 W	502 W
Opt. Operating Voltage (Vmp)	35.2 V	35.3 V	35.5 V	35.7 V	35.9 V	36.1 V	36.3 V
Opt. Operating Current (Imp)	13.64 A	13.72 A	13.74 A	13.76 A	13.79 A	13.83 A	13.85 A
Open Circuit Voltage (Voc)	42.2 V	42.3 V	42.5 V	42.7 V	42.9 V	43.1 V	43.3 V
Short Circuit Current (Isc)	14.77 A	14.80 A	14.83 A	14.86 A	14.89 A	14.93 A	14.96 A

\* 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.

## MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	132 [2 x (11 x 6)]
Dimensions	2384 x 1303 x 35 mm (93.9 x 51.3 x 1.38 in)
Weight	34.4 kg (75.8 lbs)
Front Cover	3.2 mm tempered glass
Frame	Anodized aluminium alloy, crossbar enhanced
J-Box	IP68, 3 bypass diodes
Cable	4 mm <sup>2</sup> (IEC), 10 AWG (UL)
Cable Length (Including Connector)	460 mm (18.1 in) (+) / 340 mm (13.4 in) (-) (supply additional jumper cable: 2 lines / Pallet) or customized length*
Connector	T4 series or MC4-EVO2
Per Pallet	31 pieces
Per Container (40' HQ)	527 pieces

\* For detailed information, please contact your local Canadian Solar sales and technical representatives.

## TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.34 % / °C
Temperature Coefficient (Voc)	-0.26 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 ± 3°C

## PARTNER SECTION



\* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice. Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.

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