

Soportamos Sistemas FV
Anteriormente Everest Solar Systems 



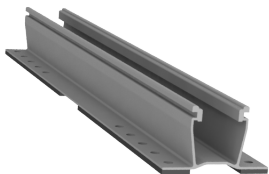
Sistema MiniRail XPRESS

PRODUCT SHEET

- Sistema de alta calidad con ingeniería global, optimizado para instalación comercial.
- El equipo de montaje Everest MK3 simplifica las instalaciones de módulos en una manera rápida, fácil, y segura.
- Validación estructural de acuerdo a la norma ASCE7-10.
- La instalación rápida con cantidad mínima de componentes resulta un bajo costo total de instalación.
- Fácil de diseñar con la herramienta K2 Base.
- Secciones de riel de 43 centímetros con tiras de EPDM para prevenir intrusiones de agua.
- Los tornillos autorroscantes también tienen una rondana de EPDM para reducir la posibilidad de intrusión de agua.
- Se puede usar en techos de lámina trapezoidal de calibre 26 o mas gruesas.
- Los Mid y End Clamps cuentan con unión eléctrica integrada.



Componentes



MiniRail XPress Base

Part Number	Descripción
4000667	MiniRail XPress Base 17" w/EPDM, Mill



MiniRail Screw

Part Number	Descripción
4000672	MiniRail Screw w/EPDM JF3, 29g, 25mm



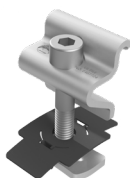
CrossRail Mid Clamp

Part Number	Descripción
4000429	CR MD Silver, 30-47mm



CrossRail Mid Clamp

Part Number	Descripción
4000601-H	CR MC Silver, 30-47mm, 13mm Hex
4000602-H	CR MC Dark, 30-47mm, 13mm Hex
4000688-H	SR MC Silver, 30-50mm, 13mm Hex
4000689-H	SR MC Silver, 30-50mm, 13mm Hex



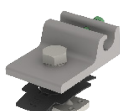
CrossRail End Clamp

Part Number	Descripción
4000429	CR EC Silver 30-50mm, SR 30-45mm
4000430	CR EC Dark 30-50mm, SR 30-45mm
4000003	SR EC Silver 46-50mm
4000004	SR EC Dark 46-50mm



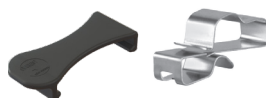
Yeti Clamp

Part Number	Descripción
4000050-H	Yeti Hidden EC for CR, Mill, 13mm Hex



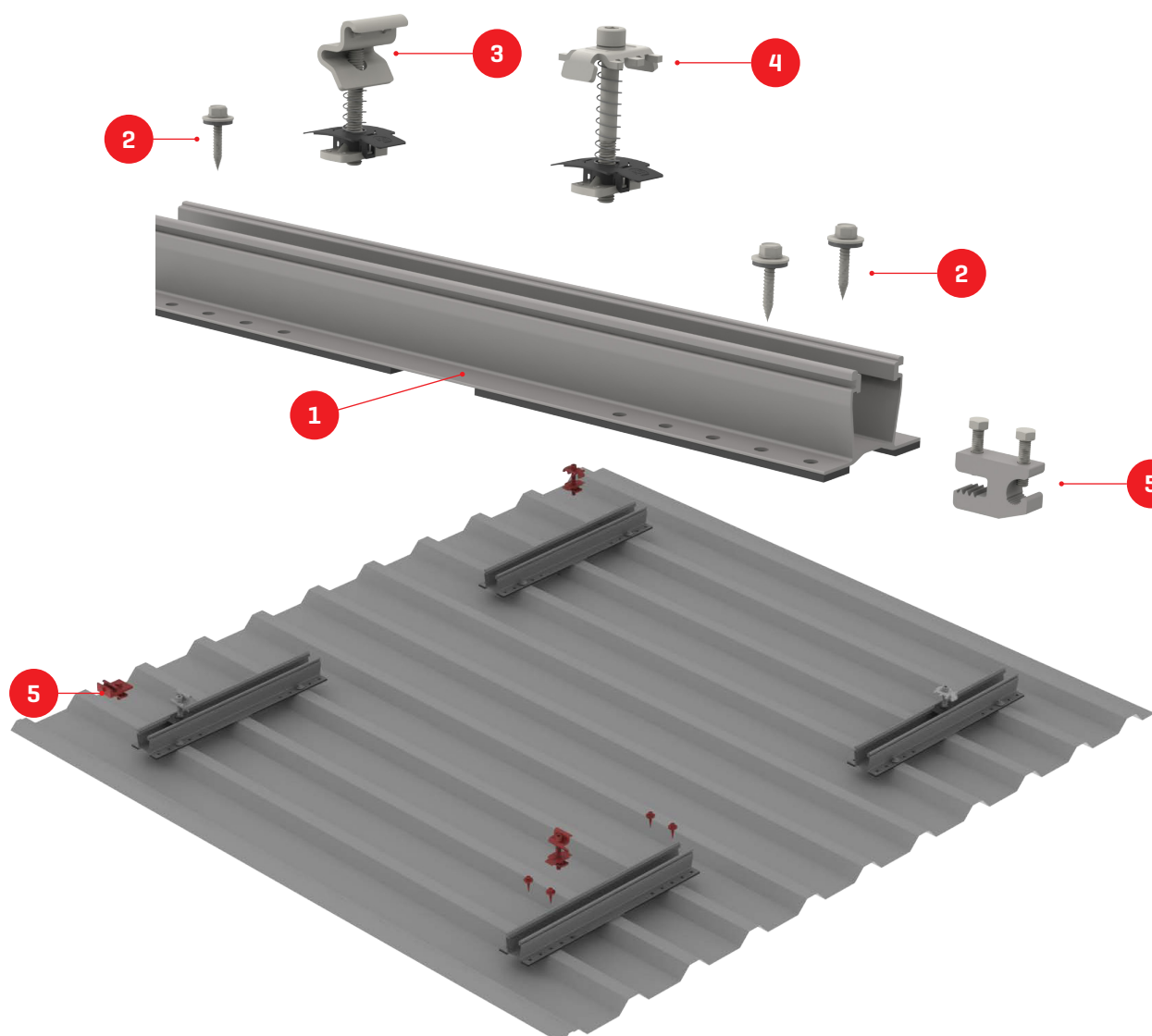
Everest Ground Lug

Part Number	Descripción
4000006-H	Everest Ground Lug Set, 13mm Hex



Gestión de cables

Part Number	Descripción
4000069	TC Wire Management Clip
4000382	Sunrunner Cable Clip

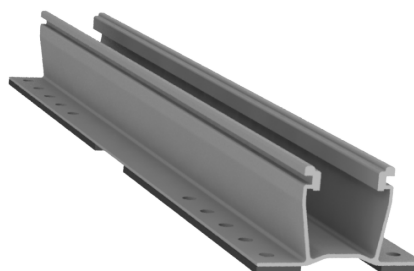


Sistema MiniRail XPRess

TECHNICAL SHEET

Item Number	Descripción	Part Number
1	MiniRail XPRess Base 17in w/EPDM, Mill	4000667
2	MiniRL Screw w/EPDM JF3, 29g, 25mm	4000672
3	CrossRail (Standard) End Clamp	4000429 (mill)
4	CrossRail Mid Clamp	4000429(mill) 4000601-H (13mm hex,mill)
5	ILSCO, SGB-4, 4-14 SOL-STR Everest Ground Lug	4000960 4000006-H

MINIRAIL XPRESS



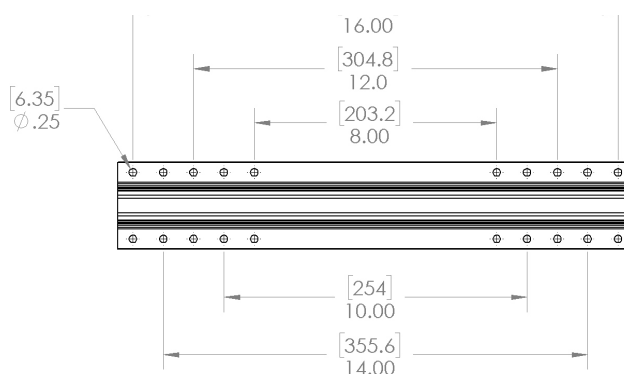
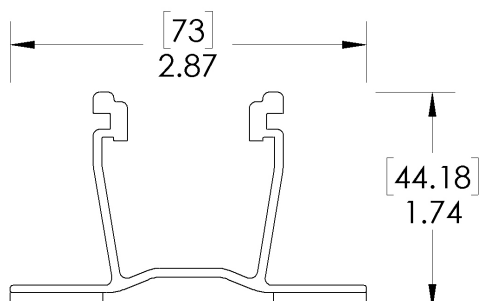
Propiedades mecánicas

	MiniRail XPress
Material	Aluminio Serie 6000
Resistencia a la tracción	37.7 ksi [260 MPa]
Fuerza de rendimiento	34.8 ksi [240 MPa]
Peso	0.84 lbs/pc [0.378 kg/pc]
Terminado	Aluminio

Propiedades seccionales

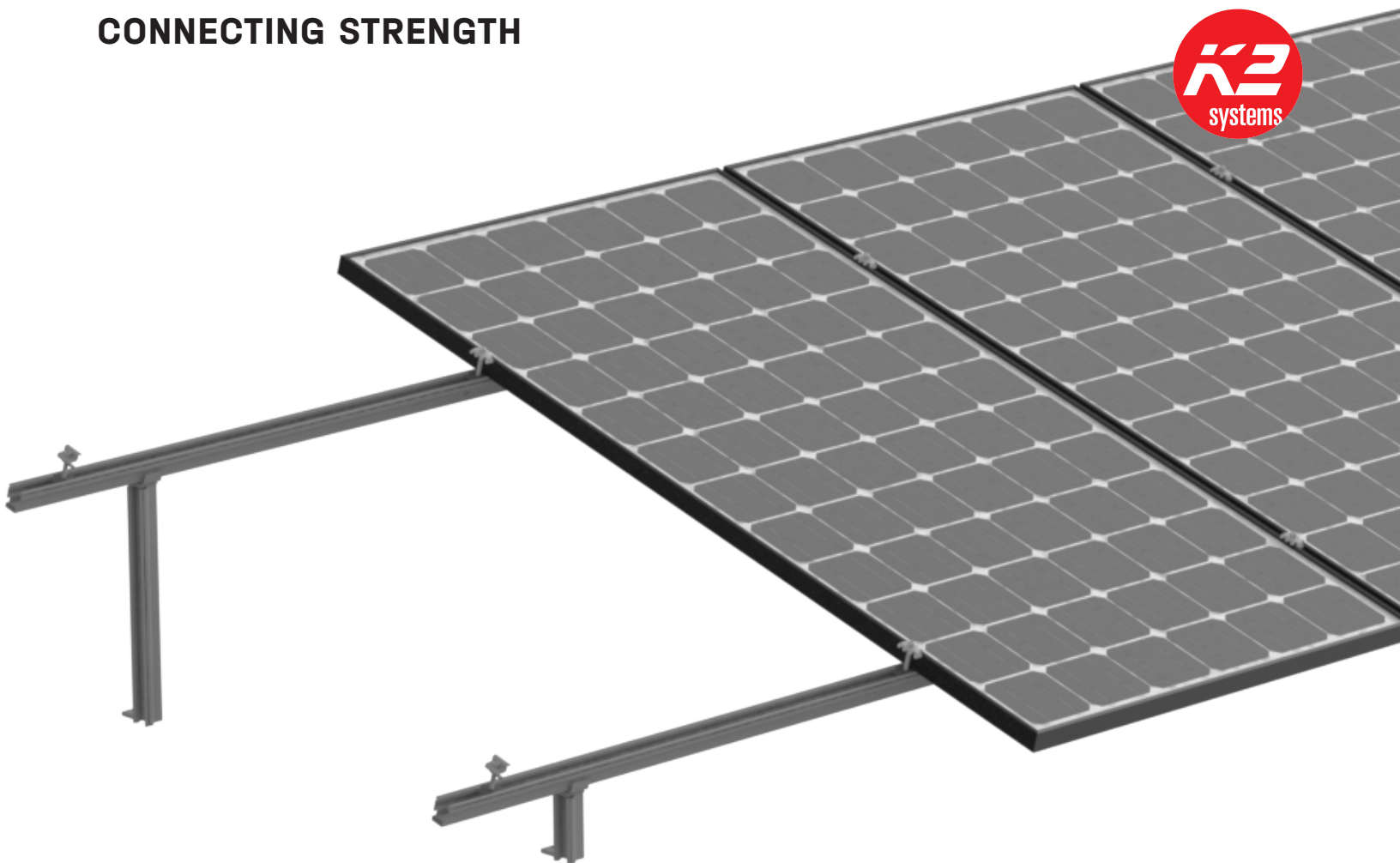
	MiniRail XPress
Sx	0.183 in ³ [2.9988 cm ³]
Sy	0.176 in ³ [2.8841 cm ³]
A [X-Section]	0.507in ² [3.2709 cm ²]

Unidad de medida: [mm] pulgadas



Notas:

- ▶ Valores estructurales y diagramas de span son determinados de acuerdo con el Manual de diseño de aluminio y ASCE 7-16.
- ▶ Certificación UL2703.



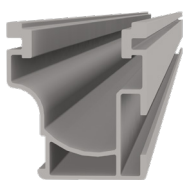
Sistema Simple Tilt

PRODUCT SHEET

- ▶ Sistema de 1 fila con inclinación.
- ▶ Ideal para techo plano de concreto.
- ▶ Sistema de alta calidad con ingeniería global, optimizado para instalación residencial.
- ▶ La instalación rápida con cantidad mínima de componentes resulta un bajo costo total de instalación.
- ▶ L-Foot proporciona ajuste y compatibilidad con los tipos de techos comunes.
- ▶ Sistema flexible para ajuste en el techo, prediseñado para inclinaciones de 0°, 8°, 16° y 24°.
- ▶ Un solo tipo de riel para todo el sistema y componentes compatibles con los demás sistemas CrossRail.
- ▶ El equipo de montaje Everest MK3 simplifica las instalaciones de módulos en una manera rápida, fácil, y segura.

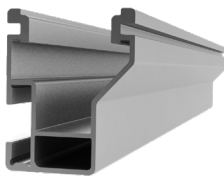


Componentes



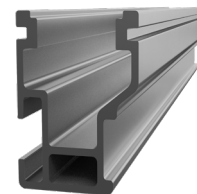
CrossRail 44-X Max

Part Number	Descripción
4000223	CrossRail 44-X Max 4.60m, Mill



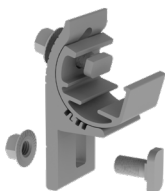
CrossRail 48-X

Part Number	Descripción
4000674	CrossRail 48-X, 4.22mts, Mill
4000671	CrossRail 48-X, 4.27mts, Mill
4000199	CrossRail 48-X, 4.60mts, Mil



CrossRail 48-XL

Part Number	Descripción
4000040	CrossRail 48-XL, 4.22mts, Mill



Simple Knee Kit

Part Number	Descripción
4000116	Simple Knee kit



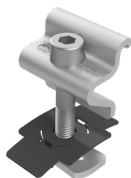
CrossRail Mid Clamp 13mm Hex

Part Number	Descripción
4000601-H	CR MC Silver, 30-47mm, 13mm Hex
4000602-H	CR MC Dark, 30-47mm, 13mm Hex
4000688-H	SR MC Silver, 30-50mm, 13mm Hex
4000689-H	SR MC Silver, 30-50mm, 13mm Hex



CrossRail Mid Clamp

Part Number	Descripción
4000429	CR MD Silver, 30-47mm



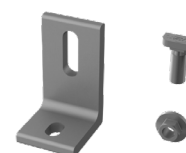
CrossRail End Clamp

Part Number	Descripción
4000090	CR EC Silver, 30-40mm
4000091	CR EC Dark, 30-40mm
4000092	CR EC Silver, 40-47mm
4000093	CR EC Dark, 40-47mm



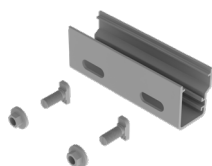
K2 Yeti Clamp 2.0

Part Number	Descripción
4000050-H	K2 Yeti Clamp 2.0, 13 mm Hex



L-Foot

Part Number	Descripción
4000630	L-Foot Slotted Set, Mill



CrossRail Rail Connector

Part Number	Descripción
4000051	Rail Connector CR 44-X, Set, Mill
4000385	RailConn CR48-X,48-XL Struct Set, Mill



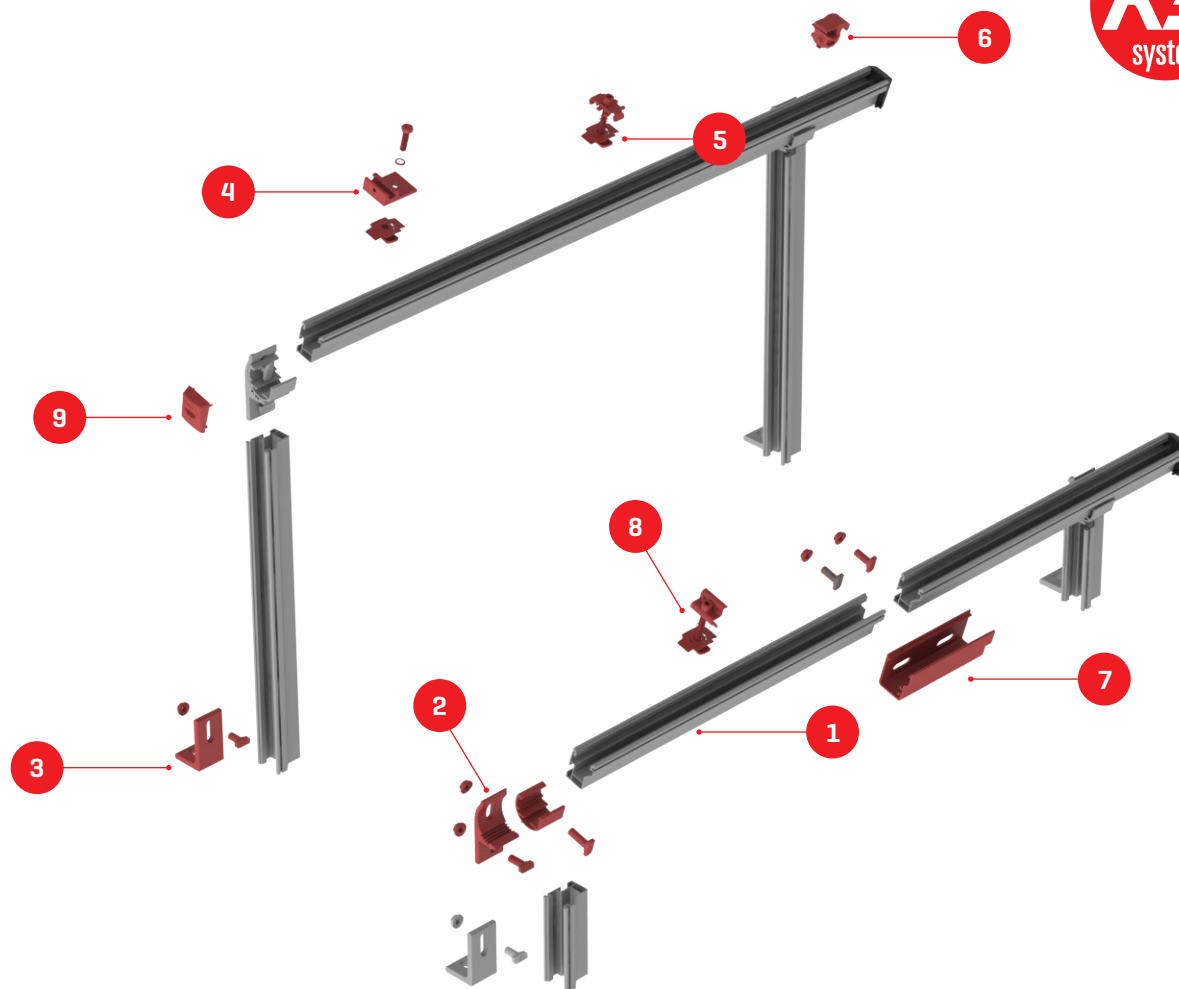
End Caps

Part Number	Descripción
4000067	CR 44-X End Cap
4000431	CR 48-X /48-XL Flat End Cap
4001221	CR 80 End Cap



Gestión de cables

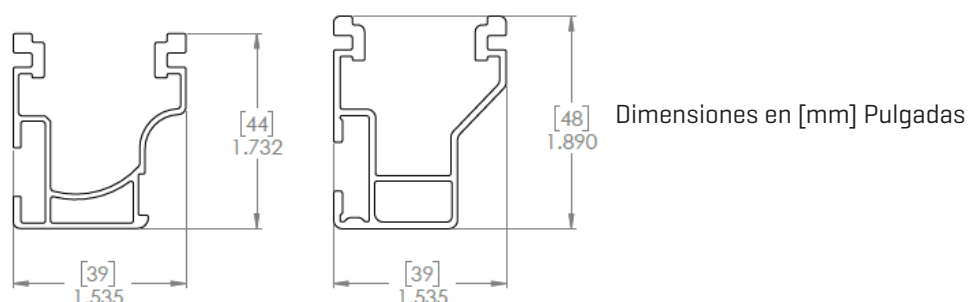
Part Number	Descripción
4000069	TC Wire Management Clip
4000382	Sunrunner Cable Clip
4005394	Omega Wire Mangement Clip



Sistema Simple Tilt

TECHNICAL SHEET

Item Number	Description	Part Number
1	CrossRail 44-X Max/ CrossRail 48-X	4000223 [4.60mts, mill], 4000674 [4.22mts, mill], 4000671 [4.27mts, mill] 4000199 [4.60mts, mill]
2	Simple Knee Kit	4000116 [mill]
3	L-Foot Slotted Set	4000630 [mill]
4	Everest Ground Lug	4000006-H [mill]
5	CrossRail Mid Clamp	4000601-H[13mm hex, mill] 4000602-H [13mm hex, dark]
6	K2 Yeti Clamp 2.0, 13 mm Hex	4000050-H
7	RailConn CR 48-X,48-XL Struct Set, Mill	4000385 [mill]
8	CrossRail End Clamp	4000090 [silver], 4000091 [dark], 4000092 [silver], 4000093 [dark]
9	CrossRail EndCap, Black, CR 48-X	4000433



Información técnica

	Sistema Simple Tilt
Tipo de techo	Concreto, techo plano.
Material	Aluminio de grado marino serie 6000, resistente a la corrosión y fijaciones de acero inoxidable
Terminado	Aluminio
Fijación al techo	Anclaje a techo de acuerdo a condiciones en sitio
Flexibilidad	Construcción modular de adecuado para cualquier tamaño del sistema, altura ajustable
Módulos FV	Para todos los tipos de módulos comunes
Orientación del módulo	Vertical
Certificación	UL 2703
Garantía	25 años

Dimensiones de instalación Simple Tilt

El sistema Simple Tilt es una solución completamente personalizada. La Figura 1 y la Tabla 1 y 2 a continuación proporcionan las dimensiones de instalación recomendadas basadas en un módulo FV estándar de 60 y 72 celdas con ubicaciones de sujeción a 1/6 de la dimensión de la orilla del módulo. Siempre asegúrese de que las dimensiones sean adecuadas para el sitio del proyecto.

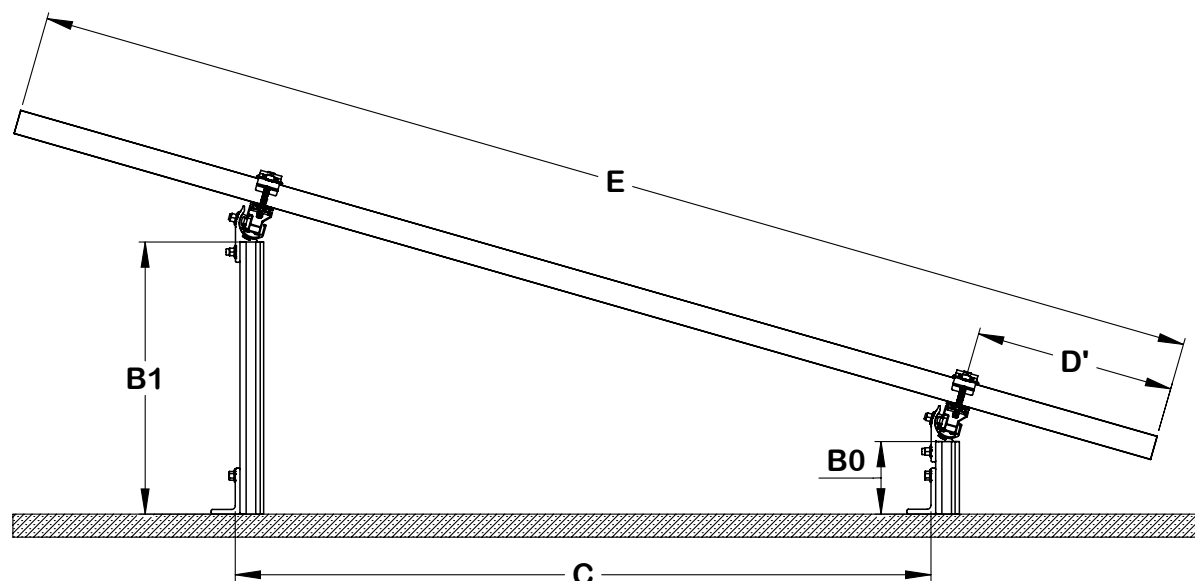


Figura 1 Dimensiones de ensamble para sistema Simple Tilt..

Nota: Inclínación máxima del techo 5°.

Dimensión	Descripción	Ángulo de inclinación deseado			
		0 grados	8 grados	16 grados	24 grados
		Vertical			
		72 Celdas			
B0	LONG. PATA FRONTAL MÁXIMO.	0.12	0.12	0.12	0.12
B1	LONG. PATA 1	0.12	0.29	0.46	0.64
C	DIST. ENTRE APOYOS	1.20	1.15	1.15	1.15
D'	DIST. AGARRE AL MÓDULO	0.40	0.40	0.33	0.33
E	LARGO DEL MÓDULO	2.00	2.00	2.00	2.00

Tabla 1: Dimensiones de la instalación para una fila del Simple Tilt con módulo de 72 celdas. Todas las dimensiones están en mts.

Dimensión	Descripción	Ángulo de inclinación deseado			
		0 grados	8 grados	16 grados	24 grados
		Vertical			
		60 Celdas			
B0	LONG. PATA FRONTAL MÁXIMO	0.12	0.12	0.12	0.12
B1	LONG. PATA 1	0.12	0.25	0.39	0.52
C	DIST. ENTRE APOYOS	0.85	0.90	0.90	0.90
D'	DIST. AGARRE AL MÓDULO	0.40	0.40	0.33	0.33
E	LARGO DEL MÓDULO	1.65	1.65	1.65	1.65

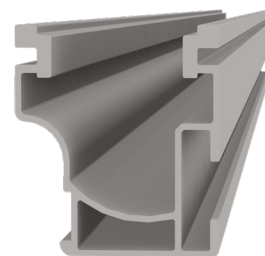
Tabla 2: Dimensiones de la instalación para una fila del Simple Tilt con módulo de 60 celdas. Todas las dimensiones están en mts.

Consideraciones:

1. Consulte siempre las instrucciones de instalación del fabricante del módulo fotovoltaico para conocer las ubicaciones de sujeción aprobadas. Las dimensiones en la Tabla 1 suponen un módulo estándar de 72 celdas con ubicaciones de sujeción de 1/6 del total del largo del módulo.
2. La dimensión de la pata frontal [B0] debe medir como máximo 0.12m
3. Las dimensiones B, C y D proporcionadas en la Tabla 1 son valores sugeridos. El instalador debe verificar que las dimensiones sean apropiadas para las condiciones individuales del sitio, módulo seleccionado y la superficie del techo. Con la siguiente formula se puede tener un estimado de la longitud de la pata trasera:

$$B1 = \text{sen}(\theta) \times E \times [1 - 2 \times (D \theta)] + .12$$
 B1=Pata trasera [m.]
 θ =Ángulo de inclinación permitido: 0°, 8°, 16° o 24°
 E=Lado largo del módulo [m.]
 D=Zona de agarre del módulo. Típicamente se considera entre 1/4 y 1/6 del lado largo de módulo. Consultar la información técnica del fabricante del módulo para conocer zonas de sujeción.
4. El instalador es responsable de cortar el riel a las longitudes "B0" y "B1" de la Tabla 1.
5. Consulte la(s) Carta(s) de ingeniería del sistema Simple Tilt para las cargas de reacción en cada punto de anclaje. Estos calculos únicamente consideran cargas de viento, no se tomaron en cuenta cargas sismicas ni de nieve.
6. El simple Knee tiene un mejor funcionamiento cuando está completamente asentado en la parte superior del riel.
7. Para más información favor de solicitar la herramienta Everest con alguno de nuestros ingenieros al correo info@everest-solarsystems.mx.
8. Ajuste según sus necesidades de instalación.

CROSSRAIL 44-X MAX



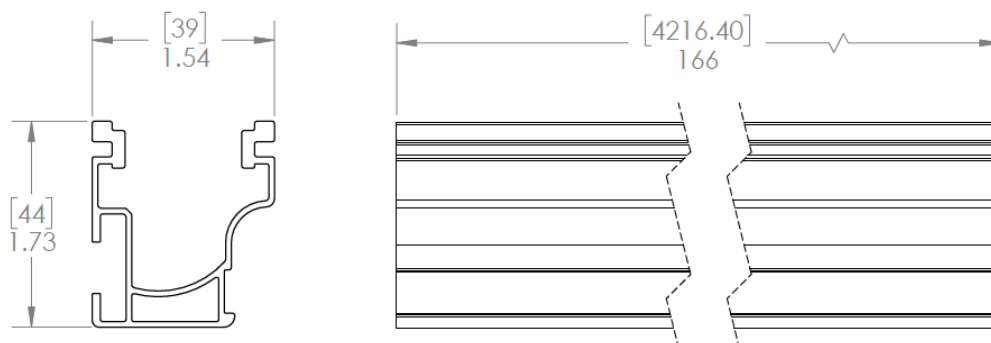
Propiedades mecánicas

	CrossRail 44-X Max
Material	Aluminio Serie 6000
Resistencia a la tracción	37.7 ksi [260 MPa]
Fuerza de rendimiento	34.8 ksi [240 MPa]
Peso	0.50 lbs/ft [0.746 kg/m]
Terminado	Aluminio y negro

Propiedades seccionales

	CrossRail 44-X Max
Sx	0.175 in ³ [2.861 cm ³]
Sy	0.147 in ³ [2.410 cm ³]
A [Sección X]	0.428 in ² [2.763 cm ²]

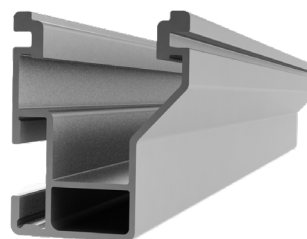
Unidad de medida: [mm] pulgadas



Notas:

- ▶ Valores estructurales y diagramas de Spand determinados de acuerdo con el Manual de diseño de aluminio y ASCE 7-16.
- ▶ Sistema evaluado bajo UL2703.

CROSSRAIL 48-X



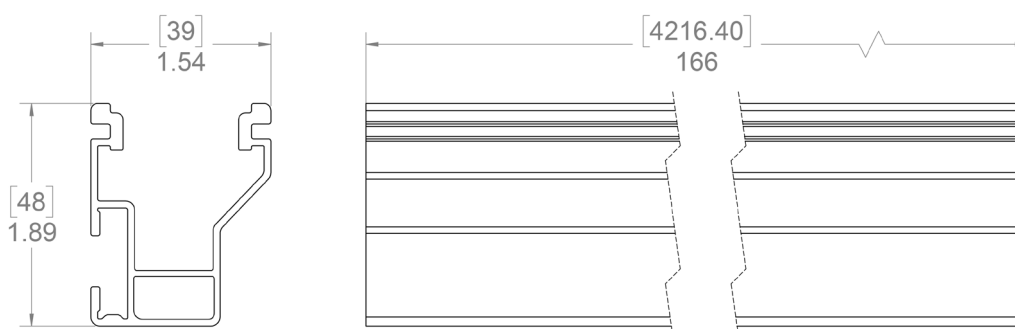
Propiedades mecánicas

	CrossRail 48-X
Material	Aluminio Serie 6000
Resistencia a la tracción	37.7 ksi [260 MPa]
Fuerza de rendimiento	34.8 ksi [240 MPa]
Peso	0.56 lbs/ft [0.833 kg/m]
Terminado	Aluminio

Propiedades seccionales

	CrossRail 48-X
Sx	0.1980 in ³ [3.245 cm ³]
Sy	0.1510 in ³ [2.474 cm ³]
A [Sección X]	0.4650 in ² [2.999 cm ²]

Unidad de medida: [mm] pulgadas



Notas:

- ▶ Valores estructurales y diagramas de Spand determinados de acuerdo con el Manual de diseño de aluminio y ASCE 7-16
- ▶ Sistema evaluado bajo UL2703



November 11, 2016

Peter Abou Chacra
Everest Solar Systems
3809 Ocean Ranch Blvd
Oceanside, CA, 92056, US

Our Reference: File E467724
Subject: Certificate of Conformance - UL2703, First edition

Dear Mr. Abou Chacra:

This letter indicates that the items listed below were successfully tested for bonding only under UL2703

The following systems and their respective components were evaluated:

- M215 & M250 Enphase Micro Inverter Back plates were evaluated for use with CrossRail 48, 48S, and XPressRail with the following hardware:
 - M8 Socket head/Allen Bolt 304 stainless steel
 - 8M 304 stainless steel lock washer
 - M8 304 stainless steel flat washer
 - Enphase micro inverter
 - R/C WEEB KMC (QIMS2, E351343)
 - MK3 Slot Nut
- P300 SolarEdge Optimizer Back plate was evaluated in for use with CrossRail 48, 48S, and XPressRail with the following hardware:
 - M8 Socket head/Allen Bolt 304 stainless steel
 - 8M 304 stainless steel lock washer, M8 304 stainless steel flat washer
 - SolarEdge Optimzer
 - R/C WEEB KMC (QIMS2, E351343)
 - MK3 Slot Nut

Components were evaluated for a Max Fuse Rating of 20A.

The following tests were conducted.

Bonding Path Resistance Test - As Received
Temperature Cycling Test
Bonding Path Resistance Test - Following The Temperature Cycling Test
Humidity Test
Bonding Path Resistance Test - Following The Humidity Test
Bonding Conductor Test: General
Bonding Path Resistance Test - Following The Bonding Conductor Test

The following conditions apply to the M215 & M250 micro-inverter:

1. Applications utilizing M250/M215 micro-inverters must use a minimum of 2 inverters for any installation that relies on grounding through the wiring harness/trunk cable. Connected inverters must always be mounted to the same mounting structure and connected to the same ground wire.
2. The M250/M215 micro-inverters must be used with a maximum 20 A Branch rated OCPD.
3. Installation instructions for the end product shall indicate that the M250/M215 micro-inverters should not be serviced or removed from their mounting frames until the AC and DC have both been disconnected.
4. Installation instructions for the end product shall indicate that when AC and DC are connected, two modules should always be connected and mounted to ensure an acceptable ground path.

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in UL 2703, Standard for Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for use with Flat-Plate Photovoltaic Modules and Panels, Edition 1, Issued January 28, 2015.

Sincerely,

Yazeed Zureikat
Project Engineer

Reviewed by:

Nathan Wang
Senior Project Engineer

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.



EU Declaration of Conformity
EU Konformitätserklärung
Déclaration UE de conformité
Dichiarazione di conformità UE

This declaration of conformity is issued under the sole responsibility of the manufacturer

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller /
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant /
La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante

ABB S.p.A. – ELSB
Via dell'Industria 18,20009
Vittuone (MI) - Italy

Object of declaration

Gegenstand der Erklärung / Objet de la déclaration / Oggetto della dichiarazione

MISTRAL65 GWT 750°C

The object of the declaration described above is in conformity with the relevant Community harmonisation legislation

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen / Harmonisierungsrechtsvorschriften der Gemeinschaft /
L'objet de la déclaration décrit ci-dessus est conforme à la législation communautaire d'harmonisation applicable /
L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa comunitaria di armonizzazione

Low Voltage Directive / Niederspannungsrichtlinie / Directive basse tension / Direttiva Bassa Tensione
No. 2014/35/EU

RoHS Directive as amended / RoHS Richtlinie einschließlich Änderungen / Directive RoHS telle que modifiée / Direttiva RoHS e successive modifiche
No. 2011/65/EU incl. 2015/863/EU

and are in conformity with the following harmonized standards or other normative documents

nachgewiesen durch die Einhaltung der nachstehend aufgeführten Normen oder anderen normativen Dokumenten /
et justifié par le respect des Normes mentionnées ci-dessous ou autres documents normatifs /
e sono stati applicati le norme o altri documenti normativi indicati di seguito

EN 60670-24 : 2013 IEC 60670-1 : 2005

EN IEC 63000:2018

Year of CE-marking: 2015

Jahr der CE-Kennzeichnung / Année d'apposition du marquage CE / Anno in cui è stata affissa la marcatura

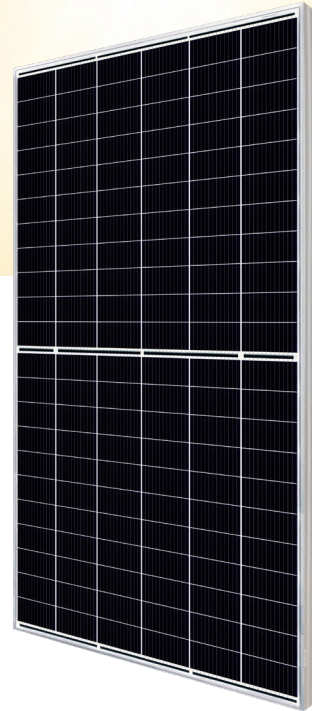
Signed for and on behalf of

Unterzeichnet für und im Namen von / Signé par et au nom de / Firmato in vece e per conto di

ABB S.p.A. –ELSB, Vittuone, 15th October 2022

Giampaolo Orsato
Quality Manager
LPG ED IT

Matteo Chiaravalli
R&D Manager
LPG ED IT



HiKu7 Mono PERC

645 W ~ 675 W

CS7N-645 | 650 | 655 | 660 | 665 | 670 | 675MS

MORE POWER

-  Module power up to 675 W
Module efficiency up to 21.7 %
-  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*

12 Years Enhanced Product Warranty on Materials and Workmanship*

25 Years Linear Power Performance Warranty*

**1st 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
IEC62941 : 2019 / Photovoltaic module manufacturing quality system

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA
UL 61730 / IEC 61701 / IEC 62716 / IEC 63126 Level1 / 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 photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 22 years, it has successfully delivered over 100 GW of premium-quality solar modules across the world.

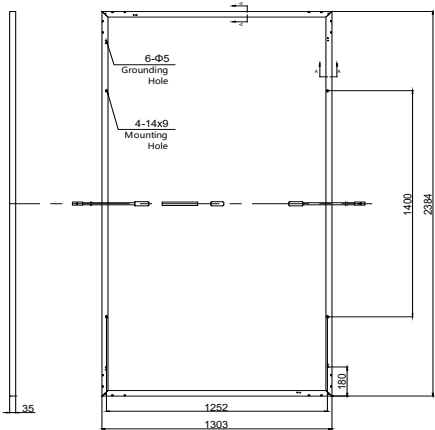
* For detailed information, please refer to the Installation Manual.

CSI Solar Co., Ltd.

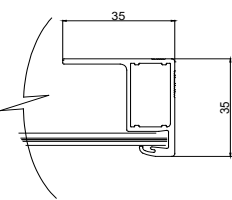
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

ENGINEERING DRAWING (mm)

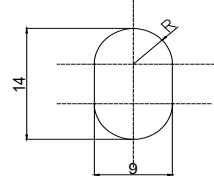
Rear View



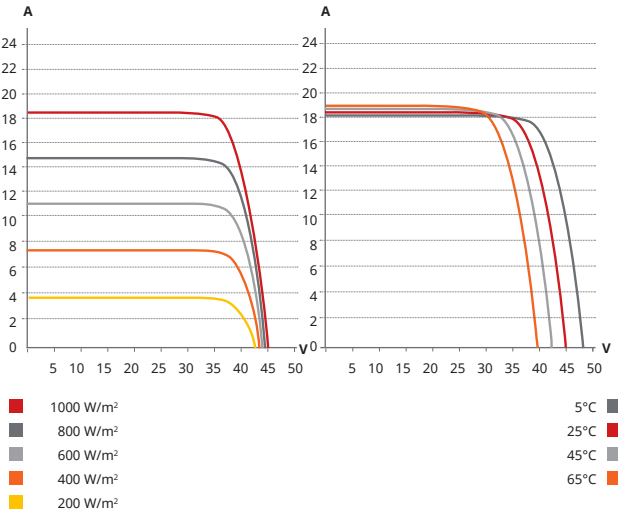
Frame Cross Section A-A



Mounting Hole



CS7N-650MS / I-V CURVES



ELECTRICAL DATA | STC*

CS7N	645MS	650MS	655MS	660MS	665MS	670MS	675MS
Nominal Max. Power (Pmax)	645 W	650 W	655 W	660 W	665 W	670 W	675 W
Opt. Operating Voltage (Vmp)	37.7 V	37.9 V	38.1 V	38.3 V	38.5 V	38.7 V	38.9 V
Opt. Operating Current (Imp)	17.11 A	17.16 A	17.20 A	17.24 A	17.28 A	17.32 A	17.36 A
Open Circuit Voltage (Voc)	44.8 V	45.0 V	45.2 V	45.4 V	45.6 V	45.8 V	46.0 V
Short Circuit Current (Isc)	18.35 A	18.39 A	18.43 A	18.47 A	18.51 A	18.55 A	18.59 A
Module Efficiency	20.8%	20.9%	21.1%	21.2%	21.4%	21.6%	21.7%
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/m², spectrum AM 1.5 and cell temperature of 25°C.

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	33.9 kg (74.7 lbs)
Front Cover	3.2 mm tempered glass with anti-ref- lective coating
Frame	Anodized aluminium alloy, crossbar enhanced
J-Box	IP68, 3 bypass diodes
Cable	4 mm² (IEC), 12 AWG (UL)
Cable Length (Including Connector)	410 mm (16.1 in) (+) / 250 mm (9.8 in) (-) or customized length*
Connector	T6 or T4 or MC4-EVO2 or MC4-EVO2A
Per Pallet	31 pieces
Per Container (40' HQ)	558 pieces

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

ELECTRICAL DATA | NMOT*

CS7N	645MS	650MS	655MS	660MS	665MS	670MS	675MS
Nominal Max. Power (Pmax)	484 W	487 W	491 W	495 W	499 W	502 W	506 W
Opt. Operating Voltage (Vmp)	35.3 V	35.5 V	35.7 V	35.9 V	36.1 V	36.3 V	36.5 V
Opt. Operating Current (Imp)	13.72 A	13.74 A	13.76 A	13.79 A	13.83 A	13.85 A	13.88 A
Open Circuit Voltage (Voc)	42.3 V	42.5 V	42.7 V	42.9 V	43.1 V	43.3 V	43.5 V
Short Circuit Current (Isc)	14.80 A	14.83 A	14.86 A	14.89 A	14.93 A	14.96 A	14.99 A

* 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

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.

199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com



Certificate of Compliance

Certificate: 80039108

Master Contract: 249143

Project: 80151880

Date Issued: 2023-03-21

Issued to: CSI Solar Co., Ltd.
199 Lushan Road, SND
Suzhou, Jiangsu 215129
China
Attention: Yuan Zhou

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by: *Simon Shen*
Simon Shen

PRODUCTS

CLASS - C531190 - POWER SUPPLIES-Photovoltaic Modules and Panels - Certified to US Standards

CLASS - C531110 - POWER SUPPLIES-Photovoltaic Modules and Panels

Photovoltaic modules with maximum DC system voltage of 1500 V or 1000V, Safety Class II, Module Fire Performance Type 1 or Type 2.

Model Series:

CS3Y-xxxMS (xxx = 470 to 515 W),
CS3Y-xxxP (xxx = 435 to 485 W),
CS3N-xxxMS (xxx = 375 to 435 W),
CS3W-xxxP (xxx = 385 to 450 W),
CS3L-xxxP (xxx = 340 to 375 W),
CS3W-xxxMS (xxx = 405 to 470 W),
CS3L-xxxMS (xxx = 345 to 390 W),
CS3U-xxxMS (xxx = 350 to 410 W),
CS3K-xxxMS (xxx = 295 to 345 W),
CS3U-xxxP (xxx = 345 to 405 W),
CS3K-xxxP (xxx = 290 to 340 W),



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CS1H-xxxMS (xxx = 310 to 345 W),
 CS6U-xxxP (xxx = 310 to 340 W),
 CS6XH-xxxP (xxx = 295 to 345 W),
 CS6XH-xxxM (xxx = 330 to 375 W),
 CS6PH-xxxP (xxx = 240 to 280 W),
 CS6PH-xxxM (xxx = 270 to 310 W),
 CS6AH-xxxP (xxx = 185 to 220 W),
 CS6AH-xxxM (xxx = 215 to 235 W),
 CS5PH-xxxP (xxx = 235 to 260 W),
 CS5PH-xxxM (xxx = 250 to 275 W),
 CS1Y-xxxMS (xxx = 380 to 415 W),
 CS1W-xxxMS (xxx = 350 to 385 W),
 CS6Y-xxxMS (xxx = 570 to 605 W),
 CS6W-xxxMS (xxx = 530 to 555 W),
 CS6L-xxxMS (xxx = 440 to 460 W),
 CS6R-xxxMS (xxx = 380 to 420 W),
 CS6R-xxxMS-HL (xxx = 380 to 420 W),
 CS7N-xxxMS (xxx = 635 to 680 W),
 CS7L-xxxMS (xxx = 575 to 620 W),
 CS7L-xxxMS-R (xxx = 575 to 620 W),
 CS5A-xxxM-PLUS (xxx = 200 to 220 W),
 CS5P-xxxM-PLUS (xxx = 250 to 270 W),
 CS6A-xxxP-PLUS (xxx = 200 to 250 W),
 CS6P-xxxP-PLUS (xxx = 255 to 320 W),
 CS6X-xxxP-PLUS (xxx = 310 to 375 W),
 CS6W-xxxT (xxx = 540 to 605 W),
 CS6R-xxxT (xxx = 400 to 455 W).

Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3W-385P	1500	46.6	38.1	10.66	10.11	385	20
CS3W-390P	1500	46.8	38.3	10.74	10.19	390	20
CS3W-395P	1500	47.0	38.5	10.82	10.26	395	20
CS3W-400P	1500	47.2	38.7	10.90	10.34	400	20
CS3W-405P	1500	47.4	38.9	10.98	10.42	405	20
CS3W-410P	1500	47.6	39.1	11.06	10.49	410	20
CS3W-415P	1500	47.8	39.3	11.14	10.56	415	20
CS3W-420P	1500	48.0	39.5	11.26	10.64	420	20
CS3W-425P	1500	48.2	39.7	11.29	10.71	425	20
CS3W-430P	1500	48.4	39.9	11.32	10.78	430	20
CS3W-435P	1500	48.6	40.1	11.35	10.85	435	20
CS3W-440P	1500	48.7	40.3	11.40	10.92	440	20



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3W-445P	1500	48.8	40.5	11.45	10.99	445	20
CS3W-450P	1500	49.0	40.7	11.53	11.06	450	20
CS3L-340P	1500	39.6	32.6	10.98	10.43	340	20
CS3L-345P	1500	39.8	32.8	11.06	10.52	345	20
CS3L-350P	1500	40.2	33.0	11.24	10.61	350	20
CS3L-355P	1500	40.4	33.2	11.31	10.70	355	20
CS3L-360P	1500	40.6	33.4	11.37	10.78	360	20
CS3L-365P	1500	40.8	33.6	11.44	10.87	365	20
CS3L-370P	1500	41.0	33.8	11.51	10.95	370	20
CS3L-375P	1500	41.2	34.0	11.59	11.03	375	20
CS1H-310MS	1000	43.8	35.4	9.52	8.76	310	16
CS1H-315MS	1000	43.9	35.8	9.56	8.80	315	16
CS1H-320MS	1000	44.0	36.2	9.60	8.85	320	16
CS1H-325MS	1000	44.1	36.6	9.64	8.88	325	16
CS1H-330MS	1000	44.2	37.0	9.68	8.92	330	16
CS1H-335MS	1000	44.3	37.4	9.72	8.96	335	16
CS1H-340MS	1000	44.5	37.8	9.76	9.00	340	16
CS1H-345MS	1000	44.6	38.2	9.80	9.04	345	16
CS3W-405MS	1500	47.3	39.3	11.12	10.31	405	20
CS3W-410MS	1500	47.5	39.5	11.17	10.38	410	20
CS3W-415MS	1500	47.7	39.7	11.22	10.46	415	20
CS3W-420MS	1500	47.9	39.9	11.27	10.53	420	20
CS3W-425MS	1500	48.1	40.1	11.32	10.6	425	20
CS3W-430MS	1500	48.3	40.3	11.37	10.68	430	20
CS3W-435MS	1500	48.5	40.5	11.42	10.75	435	20
CS3W-440MS	1500	48.7	40.7	11.48	10.82	440	20
CS3W-445MS	1500	48.9	40.9	11.54	10.89	445	20
CS3W-450MS	1500	49.1	41.1	11.6	10.96	450	20
CS3W-455MS	1500	49.3	41.3	11.66	11.02	455	20
CS3W-460MS	1500	49.5	41.5	11.72	11.09	460	20
CS3W-465MS	1500	49.7	41.7	11.78	11.16	465	20
CS3W-470MS	1500	49.9	41.9	11.84	11.22	470	20
CS3L-345MS	1500	39.8	33.1	11.23	10.43	345	20
CS3L-350MS	1500	40	33.3	11.28	10.52	350	20
CS3L-355MS	1500	40.2	33.5	11.33	10.61	355	20
CS3L-360MS	1500	40.4	33.7	11.4	10.69	360	20
CS3L-365MS	1500	40.6	33.9	11.47	10.78	365	20
CS3L-370MS	1500	40.8	34.1	11.54	10.86	370	20



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3L-375MS	1500	41	34.3	11.61	10.94	375	20
CS3L-380MS	1500	41.2	34.5	11.68	11.02	380	20
CS3L-385MS	1500	41.4	34.7	11.75	11.1	385	20
CS3L-390MS	1500	41.6	34.9	11.82	11.18	390	20
CS3U-350MS	1500	46.6	38.8	9.53	9.03	350	30
CS3U-355MS	1500	46.8	39	9.61	9.11	355	30
CS3U-360MS	1500	47	39.2	9.69	9.19	360	30
CS3U-365MS	1500	47.2	39.4	9.77	9.27	365	30
CS3U-370MS	1500	47.4	39.6	9.85	9.35	370	30
CS3U-375MS	1500	47.6	39.8	9.93	9.43	375	30
CS3U-380MS	1500	47.8	40	10.01	9.5	380	30
CS3U-385MS	1500	48	40.2	10.09	9.58	385	30
CS3U-390MS	1500	48.2	40.4	10.17	9.66	390	30
CS3U-395MS	1500	48.4	40.6	10.25	9.73	395	30
CS3U-400MS	1500	48.6	40.8	10.33	9.81	400	30
CS3U-405MS	1500	49.3	41	10.44	9.88	405	30
CS3U-410MS	1500	49.5	41.2	10.52	9.96	410	30
CS3K-295MS	1500	39.1	32.3	9.73	9.14	295	30
CS3K-300MS	1500	39.3	32.5	9.82	9.24	300	30
CS3K-305MS	1500	39.5	32.7	9.9	9.33	305	30
CS3K-310MS	1500	39.7	32.9	9.98	9.43	310	30
CS3K-315MS	1500	39.9	33.1	10.06	9.52	315	30
CS3K-320MS	1500	40.1	33.3	10.14	9.61	320	30
CS3K-325MS	1500	40.3	33.5	10.22	9.71	325	30
CS3K-330MS	1500	40.5	33.7	10.3	9.8	330	30
CS3K-335MS	1500	41.2	33.9	10.39	9.89	335	30
CS3K-340MS	1500	41.4	34.1	10.49	9.98	340	30
CS3K-345MS	1500	41.6	34.3	10.58	10.06	345	30
CS3U-345P	1500	46.1	38.6	9.44	8.94	345	30
CS3U-350P	1500	46.6	39.2	9.51	8.94	350	30
CS3U-355P	1500	46.8	39.4	9.59	9.02	355	30
CS3U-360P	1500	47.0	39.6	9.67	9.10	360	30
CS3U-365P	1500	47.2	39.8	9.75	9.18	365	30
CS3U-370P	1500	47.4	40.0	9.83	9.26	370	30
CS3U-375P	1500	47.6	40.2	9.91	9.34	375	30
CS3U-380P	1500	47.8	40.4	9.99	9.42	380	30
CS3U-385P	1500	48.0	40.6	10.07	9.50	385	30
CS3U-390P	1500	48.6	40.8	10.17	9.56	390	30



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3U-395P	1500	48.8	41.0	10.24	9.64	395	30
CS3U-400P	1500	49.0	41.2	10.30	9.71	400	30
CS3U-405P	1500	49.2	41.4	10.37	9.79	405	30
CS3K-290P	1500	38.9	32.3	9.49	8.98	290	30
CS3K-295P	1500	39.1	32.5	9.57	9.08	295	30
CS3K-300P	1500	39.3	32.7	9.65	9.18	300	30
CS3K-305P	1500	39.5	32.9	9.73	9.28	305	30
CS3K-310P	1500	39.7	33.1	9.81	9.37	310	30
CS3K-315P	1500	39.9	33.3	9.89	9.46	315	30
CS3K-320P	1500	40.1	33.5	9.97	9.56	320	30
CS3K-325P	1500	40.9	33.7	10.21	9.65	325	30
CS3K-330P	1500	41.1	33.9	10.29	9.74	330	30
CS3Y-470MS	1500	52.5	43.8	11.47	10.74	470	20
CS3Y-475MS	1500	52.7	44.0	11.52	10.81	475	20
CS3Y-480MS	1500	52.9	44.2	11.57	10.87	480	20
CS3Y-485MS	1500	53.1	44.4	11.62	10.94	485	20
CS3Y-490MS	1500	53.3	44.6	11.67	11.00	490	20
CS3Y-495MS	1500	53.5	44.8	11.72	11.06	495	20
CS3Y-500MS	1500	53.7	45.0	11.77	11.12	500	20
CS3Y-505MS	1500	53.9	45.2	11.82	11.18	505	20
CS3Y-510MS	1500	54.1	45.4	11.87	11.24	510	20
CS3Y-515MS	1500	54.3	45.6	11.92	11.30	515	20
CS3Y-435P	1500	51.0	41.8	11.13	10.41	435	20
CS3Y-440P	1500	51.2	42.0	11.18	10.48	440	20
CS3Y-445P	1500	51.4	42.2	11.23	10.55	445	20
CS3Y-450P	1500	51.6	42.4	11.28	10.62	450	20
CS3Y-455P	1500	51.8	42.6	11.33	10.69	455	20
CS3Y-460P	1500	52.0	42.8	11.38	10.75	460	20
CS3Y-465P	1500	52.2	43.0	11.43	10.82	465	20
CS3Y-470P	1500	52.4	43.2	11.48	10.88	470	20
CS3Y-475P	1500	52.6	43.4	11.53	10.95	475	20
CS3Y-480P	1500	52.8	43.6	11.58	11.01	480	20
CS3Y-485P	1500	53.0	43.8	11.63	11.08	485	20
CS3N-375MS	1500	43.5	36.2	11.20	10.36	375	20
CS3N-380MS	1500	43.7	36.4	11.26	10.44	380	20
CS3N-385MS	1500	43.9	36.6	11.32	10.52	385	20
CS3N-390MS	1500	44.1	36.8	11.38	10.60	390	20
CS3N-395MS	1500	44.3	37.0	11.44	10.68	395	20



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3N-400MS	1500	44.5	37.2	11.50	10.76	400	20
CS3N-405MS	1500	44.7	37.4	11.56	10.83	405	20
CS3N-410MS	1500	44.9	37.6	11.62	10.92	410	20
CS3N-415MS	1500	45.1	37.8	11.68	10.98	415	20
CS3N-420MS	1500	45.3	38.0	11.74	11.06	420	20
CS3N-425MS	1500	45.5	38.2	11.80	11.13	425	20
CS3N-430MS	1500	45.7	38.4	11.86	11.20	430	20
CS3N-435MS	1500	45.9	38.6	11.92	11.27	435	20
CS6U-310P	1500	44.9	36.4	9.08	8.52	310	15
CS6U-315P	1500	45.1	36.6	9.18	8.61	315	15
CS6U-320P	1500	45.3	36.8	9.26	8.69	320	15
CS6U-325P	1500	45.5	37.0	9.34	8.78	325	15
CS6U-330P	1500	45.6	37.2	9.45	8.88	330	15
CS6U-335P	1500	45.8	37.4	9.54	8.96	335	15
CS6U-340P	1500	45.9	37.6	9.62	9.05	340	15
CS6XH-295P	1500	41.4	34.4	9.52	8.58	295	20
CS6XH-300P	1500	41.6	34.6	9.56	8.68	300	20
CS6XH-305P	1500	41.8	34.8	9.60	8.77	305	20
CS6XH-310P	1500	42.0	35.0	9.64	8.86	310	20
CS6XH-315P	1500	42.2	35.2	9.68	8.95	315	20
CS6XH-320P	1500	42.4	35.4	9.72	9.04	320	20
CS6XH-325P	1500	42.6	35.6	9.76	9.13	325	20
CS6XH-330P	1500	42.8	35.8	9.83	9.22	330	20
CS6XH-335P	1500	43.0	36.0	9.90	9.31	335	20
CS6XH-340P	1500	43.2	36.2	9.97	9.40	340	20
CS6XH-345P	1500	43.4	36.4	10.04	9.49	345	20
CS6XH-330M	1500	43.8	35.6	9.76	9.27	330	20
CS6XH-335M	1500	44.0	35.9	9.82	9.34	335	20
CS6XH-340M	1500	44.2	36.2	9.88	9.40	340	20
CS6XH-345M	1500	44.4	36.5	9.94	9.46	345	20
CS6XH-350M	1500	44.6	36.8	10.00	9.52	350	20
CS6XH-355M	1500	44.8	37.1	10.06	9.57	355	20
CS6XH-360M	1500	45.0	37.4	10.12	9.63	360	20
CS6XH-365M	1500	45.2	37.7	10.18	9.69	365	20
CS6XH-370M	1500	45.4	38.0	10.24	9.74	370	20
CS6XH-375M	1500	45.6	38.3	10.30	9.80	375	20
CS6PH-240P	1500	33.8	28.2	9.41	8.52	240	20
CS6PH-245P	1500	34.0	28.4	9.48	8.63	245	20



Certificate: 80039108
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Master Contract: 249143
Date Issued: 2023-03-21

Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS6PH-250P	1500	34.2	28.6	9.55	8.75	250	20
CS6PH-255P	1500	34.4	28.8	9.62	8.86	255	20
CS6PH-260P	1500	34.6	29.0	9.69	8.97	260	20
CS6PH-265P	1500	34.8	29.2	9.76	9.08	265	20
CS6PH-270P	1500	35.0	29.4	9.83	9.19	270	20
CS6PH-275P	1500	35.2	29.6	9.90	9.30	275	20
CS6PH-280P	1500	35.4	29.8	9.97	9.40	280	20
CS6PH-270M	1500	36.1	29.4	9.85	9.20	270	20
CS6PH-275M	1500	36.3	29.7	9.90	9.27	275	20
CS6PH-280M	1500	36.5	30.0	9.96	9.34	280	20
CS6PH-285M	1500	36.7	30.3	10.02	9.41	285	20
CS6PH-290M	1500	36.9	30.6	10.08	9.48	290	20
CS6PH-295M	1500	37.1	30.9	10.14	9.55	295	20
CS6PH-300M	1500	37.3	31.2	10.19	9.62	300	20
CS6PH-305M	1500	37.5	31.5	10.25	9.69	305	20
CS6PH-310M	1500	37.7	31.8	10.31	9.75	310	20
CS6AH-185P	1500	25.8	21.8	9.48	8.49	185	20
CS6AH-190P	1500	26.1	22.0	9.55	8.64	190	20
CS6AH-195P	1500	26.4	22.2	9.62	8.79	195	20
CS6AH-200P	1500	26.7	22.4	9.69	8.93	200	20
CS6AH-205P	1500	27.0	22.6	9.76	9.08	205	20
CS6AH-210P	1500	27.3	22.8	9.83	9.22	210	20
CS6AH-215P	1500	27.6	23.0	9.90	9.36	215	20
CS6AH-220P	1500	27.9	23.2	9.97	9.49	220	20
CS6AH-215M	1500	27.8	22.9	9.97	9.39	215	20
CS6AH-220M	1500	28.1	23.3	10.03	9.45	220	20
CS6AH-225M	1500	28.4	23.7	10.09	9.50	225	20
CS6AH-230M	1500	28.7	24.1	10.15	9.55	230	20
CS6AH-235M	1500	29.0	24.5	10.21	9.60	235	20
CS5PH-235P	1500	62.6	50.8	4.93	4.63	235	15
CS5PH-240P	1500	62.8	51.0	5.00	4.71	240	15
CS5PH-245P	1500	63.0	51.4	5.07	4.79	245	15
CS5PH-250P	1500	63.2	51.4	5.14	4.87	250	15
CS5PH-255P	1500	63.4	51.6	5.21	4.95	255	15
CS5PH-260P	1500	63.6	51.8	5.28	5.02	260	15
CS5PH-250M	1500	63.4	53.4	5.00	4.69	250	15
CS5PH-255M	1500	63.6	53.6	5.06	4.76	255	15
CS5PH-260M	1500	63.8	53.8	5.13	4.84	260	15



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS5PH-265M	1500	64.0	54.0	5.20	4.91	265	15
CS5PH-270M	1500	64.2	54.2	5.27	4.99	270	15
CS5PH-275M	1500	64.4	54.4	5.34	5.06	275	15
CS1Y-380MS	1500	51.5	42.7	9.74	8.89	380	16
CS1Y-385MS	1500	51.7	42.9	9.78	8.97	385	16
CS1Y-390MS	1500	51.9	43.1	9.82	9.05	390	16
CS1Y-395MS	1500	52.1	43.3	9.86	9.13	395	16
CS1Y-400MS	1500	52.3	43.5	9.90	9.20	400	16
CS1Y-405MS	1500	52.5	43.7	9.94	9.27	405	16
CS1Y-410MS	1500	52.7	43.8	9.98	9.37	410	16
CS1Y-415MS	1500	52.8	44.0	10.02	9.44	415	16
CS1W-350MS	1500	46.5	39.3	9.74	8.91	350	16
CS1W-355MS	1500	47.2	39.5	9.78	9.00	355	16
CS1W-360MS	1500	47.9	39.7	9.82	9.07	360	16
CS1W-365MS	1500	48.1	39.9	9.86	9.15	365	16
CS1W-370MS	1500	48.3	40.1	9.90	9.23	370	16
CS1W-375MS	1500	48.5	40.3	9.94	9.31	375	16
CS1W-380MS	1500	48.7	40.5	9.98	9.39	380	16
CS1W-385MS	1500	48.9	40.7	10.03	9.46	385	16
CS6Y-570MS	1500	52.8	43.8	13.77	13.02	570	25
CS6Y-575MS	1500	53	44	13.82	13.07	575	25
CS6Y-580MS	1500	53.2	44.2	13.87	13.13	580	25
CS6Y-585MS	1500	53.4	44.4	13.92	13.18	585	25
CS6Y-590MS	1500	53.6	44.6	13.97	13.23	590	25
CS6Y-595MS	1500	53.8	44.8	14.02	13.29	595	25
CS6Y-600MS	1500	54	45	14.07	13.34	600	25
CS6Y-605MS	1500	54.2	45.2	14.12	13.39	605	25
CS6W-530MS	1500	48.8	40.9	13.8	12.96	530	25
CS6W-535MS	1500	49	41.1	13.85	13.02	535	25
CS6W-540MS	1500	49.2	41.3	13.9	13.08	540	25
CS6W-545MS	1500	49.4	41.5	13.95	13.14	545	25
CS6W-550MS	1500	49.6	41.7	14	13.2	550	25
CS6W-555MS	1500	49.8	41.9	14.05	13.25	555	25
CS6L-440MS	1500	40.6	34.0	13.82	12.95	440	25
CS6L-445MS	1500	40.8	34.2	13.86	13.03	445	25
CS6L-450MS	1500	41.0	34.4	13.90	13.10	450	25
CS6L-455MS	1500	41.2	34.6	13.95	13.17	455	25
CS6L-460MS	1500	41.4	34.8	14.00	13.24	460	25



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS6R-380MS	1500	36.0	30.0	13.55	12.69	380	25
CS6R-385MS	1500	36.2	30.2	13.63	12.77	385	25
CS6R-390MS	1500	36.4	30.4	13.70	12.84	390	25
CS6R-395MS	1500	36.6	30.6	13.77	12.91	395	25
CS6R-400MS	1500	36.8	30.8	13.85	12.99	400	25
CS6R-405MS	1500	37.0	31.0	13.93	13.07	405	25
CS6R-410MS	1500	37.2	31.2	14.01	13.15	410	25
CS6R-415MS	1500	37.4	31.4	14.09	13.23	415	25
CS6R-420MS	1500	37.6	31.6	14.17	13.31	420	25
CS6R-380MS-HL	1500	36.0	30.0	13.55	12.69	380	25
CS6R-385MS-HL	1500	36.2	30.2	13.63	12.77	385	25
CS6R-390MS-HL	1500	36.4	30.4	13.70	12.84	390	25
CS6R-395MS-HL	1500	36.6	30.6	13.77	12.91	395	25
CS6R-400MS-HL	1500	36.8	30.8	13.85	12.99	400	25
CS6R-405MS-HL	1500	37.0	31.0	13.93	13.07	405	25
CS6R-410MS-HL	1500	37.2	31.2	14.01	13.15	410	25
CS6R-415MS-HL	1500	37.4	31.4	14.09	13.23	415	25
CS6R-420MS-HL	1500	37.6	31.6	14.17	13.31	420	25
CS7N-635MS	1500	44.4	37.3	18.27	17.03	635	30
CS7N-640MS	1500	44.6	37.5	18.31	17.07	640	30
CS7N-645MS	1500	44.8	37.7	18.35	17.11	645	30
CS7N-650MS	1500	45	37.9	18.39	17.16	650	30
CS7N-655MS	1500	45.2	38.1	18.43	17.2	655	30
CS7N-660MS	1500	45.4	38.3	18.47	17.24	660	30
CS7N-665MS	1500	45.6	38.5	18.51	17.28	665	30
CS7N-670MS	1500	45.8	38.7	18.55	17.32	670	30
CS7N-675MS	1500	46.0	38.9	18.59	17.36	675	30
CS7N-680MS	1500	46.2	39.1	18.63	17.40	680	30
CS7L-575MS	1500	40.3	33.9	18.22	16.97	575	30
CS7L-580MS	1500	40.5	34.1	18.27	17.02	580	30
CS7L-585MS	1500	40.7	34.3	18.32	17.06	585	30
CS7L-590MS	1500	40.9	34.5	18.37	17.11	590	30
CS7L-595MS	1500	41.1	34.7	18.42	17.15	595	30
CS7L-600MS	1500	41.3	34.9	18.47	17.2	600	30
CS7L-605MS	1500	41.5	35.1	18.52	17.25	605	30
CS7L-610MS	1500	41.7	35.3	18.57	17.29	610	30
CS7L-615MS	1500	41.9	35.4	18.62	17.38	615	30
CS7L-620MS	1500	42.1	35.5	18.67	17.47	620	30



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS7L-575MS-R	1500	40.3	33.9	18.22	16.97	575	30
CS7L-580MS-R	1500	40.5	34.1	18.27	17.02	580	30
CS7L-585MS-R	1500	40.7	34.3	18.32	17.06	585	30
CS7L-590MS-R	1500	40.9	34.5	18.37	17.11	590	30
CS7L-595MS-R	1500	41.1	34.7	18.42	17.15	595	30
CS7L-600MS-R	1500	41.3	34.9	18.47	17.2	600	30
CS7L-605MS-R	1500	41.5	35.1	18.52	17.25	605	30
CS7L-610MS-R	1500	41.7	35.3	18.57	17.29	610	30
CS7L-615MS-R	1500	41.9	35.4	18.62	17.38	615	30
CS7L-620MS-R	1500	42.1	35.5	18.67	17.47	620	30
CS5A-200M-PLUS	1500	45.7	37.9	5.66	5.28	200	15
CS5A-205M-PLUS	1500	45.9	38.1	5.74	5.39	205	15
CS5A-210M-PLUS	1500	46.1	38.3	5.82	5.49	210	15
CS5A-215M-PLUS	1500	46.3	38.5	5.90	5.59	215	15
CS5A-220M-PLUS	1500	46.5	38.7	5.98	5.69	220	15
CS5P-250M-PLUS	1500	56.9	47.2	5.66	5.30	250	15
CS5P-255M-PLUS	1500	57.1	47.4	5.74	5.39	255	15
CS5P-260M-PLUS	1500	57.3	47.6	5.82	5.47	260	15
CS5P-265M-PLUS	1500	57.5	47.8	5.90	5.55	265	15
CS5P-270M-PLUS	1500	57.7	48.0	5.98	5.63	270	15
CS6A-200P-PLUS	1500	29.3	24.1	9.05	8.31	200	20
CS6A-205P-PLUS	1500	29.5	24.3	9.11	8.45	205	20
CS6A-210P-PLUS	1500	29.7	24.5	9.17	8.58	210	20
CS6A-215P-PLUS	1500	29.9	24.7	9.23	8.71	215	20
CS6A-220P-PLUS	1500	30.1	24.9	9.29	8.84	220	20
CS6A-225P-PLUS	1500	30.3	25.1	9.42	8.97	225	20
CS6A-230P-PLUS	1500	30.5	25.3	9.56	9.10	230	20
CS6A-235P-PLUS	1500	30.7	25.5	9.70	9.23	235	20
CS6A-240P-PLUS	1500	30.9	25.7	9.81	9.34	240	20
CS6A-245P-PLUS	1500	31.1	25.9	9.95	9.47	245	20
CS6A-250P-PLUS	1500	31.3	26.1	10.08	9.59	250	20
CS6P-255P-PLUS	1500	37.3	30.8	8.94	8.29	255	20
CS6P-260P-PLUS	1500	37.5	31.0	9.01	8.40	260	20
CS6P-265P-PLUS	1500	37.7	31.2	9.09	8.51	265	20
CS6P-270P-PLUS	1500	37.9	31.4	9.17	8.61	270	20
CS6P-275P-PLUS	1500	38.1	31.6	9.23	8.71	275	20
CS6P-280P-PLUS	1500	38.3	31.8	9.29	8.82	280	20
CS6P-285P-PLUS	1500	38.5	32.0	9.40	8.92	285	20



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS6P-290P-PLUS	1500	38.7	32.2	9.48	9.01	290	20
CS6P-295P-PLUS	1500	38.9	32.4	9.60	9.11	295	20
CS6P-300P-PLUS	1500	39.1	32.6	9.71	9.22	300	20
CS6P-305P-PLUS	1500	39.3	32.8	9.82	9.30	305	20
CS6P-310P-PLUS	1500	39.5	33.0	9.93	9.40	310	20
CS6P-315P-PLUS	1500	39.7	33.2	10.04	9.50	315	20
CS6P-320P-PLUS	1500	39.9	33.4	10.15	9.59	320	20
CS6X-310P-PLUS	1500	45.3	37.9	8.94	8.19	310	20
CS6X-315P-PLUS	1500	45.5	38.1	9.00	8.28	315	20
CS6X-320P-PLUS	1500	45.7	38.3	9.06	8.37	320	20
CS6X-325P-PLUS	1500	45.9	38.5	9.12	8.46	325	20
CS6X-330P-PLUS	1500	46.1	38.7	9.17	8.54	330	20
CS6X-335P-PLUS	1500	46.3	38.9	9.23	8.62	335	20
CS6X-340P-PLUS	1500	46.5	39.1	9.29	8.71	340	20
CS6X-345P-PLUS	1500	46.7	39.3	9.35	8.79	345	20
CS6X-350P-PLUS	1500	46.9	39.5	9.40	8.87	350	20
CS6X-355P-PLUS	1500	47.1	39.7	9.47	8.95	355	20
CS6X-360P-PLUS	1500	47.3	39.9	9.52	9.03	360	20
CS6X-365P-PLUS	1500	47.5	40.1	9.58	9.12	365	20
CS6X-370P-PLUS	1500	47.7	40.3	9.66	9.20	370	20
CS6X-375P-PLUS	1500	47.9	40.5	9.74	9.27	375	20
CS6W-540T	1500	50.6	41.5	13.47	13.02	540	25
CS6W-545T	1500	50.8	41.7	13.54	13.07	545	25
CS6W-550T	1500	51.0	41.9	13.59	13.13	550	25
CS6W-555T	1500	51.2	42.1	13.64	13.19	555	25
CS6W-560T	1500	51.4	42.3	13.69	13.24	560	25
CS6W-565T	1500	51.6	42.5	13.75	13.30	565	25
CS6W-570T	1500	51.8	42.7	13.81	13.35	570	25
CS6W-575T	1500	52.0	42.9	13.88	13.41	575	25
CS6W-580T	1500	52.2	43.1	13.93	13.46	580	25
CS6W-585T	1500	52.4	43.3	14.00	13.52	585	25
CS6W-590T	1500	52.6	43.5	14.06	13.57	590	25
CS6W-595T	1500	52.8	43.7	14.12	13.62	595	25
CS6W-600T	1500	53.0	43.9	14.18	13.68	600	25
CS6W-605T	1500	53.2	44.1	14.24	13.73	605	25
CS6R-400T	1500	37.8	30.8	13.51	13.01	400	25
CS6R-405T	1500	38.0	31.0	13.56	13.08	405	25
CS6R-410T	1500	38.2	31.2	13.61	13.15	410	25



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS6R-415T	1500	38.4	31.4	13.66	13.22	415	25
CS6R-420T	1500	38.6	31.6	13.71	13.30	420	25
CS6R-425T	1500	38.8	31.8	13.78	13.37	425	25
CS6R-430T	1500	39.0	32.0	13.86	13.44	430	25
CS6R-435T	1500	39.2	32.2	13.94	13.51	435	25
CS6R-440T	1500	39.4	32.4	14.01	13.59	440	25
CS6R-445T	1500	39.6	32.6	14.09	13.66	445	25
CS6R-450T	1500	39.8	32.8	14.16	13.72	450	25
CS6R-455T	1500	40.0	33.0	14.24	13.79	455	25

Note:

1. All electrical data are shown as relative to standard test conditions (STC) (1000 W/m², (25 ± 2) °C, AM 1.5 according to IEC 60904-3).
2. The manufacturer declared tolerance of Open-circuit voltage, Short-circuit current is ±5%, the manufacturer declared tolerance of Maximum power is ±3%.
3. The operating ambient temperature of these devices may exceed 40 °C at full load for all wire sizes if it is determined suitable in the field use application.



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APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 61730-1:19	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction, 2019-12
CAN/CSA-C22.2 No. 61730-2:19	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing, 2019-12
UL 61730-1 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, 2017-12-04, revision date 2020-04-30
UL 61730-2 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing, 2017-12-04, revision date 2020-04-30

Notes:

Products certified under Class C531110 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Certificate of Compliance

Certificate: 80016357

Master Contract: 249143

Project: 80160211

Date Issued: 2023-03-13

Issued to: CSI Solar Co., Ltd.
199 Lushan Road, SND
Suzhou, Jiangsu 215129
China
Attention: Yuan Zhou

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only



Issued by: *Simon Shen*
Simon Shen

PRODUCTS

CLASS - C531110 - POWER SUPPLIES-Photovoltaic Modules and Panels

CLASS - C531190 - POWER SUPPLIES-Photovoltaic Modules and Panels - Certified to US Standards

Photovoltaic modules with maximum DC system voltage of 1500 V, Safety Class II, Module Fire Performance Type 29.

Model Series:

CS3U-xxxPB-AG (xxx = 350 to 395 W),
CS3W-xxxMB-AG (xxx = 415 to 465 W),
CS3U-xxxMB-AG (xxx = 350 to 410 W),
CS3K-xxxMB-AG (xxx = 280 to 330 W),
CS3W-xxxPB-AG (xxx = 390 to 460 W),
CS3K-xxxPB-AG (xxx = 265 to 350 W),
CS3Y-xxxMB-AG (xxx = 465 to 510 W),
CS3Y-xxxPB-AG (xxx = 430 to 480 W),
CS6W-xxxMB-AG (xxx = 520 to 550 W),
CS7N-xxxMB-AG (xxx = 630 to 670 W),
CS7L-xxxMB-AG (xxx = 570 to 610 W),



Certificate: 80016357
Project: 80160211

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CS7N-xxxTB-AG (xxx = 650 to 720 W),
CS7L-xxxTB-AG (xxx = 590 to 650 W),
CS6W-xxxTB-AG (xxx = 540 to 600 W).

Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS3U-350PB-AG	1500	46.60	39.2	9.51	8.94	350	25
CS3U-355PB-AG	1500	46.80	39.4	9.59	9.02	355	25
CS3U-360PB-AG	1500	47.00	39.6	9.67	9.10	360	25
CS3U-365PB-AG	1500	47.20	39.8	9.75	9.18	365	25
CS3U-370PB-AG	1500	47.40	40.0	9.83	9.26	370	25
CS3U-375PB-AG	1500	47.60	40.2	9.91	9.34	375	25
CS3U-380PB-AG	1500	47.80	40.4	9.99	9.42	380	25
CS3U-385PB-AG	1500	48.00	40.6	10.07	9.50	385	25
CS3U-390PB-AG	1500	48.60	40.8	10.17	9.56	390	25
CS3U-395PB-AG	1500	48.80	41.0	10.24	9.64	395	25
CS3W-415MB-AG	1500	47.7	39.7	11.22	10.46	415	25
CS3W-420MB-AG	1500	47.9	39.9	11.27	10.53	420	25
CS3W-425MB-AG	1500	48.1	40.1	11.32	10.6	425	25
CS3W-430MB-AG	1500	48.3	40.3	11.37	10.68	430	25
CS3W-435MB-AG	1500	48.5	40.5	11.42	10.75	435	25
CS3W-440MB-AG	1500	48.7	40.7	11.48	10.82	440	25
CS3W-445MB-AG	1500	48.9	40.9	11.54	10.89	445	25
CS3W-450MB-AG	1500	49.1	41.1	11.6	10.96	450	25
CS3W-455MB-AG	1500	49.3	41.3	11.66	11.02	455	25
CS3W-460MB-AG	1500	49.5	41.5	11.72	11.09	460	25
CS3W-465MB-AG	1500	49.7	41.7	11.78	11.16	465	25
CS3U-350MB-AG	1500	46.6	38.8	9.53	9.03	350	25
CS3U-355MB-AG	1500	46.8	39.0	9.61	9.11	355	25
CS3U-360MB-AG	1500	47	39.2	9.69	9.19	360	25
CS3U-365MB-AG	1500	47.2	39.4	9.77	9.27	365	25
CS3U-370MB-AG	1500	47.4	39.6	9.85	9.35	370	25
CS3U-375MB-AG	1500	47.6	39.8	9.93	9.43	375	25
CS3U-380MB-AG	1500	47.8	40.0	10.01	9.50	380	25
CS3U-385MB-AG	1500	48	40.2	10.09	9.58	385	25
CS3U-390MB-AG	1500	48.2	40.4	10.17	9.66	390	25
CS3U-395MB-AG	1500	48.4	40.6	10.25	9.73	395	25
CS3U-400MB-AG	1500	48.6	40.8	10.33	9.81	400	25
CS3U-405MB-AG	1500	49.3	41.0	10.44	9.88	405	25
CS3U-410MB-AG	1500	49.5	41.2	10.52	9.96	410	25
CS3K-280MB-AG	1500	38.5	31.7	8.84	9.49	280	25



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CS3K-285MB-AG	1500	38.7	31.9	8.94	9.57	285	25
CS3K-290MB-AG	1500	38.9	32.1	9.04	9.65	290	25
CS3K-295MB-AG	1500	39.1	32.3	9.14	9.73	295	25
CS3K-300MB-AG	1500	39.3	32.5	9.24	9.82	300	25
CS3K-305MB-AG	1500	39.5	32.7	9.33	9.90	305	25
CS3K-310MB-AG	1500	39.7	32.9	9.43	9.98	310	25
CS3K-315MB-AG	1500	39.9	33.1	9.52	10.06	315	25
CS3K-320MB-AG	1500	40.1	33.3	9.61	10.14	320	25
CS3K-325MB-AG	1500	40.3	33.5	9.71	10.22	325	25
CS3K-330MB-AG	1500	40.5	33.7	9.80	10.33	330	25
CS3W-390PB-AG	1500	46.8	38.3	10.74	10.19	390	25
CS3W-395PB-AG	1500	47	38.5	10.82	10.26	395	25
CS3W-400PB-AG	1500	47.2	38.7	10.9	10.34	400	25
CS3W-405PB-AG	1500	47.4	38.9	10.98	10.42	405	25
CS3W-410PB-AG	1500	47.6	39.1	11.06	10.49	410	25
CS3W-415PB-AG	1500	47.8	39.3	11.14	10.56	415	25
CS3W-420PB-AG	1500	48	39.5	11.26	10.64	420	25
CS3W-425PB-AG	1500	48.2	39.7	11.29	10.71	425	25
CS3W-430PB-AG	1500	48.4	39.9	11.32	10.78	430	25
CS3W-435PB-AG	1500	48.6	40.1	11.35	10.85	435	25
CS3W-440PB-AG	1500	48.7	40.3	11.4	10.92	440	25
CS3W-445PB-AG	1500	48.8	40.5	11.45	10.99	445	25
CS3W-450PB-AG	1500	49	40.7	11.53	11.06	450	25
CS3W-455PB-AG	1500	49.2	40.9	11.61	11.13	455	25
CS3W-460PB-AG	1500	49.4	41.1	11.69	11.2	460	25
CS3K-265PB-AG	1500	37.30	30.6	9.22	8.66	265	25
CS3K-270PB-AG	1500	37.50	30.8	9.30	8.77	270	25
CS3K-275PB-AG	1500	37.70	31.0	9.38	8.88	275	25
CS3K-280PB-AG	1500	37.90	31.2	9.47	8.98	280	25
CS3K-285PB-AG	1500	38.10	31.4	9.56	9.08	285	25
CS3K-290PB-AG	1500	38.90	32.3	9.49	8.98	290	25
CS3K-295PB-AG	1500	39.10	32.5	9.57	9.08	295	25
CS3K-300PB-AG	1500	39.30	32.7	9.65	9.18	300	25
CS3K-305PB-AG	1500	39.50	32.9	9.73	9.28	305	25
CS3K-310PB-AG	1500	39.70	33.1	9.81	9.37	310	25
CS3K-315PB-AG	1500	39.90	33.3	9.89	9.46	315	25
CS3K-320PB-AG	1500	40.10	33.5	9.97	9.56	320	25
CS3K-325PB-AG	1500	40.90	33.7	10.21	9.65	325	25



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CS3K-330PB-AG	1500	41.10	33.9	10.29	9.74	330	25
CS3K-335PB-AG	1500	41.30	34.1	10.37	9.83	335	25
CS3K-340PB-AG	1500	41.50	34.3	10.45	9.92	340	25
CS3K-345PB-AG	1500	41.70	34.5	10.52	10.00	345	25
CS3K-350PB-AG	1500	41.90	34.7	10.60	10.09	350	25
CS3Y-465MB-AG	1500	52.3	43.6	11.42	10.67	465	25
CS3Y-470MB-AG	1500	52.5	43.8	11.47	10.74	470	25
CS3Y-475MB-AG	1500	52.7	44.0	11.52	10.81	475	25
CS3Y-480MB-AG	1500	52.9	44.2	11.57	10.87	480	25
CS3Y-485MB-AG	1500	53.1	44.4	11.62	10.94	485	25
CS3Y-490MB-AG	1500	53.3	44.6	11.67	11.00	490	25
CS3Y-495MB-AG	1500	53.5	44.8	11.72	11.06	495	25
CS3Y-500MB-AG	1500	53.7	45.0	11.77	11.12	500	25
CS3Y-505MB-AG	1500	53.9	45.2	11.82	11.18	505	25
CS3Y-510MB-AG	1500	54.1	45.4	11.87	11.24	510	25
CS3Y-430PB-AG	1500	50.8	41.6	11.08	10.34	430	25
CS3Y-435PB-AG	1500	51.0	41.8	11.13	10.41	435	25
CS3Y-440PB-AG	1500	51.2	42.0	11.18	10.48	440	25
CS3Y-445PB-AG	1500	51.4	42.2	11.23	10.55	445	25
CS3Y-450PB-AG	1500	51.6	42.4	11.28	10.62	450	25
CS3Y-455PB-AG	1500	51.8	42.6	11.33	10.69	455	25
CS3Y-460PB-AG	1500	52.0	42.8	11.38	10.75	460	25
CS3Y-465PB-AG	1500	52.2	43.0	11.43	10.82	465	25
CS3Y-470PB-AG	1500	52.4	43.2	11.48	10.88	470	25
CS3Y-475PB-AG	1500	52.6	43.4	11.53	10.95	475	25
CS3Y-480PB-AG	1500	52.8	43.6	11.58	11.01	480	25
CS6W-520MB-AG	1500	48.4	40.5	13.7	12.84	520	30
CS6W-525MB-AG	1500	48.6	40.7	13.75	12.9	525	30
CS6W-530MB-AG	1500	48.8	40.9	13.8	12.96	530	30
CS6W-535MB-AG	1500	49	41.1	13.85	13.02	535	30
CS6W-540MB-AG	1500	49.2	41.3	13.9	13.08	540	30
CS6W-545MB-AG	1500	49.4	41.5	13.95	13.14	545	30
CS6W-550MB-AG	1500	49.6	41.7	14	13.2	550	30
CS6R-390MB-AG	1500	36.4	30.4	13.70	12.84	390	30
CS6R-395MB-AG	1500	36.6	30.6	13.77	12.91	395	30
CS6R-400MB-AG	1500	36.8	30.8	13.85	12.99	400	30
CS6R-405MB-AG	1500	37.0	31.0	13.93	13.07	405	30
CS6R-410MB-AG	1500	37.2	31.2	14.01	13.15	410	30



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Model Type	Maximum DC System Voltage (V)	Open Circuit Voltage (V)	Maximum power voltage (V)	Short Circuit Current (A)	Maximum power current (A)	Maximum Power (Watts)	Maximum overcurrent protection rating (A)
CS6R-415MB-AG	1500	37.4	31.4	14.09	13.23	415	30
CS7N-630MB-AG	1500	44.2	37.1	18.23	16.99	630	35
CS7N-635MB-AG	1500	44.4	37.3	18.27	17.03	635	35
CS7N-640MB-AG	1500	44.6	37.5	18.31	17.07	640	35
CS7N-645MB-AG	1500	44.8	37.7	18.35	17.11	645	35
CS7N-650MB-AG	1500	45.0	37.9	18.39	17.16	650	35
CS7N-655MB-AG	1500	45.2	38.1	18.43	17.2	655	35
CS7N-660MB-AG	1500	45.4	38.3	18.47	17.24	660	35
CS7N-665MB-AG	1500	45.6	38.5	18.51	17.28	665	35
CS7N-670MB-AG	1500	45.8	38.7	18.55	17.32	670	35
CS7L-570MB-AG	1500	40.1	33.7	18.17	16.93	570	35
CS7L-575MB-AG	1500	40.3	33.9	18.22	16.97	575	35
CS7L-580MB-AG	1500	40.5	34.1	18.27	17.02	580	35
CS7L-585MB-AG	1500	40.7	34.3	18.32	17.06	585	35
CS7L-590MB-AG	1500	40.9	34.5	18.37	17.11	590	35
CS7L-595MB-AG	1500	41.1	34.7	18.42	17.15	595	35
CS7L-600MB-AG	1500	41.3	34.9	18.47	17.2	600	35
CS7L-605MB-AG	1500	41.5	35.1	18.52	17.25	605	35
CS7L-610MB-AG	1500	41.7	35.3	18.57	17.29	610	35
CS7N-650TB-AG	1500	45.9	38.0	17.99	17.11	650	35
CS7N-655TB-AG	1500	46.1	38.2	18.04	17.15	655	35
CS7N-660TB-AG	1500	46.3	38.4	18.09	17.19	660	35
CS7N-665TB-AG	1500	46.5	38.6	18.14	17.23	665	35
CS7N-670TB-AG	1500	46.7	38.8	18.19	17.27	670	35
CS7N-675TB-AG	1500	46.9	39.0	18.24	17.31	675	35
CS7N-680TB-AG	1500	47.1	39.2	18.29	17.35	680	35
CS7N-685TB-AG	1500	47.3	39.4	18.34	17.39	685	35
CS7N-690TB-AG	1500	47.5	39.6	18.39	17.43	690	35
CS7N-695TB-AG	1500	47.7	39.8	18.44	17.47	695	35
CS7N-700TB-AG	1500	47.9	40.0	18.49	17.51	700	35
CS7N-705TB-AG	1500	48.1	40.2	18.54	17.55	705	35
CS7N-710TB-AG	1500	48.3	40.4	18.59	17.59	710	35
CS7N-715TB-AG	1500	48.5	40.6	18.64	17.63	715	35
CS7N-720TB-AG	1500	48.7	40.8	18.69	17.67	720	35
CS7L-590TB-AG	1500	41.7	34.5	18.01	17.12	590	35
CS7L-595TB-AG	1500	41.9	34.7	18.06	17.16	595	35
CS7L-600TB-AG	1500	42.1	34.9	18.11	17.20	600	35
CS7L-605TB-AG	1500	42.3	35.1	18.16	17.24	605	35



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CS7L-610TB-AG	1500	42.5	35.3	18.21	17.29	610	35
CS7L-615TB-AG	1500	42.7	35.5	18.26	17.33	615	35
CS7L-620TB-AG	1500	42.9	35.7	18.31	17.37	620	35
CS7L-625TB-AG	1500	43.1	35.9	18.36	17.41	625	35
CS7L-630TB-AG	1500	43.3	36.1	18.41	17.46	630	35
CS7L-635TB-AG	1500	43.5	36.3	18.46	17.5	635	35
CS7L-640TB-AG	1500	43.7	36.5	18.51	17.54	640	35
CS7L-645TB-AG	1500	43.9	36.7	18.56	17.58	645	35
CS7L-650TB-AG	1500	44.1	36.9	18.61	17.62	650	35
CS6W-540TB-AG	1500	50.6	41.5	13.47	13.02	540	30
CS6W-545TB-AG	1500	50.8	41.7	13.54	13.07	545	30
CS6W-550TB-AG	1500	51.0	41.9	13.59	13.13	550	30
CS6W-555TB-AG	1500	51.2	42.1	13.64	13.19	555	30
CS6W-560TB-AG	1500	51.4	42.3	13.69	13.24	560	30
CS6W-565TB-AG	1500	51.6	42.5	13.75	13.30	565	30
CS6W-570TB-AG	1500	51.8	42.7	13.81	13.35	570	30
CS6W-575TB-AG	1500	52.0	42.9	13.88	13.41	575	30
CS6W-580TB-AG	1500	52.2	43.1	13.93	13.46	580	30
CS6W-585TB-AG	1500	52.4	43.3	14.00	13.52	585	30
CS6W-590TB-AG	1500	52.6	43.5	14.06	13.57	590	30
CS6W-595TB-AG	1500	52.8	43.7	14.12	13.62	595	30
CS6W-600TB-AG	1500	53.0	43.9	14.18	13.68	600	30

Note:

1. All electrical data are shown as relative to standard test conditions (STC) (1000 W/m², (25 ± 2) °C, AM 1.5 according to IEC 60904-3).
2. The manufacturer declared tolerance of Open-circuit voltage, Short-circuit current is ±5%, the manufacturer declared tolerance of Maximum power is ±3%.
3. The electrical power performance shown in the table above is only generated by front side of the PV module, more power may be generated if considering back side of the module.
4. The operating ambient temperature of these devices may exceed 40 °C at full load for all wire sizes if it is determined suitable in the field use application.



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APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 61730-1:19	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction, 2019-12
CAN/CSA-C22.2 No. 61730-2:19	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing, 2019-12
UL 61730-1 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, 2017-12-04, revision date 2020-04-30
UL 61730-2 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing, 2017-12-04, revision date 2020-04-30

Notes:

Products certified under Class C531110 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca



LIMITED WARRANTY STATEMENT PHOTOVOLTAIC MODULE PRODUCTS KU&HIKU SERIES

For the photovoltaic solar module products of the following module types delivered under the sales contract or purchase order signed on and after October 1st, 2023, CSI Solar Co., Ltd. (hereinafter referred to as "CSI Solar") will provide warranty in accordance with this <LIMITED WARRANTY STATEMENT PHOTOVOLTAIC MODULE PRODUCTS KU&HIKU SERIES> (hereinafter referred to as "Limited Warranty Statement").

This Limited Warranty Statement applies only to the following module types ("Products") of CSI Solar: CS6L-XXXMS, CS6R-XXXMS, CS6R-XXXMS-HL, CS6W-XXXMS, CS7N-XXXMS, CS7L-XXXMS, "XXX" in the aforementioned module type denotes the rated output of the module (Pmax), for example "CS6R-420MS".

This Limited Warranty Statement does not apply to Products sold to and installed in Australia, New Zealand, and P.R. China.

TWELVE (12) YEAR LIMITED PRODUCT WARRANTY

Subject to the limitations & exclusions contained herein, CSI Solar warrants to the original buyer (the "Buyer") of the Products listed above that, for twelve (12) years after the Warranty Start Date, the Products shall be free from defects in materials and workmanship which have an adverse effect on Products functionality under normal application, installation, use, and service conditions as specified in CSI Solar's standard product documentation such as the installation manual and its annexes.

Claims under the above warranties will only be accepted if the Buyer can prove that the malfunctioning or non-conformity of the Products results exclusively from defects in materials and/or workmanship under normal application, installation, use and service conditions specified in CSI Solar's standard product documentation. This Limited Product Warranty does not warrant a specific power output of the Products, which shall be exclusively covered under the Limited Performance Warranty elaborated below.

TWENTY-FIVE (25) YEAR LIMITED PERFORMANCE WARRANTY

CSI Solar warrants that for a period of twenty-five years from the Warranty Start Date, the Products listed above will maintain a level of performance as set forth below:

- During the first year, CSI Solar warrants the actual power output of the Products will be no less than 98% of the labeled power output.
- From year 2 to year 25, the actual annual power decline will be no more than 0.55%; by the end of year 25, the actual power output will be no less than 84.8% of the labeled power output.

The actual power output of the Products shall be determined for verification using Standard Testing Conditions only. Testing measurement uncertainty shall be taken into account and applied to all actual power output measurements.

WARRANTY START DATE

The foregoing "LIMITED PRODUCT WARRANTY" and "LIMITED PERFORMANCE WARRANTY" are respectively and jointly referred to as "limited warranty" or "warranty". The Warranty Start Date shall be the day after the completion

of the first installation of the Products or 90 days after the delivery (Incoterms of 2020) of the Products to the Buyer, whichever date is earlier.

The warranty period is calculated based on calendar years. For example, the first year of the warranty period is from the Warranty Start Date to the 365th day, and so on.

EXCEPTIONS

The limited warranties set forth herein **DO NOT** apply to any Products: 1) for which CSI Solar has not received all or part of the due payments from the Buyer; 2) unable to provide the purchase proofs, Products information and other information or materials that can prove the claim is valid; 3) which have been subject to negligence in transportation, handling, storage or use; 4) which have been repaired without CSI Solar's authorization or in any way tampered with; 5) which have been subject to extraordinary hot, salt or chemical exposure; 6) which have been subject to improper installation, application, alteration or unauthorized service according to the local laws and regulations or CSI Solar's standard product documentation, or improper system design which caused constant shading or external stress to the Products; 7) which have been subject to power failure or surges, flood, fire, direct or indirect lightning strikes, accidental breakage, vandalism, explosions, acts of war, or other events outside CSI Solar's control; 8) which have been moved from its original installation location; 9) third party components that are connected with the Products or the components of the construction on which the Products are mounted have defects; or 10) installed on mobile units (except photovoltaic tracking system), such as vehicles, ships or offshore-structures.

In addition, the limited warranties do not apply to any deterioration in the appearance of the Products (including, without limitation, any scratches, stains, rust, discoloration, or mold) or any other changes to the Products in appearance stemming from the normal wear and tear over time of product materials. Also, no warranty claim may be made if the product label, type or serial number of the applicable Products has been altered, removed or made illegible.

REMEDIES

In respect of the Twelve (12) Year Limited Product Warranty, if CSI Solar verifies in its reasonable judgment that the Products fail to conform to the terms of the Limited Product Warranty set forth herein, CSI Solar, at its option, will provide one of the following remedies: 1) repair the Products; 2) replace the Products with new products whose labeled power wattages equal to or exceed the Warranted Wattages of replaced Products (the Warranted Wattages is defined as the labeled power wattages of the Products minus the permissible accumulated degradation); or 3) provide a refund of the fair market value of the Products assessed based on the Warranted Wattages at the time of claim.

In respect of the Twenty-Five (25) Year Limited Performance Warranty, if CSI Solar verifies in its reasonable judgment that the Products fail to conform to the terms of the Limited Performance Warranty set forth herein, CSI Solar, at its option, will provide one of the following remedies: 1) repair the Products; 2) replace the Products with new products whose labeled power wattages equal to or exceed the Warranted Wattages of replaced Products; 3) provide additional Products to make up the wattage difference between the actual measured power output wattages at the time of claim and the Warranted Wattages; or 4) provide a refund of the fair market value of the wattage difference between the actual measured power output wattages at the time of claim and the Warranted Wattages.

All remedies under this limited warranty statement shall be calculated based upon the Warranted Wattages of the Products at the time of first reporting of the warranty claim.

CSI Solar will not accept any return of Products without CSI Solar's prior authorization. Once accepted, CSI Solar will cover reasonable transportation costs (except for insurance, any taxes, duties, demurrages, or any other costs and expenses related to custom clearance or Buyer's failure to cooperate) for shipping the Products under a claim back from the Buyer to a designated location of CSI Solar, and for shipping the additional, repaired or replacement

Products to the original installation location. If CSI Solar opts for repair as the remedy, CSI Solar shall cover reasonable material and labor costs related to the repair. In any event, the costs and expenses for the removal, installation, and/or reinstallation of the Products, including fees, levies, taxes or other financial duties due in relation to any applicable electronic waste disposal regulation, shall remain with the Buyer, unless otherwise agreed to by CSI Solar in a signed writing. CSI Solar will not pay any cost of any fees, levies, taxes or other financial duties imposed on the remedies implemented by CSI Solar or imposed on the Products subject to such remedies, that are due to regulatory, government or judicial decisions not existing at the time of purchase of the affected Products.

Any repair or replacement of the affected Products shall not increase the applicable warranty period. The warranty period for replaced or repaired Products is the remainder of the warranty for the affected Products. CSI Solar reserves the right to deliver a similar product (of similar size, color, shape, and/or power output) in replacement of the affected Products if production of the affected Products is discontinued or such product is otherwise unavailable. Unless instructed by CSI Solar otherwise, Buyer shall dispose of Products in accordance with all local applicable regulations on electronic waste treatment and disposal at its own cost. Products having been replaced shall not be sold, reworked or reused in any way, unless expressly authorized by CSI Solar.

EXCEPT AS OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING REMEDIES STATE CSI SOLAR'S SOLE AND EXCLUSIVE OBLIGATION AND THE BUYER'S SOLE AND EXCLUSIVE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTIES.

CLAIM PROCESS

If the Buyer believes that it has a justified claim covered by the limited warranties set forth above, then the Buyer shall submit such claim in writing without undue delay, with supporting information including but not limited to the claimed quantity, serial numbers, purchasing invoices and proofs, to CSI Solar within the applicable warranty period specified above to the following address, or such future address as CSI Solar may provide from time to time:

Asia Pacific

CSI Solar Co., Ltd.
Customer Service Department
199 Lushan Road, Suzhou New District Jiangsu
China, 215129
Tel: +86 512 66908088
E-mail: service.cn@csisolar.com

Europe, Middle East & Africa

Canadian Solar EMEA GmbH
Customer Service Department
Radtkoferstraße 2, 81373 Munich, Germany
Tel: +49 89 5199689 0
E-mail: service.emea@csisolar.com

Americas

Canadian Solar (USA) Inc.
Customer Service Department
1350 Treat Blvd. Suite 500, Walnut Creek, CA 94598
Tel: +1 855 315 8915
E-mail: service.ca@csisolar.com

South Korea

Canadian Solar Korea Ltd.
#906 Dongwoo Building, 328 Teheran ro Gangnam-gu
Seoul, Korea
Tel: +82 2 539 7541
E-mail: service.kr@csisolar.com

LATAM

Canadian Solar Brazil
Customer Service Department
999 Roque Petroni Junior Avenue, 4th floor ,Vila
Gertrudes, São Paulo 04707-910
Tel: +55 11 4637-2276 or 0800 878 3587
E-mail: service.latam@csisolar.com

Upon receipt of such written claim, CSI Solar may seek further verification of the Buyer's claim of a breach of one of the foregoing limited warranties. If it is necessary to send the Products to a third-party testing institute for verification, the testing institute shall be ISO/IEC 17025:2017 accredited and mutually agreed in advance.

WARRANTY ASSIGNMENT

This Limited Warranty is transferrable to a party taking legal title to the Products, provided that the Products remain installed in their original installation location.

DISPUTE RESOLUTION

In case of any dispute related to warranty claims, such dispute shall be referred to and finally resolved pursuant to the governing law clauses and dispute resolution procedures under the purchase agreement between the Buyer and CSI Solar to which the relevant Products belong.

FORCE MAJEURE

Force majeure refers to unforeseeable, unavoidable and insurmountable objective conditions, including but not limited to war, riot, strike, epidemic situation, quarantine, traffic control and other social events; Natural disasters such as earthquake, fire, flood, snowstorm, hurricane, thunder and lightning, natural disaster, etc.; Or due to the lack of appropriate or sufficient labor force, shortage of raw materials or inability in production capacity, technology or output; Or delay caused by national laws, regulations, administrative rules or orders, and any unforeseen events beyond the control of CSI Solar.

Due to the occurrence or continuation of force majeure, CSI Solar may be unable to perform or may have delays in performing its obligations under this limited warranty statement. In this case, CSI Solar's obligations to perform will be wholly or partly excused according to the relevant applicable laws or contracts with the Buyer. However, CSI Solar shall timely inform the Buyer of the occurrence of force majeure and negotiate with the Buyer to take necessary measures to minimize the impact of force majeure.

NOT INDEPENDENT WARRANTIES

The Buyer has the right to pursue claims under each of the warranties set forth above; provided that if claims arise under multiple limited warranties from a single defect, then if CSI Solar remedies that defect as set forth above, CSI Solar shall be deemed to have resolved all applicable warranty claims arising from that defect.

DISCLAIMERS

THE LIMITED WARRANTIES SET FORTH HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION, AND ALL OTHER OBLIGATIONS ON THE PART OF CSI SOLAR UNLESS SUCH OTHER WARRANTIES AND OBLIGATIONS ARE AGREED TO IN WRITING BY CSI SOLAR. SOME JURISDICTIONS LIMIT OR DO NOT PERMIT DISCLAIMERS OF WARRANTY, SO THIS PROVISION MAY NOT APPLY TO THE BUYER IN SUCH JURISDICTIONS.

LIMITATION OF LIABILITY

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CSI SOLAR HEREBY DISCLAIMS, AND SHALL HAVE NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR, DAMAGE OR INJURY TO PERSONS OR PROPERTY OR FOR OTHER LOSS OR INJURY RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO ANY OF ITS PRODUCTS OR THEIR USE. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL CSI SOLAR BE LIABLE TO THE BUYER, OR TO ANY THIRD PARTY CLAIMING THROUGH OR UNDER THE BUYER, FOR ANY LOST PROFITS, LOSS OF USE, OR EQUIPMENT DOWNTIME, OR FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND, HOWSOEVER ARISING, RELATED TO THE PRODUCTS, EVEN IF CSI SOLAR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CSI SOLAR'S AGGREGATE LIABILITY, IF ANY, IN DAMAGES OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID TO CSI SOLAR BY THE BUYER FOR THE PRODUCT IN THE CASE OF A WARRANTY CLAIM.

THE BUYER ACKNOWLEDGES THAT THE FOREGOING LIMITATIONS OF LIABILITY ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT BETWEEN THE PARTIES AND THAT IN THE ABSENCE OF SUCH LIMITATIONS THE PURCHASE PRICE OF THE PRODUCTS WOULD BE SUBSTANTIALLY DIFFERENT. SOME JURISDICTIONS LIMIT OR DO NOT PERMIT DISCLAIMERS OF LIABILITY, SO THIS PROVISION MAY NOT APPLY TO THE BUYER IN SUCH JURISDICTIONS. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON THE EXCLUSION OF DAMAGES SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO THE BUYER IN SUCH JURISDICTIONS.

YOU MAY HAVE SPECIFIC LEGAL RIGHTS OUTSIDE THIS WARRANTY, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE OR COUNTRY TO COUNTRY. THIS LIMITED WARRANTY DOES NOT AFFECT ANY ADDITIONAL RIGHTS YOU HAVE UNDER LAWS IN YOUR JURISDICTION GOVERNING THE SALE OF CONSUMER GOODS. SOME STATES OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATIONS OR EXCLUSIONS IN THIS LIMITED WARRANTY STATEMENT MAY NOT APPLY TO YOU IN THOSE AREAS.

NOTE

In the event of any inconsistency among different language versions of this warranty statement, the English version shall prevail.

The installation and handling of PV Products requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the Products.

FRONIUS SYMO ADVANCED UL

Specially developed for the requirements of tomorrow



PC board replacement concept



SnapInverter Technology



Integrated Data Communication



Smart Grid Ready



SuperFlex Design



Dynamic Peak Manager



Featuring models ranging from 10 kW to 24 kW, the Fronius Symo Advanced is the ideal inverter for commercial applications.

The new Advanced versions combine the benefits of the Fronius Symo with additional features zero tilt mounting, light weight and field serviceability.

TECHNICAL DATA FRONIUS SYMO ADVANCED (208-240 V VERSIONS)

INPUT DATA	SYMO 10.0-3 208-240		SYMO 12.0-3 208-240	
	208 V	240 V	208 V	240 V
Max. PV generator output ($P_{dc\ max}$)	15 kW _{peak}		18 kW _{peak}	
Max. input current ($I_{dc\ max1}$ / $I_{dc\ max2}$)			25 A / 16.5 A	
Max. array short circuit current (MPP1 / MPP2)			37.5 A / 24.8 A	
Nominal input voltage	350 V	370 V	350 V	370 V
DC input voltage range ($U_{dc\ min}$ + $U_{dc\ max}$)			200 - 600 V	
Feed-in start voltage ($U_{dc\ start}$)			200 V	
Usable MPP voltage range ($U_{mpp\ min}$ + $U_{mpp\ max}$)			300 - 500 V	
Max. input voltage			600 V	
Admissible conductor size DC	AWG 14-AWG 6 copper direct, AWG 6 aluminum direct, AWG 4-AWG 2 copper or aluminum with input combiner			
Number of MPP trackers	2			

OUTPUT DATA	SYMO 10.0-3 208-240		SYMO 12.0-3 208-240	
	208 V	240 V	208 V	240 V
AC nominal output ($P_{ac,r}$)	9,995 W		11,995 W	
Max. output power	9,995 VA		11,995 VA	
Output configuration			208 / 240 V	
Frequency range (f_{min} - f_{max})			45 - 60 Hz	
Admissible conductor size AC			AWG 14 - AWG 6	
Total harmonic distortion	< 1.5 %		< 1.75 %	
Power factor ($\cos \phi_{ac,r}$)			0-1 ind. / cap.	
Max. continuous output current	27.7 A	24 A	33.3 A	28.9 A
OCPD/AC breaker size	35 A	30 A	45 A	40 A

EFFICIENCY	SYMO 10.0-3 208-240		SYMO 12.0-3 208-240	
	208 V	240 V	208 V	240 V
Max. Efficiency			97.0 %	
CEC Efficiency	96.5 %		96.5 %	

TECHNICAL DATA FRONIUS SYMO (208-240 V VERSIONS)

GENERAL DATA	SYMO 10.0-3 208-240	SYMO 12.0-3 208-240
Dimensions (height x width x depth)	510 x 725 x 225 mm (20.1 x 28.5 x 8.9 inches)	
Weight	41.7 kg (91.9 lbs)	
Protection Class	NEMA 4X	
Night time consumption	< 1 W	
Inverter topology	Transformerless	
Cooling	Regulated air cooling	
Installation	Indoor and outdoor installation, tilt from 0 - 90 degrees ¹	
DIN rail (length x width x depth)	max. 106 x 90 x 66 mm (max. 4.2 x 3.5 x 2.6 inches)	
Ambient operating temperature range	-40 - +60 °C (-40 - +140 °F)	
Permitted humidity	0 - 100 % (non-condensing)	
Elevation	max. input voltage of 600 V up to 3,400 m (11.155 ft)	
DC connection technology	6x DC+ and 6x DC- screw terminals for copper (solid / stranded / fine stranded) or aluminum (solid / stranded)	
AC connection technology	Screw terminals 14-6 AWG	

¹ Fronius Shade Cover required for installation angles less than 15 degree

PROTECTIVE DEVICES	SYMO 10.0-3 208-240	SYMO 12.0-3 208-240
DC reverse polarity protection	Yes	
Anti islanding	Yes	
Over temperature protection	Output power derating /Active cooling	
Ground Fault Protection with Isolation Monitor Interrupter	Yes	
DC disconnect	Yes	

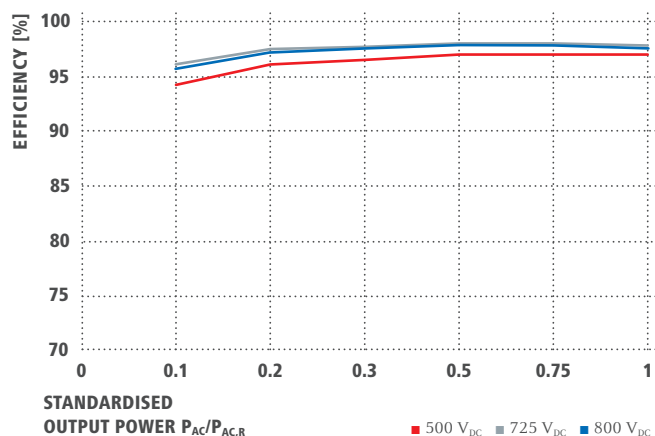
INTERFACES	SYMO 10.0-3 208-240	SYMO 12.0-3 208-240
USB (A socket)	Datalogging and inverter update possible via USB	
2x RS422 (RJ45 socket)	Fronius Solar Net, interface protocol	
Wi-Fi/Ethernet/Serial/ Datalogger and webserver ²	Wireless standard 802.11 b/g/n / Fronius Solar.web, SunSpec Modbus TCP, JSON / SunSpec Modbus RTU	
6 inputs and 4 digital I/Os ²	Load management; signaling, multipurpose I/O	

² Available with the Fronius Datamanager 2.0 Card (only one card required for up to 100 inverters)

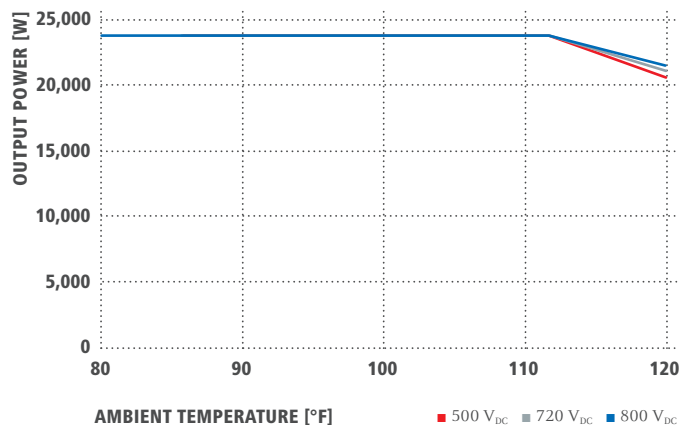
TECHNICAL DATA FRONIUS SYMO (480 V VERSIONS)

INPUT DATA	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
Max. PV generator output ($P_{dc\ max}$)	22.5 kW _{peak}	30 kW _{peak}	34 kW _{peak}	36 kW _{peak}
Max. input current ($I_{dc\ max1}$ / $I_{dc\ max2}$)	33 A / 25 A			
Max. array short circuit current (MPP1 / MPP2)	49.5 A / 37.5 A			
Nominal input voltage	685 V	710 V		720 V
DC input voltage range ($U_{dc\ min}$ + $U_{dc\ max}$)	200 - 1,000 V			
DC startup voltage	200 V			
Usable MPP voltage range ($U_{mpp\ min}$ + $U_{mpp\ max}$)	350 - 800 V	450 - 800 V		500 - 800 V
Max. input voltage	1,000 V			
Admissible conductor size DC	AWG 14 - AWG 6 copper direct, AWG 6 aluminum direct, AWG 4 - AWG 2 copper or aluminum with input combiner			
Number of MPP trackers	2			

FRONIUS SYMO 24.0-3 480 CEC EFFICIENCY CURVE



FRONIUS SYMO 24.0-3 480 TEMPERATURE DERATING CURVE



TECHNICAL DATA FRONIUS SYMO (480 V VERSIONS)

OUTPUT DATA	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
AC nominal Output ($P_{AC,r}$)	14,995 W	19,995 W	22,727 W	23,995 W
Max. output power	14,995 VA	19,995 VA	22,727 VA	23,995 VA
Grid connection	480 / 277 V WYE ³			
Frequency (frequency range $f_{min} - f_{max}$)	60 Hz (45 - 65 Hz)			
Admissible conductor size (AC)	AWG 14-AWG 6			
Total harmonic distortion	< 1.5 %	< 1 %	< 1.25 %	< 1 %
Power factor ($C_{OS,ac,r}$)	0-1 ind. / cap.			
Max. continuous output current	18 A	24 A	27.3 A	28.9 A
OCPD/AC breaker size	25 A	30 A	35 A	40 A

EFFICIENCY	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
Max. Efficiency	98 %			
CEC Efficiency	97 %	97.5 %		

GENERAL DATA	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
Dimensions (height x width x depth)	510 x 725 x 225 mm (20.1 x 28.5 x 8.9 inches)			
Weight	43.4 kg (95.7 lbs)			
Protection Class	NEMA 4X			
Night time consumption	< 1 W			
Inverter topology	Transformerless			
Cooling	Regulated air cooling			
Installation	Indoor and outdoor installation, tilt from 0 - 90 degree ⁴			
DIN rail (length x width x depth)	max. 106 x 90 x 66 mm (max. 4.2 x 3.5 x 2.6 inches)			
Ambient operating temperature range	-40 - +60 °C (-40°F - + 140 °F)			
Permitted humidity	0 - 100 % (non-condensing)			
Elevation	2000 m (6562 ft) with a max. input voltage of 1000 V / 3400 m (11155 ft) with a max. input voltage of 850 V			
DC connection technology	6x DC+ and 6x DC- screw terminals for copper (solid / stranded / fine stranded) or aluminum (solid / stranded)			
AC connection technology	Screw terminals 14-6 AWG			

³ +N for sensing purposes - no current carrying conductor

⁴ Fronius Shade Cover required for installation angles less than 15 degree

PROTECTIVE DEVICES	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
DC reverse polarity protection	Yes			
Anti islanding	Yes			
Over temperature protection	Output power derating / Active cooling			
Ground Fault Protection with Isolation Monitor Interrupter	Yes			
DC disconnect	Yes			

INTERFACES	SYMO 15.0-3 480	SYMO 20.0-3 480	SYMO 22.7-3 480	SYMO 24.0-3 480
USB (A socket)	Datalogging and inverter update possible via USB			
2x RS422 (RJ45 socket)	Fronius Solar Net, interface protocol			
Wi-Fi/Ethernet/Serial/ Datalogger and webserver ²	Wireless standard 802.11 b/g/n / Fronius Solar.web, SunSpec Modbus TCP, JSON / SunSpec Modbus RTU			
6 inputs and 4 digital I/Os ²	Load management; signaling, multipurpose I/O			

² Available with the Fronius Datamanager 2.0 Card (only one card required for up to 100 inverters)

/ Perfect Welding / Solar Energy / Perfect Charging

THREE BUSINESS UNITS, ONE GOAL: TO SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, the company has around 5,660 employees worldwide and 1,321 patents for product development show the innovative spirit within the company. Sustainable development means for us to implement environmentally relevant and social aspects equally with economic factors. Our goal has remained constant throughout: to be the innovation leader.

Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com

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Reference Certificate: 70189564

Master Contract: 203213

Project: 80106342

Date Issued: February 2, 2022

Issued to: Fronius International GmbH
Guenther Fronius Strasse 1
Wels-Thalheim, 4600
AUSTRIA

The products listed below have been found to comply with the applicable requirements of UL 1741-Third Edition (Rev. September 28, 2021) Supplement SA - GRID SUPPORT UTILITY INTERACTIVE INVERTERS AND CONVERTERS

Issued by: *PeterLim*
PeterLim

PRODUCTS

Transformerless Special Purpose Grid Support Interactive Inverter, Models Fronius Symo Advanced 10.0-3 208-240, Fronius Symo Advanced 10.0-3 208-240 Lite, Fronius Symo Advanced 12.0-3 208-240, Fronius Symo Advanced 12.0-3 208-240 Lite, Fronius Symo Advanced 15.0-3 480, Fronius Symo Advanced 15.0-3 480 Lite, Fronius Symo Advanced 20.0-3 480, Fronius Symo Advanced 20.0-3 480 Lite, Fronius Symo Advanced 22.7-3 480, Fronius Symo Advanced 22.7-3 480 Lite, Fronius Symo Advanced 24.0-3 480, and Fronius Symo Advanced 24.0-3 480 Lite, permanently connected.

For details related to rating, reference should be made to the CSA Certification Record, the Descriptive Report or Annex A Ratings for Certificate of Conformance.



Reference Certificate: 70189564

Project: 80106342

Master Contract: 203213

Date Issued: February 2, 2022

Supplement to Letter of Conformity for Grid Support Interactive Inverter

APPLICABLE REQUIREMENTS

- CSA-C22.2 No.107.1-16 (R2011) - Power Conversion Equipment
- *UL Std No. 1741-Third Edition - Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Sources (Rev. September 28, 2021)
 - UL CRD - Non-Isolated EPS Interactive PV Inverters Rated Less Than 30kVA
 - UL 1699B - Outline of Investigation for Photovoltaic (PV) DC Arc-Fault Circuit Protection (First Edition 2, AUGUST 22, 2018)
- CSA C22.2 No.290:19 - Photovoltaic combiners and recombiners (2nd Edition, July 2019)
- CSA-C22.2 No.330-17 - Photovoltaic rapid shutdown systems (May 2017)
- CSA C22.2 No.292 - 18 - DC Arc Fault Protection for Photovoltaic Applications

***Notes:**

- (1) Conformity to UL 1741-Third Edition (Rev. September 28, 2021) includes compliance with applicable requirements of UL1741 Supplement SA - GRID SUPPORT UTILITY INTERACTIVE INVERTERS AND CONVERTERS, PVRSE, California Rule 21(SRDs), Hawaiian Electric Co. Rule 14, Hawaiian Electric Co. SRD-UL-1741-SA-V1.0, IEEE 1547, IEEE 1547a and IEEE 1547.1.
- (2) To fulfill the rapid shutdown requirements of the NEC Article 690.12 and CEC Sec 64-218 Photovoltaic system rapid shutdown with the Fronius Symo Advanced models, the inverter must be mounted within the boundary values given in the NEC and CEC Article. The ac output of the inverter complies with the requirements of following standards to ensure the ac conductors are within the controlled limits of 30Vdc, 15Vac and 8A within the 30s:
 - a. IEC62109-1:2010 §7.3.9
 - b. UL62109-1:2014 §7.3.9
 - c. CAN/CSA C22.2 No. 62109-1:16 §7.3.9
 - d. UL1741 2nd Edition (with SA 8 to 15 and PVRSE)
 - e. CAN/CSA C22.2 No. 107.1-16
 - g. CAN/CSA C22.2 No. 330-17



Reference Certificate: 70189564

Master Contract: 203213

Project: 80106342

Date Issued: February 2, 2022

Device	Device Manufacturer/Type	Software Version (release date)	Device Checksum
ReCerbo (U2 on ReCerbo)	ST Microelectronics / STM32F437IIH6	V0.3.17.2 (2018-05-17)	59608D6B64 68C25428AD C33049D2D4 5CB65C5F2A
PS1 – Roach (U4 on ROACH)	ST Microelectronics / STM32F405ZGT6	V0.28.2.0 (2018-05-07)	0x037eae0e
PS1 – Roach (U4 on ROACH)	ST Microelectronics / STM32F405ZGT6	V0.28.4.0 (2018-09-12)	0xF001AE72
PS2 – Guard (U7 on SYMFILxxAV)	ST Microelectronics / STM32F765ZGT7	V0.11.7.3 (2019-06-19)	0xCF29E58F

Tests were performed on Models Fronius Symo Advanced 12.0-3 208-240 and Fronius Symo Advanced 24.0-3 480 (representative of series), at Fronius International GmbH, Guenter Fronius Strasse 1, Wels-Thalheim, 4600 Austria under the CSA SMTc program, witnessed by CSA certifier

The above models are identical to the existing certified and CEC listed Symo Series (refer to project Certificate No. 2760387 and Project No. 70163421) except model name has been added with the word “Advance”, firmware has been updated and minor changes to the decorative cover and added alternative components. In addition, the filter board has been altered from six layers layout to four, add PLC transformer and revised AFCI detection to include ring and ball to meet future requirements. The following tests were performed under the requirements of UL 1741-3rd with SUPPLEMENT SA - GRID SUPPORT UTILITY INTERACTIVE INVERTERS AND CONVERTERS (in Jun and September 2017) with acceptable results.

General Overview of UL 1741 Evaluation with Supplementary SA -Grid Support Utility Interactive		
UL1741 – SA	Applicable Requirement/Topic	Comment
UL1741 - SA8	Anti-islanding Protection - Unintentional Islanding with Grid Support Functions Enabled	PASS
UL1741 - SA9 (Electric Rule No. 21 Table Hh.1)	L/HVRT Low and High Voltage Ride-Through	PASS
UL1741 - SA10 (Electric Rule No. 21 Table Hh.2)	L/HFRT Low and High Frequency Ride-Through	PASS
UL1741 - SA11 Electric (Rule No. 21 Hh.2k)	RR – Normal Ramp Rate and SS – Soft-Start Ramp	PASS
UL1741 - SA12 (Electric Rule No. 21 Hh.2i)	SPF – Specified Power Factor	PASS



Reference Certificate: 70189564

Master Contract: 203213

Project: 80106342

Date Issued: February 2, 2022

General Overview of UL 1741 Evaluation with Supplementary SA -Grid Support Utility Interactive

UL1741 – SA	Applicable Requirement/Topic	Comment
UL1741 - SA13 (Electric Rule No. 21 Hh.2J)	Volt/VAr Mode (Q(V))	PASS
UL1741 - SA14 (Electric Rule No. 21 Hh.2.I)	Frequency-Watt (FW) – Optional	PASS
UL1741 - SA15 (Electric Rule No. 21 Hh.2.m)	Volt-Watt (VW) – Optional	PASS

UL 1741 3rd Edition makes reference to IEEE 1547 and IEEE1547.1; Reference Documents (RD) are integral to UL 1741

(RD Cl. 5.5.2)	Surge Withstand on External signal and control Circuits.	PASS
(RD Cl. 5.1, 5.2, 5.3)	Utility Voltage and Freq. Variation Test Conducted with acceptable results.	PASS
(RD Cl. 5.1.3.1, 5.5.1.2)	Radiated Immunity Test	PASS
(RD Cl. 5.7)	Anti-Islanding Test	PASS
(RD Cl. 5.11)	Harmonic Distortion	PASS
UL1741 - SA9	L/HVRT Low and High Voltage Ride-Through	PASS
UL1741 - SA10	L/HFRT Low and High Frequency Ride-Through	PASS
UL1741 - SA12	SPF – Specified Power Factor	PASS
UL1741 - SA13	Volt/VAr Mode (Q(V))	PASS
UL1741 - SA14	Frequency-Watt (FW) – Optional	PASS
UL1741 - SA15	Volt-Watt (VW) – Optional	PASS

Grid Support Interactive Inverters certified with Reactive Power Priority

Question #	Description	Direction for NRTL
1	Is the product capable of providing the required reactive power for the volt/var curve function at all active power levels without derating active power? (Y or N) (Active Power = 20 – 100%)	A "Yes" response meets the intent of the Resolution and Question #2 and #3 do not need to be answered
2	Was the volt/var curve tested with reactive power priority enabled? (Y or N)	"Yes" response meets the requirements of the Resolution and Question #1 does not need to be answered
3	Was the volt/var curve tested with active power priority enabled? (Y, N, or N/A)	An "N/A" response indicates active power priority is not an option for the inverter. A "Yes" indicates that the inverter must be programed with the correct profile in the final installation



Reference Certificate: 70189564

Master Contract: 203213

Project: 80106342

Date Issued: February 2, 2022

Fronius New Grid Support Interactive Inverters certified with Reactive Power Priority				
Inverter Manufacturer	New Model numbers to be listed with CEC list[Nominal Voltage]	Question #1 (Y/N)	Question #2 (Y/N)	Question #3 (Y/N)
Fronius International GmbH	Fronius Symo Advanced 10.0-3 208-240[208]		Y	Y
	Fronius Symo Advanced 10.0-3 208-240[220]		Y	Y
	Fronius Symo Advanced 10.0-3 208-240[240]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 10.0-3 208-240		Y	Y
	Fronius Symo Advanced 10.0-3 208-240		Y	Y
	Fronius Symo Advanced 10.0-3 208-240		Y	Y
Fronius International GmbH	Fronius Symo Advanced 12.0-3 208-240[208]		Y	Y
	Fronius Symo Advanced 12.0-3 208-240[220]		Y	Y
	Fronius Symo Advanced 12.0-3 208-240[240]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 12.0-3 208-240		Y	Y
	Fronius Symo Advanced 12.0-3 208-240		Y	Y
	Fronius Symo Advanced 12.0-3 208-240		Y	Y
Fronius International GmbH	Fronius Symo Advanced 15.0-3 480[440]		Y	Y
	Fronius Symo Advanced 15.0-3 480[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 15.0-3 480 Lite[440]		Y	Y
	Fronius Symo Advanced 15.0-3 480 Lite[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 20.0-3 480[440]		Y	Y
	Fronius Symo Advanced 20.0-3 480[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 20.0-3 480 Lite[440]		Y	Y
	Fronius Symo Advanced 20.0-3 480 Lite[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 22.7-3 480[440]		Y	Y
	Fronius Symo Advanced 22.7-3 480[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 22.7-3 480 Lite[440]		Y	Y
	Fronius Symo Advanced 22.7-3 480 Lite[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 24.0-3 480[440]		Y	Y
	Fronius Symo Advanced 24.0-3 480[480]		Y	Y
Fronius International GmbH	Fronius Symo Advanced 24.0-3 480 Lite[440]		Y	Y
	Fronius Symo Advanced 24.0-3 480 Lite[480]		Y	Y



Supplement to Certificate of Compliance

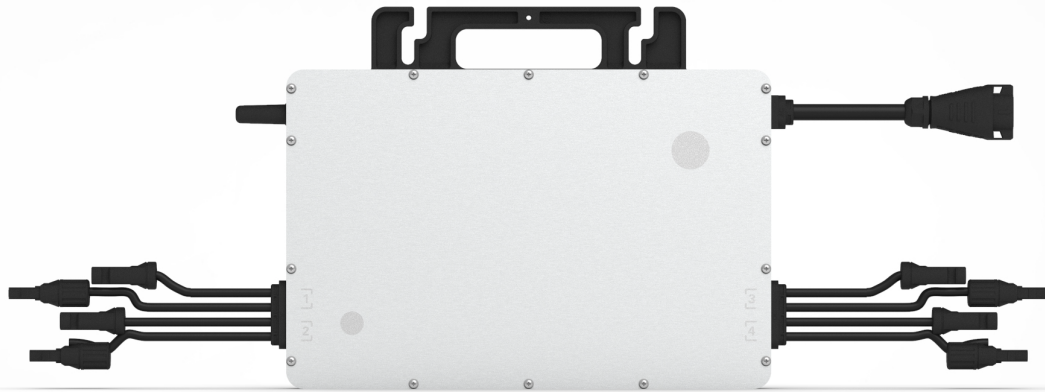
Certificate: 70189564

Master Contract: 203213

*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80106342	2022-02-02	Update report 70189564 to include alternative components and PCB board revisions.
70189564	2018-08-01	New model name Symo Advance Series, models are identical to CSA certified and CEC listed Symo Series (See Certificate No. 2760387 and Project No. 70156295). Additional SA and IEC 1547.1 tests were repeated base on the firmware changes to meet the future arc flash requirements.



Microinverter Datasheet

HMS-1800
HMS-2000

Description

With the output power up to 2000VA, Hoymiles new microinverter HMS-2000 ranks among the highest for 4 in 1 microinverters.

Each microinverter connects up to four PV modules with independent MPPT and monitoring, makes greater energy harvest and easier maintenance.

New Sub-1G wireless solution enables more stable communication when installed for any installation environment.

Features

01

Highest-powered microinverter with output power up to 2000VA.

02

Independent MPPT and monitoring makes greater energy harvest and easier maintenance.

03

With Reactive Power Control, meets the requirements of EN50549-1:2019, VDE-AR-N 4105:2018, UL1741, ABNT NBR 16150, etc.

04

Each microinverter supports up to 4 modules, faster installation and lower cost.

05

Safer for rooftop solar stations with rapid shutdown compliant and isolated transformer.

06

Sub-1G wireless solution enables the stable communication when installed for commercial and industrial stations.

Technical Specifications

	HMS-1800-4T				HMS-2000-4T		
Input Data(DC)							
Commonly used module power(W)	360~565				400~625		
Peak power MPPT voltage range(V)	36~48				38~48		
Start-up voltage(V)	22						
Operating voltage range(V)	16~60						
Maximum input voltage(V)	60						
Maximum input current(A)	4*13.3				4*14		
Output Data(AC)							
Rated output power(VA)	1800				2000		
Rated output current(A)	8.18	7.83	7.5	9.09	8.70	8.33	
Nominal output voltage/range(V)	220/180-275 ¹	230/180-275 ¹	240/180-275 ¹	220/180-275 ¹	230/180-275 ¹	240/180-275 ¹	
Nominal frequency/range(V)	50/45-55 ¹ or 60/55-65 ¹						
Power factor(adjustable)	>0.99 default 0.8 leading...0.8 lagging						
Total harmonic distortion	<3%						
Maximum units per 10AWG branch ²	3	4	4	3	3	3	
Efficiency							
CEC peak efficiency	96.7%						
CEC weighted efficiency	96.5%						
Nominal MPPT efficiency	99.8%						
Night power consumption(mW)	<50						
Mechanical Data							
Ambient temperature range(°C)	-40 ~ +65						
Dimensions(W×H×D mm)	331*218*34.6						
Weight (kg)	4.7						
Enclosure rating	Outdoor-NEMA6(IP67)						
Cooling	Natural convection-No fans						
Features							
Communication	Sub-1G						
Monitoring	Hoymiles Monitoring System						
Compliance	EN 50549-1: 2019, VDE-R-N 4105: 2018, UL1741, ABNT NBR 16150, IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3						

*1 Nominal voltage/frequency range can be changed due to the requirements of local power department.

*2 Refer to local requirements for exact number of microinverters per branch.



Certificate of Compliance

Certificate: 80107467

Master Contract: 261002

Project: 80107467

Date Issued: 2022-02-18

Issued To: Hoymiles Power Electronics Inc.
No.18 Kangjing Road,
Hangzhou, Zhejiang, 310015
China

Attention: Steven Zhang

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: Henry Huan
Henry Huan



PRODUCTS

CLASS - C531109 - POWER SUPPLIES Distributed Generation Power Systems Equipment

CLASS - C531189 - POWER SUPPLIES - Distributed Generation Power Systems Equipment - Certified to U.S. Standards

Utility Interactive Inverter Model: HMS-2000-4T, HMS-2000B-4T, HMS-1800-4T, HMS-1800B-4T, HMS-1600-4T, HMS-1600B-4T, HMS-1600-4T-NA, HMS-1800-4T-NA, HMS-2000-4T-NA, rack mounted.

For details related to rating, size, configuration, etc., reference should be made to the CSA Certification Record, or the Descriptive Report.

APPLICABLE REQUIREMENTS

CSA-C22.2 No. 107.1-16 - Power conversion equipment



Certificate: 80107467
Project: 80107467

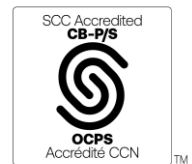
Master Contract: 261002
Date Issued: 2022-02-18

*UL Std No. 1741-3rd - Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources (Third Edition, Dated September 28, 2021)

*Note: Conformity to UL 1741-Third Edition (Dated September 28, 2021) includes compliance with applicable requirements of IEEE 1547-2003(R2008), IEEE 1547.1-2005 (R2011).

Notes:

Products certified under Class C531109 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

Certificate: 80107467

Master Contract: 261002

*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80107467	2022-02-18	Original certification to Utility Interactive Inverter, Model HMS-2000-4T, HMS-2000B-4T, HMS-1800-4T, HMS-1800B-4T, HMS-1600-4T, HMS-1600B-4T, HMS-1600-4T-NA, HMS-1800-4T-NA, HMS-2000-4T-NA. (C/US)