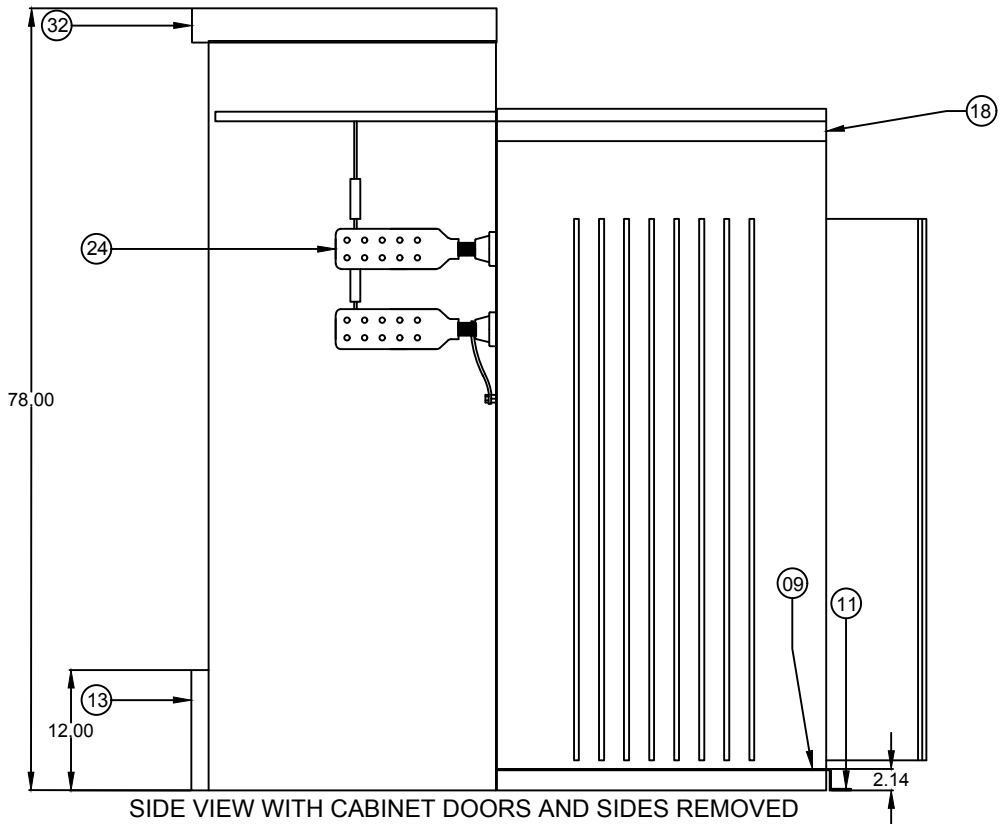
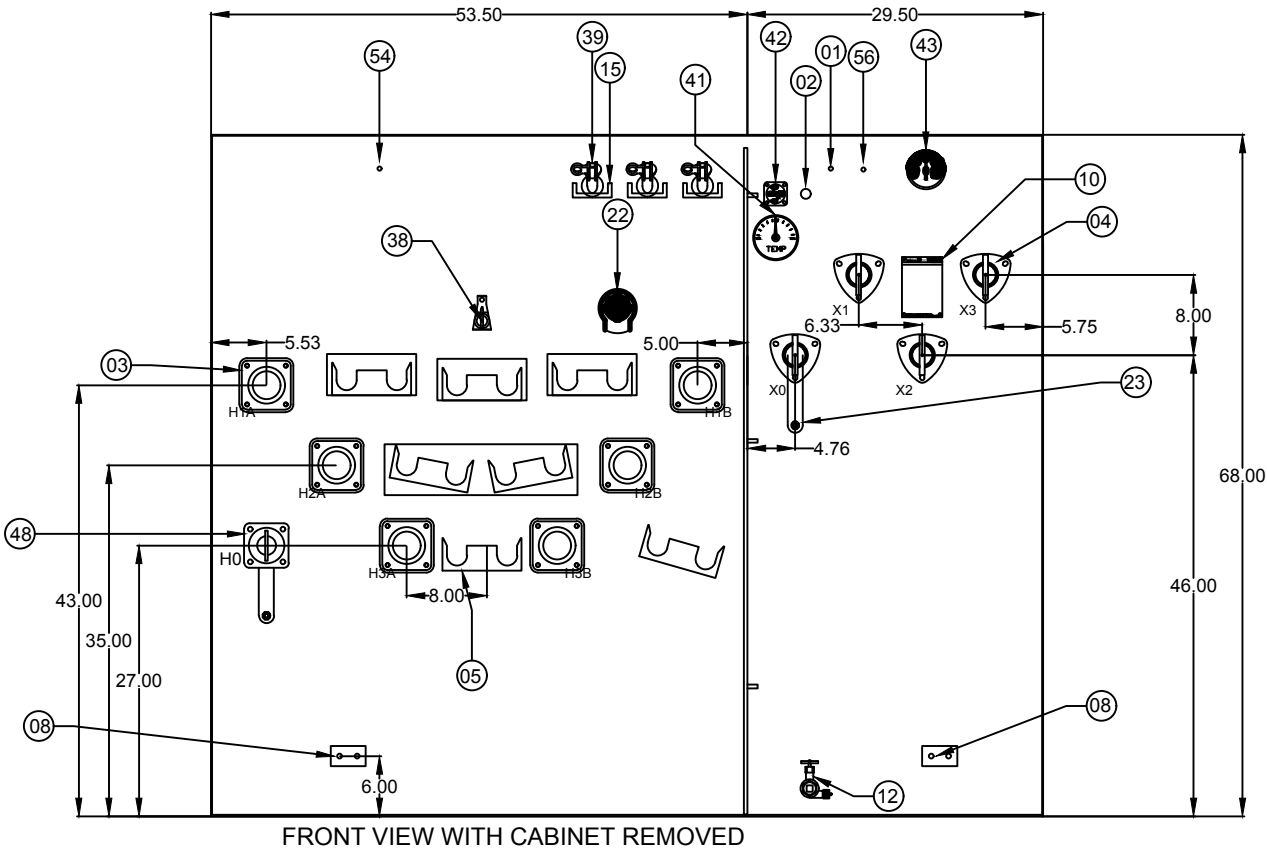
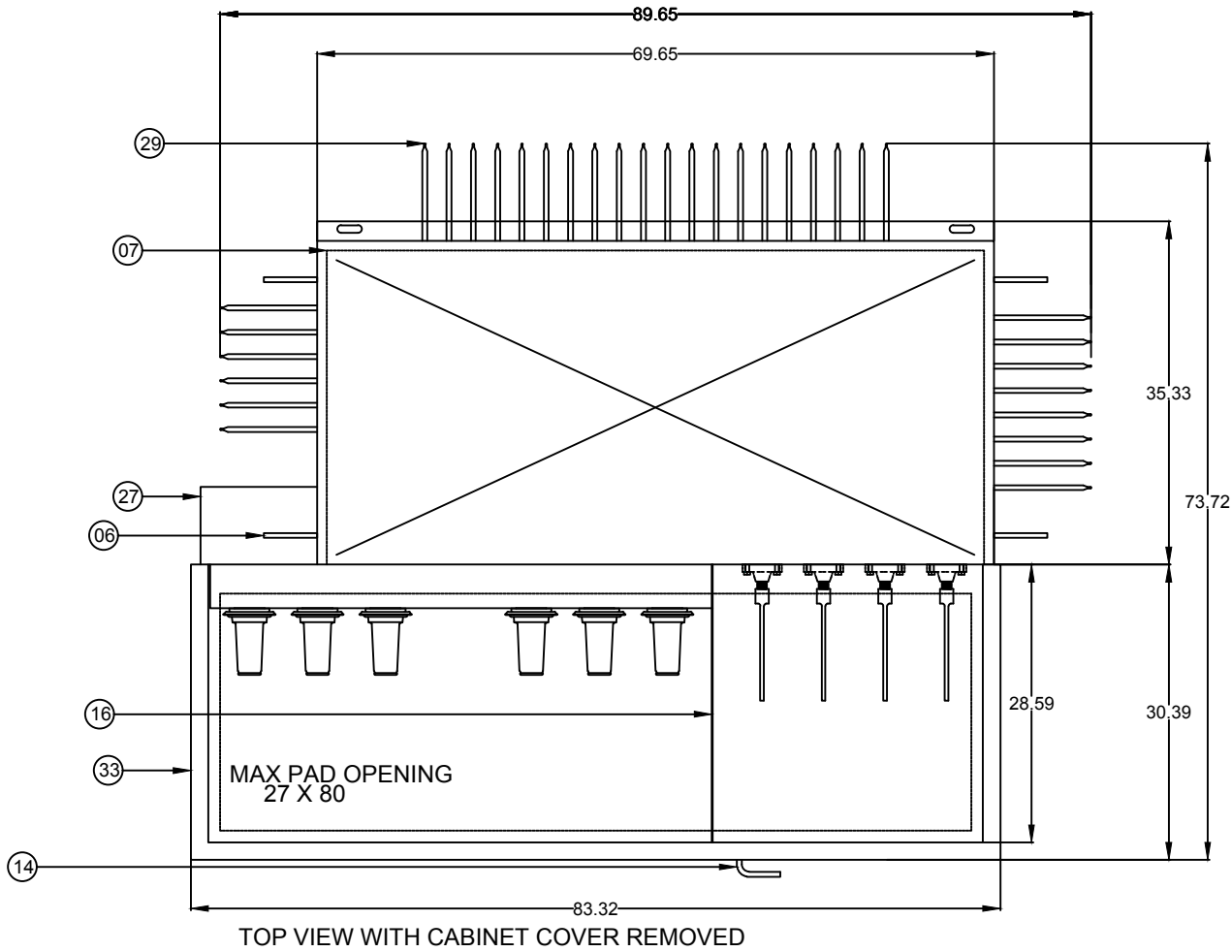


STANDARD FEATURES	
ITEM	DESCRIPTION
01	PRV (QUALITROL 201-020-01) W/ 0.25 NPT COUPLING
02	OIL FILL/UPPER FILTER PRESS 1.0 NPT COUPLING
03	35KV INTEGRAL LOADBREAK BUSHING (ECI#9U02DBC002)
04	LV BUSHING, 1.25" STUD (ABB#1ZUA276301-AMA)
05	DOUBLE PARKING STAND
06	LIFTING LUGS X (4) WITH TIE-DOWN PROVISIONS
07	BOLTED COVER
08	SS 2-HOLE GROUND PADS
09	JACKING PROVISIONS
10	NAMEPLATE LASER-SCRIBED ANODIZED ALUMINUM
11	PAD MOUNTING PROVISION
12	1" NPT DRAIN VALVE W/ 3/8" SAMPLER (HJ#DV1000-001)
13	12" REMOVABLE SILL
14	PAD LOCKABLE DOOR HANDLE, SILICON BRONZE
15	PENTA-HEAD BOLT
16	DRIP CUPS
17	REMOVABLE LV-HV BARRIER 3" FROM BASE
18	REMOVABLE TAMPER GUARD FOR COVER
22	TAP CHANGER
23	COPPER X0 GROUND STRAP
24	10-HOLE NEMA SCREW ON SPADE W/SUPPORTS
27	OIL SAVER BOX
29	COOLING FINS
32	BOLTED CABINET COVER
33	FIXED CABINET SIDES
38	4-POSITION "T" BLADE SWITCH (CP#LS4RH3T12B)
39	BAYONET W/ CL FUSE CP 4000361C99MC (ECI E9F54MFC160 CS 100 AMP & HI-TECH HTSS242100 17.2KV 100 AMP X 2)
41	TEMPERATURE GAUGE
42	LIQUID LEVEL GAUGE
43	PRESSURE/VACUUM GAUGE
48	H0 BUSHING
54	NITROGEN BLANKET PLUG
56	SCHRADER VALVE (MILTON S684-4)

CUSTOMER APPROVAL	
FOR APPROVAL <input type="checkbox"/>	FOR RECORDS <input type="checkbox"/>
APPROVED AS IS _____	
APPROVED AS NOTED _____	
NOT APPROVED _____	

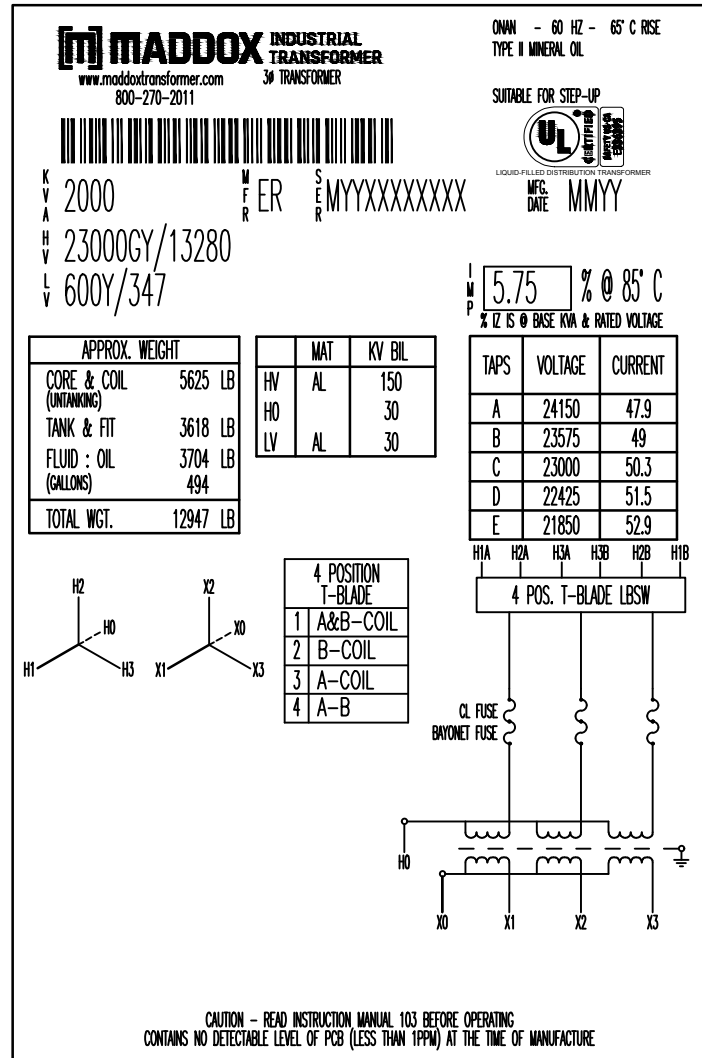
NOTES :
1) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED
2) FILLED W/MINERAL OIL
3) SECOND NP LOCATED INSIDE LV DOOR
4) MUNSELL 7GY 3.29/1.5 PADMOUNT GREEN



3 PHASE PAD OUTLINE

DWN BY: JAV		DATE: 02/12/21	
ISSD BY: AD		DATE: 02/12/21	
PO #:			
DWG NO. 605800.001		STOCK #:	
CUSTOMER:			
SPEC.		DATED	
KVA 2000			
HIGH VOLTAGE 23000GY/13280			
LOW VOLTAGE 600Y/347			
APPROX. CORE AND COIL WEIGHT			5625 LBS
APPROX. TANK AND ACCESS. WEIGHT			3618 LBS
GAL. OF OIL 494		APPROX.WEIGHT	3704 LBS
APPROX. TOTAL WEIGHT			12947 LBS
REV.	DATE	DESCRIPTION	APP BY
SCALE:		NTS	

REVISION					
REV.	DESCRIPTION	DATE	BY:	DATE	APPD:



WORK ORDER	XXXXXXXX
SERIAL BEGIN	XXXXXXXX
SERIAL END	XXXXXXXX

UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
Tolerances are:
Decimals:
One place ±0.03
Two place ±0.01
Three place ±0.005
Angles ±1.0°

[M] MADDOX
INDUSTRIAL TRANSFORMER

TITLE:

MATERIAL:
ANODIZED ALUMINUM

WEIGHT:
.044 LBS.

DWN. BY: JAV	DATE: 02/12/21	DRAWING NUMBER
APPD. BY: RLC	DATE: 02/12/21	NP605800.001
REV ISSUE DATE:	SCALE: NTS	

SOLECTRIA® XGI 1500-250 SERIES

PREMIUM 3-PHASE TRANSFORMERLESS UTILITY-SCALE INVERTERS

FEATURES

- NEW and MORE POWERFUL!
 - XGI 1500-250/250-600
 - XGI 1500-225-600 (Selectable: 225kW/225kVA or 225kW/250kVA)
 - XGI 1500-200/200-480
 - XGI 1500-175-480 (Selectable: 175kW/175kVA or 175kW/200kVA)
- Industry-leading maximum DC/AC Ratio of 2.0
- Accepts two input PV Output Circuits, with no overcurrent protection required
- Made in the USA with global components
- Buy American Act (BAA) compliant
- 99.0% peak efficiency
- Flexible solution for distributed and centralized system architecture
- Advanced grid-support functionality Rule 21/UL1741SB
- Robust, dependable and built to last
- Lowest O&M and installation costs
- Access all inverters on site via WiFi from one location
- Remote diagnostics and firmware upgrades
- SunSpec Modbus Certified

OPTIONS

- PV Source Circuit Combiners
- Web-based monitoring
- Extended warranty



Yaskawa Solectria Solar is pleased to introduce its most powerful XGI 1500 inverters, with the XGI 1500-250 models at 600 Vac, and the XGI 1500-200 models for 480 Vac service.



The XGI 1500-250 and XGI 1500-200 feature SiC technology, high power and high efficiency that places them at the top end of the utility-scale string inverters in the market.

Yaskawa Solectria Solar designs all XGI 1500 utility-scale string inverters for high reliability and builds them with the highest quality components -- selected, tested and proven to last beyond their warranty. The XGI 1500 inverters provide advanced grid-support functionality and meet the latest IEEE 1547 and UL 1741 standards for safety.

The XGI 1500 inverters provide ideal solutions for ground-mounted utility-scale PV systems, with models available for service connections at 600 Vac and 480 Vac. Designed and engineered in Lawrence, MA, the SOLECTRIA XGI inverters are assembled and tested at Yaskawa America's facilities in Buffalo Grove, IL. The XGI 1500 inverters are Made in the USA with global components, and are compliant with the Buy American Act.

SOLECTRIA® XGI 1500-250 SERIES TECHNICAL DATA

SPECIFICATIONS

Product Specification		XGI 1500 Inverter Model							
		XGI 1500 250/250-600		XGI 1500 225-600		XGI 1500 200/200-480		XGI 1500 175-480	
DC Input	Absolute Maximum Input Voltage	1500 VDC							
	Maximum Power Voltage Range (MPPT)	860-1250 VDC				750-1250 VDC			
	Operating Voltage Range (MPPT)	860-1450 VDC				750-1450 VDC			
	Number of MPP Trackers	1 MPPT							
	Maximum Operating Input Current	296.7 A		267 A		237.3 A		207.6 A	
	Maximum Operating PV Power	255 kW		230 kW		204 kW		179 kW	
	Maximum DC/AC Ratio Max Rated PV Power	2.0 500 kW		2.22 500 kW		2.5 500 kW		2.86 500 kW	
	Max Rated PV Short-Circuit Current (ΣIsc x 1.25)	800 A							
AC Output	Nominal Output Voltage	600 VAC, 3-Phase				480 VAC, 3-Phase			
	AC Voltage Range	-12% to +10%							
	Continuous Real Output Power	250 kW		225 kW		200 kW		175 kW	
	Continuous Apparent Output Power (kVA)	250		250 225		200		200 175	
	Maximum Output Current (A _{RMS})	240.6		XGI 1500- 225/225: 216.5 225/250: 240.6		240.6		XGI 1500- 175/175: 210.5 175/200: 240.6	
	Fault Current Contribution (1 cycle RMS)	390 A		390 A 351 A		312 A		312 A 273 A	
	Conductor Compatibility	600 kcmil max, Cu or Alum, 1 or 2 conductors with lugs							
	Nominal Output Frequency	60 Hz							
	Power Factor (Unity default)	+/- 0.80 Adjustable							
	Total Harmonic Distortion (THD) @ Rated Load	< 3%							
	Grid Connection Type	3-Ph + N/GND							
	Efficiency	Peak Efficiency	99.0%						
CEC Average Efficiency		98.5%							
Tare Loss		<1 W							
Temperature	Ambient Temperature Range	-40°F to 140°F (-40°C to 60°C)							
	De-Rating Temperature	113°F (45°C)		127°F (53°C)		113°F (45°C)		131°F (55°C)	
	Storage Temperature Range	-40°F to 167°F (-40°C to 75°C)							
	Relative Humidity (non-condensing)	0 - 95%							
	Operating Altitude	9,840 ft (3 km)							
Communications	Advanced Graphical User Interface	WiFi							
	Communication Interface	Ethernet							
	Third-Party Monitoring Protocol	SunSpec Modbus TCP/IP							
	Web-Based Monitoring	Optional							
	Firmware Updates	Remote and Local							
Testing & Certifications	Safety Listings & Certifications	UL 1741, IEEE 1547, UL 1998, UL 1699b Photovoltaic Arc-Fault Circuit Protection Certified							
	Advanced Grid Support Functionality	Rule 21, UL 1741SB							
	Testing Agency	ETL							
	FCC Compliance	FCC Part 15 (Subpart B, Class A)							
Warranty	Standard and Options	5 Years Standard; Option for 10 Years							
Enclosure	Acoustic Noise Rating	73 dBA @ 1 m ; 67dBA @ 3 m							
	DC Disconnect	Integrated 2-Pole 400 A DC Disconnect							
	Mounting Angle	Vertical only							
	Dimensions	Height: 29.5 in. (750 mm) Width: 44.3 in. (1125 mm) Depth: 15.4 in. (390 mm)							
	Weight	290 lbs (131.5 kg)							
	Enclosure Rating and Finish	NEMA 4X, IEC IP66, Type 3R, Polyester Powder-Coated Aluminum							



YASKAWA
SOLECTRIA SOLAR

Yaskawa Solectria Solar 1-978-683-9700 | Email: sales@solectria.com | solectria.com
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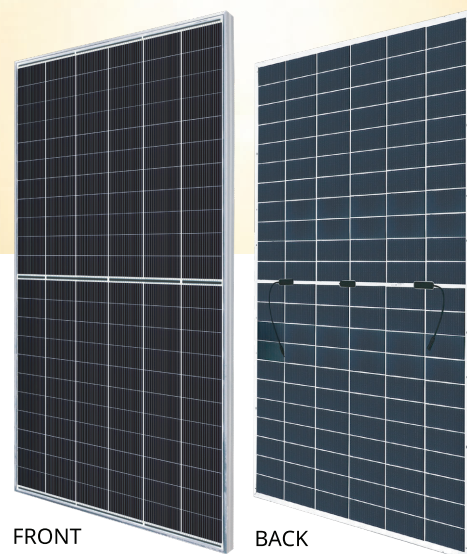


TOPBiHiKu7

N-type Bifacial TOPCon Technology

675 W ~ 705 W

CS7N-675 | 680 | 685 | 690 | 695 | 705TB-AG



MORE POWER



Module power up to 705 W
Module efficiency up to 22.7 %



Up to 85% Power Bifaciality,
more power from the back side



Excellent anti-LeTID & anti-PID performance.
Low power degradation, high energy yield



Lower temperature coefficient (Pmax): -0.29%/°C,
increases energy yield in hot climate



Lower LCOE & system cost

MORE RELIABLE



Minimizes micro-crack impacts



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



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



Linear Power Performance Warranty*

**1st year power degradation no more than 1%
Subsequent annual power degradation no more than 0.4%**

*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
IEC 62941: 2019 / Photovoltaic module manufacturing quality system

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA / CGC
CEC listed (US California) / FSEC (US Florida)
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
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 around 100 GW of premium-quality solar modules across the world.

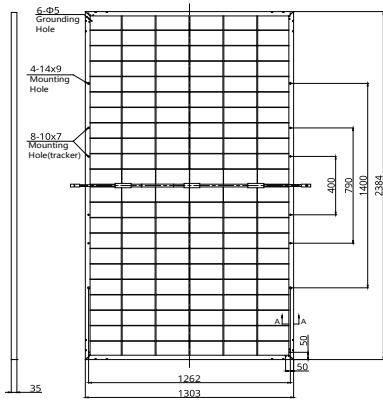
* For detailed information, please refer to the Installation Manual.

Canadian Solar (USA) Inc.

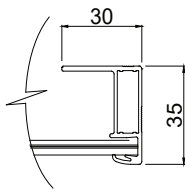
1350 Treat Blvd. Suite 500, Walnut Creek, CA 94597 | www.csisolar.com/na | support.ca@csisolar.com

ENGINEERING DRAWING (mm)

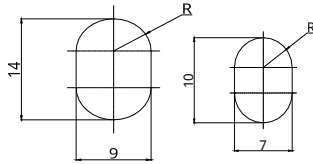
Rear View



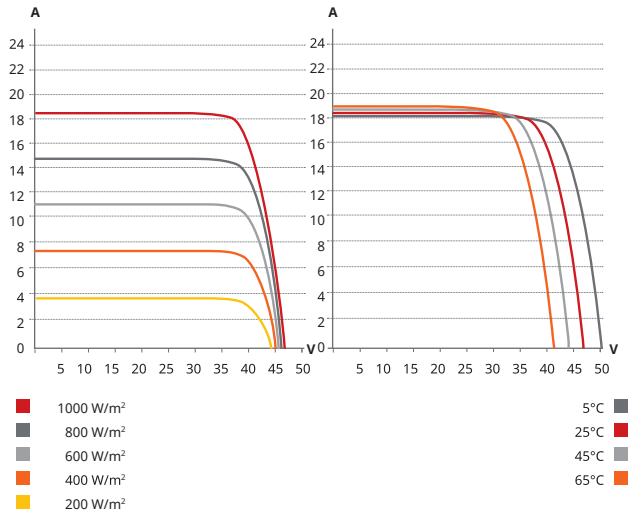
Frame Cross Section A-A



Mounting Hole



CS7N-680TB-AG / I-V CURVES



ELECTRICAL DATA | STC*

		Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Module Efficiency
CS7N-675TB-AG		675 W	39.0 V	17.31 A	46.9 V	18.24 A	21.7%
	Bifacial Gain**	5%	709 W	39.0 V	18.19 A	46.9 V	22.8%
		10%	743 W	39.0 V	19.04 A	46.9 V	23.9%
		20%	810 W	39.0 V	20.77 A	46.9 V	26.1%
CS7N-680TB-AG		680 W	39.2 V	17.35 A	47.1 V	18.29 A	21.9%
	Bifacial Gain**	5%	714 W	39.2 V	18.22 A	47.1 V	23.0%
		10%	748 W	39.2 V	19.09 A	47.1 V	24.1%
		20%	816 W	39.2 V	20.82 A	47.1 V	26.3%
CS7N-685TB-AG		685 W	39.4 V	17.39 A	47.3 V	18.34 A	22.1%
	Bifacial Gain**	5%	719 W	39.4 V	18.26 A	47.3 V	23.1%
		10%	754 W	39.4 V	19.14 A	47.3 V	24.3%
		20%	822 W	39.4 V	20.87 A	47.3 V	26.5%
CS7N-690TB-AG		690 W	39.6 V	17.43 A	47.5 V	18.39 A	22.2%
	Bifacial Gain**	5%	725 W	39.6 V	18.31 A	47.5 V	23.3%
		10%	759 W	39.6 V	19.17 A	47.5 V	24.4%
		20%	828 W	39.6 V	20.92 A	47.5 V	26.7%
CS7N-695TB-AG		695 W	39.8 V	17.47 A	47.7 V	18.44 A	22.4%
	Bifacial Gain**	5%	730 W	39.8 V	18.34 A	47.7 V	23.5%
		10%	765 W	39.8 V	20.18 A	47.7 V	24.6%
		20%	834 W	39.8 V	20.96 A	47.7 V	26.8%
CS7N-700TB-AG		700 W	40.0 V	17.51 A	47.9 V	18.49 A	22.5%
	Bifacial Gain**	5%	735 W	40.0 V	18.39 A	47.9 V	23.7%
		10%	770 W	40.0 V	20.22 A	47.9 V	24.8%
		20%	840 W	40.0 V	21.01 A	47.9 V	27.0%
CS7N-705TB-AG		705 W	40.2 V	17.55 A	48.1 V	18.54 A	22.7%
	Bifacial Gain**	5%	740 W	40.2 V	18.43 A	48.1 V	23.8%
		10%	776 W	40.2 V	20.27 A	48.1 V	25.0%
		20%	846 W	40.2 V	21.06 A	48.1 V	27.2%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.
** Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA

Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1500 V (IEC/UL) or 1000 V (IEC/UL)
Module Fire Performance	TYPE 29 (UL 61730) or CLASS C (IEC61730)
Max. Series Fuse Rating	35 A
Application Classification	Class A
Power Tolerance	0 ~ + 10 W
Power Bifaciality*	80 %

* Power Bifaciality = $P_{max, rear} / P_{max, front}$, both $P_{max, rear}$ and $P_{max, front}$ are tested under STC, Bifaciality Tolerance: $\pm 5 \%$

* 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.

ELECTRICAL DATA | NMOT*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)
CS7N-675TB-AG	510 W	36.9 V	13.84 A	44.4 V	14.71 A
CS7N-680TB-AG	514 W	37.1 V	13.88 A	44.6 V	14.75 A
CS7N-685TB-AG	518 W	37.2 V	13.91 A	44.8 V	14.79 A
CS7N-690TB-AG	522 W	37.4 V	13.94 A	45.0 V	14.83 A
CS7N-695TB-AG	526 W	37.6 V	13.97 A	45.2 V	14.87 A
CS7N-700TB-AG	529 W	37.8 V	14.00 A	45.4 V	14.91 A
CS7N-705TB-AG	533 W	38.0 V	14.03 A	45.5 V	14.95 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.

MECHANICAL DATA

Specification	Data
Cell Type	TOPCon cells
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	37.9 kg (83.6 lbs)
Front Glass	2.0 mm heat strengthened glass with anti-reflective coating
Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4.0 mm ² (IEC), 12 AWG (UL)
Cable Length (Including Connector)	410 mm (16.1 in) (+) / 250 mm (9.8 in) (-) or 2000 mm (78.7 in) (+) / 1400 mm (55.1 in) (-)
Connector	T6 or MC4 series
Per Pallet	31 pieces
Per Container (40' HQ)	558 pieces or 496 pieces (only for US & Canada)

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

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.29 % / °C
Temperature Coefficient (Voc)	-0.25 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 \pm 3°C

PARTNER SECTION

