

# Exhibit O

## Equipment Specification Sheets



# Series 7 **TR1.**

## 525-550 Watt Thin Film Solar Module



Series 7 *TR1* modules combine First Solar's thin film technology with a larger form factor and an innovative new back rail mounting system to deliver improved efficiency, enhanced installation velocity, and unmatched lifetime energy performance for utility-scale PV projects.



### More Energy per Nameplate Watt

- Superior temperature coefficient, spectral, and shading response
- No power loss from LID or LeTID
- Anti-reflective coated glass enhances energy production



### Innovative Module Design

- Optimized back rails enhance installation velocity
- Frameless design improves soiling and snow shedding
- Dual junction box design reduces wire management complexity and cost



### Unmatched Quality and Reliability

- End-to-end manufacturing process for globally consistent quality
- Tested and certified to IEC standards and beyond
- Durable glass/glass construction
- Immune to and warranted against power loss from cell cracking
- 30-year Linear Performance Warranty



### Industry's Most Eco-efficient PV Solution

- Industry-leading carbon footprint, water footprint and energy payback time
- Globally available PV module recycling services



### America's Solar Company

- Designed, responsibly sourced, and manufactured in the USA

**19.7%**

HIGH BIN EFFICIENCY

**30YR**

LINEAR PERFORMANCE  
WARRANTY

**98%**

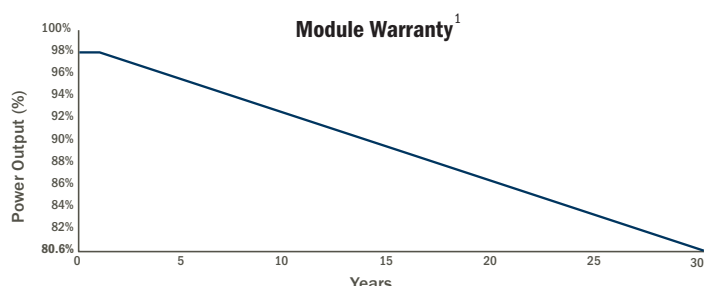
WARRANTY START POINT

**0.6%**

WARRANTED ANNUAL  
DEGRADATION RATE



Learn more about First Solar  
and Series 7 *TR1*  
at [firstsolar.com/S7](https://firstsolar.com/S7)



# Series 7 TR1.

## Electrical Specifications



LEADING THE WORLD'S  
SUSTAINABLE ENERGY FUTURE

**MODEL TYPES: FS-7XXXA-TR1** (XXX = NOMINAL POWER)

**RATINGS AT STANDARD TEST CONDITIONS** (1000W/m<sup>2</sup>, AM 1.5, 25°C)<sup>2</sup>

Nominal Power <sup>3</sup> (-0/+5%)	P <sub>MAX</sub> (W)	525	530	535	540	545	550
Efficiency (%)	%	18.8	19.0	19.1	19.3	19.5	19.7
Cell Efficiency (%)	%	19.7	19.9	20.1	20.3	20.4	20.6
Voltage at P <sub>MAX</sub>	V <sub>MAX</sub> (V)	186.0	186.9	187.8	188.7	189.6	190.4
Current at P <sub>MAX</sub>	I <sub>MAX</sub> (A)	2.82	2.84	2.85	2.86	2.88	2.89
Open Circuit Voltage	V <sub>OC</sub> (V)	226.1	226.7	227.2	227.7	228.2	228.8
Short Circuit Current	I <sub>SC</sub> (A)	3.04	3.05	3.06	3.06	3.07	3.08
Maximum System Voltage	V <sub>SYS</sub> (V)	1500 <sup>5</sup>					
Limiting Reverse Current	I <sub>R</sub> (A)	5.0					
Maximum Series Fuse	I <sub>CF</sub> (A)	5.0					

### TEMPERATURE CHARACTERISTICS

Module Operating Temperature Range	(°C)	-40 to +85
Temperature Coefficient of P <sub>MAX</sub>	T <sub>K</sub> (P <sub>MAX</sub> )	-0.32%/°C [Temperature Range: 25°C to 75°C]
Temperature Coefficient of V <sub>OC</sub>	T <sub>K</sub> (V <sub>OC</sub> )	-0.28%/°C
Temperature Coefficient of I <sub>SC</sub>	T <sub>K</sub> (I <sub>SC</sub> )	+0.04%/°C
Nominal Operating Cell Temperature	(°C)	45

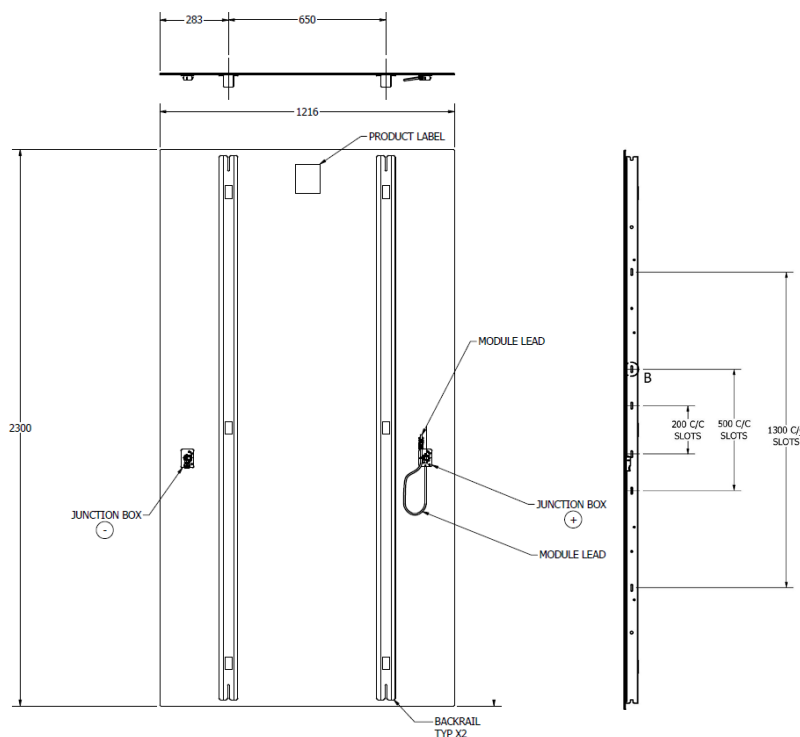
### PACKAGING INFORMATION

Model Type	Modules Per Pack	Packs per 53' Container
FS-7XXXA-TR1	44 / 46	Up to 10

## Mechanical Specifications

### MECHANICAL DESCRIPTION

Length	2300mm
Width	1216mm
Area	2.80m <sup>2</sup>
Module Weight	38.4 <sup>7</sup> / 39.7 kg
Leadwire <sup>6</sup>	2.5mm <sup>2</sup> , 650mm (+) & Bulkhead (-)
Connectors	TE Connectivity PV4-S or alternate
Junction Box	IP68 Rated
Bypass Diode	N/A
Cell Type	Thin film CdTe semiconductor, up to 268 cells
Back Rail Material	Galvanized steel
Front Glass	Heat strengthened
Back Glass	Heat strengthened
Encapsulation	Laminate material with edge seal
Frame to Glass Adhesive	Silicone
Load Rating	2400Pa



## Certifications & Tests<sup>4</sup>

### CERTIFICATIONS AND LISTINGS

IEC 61215:2021 & 61730-1:2016<sup>5</sup>, CE  
IEC 61701 Salt Mist Corrosion  
IEC 60068-2-68 Dust and Sand Resistance  
IEC 62716 Ammonia Corrosion  
UL 61730 1500V Listed

### EXTENDED DURABILITY TESTS

IEC TS 63209-1 Extended Stress Test  
Long-Term Sequential  
Thresher Test  
PID Resistant

### QUALITY & EHS

ISO 9001:2015  
ISO 14001:2015  
ISO 45001:2018  
ISO 14064-3:2006  
EPEAT Silver Registered

Install in portrait only

- 1 Limited power output and product warranties subject to warranty terms and conditions
- 2 All ratings  $\pm 10\%$ , unless specified otherwise. Specifications are subject to change
- 3 Measurement uncertainty applies
- 4 Testing Certifications/Listings pending
- 5 IEC 61730-1: 2016 Class II
- 6 Leadwire length from junction box exit to connector mating surface
- 7 +/-1300mm mounting location added to product variant



#### Disclaimer

All images shown are provided for illustrative purposes only and may not be an exact representation of the product. First Solar, Inc. reserves the right to change product images at any time without notice. The information included in this Module Datasheet is subject to change without notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of user's reliance on the information contained in this Module Datasheet. Please refer to the appropriate Module User Guide and Module Product Specification document for more detailed technical information regarding module performance, installation and use.

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# 250 kW-600 V, 1500 Vdc String Inverters for North America



**CPS SCH250K-T-US-600**

The new CPS 250 kW-600 V three-phase string inverters are designed for ground mount applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.83% peak and 98.4% CEC, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 250 kW-600 V products ship with the Distributed or Centralized Wire Box, each fully integrated and separable with AC and DC disconnect switches. Enhanced DC wire boxes allow DC disconnection under short circuit conditions. The CPS FlexOM Gateway enables communication, controls, and remote product upgrades.

## Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC Fuse holders add convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- Enhanced DC wire boxes
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid features
- kVA headroom yields 250 kW @ 0.95 PF
- 1.7 DC/AC inverter load ratios
- Separable wire box design for fast service
- Distributed or Centralized wire box options



250 kW-600 V Distributed Wire Box



250 kW-600 V Centralized Wire Box

Model Name	CPS SCH250K-T-US-600
<b>DC Input</b>	
Max. PV power	425 kW
Max. DC input voltage	1500 V
Operating DC input voltage range	860-1450 Vdc
Start-up DC input voltage / power	900 V / 250 W
Number of MPP trackers	1
MPPT voltage range for P <sub>nom</sub> <sup>1</sup>	900-1300 Vdc
Max. PV input current <sup>2</sup>	450 A
Number of DC inputs	Distributed Wire Box: 30 PV source circuits, fused Centralized Wire Box: 1 input circuit, 1-2 terminations per pole, non-fused
DC disconnection type	Distributed Wire box: Load-rated DC switches Centralized Wire Box: DC breaker
DC surge protection	Type II MOV
<b>AC Output</b>	
Rated AC output power	250 kW
Max. AC apparent power (selectable <sup>3</sup> )	250 kVA / 264 kVA (@ PF >0.95)
Rated output voltage	600 Vac
Output voltage range <sup>4</sup>	528-660 Vac
Grid connection type <sup>5</sup>	3Φ / PE / N (neutral optional)
Max. AC output current @ 600 Vac	241 A (@ 250 kVA) / 254 A (@ 264 kVA)
Rated output frequency	60 Hz
Output frequency range <sup>4</sup>	57-63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current TRD	< 3%
Max. OCPD rating	400 A
AC disconnection type	Load-rated AC switch
AC surge protection	Type II MOV
<b>System</b>	
Topology	Transformerless
Max. efficiency	98.83%
CEC efficiency	98.4%
Standby / night consumption	< 30 W
<b>Environment</b>	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range	-22°F to 140°F / -30°C to 60°C (derating from 108°F / 42°C)
Non-operating temperature range <sup>6</sup>	-40°F to 158°F / -40°C to 70°C
Operating humidity	0-95%
Operating altitude	6562 ft / 2000 m (no derating)
Audible noise	< 80 dBA @ 1 m and 77°F (25°C)
<b>Display and Communication</b>	
User interface and display	LED indicators; Bluetooth and app
Inverter monitoring	Modbus RS485
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)
Modbus data mapping	SunSpec / CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
<b>Mechanical</b>	
Dimensions (W × H × D)	Powerhead: 28.46 × 33 × 13.98 in (723 × 840 × 355 mm) Wire Box: 23.11 × 33 × 13.98 in (587 × 840 × 355 mm)
Weight (approximate)	Powerhead: 175 lb (79.5 kg) Wire Box: 106 lb (48 kg)
Mounting / installation angle	Vertical
AC termination	M12 stud type terminal [3Φ] (wire range: 500 kcmil-750 kcmil CU/AL; lugs not supplied) Screw clamp terminal block [N] (#12-1/0 AWG CU/AL)
DC termination	Distributed Wire Box: Screw clamp fuse holder (wire range: #14-#8 AWG CU) Centralized Wire Box: Busbar (<600 kcmil CU/AL [2 terminations per pole]; lugs not supplied)
Fused string inputs	Distributed Wire Boxes: 30 A fuses provided (fuse values up to 35 A acceptable)
<b>Safety</b>	
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15, UL 1699B <sup>7</sup>
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018, CA Rule 21, ISO-NE
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt
<b>Warranty</b>	
Standard	5 years
Extended terms	10, 15, and 20 years

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.

2) The sum of parallel-connected PV module short-circuit currents.

3) Inverter is factory set to 250 kVA by default. Contact CPS to enable the 264 kVA setting.

4) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.

5) Delta configurations must not be corner-grounded.

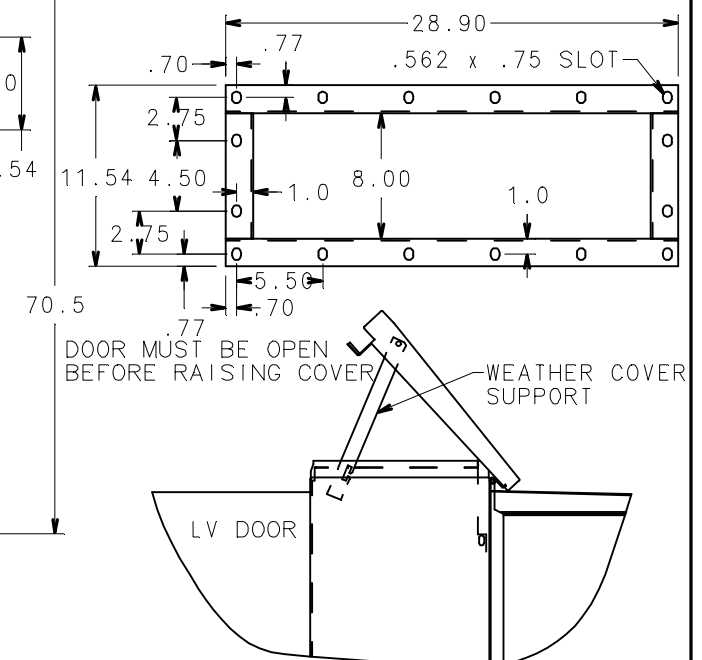
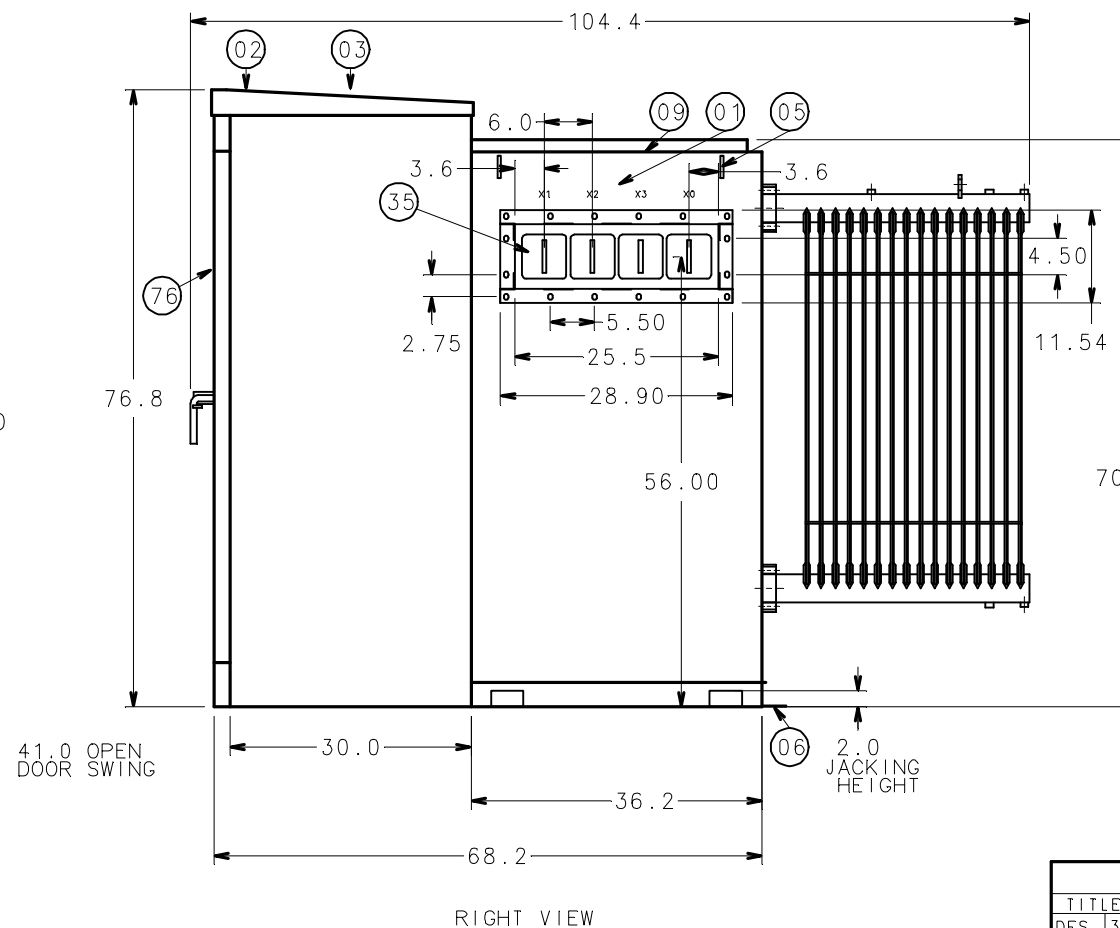
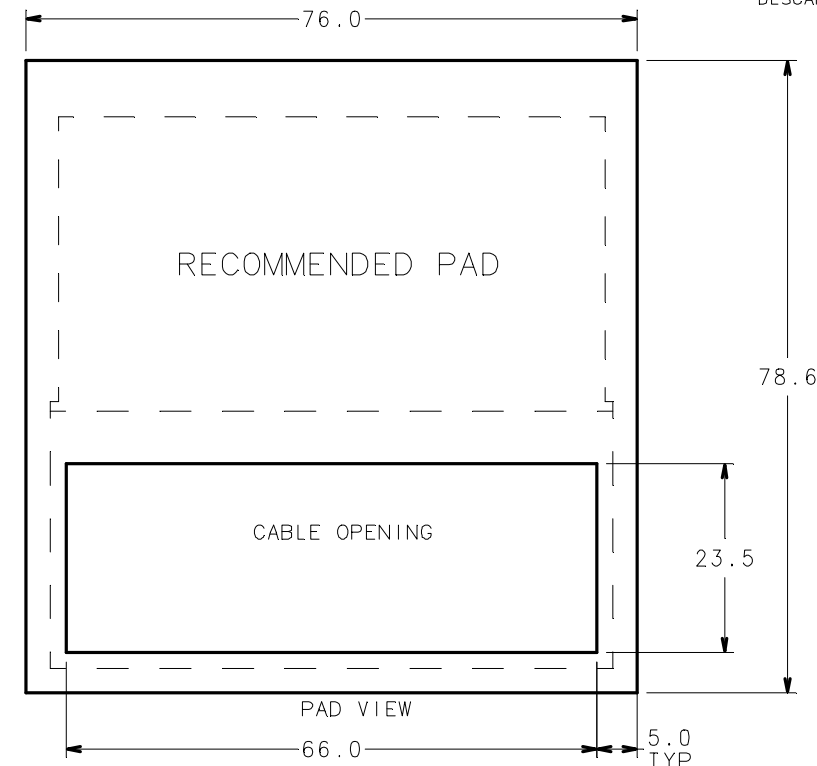
6) See user manual for further requirements regarding non-operating conditions.

7) AFCI function available for Distributed wire boxes only.

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** COLOR ANSI 70 GRAY
** NITROGEN BLANKET
** UL APPROVED
** ELBOW ARRESTER 18 KV, 15.30 MCOV,
  15 KV CLASS
** PARALLEL INTERNAL PARTIAL RANGE FUSE
  17.2 KV 150A
** GAUGES ATTACHED TO TERMINAL BLOCKS
  ATTACHED TO HL BARRIER
** LV THROAT BONDED TO TANK WITH COPPER
  GROUND STRAP

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|                              |  |             |                 |                              |  |        |        |             |          |              |  |
|------------------------------|--|-------------|-----------------|------------------------------|--|--------|--------|-------------|----------|--------------|--|
| ABB INC.                     |  |             |                 |                              |  |        |        |             |          | REV NO<br>04 |  |
| TITLE                        |  | OL3PPADMNT  |                 | DEF XXX                      |  | FIN XX |        | U/M XX      |          | NOTE XX      |  |
| DES                          |  | 3PH OUTLINE |                 |                              |  |        |        | USER USSCFL |          |              |  |
| DIMENSIONS IN INCHES-SCALE.1 |  |             |                 | CADAM 209990211NBPNCCLKT04.1 |  |        |        |             |          |              |  |
| DFTM L,HOOD                  |  | Ø70919      |                 | APPD XXXXX                   |  |        | MMDDYY |             | J801CLKT |              |  |
| D SPEC XXXXXX                |  |             | APPD            |                              |  |        |        |             |          |              |  |
| ENG. REF XXXXXX              |  |             | LAYOUT MODEL ID |                              |  |        |        |             |          |              |  |
| ENGINEERING DEPT.            |  |             |                 | JEFFERSON CITY, MO.          |  |        |        |             |          | USA          |  |