



REGIONE SICILIANA  
PROVINCIA DI RAGUSA  
COMUNE DI ACATE



PROGETTO IMPIANTO AGRIVOLTAICO DA REALIZZARE NEL COMUNE DI ACATE (RG) IN CONTRADA CASALE - CANALOTTI AL FOGLIO N.36 P.LLE 90, 91, 103, 115, 196, 277, 326, 23, 372, 373, 374 E DELLE RELATIVE OPERE DI CONNESSIONE DA REALIZZARE NEL COMUNE DI ACATE NELLA MEDESIMA CONTRADA AL FOGLIO N.30 P.LLA 487 AVENTE UNA POTENZA PARI A 22.080,52 kWp, DENOMINATO "ACATE"

PROGETTO DEFINITIVO

PARTICOLARI DEI TRACKER  
MONOASSIALI



LIV. PROG.	RIF. COD. PRATICA TERNA	CODICE ELABORATO	TAVOLA	DATA	SCALA
PD	202001119	RS06EPD0052A0	9	30.11.2021	VARIE

REVISIONI					
REV.	DATA	DESCRIZIONE	ESEGUITO	VERIFICATO	APPROVATO

**RICHIEDENTE E PRODUTTORE**

**ENTE**

lightsource bp

HF SOLAR 5 S.r.l. - Viale Francesco Scaduto n°2/D - 90144 Palermo (PA)

**PROGETTAZIONE**

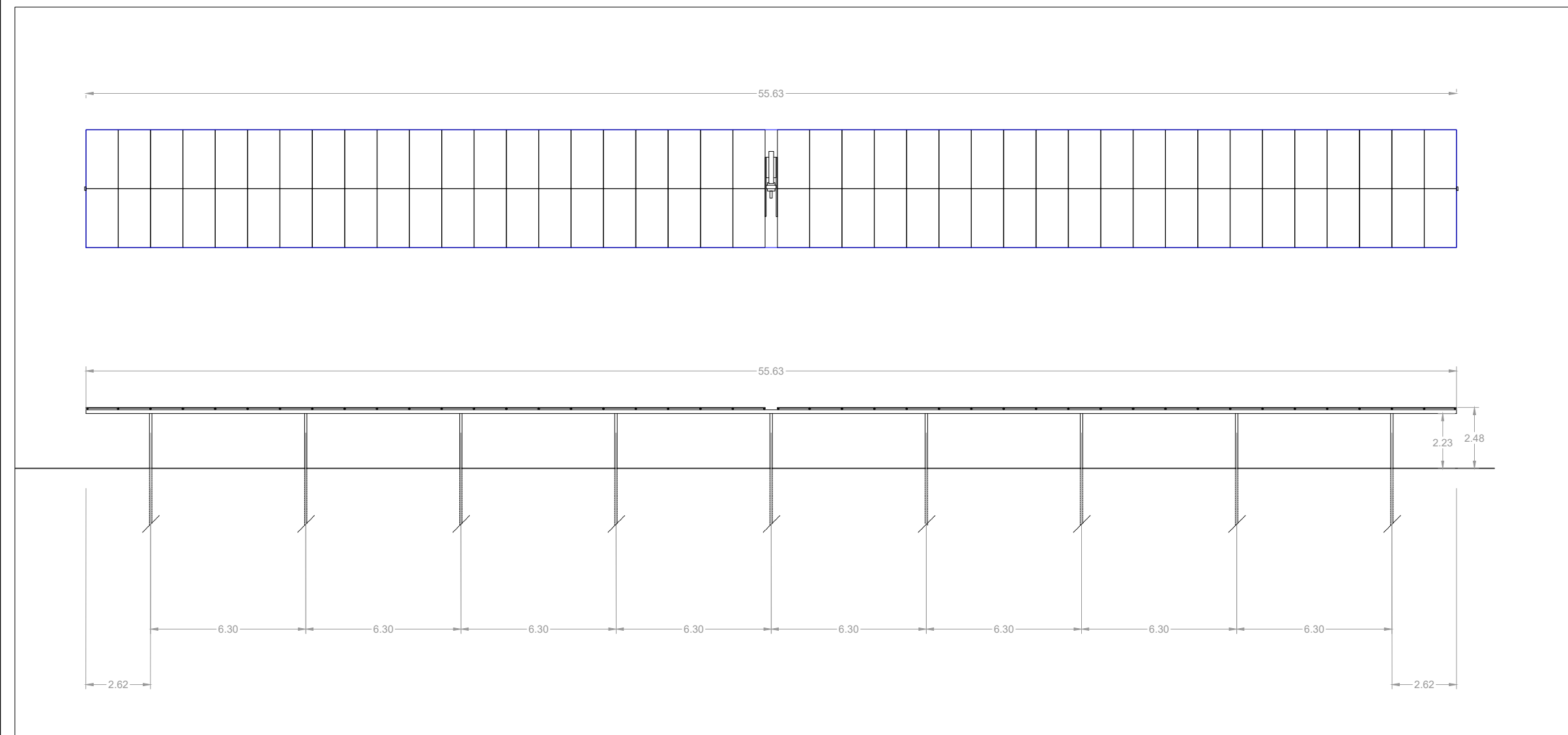
**HORIZONFIRM**

Ing. D. Siracusa Arch. M. Gullo  
 Ing. A. Costantino Arch. Y. Kokalah  
 Ing. C. Chiaruzzi Arch. S. Martorana  
 Ing. G. Schillaci Arch. F. G. Mazzola  
 Ing. G. Buffa Arch. G. Vella  
 Arch. A. Calandrino

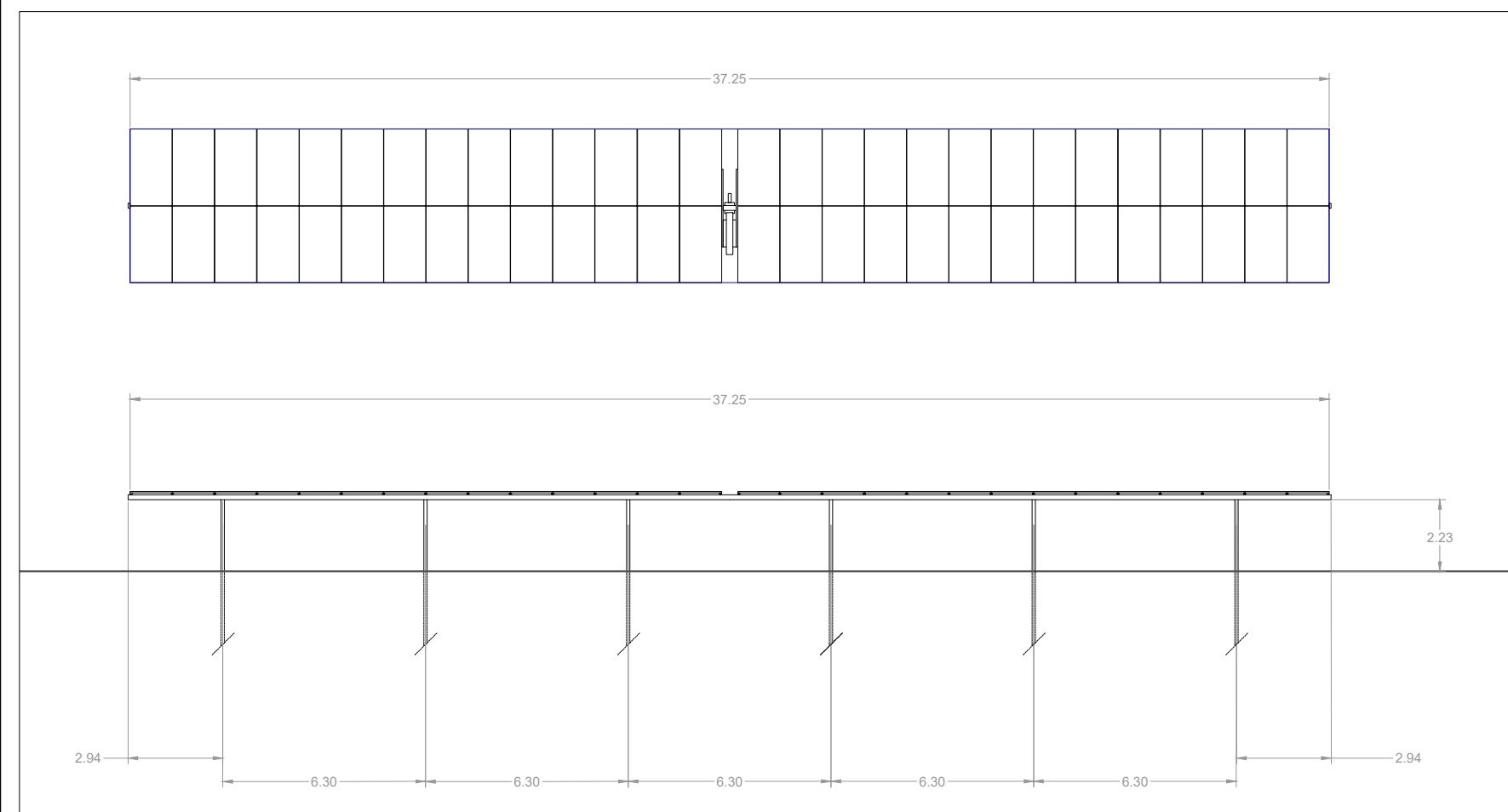
HORIZONFIRM S.r.l. - Viale Francesco Scaduto n°2/D - 90144 Palermo (PA)

FIRMA RESPONSABILE

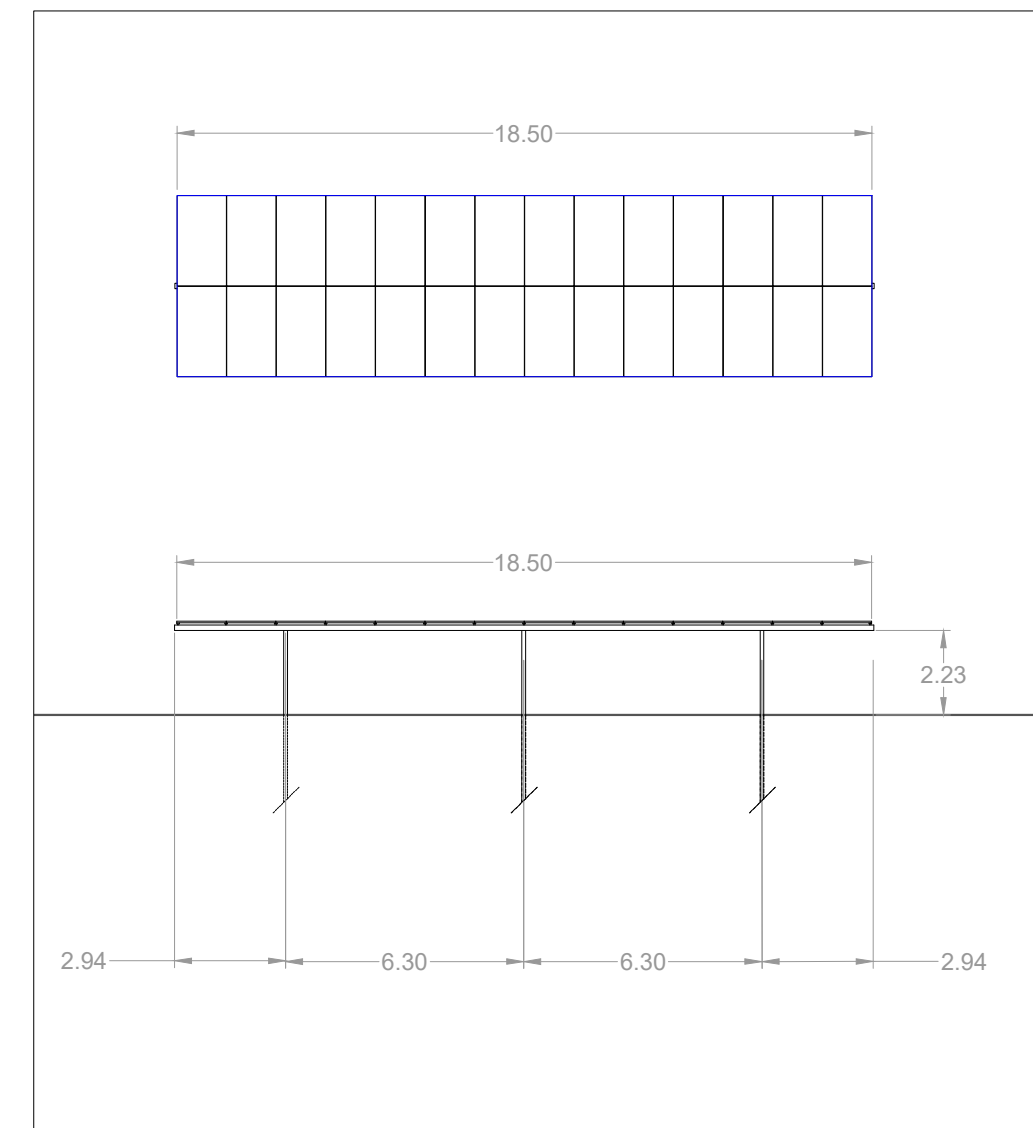
FIRMA OLOGRAFA E TIMBRO PROGETTISTA



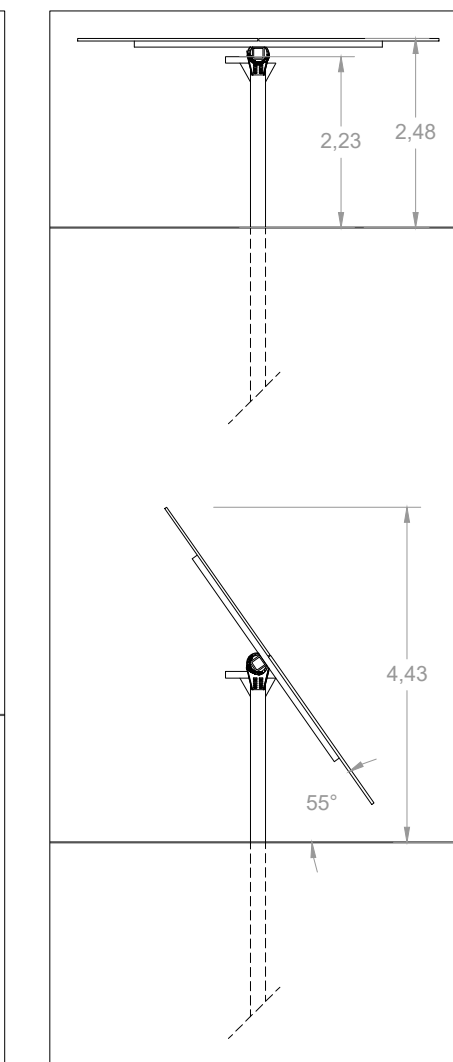
DETTAGLI TRACKER DA 84 CON VISTA LONGITUDINALE E IN POSIZIONE DI RIPOSO - SCALA 1:200



DETTAGLI TRACKER DA 56 CON VISTA LONGITUDINALE IN POSIZIONE DI RIPOSO -SCALA 1:200



DETTAGLI TRACKER DA 28 CON VISTA LONGITUDINALE E IN POSIZIONE DI RIPOSO - SCALA 1:200



TRACKER VISTA TRASVERSALE IN POSIZIONE DI RIPOSO E DI MASSIMA INCLINAZIONE - SCALA 1:100

**Vertex**  
BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-DEG21C.20  
PRODUCT RANGE: 635-670W

**670W** MAXIMUM POWER OUTPUT  
**0~+5W** POSITIVE POWER TOLERANCE  
**21.6%** MAXIMUM EFFICIENCY

**DIMENSIONS OF PV MODULE (mm)**

**I-V CURVES OF PV MODULE (650 W)**

**P-V CURVES OF PV MODULE (650 W)**

ELECTRICAL DATA (STC)		MECHANICAL DATA	
Peak Power (Wp)	635 640 645 650 655 660 665 670	Solar Cells	Monocrystalline
Power Tolerance (Amp)	0 ~ +5	No. of cells	132 cells
Maximum Power Voltage (Vmp)	37.1 37.3 37.5 37.7 37.9 38.1 38.3 38.5	Module Dimensions	2384 x 1302 x 35 mm (93.86 x 51.30 x 1.38 inches)
Maximum Power Current (Imp)	17.15 17.19 17.23 17.27 17.31 17.35 17.39 17.43	Weight	36.1 kg (80.5 lbs)
Open Circuit Voltage (Voc)	44.9 45.1 45.3 45.5 45.7 45.9 46.1 46.3	Front Glass	2.0mm (0.0787 inches) High Transmittance, Antireflective Coated
Short Circuit Current (Isc)	18.21 18.26 18.31 18.36 18.40 18.45 18.50 18.55	Encapsulant material	POE/EVA
Module Efficiency (%)	20.4 20.6 20.8 20.9 21.1 21.2 21.4 21.6	Back Glass	2.0mm (0.0787 inches) Heat Strengthened Glass (White Clear Glass)
STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5, *Measuring tolerance 1%		Frame	35mm (1.38 inches) Anodized Aluminum Alloy
Electrical characteristics with different power bin (reference to 10% irradiance ratio)		J-Box	IP68 (IP69K)
Total Equivalent power -Pmax (Wp)	660 665 670 675 680 685 690 695 700 705 710 715	Glass	Photovoltaic Technology Cells (0.005 inches), Pattern: 280x280 mm (11.02 x 11.02 inches), Length can be customized
Maximum Power Voltage (V)	37.1 37.3 37.5 37.7 37.9 38.1 38.3 38.5	Connector	MCA EV02 / 154*
Maximum Power Current (A)	18.25 18.30 18.34 18.38 18.42 18.46 18.50 18.54	*Please refer to product manual for details.	
Open Circuit Voltage (V)	44.9 45.1 45.3 45.5 45.7 45.9 46.1 46.3	<b>TEMPERATURE RATINGS</b>	
Short Circuit Current (A)	18.48 18.54 18.59 18.63 18.67 18.71 18.75 18.79	NOCT (Nominal Operating Cell Temperature)	43°C (110°F)
Power Tolerance (%)	10%	Temperature Coefficient of Pmax	-0.234%/°C
<b>ELECTRICAL DATA (NOCT)</b>		Maximum System Voltage	1500V (DC/UL)
Maximum Power (Wp)	480 484 488 492 495 499 504 508	Temperature Coefficient of Voc	-0.259%/°C
Maximum Power Voltage (V)	34.6 34.7 34.9 35.1 35.2 35.4 35.6 35.7	Temperature Coefficient of Isc	0.04%/°C
Maximum Power Current (A)	13.90 13.94 13.98 14.01 14.05 14.10 14.16 14.20	Max Series Fuse Rating	35A
Open Circuit Voltage (V)	42.3 42.5 42.7 42.9 43.0 43.2 43.4 43.6	<b>WARRANTY</b>	
Short Circuit Current (A)	14.67 14.71 14.75 14.79 14.83 14.87 14.91 14.95	12 year Product Workmanship Warranty	Modules per box: 33 pieces
NOCT: Irradiance 1000W/m², Ambient Temperature 25°C, Measuring tolerance 1%		30 year Power Warranty	Modules per container: 588 pieces
		2% first year degradation	
		0.45% Annual Power Attenuation	
		Please refer to product manual for details	

**Trina Solar's Vertex Bifacial Dual Glass Performance Warranty**

Guaranteed Power vs Years

98.0% at Year 0, 85.0% at Year 30

DETTAGLI DEI PANNELLI UTILIZZATI PER LA STESURA DEL LAYOUT