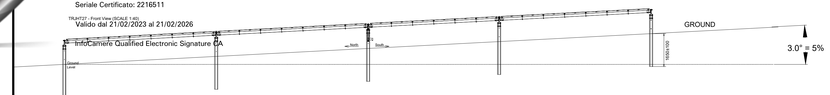
Firmato digitalmente da:
Firmato il 24/09/2024 12:54
Seriale Certificato: 2216511
Valido dal 21/02/2023 al 21/02/2026
InfoCamere Qualified Electronic Signature CA

Presentazione "tipo" tracker - Tolleranze di installazione ammissibili

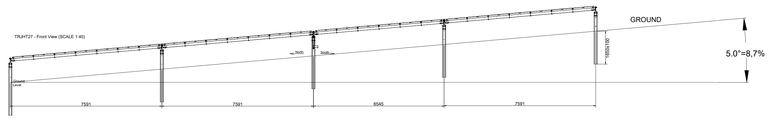
INCLINAZIONE ASSE: 5%, 3° - INCLINAZIONE Terreno: 5%, 3°



Foundation Installation Tolerances:
- Height: ± 20 mm
- North/South: ± 20 mm or Inclination: 2°

East/West: ± 20 mm or Inclination: 2°
- Twist: 5°

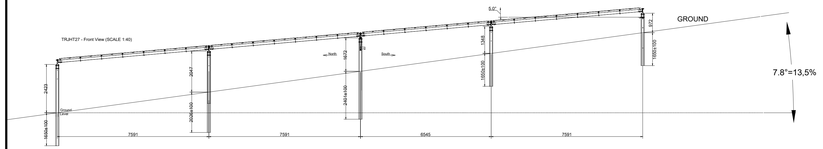
INCLINAZIONE ASSE: 8,7%, 5° - INCLINAZIONE Terreno: 8,7%, 5°



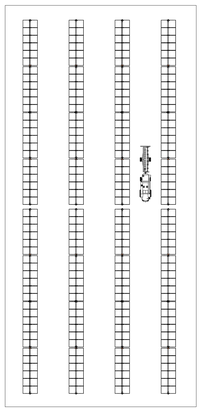
Foundation Installation Tolerances:
- Height: ± 20 mm
- North/South: 0 mm or Inclination: 0°
- East/West: 0 mm or Inclination: 0°
- Twist: 0°

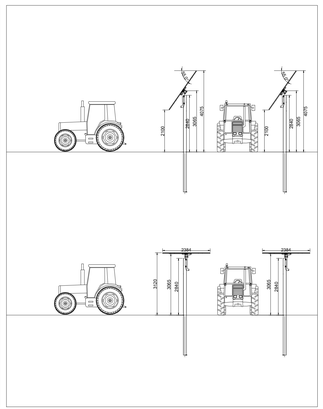
ESEMPIO DI TRACKER CON PALI DI LUNGHEZZA MAGGIORATA*

INCLINAZIONE ASSE: 8,7%, 5° - INCLINAZIONE Terreno: 13,5%, 7,8°



Foundation Installation Tolerances:
- Height: ± 20 mm
- North/South: 0 mm or Inclination: 0°
- East/West: 0 mm or Inclination: 0°
- Twist: 0°

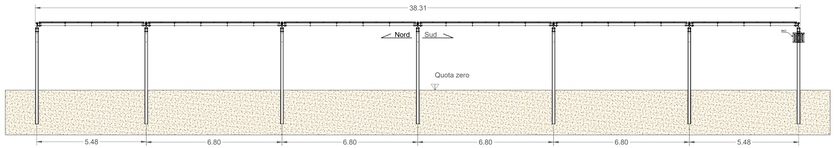




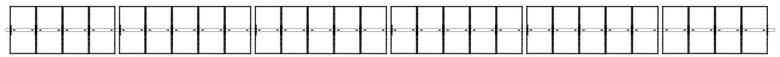
Documentazione fotografica Tracker tipo

Particolari costruttivi tracker

Vista Frontale tracker

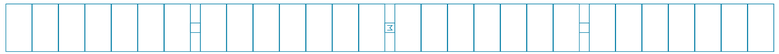


Vista in pianta tracker



Vista in pianta tracker

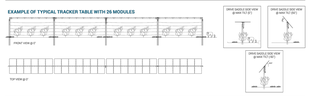
Simbologia utilizzata utilizzata negli elaborati grafici di progetto



Scheda tecnica tracker

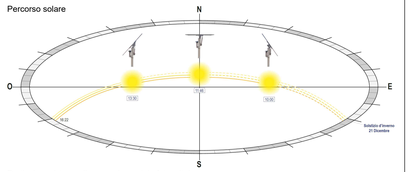
STRUCTURAL/MECHANIC FEATURES	
Tracking Technology	Horizontal, balanced single-axis tracker with independently driven rows and backtracking
Maximum Tracking Error	± 2°
Rotation Angle	± 50°
Module Compatibility	Adaptable to all available PV modules types on market: Monofacial and Bifacial (thin film, framed and frameless)
Ground Cover Ratio	Fully configurable; typical range from 25% to 50%
Maximum Ground Clearance	2.1 m
Land Slope	Up to 7% N-S (extended options available); Unlimited E-W
Configurations	1 module in portrait
ELECTRONIC SPECIFICATIONS	
Motor	Linear actuator with induction AC motor (maintenance free) with encoder
System	Electronic control boards for multiple system architectures (two solutions 10 or 100 actuators in closed loop with encoder)
Power Supply	• AC power supply • Optional backup solution with centralized UPS • Optional: smart power supply directly from the string inverter
Operating Temperature Range	-20°/50° C (-4° F/122° F) extended range available
Solar Tracking Method	Astronomical clock with GPS input, self-configuring; no irradiation or tilt sensor required
Monitoring & Data Stream	Wireless or wired (RS485, Ethernet, Fiber)
Communication	Real-time local or remote communication (data provider) via Modbus
INSTALLATION	
Foundation	Compatible with all foundation types (driven pile, ground screw, concrete)
Installation Method	Requires no specialized personnel or equipment; no in-field welding
Module Installation Method	Rivets, bolts or clamps
Grounding Method	Self-ground structure; no separate materials or labor for the PV module grounding
Warranty	10 years on structural components; 5 years on motors and electronic components (extended warranty available)

EXAMPLE OF TYPICAL TRACKER TABLE WITH 26 MODULES

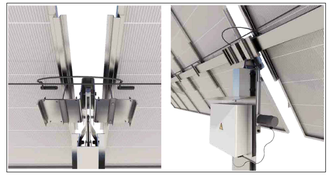


QUALIFICATIONS & CERTIFICATES: UL 2703, UL 2707, ISO 9001, ISO 14001, ISO 45001, ISO 50001

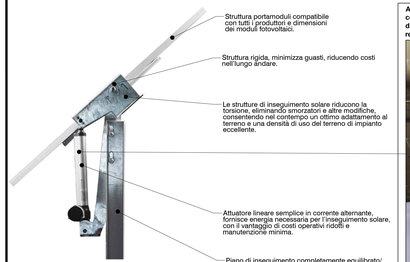
Percorso solare



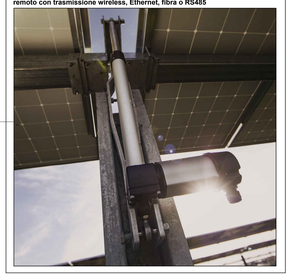
Particolare sistema di serraggio modulo fotovoltaico

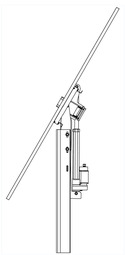


Particolari costruttivi sistema di regolazione automatica dell'orientamento dei pannelli

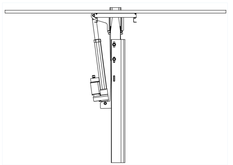


Attuatore lineare con motore AC a induzione con encoder integrato comprensivo di orologio astronomico con GPS autoconfigurante con possibilità di alimentazione da inverter di stringa o alimentazione ausiliaria; gestito in remoto con trasmissione wireless, Ethernet, fibra o RS485

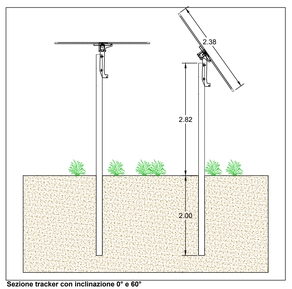




Vista latera con inclinazione 60°

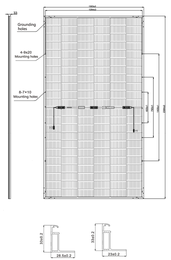


Vista latera con inclinazione 0°



Sezione tracker con inclinazione 0° e 60°
Scala 1:50

Scheda tecnica modulo fotovoltaico



ELECTRICAL DATA (STC)

Model Number	RSM132-8-650BMDG	RSM132-8-655BMDG	RSM132-8-660BMDG	RSM132-8-665BMDG	RSM132-8-670BMDG
Rated Power in Watts-Pmax(Wp)	**650**	**655**	**660**	**665**	**670**
Open Circuit Voltage-Voc(V)	45.49	45.69	45.89	46.09	46.29
Short Circuit Current-Isc(A)	18.18	18.23	18.28	18.33	18.38
Maximum Power Voltage-Vmp(V)	37.87	38.05	38.23	38.41	38.59
Maximum Power Current-Imp(A)	17.17	17.22	17.27	17.32	17.37
Module Efficiency(%) *	20.9	21.1	21.2	21.4	21.6

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
Bifacial factor：70±10(%) ★Module Efficiency (%): Round-off to the nearest number

Electrical characteristics with 10% rear side power gain

Total Equivalent power-Pmax (Wp)	715	721	726	732	737
Open Circuit Voltage-Voc(V)	45.49	45.69	45.89	46.09	46.29
Short Circuit Current-Isc(A)	20.00	20.05	20.11	20.16	20.22
Maximum Power Voltage-Vmp(V)	37.87	38.05	38.23	38.41	38.59
Maximum Power Current-Imp(A)	18.89	18.94	19.00	19.05	19.11

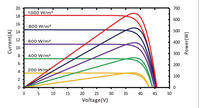
Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA (NMOT)

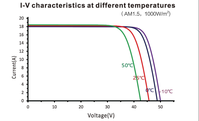
Model Number	RSM132-8-650BMDG	RSM132-8-655BMDG	RSM132-8-660BMDG	RSM132-8-665BMDG	RSM132-8-670BMDG
Maximum Power-Pmax (Wp)	492.4	496.2	500.0	503.8	507.6
Open Circuit Voltage-Voc (V)	42.31	42.49	42.68	42.86	43.05
Short Circuit Current-Isc (A)	14.91	14.95	14.99	15.03	15.07
Maximum Power Voltage-Vmp (V)	35.14	35.31	35.48	35.64	35.81
Maximum Power Current-Imp (A)	14.01	14.05	14.09	14.13	14.17

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

RSM132-8-660MDG
I-V characteristics at different irradiations



I-V characteristics at different temperatures
(AM1.5, 1000W/m²)



MECHANICAL DATA

Solar cells	Monocrystalline
Cell configuration	132 cells (6+11+6+11)
Module dimensions	2384×1303×33mm
Weight	38.3kg
Superstrate	High Transmission ,AR Coated Heat Strengthened Glass
Substrate	Heat Strengthened Glass
Frame	Anodized Aluminium Alloy , Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm², Positive(+)350mm, Negative(-)230mm (Connector Included) or customized length
Connector	Risen Twinsel PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pmax	-0.34%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	35A
Limiting Reverse Current	35A

PACKAGING CONFIGURATION

	40ft(HQ)
Number of modules per container	594
Number of modules per pallet	33
Number of pallets per container	18
Packaging box dimensions (LxWxH) in mm	1320×1125×2520
Box gross weight[kg]	1315

REGIONE PUGLIA
PROVINCIA DI BRINDISI
COMUNE DI SAN PIETRO VERNOTICO

Progetto relativo alla costruzione di un impianto Agrivoltaico denominato FV32-22, ubicato in agro del Comune di San Pietro Vernotico (BR), sui terreni censiti nel N.C.T di San Pietro Vernotico al foglio di mappa n. 46 e al foglio di mappa n. 50 e relative opere di connessione su strada pubblica.
Potenza ai fini della connessione 18,714 MW. Cod. Rint. 202201438

Livello Progettazione	PAS ai sensi del d.gls. n.°28 del 2011 art. 6	Agosto 2024
Indentificatore: **Elaborato_49**		Scala: Scale Varie
Titolo elaborato: Particolari costruttivi strutture		*Formato foglio* A1+ (1290x594 mm)

DATA	MOTIVO REVISIONE	REDATTO	APPROVATO
06.08.2024	**Prima emissione**	**ING. FRANCESCO CIRACI**	**N/A**

PROGETTISTA:
ING. FRANCESCO CIRACI
Ordine degli Ingegneri della prov. di Brindisi n. 1040

COMMITTENTE:
SAN PIETRO VERNOTICO SOLAR PARK Srl
Sede Legale: Via Antonio Francavilla n°6
San Vito dei Normanni (BR) - 72019
C.F./P.IVA 0279380747

SAN PIETRO VERNOTICO SOLAR PARK SRL
Amministratore Unico
P.Iva 0279380747

Questo documento contiene informazioni di proprietà della San Pietro Vernotico Solar Park s.r.l. e deve essere utilizzato esclusivamente dal destinatario in relazione alle finalità per le quali è stato rilasciato. E' vietata qualsiasi forma di riproduzione o di divulgazione