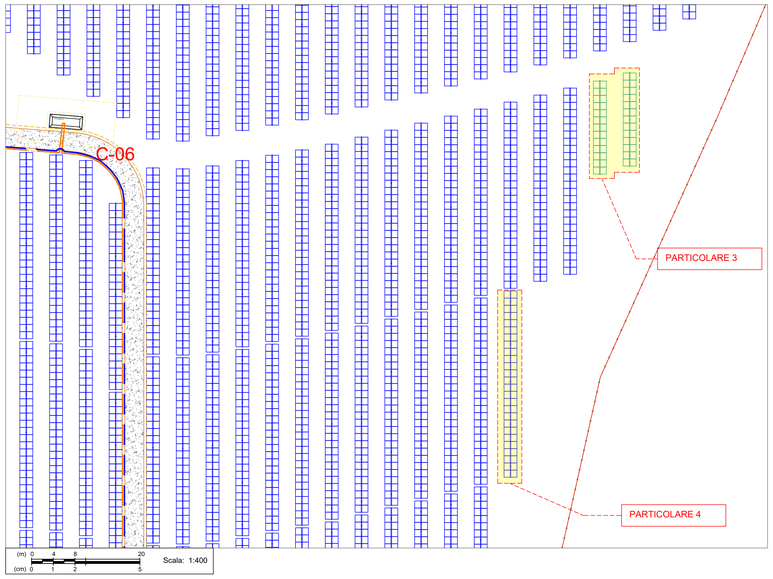
PARTICOLARE 1



STRUTTURE UTILIZZATE

RAGGRUPPAMENTO DEI PANNELLI FV IN STRUTTURE (Tracker) IN FORMAZIONE 1X26P –1X13P –1x7P –1x6P

UNA STRUTTURA PER STRINGA

Modulo Tracker 1 x 26 P

DUE STRUTTURE PER STRINGA

Modulo Tracker 1 x 13 P

CABINA DI RACCOLTA GENERALE C–00

C-00

CABINE DI RACCOLTA DI CAMPO (Power Station)

C-xx

DELIMITAZIONI

- Confine Catastale dei terreni interessati (Confine Impianto FV)
- Recinzione perimetrale
- Stradelli viabilità interna
- Fascia di mitigazione perimetrale

CODIFICA ELEMENTI DELL'IMPIANTO FOTOVOLTAICO (NOMENCLATURA CABLAGGIO STRINGHE)

Cxx-Iyy-Szz

> Cxx : CABINA: xx (xx = 1...20)
> Iyy : INVERTER: yy (yy = 1...17)
> Sww : STRINGA: ww (yy = 1...11 / 12 / 14)

ESEMPIO PER CABINA C-01

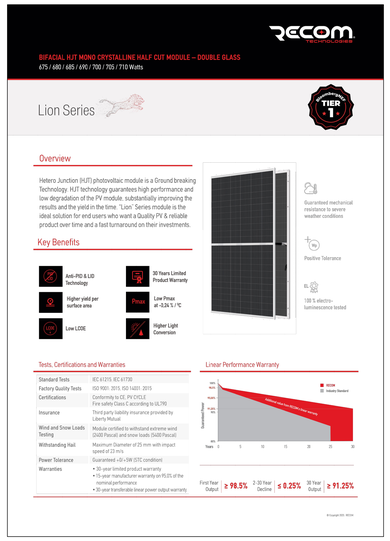
Inverter 02, Stringhe 09 e 10 su Struttura 1x26/

C01-I02-S09 | C01-I02-S10

Inverter 02, Stringa 11 su Struttura 1x13

C01-I02-S11

DATASHEET PANNELLO FV



RECOM TECHNOLOGIES

BIFACIAL HJT MONO CRYSTALLINE HALF CUT MODULE – DOUBLE GLASS
475 / 680 / 685 / 690 / 700 / 705 / 710 Watts

Lion Series

TOP PERFORMER TIER 1

Overview

Hetero Junction (HJT) photovoltaic module is a Ground breaking Technology. HJT technology guarantees high performance and low degradation of the PV module, substantially improving the results and the yield in the time. "Lion" Series module is the ideal solution for end users who want a Quality PV & reliable product over time and a fast turnaround on their investments.

Guaranteed mechanical resistance to severe weather conditions

Positive Tolerance

100 % electro-luminescence tested

Key Benefits

- Anti-PID & LID Technology
- 30 Years Limited Product Warranty
- Higher yield per surface area
- Pmax Low Pmax at -0.26 % / °C
- LCOE Low LCOE
- Higher Light Conversion

Tests, Certifications and Warranties

Standard Tests	IEC 61215, IEC 61730
Factory Quality Tests	ISO 9001: 2015, ISO 14001: 2015
Certifications	Conformity to CE, PV CYCLE Fire safety Class C according to UL790
Insurance	Third party liability insurance provided by Liberty Mutual
Wind and Snow Loads Testing	Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
Withstanding Hail	Maximum Diameter of 25 mm with impact speed of 23 m/s
Power Tolerance	Guaranteed +0/+5W (STC condition)
Warranties	• 30 year limited product warranty • 15-year manufacturer warranty on 95.0% of the nominal performance • 30-year transferable linear power output warranty

Linear Performance Warranty

RECOM Industry Standard

Guaranteed Power Output

Recom safety Margin, Linear warranty

Years 0 5 10 15 20 25 30

First Year Output	≥ 98.5%	2-30 Year Decline	≤ 0.25%	30 Year Output	≥ 91.25%

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Electrical Characteristics

POWER CLASS ⁽¹⁾			475		680		685		690		695		700		705		710	
Testing Condition			STC ⁽²⁾	NMOT ⁽³⁾	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power	Pmax	(Wp)	475	344	680	507	685	511	690	518	695	521	700	508	705	512	710	517
Maximum Power Voltage	Vmp	(V)	42.25	41.12	42.44	40.24	42.63	40.41	42.82	40.62	43.02	40.81	43.22	41.07	43.40	41.25	43.53	41.33
Maximum Power Current	Imp	(A)	14.03	13.12	16.05	14.10	16.09	14.19	16.14	14.26	16.18	14.28	16.23	14.33	16.27	14.37	16.34	14.44
Open Circuit Voltage	Voc	(V)	48.84	46.10	48.91	46.17	48.97	46.27	49.04	46.44	49.10	46.50	49.17	46.57	49.26	46.64	49.30	46.70
Short Circuit Current	Isc	(A)	14.91	14.19	16.96	16.09	17.06	16.04	17.14	16.14	17.22	16.22	17.31	16.31	17.39	16.39	17.47	16.47
Module Efficiency	Eff	(%)	21.73		21.69		22.05		22.21		22.37		22.53		22.70		22.85	
Maximum Series Fuse	In	(A)	35															
Maximum System Voltage	Vsys	(V)	1500 (IEC)															

(1) Measurement Tolerance: Pmax ± 3%; Voc & Isc ± 3% – Power Classification 0/+5W
(2) STC (Standard Testing Condition): Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5
(3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Bi Facial Output (k):

POWER CLASS			475		680		685		690		695		700		705		710	
			Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)	Pmax (Wp)	(Eff%)
Power with Backside Gain	+5	(%)	498.8	22.82	714.0	23.03	719.3	23.20	724.5	23.37	729.8	23.55	735.0	23.71	740.3	23.85	745.5	24.00
	+10	(%)	522.5	23.91	748.0	24.11	753.5	24.29	759.0	24.47	764.5	24.65	770.0	24.81	775.5	24.95	781.0	25.15
	+15	(%)	546.3	25.00	782.0	25.21	787.8	25.40	793.5	25.58	799.3	25.76	805.0	25.91	810.8	26.10	816.5	26.30
	+20	(%)	570.0	26.10	816.0	26.31	822.0	26.50	828.0	26.70	834.0	26.89	840.0	27.05	846.0	27.25	852.0	27.45
	+25	(%)	593.8	27.20	850.0	27.41	856.3	27.61	862.5	27.81	868.8	28.01	875.0	28.21	881.3	28.41	887.5	28.61
	+30	(%)	617.5	28.29	884.0	28.51	890.5	28.71	897.0	28.91	903.5	29.12	910.0	29.32	916.5	29.52	923.0	29.73

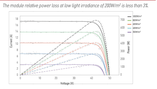
(4) Bifaciality Factor = 70% - Back side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

Dimensions	2384 mm x 1303 mm x 35 mm
Weight	38.5 kg
Cell Type	HJT – 210mm x 105mm (2 x 66 Pcs) – G12
Front Glass	2.0 mm Tempered and low iron glass + ARC
Rear Side	2.0 mm Tempered and low iron glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass diodes
Connector	Genuine MC4 Evo2, or MC4-compatible
Output cable	4mm² – Length = 300mm or customized

I-V Curve

The module relative power loss at low light irradiance of 200W/m² is less than 3%.



Dimensions

RECOM reserves a liability in regards to the typographical, typesetting, illustrations, any other error, omission, contained herein.

Temperature Characteristics

Pmax Temperature Coefficient	-0.26% / °C
Voc Temperature Coefficient	-0.22% / °C
Isc Temperature Coefficient	+0.04% / °C
Operating Temperature	-40 – +85 °C
Nominal Operating Module Temperature (NMOT)	42 ± 2 °C

Packing Configuration

Container	40 HC
Pieces per Pallet	31
Pallets per Container	18
Pieces per Container	(31 × 31) x9 = 558 pcs

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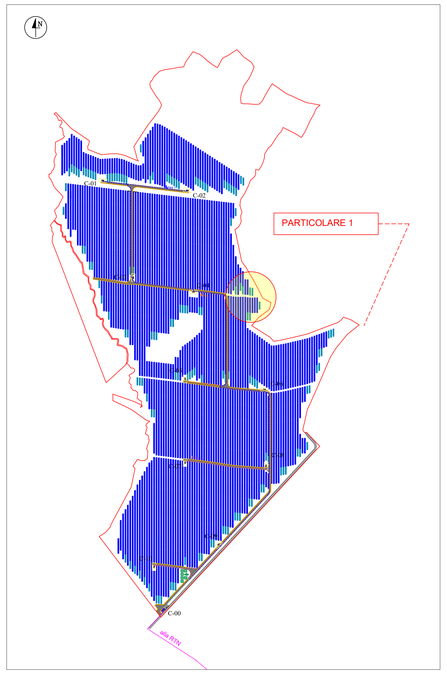
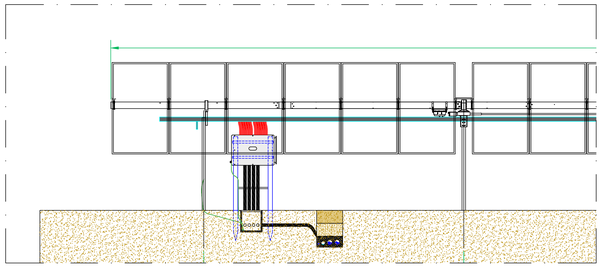
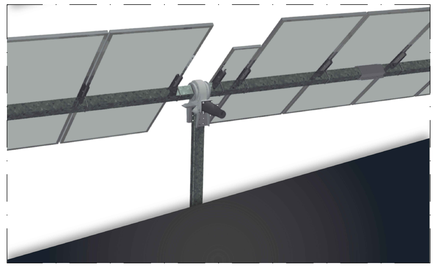
LAYOUT IMPIANTO FV



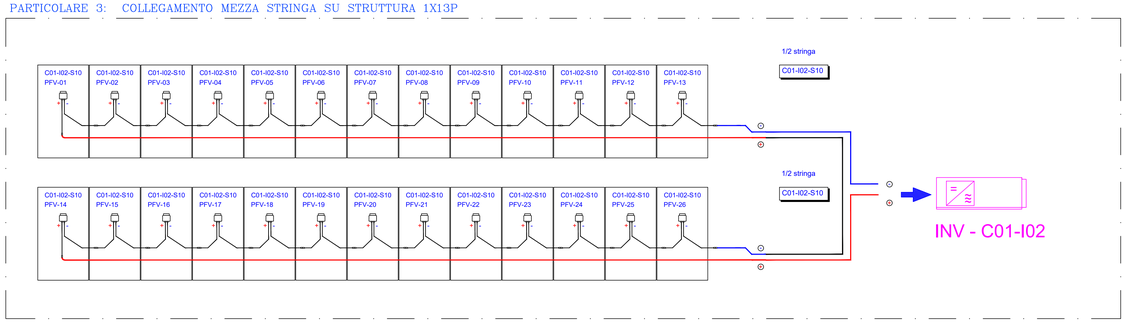
PARTICOLARE: PANNELLI SU TRACKER E INVERTER SOTTOSTANTE



DETTAGLIO MOTORIZZAZIONE SU STRUTTURA TRACKER

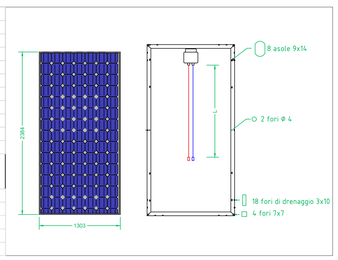


PARTICOLARE 3: COLLEGAMENTO MEZZA STRINGA SU STRUTTURA 1X13P

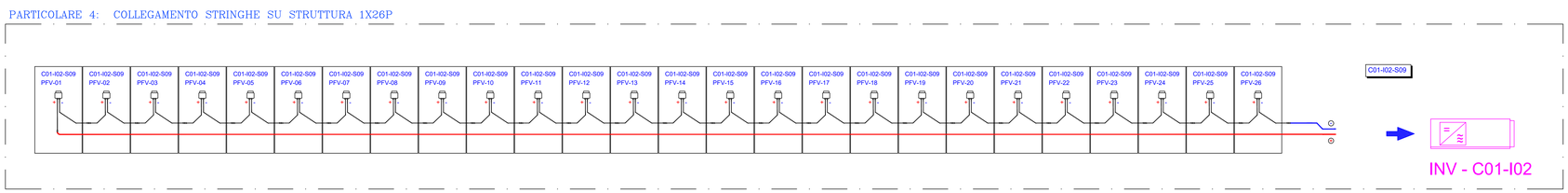


PANNELLO FOTOVOLTAICO UTILIZZATO

Marca:	**RECOM**		
Modello:	RCM-710-8DBHM		
Tipologia Costruttiva:	HJT Bifacial - 132 cells		
DATI TECNICI:			
Potenza Pannello FV;	Pp =	710	[Wp]
Tensione	Voc =	49.30	[V]
Corrente	Isc =	17.47	[A]
Tensione nominale :	Vmppt	43.53	[V]
Corrente nominale:	Imppt =	16.34	[A]
Efficienza:		22.85	[%]
Dimensioni:	2384 x 1303 x 35 mm		
Numero di pannelli FV per stringa:		26	
Potenza Stringa:		18'460	W
Tensione di stringa:		1'131.78	V
Corrente di Stringa:		16.34	A
Tensione a vuoto (Voc):		1'281.80	V



PARTICOLARE 4: COLLEGAMENTO STRINGHE SU STRUTTURA 1X26P



REGIONE AUTONOMA DELLA SARDEGNA
COMUNE DI GUSPINI
Provincia del Sud Sardegna (SU)

PROGETTO DEFINITIVO PER LA REALIZZAZIONE DI UN IMPIANTO AGROVOLTAICO AVANZATO DENOMINATO GUSPINI 5

Loc. "Putzu Nieddu", Guspini (SU) - 09036, Sardegna, Italia

Potenza Nominale:Impianto FV 29'997,50 kWp

Committente - Sviluppo progetto FV:

ApolloSolar 3 S.r.l.
Viale della Stazione n. 7 - 39100 Bolzano (BZ)
P.IVA 03187660216, PEC: apollosolar3srl@pecimprese.it

Coordinamento Progettisti

Innova Service S.r.l.
Via Santa Margherita n. 4 - 09124 Cagliari (CA)
P.IVA 03379940921, PEC: innovaserviceca@pec.it

Coordinamento gruppo di lavoro VIA

La SIA S.p.a.
Viale Luigi Schiavonetti n. 286 – Roma (RM)
P.IVA 08207411003, PEC: direzione.lasia@pec.it

Gruppo di lavoro - VIA (La SIA S.p.A.)
Riccardo Sacconi - Ingegnere Civile
Antonio Dedoni - Ingegnere Idraulico
Giulio Alberto Arca - Archeologo
Simone Manconi - Geologo
Francesco Paolo Pinchera - Biologo

Progettazione Agronomica (La SIA S.p.A.)
Agr. Stefano Atzeni - Agronomo
Agr. Franco Milillo - Agronomo
Agr. Rita Bosi - Agronomo

Progettazione Elettrica
Ing. Silvio Matta – Ing. Elettrico

Sacconi Riccardo
06.06.2024 14:31:08 GMT+01:00

Elaborato

PARTICOLARI COSTRUTTIVI PANNELLI FOTOVOLTAICI

Codice elaborato	Scala	Formato
TAV_PART_01-FVT	1:500 varie	A0

REV.	DATA	ESEGUITO	VERIFICATO	APPROVATO
R00	Maggio 2024	Ing. Silvio Matta – Ing. Elettrico	Innova Service S.r.l.	Apollo Solar 3 S.r.l.

Note