

# PROVINCIA DI MATERA COMUNE DI SAN MAURO FORTE

LOCALITA':

## F.LLI LOIUDICE

PROGETTO:

**INTERVENTO PER L'ATTUAZIONE DELLA TRANSIZIONE ENERGETICA, MEDIANTE LA REALIZZAZIONE DI UN PARCO AGRIVOLTAICO DIFFUSO A TERRA, DI POTENZA PARI A CIRCA 160,00 MWP, CON SISTEMA DI STORAGE E GRUPPO POWER-TO-GAS, PER LA PRODUZIONE DI IDROGENO VERDE"**

TITOLO DOCUMENTO:

### Schemi funzionali dei singoli pannelli

REFERENTE PER LO SVILUPPO DEL PROGETTO



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SOGGETTO RICHIEDENTE



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GRUPPO DI PROGETTAZIONE



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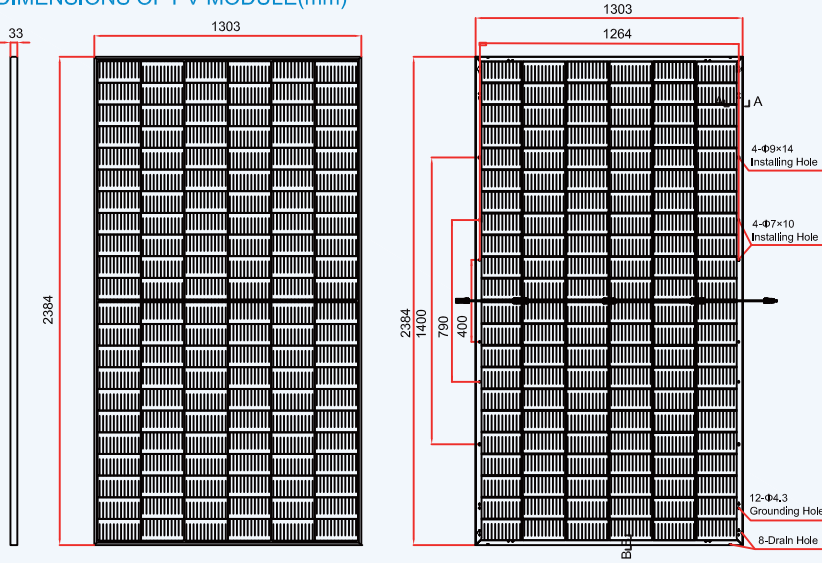
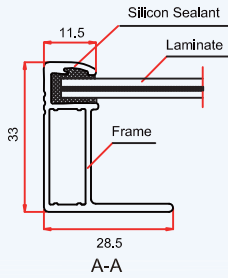
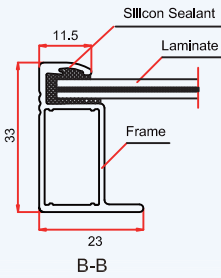
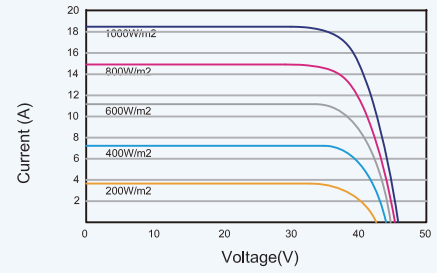
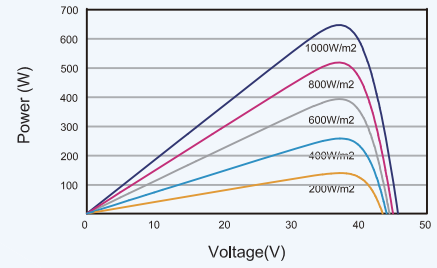
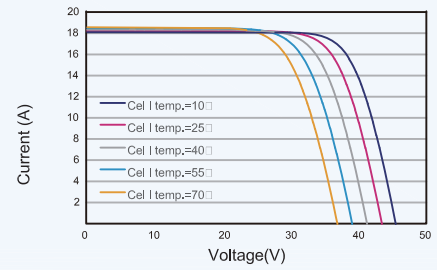
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Codice lavoro	Livello projet.	Cat. Op.	Tipologia	Numero	Rev.	Pag.	di	Nome file	Scala	Progressivo
C261	PD	I.FV_IF	R	01	/00	1	1	A12b.3a_Schemi_funzionali_pannelli_1		
Rev.	Data	Descrizione						Redazione	Controllo	Approvazione
00	Aprile 2024	Emissione						ing. Domenico Castaldo EGM Project	ing. Domenico Castaldo EGM Project	ing. Domenico Castaldo EGM Project

**DIMENSIONS OF PV MODULE(mm)**

**Front View**
**Back View**

**A-A**

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

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

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

**ELECTRICAL DATA (STC)**

Peak Power Watts-PMAX (Wp)*	645	650	655	660	665
Power Tolerance-PMAX (W)	0 ~ +5				
Maximum Power Voltage-VMPP (V)	37.5	37.7	37.9	38.1	38.3
Maximum Power Current-IMPP (A)	17.23	17.27	17.31	17.35	17.39
Open Circuit Voltage-VOC (V)	45.3	45.5	45.7	45.9	46.1
Short Circuit Current-ISC (A)	18.31	18.35	18.40	18.45	18.50
Module Efficiency η m (%)	20.8	20.9	21.1	21.2	21.4

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5, \*Measuring tolerance: ±3%.

**Electrical characteristics with different power bin (reference to 10% Irradiance ratio)**

Total Equivalent power -PMAX (Wp)	690	696	701	706	712
Maximum Power Voltage-VMPP (V)	37.5	37.7	37.9	38.1	38.3
Maximum Power Current-IMPP (A)	18.44	18.48	18.52	18.56	18.60
Open Circuit Voltage-VOC (V)	45.3	45.5	45.7	45.9	46.1
Short Circuit Current-ISC (A)	19.59	19.63	19.69	19.74	19.79
Irradiance ratio (rear/front)	10%				

Power Bifaciality: 70±5%.

**ELECTRICAL DATA (NOCT)**

Maximum Power-PMAX (Wp)	488	492	495	499	504
Maximum Power Voltage-VMPP (V)	34.9	35.1	35.2	35.4	35.6
Maximum Power Current-IMPP (A)	13.98	14.01	14.05	14.10	14.16
Open Circuit Voltage-VOC (V)	42.7	42.9	43.0	43.2	43.4
Short Circuit Current-ISC (A)	14.75	14.79	14.83	14.87	14.91

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

**MECHANICAL DATA**

Solar Cells	Monocrystalline
No. of cells	132 cells
Module Dimensions	2384×1303×33 mm (93.86×51.30×1.30 inches)
Weight	38.3 kg (84.4 lb)
Front Glass	2.0 mm (0.08 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	33mm(1.30 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4*

\*Please refer to regional datasheet for specified connector.

**TEMPERATURE RATINGS**

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	-0.34%/°C
Temperature Coefficient of VOC	-0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

**MAXIMUM RATINGS**

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

**WARRANTY**

12 year Product Workmanship Warranty  
30 year Power Warranty  
2% first year degradation  
0.45% Annual Power Attenuation

(Please refer to product warranty for details)

**PACKAGING CONFIGURATION**

Modules per box: 33 pieces  
Modules per 40' container : 594 pieces