



**Sun-In-One™**  
New Electrical Solar Light and Power Products



## INTERNATIONAL SPECIFICATIONS

# Micro Grid Systems – 100KW

Highly Efficient Plug-N-Play Containerized Off-Grid Energy Solutions

### SOLAR PANELS

NUMBER OF PANELS		360	228
PEAK POWER	Pmax	280W	460W
RATED VOLTAGE	Vmp	35.30V	48.86V
RATED CURRENT	Imp	7.93A	9.40A
MAXIMUM SYSTEM VOLTAGE	IEC, UL	1000V	600V
DIMENSIONS	Various Configurations		
WEIGHT	Dependent on Configuration		
WARRANTY	12 Yrs & 25 Yrs Limited on Minimum Power Output		
CERTIFICATIONS	TUV, SUD, CQC, UL, CE, ROHS, MCS, ISO9001		
PV CLIPS FOR WIRE MGMT	4 per Panel		



### GROUND MOUNT RACKING

5-Panel high racking in landscape with 18 columns or ballast boxes per row (19 posts). Four (4) total rows.

A different layout, orientation, tilt, panel clearance, or snow load will require further engineering and additional costs.

#### PILE DRIVEN

3.35m GALVANIZED STEEL POSTS	76
4.35m GALVANIZED STEEL PURLINS	76
CLIPS FOR PANEL MOUNTING	4 per Panel
TILT	20 Degrees
SNOW LOAD	0 psi
FRONT PANEL CLEARANCE	76.2 cm

#### BALLASTED GROUND MOUNT

BALLAST BOX	76
DIMENSIONS (LxWxH)	198 cm x 61 cm x 30.5 cm
1.28m FRONT POST	76
1.9m REAR POST	76
4.35m GALVANIZED STEEL PURLINS	76
CLIPS FOR PANEL MOUNTING	4 per Panel
TILT	20 Degrees
SNOW LOAD	0 psi
FRONT PANEL CLEARANCE	76.2 cm

### BATTERY

Battery storage is based on daily consumption and load profile of 270 KWh with one day of autonomy. Batteries recharge through PV and Generator. If a larger configuration of batteries is desired, additional costs may apply.

#### OPERATION & PERFORMANCE

STORAGE CAPACITY	293.5 KWh
NOMINAL ENERGY (10-HR CHARGE / 20-HR DISCHARGE)	25.9 KWh
CYCLE LIFE	3,000 Cycles (to 70% Retained Capacity)
AMBIENT OPERATING TEMP	-5 °C to 40 °
PEAK POWER	11.7 KW
CONTINUOUS CURRENT	240 A
DIMENSIONS	Various Configurations
WEIGHT	1504 Kg per Section
LIMITED WARRANTY	8 Years; 5 Yrs full + 3 Yrs Prorated



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### INVERTER

INVERTER RATING	100 KW
POWER TERMINALS	(2) DC and (2) AC
POWER STAGE TECHNOLOGY	High-frequency PWM
POWER STAGE CONFIGURATION	(4) Fully Independent Power Stages
SIZE (LxWxH)	230 cm x 104 cm x 179 cm
DIMENSIONS (LxWxH)	1957 mm x 990 mm x 50 mm
WEIGHT	1,632 Kg
ENCLOSURE	NEMA 3 (Outdoor)
WARRANTY	5 Years

### DC PORT For Battery

INPUT TYPE	Battery
DC VOLTAGE	280-600 VDC
MAX CURRENT	320 A
MAX CONTINUOUS POWER	100 KW
BATTERY CHARGE CONTROLLER	Configurable 3-stage profile for batteries
BATTERY MANAGEMENT SYSTEM	External Control for BMS Interface

### DC PORT for PV

INPUT TYPE	PV
PV MPPT	280-580 VDC
ISOLATION FROM AC	Yes, Grid Port Only

### AC PORT – Generator

AC LINE VOLTAGE	400-440 AC, 3-Phase, 3-Wire Optimal
AC LINE FREQUENCY	50 Hz Nominal
CONTINUOUS AC CURRENT	133 A
CONTINUOUS AC POWER	100 KVA
ISOLATION FROM AC	Yes (Internal)

### LOAD AC PORT

AC Line Voltage	400-440 AC, 3-Phase, 3-Wire Optimal
AC LINE FREQUENCY	50 Hz Nominal
CONTINUOUS AC CURRENT	133 A
CONTINUOUS AC POWER	100 KVA
OFF-GRID CONTROL FEATURER	Grid-forming Voltage Source
ISOLATION FROM AC (GRID)	Yes, Galvonic Isolation, Double-conversion

### DISCONNECT COMBINER BOX

DISCONNECT AMPACITY	400 Amps
PREWIRED INPUT CIRCUIT CABLE WHIPS	24
# OUTPUT CONDUCTORS	1 or 2
OUTPUT CONDUCTOR SIZE RANGE	#2 AWG to 600 MCM
WEIGHT	29.5 Kg
NEMA RATING	NEMA 4
ETL LISTED TO UL-1741	600 VDC & 1000 VDC

### GENSET

#### DIESEL GENERATOR

RATING	90 KW / 115 KVA / 50 Hz
DIESEL ENGINE	Unregulated (Perkins)
VOLTAGE LEADS	220 / 240 / 400
MAIN CURCUIT BREAKER	400 A
ELECTRONIC START	12 VDC Start, Battery & Charger
LOAD SHARING CONTROLLER	Included
FUEL TANKS SIZE	1700 Liters
START-UP & COMMISSIONING	Optional
WARRANTY	Optional

### MICRO GRID CONTAINER CONTENTS

Micro Grid Container is a customized “plug-n-play” system that comes pre-wired with the inverter, batteries, and AC load panel. Wires run from the PV field and GENSET directly to the container, then from AC to the loads.

INVERTER	100 KW
BATTERIES	293 KWh
BATTERY RACKING	Customized
TRANSFORMER	60 / 50 HZ, 3 Phase
AC BREAKER PANEL	400 A, 3 Phase
MICRO GRID MONITORING SYSTEM	Yes, Connection for Data Not Included
CONTAINER SIZE(S)	40 FT HC

FREIGHT NOT INCLUDED.

System sizing, stringing & layout are climate dependent. Products & specifications are subject to change without notice. Products are warranted only to meet Sun-In-One data sheet specifications.



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