PLAN DE OFERTA
PROYECTO: LICITACION PUBLICA N° LP-04-AMSD-USU-2017
PROYECTO: "MEJORAMIENTO DEL SISTEMA DE ALUMBRADO PUBLICO, POR MEDIO DE LA SUSTITUCIÓN DE LAS LUMINARIAS EXITENTES POR LUMINARIAS DE TECNOLOGIA LED Y MODERNIZACIÓN DEALCALDIA MUNICIPAL POR MEDIO DE SISTEMA ENERGETICO CON PANELES SOLARES DEL MUNICIPIO DE SAN DIONISIO, DEPARTAMENTO DE USULUTAN".

ITEM	DESCRIPCION	CANTIDAD	UNIDAD	COSTO	SUBTOTAL
1	MATERIALES				
1.1	Suministro de luminarias con tecnologia LED teniendo un consumode 60WATTS72LEDS	375	C/U	$ 659.00	$ 247,125.00
1.2	Suministro de luminarias con tecnoligia LED teniendo un consumo de 120WATTS 180 LEDS	20	C/U	$ 935.00	$ 18,700.00
1.3	Suministro de Luminarias con tecnologia LED teniendo un consumode 300WATTS336LEDS	58	C/U	$1,395.00	$ 80,910.00
1.4	Suministro de luminarias con tecnoligia LED teniendo un consumo de 45 WATTS 792 LEDS	25	C/U	$ 735.00	$ 18,375.00
1.5	Kit de instalacion suministro de brazo (tubo metalico chapa 14 de 1 1/4" con inclinacion de 15° con sus respectivos accesorios	478	C/U	$ 46.00	$ 21,988.00
1.6	Suministro de paneles solares de 250 WATTS	60	C/U	$ 495.00	$ 29,700.00
1.7	Kit de instalacion de Paneles Solares	60	C/U	$ 20.00	$ 1,200.00
1.8	Inversores para instalacion de Paneles Solares	1	S/G	$7,262.20	$ 7,262.20
1.9	Estructura de Soporte para Paneles Solares	60	C/U	$ 60.00	$ 3,600.00
1.10	Cableado Microfibrilar para Paneles Solares	60	C/U	$ 5.00	$ 300.00
1.11	Tubo T8 LED 18 WATTS	100	C/U	$ 26.90	$ 2,690.00
1.12	Foco LED 15 WATTS	45	C/U	$ 15.00	$ 675.00
1.13	Loseta de cielo faiso	100	C/U	$ 7.00	$ 700.00
1.14	Kit de instalacion de tubo T8 de 18WATTS	100	C/U	$ 9.00	$ 900.00
	SUB TOTAL				
2.0	MANO DE OBRA				
2.1	DESINSTALACION DE LUMINARIAS EXISTENTES	323	C/U	$ 55.80	$ 18,023.40
22	INSTALACION DE LUMINARIAS DE TECNOLOGIA LED	478	C/U	$ 61.30	$ 29,301.40
2.3	Instalacion de Paneles solares de tecnologia fotovoltaica de 250 WATTS	60	C/U	$ 100.00	$ 6,000.00
2.4	Mano de Obra de instalacion de tubo T8 de 18 WATTS y Focos LED de 15 WATTS remocion de tubo existente y sustitucion de Loseta de Cielo Falso	100	C/U	$ 1.05	$ 105.00
2.5	ROTULO DE IDENTIFICACION DE PROYECTO	1	C/U	$ 395.00	$ 395.00
	TOTAL				$ 417,950.00

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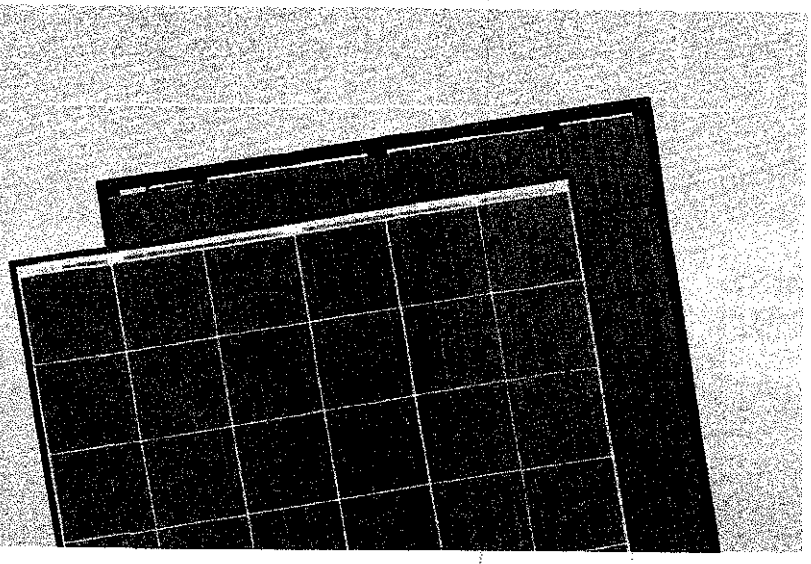
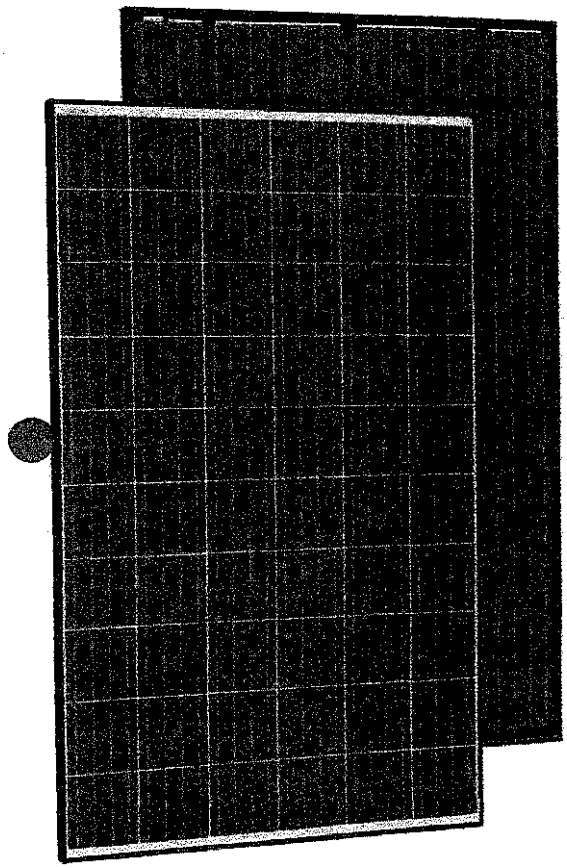
Jinko Solar
Building Your Trust in Solar

EAGLE 60
255-275 Watt
POLYCRYSTALLINE MODULE

*1500V Available

Positive power tolerance of 0/+3%





- ISO9001:2008 Quality Standards
- ISO14001:2004 Environmental Standards
- OHSAS 18001 Occupational Health & Safety Standards

Nomenclature:

JKM270PP - 60 -

Code	Frame/Backsheet	Code	Certification
null	Black/White	null	1000V
B	Black/Black	V	1500V

KEY FEATURES

High Voltage
1000V standard; 1500V option lowers BOS costs and yields better LCOE

Innovative Solar Cells
Four busbar cell technology improves module efficiency

PID-Free
World's 1st PID-Free module at 85 C/85%RH

Low-Light Performance
New glass technology improves light absorption and retention

Strength and Durability
Certified for high snow (5400Pa) and wind (2400Pa) loads

Weather Resistance
Certified for salt mist and ammonia resistance

LINEAR PERFORMANCE WARRANTY

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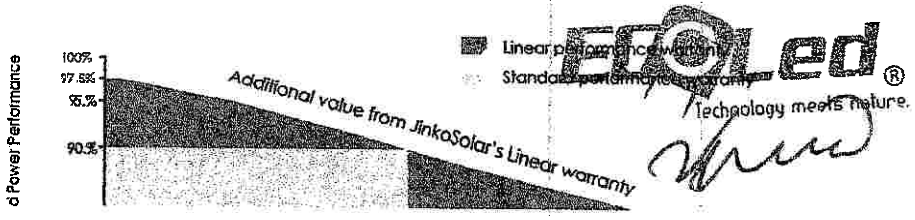
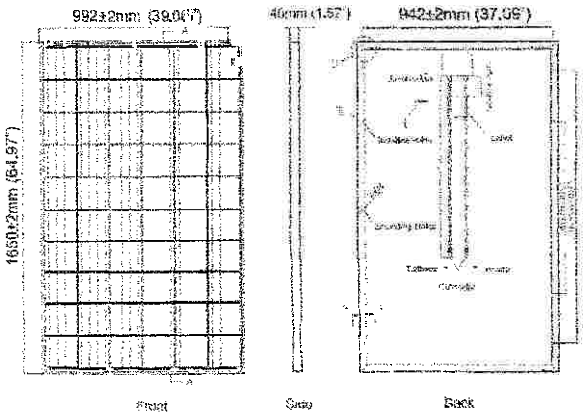
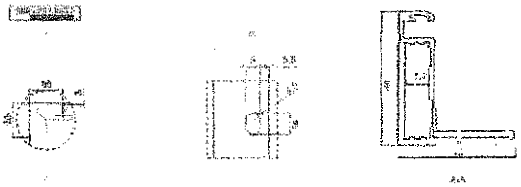
10 Year Product Warranty • 25 Year Linear Power Warranty



Engineering Drawings



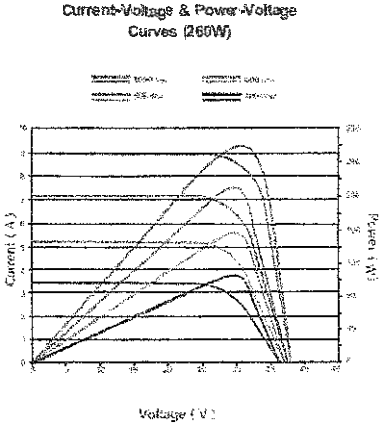


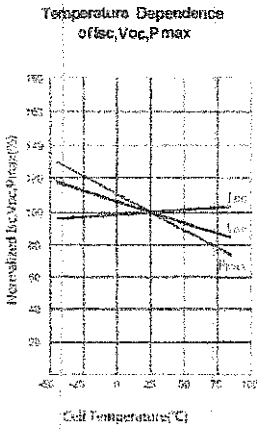
Packaging Configuration

(Two boxes=One pallet)

25pcs/ box, 50pcs/pallet, 700pcs/40'HQ Container

Electrical Performance & Temperature Dependence





Mechanical Characteristics

Cell Type	Polycrystalline 156×156 mm (6 inch)
No.of cells	60 (6× 10)
Dimensions	1650×992×40mm (64.97×39.06×1.57 inch)
Weight	19.0 kg (41.9 lbs)
Front Glass	3.2mm, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy (Silver/Black)
Junction Box	IP67 Rated
Output Cables	12 AWG, Length:900mm (35.43 inch)
Fire Type	Type1

SPECIFICATIONS

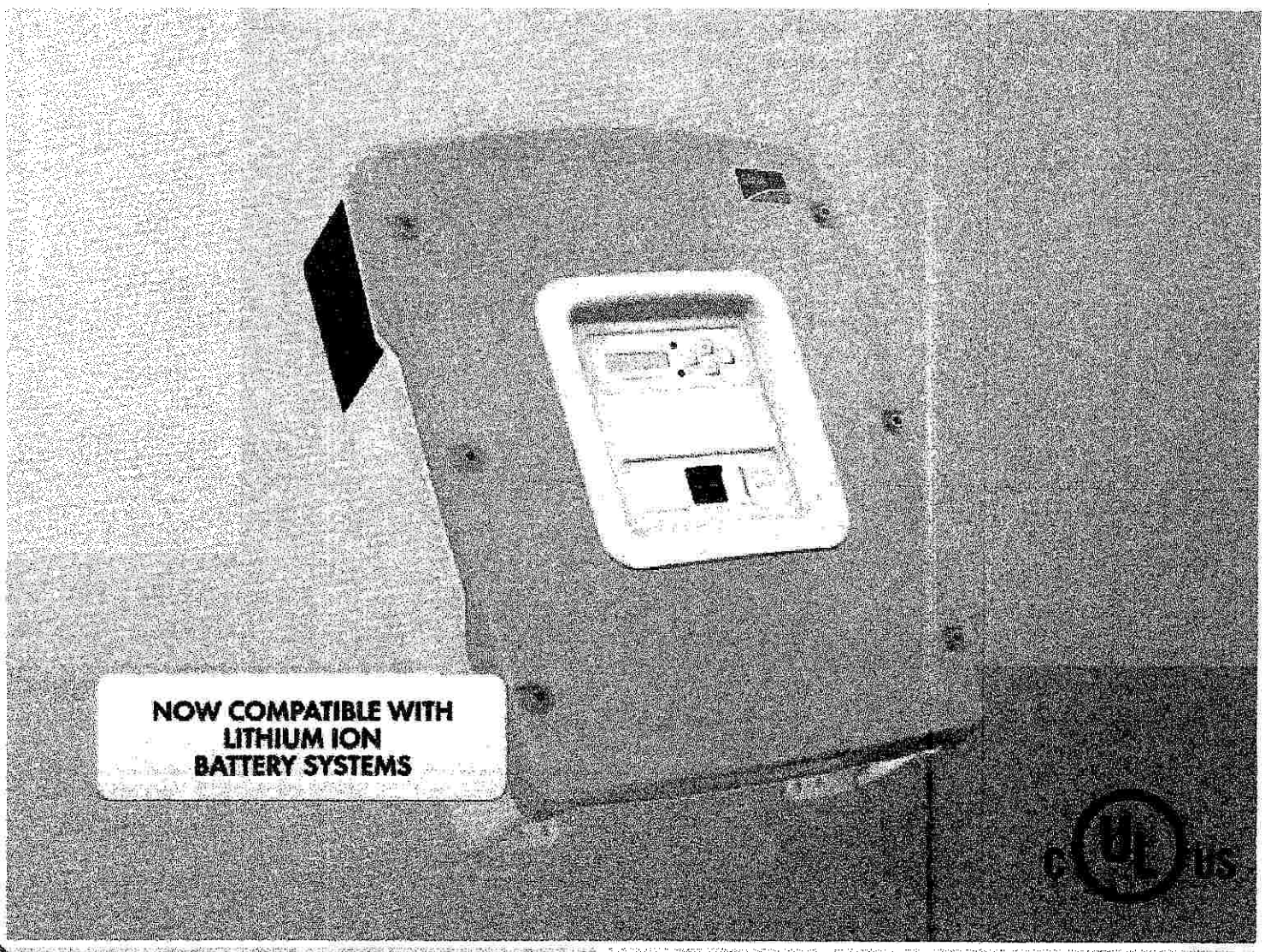
Module Type	JKM255PP-V		JKM260PP-V		JKM265PP-V		JKM270PP-V		JKM275PP-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	255Wp	190Wp	260Wp	194Wp	265Wp	198Wp	270Wp	202Wp	275Wp	205Wp
Maximum Power Voltage (Vmp)	30.8V	28.1V	31.1V	28.3V	31.4V	28.7V	31.7V	29.0V	32.0V	29.3V
Maximum Power Current (Imp)	8.28A	6.75A	8.37A	6.84A	8.44A	6.91A	8.52A	6.97A	8.61A	7.00A
Open-circuit Voltage (Voc)	38.0V	35.0V	38.1V	35.1V	38.6V	35.3V	38.8V	35.6V	39.1V	35.9V
Short-circuit Current (Isc)	8.92A	7.22A	8.98A	7.26A	9.03A	7.31A	9.09A	7.35A	9.15A	7.37A
Module Efficiency STC (%)	15.58%		15.89%		16.19%		16.50%		16.80%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1500VDC (UL)									
Maximum series fuse rating	15A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.40%/℃									
Temperature coefficients of Voc	-0.30%/℃									
Temperature coefficients of Isc	0.06%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									

STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

EcoLed® Technology meets nature



Efficient
- CEC efficiency of 94.5% and 94%
- State of charge calculation
- Intelligent battery management for maximum battery life
- Now supports external BMS and lithium-ion technology

Simple
- Easy commissioning with the "Quick Configuration Guide"
- Complete off-grid management
- Excellent for grid-tied battery back up

Flexible
- For Sunny Island systems from 4.5 to 100 kW
- Single, split-phase and three-phase operation, connectable in parallel and modularly expandable
- AC and DC coupling

Durable
- Extreme overload capability
- OptiCool™ active temperature management system
- 5-year standard warranty

SUNNY ISLAND 4548-US / 6048-US

The efficient off-grid manager

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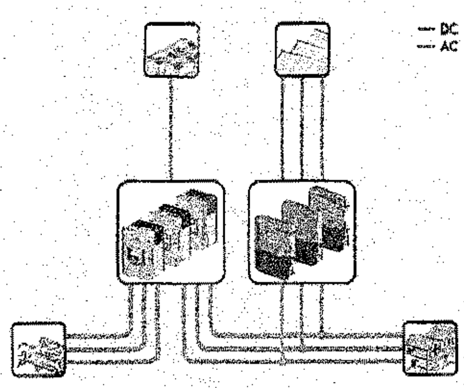
The SMA Sunny Island 4548-US and 6048-US inverters are based on proven off-grid technology and feature industry leading power output. A maximum efficiency of 96 percent ensures peak production, which results in reduced diesel usage in rural communities. More flexible sizing allows for simplified system planning. And, with multicluster technology up to 12 Sunny Islands can be integrated into off-grid power systems up 110 kW in size.

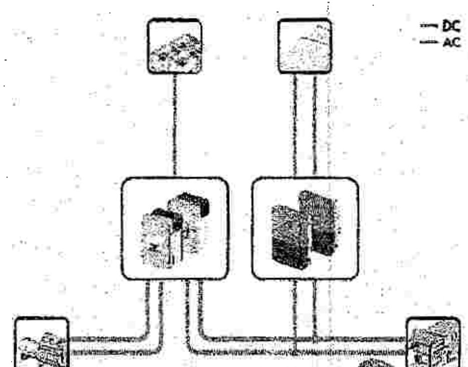
Technology meets nature.

www.SMA-America.com

Technical data	Sunny Island 4548-US	Sunny Island 6048-U S
AC output (loads)		
Rated grid voltage / AC voltage range	120 V / 105 V - 132 V	120 V / 105 V - 132 V
Rated frequency / frequency range (adjustable)	60 Hz/55 Hz ... 65 Hz	60 Hz/55 Hz ... 65 Hz
AC power (at 25 °C / at 40 °C) for 3 hours	5000 W / 4000 W	6000 W / 5000 W
Rated power (@U_{nom}, f_{nom} / 25 °C / @ cos φ = 1)	4500 W	5750 W
AC power at 25 °C for 30 min / 1 min / 3 s	5300 W / 8400 W / 11000 W	7000 W / 8400 W / 11000 W
Rated current / max. output current (peak)	37.5 A/180 A for approx. 60 ms	48 A/180 A for approx. 60 ms
Total harmonic factor output voltage / power factor with rated power	3% / -1 ... +1	3% / -1 ... +1
AC input (PV array or grid)		
Rated input voltage / AC input voltage range	120 V / 80 V - 150 V	120 V / 80 V - 150 V
Rated input frequency / allowable input frequency range	60 Hz/54 Hz ... 66 Hz	60 Hz/54 Hz ... 66 Hz
Max. AC input current / adjustable	56 A/0 A ... 56 A	56 A/0 A ... 56 A
Max. AC input power	6.7 kW	6.7 kW
Battery DC input		
Rated input voltage / DC voltage range	48 V / 41 V - 63 V	48 V / 41 V - 63 V
Max. battery charging current / DC rated charging current	100 A / 85 A	130 A / 110 A
Battery type / battery capacity range	Lead, NiCd, Li-Ion / 100 Ah ... 10000 Ah	Lead, NiCd, Li-Ion / 100 Ah ... 10000 Ah
External BMS compatible	●	●
Charge control	IUoU charge procedure with automatic full charge and equalization charge	IUoU charge procedure with automatic full charge and equalization charge
Efficiency / self-consumption		
Max. efficiency / CEC efficiency	96% / 94.5%	96% / 94%
Self-consumption without load / standby	25 W / 4 W	25 W / 4 W
Protective devices		
DC reverse polarity protection / DC fuse	● / ●	● / ●
AC short-circuit / AC overload	● / ●	● / ●
Overtemperature / battery deep discharge	● / ●	● / ●
General data		
Dimensions (W / H / D)	467 / 612 / 235 mm (18.4 / 24.1 / 9.3 inch)	467 / 612 / 235 mm (18.4 / 24.1 / 9.3 inch)
Weight	63 kg / 139 lb	63 kg / 139 lb
Operating temperature range	-25 °C ... +60 °C / -13 °F ... +122 °F	-25 °C ... +60 °C / -13 °F ... +122 °F
Features / function		
Operation and display / multi-function relay	Internal / 2	Internal / 2
Degree of protection (according to IEC 60529)	Indoors (NEMA 1)	Indoors (NEMA 1)
Three-phase systems / parallel connection	● / ●	● / ●
Integrated bypass / multicluster operation	– / ●	– / ●
State of charge calculation / full charge / equalization charge	● / ● / ●	● / ● / ●
Integrated soft start / generator support	● / ●	● / ●
Battery temperature sensor / data cable	● / ●	● / ●
Warranty	5 years	5 years
Certificates and approvals	www.SMA-Solar.com	www.SMA-Solar.com
Accessories		
Battery cable / battery fuse	○ / ○	○ / ○
Interface (RS 485 / Multicluster PB)	○ / ○	○ / ○
Extended generator start "GenMan"	○	○
Load-shedding protection / battery current measurement	○ / ○	○ / ○
● Standard feature ○ Optional feature – Not available		
Type designation	SI4548-US-10	SI6048-US-10



Three-phase system



Split-phase system

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EQLed® Technology meets nature.