

looking for the future



CATALOGUE
SOLAR PV
STREETLIGHTS





COMPANY



Solar Innova is a global company in the Renewable Energy sector, mainly in the Solar fiel, both Photovoltaic and Thermal Energy, enabling our customers to improve efficiency facilities and energy while reducing environmental impact.

Technology plays a key role in **Solar Innova**.

We develop products with advanced technologies that allow us to be more competitive and to respect the environment. We are committed to providing our customers high quality services to meet your expectations and guarantee your complete satisfaction.

We have a distribution network in constant growth, to provide a service with maximum quality and speed.

We want to be present in all areas where is the development of alternative energy, offering added value to our products and services such as:

- √ Advice
- √ Competitiveness
- √ Sustainability
- √ Professionalism
- √ Service quality
- √ Certified by internationally recognized laboratories











Street lighting using solar streetlights has developed as one of the major applications of solar photovoltaics.

We have equipment specifically designed for this application, able to illuminate isolated parts of the grid with a very low maintenance costs.

All our outdoor luminaires are based on high-performance LEDs, and incorporating our unique digital control system allowing the control of the functions of the luminaire (optical, temperature, etc.) and ensure their useful life, and an optical system modular developed to offer virtually exclusive photometric solutions for each client.

It is increasingly common to see on highways, streets and gardens lamps powered by solar energy. These devices, which allow to use solar energy to illuminate the streets, as part of our urban landscape.

Our solar lamps are designed as a solution for outdoor lighting systems for public and private sector.

Our solar lamps are designed as a solution for outdoor lighting systems for public and private sector, there are a number of advantages over conventional lighting:

Economic

Installation significant cost and time savings. The conventional lighting has a number of costs such as civil works, manholes, pipes, copper cables, control panels, transformers, licenses, accountants, contracts with utilities, etc. With urban solar lamp, only you need to enable a concrete base as any conventional streetlight.

Maintenance

Maintenance costs for conventional luminaires represent a high percentage in terms of installation, as they have to withdraw lamps and ballasts with a very limited life. The incorporation of the latest LED technology allows a service life exceeding 11 years module, thus saving energy translated into quantitative terms is very high. The design and engineering of our lamp provides over 25 years life so obviously, the system will pay independently. In the environmental field we highlight the following:

- With the installation of our streetlights, we contribute to the use and operation of a source of clean, renewable energy and an important factor in how our environment, reduce CO2 emissions.
 - We reduce light pollution, because not emit light in the sky.

Operation

During daylight hours the system captures and stores solar energy in the form of electricity. At dusk, the system automatically turns on the LED luminaire progressively, depending on the external light, using the energy stored in the batteries, providing the necessary light to illuminate space. At dawn, the LED module is automatically disabled starting a new cycle.













COMPONENT



DESCRIPTION



PV Modules	Are the elements responsible for capturing the sun's energy and transform it into electricity.
Lights	Elements that convert energy stored in the battery light.
Electronic	Optimize and rationalize the use of stored energy.
Batteries	Component designed to store the energy collected by the panels during the day to use it at night in the lighting of the lamps.
Pole	It is responsible for supporting other elements of the lamp.







POLE



Has a tubular shape, is made of galvanized steel and powder coating, according to UNE 37501-71, to avoid damage by weather, and calculated to support other elements of the streetlight and wind loads.

Support the luminaire arm and the holding structure of the photovoltaic module.

BOX



Galvanized steel box with plastic coating sprayed to contain the electronics and battery management





PV MODULE



Are the elements responsible for capturing the sun's energy and transform it into electricity.

They tend to be clearly identifiable by their prominent position. Typically placed on top of the structure to achieve greater uptake of solar energy. The panels should always facing the Earth Ecuador and proper tilt function of latitude (to exist in this regard several criteria, one of them consisting of tilting the same number of degrees of latitude + 5).

Solar panels are quite similar to those used for other photovoltaic applications, only suitable in size.

LIGHTING



Elements that convert energy stored in the battery light. In all these components efficient lamps are used to maximize the energy captured: fluorescent lamps, sodium lamps or LEDs, incandescent bulbs completely discarded for being great wasteful of energy.





BATTERY



Component designed to store the energy collected by the panels during the day to use it at night in the lighting of the lamps.

Here the same principles as in the rest of the solar PV installations, requiring rechargeable batteries tolerate a great depth of discharge.

In the streetlights, the location of this component depends on the manufacturer. Some place it in a high area under the panel or under the luminaire. Thus the potential risks of tampering is reduced. This placement but also hinders change operations and maintenanc.

Other manufacturers choose instead to place it on the bottom where it is easier to manipulate for repairs or replacements, however is more exposed to undue people have access to it.

The choice of one type or another depends on the purpose and function of the area where they are to be placed. In any case to operate these components with low voltage of 12 volts, the risk of serious accidents is very small.

ELECTRONIC



The lamp uses a system of regulation and control that is in a sealed box which guarantees its operation in damp and / or corrosive. This controller has been designed especially for the management of autonomous photovoltaic luminaires.

Optimize and rationalize the use of stored energy.

They are used to automate the switching on and off of the lights avoiding unnecessary waste of light besides getting the component life is lengthened.

This regulation is achieved in two ways:

- Through programmable devices on and off the lights based on the information entered on the times of sunrise and sunset every day of the year where you will be placing.
- By a small photodetector that detects the level of ambient natural light. When the cell detects low light intensity outside (night), turn on the lights when the light intensity is high (day), off.





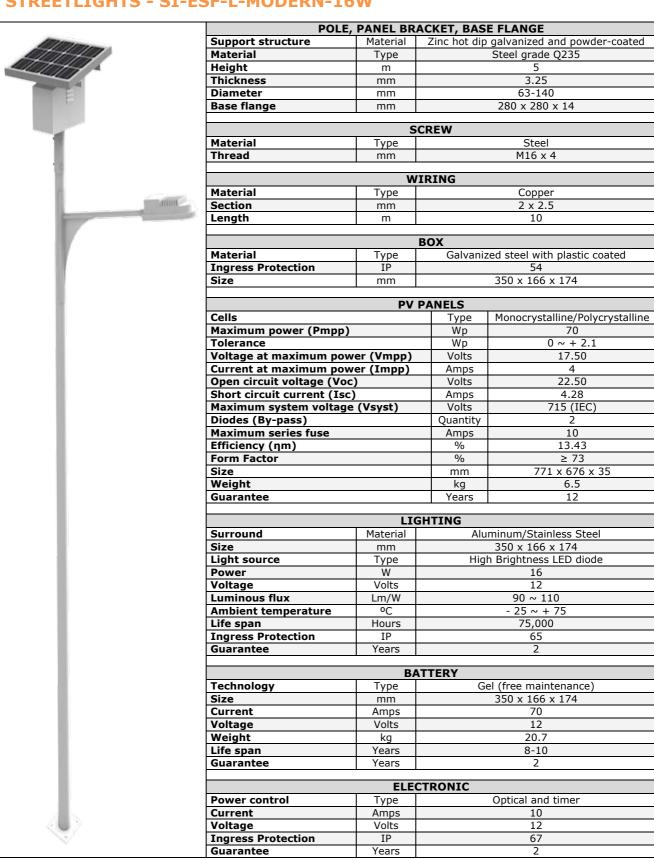
When after several cloudy days has not been able to recharge the battery properly and this is at a load level too low there is a system that prevents the lights come on to prevent battery discharge continue. Excessive discharge the battery may cause the blade is unable to recharge and thus unusable. This system also ensures that the time be enough sun again for recharging cycle is normally restored.

- The charge cycle has four stages: deep charge, EQ, absorption and flotation; thus the longer life of the batteries is guaranteed.
- Twilight switch that is used to delay turning on and off of the lamp at dusk and before dawn.
 - Test has functions that facilitate maintenance operations.



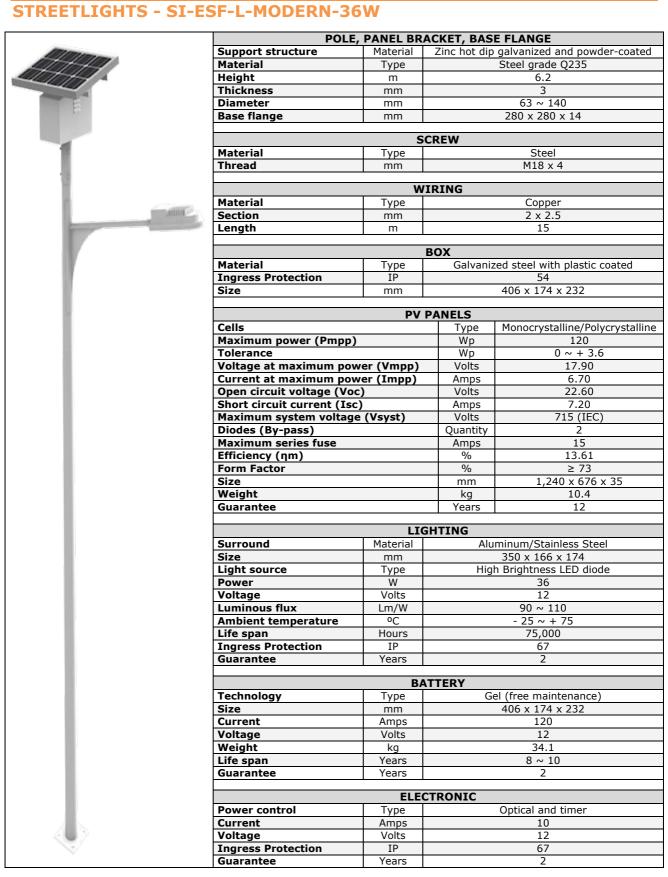


STREETLIGHTS - SI-ESF-L-MODERN-16W



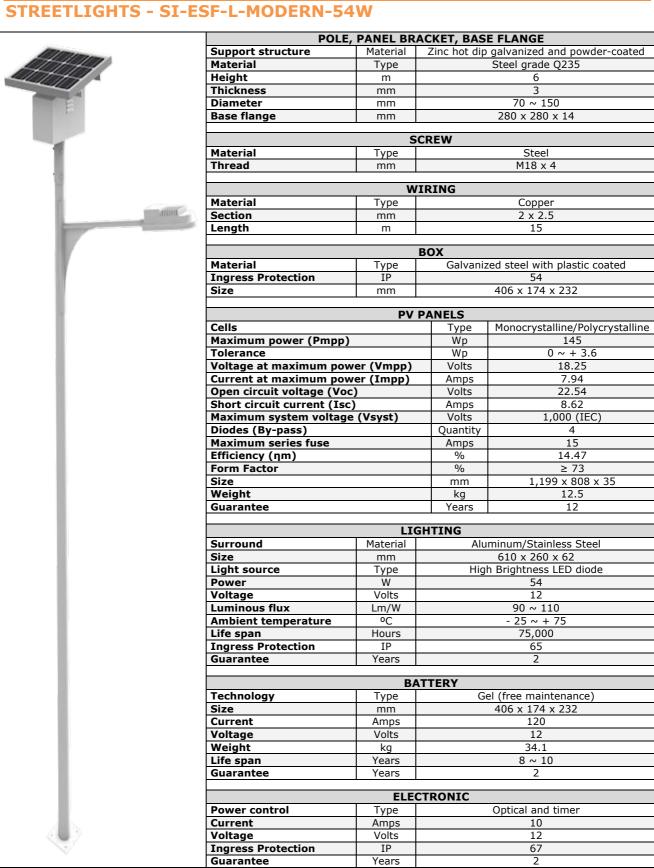






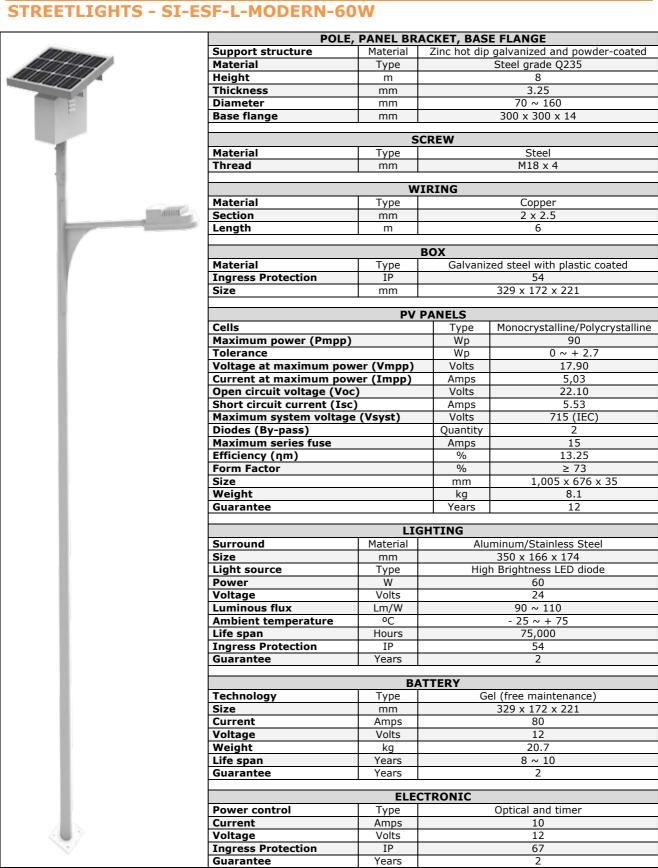






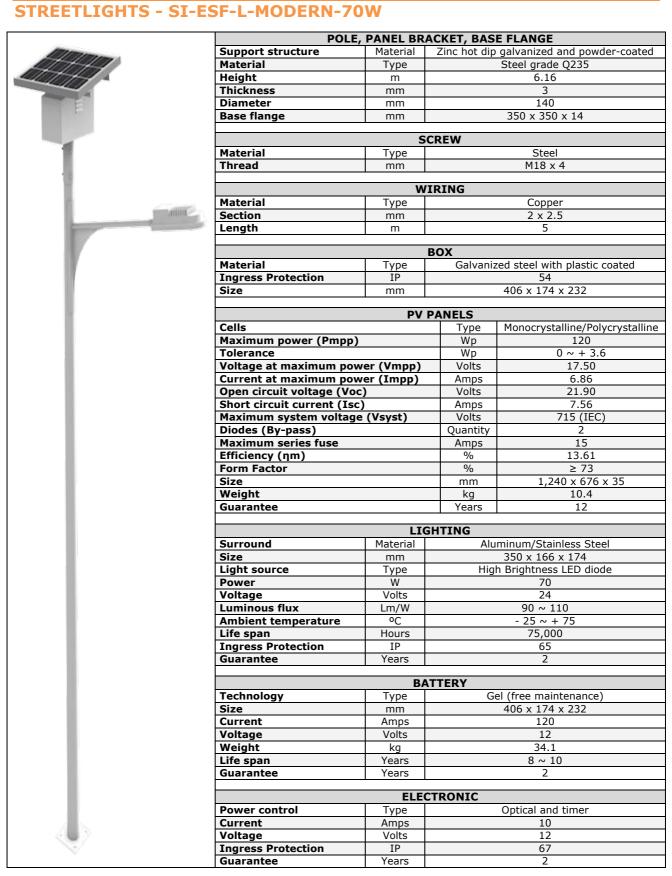
















PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-ROUND-16W

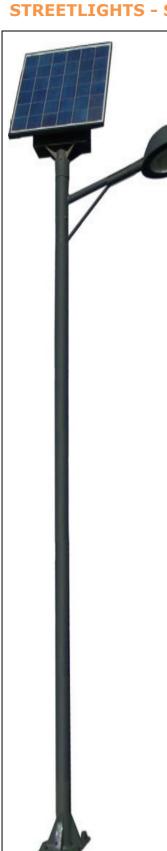


POLE, PANEL BRACKET, BASE FLANGE	SF-L-ROUND-16W				
Support structure Material Type Height The Steel grade Q235	POLE,	PANEL BR	ACKET, BAS	E FLANGE	
Material Type Steel grade Q235 Height m			Zinc hot dip	galvanized and powder-coated	
Height		Type			
Diameter	Height	m 4.3		4.3	
Diameter	Thickness	mm 3		3	
SCREW		mm		89	
Material Type Steel	Base flange	mm		260 x 260 x 14	
Material Type Steel					
Material Type Copper		S	CREW		
Material Type Copper	Material	Type		Steel	
Material Type Copper	Thread	mm		M16 x 4	
Material Type Copper		W	TRING		
Box	Material		IKIKO	Conner	
BOX					
BOX					
Material Type Galvanized steel with plastic coated Ingress Protection IP 54	Length				
Ingress Protection IP S4					
Size			Galvani		
PV PANELS		IP			
Type	Size	mm		350 x 166 x 174	
Type		D) /	DANE		
Maximum power (Pmpp) Wp 60	Colle	PV		Managrystalling/Dalygrystalling	
Tolerance					
Voltage at maximum power (Vmpp) Volts 18.30 Current at maximum power (Impp) Amps 3.28 Open circuit voltage (Voc) Volts 22.30 Short circuit current (Isc) Amps 3.57 Maximum system voltage (Vsyst) Volts 715 (IEC) Diodes (By-pass) Quantity 2 Maximum series fuse Amps 10 Efficiency (ηm) % 13.25 Form Factor % ≥ 73 Size mm 670 x 676 x 35 Weight kg 5.7 Guarantee Years 12 LIGHTING Surround Material Aluminum/Stainless Steel Size mm 350 x 166 x 174 Light source Type High Brightness LED diode Power W 16 Voltage Volts 12 Luminous flux Lm/W 90 ~ 110 Ambient temperature °C - 25 ~ + 75 Life span Hours 75,000 </th <th></th> <th></th> <th></th> <th></th>					
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PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-ROUND-36W



Material	SF-L-ROUND-36W	/		
Material Type Steel grade Q235 Height m				
Height			Zinc hot dip	
Thickness	Material	Type		Steel grade Q235
Diameter	Height	m	-	
SCREW	Thickness	mm 3.25		3.25
SCREW	Diameter	mm		114
SCREW	Base flange	mm		280 x 280 x 14
Material Type	ľ	1		
Material Type Copper		sc	REW	
Material	Material	Type		Steel
Material Type Copper	Thread			
Material Type Copper		l L		
Section	Material		RING	Conner
BOX				
BOX				
Material Type Galvanized steel with plastic coated Ingress Protection IP 54 Size mm 483 x 170 x 240 PV PANELS Cells Type Monocrystalline/Polycrystalline Maximum power (Pmpp) Wp 120 Tolerance Wp 0 ~ + 3.6 Voltage at maximum power (Impp) Amps 6.85 Open circuit voltage (Voc) Volts 21.90 Short circuit current (Isc) Amps 7.56 Maximum system voltage (Vsyst) Volts 715 (IEC) Diodes (By-pass) Quantity 2 Maximum series fuse Amps 1.5 Efficiency (nm) % 13.61 Form Factor % ≥ 73 Size mm 1,240 x 676 x 35 Weight kg 10.4 Guarantee Years 12 LIGHTING Surround Material Aluminum/Stainless Steel Size mm 350 x 166 x 174	Length	111		4
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P	Material	Type	Galvaniz	ed steel with plastic coated
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Cells Type Monocrystalline/Polycrystalline Maximum power (Pmpp) Wp 120 Tolerance Wp 0 ~ + 3.6 Voltage at maximum power (Impp) Amps 6.85 Open circuit voltage (Voc) Volts 21.90 Short circuit current (Isc) Amps 7.56 Maximum system voltage (Vsyst) Volts 715 (IEC) Diodes (By-pass) Quantity 2 Maximum series fuse Amps 15 Efficiency (ηm) % 13.61 Form Factor % ≥ 73 Size mm 1,240 × 676 × 35 Weight kg 10.4 Guarantee Years 12 LIGHTING Surround Material Aluminum/Stainless Steel Size mm 350 × 166 × 174 Light source Type High Brightness LED diode Power W 36 36 Voltage Volts 12 Luminous flux Lm/W 90 ~	5.25	111111		100 / 170 / 210
Maximum power (Pmpp) Wp		PV P	ANELS	
Tolerance	Cells		Type	Monocrystalline/Polycrystalline
Tolerance	Maximum power (Pmpp)		Wp	
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Current at maximum power (Impp) Amps 6.85 Open circuit voltage (Voc) Volts 21.90 Short circuit current (Isc) Amps 7.56 Maximum system voltage (Vsyst) Volts 715 (IEC) Diodes (By-pass) Quantity 2 Maximum series fuse Efficiency (nm) % 13.61 Form Factor % ≥ 73 5 Size mm 1,240 x 676 x 35 6 10.4 Guarantee kg 10.4 10.4 10.4 LIGHTING Surround Material Aluminum/Stainless Steel 35 Surround Material Aluminum/Stainless Steel 36 Size mm 350 x 166 x 174 36 Light source Type High Brightness LED diode 40<	Voltage at maximum pow	er (Vmpp)	Volts	
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Form Factor				
Main	Efficiency (ηm)		%	13.61
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SurroundMaterialAluminum/Stainless SteelSizemm350 x 166 x 174Light sourceTypeHigh Brightness LED diodePowerW36VoltageVolts12Luminous fluxLm/W90 ~ 110Ambient temperature°C- 25 ~ + 75Life spanHours75,000Ingress ProtectionIP65GuaranteeYears2BATTERYTechnologyTypeGel (free maintenance)Sizemm483 x 170 x 240CurrentAmps150VoltageVolts12Weightkg39.5Life spanYears8-10GuaranteeYears2ELECTRONICTypeOptical and timerPower controlTypeOptical and timerCurrentAmps10VoltageVolts12Ingress ProtectionIP67			•	
Size mm 350 x 166 x 174 Light source Type High Brightness LED diode Power W 36 Voltage Volts 12 Luminous flux Lm/W 90 ~ 110 Ambient temperature °C - 25 ~ + 75 Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Curround			minum/Stainless Staal
Light sourceTypeHigh Brightness LED diodePowerW36VoltageVolts12Luminous fluxLm/W90 ~ 110Ambient temperature°C−25 ~ +75Life spanHours75,000Ingress ProtectionIP65GuaranteeYears2BATTERYTechnologyTypeGel (free maintenance)Sizemm483 x 170 x 240CurrentAmps150VoltageVolts12Weightkg39.5Life spanYears8-10GuaranteeYears2ELECTRONICPower controlTypeOptical and timerCurrentAmps10VoltageVolts12Ingress ProtectionIP67			Alu	
Power W 36 Voltage Volts 12 Luminous flux Lm/W 90 ~ 110 Ambient temperature °C -25 ~ +75 Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67		1		
Voltage Volts 12 Luminous flux Lm/W 90 ~ 110 Ambient temperature °C - 25 ~ + 75 Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67			High	
Luminous flux Lm/W 90 ~ 110 Ambient temperature °C - 25 ~ + 75 Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Ambient temperature °C − 25 ~ + 75 Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Voltage	Volts		12
Life span Hours 75,000 Ingress Protection IP 65 Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Ingress Protection	Ambient temperature	°C		- 25 ~ + 75
Ingress Protection	Life span	Hours		75,000
Guarantee Years 2 BATTERY Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Ingress Protection	IP		65
Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67		Years		2
Technology Type Gel (free maintenance) Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Size mm 483 x 170 x 240 Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Tankanalana			l (for a majortamana)
Current Amps 150 Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67		· · · · · ·	Gt	
Voltage Volts 12 Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Weight kg 39.5 Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Life span Years 8-10 Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Guarantee Years 2 ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
ELECTRONIC Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67				
Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Guarantee	Years		2
Power control Type Optical and timer Current Amps 10 Voltage Volts 12 Ingress Protection IP 67		ELEC	TDONIC	
Current Amps 10 Voltage Volts 12 Ingress Protection IP 67	Power control		IKUNIC	Ontical and timer
Voltage Volts 12 Ingress Protection IP 67				
Ingress Protection IP 67				
Guarantee Years 2				
	Guarantee	rears		۷









		CKET, BAS			
Support structure	Material	Zinc hot dip	galvanized and powder-coated		
Material	Туре		Steel grade Q235		
Height	m		4.3		
Thickness	mm		3		
Diameter	mm	89			
Base flange	mm		260 x 260 x 14		
	-				
		CREW	-		
Material	Туре		Steel		
Thread	mm	M16 x 4			
	\A/1	IRING			
Material		IKING	Connor		
	Туре		Copper 2 x 2.5		
Section Length	mm		2 x 2.5		
Length	m				
		вох			
Material	Туре		red steel with plastic coated		
Ingress Protection	IP	Garvariiz	54		
Size	mm		350 x 166 x 174		
0.20	111111		555 X 100 X 1/4		
	PV I	PANELS			
Cells		Type	Monocrystalline/Polycrystalline		
Maximum power (Pmpp)		Wp	60		
Tolerance		Wp	0 ~ + 1.8		
Voltage at maximum pow	er (Vmpp)	Volts	18.30		
Current at maximum pow		Amps	3.28		
Open circuit voltage (Voc		Volts	22.30		
Short circuit current (Isc)		Amps	3.57		
Maximum system voltage		Volts	715 (IEC)		
Diodes (By-pass)		Quantity	2		
Maximum series fuse		Amps	10		
		%	13.25		
Efficiency (ηm) Form Factor		%	13.25 ≥ 73		
Form Factor Size			_		
		mm	670 x 676 x 35		
Weight		kg	5,7		
Guarantee		Years	12		
	I TG	HTING			
			minum/Stainless Steel		
Surround	Surround Material				
Surround		Alu			
Size	mm		350 x 166 x 174		
Size Light source	mm Type		350 x 166 x 174 h Brightness LED diode		
Size Light source Power	mm Type W		350 x 166 x 174 h Brightness LED diode 16		
Size Light source Power Voltage	mm Type W Volts		350 x 166 x 174 h Brightness LED diode 16 12		
Size Light source Power Voltage Luminous flux	mm Type W Volts Lm/W		350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110		
Size Light source Power Voltage Luminous flux Ambient temperature	mm Type W Volts Lm/W °C		350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75		
Size Light source Power Voltage Luminous flux Ambient temperature Life span	mm Type W Volts Lm/W °C Hours		350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection	mm Type W Volts Lm/W °C Hours		$350 \times 166 \times 174$ h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65		
Size Light source Power Voltage Luminous flux Ambient temperature Life span	mm Type W Volts Lm/W °C Hours		350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection	mm Type W Volts Lm/W °C Hours IP Years	Higl	$350 \times 166 \times 174$ h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee	mm Type W Volts Lm/W °C Hours IP Years	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology	mm Type W Volts Lm/W °C Hours IP Years	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance)		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size	mm Type W Volts Lm/W °C Hours IP Years BA Type mm	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts kg	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts kg Years	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts kg	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span	mm Type W Volts Lm/W oC Hours IP Years BA Type mm Amps Volts kg Years Years	TTERY G	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts kg Years Years	Higl	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10 2		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control	mm Type W Volts Lm/W oC Hours IP Years BA Type mm Amps Volts kg Years Years ELEC Type	TTERY G	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10 2 Optical and timer		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current Current	mm Type W Volts Lm/W OC Hours IP Years BA Type mm Amps Volts kg Years Years ELEC Type Amps	TTERY G	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10 2 Optical and timer 10		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current Voltage	mm Type W Volts Lm/W °C Hours IP Years BA Type mm Amps Volts kg Years Years Years FLEC Type Amps Volts	TTERY G	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10 2 Optical and timer 10 12		
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current	mm Type W Volts Lm/W OC Hours IP Years BA Type mm Amps Volts kg Years Years ELEC Type Amps	TTERY G	350 x 166 x 174 h Brightness LED diode 16 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 350 x 166 x 174 65 12 18.5 8 ~ 10 2 Optical and timer 10		





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-CLASSIC-36W

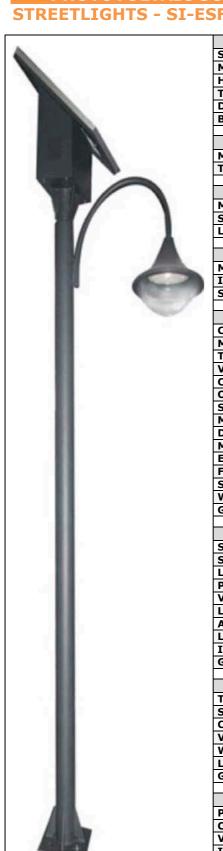


SF-L-CLASSIC-36	W		
POLE,	PANEL BR	ACKET, BAS	E FLANGE
Support structure	Material	Zinc hot dip	galvanized and powder-coated
Material	Type	·	Steel grade Q235
Height	m		6.25
Thickness	mm		3.25
Diameter	mm		114
Base flange		280 x 280 x 14	
base manye	mm		280 X 280 X 14
	6	CREW	
Material		CKLVV	Chaol
Thread	Туре	Steel	
Inread	mm		M16 x 4
	W	/IRING	
Material	Type		Copper
Section	mm		2 x 2.5
Length	m		4
	•		
		BOX	
Material	Туре	Galvaniz	ed steel with plastic coated
Ingress Protection	ĬP		54
Size	mm		483 x 170 x 240
	PV	PANELS	
Cells		Туре	Monocrystalline/Polycrystalline
Maximum power (Pmpp)		Wp	120
Tolerance		Wp	0 ~ + 3.6
Voltage at maximum pow	er (Vmpp)	Volts	17.50
Current at maximum pow		Amps	6.85
Open circuit voltage (Voc		Volts	21.90
Short circuit current (Isc)		Amps	7.56
Maximum system voltage (Vsyst)		Volts	715 (IEC)
		Quantity	2
Diodes (By-pass)			
Maximum series fuse		Amps	15
Efficiency (ηm)		%	13.61
Form Factor		% mm	≥ 73
Size	_		1,240 x 676 x 35
Weight		kg	5.7
Guarantee		Years	12
	LIC	GHTING	
Surround	Material		minum/Stainless Steel
Size	mm	,	350 x 166 x 174
Light source	Type	Hia	h Brightness LED diode
Power	W	Tilg	36
Voltage	Volts		12
Luminous flux			
	Lm/W		90 ~ 110
Ambient temperature			- 25 ~ + 75
Life span	Hours		75,000
Ingress Protection	IP		65
Guarantee	Years		2
	D.	ATTEDV	
Technology	Type	ATTERY	el (free maintenance)
Size		G	483 x 170 x 240
	mm Amns		
Current	Amps		150
Voltage	Volts		12
Weight	kg		39.5
Life span	Years		8 ~ 10
Guarantee	Years		2
	EI E	CTDONIC	
Down control		CTRONIC	Ontical and times
	Туре		Optical and timer
Power control	Λ		
Current	Amps		10
Current Voltage	Volts		12
Current			





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-DECOR1-16W



SF-L-DECOR1-16\	IV		
	PANEL BRA		
Support structure	Material	Zinc hot dip	galvanized and powder-coated
Material	Type		Steel grade Q235
Height	m		4.3
Thickness	mm		3
Diameter	mm		89
Base flange	mm		260 x 260 x 14
			200 X 200 X 21
	SC	REW	
Material	Type		Steel
Thread	mm		M16 x 4
			1120 X 1
	W)	RING	
Material	Туре		Copper
Section	mm		2 x 2.5
Length	m		2 7
Length	111		2
		зох	
Material		_	and stool with plastic coated
	Туре	Gaivaniz	zed steel with plastic coated
Ingress Protection	IP		54
Size	mm		350 x 166 x 174
	D./ -	ANELO	
	PV I	PANELS	
Cells		Type	Monocrystalline/Polycrystalline
Maximum power (Pmpp)		Wp	60
Tolerance		Wp	0 ~ + 1.8
Voltage at maximum pow	er (Vmpp)	Volts	18.30
Current at maximum pow		Amps	3.28
Open circuit voltage (Voc		Volts	22.30
Short circuit current (Isc)		Amps	3.57
Maximum system voltage		Volts	715 (IEC)
Diodes (By-pass)			2
		Quantity	
Maximum series fuse		Amps %	10
, , , ,	Efficiency (ηm)		13.25
Form Factor		%	≥ 73
Size		mm	670 x 676 x 35
Weight		kg	5.7
Guarantee		Years	12
		HTING	
Surround	Material	Alu	minum/Stainless Steel
Size	mm		350 x 166 x 174
Light source	Type	Hial	h Brightness LED diode
Power	W	<u>J</u>	16
Voltage	Volts	12	
Luminous flux	Lm/W		90 ~ 110
Ambient temperature	°C		- 25 ~ + 75
Life span	Hours		75,000
Ingress Protection	IP		65
Guarantee	Years		2
	B 4 1	TTED\	
		TTERY	1.6
Technology	Туре	Gel (free maintenance)	
Size	mm		350 x 166 x 174
Current	Amps		65
Voltage	Volts		12
Weight	kg		18.5
	Years		8 ~ 10
			2
Life span	Years		-
	Years		
Life span		TRONIC	
Life span Guarantee	ELEC	TRONIC	Ontical and timer
Life span Guarantee Power control	ELEC Type	TRONIC	Optical and timer
Life span Guarantee Power control Current	ELEC Type Amps	TRONIC	10
Current Voltage	Type Amps Volts	TRONIC	10 12
Life span Guarantee Power control Current	ELEC Type Amps	TRONIC	10





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-DECOR1-3



	N			
	PANEL BRA			
Support structure	Material	Zinc hot dip	galvanized and powder-coated	
Material	Type		Steel grade Q235	
Height	m		6.2	
Thickness	mm	3.25		
Diameter	mm		114	
Base flange	mm		280 x 280 x 14	
base nange	111111		200 X 200 X 14	
	SC	REW		
Material	Type		Steel	
Thread	mm		M16 x 4	
	WI	RING		
Material	Туре		Copper	
Section	mm		2 x 2.5	
Length	m		4	
	В	OX		
Material	Type	Galvaniz	ed steel with plastic coated	
Ingress Protection	IP		54	
Size	mm		483 x 170 x 240	
	PV P	ANELS		
Cells		Туре	Monocrystalline/Polycrystalline	
Maximum power (Pmpp)		Wp	120	
Tolerance		Wp	0 ~ + 3.6	
Voltage at maximum pow	er (Vmpp)	Volts	17.50	
Current at maximum pow	er (Impp)	Amps	6.85	
Open circuit voltage (Voc		Volts	21.90	
Short circuit current (Isc)		Amps	7.56	
Maximum system voltage	(Vsyst)	Volts	715 (IEC)	
Diodes (By-pass)	` ' '	Quantity	2	
Maximum series fuse		Amps	15	
Efficiency (ηm)			13.61	
Form Factor		%	≥ 73	
Size		mm	1,240 x 676 x 35	
Weight		kg	10.4	
Guarantee		Years	12	
	LIGI	HTING		
	Marta tal	Λ1	minum/Stainless Steel	
Surround	irround Material		minari, Stanness Steel	
Surround Size	materiai	Alu	350 x 166 x 174	
Size				
	mm		350 x 166 x 174	
Size Light source	mm Type		350 x 166 x 174 n Brightness LED diode	
Size Light source Power	mm Type W Volts		350 x 166 x 174 n Brightness LED diode 36 12	
Size Light source Power Voltage Luminous flux	mm Type W		350 x 166 x 174 n Brightness LED diode 36	
Size Light source Power Voltage Luminous flux Ambient temperature	mm Type W Volts Lm/W °C		350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75	
Size Light source Power Voltage Luminous flux Ambient temperature Life span	mm Type W Volts Lm/W °C Hours		350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection	mm Type W Volts Lm/W °C Hours		350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65	
Size Light source Power Voltage Luminous flux Ambient temperature Life span	mm Type W Volts Lm/W °C Hours		350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection	mm Type W Volts Lm/W °C Hours IP Years		350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection	mm Type W Volts Lm/W °C Hours IP Years	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee	mm Type W Volts Lm/W °C Hours IP Years	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance)	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts	High	350 x 166 x 174 h Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years	High T TERY Ge	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years	High	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10 2	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years ELECT Type	High T TERY Ge	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10 2 Optical and timer	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years ELECT Type Amps	High T TERY Ge	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10 2 Optical and timer 10	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current Voltage	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years FLECT Type Amps Volts	High T TERY Ge	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10 2 Optical and timer 10 12	
Size Light source Power Voltage Luminous flux Ambient temperature Life span Ingress Protection Guarantee Technology Size Current Voltage Weight Life span Guarantee Power control Current Current	mm Type W Volts Lm/W °C Hours IP Years BAT Type mm Amps Volts kg Years Years ELECT Type Amps	High T TERY Ge	350 x 166 x 174 n Brightness LED diode 36 12 90 ~ 110 - 25 ~ + 75 75,000 65 2 el (free maintenance) 483 x 170 x 240 150 12 39.5 8 ~ 10 2 Optical and timer 10	





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-DECOR2-16W



SF-L-DECOR2-16V	•				
POLE,	PANEL BR	ACKET, BAS	E FLANGE		
Support structure	Material	Zinc hot dip	galvanized and powder-coated		
Material	Туре	· · · · ·	Steel grade Q235		
Height	m		4.3		
Thickness		mm 3			
Diameter	mm				
Base flange	mm		260 x 260 x 14		
base nange	111111		200 X 200 X 14		
	S	CREW			
Material	Туре	CICLIT	Steel		
Thread	mm		M16 x 4		
Tilleau	111111		M10 X 4		
	W	IRING			
Material	Туре		Copper		
Section	mm		2 x 2.5		
Length	m		2		
Length	111		2		
		вох			
Material	Туре		zed steel with plastic coated		
Ingress Protection	IP	Jaivailiz	54		
Size			350 x 166 x 174		
3120	mm		JJU X 100 X 1/4		
	PV	PANELS			
Cells		Type	Monocrystalline/Polycrystalline		
Maximum power (Pmpp)		Wp	60		
Tolerance		Wp	0 ~ + 1.8		
Voltage at maximum pow	or (Vmnn)	Volts	18.30		
Current at maximum pow		Amps	3.28		
Open circuit voltage (Voc			22.30		
		Volts Amps			
	Short circuit current (Isc)		3.57		
Maximum system voltage (Vsyst)		Volts	715 (IEC)		
Diodes (By-pass)		Quantity	2		
Maximum series fuse		Amps %	10		
	Efficiency (ηm)		13.25		
	Form Factor		≥ 73		
	Size		670 x 676 x 35		
Weight		kg	10.4		
Guarantee		Years	12		
_		SHTING			
Surround	Material	Alu	minum/Stainless Steel		
Size	mm	350 x 166 x 174			
Light source	Туре	Hig	h Brightness LED diode		
Power	W		16		
Voltage	Volts		12		
Luminous flux	Lm/W	90 ~ 110			
Ambient temperature	°C	- 25 ~ + 75			
Life span	Hours	75,000			
Ingress Protection	IP	65			
Guarantee	Years		2		
	B/	ATTERY			
Technology	Туре	Gel (free maintenance)			
Size	mm		350 x 166 x 174		
Current	Amps		65		
Voltage	Volts		12		
Weight	kg		18.5		
Life span	Years		8 ~ 10		
	Years		2		
Guarantee			-		
Guarantee					
Guarantee	Į.	CTRONIC			
	ELE	CTRONIC	Optical and timer		
Power control	ELE (CTRONIC	Optical and timer		
Power control Current	ELE Type Amps	CTRONIC	10		
Power control Current Voltage	Type Amps Volts	CTRONIC	10 12		
Power control Current	ELE Type Amps	CTRONIC	10		





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-DECOR2-36W



SF-L-DECOK2-301				
POLE,	PANEL BRA	CKET, BAS	E FLANGE	
Support structure	Material	Zinc hot dip	galvanized and powder-coated	
Material	Туре	Steel grade Q235		
Height	m		6.2	
Thickness	mm	3.25		
Diameter	mm	114		
Base flange	mm		280 x 280 x 14	
	SC	CREW		
Material	Type		Steel	
Thread	mm		M16 x 4	
	I.	I.		
	W	RING		
Material	Type		Copper	
Section	mm		2 x 2.5	
Length	m		4	
		I	·	
		вох		
Material	Туре		zed steel with plastic coated	
Ingress Protection	IP	Survain	54	
Size	mm		483 x 170 x 240	
5126	111111	<u> </u>	103 / 1/0 / 240	
	D\/ I	PANELS		
Cells	FVI	Type	Monocrystalline/Polycrystalline	
Maximum power (Pmpp)		Wp	120	
			_	
Tolerance	au ()/mana)	Wp	0 ~ + 3.6 17.50	
Voltage at maximum pow		Volts		
Current at maximum pow		Amps	6.85	
Open circuit voltage (Voc		Volts	21.90	
Short circuit current (Isc)		Amps	7.56	
Maximum system voltage	(Vsyst)	Volts	715 (IEC)	
Diodes (By-pass)		Quantity	2	
Maximum series fuse		Amps %	15	
Efficiency (ηm)			13.61	
Form Factor		%	≥ 73	
Size		mm	1,240 x 676x 35	
Weight		kg	10.4	
Guarantee		Years	12	
		HTING		
Surround	Material	Alı	uminum/Stainless Steel	
Size	mm		350 x 166 x 174	
Light source	Туре	Hig	gh Brightness LED diode	
Power	W		36	
Voltage	Volts		12	
Luminous flux	Lm/W		90 ~ 110	
Ambient temperature	٥C		- 25 ~ + 75	
Life span	Hours	75,000		
Ingress Protection	IP	65		
Guarantee	Years		2	
	BA	TTERY		
Technology	Туре	Gel (free maintenance)		
Size	mm		483 x 170 x 240	
Current	Amps		150	
Voltage	Volts		12	
Weight	kg		39.5	
Life span	Years		8 ~ 10	
Guarantee	Years		2	
	ELEC	TRONIC		
Power control	Туре		Optical and timer	
Current	Amps		10	
Voltage	Volts		12	
Degree of protection	IP		67	
Guarantee	Years		2	
		l		





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-5W



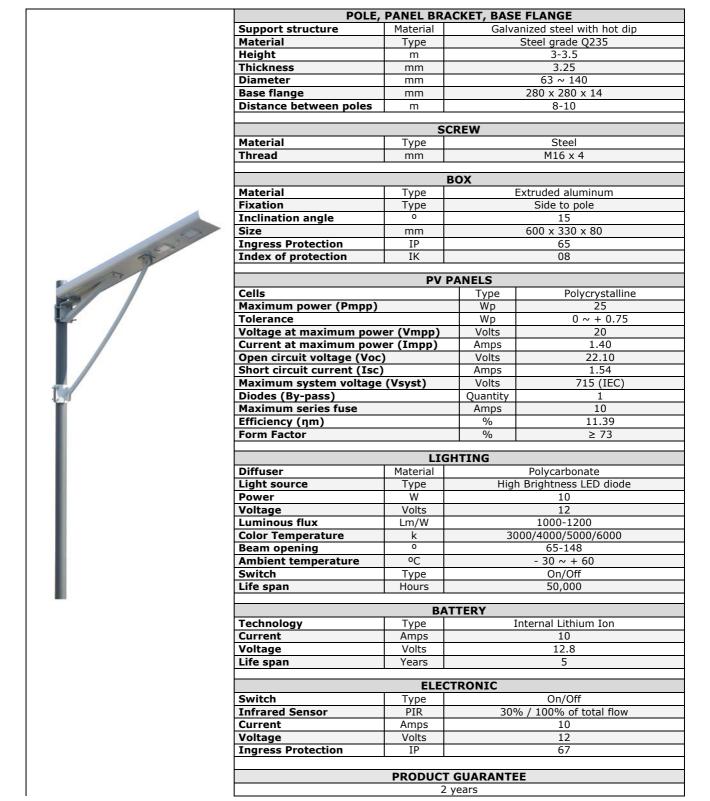
POLE,	PANEL BRA	CKET, BASI	E FLANGE	
upport structure	Material	Galva	nized steel with hot dip	
laterial	Туре		Steel grade Q235	
leight	m		2.5-3	
hickness	mm		3.25	
iameter mm			63 ~ 140	
ase flange	ange mm		280 x 280 x 14	
	ance between poles m		8-10	
	1			
		REW		
laterial	Туре	e Steel		
hread	mm		M16 x 4	
	_			
		OX	= 1 1 1 1 1 1 1	
laterial	Type		Extruded aluminum	
ixation	Type		Side to pole	
nclination angle	0		15	
ize	mm		540 x 230 x 80	
ngress Protection	IP		65	
ndex of protection	IK		08	
	D\/ D	ANELO		
2-11-	PV P	ANELS	Dali	
ells		Type	Polycrystalline 10	
laximum power (Pmpp)		Wp		
olerance		Wp	0 ~ + 0.30	
oltage at maximum pow		Volts	17.50	
Current at maximum power (Impp)		Amps	0.57	
Open circuit voltage (Voc)		Volts	22	
hort circuit current (Isc		Amps	0.62	
Maximum system voltage (Vsyst)		Volts	715 (IEC)	
iodes (By-pass)		Quantity	1	
aximum series fuse		Amps	10	
fficiency (ηm)		%	9.85	
orm Factor		%	≥ 73	
	I TGI	HTING		
			Polycarbonate	
iffuser	Material			
ight source	Material Type	High	n Brightness LED diode	
ight source ower	Material Type W	High	5	
ight source ower 'oltage	Material Type W Volts	High	5 12	
ight source ower oltage uminous flux	Material Type W		5 12 500-700	
ight source ower oltage uminous flux olor Temperature	Material Type W Volts Lm/W k		5 12 500-700 000/4000/5000/6000	
ight source ower oltage uminous flux olor Temperature eam opening	Material Type W Volts Lm/W k o		5 12 500-700 000/4000/5000/6000 65-148	
ight source ower oltage uminous flux olor Temperature	Material Type W Volts Lm/W k		5 12 500-700 000/4000/5000/6000	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature	Material Type W Volts Lm/W k o		5 12 500-700 000/4000/5000/6000 65-148	
ght source ower oltage uminous flux olor Temperature eam opening mbient temperature witch	Material Type W Volts Lm/W k 0 OC		5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch	Material Type W Volts Lm/W k o C Type Hours	30	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch ife span	Material Type W Volts Lm/W k o C Type Hours	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch ife span	Material Type W Volts Lm/W k o C Type Hours	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch ife span echnology urrent	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ght source ower oltage uminous flux olor Temperature eam opening mbient temperature witch fe span echnology urrent oltage	Material Type W Volts Lm/W k o C Type Hours BA1 Type Amps Volts	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch ife span echnology urrent oltage	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower oltage uminous flux olor Temperature eam opening	Material Type W Volts Lm/W k o C Type Hours BA1 Type Amps Volts Years	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower foltage uminous flux folor Temperature leam opening umbient temperature witch ife span echnology urrent foltage ife span	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000	
ight source ower foltage uminous flux folor Temperature eam opening mbient temperature witch ife span echnology urrent foltage ife span	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years ELECT	TTERY 1	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000 Internal Lithium Ion 5 12.8 5	
ight source ower foltage uminous flux folor Temperature seam opening umbient temperature witch ife span echnology furrent foltage ife span witch iferspan	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years ELECT Type PIR	30 TTERY	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000 Internal Lithium Ion 5 12.8 5 On/Off 6/ / 100% of total flow	
ight source ower foltage uminous flux folor Temperature eam opening mbient temperature witch ife span echnology furrent foltage ife span witch infrared Sensor	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years ELECT Type PIR Amps	TTERY 1	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000 Internal Lithium Ion 5 12.8 5 On/Off 6/ / 100% of total flow 10	
ight source ower oltage uminous flux olor Temperature eam opening mbient temperature witch ife span echnology urrent oltage ife span witch infrared Sensor urrent oltage	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years ELEC Type PIR Amps Volts Volts Volts Volts	TTERY 1	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000 Internal Lithium Ion 5 12.8 5 On/Off 6/ / 100% of total flow 10 12	
ght source ower oltage uminous flux olor Temperature eam opening mbient temperature witch fe span echnology urrent oltage fe span	Material Type W Volts Lm/W k o C Type Hours BAT Type Amps Volts Years ELECT Type PIR Amps	TTERY 1	5 12 500-700 000/4000/5000/6000 65-148 - 30 ~ + 60 On/Off 50,000 Internal Lithium Ion 5 12.8 5 On/Off 6/ / 100% of total flow 10	

2 years





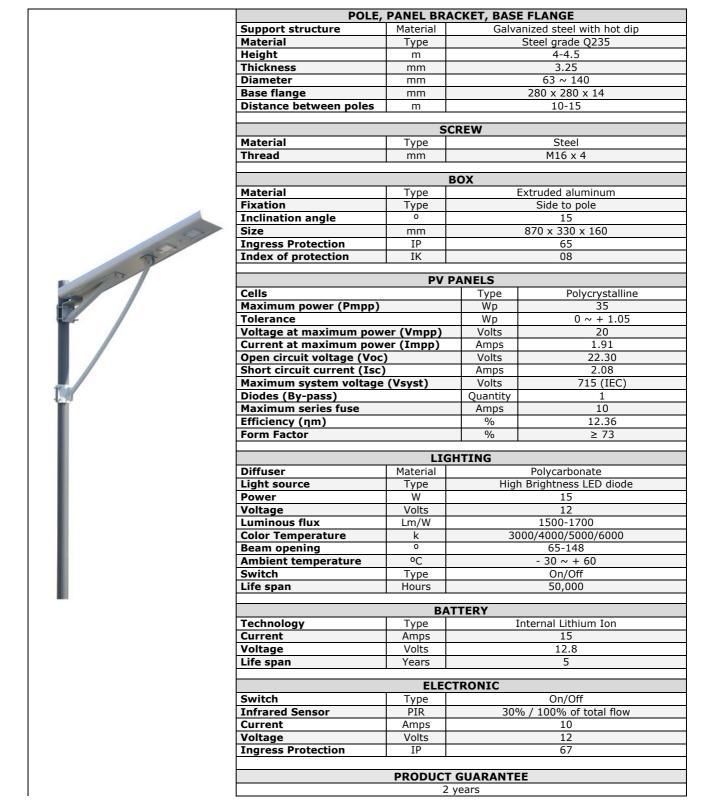
PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-10W







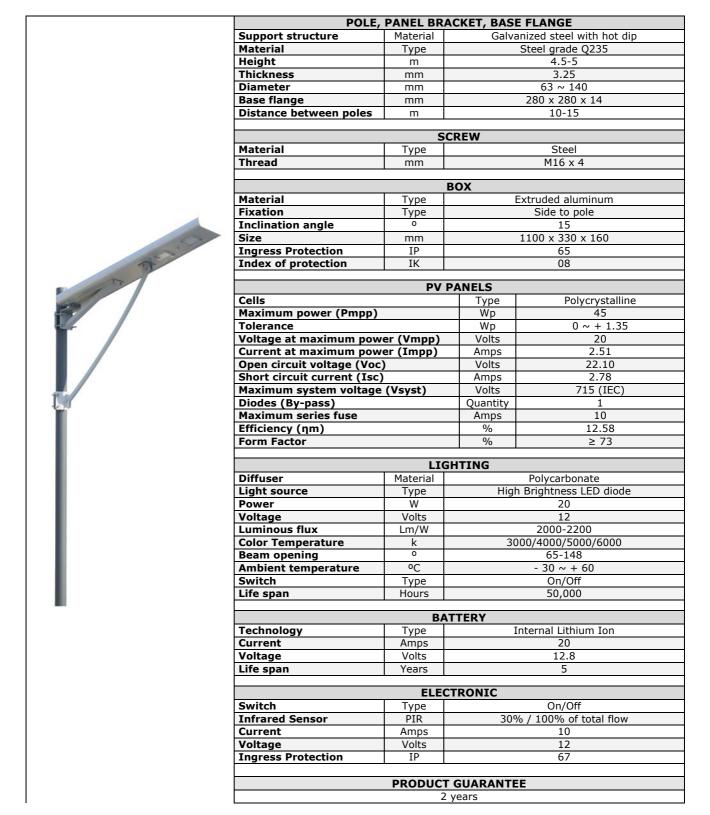
PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-15W







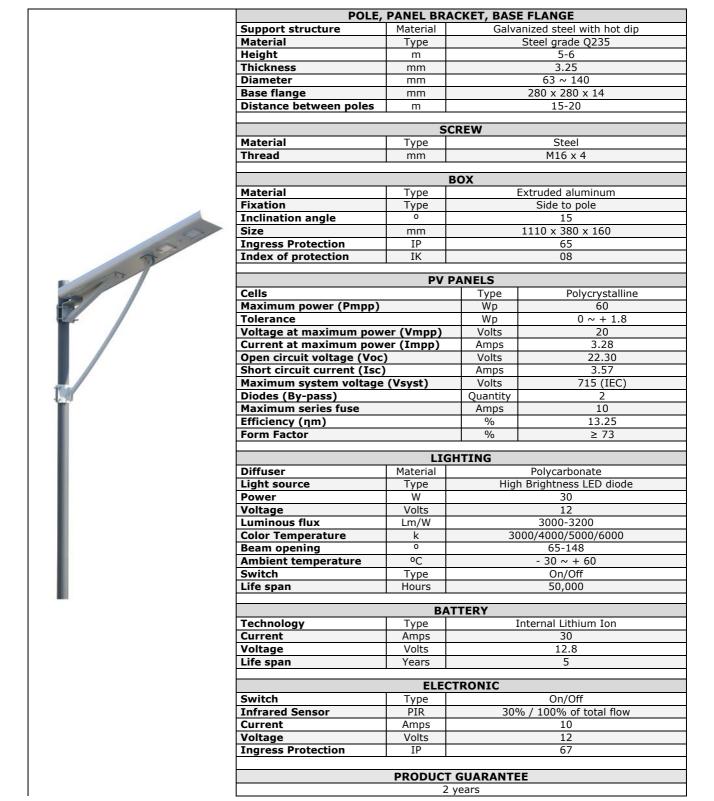
PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-20W







PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-30W







PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-40W



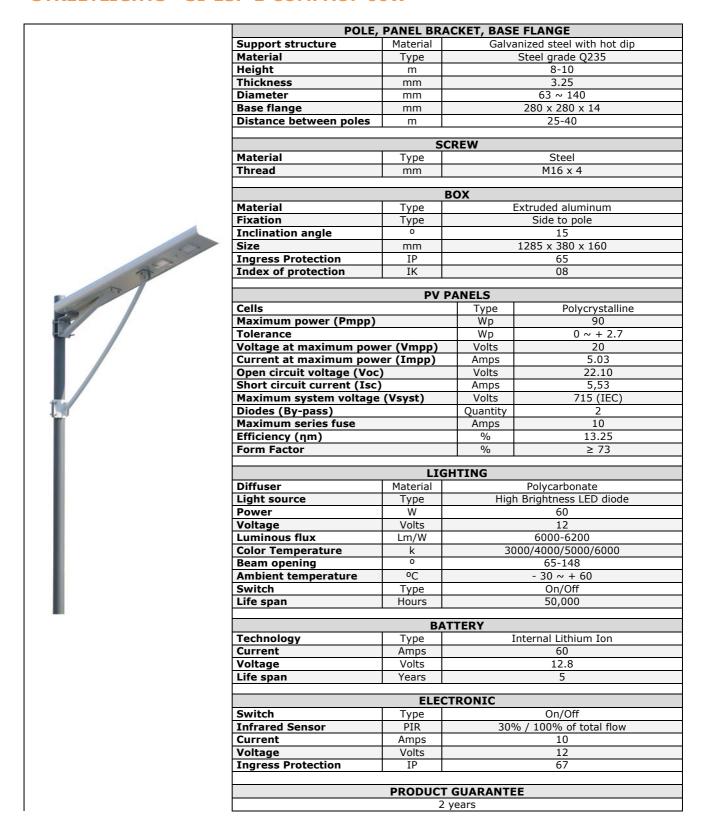
POLE,	PANEL BRA	CKET, BASI	E FLANGE
Support structure	Material	Galva	anized steel with hot dip
Material	Туре		Steel grade Q235
Height	m		7-8
Thickness	mm		3.25
Diameter	mm		63 ~ 140
Base flange	mm	280 x 280 x 14	
Distance between poles	m		20-30
	SC	REW	
Material	Туре		Steel
Thread	mm		M16 x 4
	В	ox	
Material	Type		Extruded aluminum
Fixation	Type		Side to pole
Inclination angle	0		15
Size	mm		1285 x 380 x 160
Ingress Protection	IP		65
Index of protection	IK		08
	PV P	ANELS	
Cells		Туре	Polycrystalline
Maximum power (Pmpp)		Wp	70
Tolerance		Wp	0 ~ + 2.1
Voltage at maximum pow		Volts	20
Current at maximum power (Impp)		Amps	3.83
Open circuit voltage (Voc)		Volts	22.30
Short circuit current (Isc)		Amps	4.17
Maximum system voltage (Vsyst)		Volts	715 (IEC)
Diodes (By-pass)		Quantity	2
Maximum series fuse		Amps	10
Efficiency (ηm)		%	13.43
Form Factor		%	≥ 73
		ITING	
Diffuser	Material		Polycarbonate
Light source	Туре	High	n Brightness LED diode
Power	W		40
Voltage	Volts		12
Luminous flux	Lm/W		4000-4200
Color Temperature	k	30	000/4000/5000/6000
Beam opening	0		65-148
Ambient temperature	oC		- 30 ~ + 60
Switch	Туре		On/Off
Life span	Hours		50,000
		TERY	
Technology	Type]	internal Lithium Ion
Current	Amps		40
	Volts		12.8
			5
	Years		
Life span	ELECT	RONIC	
Life span Switch	ELECT	RONIC	On/Off
Life span Switch	ELECT	TRONIC 30°	•
Life span Switch Infrared Sensor Current	ELECT		•
Life span Switch Infrared Sensor Current	Type PIR		% / 100% of total flow
Switch Infrared Sensor Current Voltage	Type PIR Amps		% / 100% of total flow 10
Voltage Life span Switch Infrared Sensor Current Voltage Ingress Protection	Type PIR Amps Volts		% / 100% of total flow 10 12

2 years





PHOTOVOLTAIC SOLAR ENERGY STREETLIGHTS - SI-ESF-L-COMPACT-60W









WARRANTIES OF QUALITY



Solar Innova products are made with the highest quality components and the latest technology, thanks to the excellent factory equipment and control of the entire manufacturing process. In addition, our products offer excellent design and finishes.

Solar Innova has a wide range of photovoltaic solar panels that cover all market needs both feeding operation as isolated facilities. Besides offering panels that develop, manufacture and market, we give you and your company the opportunity to advise you on everything you may require, through our engineering department.



Solar Innova has obtained in its factory a multitude of distinctive quality independent standardization bodies and control, demonstrating continued compliance with high standards of safety and quality in their products.

Outstanding quality, reliability above average and superior performance distinguish the Innova Solar modules. For this to continue to keep well, the modules are regularly a series of thorough tests and trials not only in the R & D and factory quality, but also through independent certification institutes.

In Solar Innova, production efficiency and supreme quality contribute decisively to the high degree of international competitiveness.



The effectiveness and excellence in all our manufacturing processes are the main guarantee that ensures the highest quality solar modules Innova.

Our production factory (certified according to ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007) meets stringent quality requirements that our organization has set: full supervision in each individual phase of the production process.



The CE or European Conformity is a European brand for certain groups of services or industrial products. It relies on the directive 93/68/EEC, 2002/95/EC, 2004/108/EC and 2006/95/EC. It was established by the European Community and the testimony by the manufacturer that the product meets the minimum legal requirements and technical security of the Member States of the European Union.









Solar Innova is constituted by a team of highly qualified and specialized in renewable energy commitment to the implementation of clean energy to enable sustainable growth and a better future for all, not forgetting the fair return on its investors and customers.

The main advantage that report **Solar Innova** services comes from its professional and specialized management, which allows obtaining higher and safer returns, reducing risks, optimizing and streamlining processes and, above all, avoiding hassles and concerns to their clients. Have the same advantage, any company or person with a small investment, you will have access to investments in renewable energy, inexhaustible and clean.

Solar Innova, born with the firm purpose of contributing to a more sustainable future. Energy saving is the first way to combat the changes that are happening on our planet.

Alternative energy, now fully consolidated as a viable way to preserve the environment, is the only solution for eliminating pollution and CO2.

The world needs systems based on solar power with improved quality and efficiency. This is the definitive answer to a paradigm shift cleaner energy, sustainable and economically.

Besides thinking about how to produce clean energy, we must learn to make rational use of energy as a priority.

Full customer satisfaction is our commitment, and he devoted one hundred percent of our time and effort. We monitor daily performance and quality in products and services.

We have a rigorous internal quality control in order to offer the customer the best service.









We want to make sure your solar experience is fully satisfactory. This is why we have selected highly skilled dealers and installers around the world. Our Official Dealers and Installers will provide you with a professional installation job and a high-level customer service.

Consistent with our commitment of pushing forward existing quality requirements, we have drafted a Quality Charter for dealers and installers, that defines a series of rules aimed at guaranteeing the best quality of service to homeowners choosing Solar Innova products. Having signed our Quality Charter, Official Dealers and Installers prove to share the same vision of quality as us, and take responsibility for providing their clients with a better service.

Our Official Dealers and Installers have gone one step further, formalized by the signature of Solar Innova Letter of Commitment. Having your Solar Innova products installed by an Official Installer, you can enjoy the benefits of your home photovoltaic system with absolute peace of mind.

We want solar energy to be recognized as a prime choice for the generation of electricity and we believe the satisfaction of each and every of our customers is the best way to reach this goal.











INTERNATIONAL OFFICES



EUROPE

SPAIN

Paseo de los Molinos, 12-Bajo

03660 - NOVELDA Alicante

T: +34 965075767 F: +34 965075767

info@solarinnova.net

ASIA

CHINA

Room A03, No. 333-2 YanXin Road 214174 - WUXI Jiangsu

T: +34 965075767 F: +34 965075767

info@solarinnova.net

