



Brasit

Specialist in Innovative Technologies

SOLAR & HYBRID Street Lamps

SOLAR Lamps for Parks & Gardens



CATALOG 2023



English version 1.5

www.brasit.pl

BrasiT® operates in the fields of, among others, comprehensive design, technical consulting, manufacturing, and installation of:

- **solar and hybrid street lamps**
- **solar lamps for parks and gardens**
- **solar and Hybrid traffic sign active, active LED Road Signs**

We have knowledge and experience in the correct designing of lighting system which use renewable energy and we select appropriate fittings in accordance with the investor's request. We provide every client with an individual approach.

Since the beginning we have been driven by the belief that only the best are able to set standards and show new directions of operation. This is why we take the utmost care to ensure the high level of our work, a comprehensive approach, fast action, a culture of cooperation and client support through many years of service.

Professional methods of work and management, our steadily increasing offer and the commitment of all our staff guarantee the highest quality of our services and allow to us meet our clients expectations.

Our goal is active implementation of innovative systems of renewable energy and LED technology which, in times when active care for the natural environment and limitation of consumption of electrical energy, is a necessity and generates significant financial savings.

Possible application of LED street solar and hybrid lamps:

- roads and streets
- pedestrian crossings
- intersections
- car parks and pavements
- residential areas
- schools and sport grounds
- dangerous places in road traffic
- gardens, parks, and green areas
- cemeteries
- private properties
- protected and industrial areas

Main construction elements such as: steel poles with a frame for photovoltaic panels and wind turbines have the necessary certificates issued by an independent, notified certification unit, and are calculated in terms of safety of loads connected to the weight of the system and surface of wind pressure at the place of the planned location. The poles have **EN 1090** and **EN 40-5** certificates for special supporting and construction structures. A company that does not hold the above-mentioned certificates is unable to provide them and **has no right to sell** constructions which may pose a danger to public safety and contribute to **CONSTRUCTION DISASTERS**.

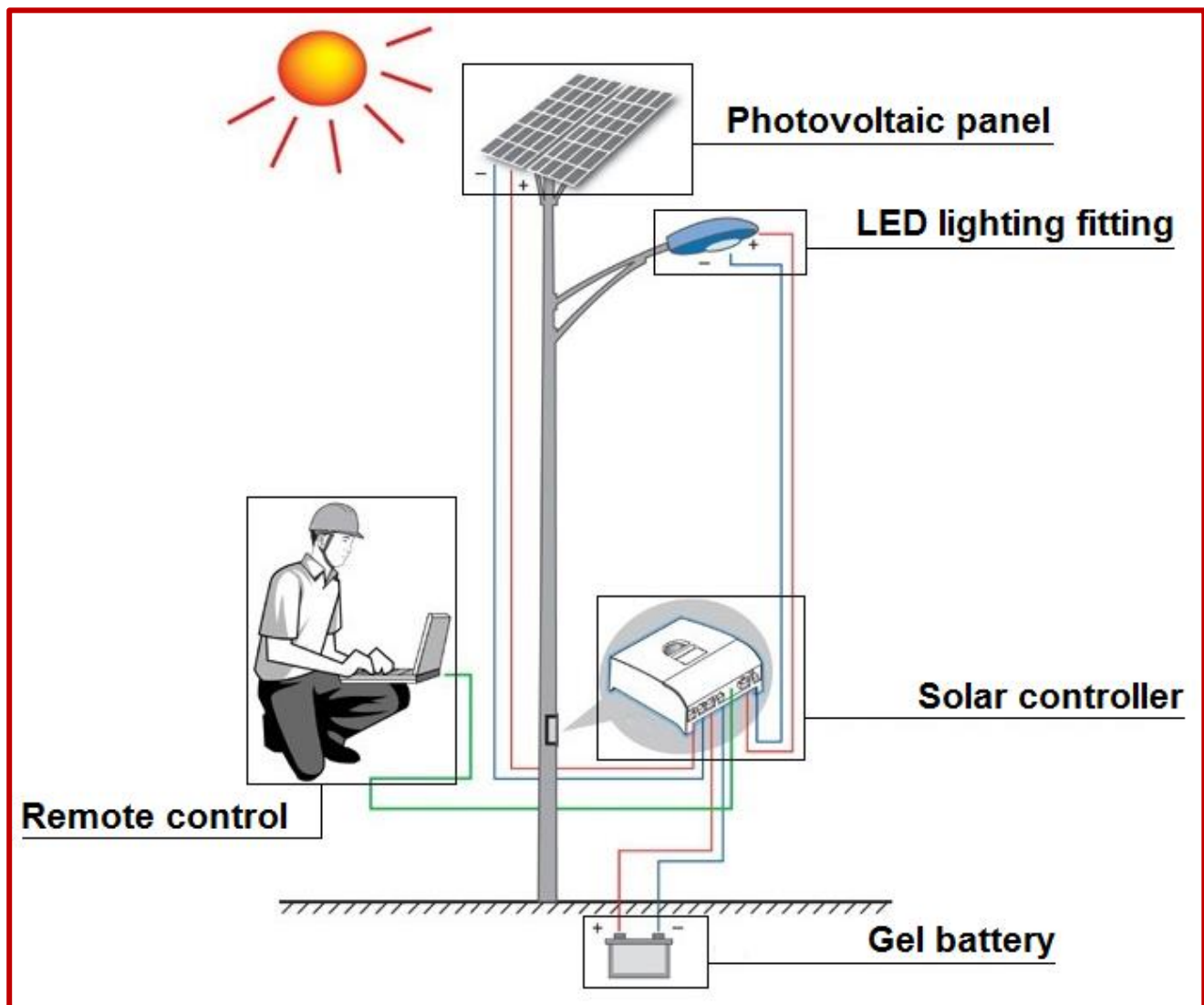


LED Solar Street Lamps



LED solar street lamps work without using the mains as a power supply. It is based entirely on solar energy which is unlimited, safe and environmentally friendly. The system consists mainly of photovoltaic panel, the LED light source, a controller and a battery.

During the day when sunlight is present, the solar panel converts solar energy into electrical energy and stores it in the battery. At night or during cloudy and rainy days the controller with the help of sensors can calculate the brightness of daylight and automatically turn on the light.



Solar lamps powered by energy from sunlight constitute a wonderful alternative to classic street lighting, especially in places far from infrastructure where it is not economical to provide electrical power. Every solar lamp is independent and ready to work immediately after installation. The installation of solar lamps is fast and easy. It does not require complicated project documentation or consultation with the local power provider.

Solar lighting is used worldwide. It is a kind of innovative and energy saving lighting product which uses high power LED lights and are powered by a set of photovoltaic panels. The generated light does not contain UV, infra-red, heat or radiation. Our street lamps are a form of "green" environmentally friendly sources of light which provide energy saving.

SOLAR STREET LAMPS

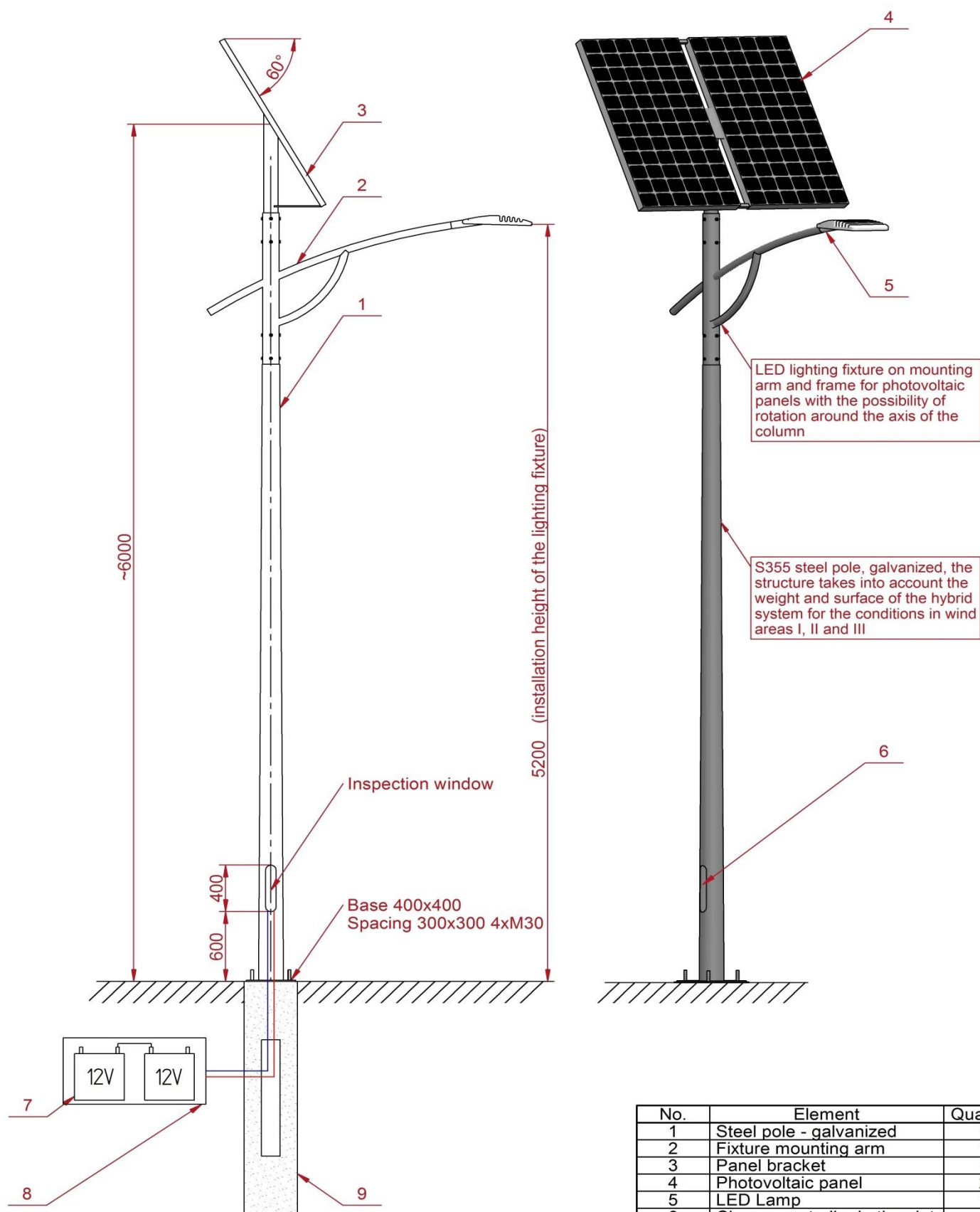
TECHNICAL SPECIFICATION AND PARAMETERS

Model	SLU-10W	SLU-15W	SLU-20W	SLU-30W	SLU-38W
Photovoltaic panel	1 pcs. x 170W	2 pcs. x 100W	2 pcs. x 170W	1 pcs. > 400W	
	Monocrystalline cell, tempered solar glass (thickness 3,2 mm), covered with an anti-reflexive layer, panels tested in accordance with IEC 61215 for snow load of up to 5400 Pa (approx. 5,4 kN/m2) and IEC 61730 , Held certificates: ISO 9001 , ISO 14001 , OHSAS 18001 , ISO 2859-1				
LED lighting fitting	Power of the fitting:				
	10W	15W	20W – 25W	30W – 35W	38W
	Luminous Flux:				
	> 1,200 lm	> 1,800 lm	> 2,400 lm	> 3,500 lm	> 5,300 lm
	LED luminous efficacy; 130 – 140 lm/W Service life: > 100,000 hours Protection degree: > IP66 / IP67 Regulated angle of LED head light / Impact resistance: min. IK 09				
Controller	MPPT 10A 12V		MPPT 20A 24V	MPPT 20A 24V	
	the light as well as time of operation by MPPT intelligent control, water resistance IP67 class, in-built twilight sensor, automatic cut-off of powered load				
Battery	1 pcs. x 80Ah	1 pcs. x 100Ah	2 pcs. x 80Ah	2 pcs. x 100Ah	2 pcs. x 120Ah
	NPG gel battery for solar installations, fully sealed, full deep discharge cycle, maintenance-free, > 2,000 discharge cycles				
Battery box	PVC material, placed underground, water resistant type, disperses heat, anti-theft, PVC pipe for the cables is included in the set				
Pole	Total height: from 5m to 8m , hot galvanized steel in accordance with EN ISO 1461 , pole model: " BrasiT ", steel S235, frame and bracket: steel S235 LED fitting hung at: 4m – 8m (according to guidelines) round pole – in accordance with EN 40-5:2002 and EN 40-2 a vehicle hitting: " 0 " class in accordance with EN 12767 , certificates of structural stability in accordance with EN 40-3-1 , "B" safety class, formability class "2", field category "II", Construction conforms to: EN 1090 The pole along with the construction for the solar panels is adjusted to: <i>"I, II or III wind zone in accordance with PN-EN 1991-1-4"</i>				
Foundation	F100 - F200 V43 prefabricated foundation, certified, Meeting PN-EN 14991:2010 standard in accordance with the 2+ system adjusted to: <i>I, II or III wind zone</i>				
Working time	8-12 hours / day (full power) - battery capacity of up to 4 continuously cloudy and rainy days without sun - min. 40h without sun. There is the option of increasing the independence of lamps work. Possibility to set 5 periodic time lamp working (regulation in % of the power intensity of the LED lamp operating stream).				

Additional options:

- The possibility of purchasing an infra-red remote control and **Wi-Fi** interface with software to program and control the lamps from a distance.
- Poles can be painted in any colour from the **RAL** range for an additional price.
- **Economic version** - a cheaper version of the solar lamp, it is installed on straight octagonal poles.

Configuration of the system can be customized in accordance with the specific requirements of the client or project. We take utmost care so that the designed system meets our client's expectations.
We ask for direct contact in the case of a trade offer enquiry.



No.	Element	Quantity
1	Steel pole - galvanized	1
2	Fixture mounting arm	1
3	Panel bracket	1
4	Photovoltaic panel	2
5	LED Lamp	1
6	Charge controller in the slot	1
7	Gel battery 12V	2
8	Hermetic box	1
9	Foundation F200 V43	1

Solar street lamp SLU - BrasiT

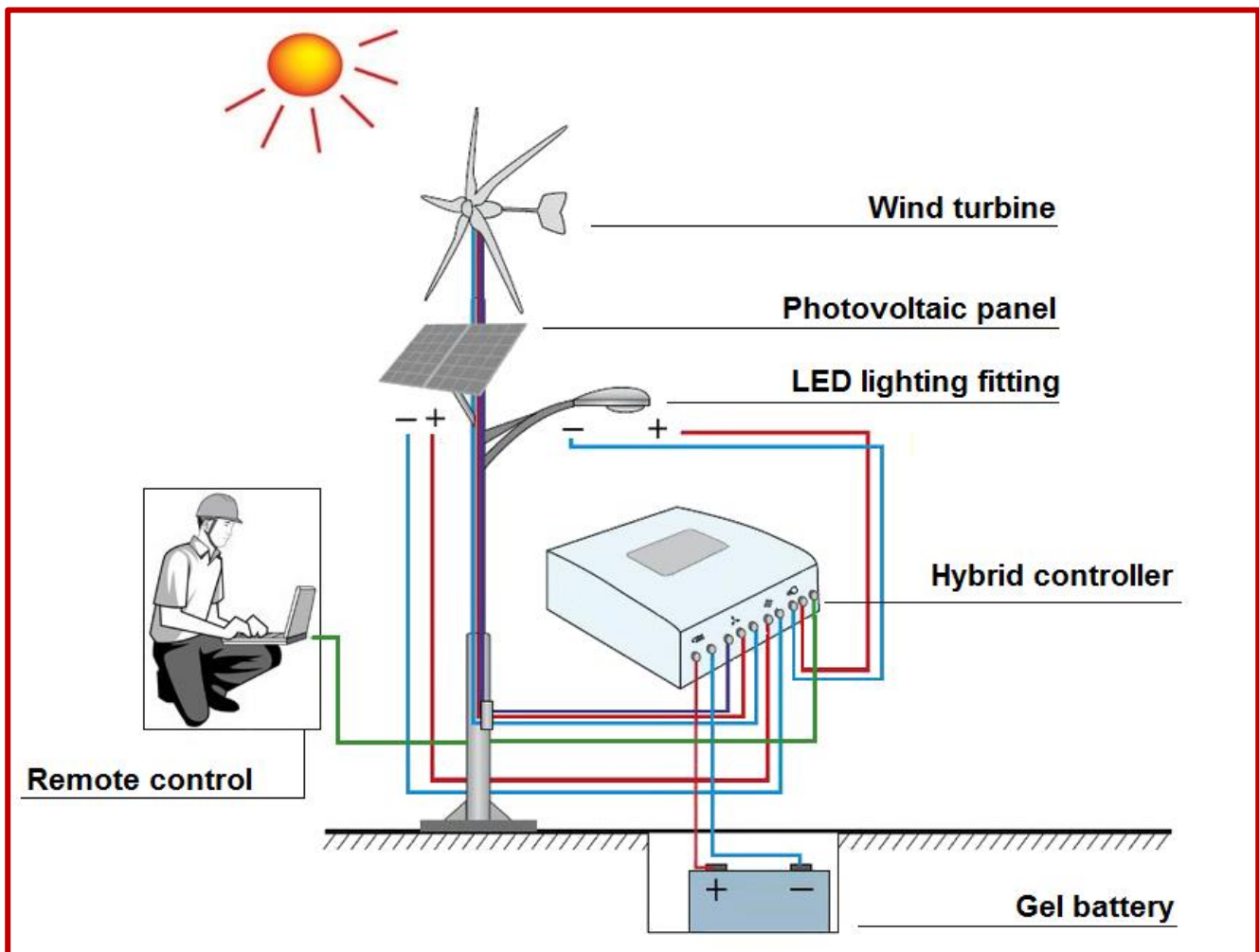


LED Hybrid Street Lamps



LED hybrid street lamps are most often used for street lighting. They work without using the mains power supply. It is based entirely on solar and wind energy which is unlimited, safe and environmentally friendly. The system consists mainly of a wind turbine, photovoltaic panels, an LED light source, a controller and a battery.

During the day when sunlight is present, the photovoltaic panel converts solar energy into electrical energy and stores it in the battery. When there is a lack of sunlight the lamp is supported by a wind turbine – it uses wind energy, and as in the case of solar energy, converts it into electrical energy. At night or during cloudy and rainy days the controller with the help of sensors can calculate the brightness of daylight and automatically turn on the light with appropriate intensity.



The greatest advantage of street **LED hybrid lamps** is their total independence from sources of energy other than sun and wind. Thanks to this they can be installed in places where access to a standard energy network is very difficult or impossible.

We exclusively use the highest quality materials that ensure long and failure-free work for the construction of the hybrid unit. The system of intelligent electronics with a controller protects the battery from overcharging and excessive discharging. Hybrid lamps have an option of programming the time of work and controlling the lighting after dark, this can also be performed through wireless control.

HYBRID STREET LAMPS

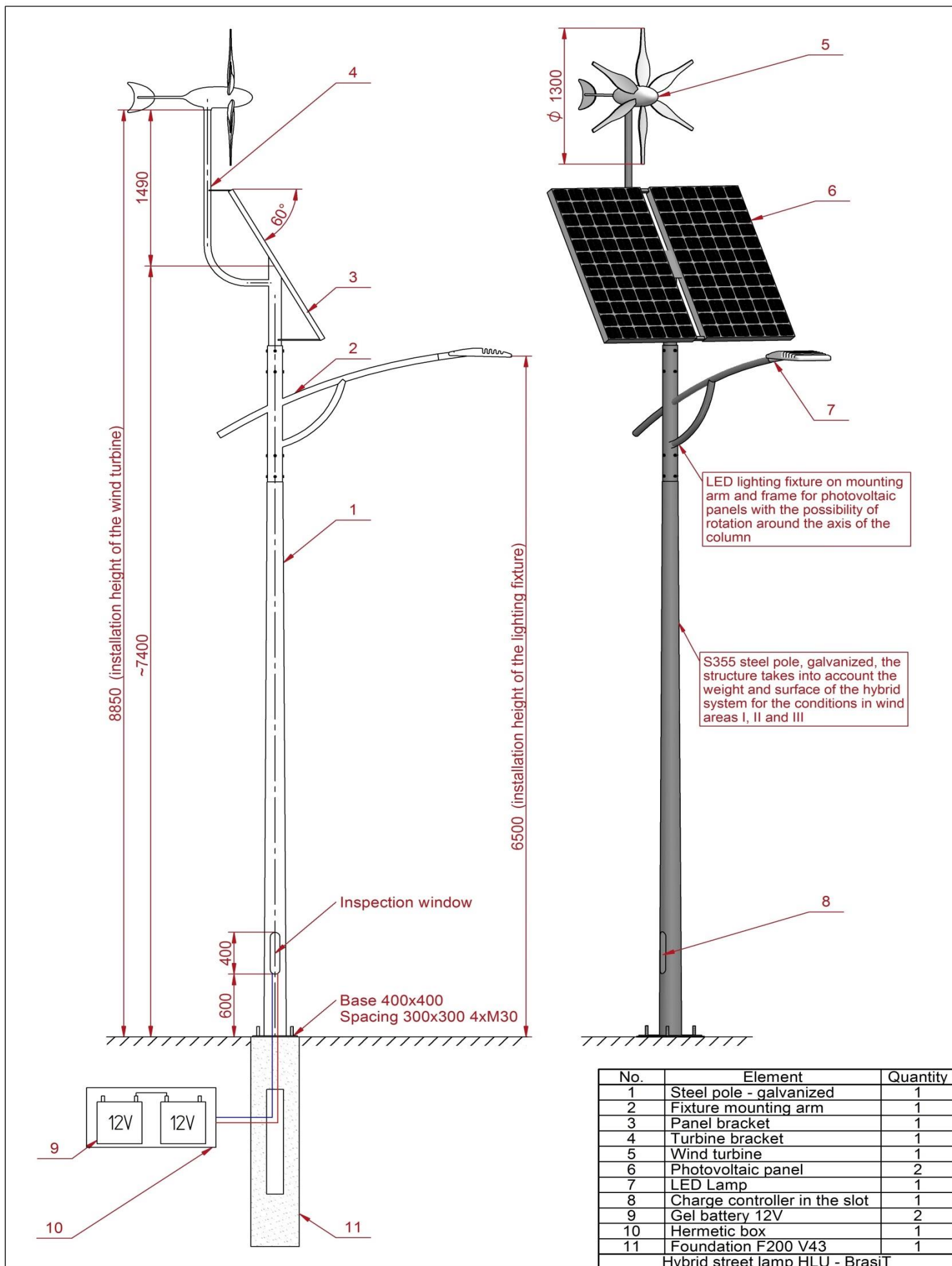
TECHNICAL SPECIFICATION AND PARAMETERS

Model	HLU-20W	HLU-30W	HLU-38W	HLU-50W
Wind turbine	Rated power: 400W 24V / Maximum output power: 500W Number of blades: 3 pcs. - Carbon fiber / Diameter: Ø 1330 mm + external charge controller, hermetic IP67 for wind turbine			
Photovoltaic panel	2 pcs. x 100Wp	2 pcs. x 190Wp	1 pcs. x 450Wp	2 pcs. x 300Wp
	Monocrystalline cell, tempered solar glass (thickness 3,2 mm), covered with an anti-reflexive layer, panels tested in accordance with IEC 61215 for a snow load up to 5400 Pa (approx. 5,4 kN/m ²) and IEC 61730 , Held certificates: ISO 9001, ISO 14001, OHSAS 18001, ISO 2859-1			
LED lighting fitting	Power of the fitting:			
	20W	30W	38W	50W
	Luminous Flux:			
	> 2,400 lm	> 3,500 lm	> 5,300 lm	> 6,800 lm
	LED luminous efficacy; 130 – 140 lm/W Service life: > 100,000 hours Protection degree: > IP66 / IP67 Regulated angle of LED head light / Impact resistance: min. IK 09			
Controller	1 pcs. x MPPT 20A 24V			2 pcs. x MPPT 20A 24V
	the light as well as time of operation by MPPT intelligent control, water resistance IP67 class, in-built twilight sensor, automatic brake and cut-off of powered load			
Battery	2 pcs. x 80Ah	2 pcs. x 100Ah	2 pcs. x 120Ah	2 pcs. x 200Ah
	NPG gel battery for solar installations, fully sealed, full deep discharge cycle, maintenance-free, > 2,000 discharge cycles			
Battery box	PVC material, placed underground, water resistant type, disperses heat, anti-burglar, PVC pipe for the cables included in the set			
Pole	Total height: from 7m to 10m , hot galvanized steel in accordance with EN ISO 1461 , pole model: " BrasiT ", steel S235, frame and bracket: steel S235 LED fitting hung at: 5,2m – 8m (according to guidelines) round pole – in accordance with EN 40-5:2002 and EN 40-2 a vehicle hitting: " 0 " class in accordance with EN 12767 , certificates of structural stability in accordance with EN 40-3-1 , "B" safety class, formability class "2", field category "II", Construction conforms to: EN 1090 The pole along with the construction for solar panels and boom arm for the wind turbine is adjusted to: "I, II or III wind zones in accordance with PN-EN 1991-1-4"			
Foundation	F-160 - F200 V43 M27 prefabricated foundation, certified, Meeting PN-EN 14991:2010 standard in accordance with the 2+ system adjusted to: I, II or III wind zones			
Working time	8-12 hours / day (full power) - battery capacity of up to 4 continuously cloudy and rainy days without sun - min. 40h without sun. There is the option of increasing the independence of lamps work. Possibility to set 5 periodic time lamp working (regulation in % of the power intensity of the LED lamp operating stream).			

Additional options:

- The possibility of purchasing an infra-red remote control and **Wi-Fi** interface with software to program and control the lamps from a distance.
- Poles can be painted in any colour from the **RAL** range for an additional price.
- **Economic version** - a cheaper version of the solar lamp, it is installed on straight octagonal poles.

Configuration of the system can be customized in accordance with specific requirements of the client or project. We take utmost care so that the designed system meets our client's expectations.
We ask for direct contact in case of a trade offer enquiry.





LED Solar Park Lamps



Solar lamps for parks and gardens powered by energy from sunlight constitute a wonderful alternative to classic park and decorative lighting, especially in places far from infrastructure where it is not economical to provide electrical power. Every solar lamp is independent and ready to work immediately after installation. The installation of solar lamps is fast and easy. It does not require complicated project documentation or consultation with the local power provider.

Basic versions:



The series of **solar decorative lamps** for parks is distinguished by their excellent look, superior quality and functionality. The lamps combine with old town architecture in a perfect way. They also make wonderful decorations of parks or squares. As standard, the pole is painted black. There is an option for it to be painted in any colour from the RAL range.

Extended versions:



SOLAR LAMPS FOR PARKS AND GARDENS: single arm

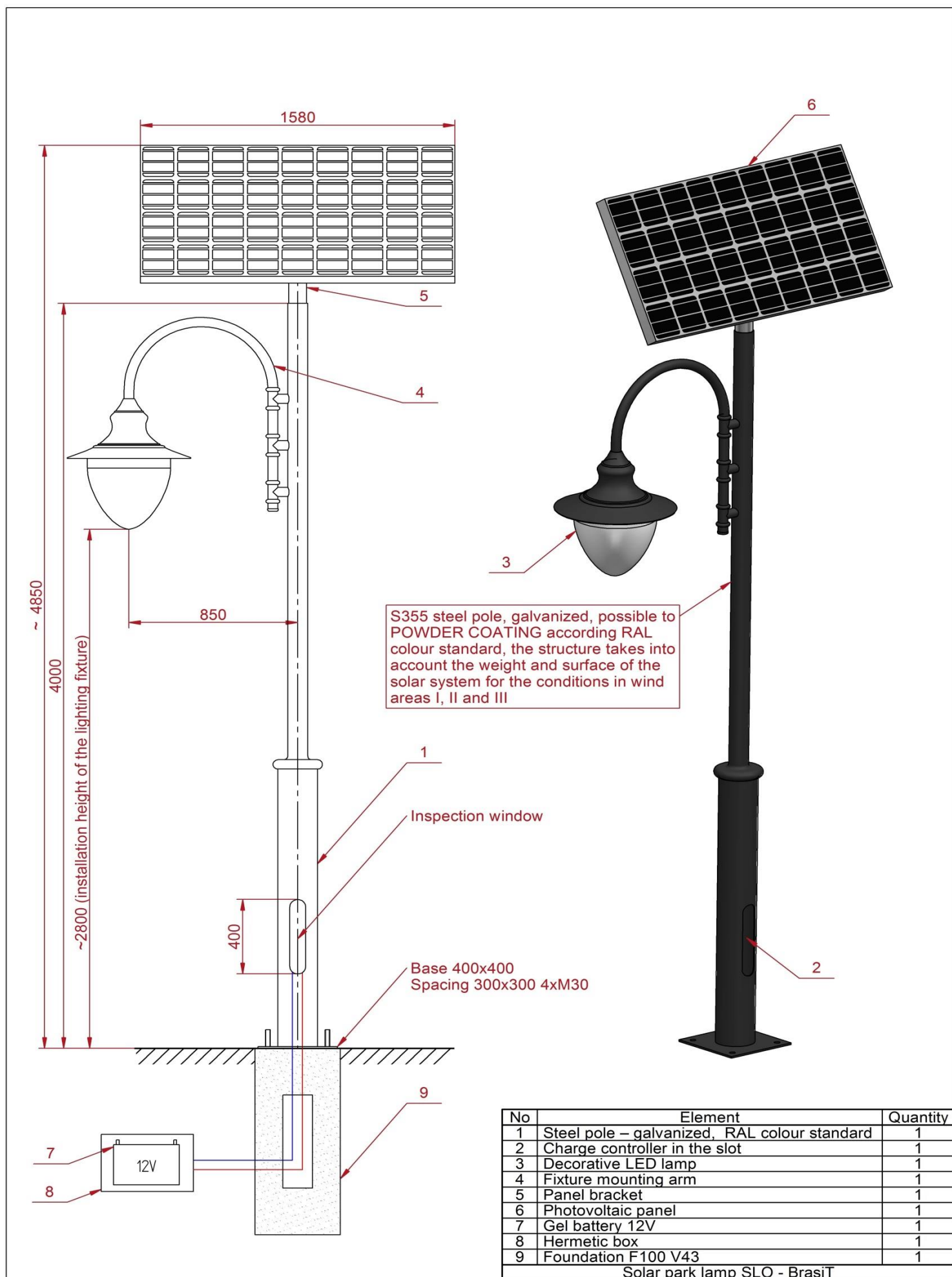
TECHNICAL SPECIFICATION AND PARAMETERS

Model	SLO-5W	SLO-8W	SLO-12W	SLO-16W
Photovoltaic panel	1 pcs. x 50Wp	1 pcs. x 100Wp	1 pcs. x 170Wp	1 pcs. x 200Wp
	Monocrystalline, tempered solar glass (thickness 3,2 mm), covered with an anti-reflexive layer, panels tested in accordance with IEC 61215 for snow load up to 5400 Pa (approx. 5,4 kN/m2) and IEC 61730 , Held certificates: ISO 9001 , ISO 14001 , OHSAS 18001 , ISO 2859-1			
LED lighting fitting	Power of the bulb:			
	5W	8W	12W	16W
	Luminous Flux:			
	> 500 lm	> 800 lm	> 1,200 lm	> 1,800 lm
	LED luminous efficacy; 110 – 120 lm/W Service life: > 50,000 hours / Protection degree: > IP65 *look and pattern of the fitting – lamp shade, to be selected in accordance with the client's requirements			
Controller	MPPT 15A 12V		MPPT 20A 12V	
	the light itself as well as the time of operation by MPPT intelligent control, water resistance IP67 class, in-built twilight sensor, automatic cut-off of powered load			
Battery	1 pcs. x 33Ah	1 pcs. x 60Ah	1 pcs. x 80Ah	1 pcs. x 120Ah
	NPG gel battery for solar installations, fully sealed, full deep discharge cycle, maintenance-free, > 2,000 discharge cycles			
Battery box	PVC material, placed underground, water resistant type, disperses heat, anti-burglar, PVC pipe for the cables is included in the set			
Pole	Total height: from 4m to 6m , hot galvanized steel in accordance with EN ISO 1461 steel S235, frame and bracket: steel S235 LED fitting hung at: 2,8 m – 5 m (according to guidelines) round pole – in accordance with EN 40-5:2002 and EN 40-2 certificates of structural stability in accordance with EN 40-3-1 , "B" safety class, formability class "2", field category "II", Construction conforms to: EN 1090 The pole along with construction for solar panels adjusted to: "I, II or III wind zones in accordance with PN-EN 1991-1-4" painted black in accordance with the RAL range			
Foundation	F100 M20 prefabricated foundation, certified, Meeting PN-EN 14991:2010 standard in accordance with the 2+ system adjusted to: <i>I, II or III wind zones</i>			
Working time	8-12 hours / day (full power) - battery capacity of up to 4 continuously cloudy and rainy days without sun - min. 40h without sun. There is the option of increasing the independence of lamps work. Possibility to set 5 periodic time lamp working (regulation in % of the power intensity of the LED lamp operating stream).			

Additional options:

- The possibility of purchasing an infra-red remote control and **Wi-Fi** interface with software to program and control the lamps from a distance.
- The pole can be painted any colour from the **RAL** range.
- **Economic version** – a cheaper version of the lamp is available without painting

Configuration of the system can be customized in accordance with the specific requirements of the client or project. We pay attention to aesthetic qualities – our offer contains a wide selection of decorative poles and lamp shades. **We ask for direct contact in case of a trade offer enquiry.**



SOLAR LAMPS FOR PARKS AND GARDENS: two-arm

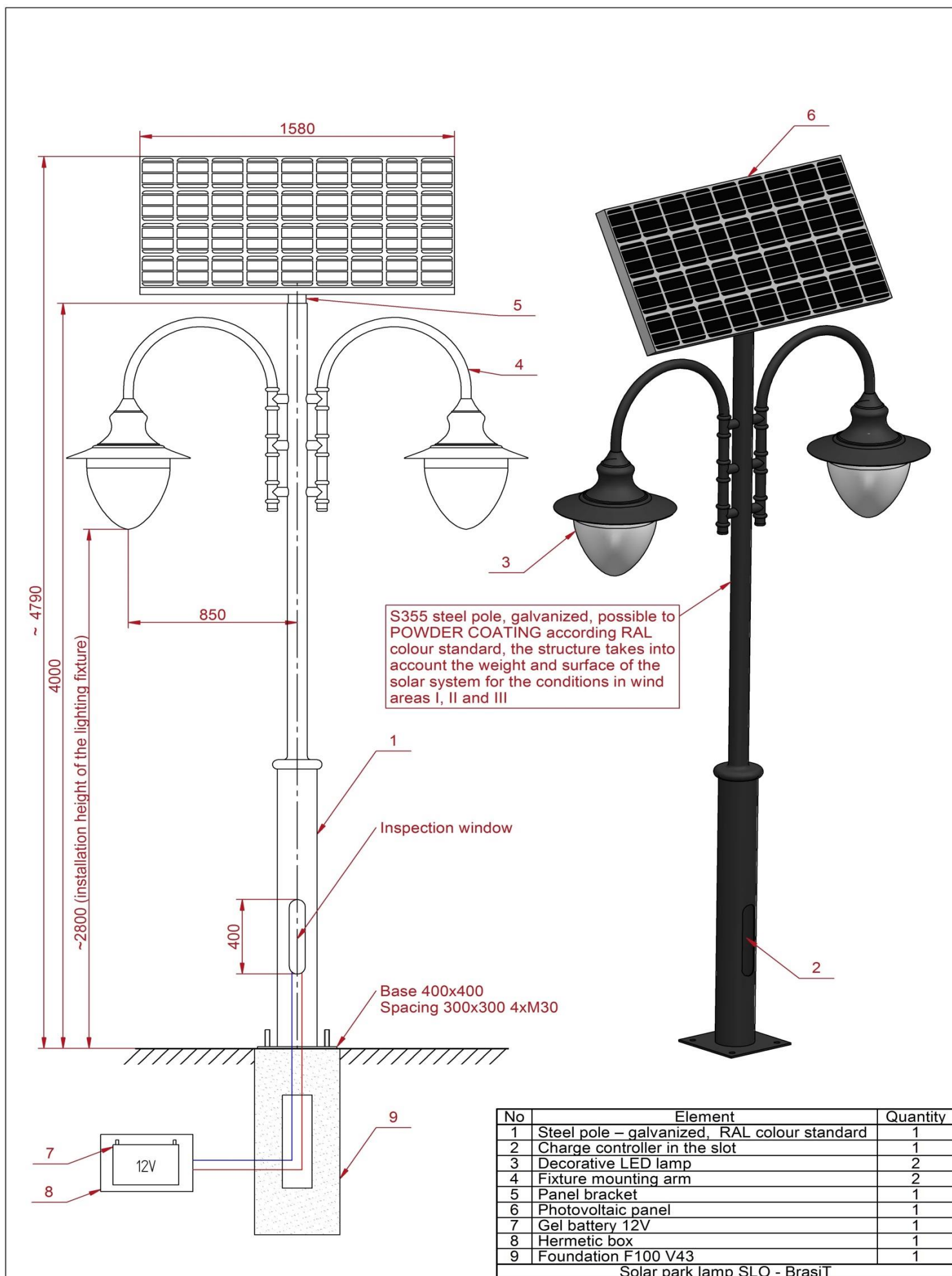
TECHNICAL SPECIFICATION AND PARAMETERS

Model	SLO-2x4W	SLO-2x6W	SLO-2x8W
Photovoltaic panel	1 pcs. x 100Wp	1 pcs. x 170Wp	1 pcs. x 200Wp
	Monocrystalline, tempered solar glass (thickness 3,2 mm), covered with an anti-reflexive layer, panels tested in accordance with IEC 61215 for snow load up to 5400 Pa (approx. 5,4 kN/m ²) and IEC 61730 Held certificates: ISO 9001, ISO 14001, OHSAS 18001, ISO 2859-1		
LED lighting fitting	Power of the bulb:		
	2 x 4W	2 x 6W	2 x 8W
	Luminous Flux:		
	> 800 lm	> 1,200 lm	> 1,600 lm
	LED luminous efficacy: 110 – 130 lm/W Service life: approx. 50,000 hours Protection degree: > IP65 *look and pattern of the fitting – lamp shade, to be selected in accordance with the client's requirements		
Controller	MPPT 15A 12V		MPPT 20A 12V
	the light itself as well as the time of operation by MPPT intelligent control, water resistance IP67 class, in-built twilight sensor, automatic cut-off of powered load		
Battery	1 pcs. x 60Ah	1 pcs. x 80Ah	1 pcs. x 120Ah
	NPG gel battery for solar installations, fully sealed, full deep discharge cycle, maintenance-free, > 2,000 discharge cycles		
Battery box	PVC material, placed underground, water resistant type, disperses heat, anti-burglar, PVC pipe for the cables is included in the set		
Pole	Total height: from 4m to 7m , hot galvanized steel in accordance with EN ISO 1461 steel S235, frame and bracket: steel S235 LED fitting hung at: 2,8 m – 6 m (according to guidelines) round pole – in accordance with EN 40-5:2002 and EN 40-2 certificates of structural stability in accordance with EN 40-3-1, "B" safety class, formability class "2", field category "II", <u>Construction conforms to: EN 1090</u> The pole along with construction for solar panels adjusted to: <i>"I, II or III wind zones in accordance with PN-EN 1991-1-4"</i> painted black in accordance with the RAL range		
Foundation	F100 M20 prefabricated foundation, certified, Meeting PN-EN 14991:2010 standard in accordance with the 2+ system adjusted to: <i>I, II or III wind zones</i>		
Working time	8-12 hours / day (full power) - battery capacity of up to 4 continuously cloudy and rainy days without sun - min. 40h without sun. There is the option of increasing the independence of lamps work. Possibility to set 5 periodic time lamp working (regulation in % of the power intensity of the LED lamp operating stream).		

Additional options:

- The possibility of purchasing an infra-red remote control and Wi-Fi interface with software to program and control the lamps from a distance.
- The pole can be painted any colour from the RAL range for an additional price.
- **Economic version** – a cheaper version of the lamp is available without painting.

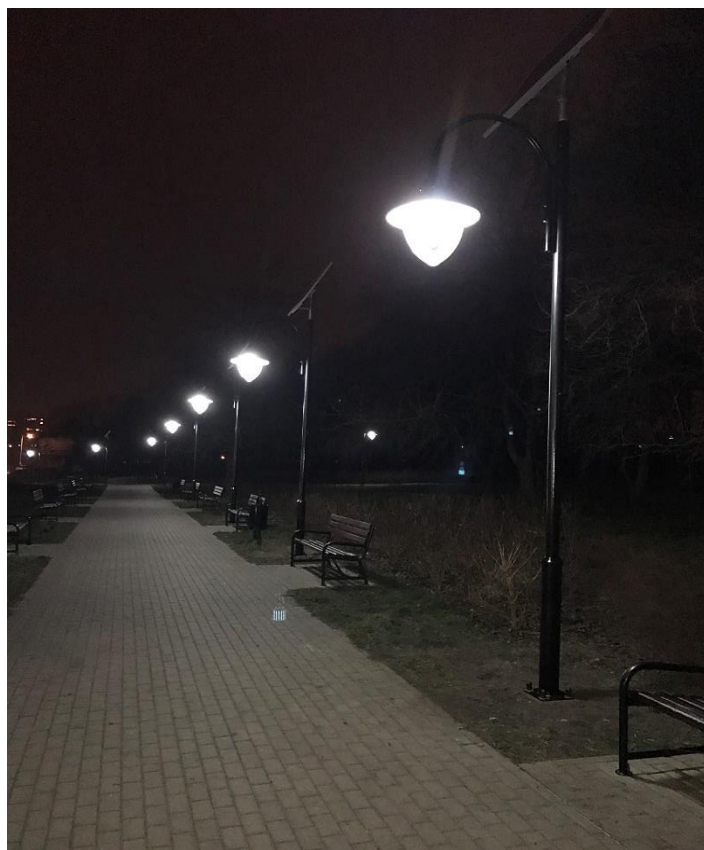
Configuration of the system can be customized in accordance with the specific requirements of the client or project. We pay attention to aesthetic qualities – our offer contains a wide selection of decorative poles and lamp shades. **We ask for direct contact in case of a trade offer enquiry.**



Below sample photos of selected realizations of solar and hybrid lamps performed by our company can be found. All of the lamps shown are fully functional devices in operation for our clients. References from investment recipients are available upon request.

Solar park lamp 16W

Location: 94-303 Łódź, Łódzkie Province



Solar street lamp 15W + Hybrid power system to camera CCTV

Location: 62-028 Koziegłowy, Wielkopolskie Province



BrasiT
Specialist in Innovative Technologies

Solar street lamps 80W – lighting of "Orlik" type sport grounds
Location: 95-200 Żytowice and 95-200 Petrykozy, Łódź Province



Hybrid street lamp 52W

Location: 27-530 Ożarów, Świętokrzyskie Province



Hybrid street lamp 38W

Location: 41-200 Sosnowiec, Śląskie Province



Hybrid street lamp 40W + znaki C9+U5a

Location: 20-258 Łuszczów Pierwszy, Lubelskie Province



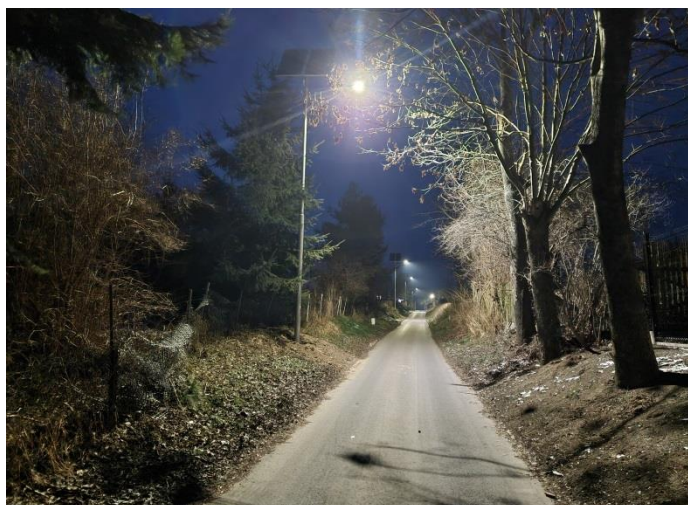
Hybrid street lamp 40W

Location: 87-330 Jabłonowo, Kujawsko-Pomorskie



Solar street lamp 38W

Location: 24-173 Markuszów, Lubelskie Province



Solar park lamp 12W

Location: 09-411 Biała, Mazowieckie Province



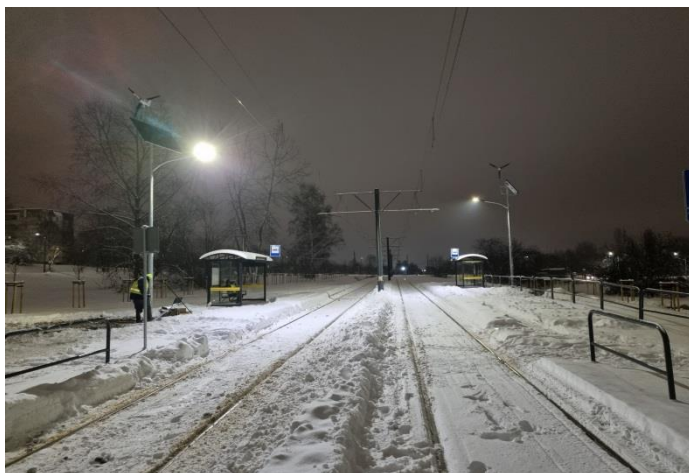
Solar street lamp 30W

Location: 87-510 Skrwilno, Kujawsko-pomorskie Province



Hybrid street lamp 38W

Location: 41-200 Sosnowiec, Śląskie Province



Hybrydowe lampy uliczne o mocy 38W

Location: 09-151 Nowe Przybojewo, Mazowieckie Province



Solar road radar

Location: Świętokrzyskie Province



More photos from our projects at: www.brasit.pl/realizacje



BrasiT

Specialist in Innovative Technologies

BrasiT®

ul. Lubelska 46

24 - 170 Kurów

POLAND

e-mail: info@brasit.pl

web: www.brasit.pl

Phone no. (+48) 500-855-340

Phone no. (+48) 696-918-454

NIP: PL 716-272-50-85



FIRMA GODNA
ZAUFIANIA
2020

