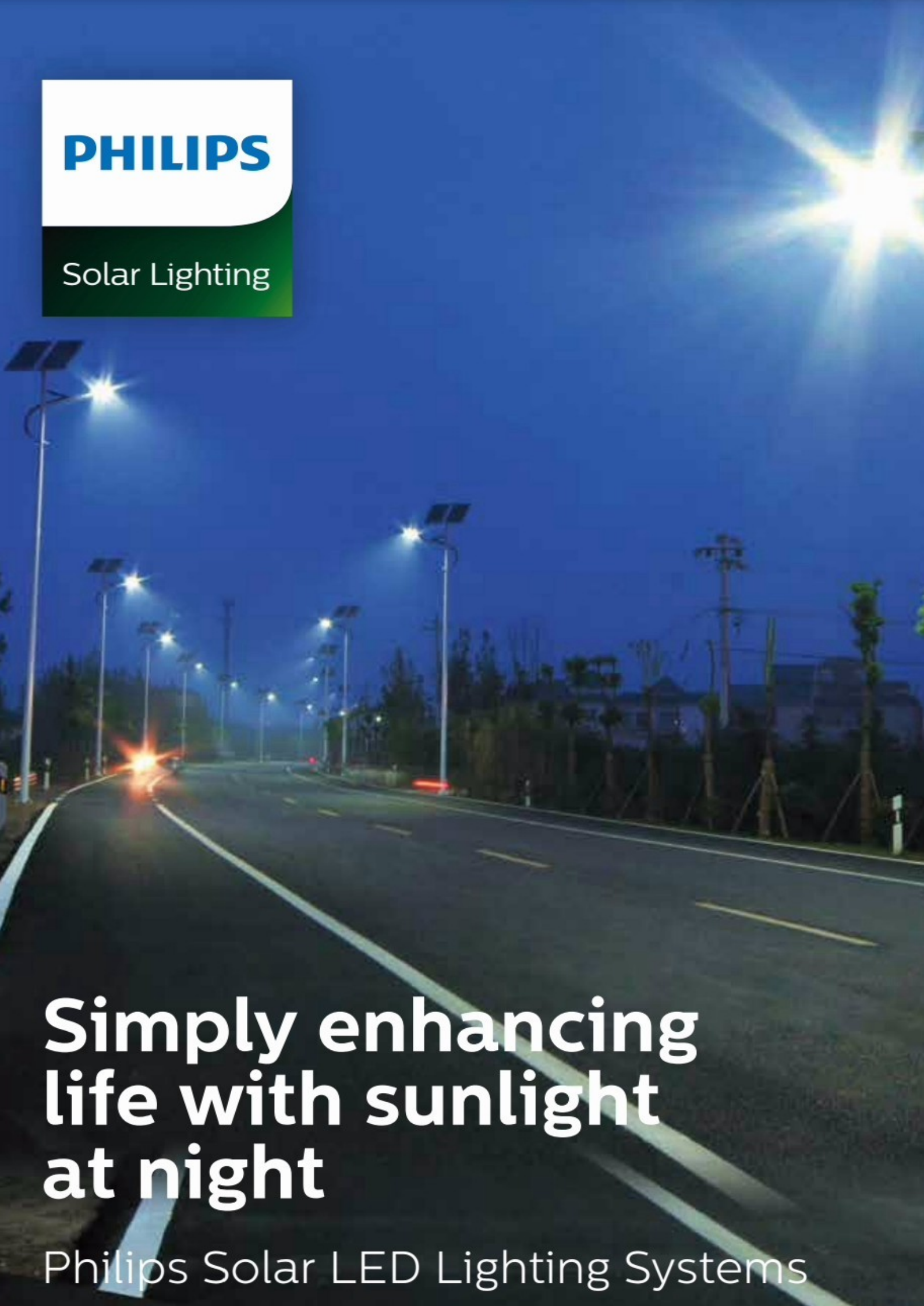


Simply enhancing life with sunlight at night

Philips Solar LED Lighting Systems

PHILIPS

Solar LED
Lighting Systems

PJU TENAGA SURYA

Solusi penerangan jalan umum dengan sumber listrik mandiri dari tenaga surya produk inovatif dan berkualitas dari PHILIPS untuk penerangan jalan dan penerangan lingkungan

BATERAI DITEMPATKAN DI BAWAH MODUL SURYA AMAN DARI PENCURIAN

SNI

TKDN

MODUL SURYA

Monocrystalline/PolyCrystalline
Efisiensi > 16%
Lifetime > 25 thn

10 YEAR WARRANTY

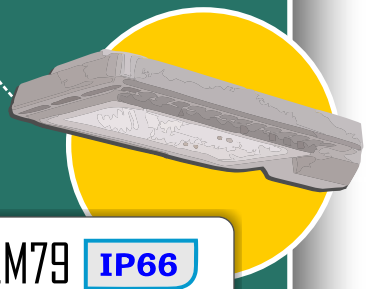
ISO 9001 ISO 14001 APPROVED

PROVIDED BY PHILIPS

3 YEAR WARRANTY

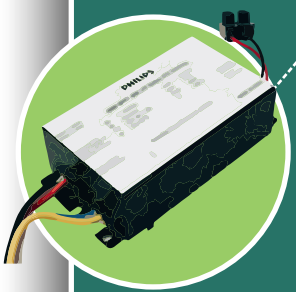
LAMPU LED

Hemat Energi
Lifetime > 50.000 Jam
Kualitas Produk terbaik dari PHILIPS



ISO 9001 ISO 14001 OHSAS 18001 SNI TKDN LM79 IP66

SOLAR CHARGE CONTROLLER



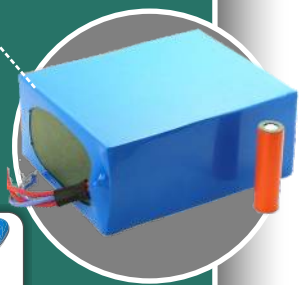
MPPT Charger dengan Efisiensi tinggi
Otomatis mendeteksi malam/Siang dengan Fungsi Smart Controller

3 YEAR WARRANTY

ISO 9001 ISO 14001 OHSAS 18001 IP65 RATED

BATERAI LiFePo4

Baterai Lithium Phosphat (LiFePo4) tahan terhadap temperatur hingga 60 C dengan expektasi usia operasi mencapai 5-6 tahun



3 YEAR WARRANTY

ISO 9001 ISO 14001 OHSAS 18001 BPPT

Spesifikasi PJUTS LiFePo4 40W-60W PHILIPS

MODUL SURYA		
Jenis Sel	Mono/Polycrystalline	
Jumlah Sel	36	
Daya Puncak	1x200Wp atau 2x100 Wp	
Toleransi Daya	0~ +5%	
LAMPU LED (PHILIPS)		
Tegangan nominal	12V	
Daya Lampu	40W-60W	
Pilihan Pola Dimmer	1. **60W** 2 jam - 40W 2 jam - 20W 8 jam	
	2. **40W** 4 jam - 30W 4 jam - 20W 4 jam	
CCT	5700K	
Material	Rumah Lampu Alumunium Die Casting Tebal	
	Penutup LED PMMA dengan proteksi UV	
Temp. Operasional	-20® -60® C	
IP Rating	IP 66	
BATERAI (PHILIPS)		
Jenis	LfePo4 Rechargeable Battery Pack	
Tegangan	Nominal	12.8 V
	Pengisian Maksimal	14.2 V
	Terputus (cut-off)	10.7V
Kapasitas	Nominal	60 Ah
KONTROLLER SURYA LED DRIVER (PHILIPS)		
Tipe Pengisian	MPPT	
Arus Pengriisan Maks.	17 A	
Tegangan nominal	12.8V	
Proteksi	Polaritas PV/Baterai terbalik	
	Kelebihan Pengisian/panas/tanpa beban	
ON/OFF Lampu	Deteksi surya /Timer	
Rating	IP 66	
KOTAK BATERAI		
Material	ABS/Aluminium	
IP Rating	IP-65	
* data dan spesifikasi dapat berubah sewaktu waktu		

PHILIPS

Solar LED
Lighting Systems

DISTRIBUTOR

PT. REKASURYA PRIMA DAYA
Jl. Terusan Jakarta, Komp Ruko Puri Dago
no 342 kav. 31, Arcamanik, Bandung,
Jawa Barat, Indonesia
022-205-222-79 | sales@rekasurya.com

rekasurya

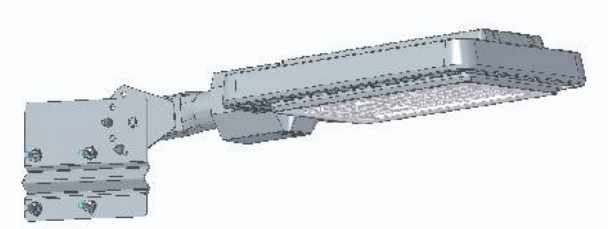
PHILIPS

Solar LED Lighting Systems

RoadFlair (Solar) BRP392

RoadFlair (Solar) - BRP392

Designed for main roads, street and path, Philips Solar RoadFlair is a new and exciting product set to brighten your streets beyond imagination. Smartly-designed system can bring free energy to rural areas and cities the nice and safe environment. Super high lumen efficiency makes the cost of whole solar system significant lower than before.
Philips solar system coupled with RoadFlair, improves a country's sustainability drive and matches clean energy strategy. With the help of application expert will create the best environment for your municipality, benefiting local communities and boosting tourism and business.



Application

- Roads
- Street
- Highways
- Parking

Benefits

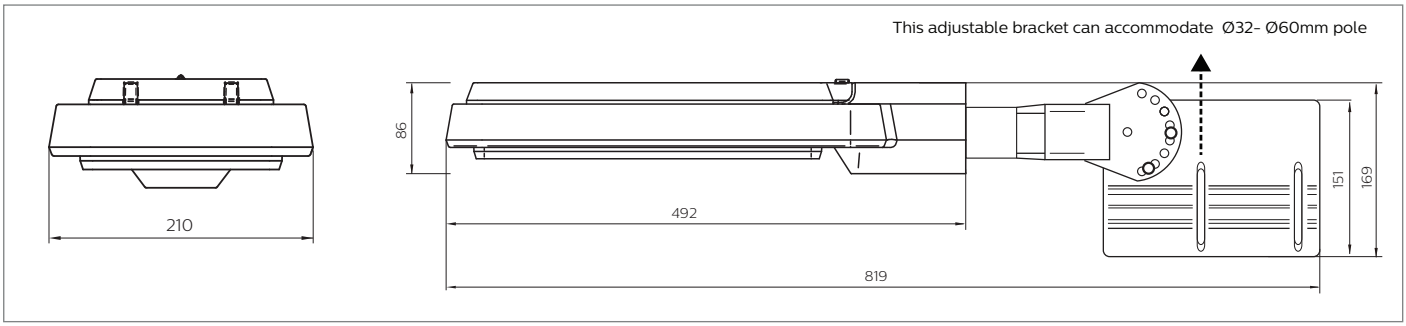
- High lumen efficiency
  minimum 150 lumen per watt
- Unique functional design
  Sleek, light-weight and well-designed luminaire
- Control and dimming ready
  Supports stand alone dimming functions
- Value for money/most competitive product in its segment
  Perfect for renovation, upgrading projects. Best in classs LED lighting technology at an unmatched, competitive price.

Specification

	Type	BRP392
General characteristics	Lifetime	50,000 hours (70% lumen maintenance @ Ta = 35°C)
	Tm21 projection	100,000 Hours L80 Ta 35°C
	Optics	DM
	Impact resistance IP	IP66
	SDCM	7
Light technical characteristics	Light source	LED
	System lumen output (lm)	6000lm for 40W and 9000lm for 60W
	Color rendering index	Minimum 70
	Color temperature	CW-5700K
Electrical characteristics	Power requirement	12V

Environmental characteristics	Installation	Ø42-60mm pole, side entry
	Windage area	BRP392: 0.1m²
	Mounting height	Optimized for 5 to 12m
	Wind force	Up to 60m/s
	Relative humidity	Up to 95% RH
Mechanical	Housing material	High pressure die-cast aluminum heat
	Gasket material	Resistant silicone rubber
	Cover	Transparent and weather resistant grade polycarbonate
	Finishing	Gray paint RAL7040
Product information	Dimensions (L x W x H)	BRP392: 492x210x86 mm
	Weight	BRP392: 5kg
	Certification	CE,SNI, IEC
	Classifications	IP66; IK08; Class I; RoHS
	Lumen efficacy	Minimum 150 lm/w
	Enclosure	IP66
	IK	IK08
	Working Temperature	(-) 20°C to + 60°C
	Beam Angle	130 Degree
	Cover Material	PMMA
	Light Distribution	Adjustable
	Armature Thickness	2,5 mm

Dimension (mm)



Preferred selection

Lumen	Power	Voltage	CCT	Weight	Package Size
(lm)	(W)	(V)	(K)	(kg)	(mm)
6000	40	12 V	5700	5	544 x 266 x 184
9000	60	12 V	5700	5	544 x 266 x 184

PHILIPS

Solar LED Lighting Systems

Combo MPPT CC

Integrated and High Efficiency Combo MPPT Charge Controller

Designed for solar lighting system applies to street lighting, pathways, sideways.

Value of driver and charge controller is low comparing to total cost of solar system, but they are key elements in the whole solution. Combo MPPT charge controller is a new innovation from Philips solar lighting, integrates function of driver and charge controller can optimize system performance.

Features and benefits

- MPPT efficiency up to 99.5%, 10-15% higher than PWM
- Temperature compensation extends battery lifetime
- Working mode programmable for various application
- Support remote monitoring system for easy maintenance
- International certificate ensures product quality

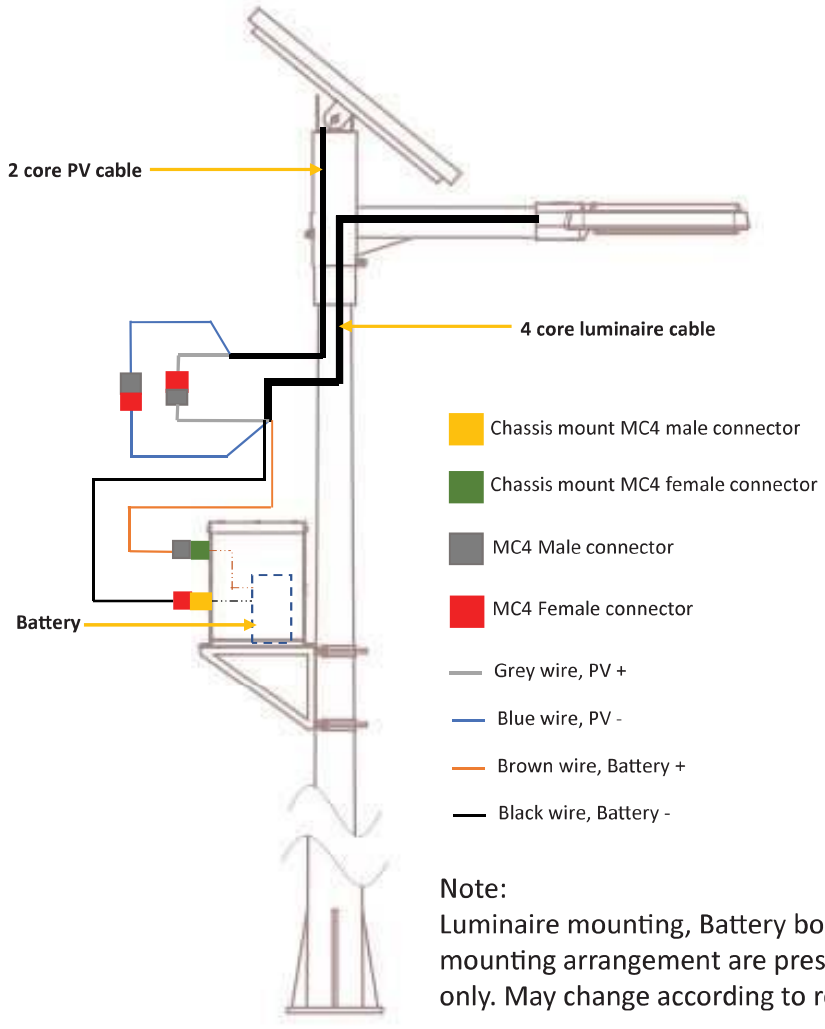
Specification

Type	200W MPPT 40W LFP Battery RTE Dimming		
Solar Panel (As per Topsun)	Open Circuit Voltage	Voc	22 V
	Short Circuit Current	Isc	12 A
	Voltage at Maximum Power	Vmp	18 V
	Current at Maximum Power	Imp	11.11 A
	Maximum Watt Peak	Wp	Up to 200 W
	Minimum Watt Peak		75 W Single Panel
Battery	Battery type supported		LiFeP04 (LFP)
	Battery Nominal Voltage	V	12.8 V
	Maximum Watt Peak		Up to 200 W
	Battery Ah/Voltage		40 Ah - 180 Ah / 12 V or
			12.8 V (single battery)
Battery Charger	CC Current		<17 A battery current
	MPPT Efficiency (Dynamic) (Static)		>97% (D) >97% (S)
	Charging Electronics Efficiency @ rated power @ 12 V battery and 18 V of PV		>93%
	Battery Temperature compensation for LiFeP04		N. A.
	Battery SOC/DOD		Based on Battery Voltage & SOC
Dusk	PV volt when LED Load turn ON	V	> 8 V ± 0.3 V
Dawn	PV volt when LED Load turn OFF	V	> 10 V ± 0.3 V
Battery Charging Thresholds	*Maximum Bulk Charge Volt	For LiFeP04	10 V to 14.3 V ± 0.3 V
	Constant voltage charging stage	For LiFeP04	At 14.3 V ± 0.05 V
	Low Battery Volt Cut off (Battery Not connected threshold		< 7 V
	Battery Over Voltage Level	For LFP Battery	14.8 V ± 0.3 V
	Recovery From Battery Over Volt Cut Off	For LFP Battery	<14 V ± 0.3 V within 2 min. (BMS Should have minimum 10% more Rating of it)
System Protection	Plug & play system with protection for cable input from PV to charge controller		
	• PV reverse polarity protection	• Battery over voltage protection	
	• Battery over discharge protection	• Battery oveheating protection	
	• Battery reverse polarity protection	• Load short circuit protection	
	• Load open circui protection	• Lithium batteries low temperature protection	

Specification

Type	200W MPPT 40W LFP Battery RTE Dimming		
Mechanical	Enclosure		IP65
Others	Working temperature		-20°C to -60°C
	Design life		50,000 hours

SOLAR SYSTEM WIRING SCHEMATIC



Note:
Luminaire mounting, Battery box and Panel mounting arrangement are presentational view only. May change according to requirement

LiFePO4 Battery Subsystem

Very Long Lifetime

- LiFePO4 battery can reach more than 1500 deep cycles at 80% DOD.

Safety

- LiFePO4 battery has been proved to have very stable and safe chemistry structure.

High Energy Density

- LiFePO4 battery has high capacity because of its high energy density.

No Memory Effect

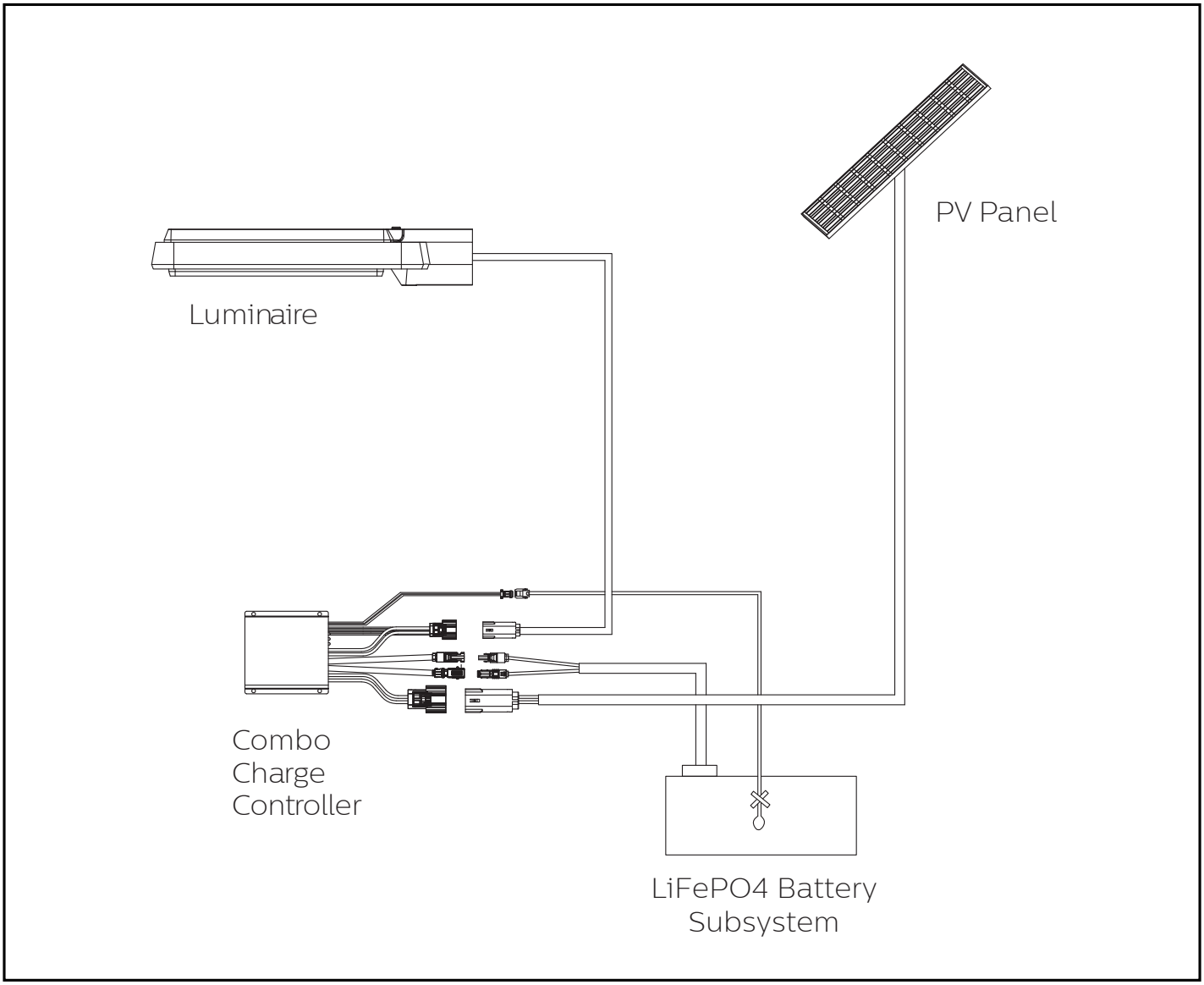
- LiFePO4 battery can discharge almost 100% of its initial capacity without damaging the battery structure.

Environmental Friendly

- LiFePO4 battery doesn't include hazard material or heavy metal.

Specification

	60Ah
Battery Type	Lithium Ion Phosphate battery (LifePo4)
Battery input Voltage	12.8 V
Battery weight	10 KG (Approx)
Battery Operation Humidity	0 to 90 %
Battery storage Humidity	0 to 90 %
Battery operating Voltage range	10V to 14.6V DC
Battery charging current (A, DC)	20A approx.
Battery operation temperature range	Charging (0 to 60 degree) & Discharging (-10 to 60 degree)



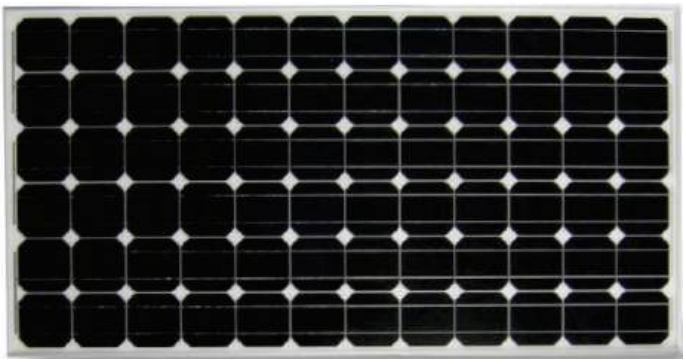
08 /2017
www.philips.com/solar-lighting

Len 200Wp - 12V Monocrystalline

PHOTOVOLTAIC MODULES

Modul Surya Len 200Wp - 12V Monocrystalline ini dibuat dari *solar cell* dengan effisiensi tinggi sehingga mampu menghasilkan daya maksimal hingga lebih dari 200 Wp, untuk kerjanya pada intensitas pencahayaan rendah juga sangat bagus sehingga modul ini masih dapat bekerja pada kondisi berawan dan waktu hujan. Modul ini merupakan pilihan yang tepat digunakan dalam berbagai aplikasi seperti untuk daerah terpencil, peralatan instrumen, sensor keamanan navigasi, lampu lalu lintas, dll.

Solar module Len 200Wp - 12V Monocrystalline is made of high conversion efficiency cells, so the maximum power of the module can reach as high as 200 Wp or more. Excellent low light performance guarantees our modules work superiorly even under the weak light conditions such as cloudy, foggy and rainy days. They are ideal choice for any application such as remote habitation, instrumentation system, security sensors navigation, traffic light, etc.



- IEC 61215:2016 & IEC 61730:2016 PV Module PolyCrystalline
- IEC 61215:2016 & IEC 61730:2016 PV Module Monocrystalline
- IEC 61701:2011(Salt mist Corrosion Testing) PV Module Polycrystalline & Monocrystalline
- IEC TS 62804-1:2015 (PID testing) PV Module Polycrystalline & MonoCrystalline
- IEC 62716:2013 (Ammonia Corrosion Testing) PV Module Polycrystalline & MonoCrystalline
- Certified by B2TE BPPT Based on SNI:04-3850.2-1995
- Corrosion Test Report Based on SNI:04-6298-2000

Renewable Energy

Electrical Characteristics

STC	Len 200 Mono
Optimum Operating Voltage (Vmp)	18.60 V
Optimum Operating Current (Imp)	11.30 A
Open - Circuit Voltage (Voc)	22.80 V
Short - Circuit Current (Isc)	11.80 A
Maximum Power at STC (Pmax)	200 W
Modul Efficiency	16 %
Operating Module Temperature	-40 °C to +85°C
Maximum System Voltage	1000 V DC
Maximum Series Fuse Rating	20 A
Power Tolerance	+ 0 – 3 %

STC : Irradiance 1000 W/m², module temperature 25 °C, AM=1.5;
Power measurement tolerance : ±3 %

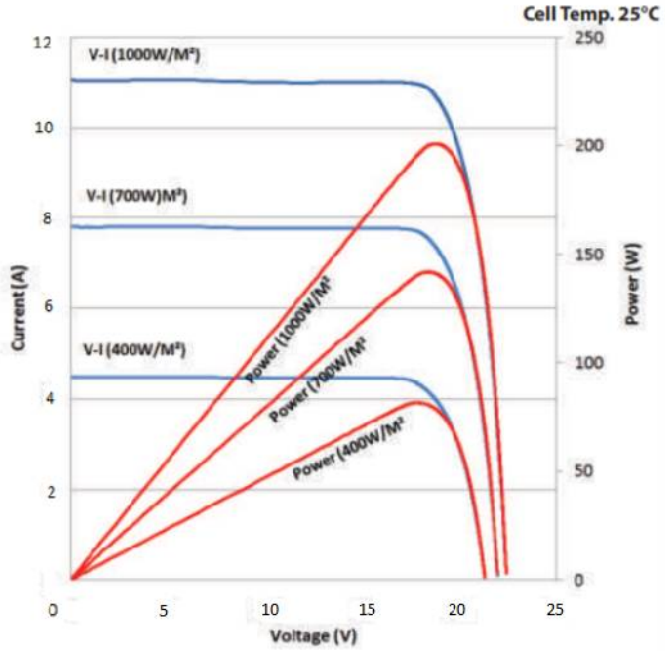
Temperature Characteristics

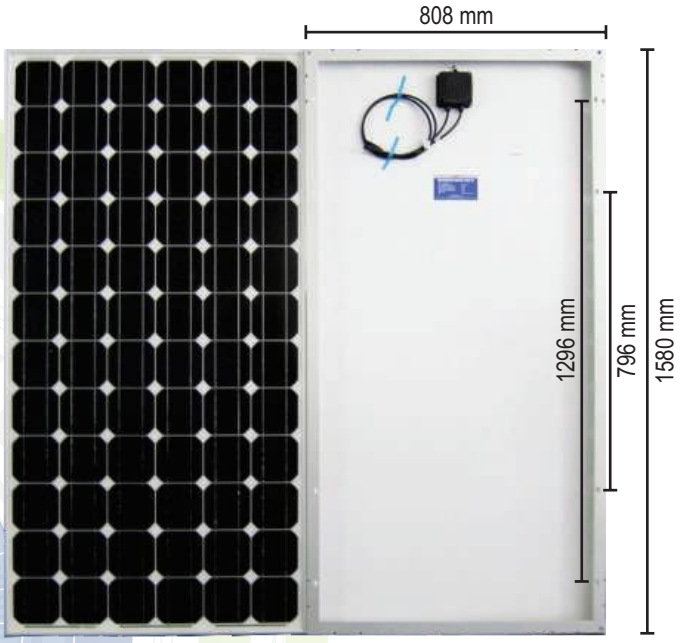
Nominal Operating Cell Temperature (NOCT)	45 ± 2 °C	
Temperature Coefficient of Power	-0.43	%/°C
Temperature Coefficient of Voc	-0.43	%/°C
Temperature Coefficient of Isc	0.03	%/°C

Mechanical Characteristics

Solar Cell	Monocrystalline Cell 125 x 125 mm
No. of Cells	72 (6 X 12)
Dimensions	1580 X 808 X 45 mm
Weight	15.5 Kg
Junction Box	IP67
Output Cables	TUV (2Pfg1169:2007), UL 4703, UL 444 mm² (0.00375 inches²)
Connectors	ZJRH connectors(MC3 or Mc4 type), symmetrical lenght - 1000mm(-) and 1000 mm(+)
Construction	Front : High Transmission low-iron, 3.2mm tempered glass; Back cover : Tedlar /TPE/TPT; Encapsulant : EVA; Frame : Anodized alumunium alloy

Current-Voltage & Power-Voltage Curve (Len 200 Monocrystalline)





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Web : www.len.co.id Email : marketing@len.co.id

4.1.200-M.VII-17

ISO 9001 : 2015 OHSAS 18001 : 2007
ISO 14001 : 2015 SMK3