Solar Controller

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Solar IOT Series — Single Light   SL–4G

The Server

Monitoring Device

PC

Pad

Phone

Base Station
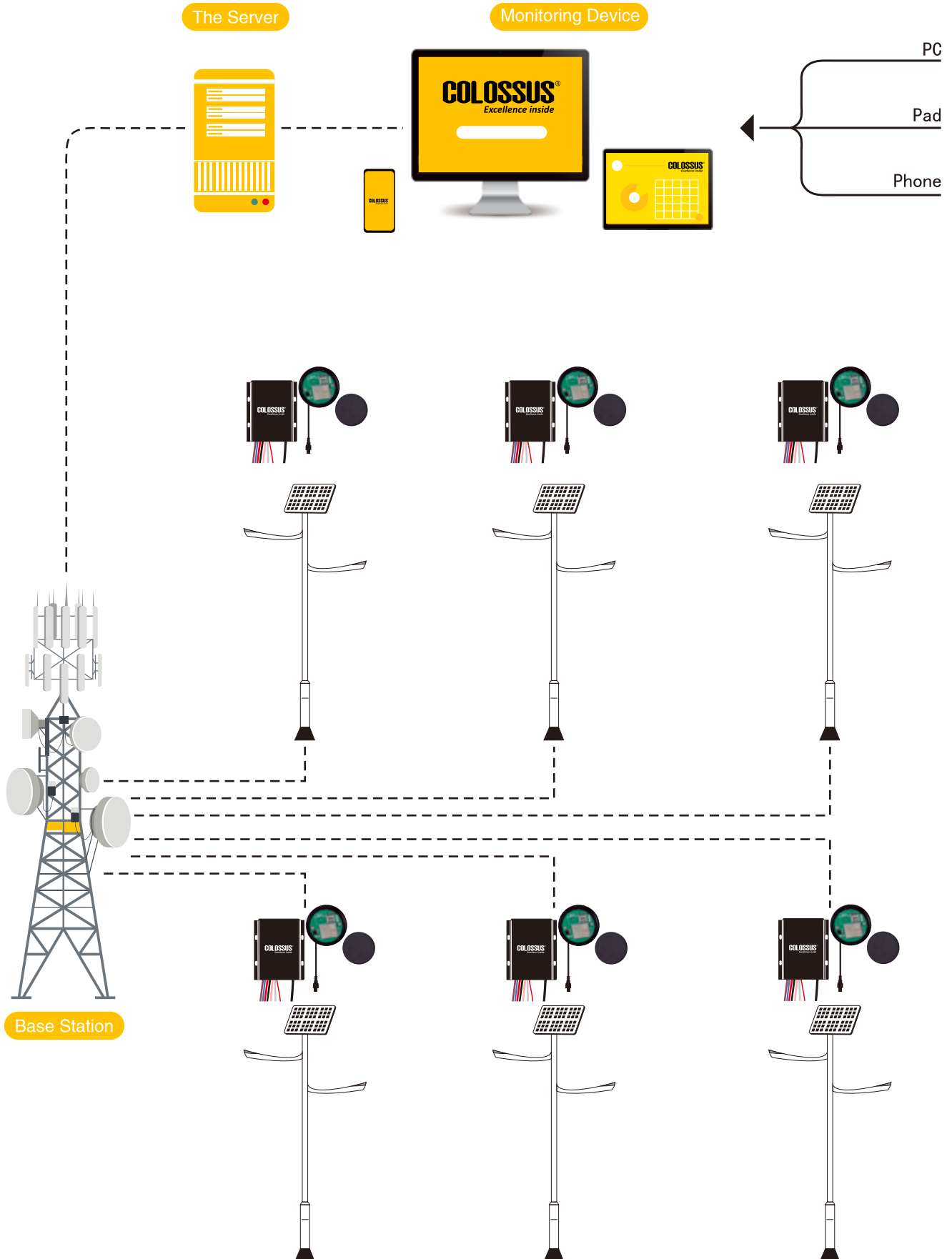
● **Server**

● **Key Advantages :**

Smarter Solar Lighting Control Our charge controller combines advanced technology with user-friendly design to deliver seamless performance and maximum efficiency.

• Wireless setup – quick installation, no extra wiring

• Remote control – switch lights ON/OFF via PC or mobile

• Smart monitoring – real-time data tracking and analysis

• Energy savings – advanced dimming for optimized efficiency

• System insights – monitor current and voltage limits

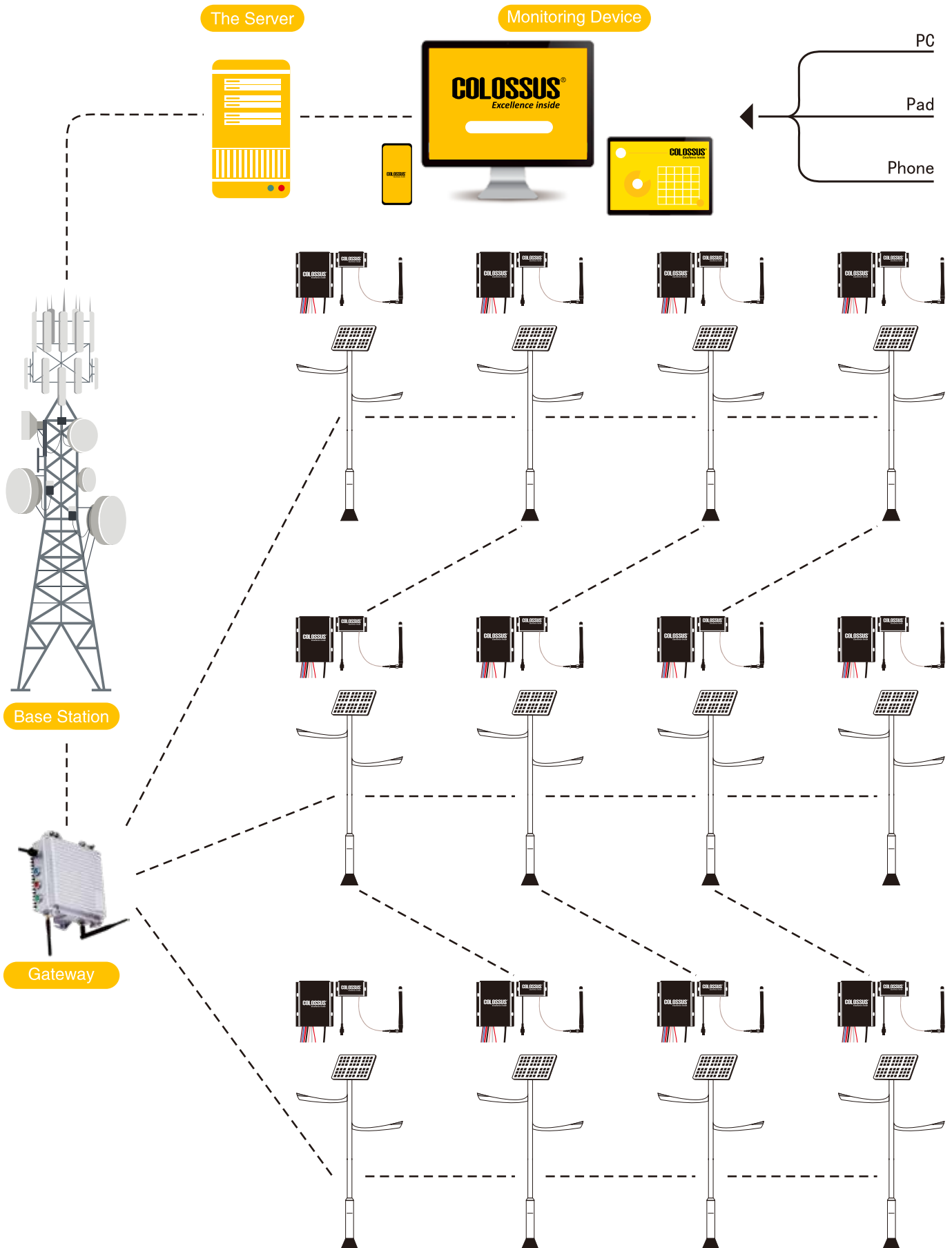• Flexible access – manage through mobile app or web portal

● **Product Features：**

· 4G CAT-1 network communication.

· The IOT module works with the solar controller to remotely control the solar lights and monitor the

status of the solar panels, batteries and lights.

· Lamp, battery, solar panel malfunction alerting.

· Remotely manage lighting times and dimming plan，individually or in groups.

· Platform management and work order delegation for convenient maintenance and management.

· GIS electronic map, optionally add GPS automatic positioning function.

● **Model Parameters:**

Model	SL-4G-64	SL-4G-32
Battery Voltage	6.4V~25.6V	3.2V
Operating Power Consumption	＜60mA	＜80mA
Operational Network	4G	
Antenna Type	External	
Data Rate	Max 10 Mbps	
Protection Class	IP67	
Automatic Positioning	Optional	
Size (mm)	56 × 33 × 14	
Weight (g)	72	

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Excellence inside

Solar IOT Series — Centralized Control SL–WG SL–4GWG

The Server

Monitoring Device

PC

Pad

Phone

Base Station

Gateway

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● Product Features：(SL-WG)

- · 4G network communication and wireless grid communication.
- · Wireless gateway networks between lights, self-optimization and self-healing of network drops.
- · A single gateway supports a maximum of 500 lights, and the trunking covers a radius of 5km.

● Model Parameters:

Model	SL-WG
Solar Voltage	5V/6V
Solar Panel Power	20W~40W
Stand-by Power Consumption	<0.5W（Internal Battery）
Operational Network	2G~4G
Antenna Type	External
Data Rate	2G Max 85Kbps/4G Max 10 Mbps
Protection Class	IP65
Size (mm)	255 × 197 × 96
Weight (g)	3325

● Product Features：(SL-4GWG)

- · Wireless grid communication
- · The IOT module works with the solar controller to remotely control the solar lights and monitor the status of the solar panels, batteries and lights.
- · Lamp, battery, solar panel malfunction alerting.
- · Remotely manage lighting times and dimming plan，individually or in groups.
- · Platform management and work order delegation for convenient maintenance and management.
- · GIS electronic map.

● Model Parameters:

Model	SL-4GWG
Battery Voltage	3.2V~25.6V
Operating Power Consumption	＜40mA
Communication Mode	Wireless grid
Antenna Type	External
Data Rate	9.6Kbps
Protection Class	IP67
Size (mm)	56 × 33 × 14
Weight (g)	67

24V Mppt Series

M indicates MPPT charging
G indicates the external induction module
2.4G indicates 2.4G wireless remote control
I indicates the external IOT module

● Product Features:

· High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.
· Industrial grade MCU full–digital control technology, high precision, anti–interference.
· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.
· Clear and easy to understand charge and discharge operational status indication, faulty indication.
· Automatic light control voltage points adjustable.
· 2.4G wireless communication, in addition to support external IOT module, induction module (optional).
· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.
· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	24160	24200
Battery Voltage	24V	
Charge Mode	MPPT	
Output Voltage Range	30V~48V	
Output Current Range	0.33A~5.94A	0.33A~7.26A
Maximum Output	160W	200W
Maximum Charging Current	15A	20A
Maximum Solar Panel Voltage	50V	
Protection Class	IP67	
Communication Mode	2.4G/infrared	
External Inductive Head (Optional)	Infrared/Microwave	
External IOT (Optional)	CTA–1 / IOT/ 4GWG	
Size (mm)	120 × 99 × 31	120 × 99 × 31
Weight (g)	530	530

24V MPPT AC/DC Hybrid Complementary Series
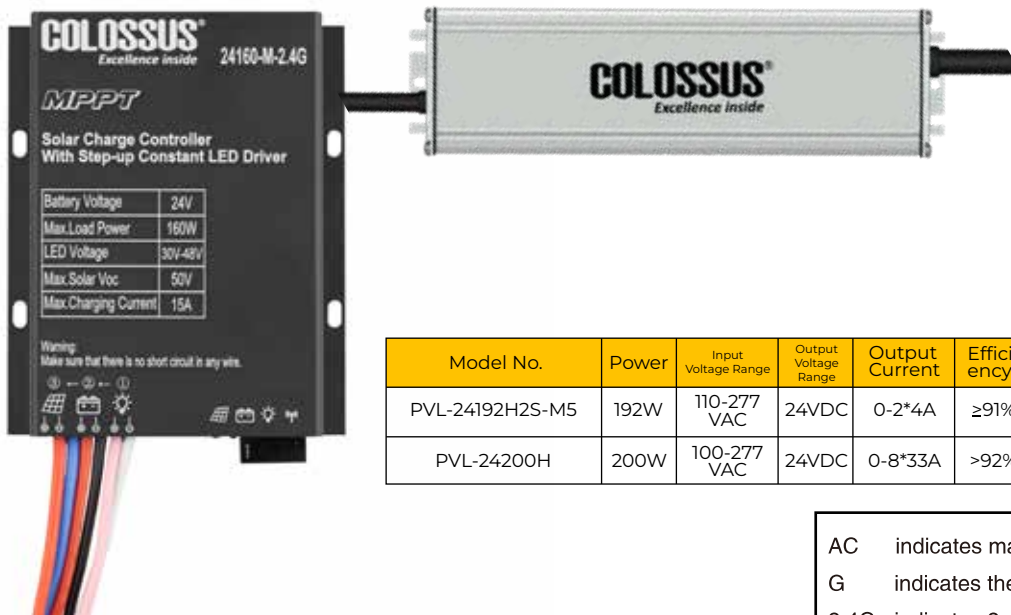
Model No.	Power	Input Voltage Range	Output Voltage Range	Output Current	Effici-ency	N.W.	PF	Size(mm)
PVL-24192H2S-M5	192W	110-277 VAC	24VDC	0-2*4A	≥91%	1050g	≥0.95	230X68X39
PVL-24200H	200W	100-277 VAC	24VDC	0-8*33A	>92%	1480g	>0.95	260X73X45

AC	indicates mains electricity complementary
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● **Product Features：**

· Solar power generation and mains electricity complementary, priority use of battery power, high power supply guarantee rate.

· High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.

· Industrial grade MCU full–digital control technology, high precision, anti–interference.

· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.

· Clear and easy to understand charge and discharge operational status indication, faulty indication.

· 2.4G wireless communication, in addition to support external IOT module, induction module (optional).

· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.

· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● **Model Parameters:**

Model	24160–AC
Battery Voltage	24V
Charge Mode	MPPT
Output Voltage Range	30V~48V
Output Current Range	0.33A~5.94A
Maximum Output	160W
Maximum Charging Current	15A
Maximum Solar Panel Voltage	50V
Protection Class	IP67
Communication Mode	2.4G/infrared
External Inductive Head (Optional)	Infrared/microwave
External IOT (Optional)	CTA–1 / IOT/ 4GWG
Size (mm)	120 × 99 × 31 Power Supply: 255 × 73 × 35
Weight (g)	580 Power Supply: 1160

12V MPPT Series

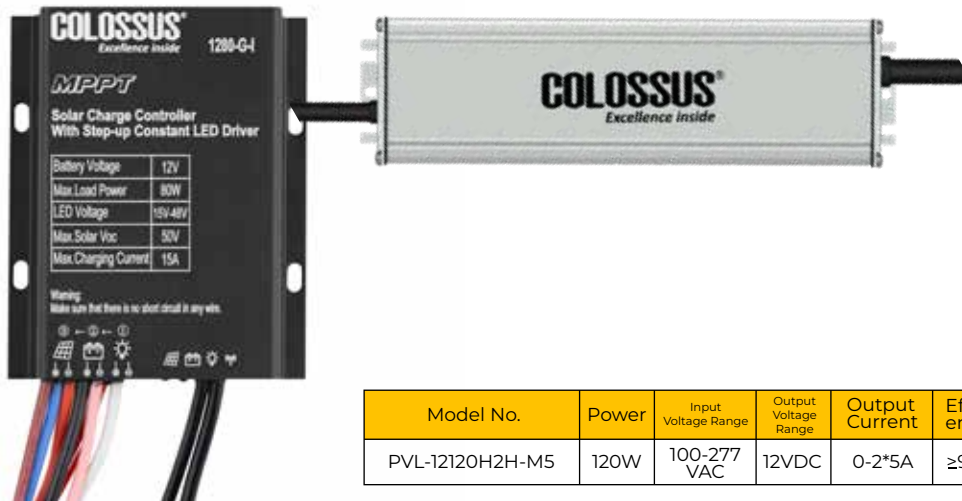|	
M	indicates MPPT charging
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● Product Features：

· High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.

· Industrial grade MCU full–digital control technology, high precision, anti–interference.

· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.

· Automatic light control voltage points adjustable.

· Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).

· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.

· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	1220	1240	1280	12120
Battery Voltage	12V			
Charge Mode	MPPT			
Output Voltage Range	15V~48V			
Output Current Range	0.33 A-1.32 A	0.33A~1.98A	0.33A~3.30A	0.33A~4.62A
Maximum Output	20W	40W	80W	120W
Maximum Charging Current	9A	10A	15A	20A
Maximum Solar Panel Voltage	50V			
Protection Class	IP67			
Communication Mode	Infrared /2.4G			
External Inductive Head (Optional)	Infrared/Microwave			
External IOT (Optional)	CTA–1 / IOT/ 4GWG			
Size (mm)	82 × 59 × 25	85 × 82 × 25	100 × 82 × 25	120 × 99 × 31
Weight (g)	175	245	300	530

12V MPPT AC/DC Hybrid Complementary Series

Model No.	Power	Input Voltage Range	Output Voltage Range	Output Current	Effici-ency	N.W.	PF	Size(mm)
PVL-12120H2H-M5	120W	100-277 VAC	12VDC	0-2*5A	≥90%	900g	≥0.95	205X68X39

AC	indicates mains electricity complementary
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● **Product Features：**

· Solar power generation and mains electricity complementary, priority use of battery power, high power supply guarantee rate.
· High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.
· Industrial grade MCU full–digital control technology, high precision, anti–interference.
· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.
· Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).
· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.
· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● **Model Parameters:**

Model	1280–AC
Battery Voltage	12V
Charge Mode	MPPT
Output Voltage Range	15V~48V
Output Current Range	0.33A~3.30A
Maximum Output	80W
Maximum Charging Current	15A
Maximum Solar Panel Voltage	50V
Protection Class	IP67
Communication Mode	Infrared /2.4G
External Inductive Head (Optional)	Infrared/Microwave
External IOT (Optional)	CTA–1 / IOT/ 4GWG
Size (mm)	120 × 99 × 31 Power Supply: 200 × 62 × 32
Weight (g)	560 Power Supply: 710

12V PWM Series

S	indicates PWM charging
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● Product Features：

· Three–stage PWM charging, intelligent lithium battery charge/discharge management, significantly extend battery life.

· Industrial grade MCU full–digital control technology, high precision, anti–interference.

· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.

· Clear and easy to understand charge and discharge operational status indication, faulty indication.

· Automatic light control voltage points adjustable.

· Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).

· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.

· Battery reverse connection/output short circuit, photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	1840	1880
Battery Voltage	12V	
Charge Mode	PWM	
Output Voltage Range	15V~36V	
Output Current Range	0.33A~1.98A	0.33A~3.30A
Maximum Output	40W	80W
Maximum Charging Current	10A	20A
Maximum Solar Panel Voltage	25V	
Protection Class	IP67	
Communication Mode	Infrared /2.4G	
External Inductive Head (Optional)	Infrared/Microwave	
External IOT (Optional)	CTA–1 / IOT/ 4GWG	
Size (mm)	82 × 59 × 25	100 × 82 × 25
Weight (g)	160	260

6.4V MPPT Series

M	indicates MPPT charging
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● Product Features：

· Super battery equalization, protection deep into each string core level, the controller provides better battery protection, and the battery life is longer.

· High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.

· Industrial grade MCU full–digital control technology, high precision, anti–interference.

· According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.

· Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).

· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.

· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	6460	64100
Battery Voltage	6.4V	
Charge Mode	MPPT	
Output Voltage Range	15V~36V	
Output Current Range	0.33A~2.64A	0.33A~3.96A
Maximum Output	60W	100W
Maximum Charging Current	20A	30A
Maximum Solar Panel Voltage	50V	
Protection Class	IP67	
Communication Mode	Infrared /2.4G	
External Inductive Head (Optional)	Infrared/Microwave	
External IOT (Optional)	CTA–1 / IOT/ 4GWG	
Size (mm)	100 × 82 × 25	120 × 99 × 31
Weight (g)	315	560

3.2V MPPT Series

|	
M	indicates MPPT charging
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● Product Features：

・High efficiency MPPT maximum power tracking technology, maximum power electrical tracking efficiency > 99.9%, effectively improve system efficiency, reduce system cost.
・Industrial grade MCU full–digital control technology, high precision, anti–interference.
・According to the real–time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.
・Clear and easy to understand charge and discharge operational status indication, faulty indication.
・Automatic light control voltage points adjustable.
・Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).
・The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.
・Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	3229	3240	3260
Battery Voltage		3.2V	
Charge Mode		MPPT	
Output Voltage Range		9V~36V	
Output Current Range	0.33A~1.65A	0.33A~1.98A	0.33A~2.64A
Maximum Output	30W	40W	60W
Maximum Charging Current	15A	20A	30A
Maximum Solar Panel Voltage		25V	
Protection Class		IP67	
Communication Mode		Infrared /2.4G	
External Inductive Head (Optional)		Infrared/Microwave	
External IOT (Optional)		CTA–1 / IOT/ 4GWG	
Size (mm)	100 × 82 × 25	100 × 82 × 25	120 × 99 × 31
Weight (g)	290	300	570

3.2V PWM Series

Solar Charge Controller
With Step-up Constant LED Driver

Battery Voltage	3.2V
Max.Load Power	25W
LED Voltage	3V
Max.Solar Voc	9V
Max.Charging Current	15A

Warning:
Make sure that there is no short circuit in any wire.

③ ← ② ← ①

S	indicates PWM charging
G	indicates the external induction module
2.4G	indicates 2.4G wireless remote control
I	indicates the external IOT module

● Product Features：

· Three−stage PWM charging, intelligent lithium battery charge/discharge management, significantly extend battery life.
· Industrial grade MCU full−digital control technology, high precision, anti−interference.
· According to the real−time capacity of the battery and the charging power of the solar panel, the lighting power is automatically adjusted to ensure that the lights are guaranteed every day for 365 days.
· Clear and easy to understand charge and discharge operational status indication, faulty indication.
· Automatic light control voltage points adjustable.
· Infrared /2.4G wireless communication, in addition to support external IOT module, induction module (optional).
· The aluminum shell is easy to heat dissipation; Fully sealed filling silicone rubber glue; IP67 waterproof grade; To ensure the use in a variety of harsh environments.
· Battery reverse connection/output short circuit/photovoltaic panel reverse connection and other multiple protective functions.

● Model Parameters:

Model	3212	3218	3230
Battery Voltage	3.2V		
Charge Mode	PWM		
Output Voltage Range	3V		
Output Current Range	0.33A~6.60A	0.33A~8.25A	0.33A~10.5A
Maximum Output	20W	25W	32W
Maximum Charging Current	12A	15A	20A
Maximum Solar Panel Voltage	9V		
Protection Class	IP67		
Communication Mode	Infrared /2.4G		
External Inductive Head (Optional)	Infrared/Microwave		
External IOT (Optional)	CTA−1 / IOT/ 4GWG		
Size (mm)	69.5 × 33 × 17	82 × 36.5 × 25	82 × 36.5 × 25
Weight (g)	75	125	135

● Sensor
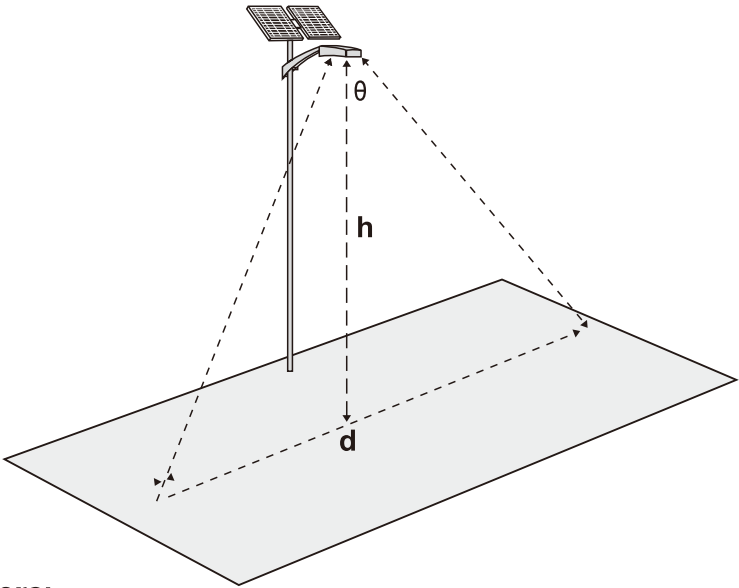
● Model Parameters:

Model	θ（Angle）	h（Light Pole Height）	d（Sense Width）
WB–52	65°	6m~9m	10m~16m
WB–21	65°	6m~9m	10m~16m
HW–52	60°	6m~8m	9m~14m
HW–23	60°	6m~8m	9m~14m

● WB–52

⌀60mm

7mm

⌀52mm

13mm

10mm

7mm
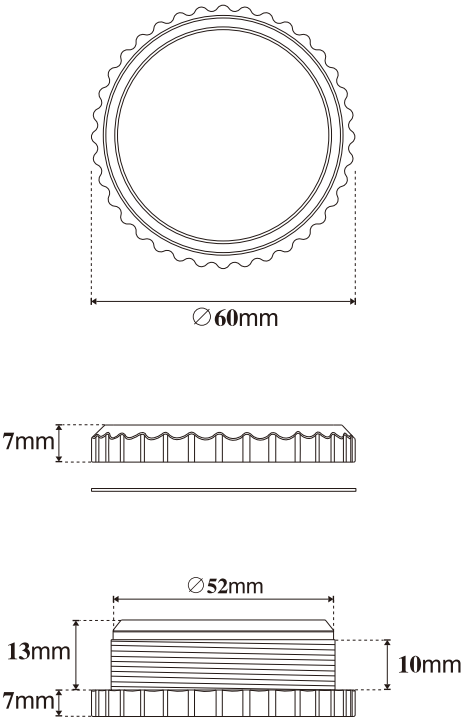
● Model Parameters:

Overall Dimension（mm）	Mounting Hole Diameter（mm）
⌀ 60XH20	⌀ 52

WB–21
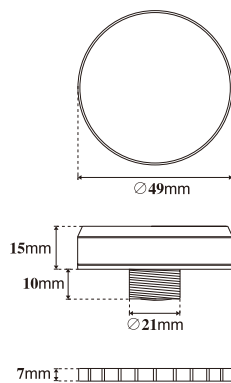
∅49mm

15mm
10mm
∅21mm

7mm

● Model Parameters:

Overall Dimension（mm）	Mounting Hole Diameter（mm）
∅ 49XH22	∅ 21

HW–52

∅60mm

7mm

∅52mm
23mm
7mm
10mm
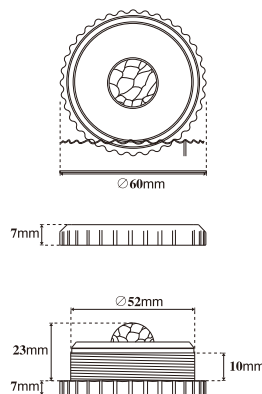
● Model Parameters:

Overall Dimension（mm）	Mounting Hole Diameter（mm）
∅ 60XH30	∅ 52

HW–23
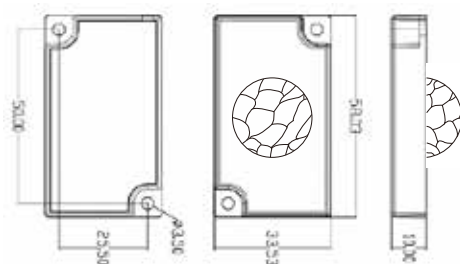
● Model Parameters:

| Overall Dimension（mm）	Mounting Hole Diameter（mm）
58 × 33.5 × 10	∅ 23

Remote Controller

● Product Features：

・Multi−function button design, common functions of one−button, convenient and fast.
・Wireless remote control to achieve remote accurate control of solar street lights.
・Configure controllers in batches.

● Model Parameters:

Model	RC1
System Operating Voltage	4.5V
LCE Size	Color 2NCH
Communication Mode	Infrared Emissivity 2.4G
Operating Temperature	-40°C~+80°C
Continuous Working Hours	More Than 72 H
Shell Material	ABS+PC
Size（mm）	130×70×20
Weight（g）	80
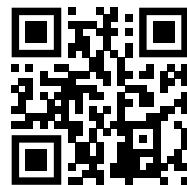
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Head Office: #809/810, 8th Floor, Tower-B,
Lodha Business District, Kolshet Road, Thane West - 400607
Call: +91-8291898747 / +91-7738087471

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