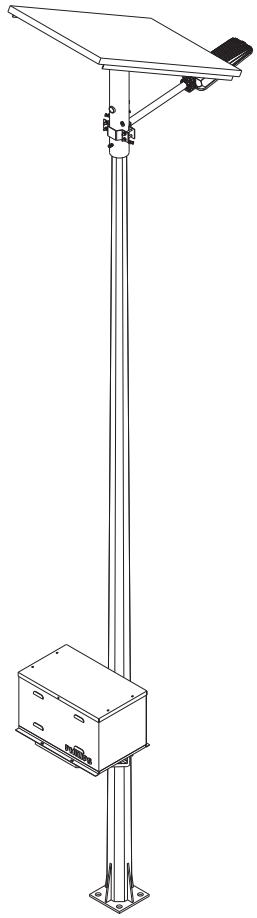
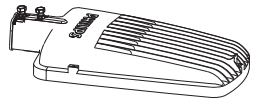
PHILIPS



Solar

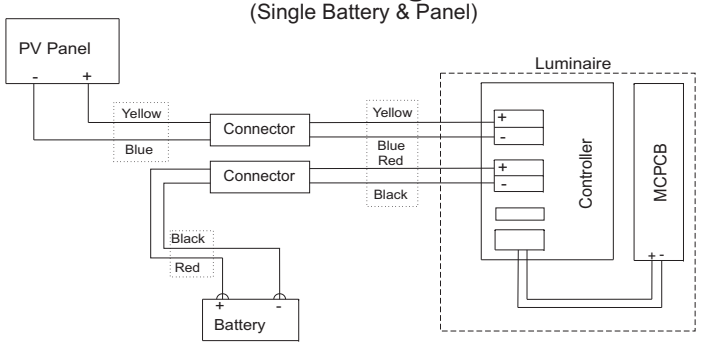
installation manual



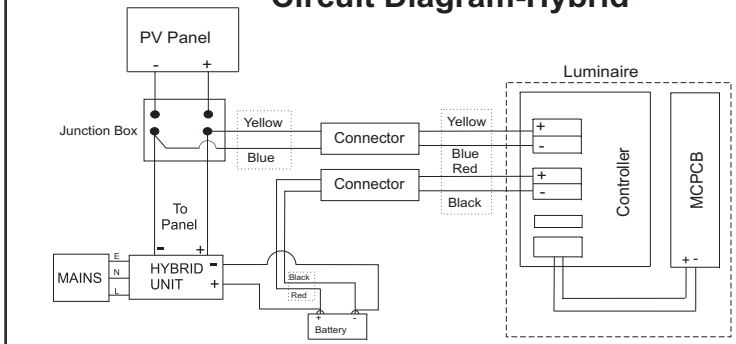
Greenline V2 Solar - BRP409)

Registered Office:
Philips India Limited
7, Justice Chandra Madhab Road, Kolkata 700020
http://www.philips.com./

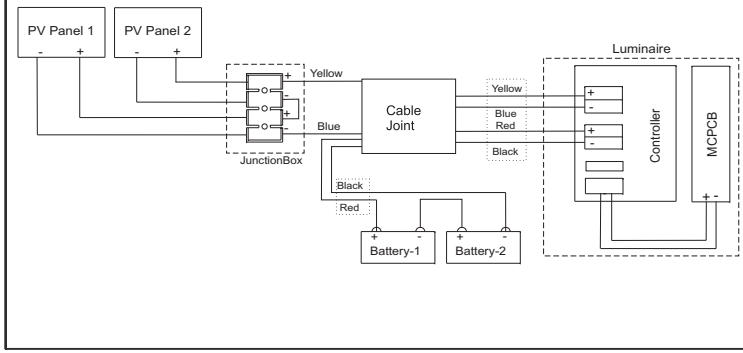
Circuit Diagram
(Single Battery & Panel)



Circuit Diagram-Hybrid



Circuit Diagram
(Twin Battery & Panel)



Precautions

Ensured that the Battery and Panel used are as specified by PHILIPS and undamaged (Read rating on the Battery and Panel)

All the connections should be tight and ‘O’ type thimble to be use for battery connections.

All the terminals are clean, rust free and carbon free before making connections.

Petroleum Jelly is put on the thimbles of Battery connection wire after making the connections

For mulitple PV connections please follow the circuit label diagram.

For mulitple Battery connections please follow the circuit label diagram.

Connect Battery first then panel.

Ensure that the system/panel is not mounted under shadow.

Do not cut any wire, preferably use terminal block or use proper insulation for any connection or addition cable length.

Battery connections are done as per the wire's label and Battery terminal's marking

Panel connections are done as per the wire's label and panel terminal's marking

Used proper washers, spring washers and nuts as mentioned in this booklet at all the places

System mounted on the pole and Panel oriented as specified for your geographic location

Measure the battery voltage and specific gravity before making the connections. Battery voltage should be 12V & gravity should be 1.2

In battery, cap should be replace with Waterlevel indicator/Bent plug.

Corrosive Material Handling:
The acid used in the Battery is corrosive, handle with extreme care. Always wash your hands after working on the Battery.

Battery Disposal:
Battery contains poisonous (lead) and corrosive (electrolyte) materials. Care must be taken when disposing damaged batteries.

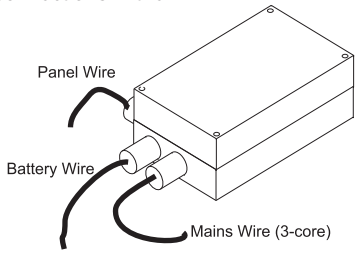
Battery usage:
Batteries must be installed within 3 months of supply, failure to do this may require additional charging before putting the system into operation.

HYBRID-ADDITION

1

Hybrid AC Charger is a box of the sorts shown below, three connectios are to be made in the following sequence
1) Battery Connection
2) Panel Connection
3) Mains Connection

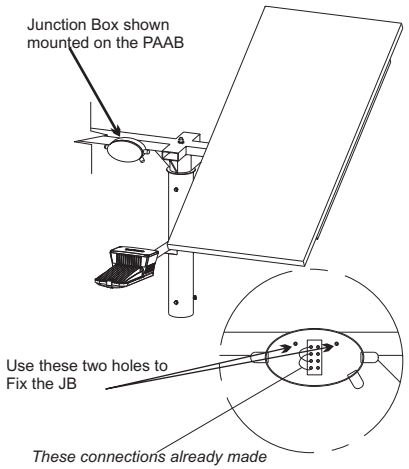
For safety reasonsMake the Panel connections in the END



Place this box inside the Battery Box and make the Battery connections taking care of the polarity

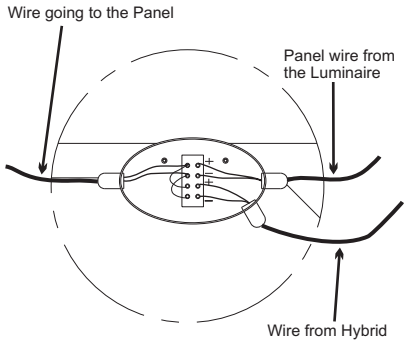
2

Take the Panel wire to the top through the Pole and mount the Junction Box on the Panel Mounting Bkt or PAAB with the help of 2 M4 screws



3

Make the Panel Connections inside the Junction Box as shown and after that close back the JB cover by tightening the screws



Take care to match the polarity while making the connections, see the wire color and read the labels

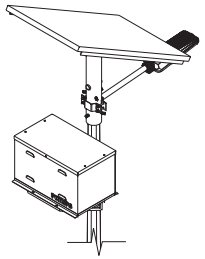
***CAUTION:** Wrong connections may permanently damage the system!!*

Philips Lighting

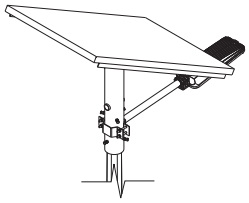
Installation Instruction

Solar LED Street Lighting

SOLAR



Top Mounted

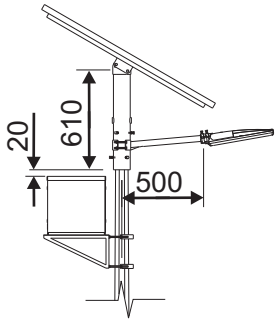


Bottom Mounted

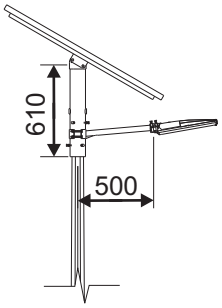
Type	:	BRP409
Voltage	:	12V/24V DC (Refer individual luminaire type label for input voltage rating)
IP Classification	:	Panel - IP 65, Battery Box - IP 43 Luminaire - Refer Individual luminaire for IP rating
Application	:	Outdoor use only Solar LED Street Lighting System

PHILIPS

Dimensions

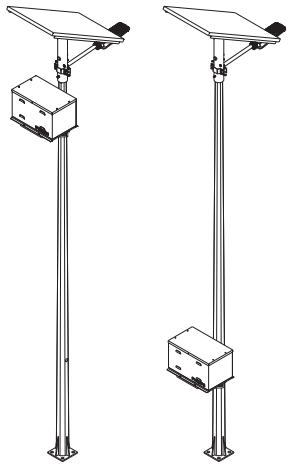


Top Mounted



Bottom Mounted

Installation



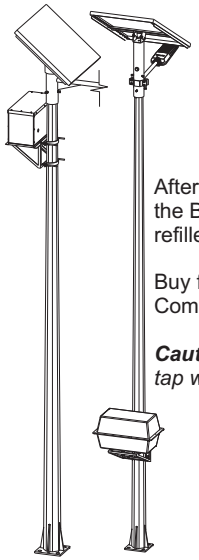
Mounting Position: Horizontal
Pole Height: 4m to 7m (Varies with Product)

Most of the setup to be assembled at the ground level and then taken up, to put on the Pole top

Caution - Take extreme care with +ve/-ve terminals at each connection, otherwise the system may get damaged permanently.

17

The final assembly looks like this



For both Top and Bottom Mounted.
Also showing both type of Battery Boxes

After every FOUR months the Battery needs to be refilled with distilled water.

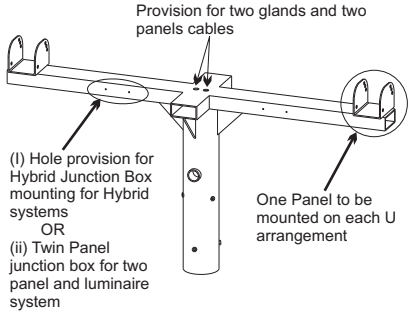
Buy from a standard Company.

Caution: *Don't use normal tap water!*

18

For Twin mounting, PAAB will change from universal to TWIN one and rest of the components used will be 2 in No, each.

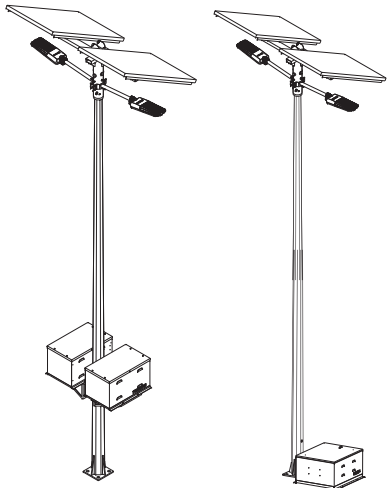
The mounting steps to be followed are same and have to be followed for each Luminaire individually.



TWIN PAAB

19

The final TWIN mounted assembly looks like this



For high wattage standalone system using two batteries on single big battery box, make proper arrangement on the ground for fixing.

20

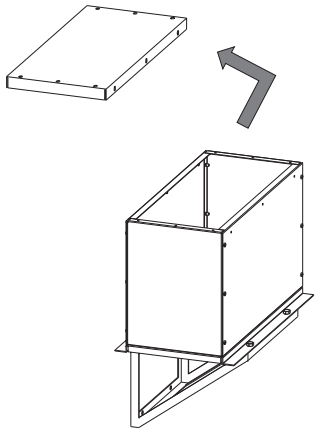
Cable Information
(Cable used by customer Unless Otherwise specified)

PV Module capacity (Wp)	Wire Size (Sq. mm)
≤75	1.5
>75	2.5

PHILIPS

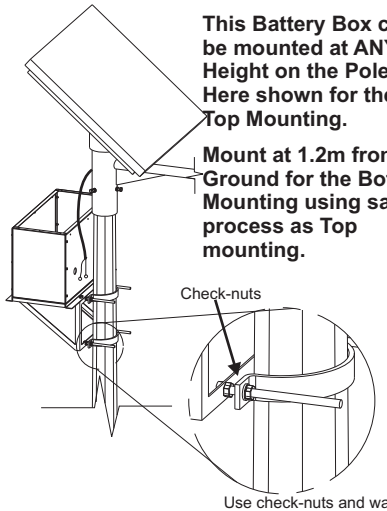
13

Take off the top cover of the Battery box using the Allen keys.



14

Take the battery box system to the pole and mount as shown below



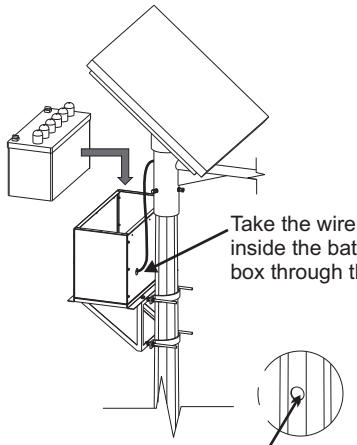
This Battery Box can be mounted at ANY Height on the Pole. Here shown for the Top Mounting.

Mount at 1.2m from Ground for the Bottom Mounting using same process as Top mounting.

Use check-nuts and washer as shown below.

15

Take the Battery to the Battery Box and put in the Battery box as shown.



Take the wire inside the battery box through this

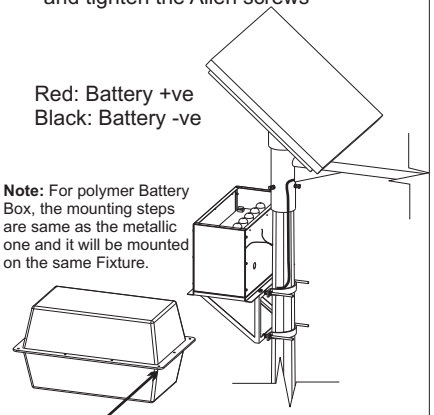
For Bottom Mounting, take out the Battery Cable through a hole in the pole at 1.2m

16

Make the Battery connections as per the color coding of wires and labels on them. Put petroleum jelly on the terminals after making the connections.

Put back the top cover of the battery box and tighten the Allen screws

Red: Battery +ve
Black: Battery -ve



Note: For polymer Battery Box, the mounting steps are same as the metallic one and it will be mounted on the same Fixture.

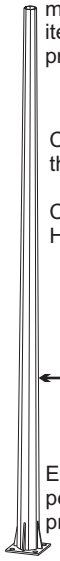
For safety purpose, you can use 1 or 2 locks on the diagonal holes of polymer box rather than the screws

1

Ensure that you have received the material as per the system and all the items mentioned in the invoice are present

Check boxes are not open and that the items are undamaged

Check hardware count against the Hardware List packed with the items

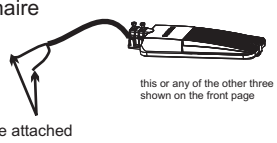


Ensure the Foundations are done as per recommendation and cured properly before installation

2

Familiarity with the major components

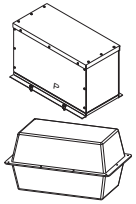
1. Luminaire



2. PV Panel

3. Battery

4. Battery Box



GP Sheet

OR

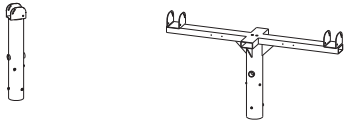
Polymer

3

Opening the Boxes gives following items

Luminaire mounting Sleeve and clamp

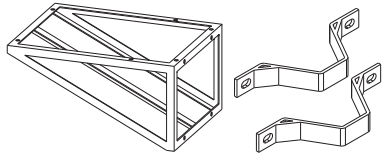
Panel Angle Adjustment Bracket (PAAB)



Universal

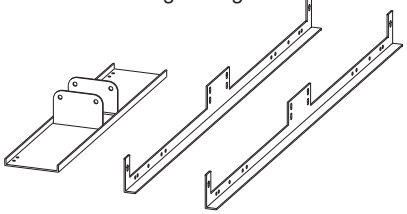
Twin Mounting and Greenline

Battery Box Fixture and Fixing Clamps



4

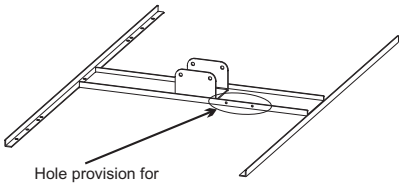
Panel Mounting Arrangement



Disintegrated Angles

OR

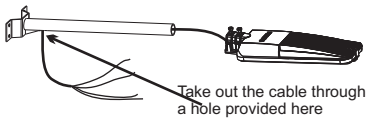
in the Welded form



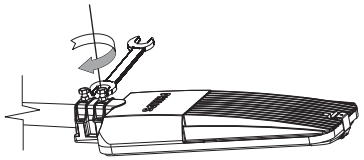
PHILIPS

5

Take the Luminaire and pass its cable through the luminaire mounting sleeve as shown.

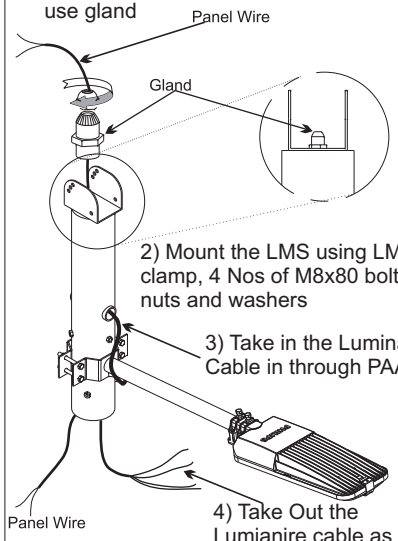


Mount luminaire on the sleeve and tighten the bolts with a spanner using 8N-m torque



6

1) Take Out Panel Wire through PAAB, use gland



2) Mount the LMS using LMS clamp, 4 Nos of M8x80 bolts, nuts and washers

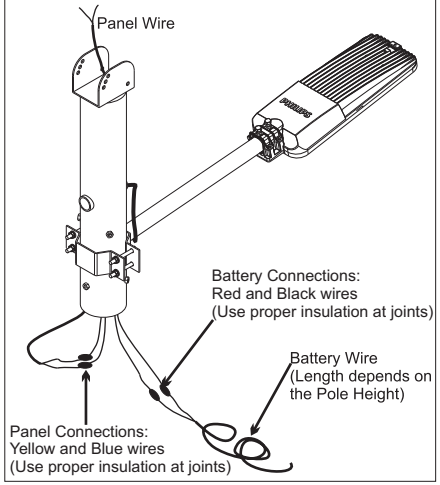
3) Take in the Luminaire Cable in through PAAB

4) Take Out the Lumianire cable as shown

7

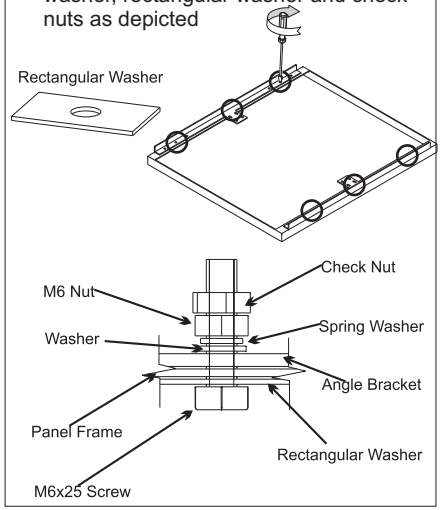
Now make the Battery and Panel Connections. Refer circuit diagram for details.

The system looks like this after connections



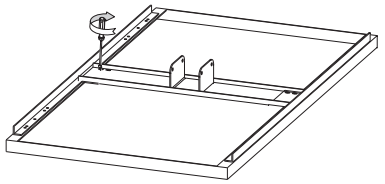
8

Lay the PV Panel upside down, place the angle bkts and tighten using 6 Nos of M6 screws and nuts at the positions maked by circle. Use plain washer, spring washer, rectangular washer and check nuts as depicted



9

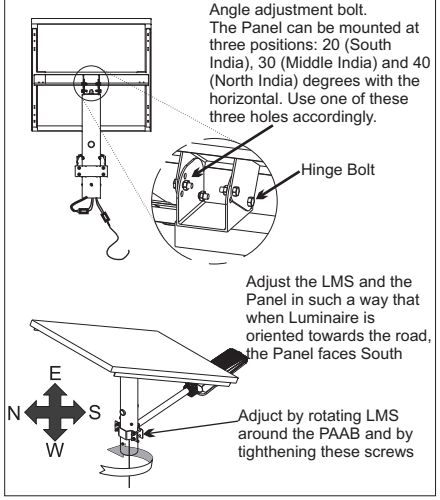
Now place the C-Channel on the top the structure made in previous step and tighten with the help of M6 screws and nuts (total 8 Nos). Use washers and check nuts everywhere.



Note: If this angle structure is already welded together, this step would not be needed

10

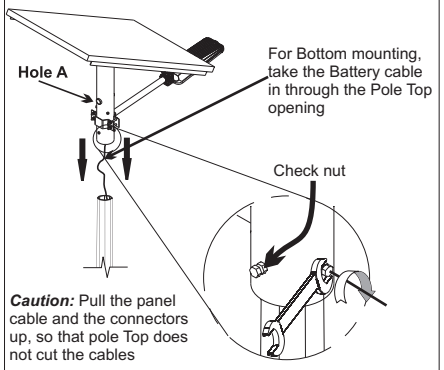
Mount the Panel on the PAAB as shown below using 2Nos of
M8 Bolts, nuts, washers and spring washers. Use a tightening torque of 8N-m



11

Take the entire assembly to the top of the Pole and slide it down on the pole

Tighten the assembly using 6 Nos of M8 bolts. Use Check nuts as shown.

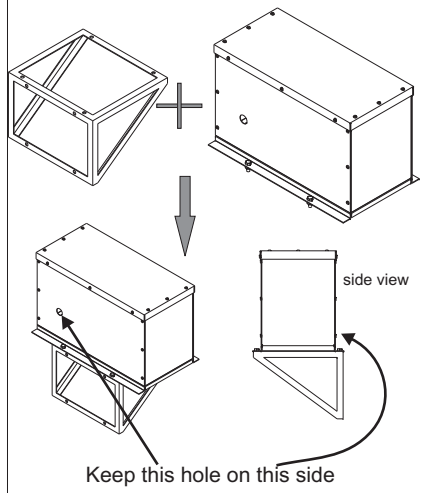


Caution: Pull the panel cable and the connectors up, so that pole Top does not cut the cables

For Top Mounting, take out the Battery cable through the Hole A

12

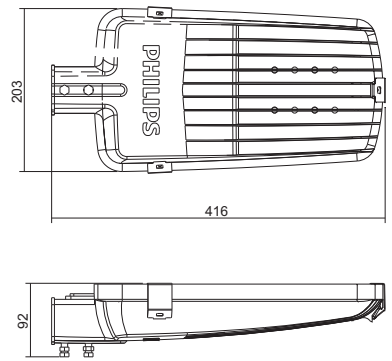
Fix the battery box with the fixture as shown below, with the help of 4 Nos of M8 bolts and nuts, use washer.

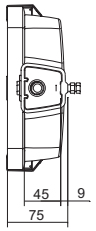


PHILIPS

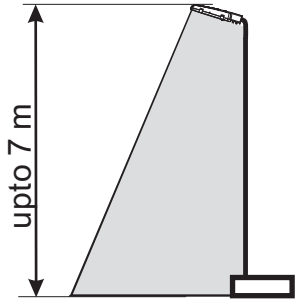
Installation Instruction

Dimensions



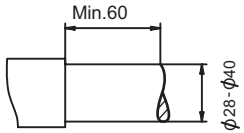


Installation



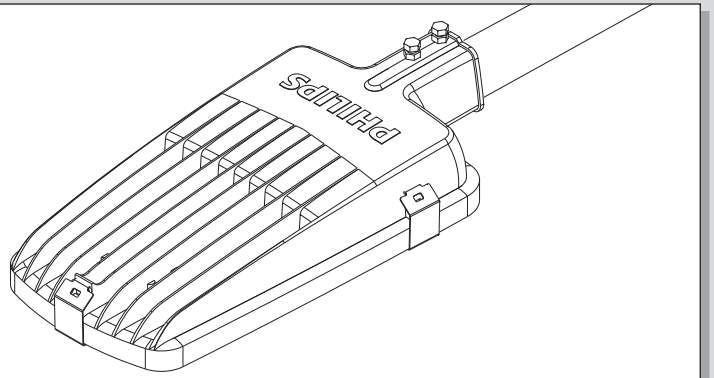
BRP 409

Mounting Position: Horizontal
Application height: upto 7m
Suitable Cable Diameter: 6-9mm
Pole Size: 28-40mm diameter



BRP 409

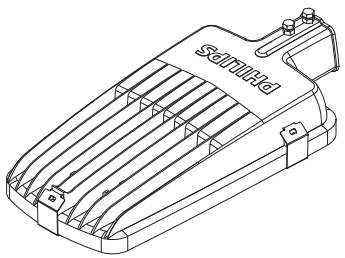
Street Lighting Luminaire



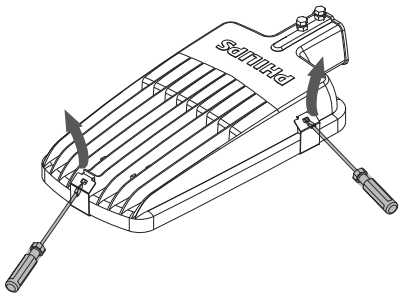
4415 109 17960

Type	:	BRP 409
Lamp	:	LED
Voltage	:	240 V, 50 Hz
IP Classification	:	IP 66
Net Weight	:	2.7kgs
Max. Projected Area	:	0.07 m²
Application	:	Outdoor use only

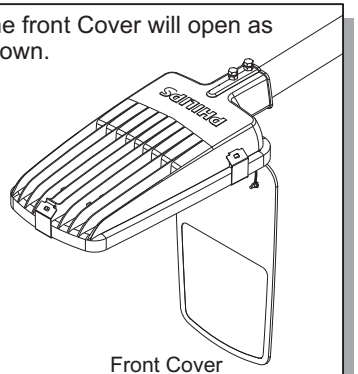
1 Take the product out of the packing box.



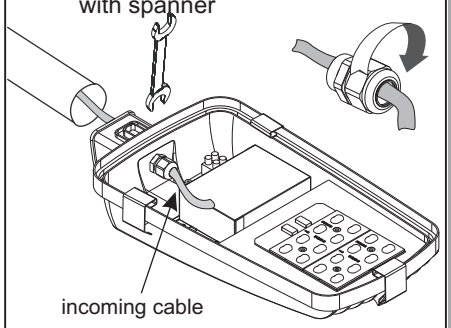
2 Open the toggles using screw drivers by pulling as shown.



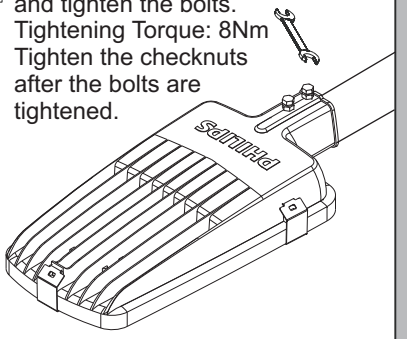
3 The front Cover will open as shown.



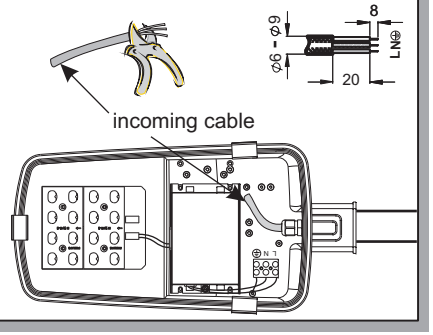
4 Allow the incoming cable to pass through the gland and tighten it with spanner



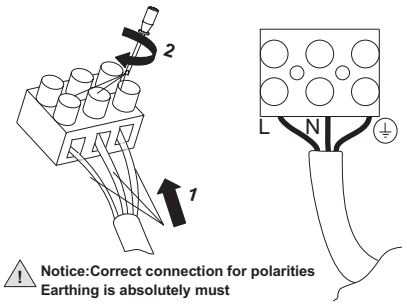
5 Fix the street light over the pole and tighten the bolts.
Tightening Torque: 8Nm
Tighten the checknuts after the bolts are tightened.



6 Cut the wire sheath as per the size with wire cutter and strip the wires as recommended.

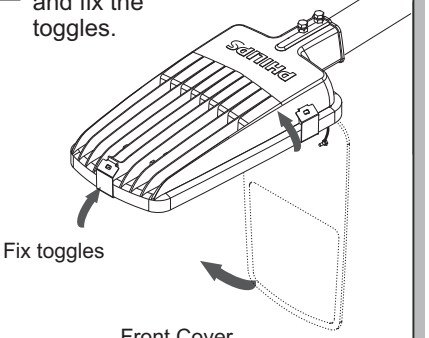


7 Make the electrical connections as per the LN E marking

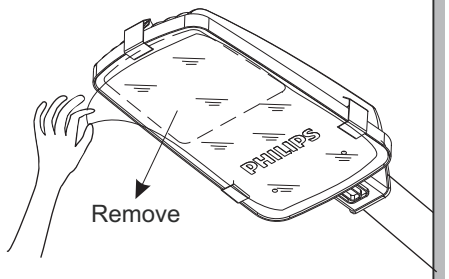


Notice:Correct connection for polarities
Earthing is absolutely must

8 Put the front cover in position and fix the toggles.

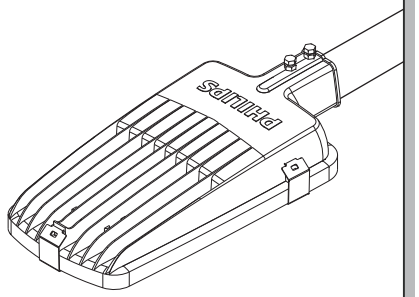


9 Remove the polythene over front diffuser/ glass.



CAUTION: Broken Glass/front diffusers should be immediately replaced.

10 Luminaire is ready for use.



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CAUTION

1. Ensure Earthing is connected. Improper Earthing will cause Luminaire failure.
2. Cable diamenter for input power: 6-9mm
3. Cable Entry gland should be properly tightened.
4. Product should be operated between 140-270V a.c.
5. Use Surge protection (upto 10kV) to protect against surges/Use Type B+C surge type SPD in distribution box to arrest switching and lighting surges

FAILURE OF PRODUCT DUE TO NON COMPLIANCE TO ANY OF THE ABOVE, VOIDS WARRANTY OF PRODUCT