H-SERIES

LED STREET LIGHTS

Overview

The ZGSM® H-Series LED street lights are using PHILIPS LUMILEDS® luminous source, providing excellent lumen output, long-lasting stability and splendid sight.

The ZGSM H-Series LED street lights have a high luminous efficiency and better service life. Provide 7 years warranty on luminaire.

Color Options

◗ Silver Gray   ◗ Black

HIGH-EFFICACY LED LIGHT SOURCE

Philips Lumileds Luxeon TX
Greater than 135lm/W high efficacy, illumination grade LED light source.

Philips Lumileds 3030 2D
Greater than 150lm/W high efficacy, illumination grade LED light source.

Philips Lumileds 5050
Greater than 185lm/W high efficacy, illumination grade LED light source.

HIGH-END LED DRIVER (Two options)

+ NON-DIMMABLE

POWERED BY
MW
MEAN WELL

High-end Mean Well HLG Series LED driver, optimal stability, performance and lifespan.

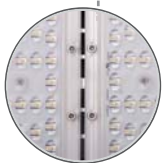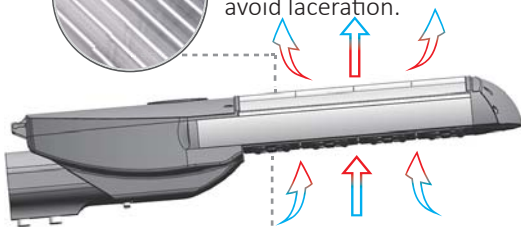**+ DIMMABLE**

INVENTRONICS
LED DRIVER inside

High-end Inventronics programmable LED driver, integrate dimming function and 6KV /10KV surge protection. Provide excellent performance and lifespan.
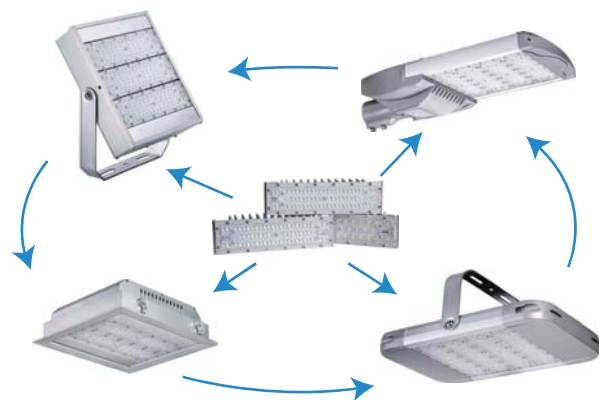
AIR CONVECTION EFFECT
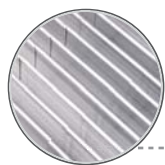
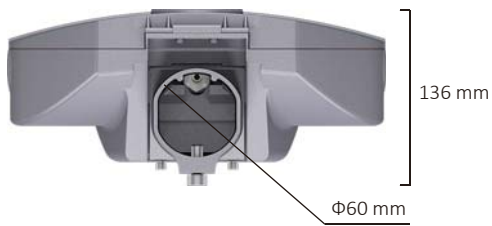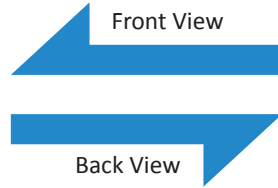Reasonable heat sink design, not only keep ventilation but also avoid laceration.

Gaps between each module increase heat dissipation speed and solve the problem of dust deposition.

FLEXIBLE COMBINATIONS OF MODULES

Design

★ External Design

Front View

Back View

L

316 mm

136 mm

Φ60 mm

Number of Modules	1	2	3	4	5	6	7
"L" Length	431 mm	504 mm	577 mm	650 mm	723 mm	796 mm	869 mm
Weight	5.3 kg	6.1 kg	7.3 kg	8.2 kg	9.0 kg	9.9 kg	10.8 kg

★ Design Features

Professional lens design, suitable for various applications.

Luminaire body is fixed by two M8x16 fortified stainless steel screws.

Rational clamshell design for wiring compartment, sturdy and durable.

Use stainless steel screws for whole luminaire, no corrosion worries.

Use German WAGO connectors for internal wiring, safe, convenient & fast.

Innovative pluggable connector, clean & efficient.

Neat inner cavity structure, ensure the thermal convection of LED driver.

Full aluminum made, sufficient heat dissipation area.

DETAILED FEATURES

Electrical & Photometric

★ 3030 Version

Number of Modules	Model	LED Working Current	Power	Luminaire Efficacy (+/- 5%)	Lumen Output (+/- 5%)	Input Voltage	LED Brand	Driver Brand	Light Distributions	CCT (K)	Surge Protection Device	Lifetime (h)
1	ZGSM-LD40H4	95mA	40W	140 lm /w	5600 lm	100-240V /277V AC 50 /60Hz	Philips Lumileds 3030 2D	MeanWell Inventronics	TypeI, Medium TypeII, Medium TypeIII, Medium TypeV, Short TYPEII, BLS	3000* 4000 5000 5700	10KV	>100,000 (L70)
1	ZGSM-LD50H5	115mA	50W	130 lm /w	6500 lm							
1	ZGSM-LD60H6	145mA	60W	125 lm /w	7500 lm							
2	ZGSM-LD80H4	100mA	80W	140 lm /w	11200 lm							
2	ZGSM-LD100H5	120mA	100W	130 lm /w	13000 lm							
2	ZGSM-LD120H6	145mA	120W	125 lm /w	15000 lm							
3	ZGSM-LD120H4	100mA	120W	140 lm /w	16800 lm							
3	ZGSM-LD150H5	120mA	150W	130 lm /w	19500 lm							
3	ZGSM-LD180H6	145mA	180W	125 lm /w	22500 lm							
4	ZGSM-LD160H4	100mA	160W	140 lm /w	22400 lm							
4	ZGSM-LD200H5	120mA	200W	130 lm /w	26000 lm							
4	ZGSM-LD240H6	145mA	240W	125 lm /w	30000 lm							
5	ZGSM-LD200H4	100mA	200W	140 lm /w	28000 lm							
5	ZGSM-LD240H5	120mA	240W	130 lm /w	31200 lm							

*Luminous Efficacy of 3000K is 5% lower than other CCTs.

★ 3535 Version

Number of Modules	Model	LED Working Current	Power	Luminaire Efficacy (+/- 5%)	Lumen Output (+/- 5%)	Input Voltage	LED Brand	Driver Brand	Light Distributions	CCT (K)	Surge Protection Device	Lifetime (h)
1	ZGSM-LD35H	750mA	35W	110 lm /w	3850 lm	100-240V /277V AC 50 /60Hz	Philips Lumileds Luxeon TX	MeanWell Inventronics	TypeI, Medium TypeII, Medium TypeIII, Medium TypeV, Short	3000* 4000 5000 5700	10KV	>100,000 (L70)
1	ZGSM-LD40H2	860mA	40W	110 lm /w	4400 lm							
2	ZGSM-LD65H	750mA	65W	110 lm /w	7150 lm							
2	ZGSM-LD80H2	900mA	80W	110 lm /w	8800 lm							
3	ZGSM-LD100H	750mA	100W	110 lm /w	11000 lm							
3	ZGSM-LD120H2	900mA	120W	110 lm /w	13200 lm							
4	ZGSM-LD135H	750mA	135W	110 lm /w	14850 lm							
4	ZGSM-LD160H2	900mA	160W	110 lm /w	17600 lm							
5	ZGSM-LD165H	750mA	165W	110 lm /w	18150 lm							
5	ZGSM-LD200H2	900mA	200W	110 lm /w	22000 lm							
6	ZGSM-LD200H	750mA	200W	110 lm /w	22000 lm							
6	ZGSM-LD240H2	900mA	240W	110 lm /w	26400 lm							
7	ZGSM-LD230H	750mA	230W	110 lm /w	25300 lm							
7	ZGSM-LD280H2	900mA	280W	110 lm /w	30800 lm							

*Luminous Efficacy of 3000K is 5% lower than other CCTs.

SERIES-H
LED STREET LIGHTS

★ **5050 Version**

Number of Modules	Model	LED Working Current	Power	Luminaire Efficacy (+/- 5%)	Lumen Output (+/- 5%)	Input Voltage	LED Brand	Driver Brand	Light Distributions	CCT (K)	Surge Protection Device	Lifetime (h)
1	ZGSM-LD40H4	48mA	40W	165 lm /w	6600 lm	100-240V /277V AC 50 /60Hz	Philips Lumileds 5050	MeanWell Inventronics	TypeII, Medium TypeIII, Medium TypeV, Short	3000* 4000 5000 5700	10KV	>100,000 (L70)
1	ZGSM-LD50H5	59mA	50W	160 lm /w	8000 lm							
1	ZGSM-LD60H6	75mA	60W	155 lm /w	9300 lm							
2	ZGSM-LD80H4	50mA	80W	165 lm /w	13200 lm							
2	ZGSM-LD100H5	61mA	100W	160 lm /w	16000 lm							
2	ZGSM-LD120H6	75mA	120W	155 lm /w	18600 lm							
3	ZGSM-LD120H4	50mA	120W	165 lm /w	19800 lm							
3	ZGSM-LD150H5	58mA	150W	160 lm /w	24000 lm							
3	ZGSM-LD180H6	75mA	180W	155 lm /w	27900 lm							
4	ZGSM-LD160H4	50mA	160W	165 lm /w	26400 lm							
4	ZGSM-LD200H5	58mA	200W	160 lm /w	32000 lm							
4	ZGSM-LD240H6	75mA	240W	155 lm /w	37200 lm							
5	ZGSM-LD200H4	50mA	200W	165 lm /w	33000 lm							
5	ZGSM-LD240H5	61mA	240W	160 lm /w	38400 lm							

*Luminous Efficacy of 3000K is 5% lower than other CCTs.

Working Environment & Packing

| Number of Modules	Working Environment	Storage Temperature	Rating	CRI	Power Factor	Power Efficiency	Material	Pole Diameter (mm)	Product Dimensions (mm)	Carton Size (mm)	N.W (kg)	G.W (kg)
1	-40 ºC ~ +50 ºC 10% ~ 90%RH	-40 ºC ~ +50 ºC	Class I IP66 IK10	>70	>0.95	>90%	Housing: Die-cast aluminum; Heat sink: Stretched Aluminium Alloy; Lens: PC	60	431*316*136	480*370*200	5.3	6.3
2									504*316*136	555*370*200	6.1	7.3
3									577*316*136	630*370*200	7.3	8.6
4									650*316*136	705*370*200	8.2	9.6
5									723*316*136	780*370*200	9.0	10.6
6									796*316*136	855*370*200	9.9	11.6
7									869*316*136	930*370*200	10.8	12.6

Note: Above data of weight are all typical values.

Certification

| Manufacturer |
|---|
| ISO9001, ISO14001 |
| H Series [ZGSM-LD35H, ZGSM-LD65H, ZGSM-LD100H, ZGSM-LD135H, ZGSM-LD165H, ZGSM-LD200H, ZGSM-LD230H] |
| CE, ROHS, GS, CB, SAA, FCC, UL, cUL, DLC, LM79, LM80 |
| H2 Series [ZGSM-LD40H2, ZGSM-LD80H2, ZGSM-LD120H2, ZGSM-LD160H2, ZGSM-LD200H2, ZGSM-LD240H2, ZGSM-LD280H2] |
| CE, ROHS, GS, CB, FCC, TUV-Mark, LM80 |
| H4/H5 Series [ZGSM-LD40H4, ZGSM-LD80H4, ZGSM-LD120H4, ZGSM-LD160H4, ZGSM-LD200H4 │ZGSM-LD50H5, ZGSM-LD100H5, ZGSM-LD150H5, ZGSM-LD200H5, ZGSM-LD240H5] |
| CE, ROHS, CB, FCC, ENEC, LM79, LM80 |
| H6 Series [ZGSM-LD60H6, ZGSM-LD120H6, ZGSM-LD180H6, ZGSM-LD240H6] |
| CE, ROHS, LM79, LM80 |

Multiple Light Distribution Options

Street light should fit with a wide range of applications, such as highway, express way, roadway, avenue, walking path or parking lot lightings.
Considering this, ZGSM provides different light distribution lens for the H Series street light to achieve best lighting effect in different applications.
ZGSM follows the North American IESNA standard in providing the optional lens width ,TypeI, Type II ,Type III and Type V.
Type I is suitable for walking path with 1 lane, Type II is for 2 lanes and Type III is for even more wider road, Type V is for parking lot.
ZGSM selects the most suitable lens for its customers according to the detailed parameters project by project.
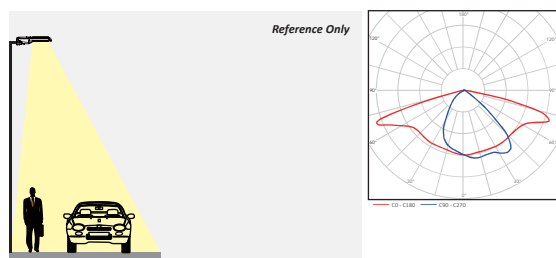
TYPE I
The Type I lens of ZGSM H series street light has beam angle of 50*160 degrees. In the IESNA Standard, The Type I distribution is great for lighting walkways, paths and sidewalks. It is generally applicable to where the mounting height is approximately equal to the roadway width.
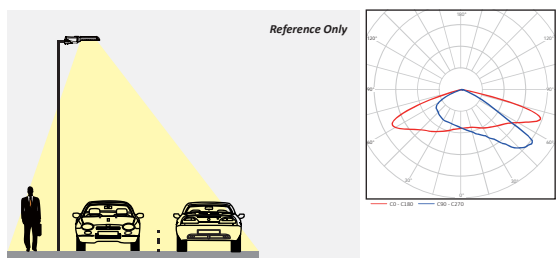
TYPE II
The Type II lens of ZGSM H series street light has beam angle of 65*155 degrees. In the IESNA Standard, the Type II distribution is used for wide walkways, on ramps and entrance roadways, as well as other long, narrow lighting. It is generally applicable to where the width of the roadway does not exceed 1.75 times the designed mounting height.
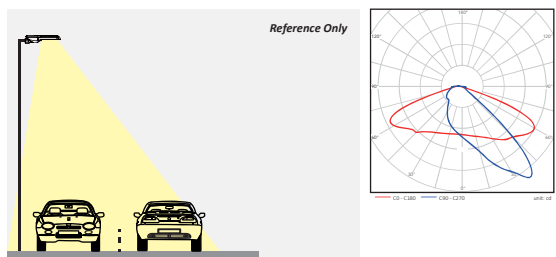
TYPEII BLS
The Type II BLS is a new light distribution developed based on Type II. BLS means back light shield. The light on the back of pole be reduced and the light in front of the pole be increased accordingly. It is generally applicable to where no need or need less light on the back of pole, such as residential area, high way, bridge and etc.
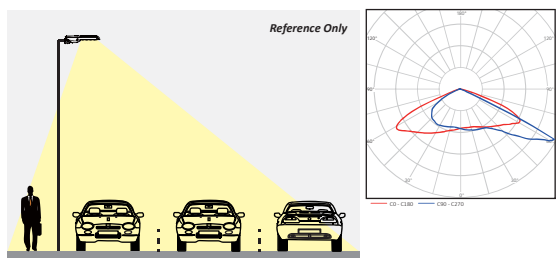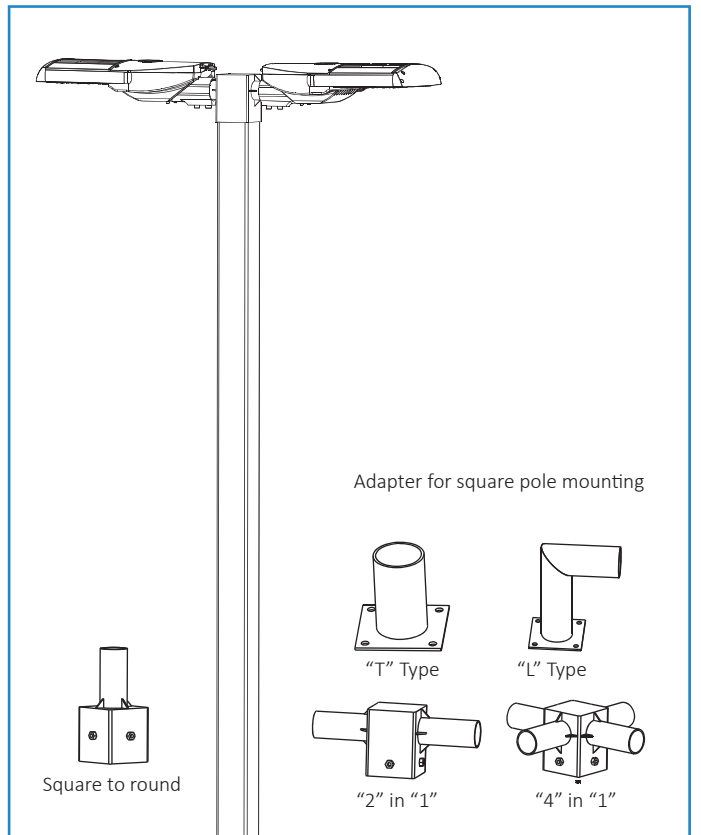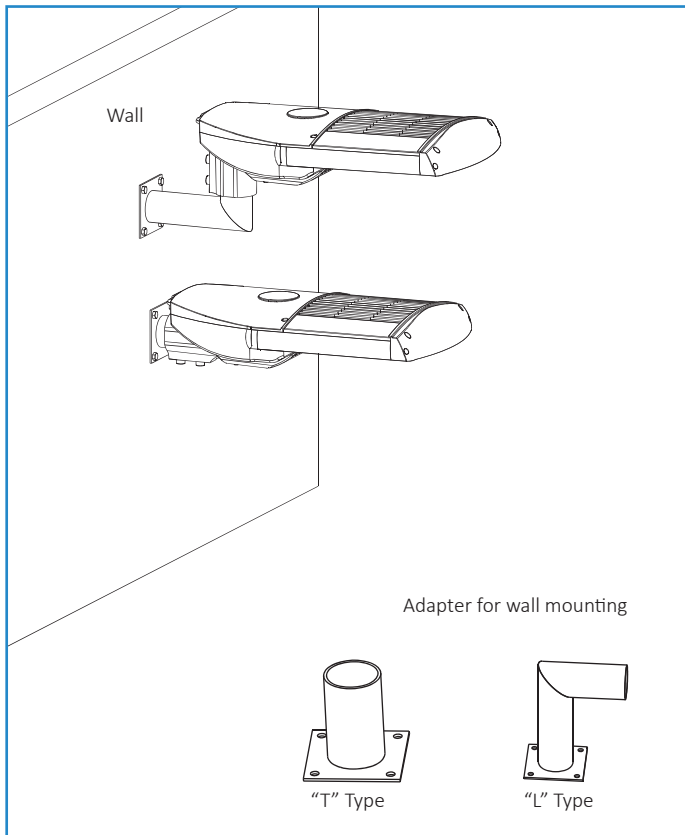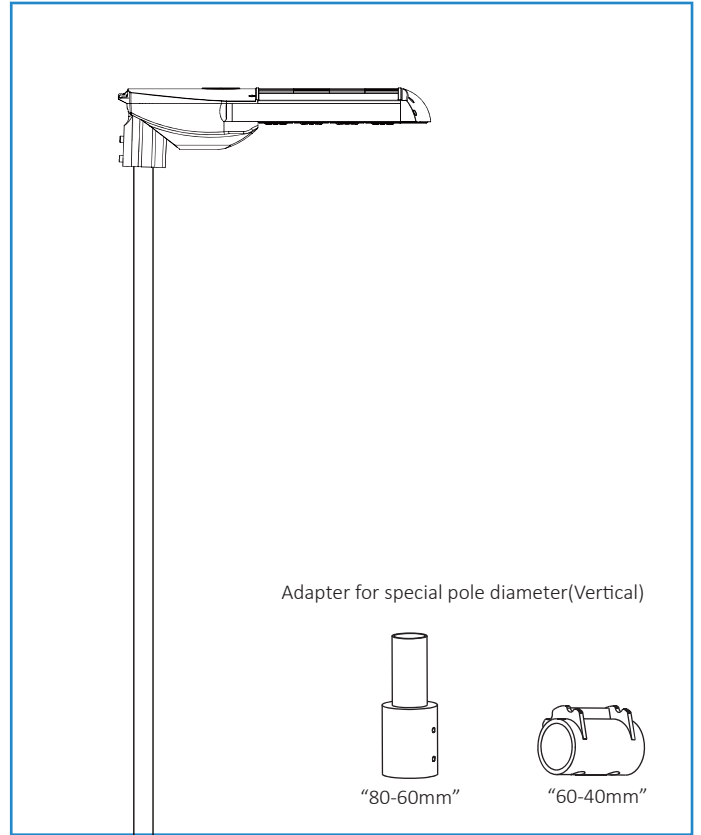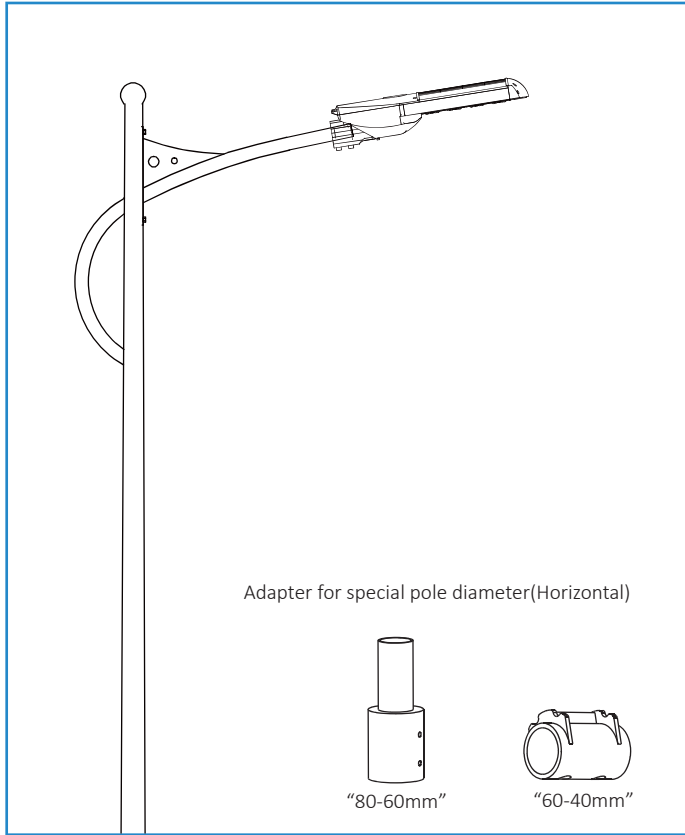
TYPE III
The Type III lens of ZGSM H series street light has beam angle of 80*160 degrees. In the IESNA Standard, the Type III distribution is meant for roadway lighting, general parking areas and other areas where a larger area of lighting is required. This distribution is intended for luminaires mounted at or near the side of medium width roadways or areas, where the width of the roadway or area does not exceed 2.75 times the mounting height.
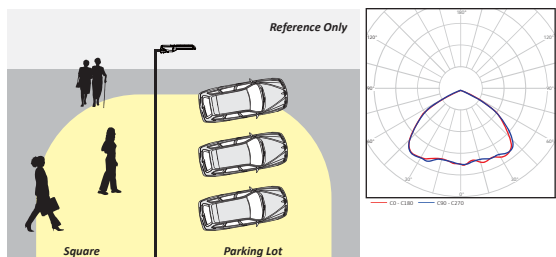
TYPE V
The Type V lens of ZGSM H series street light has beam angle of 110*110 degrees. In the IESNA Standard,It is intended for luminaire mounting at or near center of roadways, center islands of parkway, and intersections. It is also meant for large, commercial parking lot lighting as well as areas where sufficient, evenly distributed light is necessary.

Various Installation Methods With Different Adapters

Adapter for special pole diameter(Horizontal)

"80-60mm"   "60-40mm"

Adapter for special pole diameter(Vertical)

"80-60mm"   "60-40mm"

Wall

Adapter for wall mounting

"T" Type   "L" Type

Adapter for square pole mounting

"T" Type   "L" Type

Square to round

"2" in "1"   "4" in "1"

Solar Street Light System

Model list: ZGSM-LD35H, ZGSM-LD40H2, ZGSM-LD40H4, ZGSM-LD50H5, ZGSM-LD60H6

Model list: ZGSM-LD65H, ZGSM-LD80H2, ZGSM-LD80H4, ZGSM-LD100H5, ZGSM-LD120H5

Model list: ZGSM-LD100H, ZGSM-LD120H2, ZGSM-LD120H4

A complete set of Solar street light includes Lamp, Battery, Panel, Controller, Pole, Cable and etc. ZGSM also provides solutions for solar system based on H series.
Option 1
ZGSM Street Light with DC12/24V input driver
Rest parts: Battery, Panel, Controller, Pole, Cable and etc.
Option 2
ZGSM Street light combines controller function
Rest parts: Battery, Panel, Pole, Cable and etc.
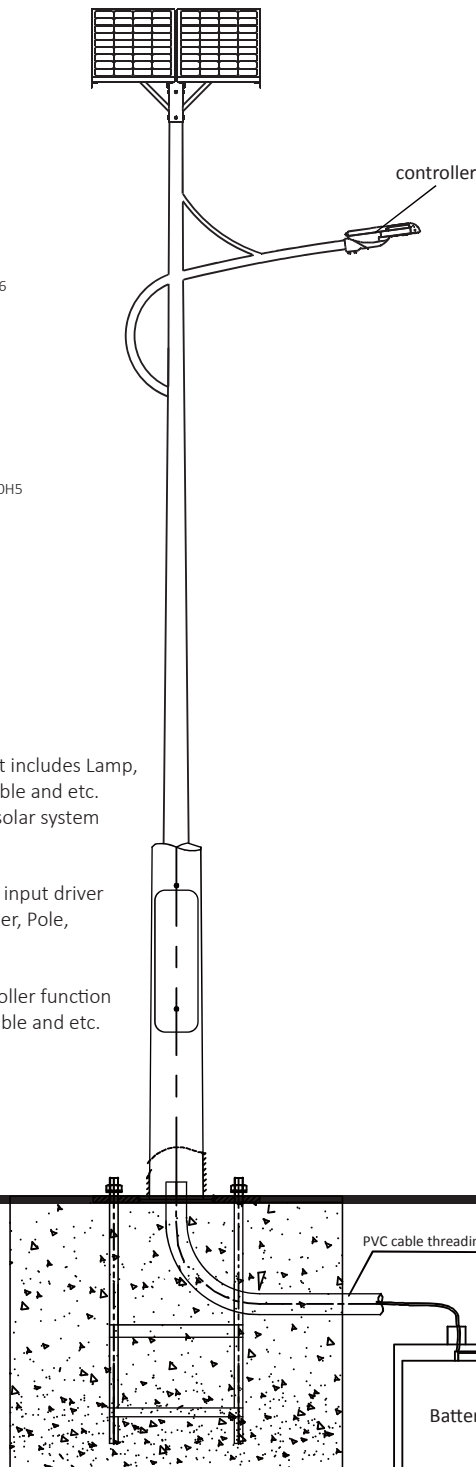
controller

SOLAR PANEL
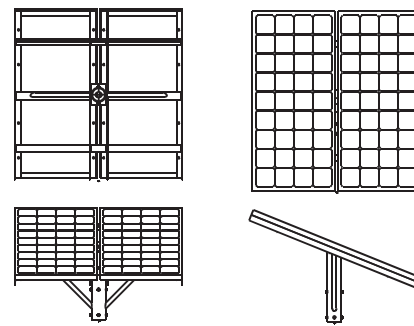
CONTROLLER

PARTS CONNECTION DIAGRAM

MPPT solar charge controller with built-in LED driver

solar panel

LED lamps

Battery

GROUND

PVC cable threading pipes

Battery   Battery
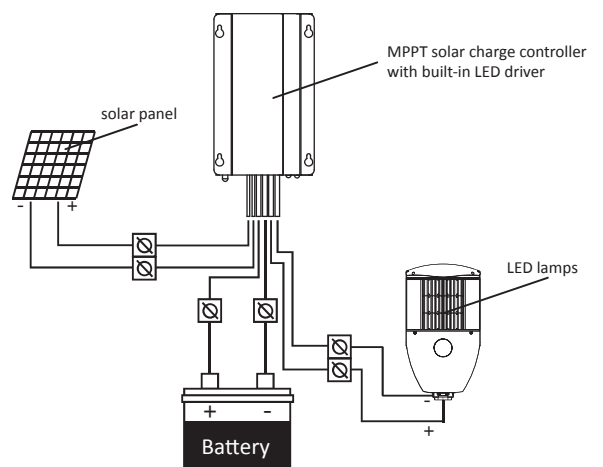
Customized service

Due to each city has its own sunshine condition, and customers have different working hours and rainy days on request.
If you want to know more exact configuration, please contact us for below questions:
1. What is the geographical location your solar LED street lighting system will be installed?
2. How many hours per night the LED street light works?
3. How many days to backup in case of continuous rainy days?
4. Do you need dimming the LED street light (during the off-peak hours)?
5. Do you have any other requirements?

## Intelligence Street Lighting System
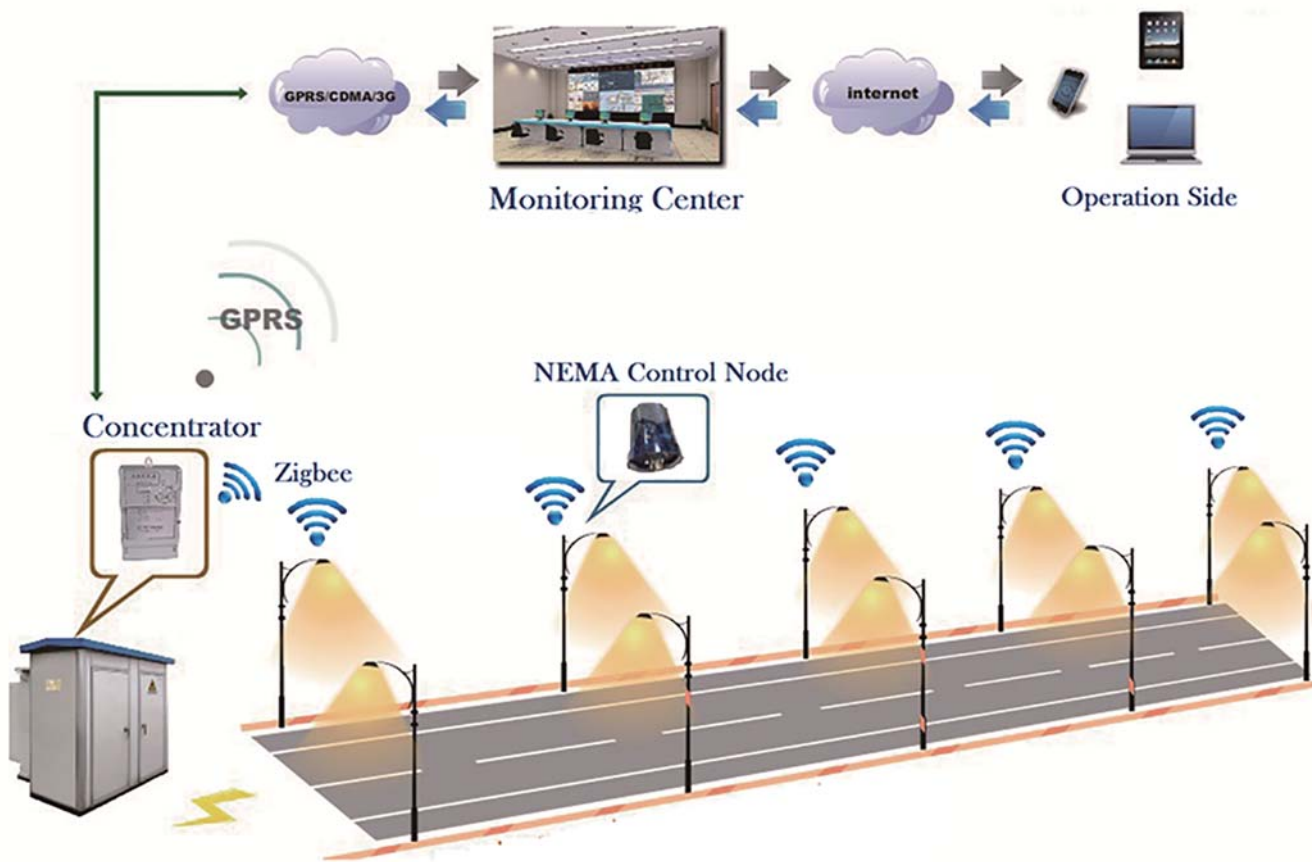
ZGSM provides a total solution for intelligence street lighting system.

ZGSM street light intelligence system is made up by software, concentrator, terminal controller. The concentrator controller is installed in the distribution cabinet, the terminal controller is installed in the lighting terminal. It proceeds with communication via GPRS/CDMA/WCDMA wireless network or cable network & monitor center and proceeds with communication via ZIGBEE/PLC. Concentrator controller can control each terminal controller via receiving, executing, forwarding PC management software , which can control each lamp's switching on /off or dimming ,then save electric energy. It can also monitor the lamps' electric energy to achieve failure lamps function. Concentrator controller can built-in DO to achieve street light loop control, it can connect with other equipment to collect local illumination, temperature and other information, feedback to PC management software and achieve to monitor the current information.

Optical Control

Optical control function is supported by optional
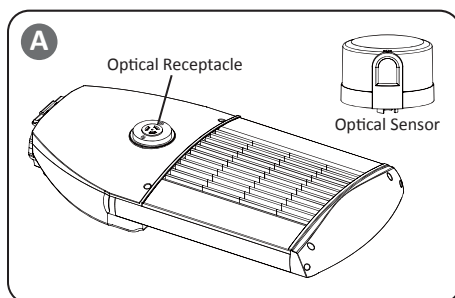
If the fixture with OPTICAL CONTROL function, the Optical Receptacle will be installed on the cover of fixture. See **A**. Fit the pins of Optical Sensor to Optical Receptacle, firmly insert and rotate Optical Sensor to proper position.
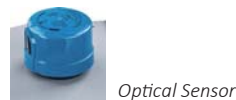
Optical Sensor

Surge Protection Device

Type	Nominal input voltage (V)	Protection level Up (L-N) (kV)	Protection level Up (LN-GND) (kV)	Open circuit voltage U_{oc} (kV)	Nominal surge current I_n (kA)	Min. number of surges, nominal current
A - Class I	277	≤ 1.6	≤ 2 - 4	10	5	100 strikes at 3kA 50 strikes at 5kA 1 strike at 10kA

Type	Maximum surge current I_{MAX} (kA)	Number of surges, maximum current	Insulation classification	Open Circuit Voltage U (kV)	Lifetime @ Tc life, 90% survivals (hours)	Application
A - Class I	10	1 strike	Class I	10	100,000	built-in use only

General product characteristics
T ambient (°C): -40 to +70 °C
Tcase life (°C): +80 °C
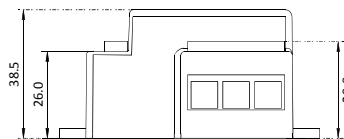
All dimensions are mentioned in mm

CLASS I

Dimming Optional

Inventronics driver will be used if dimming request.
Multiple dimming functions are integrated (0-5V DC or 0-10V DC or PWM Signal or Timer).

★ 0-5V Dimming [All the models over 50W are available]
★ 0(1)-10V Dimming [All the models are available]
★ PWM Dimming [All the models over 50W are available]
★ Timer Dimming [All the models over 50W are available]

Flexible Fitter

H0
Factory default
Fitter on H0 position

H10
Adjust fitter to H10 position by 4mm allen wrench

H15
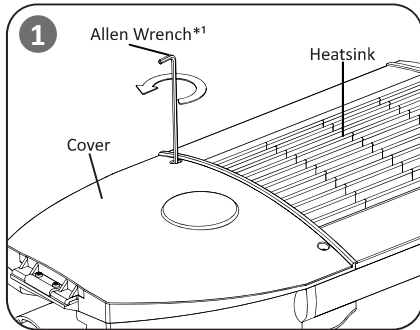Adjust fitter to H15 position by 4mm allen wrench

V0
Adjust fitter to V0 position by 4mm allen wrench

V5
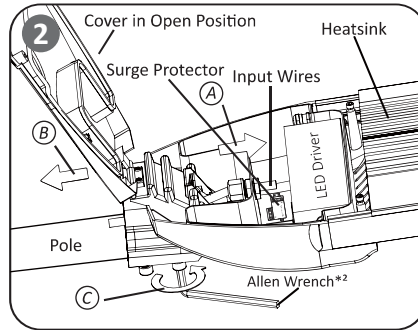Adjust fitter to V5 position by 4mm allen wrench

V15
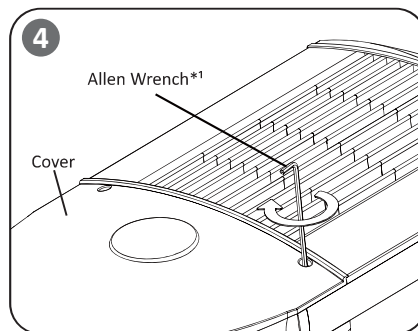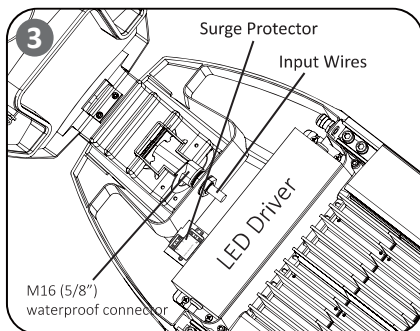Adjust fitter to V15 position by 4mm allen wrench

Fitter

Installation

*[1] Allen Wrench: 4mm (5/32")
*[1] Inner Hexagon Screw: M5 (3/16")

*[2] Allen Wrench: 6mm (7/32")
*[2] Inner Hexagon Screw: M8 (5/16")

STEP 1:

To open cover, hold fixture by heatsink with the light modules **facing down**. Remove 2 screws on the cover by 4mm (5/32") allen wrench.

STEP 2:

Keep the cover in open position, lead the **Input Wires** in through the M16 (5/8") water-proof connector **(see Ⓐ)**, Do not tighten. Slide fixture onto pole **(see Ⓑ)** and adjust to level position. Once desired position is achieved, tighten (2) mounting bolts **(see Ⓒ)**.Recommended torque: 17Nm ± 1Nm.

STEP 3:

Connect the **Input Wires** into **Terminal Block**, Reference "**Electrical Connections**" section for completing electrical connections.
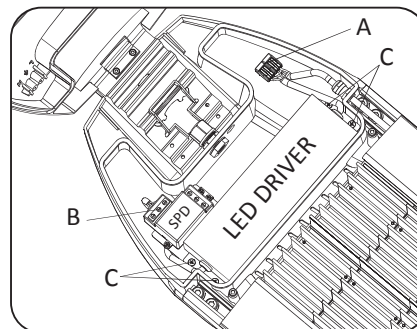
STEP 4:

Close the cover, tighten (2) mounting bolts.
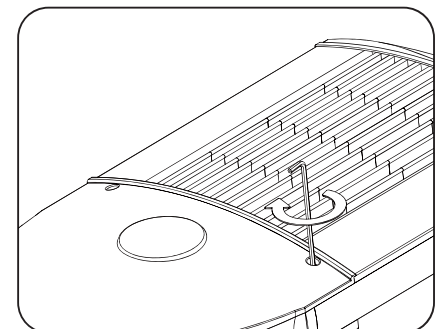
Maintenance

★ Driver replacement
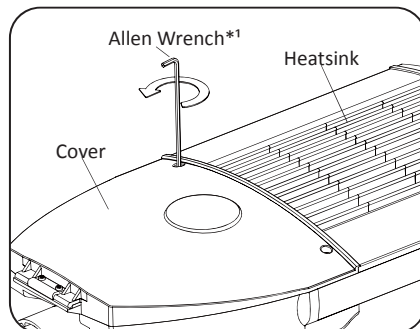
STEP 1:
To open cover, hold fixture by heatsink with the light modules **facing down**. Remove 2 screws on the cover by 4mm (5/32") allen wrench.
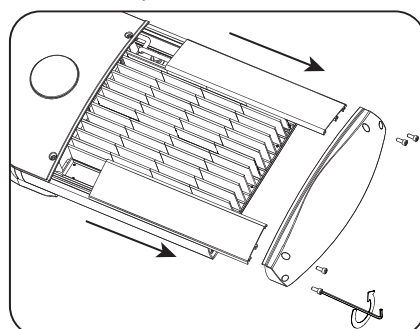

STEP 2:
Keep the cover in open position, unscrew the four M4X8 screws**(see Ⓒ)** and pull out the input of driver from surge protector device**(see Ⓑ)** by cross screwdriver, disconnect the driver from the WAGO connect**(see Ⓐ)**, take off the failed driver and replace by a new one.
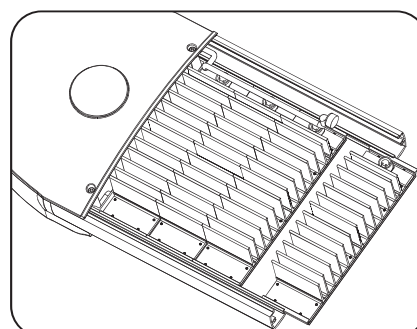

STEP 3:
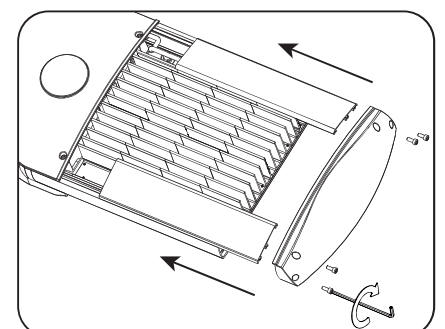Connect and tighten up each part back step by step. Maintenance finished.

★ Module replacement

STEP 1:
Unscrew the four M5x12 screws by 4mm (5/32") allen wrench and pull out the lamp head. then Pull out the cover both sides by hand.

STEP 2:
Disconnect the failed module from connector and replace a new one.

STEP 3:
Connect and tighten up each part back step by step. Maintenance finished.

- for Road, China

- for Squares, UAE

- with Solar Power, France

- for Parking Lots, United Kingdom

- for Outdoor Warehouses, Austria
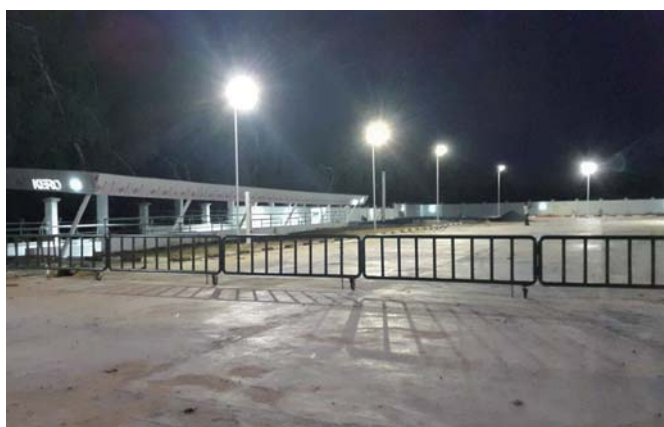

- for Wall Mounting, Sweden

- for Amusement Park, Mexico

- for Road, China

- for Parking Lots, USA

- for Gas Station, Nigeria

- for Road, Iraq