



BESEN

LED Panel Light

BESEN

LED Panel Light

Light Reflector

Japan TORAY Reflector

PMMA LGP

Advanced LEDs

EVERLIGHT

EPISTAR

PS Diffuser

650°C Glowing Wire Test

Aluminium Frame

RoHS Cataphoresis White



Quality Light

Quality comes from every minor detail, especially for LEDs.

To ensure the color consistency and uniformity of the light, a strong Binning Code system is built to record the color and performance of each order. Except for LM80, a series of tests will be done to ensure the performance and reliability of LEDs.

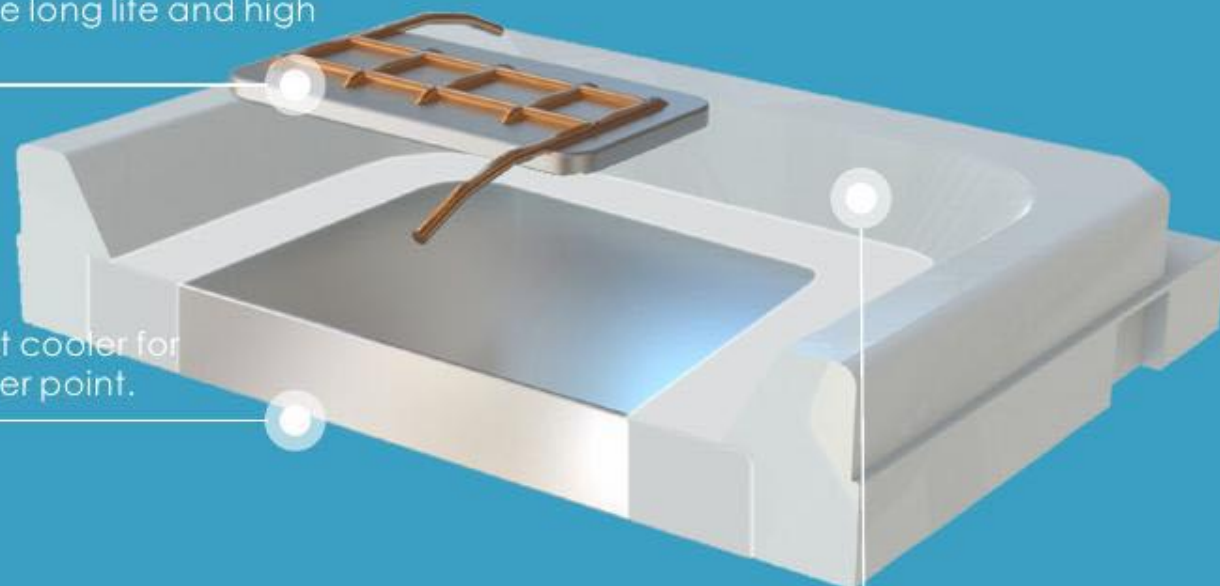
Efficient Phosphors

Efficient phosphors will let SCDM<6, increase lumen, 105°C temperature resistance which ensure long life.



Low Voltage LED Chip

3.2V low voltage led, guarantee the long life and high lumen efficacy.



Copper Heat Sink

45 °C per watt heat resistance, best cooler for led chip. Just 8 °C higher than solder point.

Sliver Reflector

Higher reflecting rate, brighter than other competitors.

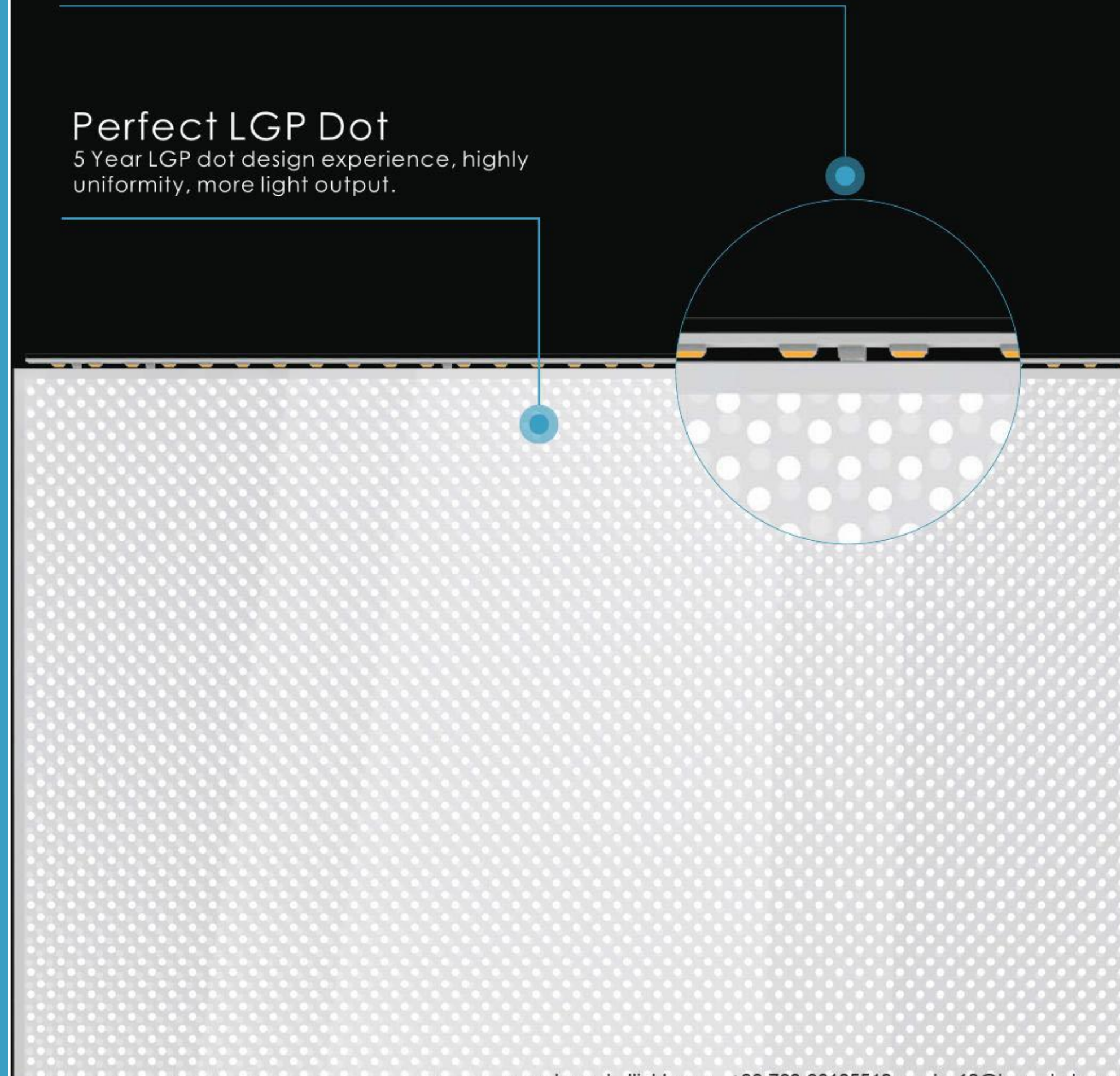
A safe guide for the luminaire

0.3mm Gap Control

The spacing between LGP and LED must control at 0.3mm, each additional 0.1mm gap will reduce the lumen by 2%. When there is no gap in between, after lighting up for a few hours, the LGP might be expanded during to the heat might crush the LED.

Perfect LGP Dot

5 Year LGP dot design experience, highly uniformity, more light output.



Besen LED Panel Light series



Recessed Panel Light



Surface Panel Light



Glass Panel Light



Flat Panel Light



LED Panel Light



LED :

3014 EPISTAR
(10*26mil)
Color
Temp: 6500k 4000k
3000k
CRI>75



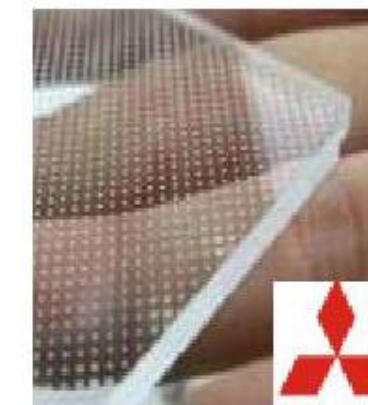
LED SMD2835

EPISTAR
(14*28mil) Color
Temp: 6500k 4000k
3000k
CRI: >75



Diffuser:

1.5mm Mitsubishi
Japan



LGP:

3.5mm Mitsubishi
Japan



Driver:

Meanwell
Voltage:
86-265V



Remark:

Power Factor:>0.6,0.9 available

RA>70,>80,>90 available

CCR:3000K(WW) 4000K(NW) 6500K(W)

Besen Recessed LED Panel Light

Feature:

Ultra SLIM: 12mm thickness

Die-casting aluminium

High brightness & uniformity

LED SMD 2835

Long lifespan: >= 25,000

Luminous Efficacy:80lm/Watt

Safety standard: CE . RoHS

Side light

3 Temperature colors by switch available

Dimmable available



BS-MB440

Besen Surface LED Panel Light

Feature:

Die-casting aluminium

High brightness & uniformity

SMD2835

Long lifespan:>=25,000

Luminous Efficacy: 80lm/Watt

Safety standard: CE.RoHS

6W,12W,18W,24W available

Side light

3 Temperature colors by switch available

Dimmable



BS-MB440-1

BS-MB440-2

LED Panel Light Square

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-PF03	3W	15pcs	90*90*25mm	75*75mm	>=165lux
BS-2835-PF04	4W	20pcs	110*110*25mm	100*100mm	>=250lux
BS-2835-PF06	6W	30pcs	120*120*25mm	110*110mm	>=430lux
BS-2835-PF09	9W	45pcs	150*150*25mm	140*140mm	>=650lux
BS-2835-PF12	12W	60pcs	172*172*25mm	160*160mm	>=890lux
BS-2835-PF15	15W	75pcs	192*192*25mm	180*180mm	>=1180lux
BS-2835-PF18	18W	90pcs	225*225*25mm	210*210mm	>=1580lux
BS-2835-PF24	24W	120pcs	300*300*25mm	280*280mm	>=1800lux

LED Panel Light Round

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-PY03	3W	15pcs	Φ90*25mm	Φ75mm	>=165lux
BS-2835-PY04	4W	20pcs	Φ110*25mm	Φ100mm	>=250lux
BS-2835-PY06	6W	30pcs	Φ120*25mm	Φ110mm	>=430lux
BS-2835-PY09	9W	45pcs	Φ150*25mm	Φ140mm	>=650lux
BS-2835-PY12	12W	60pcs	Φ172*25mm	Φ160mm	>=890lux
BS-2835-PY15	15W	75pcs	Φ192*25mm	Φ180mm	>=1180lux
BS-2835-PY18	18W	90pcs	Φ225*25mm	Φ210mm	>=1580lux
BS-2835-PY24	24W	120pcs	Φ300*25mm	Φ280mm	>=1800lux

LED surface Panel Light Round

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-MY06	6W	30pcs	Φ120*25mm		>=430lux
BS-2835-MY12	12W	60pcs	Φ172*25mm		>=880lux
BS-2835-MY18	18W	90pcs	Φ225*25mm		>=1580lux
BS-2835-MY24	24W	120pcs	Φ300*25mm		>=2200lux

LED surface Panel Light Square

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-MF06	6W	30pcs	120*120*25mm		>=430lux
BS-2835-MF12	12W	60pcs	172*172*25mm		>=880lux
BS-2835-MF18	18W	90pcs	225*225*25mm		>=1580lux
BS-2835-MF24	24W	120pcs	300*300*25mm		>=2200lux

Besen Glass LED Panel Light

Feature:

Die-casting aluminium

High brightness

SMD5730

Long lifespan: >=25,000

Luminous Efficacy: 80lm/Watt

Safety standard: CE.RoHS

6W,12W,18W available



LED Glass Panel Light Round

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-GY06	6W	12pcs	Φ105*40mm	Φ75mm	>=530lux
BS-2835-GY12	12W	24pcs	Φ160*40mm	Φ130mm	>=1060lux
BS-2835-GY18	18W	36pcs	Φ200*40mm	Φ165mm	>=1600lux

LED Glass Panel Light Square

Model No	Power	LED Qty	Size	Cutout	Luminous flux
BS-2835-GF06	6W	12pcs	Φ105*40mm	75*75mm	>=530lux
BS-2835-GF12	12W	24pcs	Φ160*40mm	130*130mm	>=1060lux
BS-2835-GF18	18W	36pcs	Φ200*40mm	165*165mm	>=1600lux

Besen Flat LED Panel Light



KEY DATA

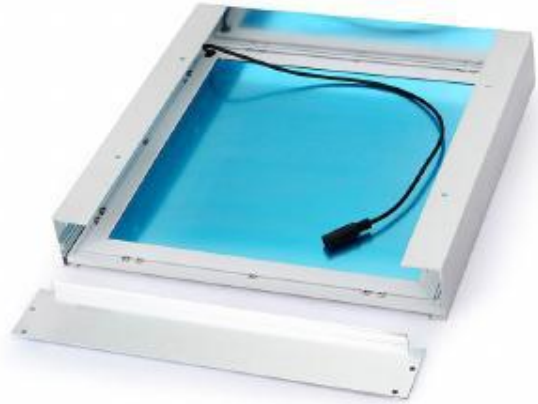
Colour Temperature	3000K/4000K/6500K
IP Rating	IP 20
Dimensions	596x596x11mm
Warranty	5 Years Extended

TECHNICAL SPECIFICATIONS

Input Voltage	180~240Vac/100~240Vac
Power Factor	>0.9
Warm white(2700-3000K)	
Natural white(4000-4500K)	
Cold white(5800-6500K)	
LED Type	SMD3014 SMD2835
IP Rating	IP 20
Luminous Efficacy	20LM/led
Driver Output Voltage DC	36-42V DC
Colour Rendering	>80 CRI
Lamp Viewing Angle	120°
Dimmable	Dali/0-10V/PWM/Traic
Operating Temp.	-20°C to +50°C
Lifespan	60,000 Hours
THD	<0.2
UGR Rating	19
Light Guide Plate	PMMA
Housing Material	Aluminium

Model No	Power	Size(mm)	Leds Qty		Lumen(lm)
BS-PB001-3030-8W	8W	300*300	SMD3014	80 leds/M	1600LM
BS-PB002-3030-12W	12W	300*300	SMD3014	120leds/M	2400LM
BS-PB003-3030-18W	18W	300*300	SMD3014	180leds/M	3600LM
BS-PB004-3060-18W	18W	300*600	SMD2835	90leds/M	1800LM
BS-PB005-3060-24W	24W	300*600	SMD2835	120leds/M	2400LM
BS-PB006-6060-36W	36W	600*600	SMD2835	180leds/M	3600LM
BS-PB007-30120-36W	36W	300*1200	SMD2835	180leds/M	3600LM
BS-PB008-6060-40W	40W	600*600	SMD2835	200leds/M	4000LM
BS-PB009-6060-48W	48W	600*600	SMD2835	240leds/M	4800LM
BS-PB010-60120-60W	60W	600*1200	SMD2835	300leds/M	6000LM
BS-PB011-60120-72W	72W	600*1200	SMD2835	360leds/M	7200LM

Accessories



Surface Mount Box for LED Panel

Part Number 300x300mm
 Part Number 300x600mm
 Part Number 600x600mm
 Part Number 620x620mm
 Part Number 300x1200mm
 Part Number 600x1200mm



Suspension Kits for LED panel

Part Number 4 Stud
 Part Number 6 Stud

BS -FPL-DJ2
 BS -FPL-DJ3



Ceiling & Wall Mount Kits for LED Panel

Part Number 4 Stud
 Part Number 6 Stud

BS -FPL-WK4
 BS -FPL-WK6



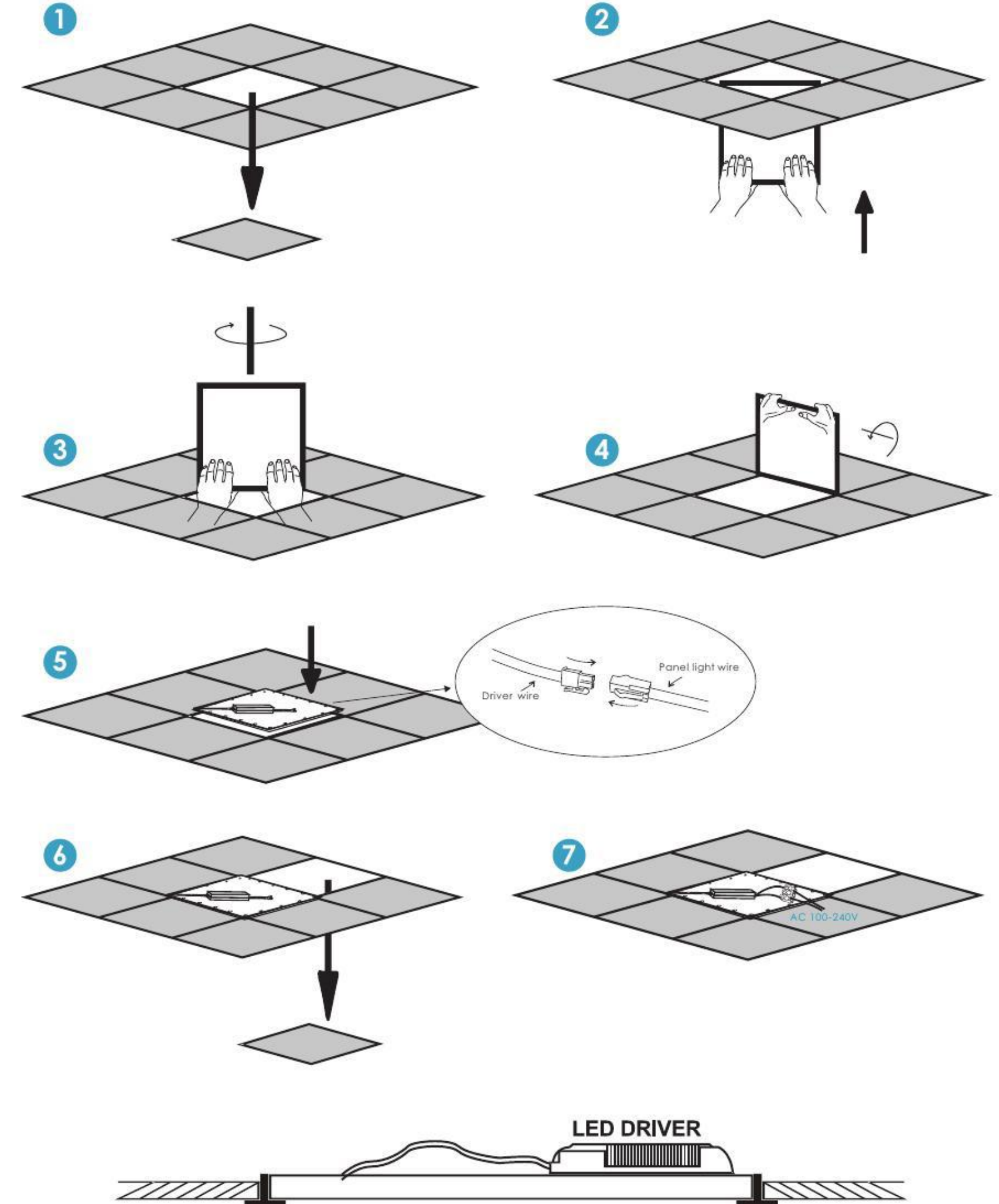
Ceiling Embedded Kits for LED Panel

Part Number 4 Stud
 Part Number 6 Stud

BS -FPL-THK4
 BS -FPL-THK6

Installation

► RECESSED IN FALSE-CEILING FRAME

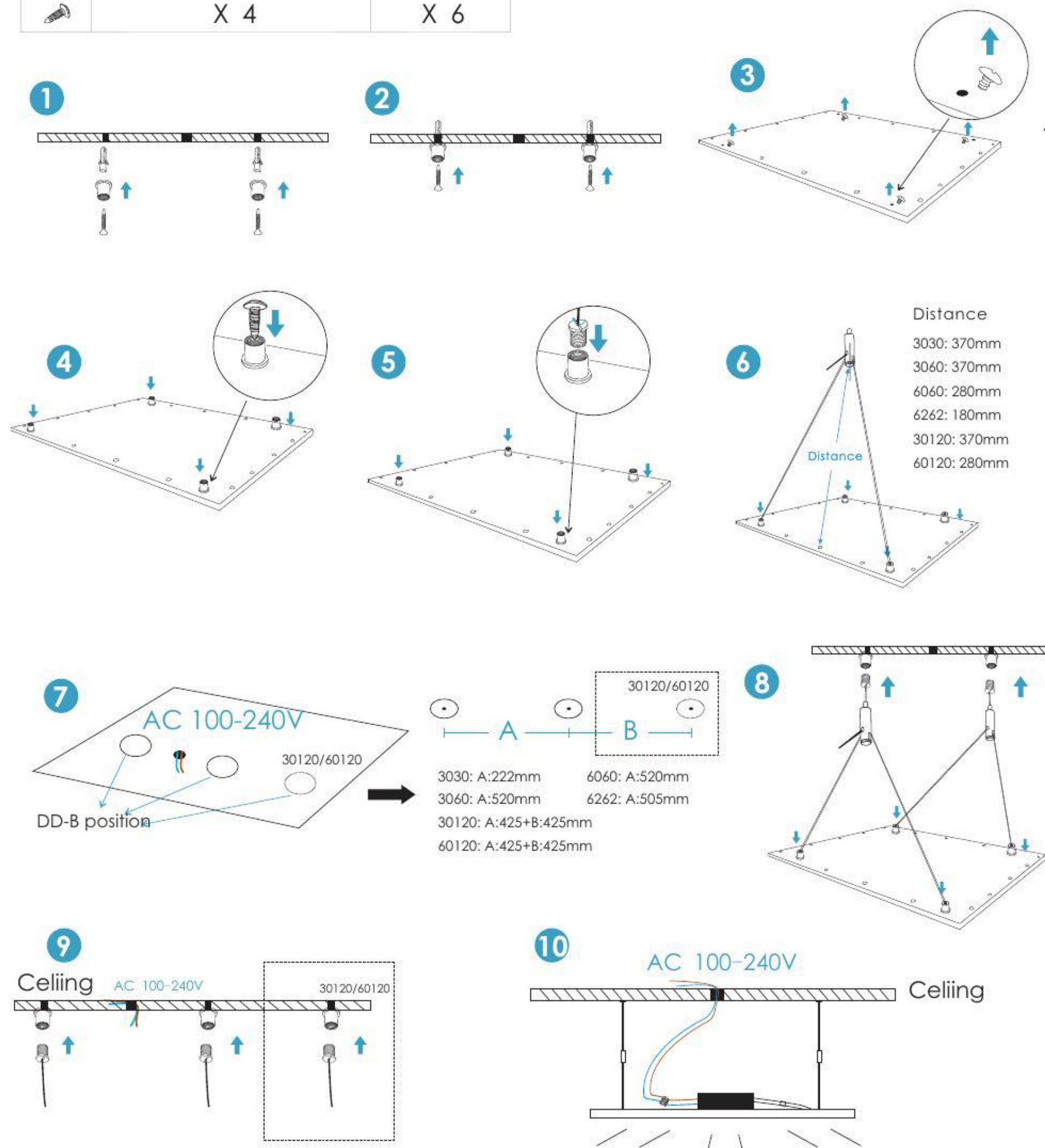


Installation

► SUSPENSION

Accessories	3030	3060	6060	6262	30120	60120
		X 2			X 3	
		X 2			X 3	
		X 4			X 6	

Accessories	3030	3060	6060	6262	30120	60120
wire A		X 2			X 3	
wire B		X 2			X 3	

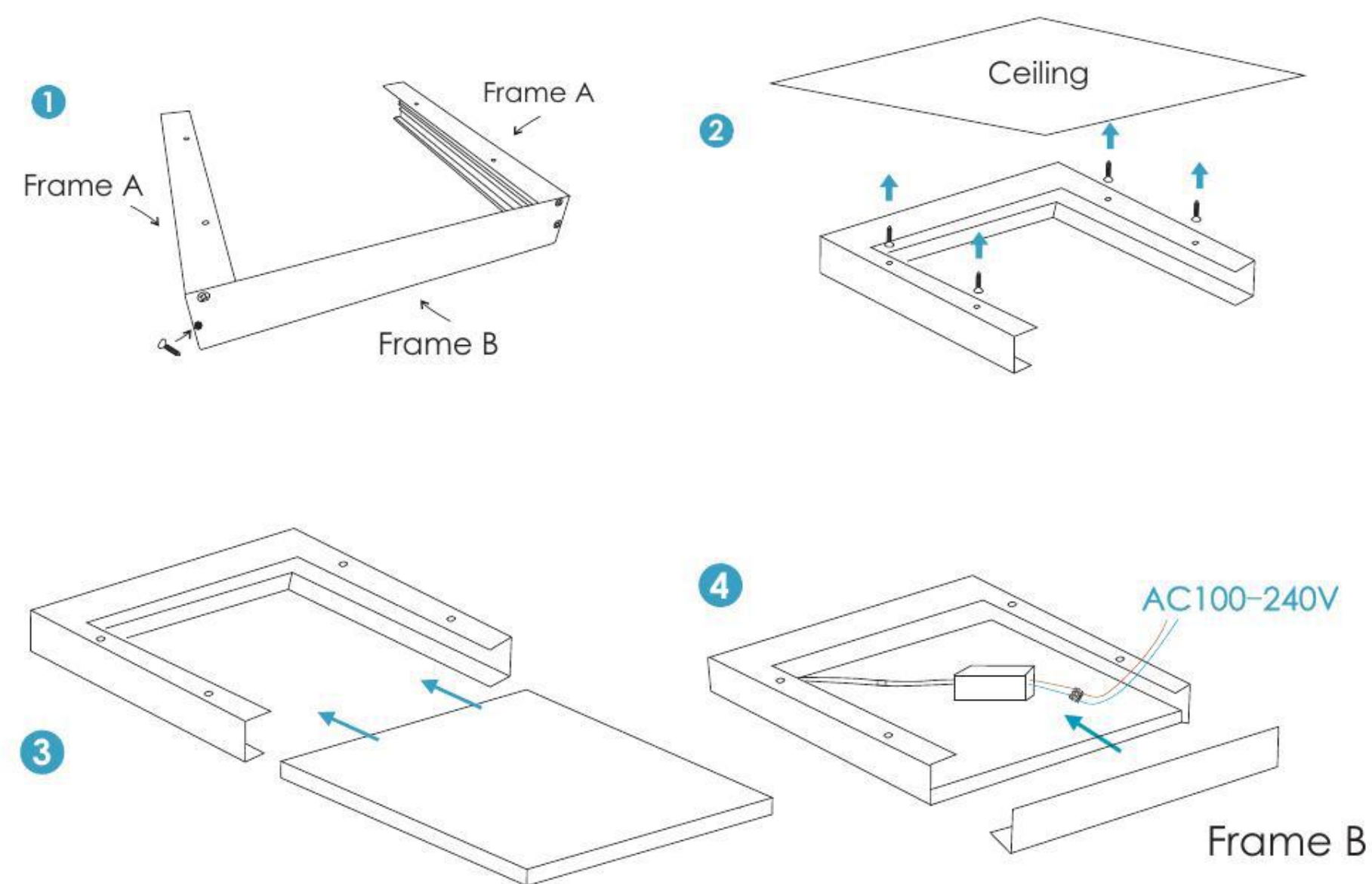


Installation

► FRAME MOUNTED

Accessories	3030	3060	6060	6262	30120	60120
Frame A		X 2			X 2	
Frame B		X 2			X 2	

Accessories	3030	3060	6060	6262	30120	60120
		X 8			X 8	
		X 4			X 6	

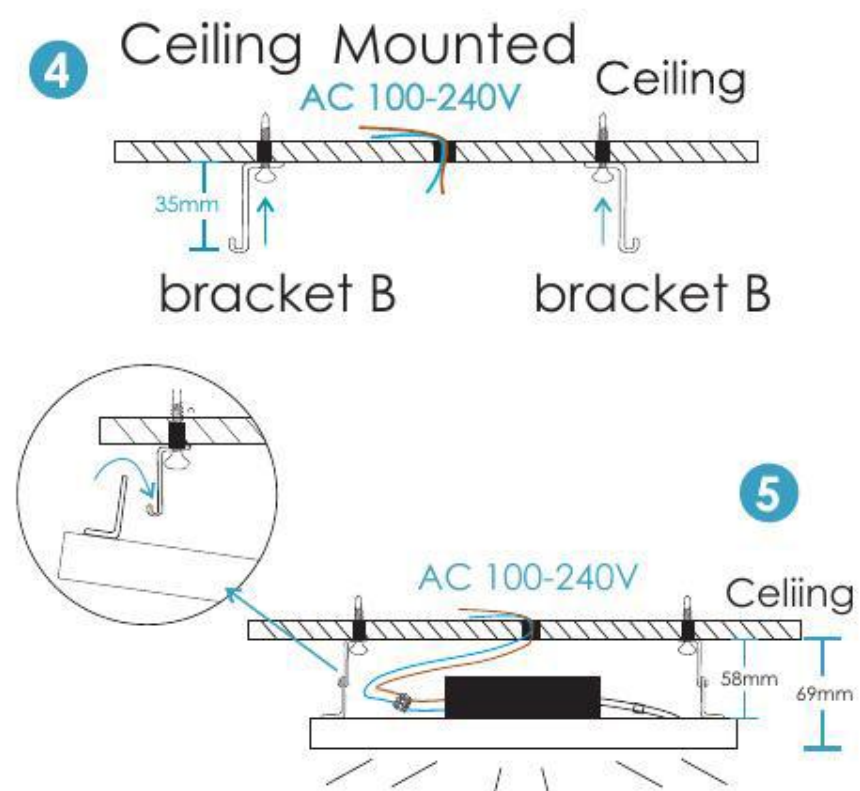
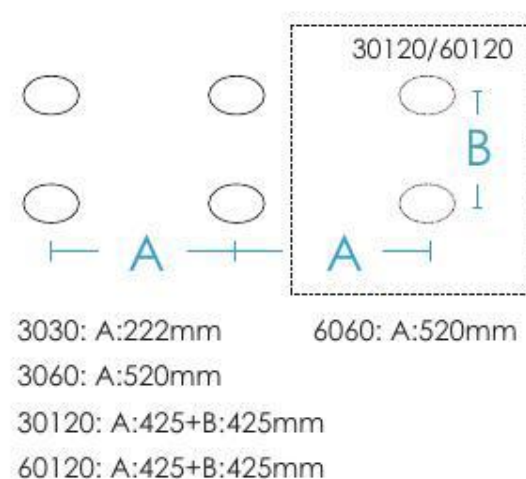
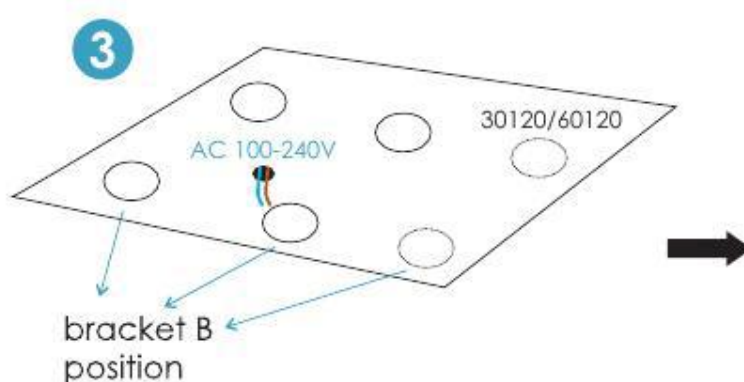
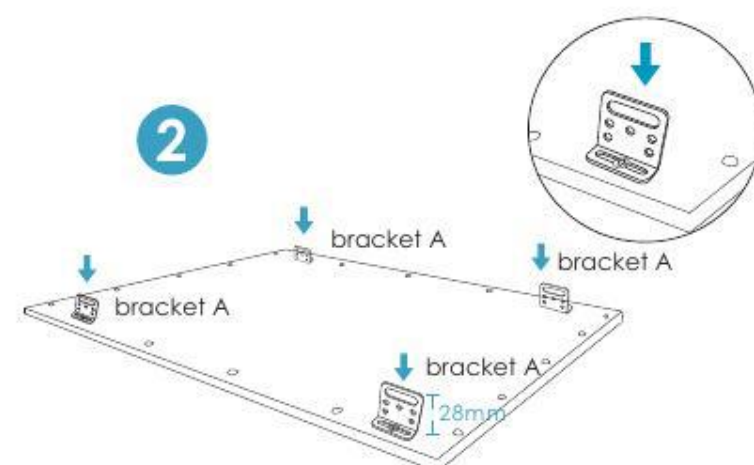
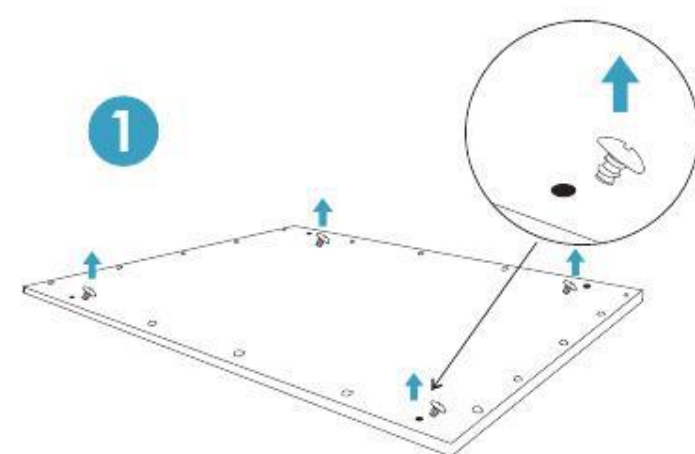


Installation

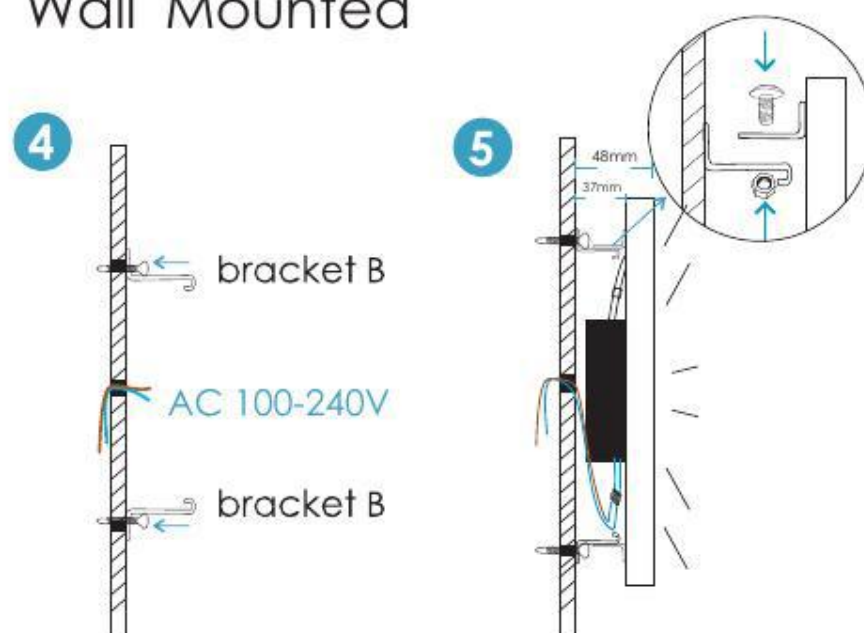
► CEILING & WALL MOUNTED

Accessories	3030	3060	6060	6262	30120	60120
bracket A		X 4			X 6	
bracket B		X 4			X 6	
		X 4			X 6	

Accessories	3030	3060	6060	6262	30120	60120
		X 4			X 6	
		X 4			X 6	
		X 4			X 6	



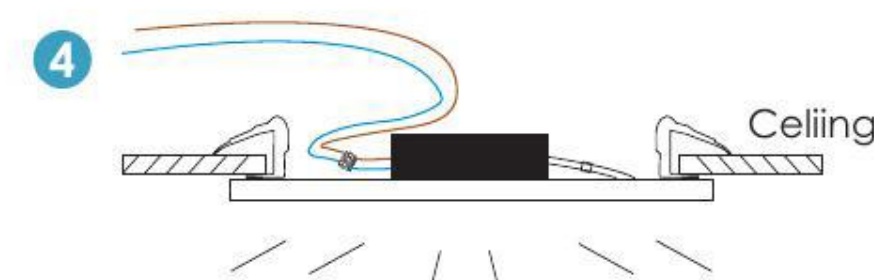
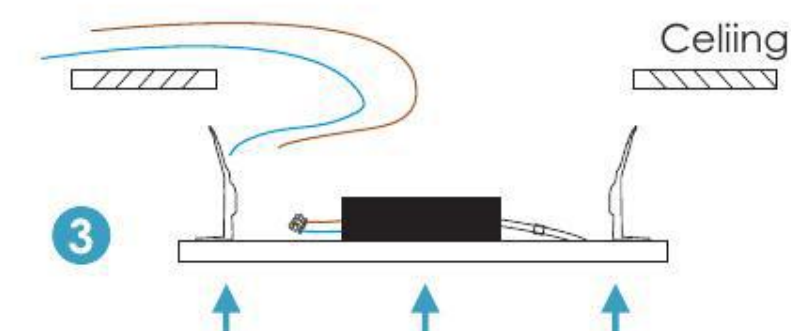
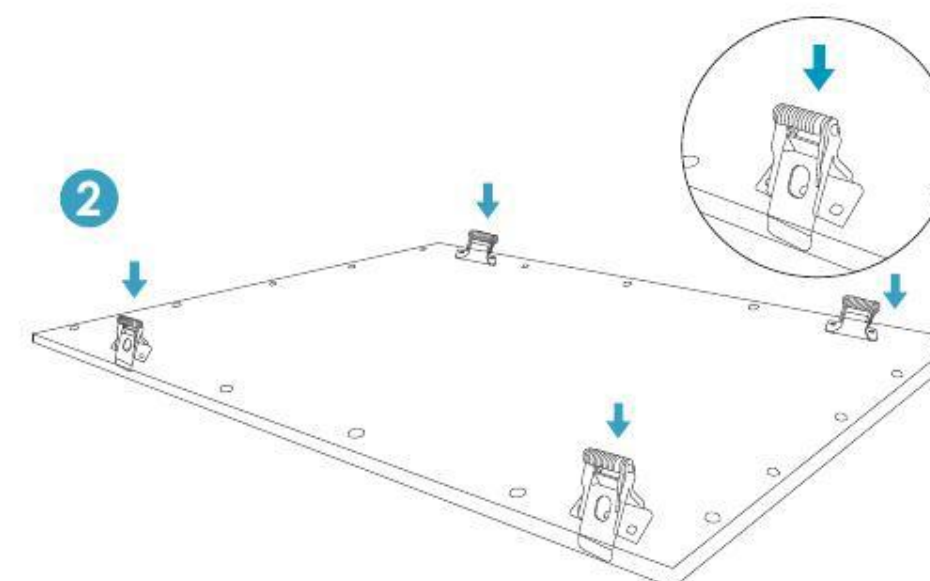
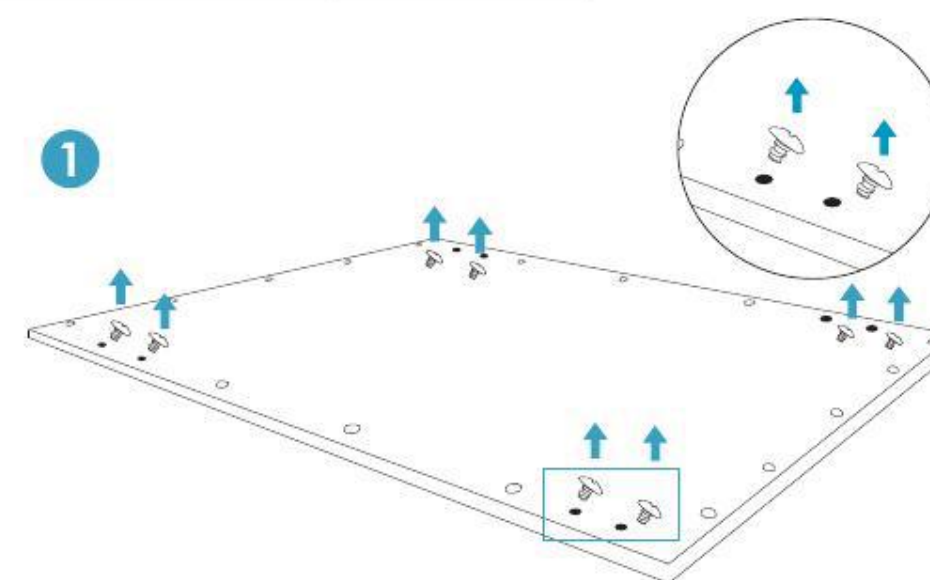
Wall Mounted



Installation

► RECESSED IN A CUT-OUT HOLE

Accessories	3030	3060	6060	6262	30120	60120
		X 4			X 6	



Cut-Out Size:	3030: 280X280mm	6060: 580X580mm
	3060: 280X580mm	6262: 600X600mm
	30120: 280X1180mm	60120: 580X1180mm

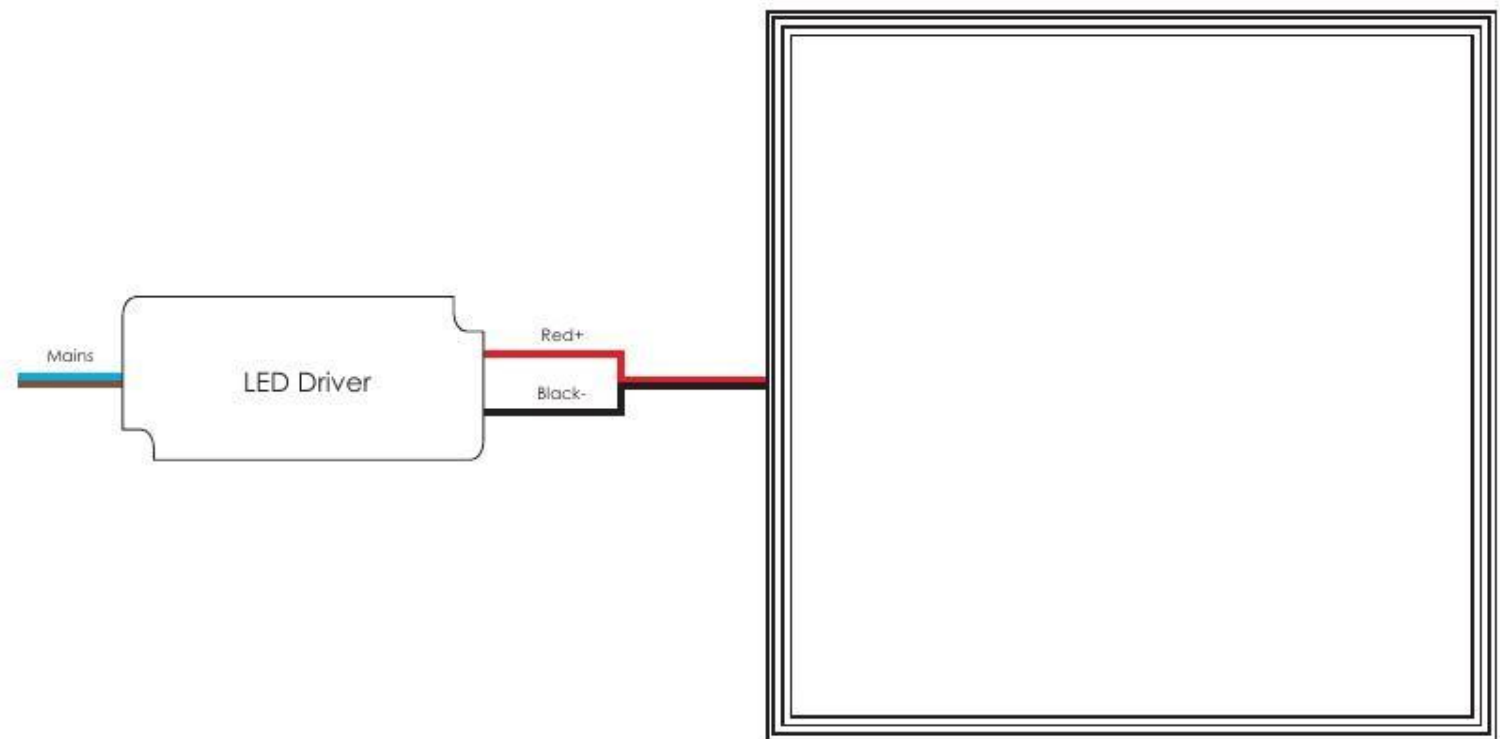
Hugens Wiring

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE STARTING TO INSTALL THIS PRODUCT,
NO RESPONSIBILITY IS TAKEN FOR DAMAGE CAUSED BY INCORRECT HANDLING, WIRING OR INSTALLATION

Operating Voltage

60x60cm - 100-240V AC
60x60cm - 180-240V AC

Connection Details



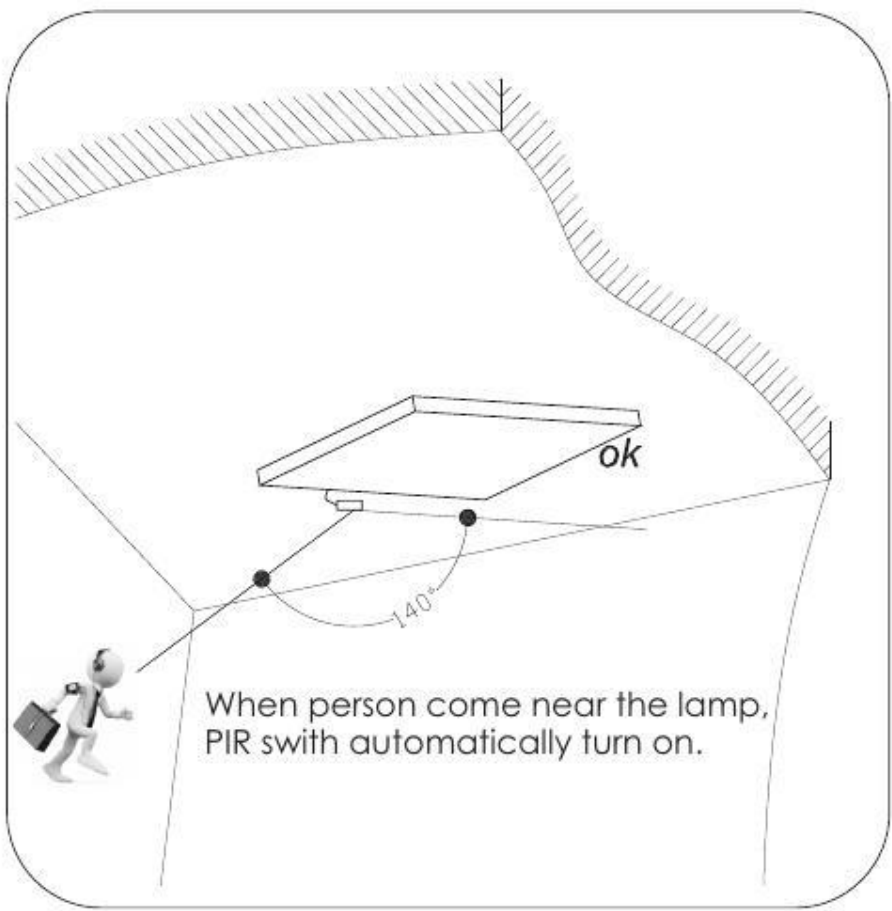
!! IMPORTANT !!

DO NOT ATTEMPT TO INSTALL THIS PRODUCT WITHOUT ADVICE FROM A FULLY QUALIFIED ELECTRICAL ENGINEER,
FAILURE TO DO SO MAY CAUSE PERSONAL HARM OR DAMAGE TO THE PRODUCT.

IT IS IMPORTANT THAT THESE GUIDELINES ARE FOLLOWED AT ALL TIMES DURING INSTALLATION.
THIS INFORMATION IS FOR YOUR SAFETY AND TO ENSURE THAT THE PRODUCT IS INSTALLED CORRECTLY.

THE PRODUCT **MUST** BE WIRED AS PER THIS DIAGRAM.
IF THE PRODUCT IS WIRED INCORRECTLY IT WILL NOT FUNCTION AND CAUSE SEVERE INTERNAL DAMAGE TO THE
DEVICE.

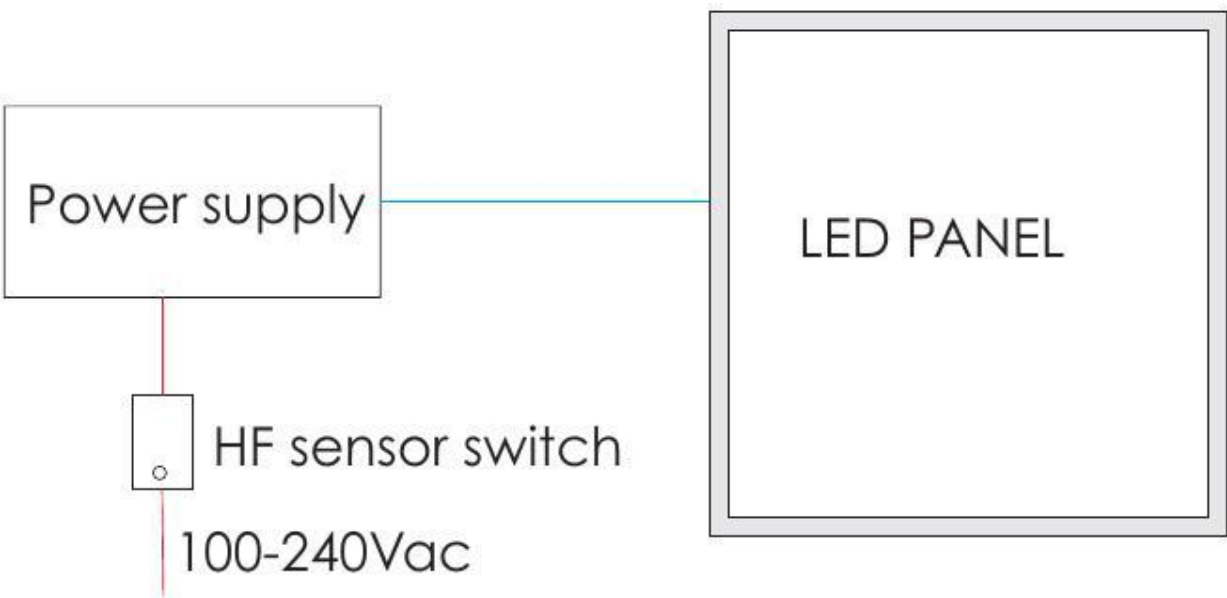
HF(High Frequent)-Sensor



- Automatic HF sensor light sensor is the use of the latest lighting technology combined with high-tech products, widely used in the staircase, hallway, bathroom, corridors and other public places.
- Built-in body sensor. People come in, the light turn on, people leave, the lights turn off. (delay about 30 seconds) without switch equipment.
- When the human body leave, it will automatically turn off after the delay(30 seconds), energy-saving and convenience.
- When the light is less than 10LUX (dark time), the body movement sensor light will automatically capture the low-frequency signals. It will light when people come and turn off when people leave.

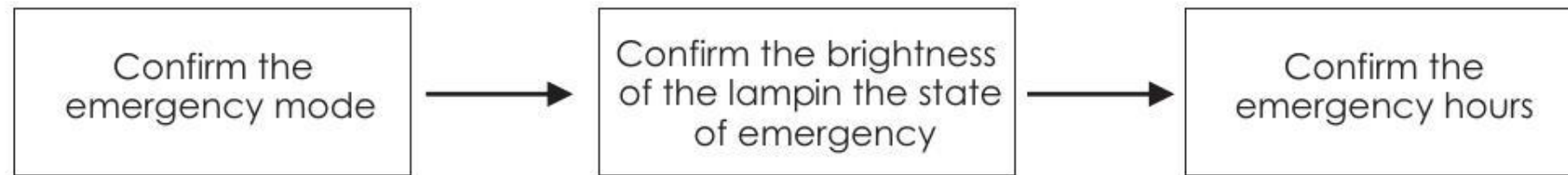
Technical Parameters

Sensing modes: high frequent body sensor + light control
Delay time: 30 seconds
sensing distance: ≤ 8 meters (20 ° ambient temperature)
Sensing angle: 140 °.
Illuminance sensor is less than 20LUX



Emergency Power Solutions

Program process



Emergency Mode

Mode A: Normal time, lights turn on. Power outage time, the lamp is lit.

Mode B: Normal time, lights turn off. Power outage time, the lamp is lit.

Emergency Brightness

Emergency Brightness, from 20%~100%(30% suggested).

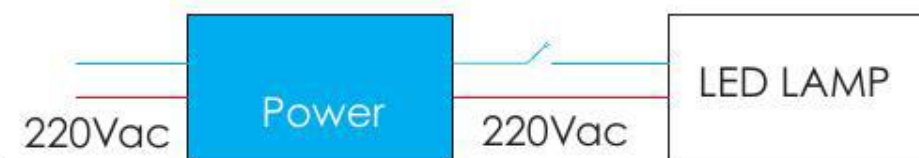
Emergency hours

Emergency hours from 1 hrs~3 hrs(1hrs suggested).

Circuit Connection Diagram

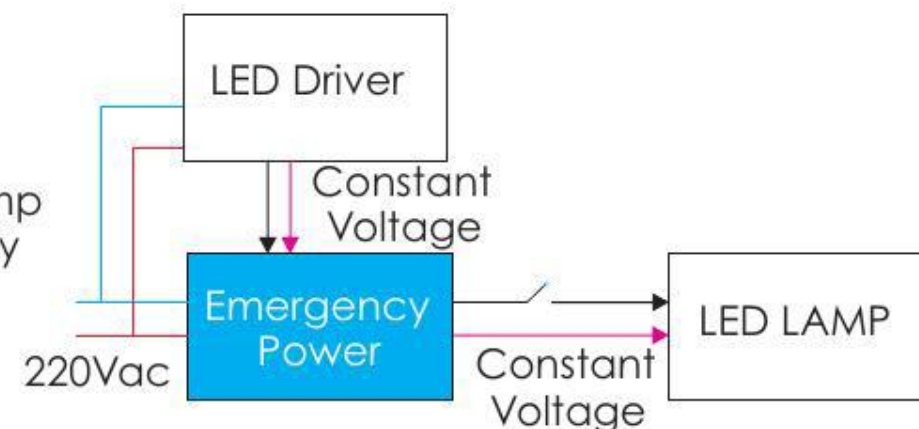
Emergency Brightness 100%

Driver inside or constant currence driver lamp must be 100% brightness when emergency hours.



Emergency Brightness 20%~99%

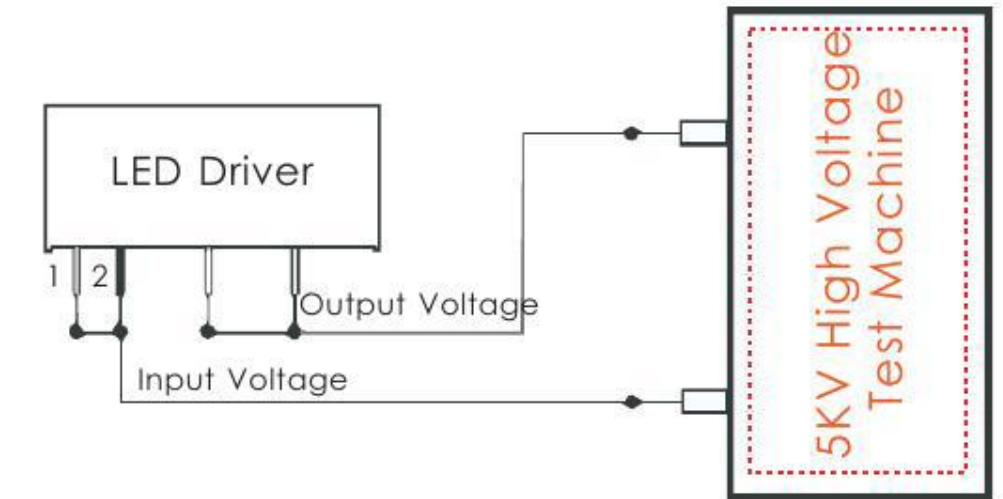
Driver onside and constant voltage driver lamp can be 20%~99% brightness when emergency hours.



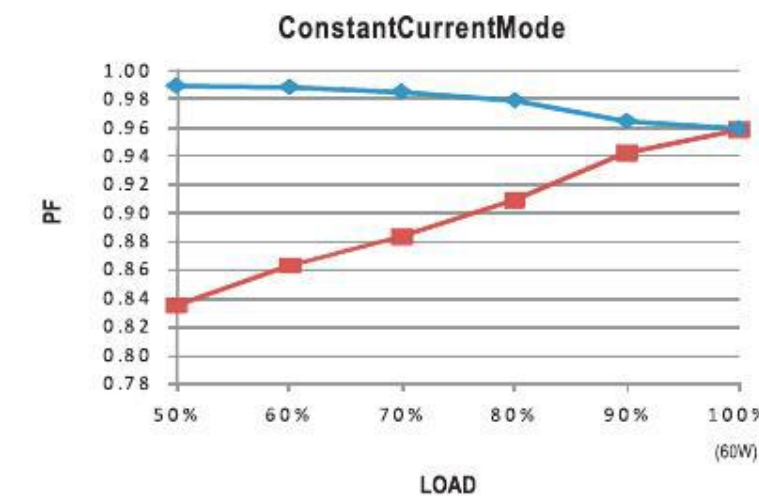
High Quality Driver

Isolated LED driver

Input Voltage: 3.75KV
Test Seconds: 60s
Test Result: Less 20ma

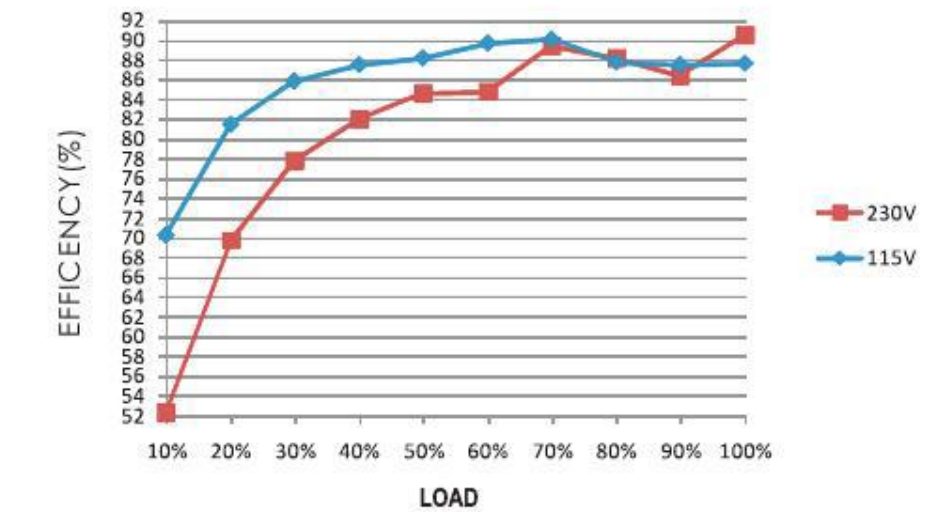


Power Factor Character

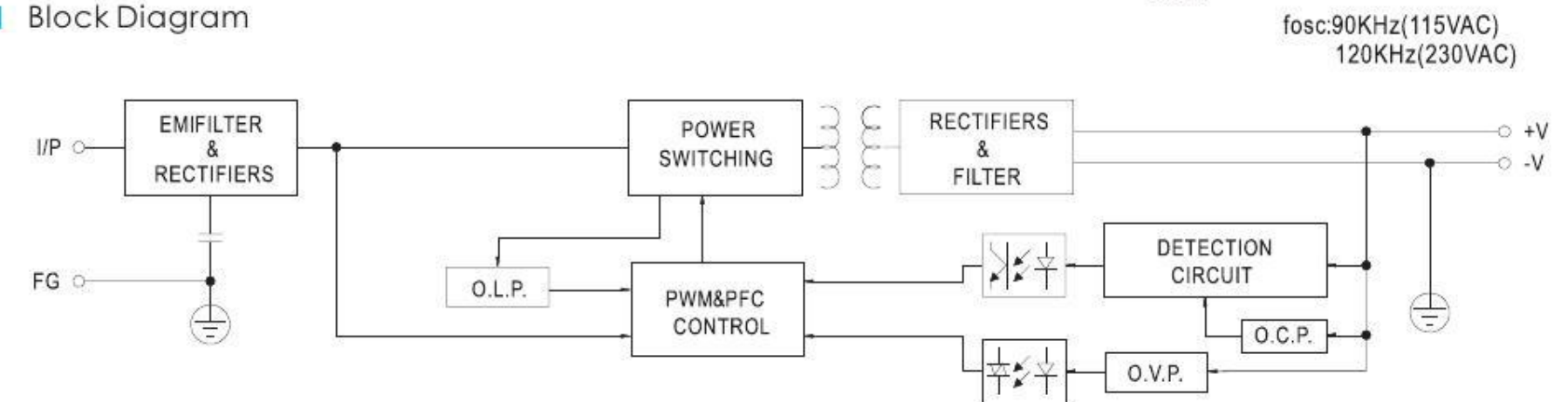


EFFICIENCY vs LOAD (48V Model)

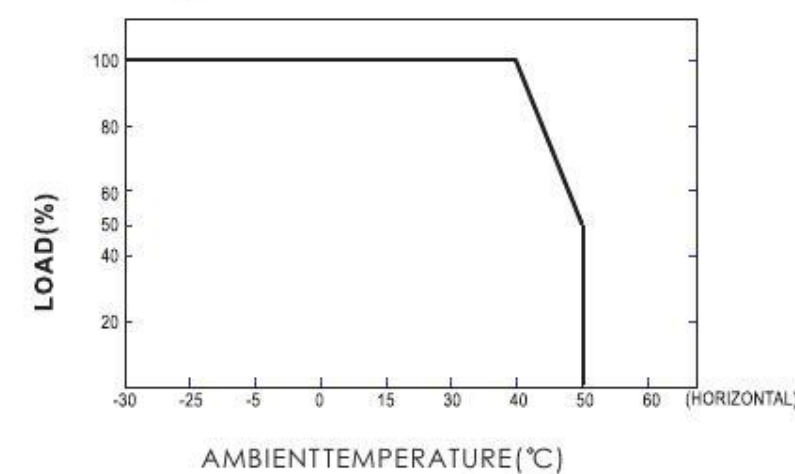
PLC-60 series possess superior working efficiency that up to 89% can be reached in field applications.



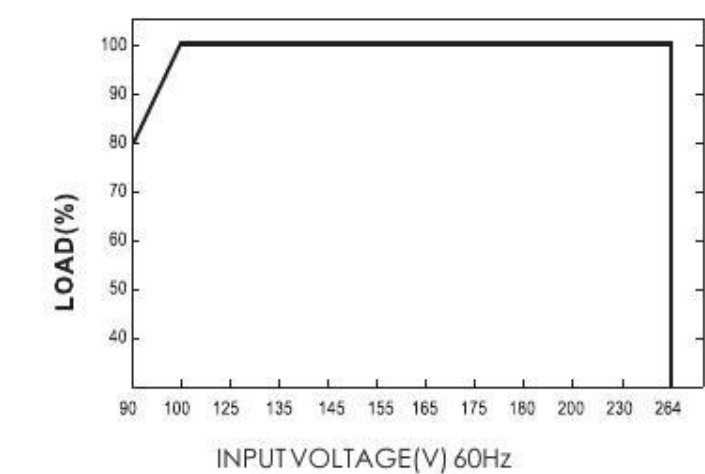
Block Diagram



Derating Curve



Static Characteristics

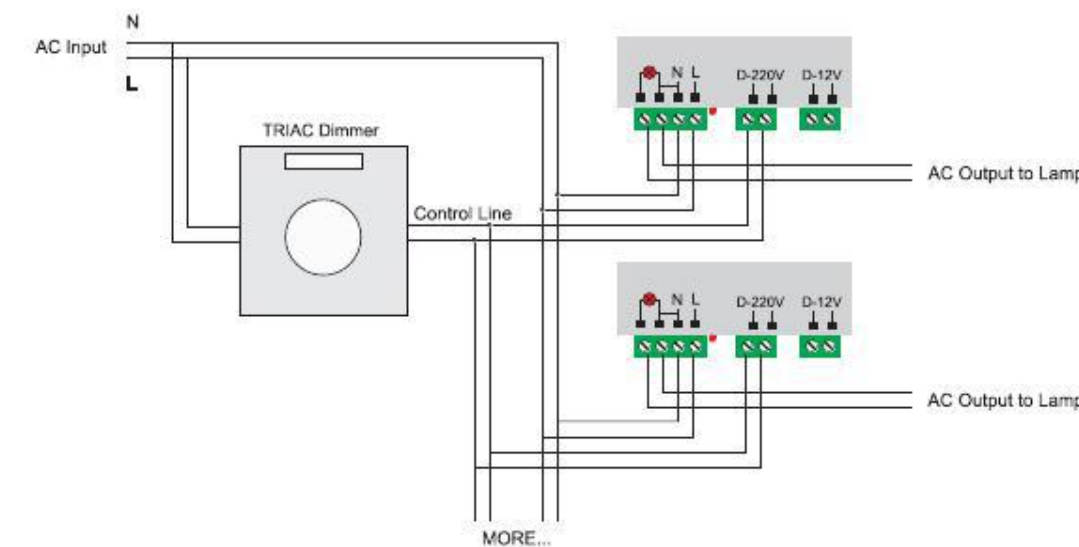
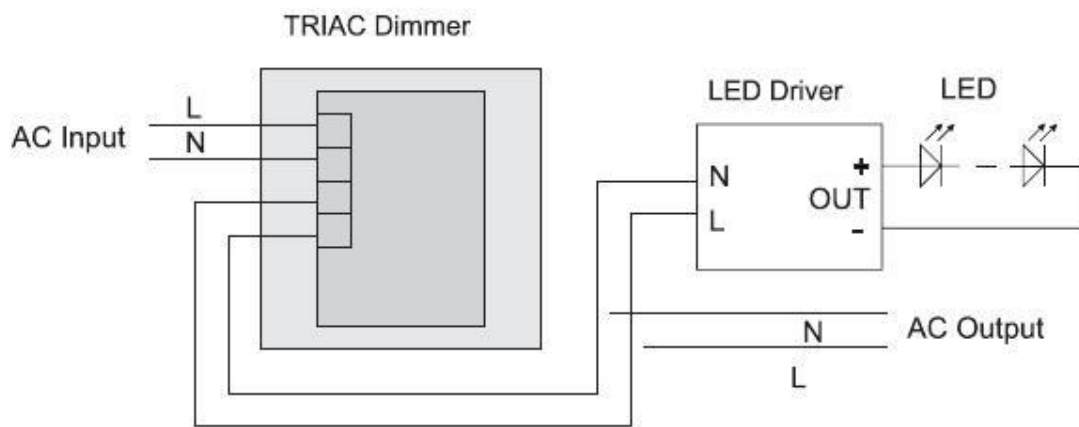


Traic Dimmiable Opintional

The dimmiable solution also need a controller (CR-DMTR load 150W lamps max) to control dimmiable lamps. If Total lamps power over 150W, it also need a Amplier CR-AP-TR load 600W lamps max) .



1. Long life, up to 50,000+ hours
2. Significantly reduces maintenance costs
3. Low wattage consumption
4. Electricity consumption reduced 80-90%
5. Vibration resistant, solid state electronic circuitry
6. Internal TVS surge protection
7. Low heat generation saves HVAC operating costs

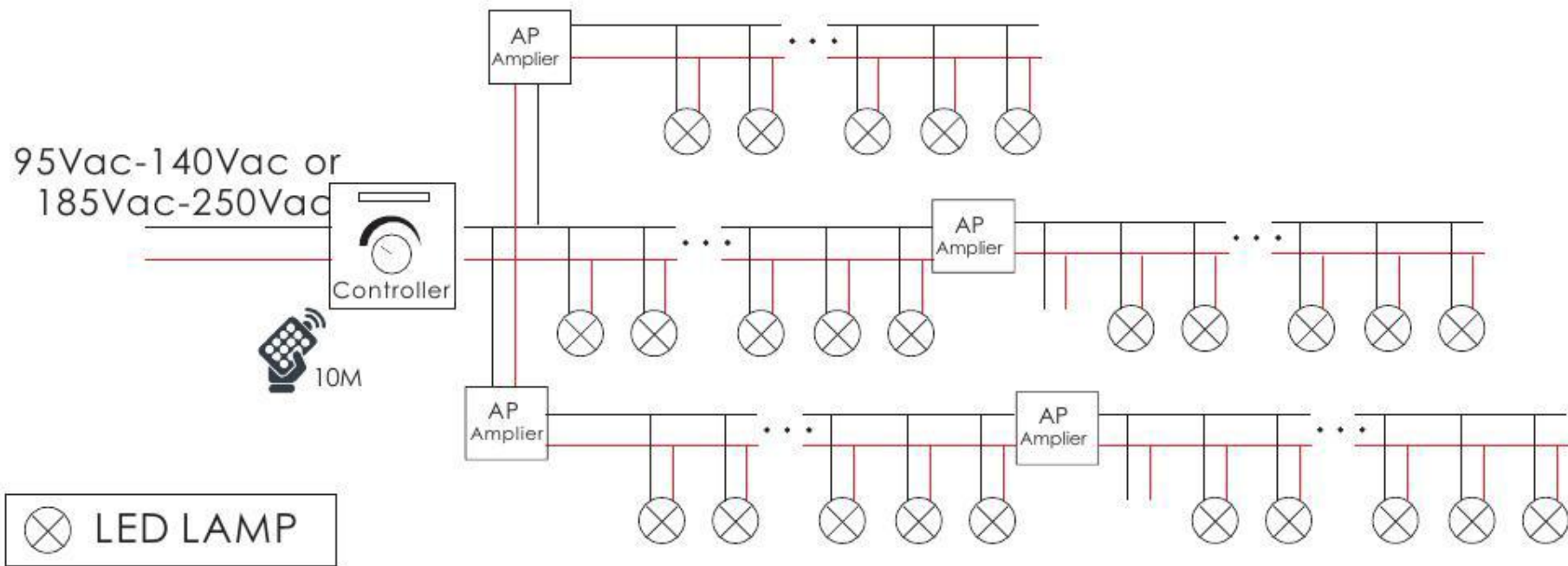


Infrared Remote Control TRIAC Dimmer CR-DMTR



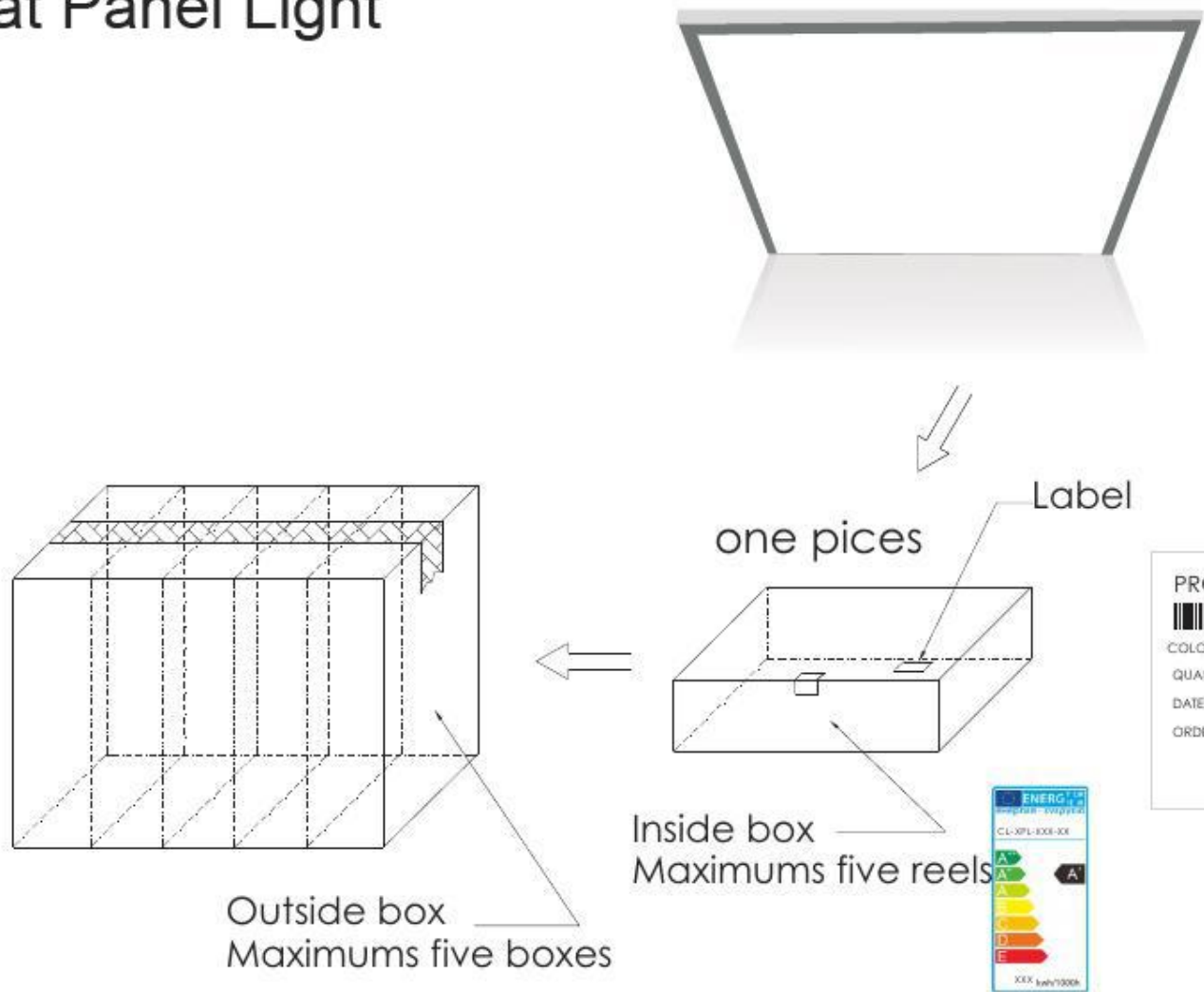
TRIAC Amplier CR-AP-CR

Wiring Diagram



Packing information

Flat Panel Light

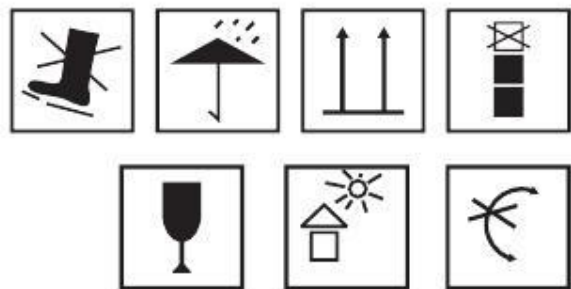


STORAGE CONDITIONS

- Before opening the package:
The LEDs should be kept at 30°C or less and 70%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.
- After opening the package:
The LEDs should be kept at 30°C or less and 50%RH or less. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silicagel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

SAFETY INFORMATION

- The components can not be mechanically pressed.
 - Correct electrical polarity needs to be observed.
 - Ensure the power is adapt to operate the total load.
 - Installation must not damage the conducting paths on the ctrboard.
 - Parallel connection is highly required as safe electrical operation mode.
 - Pay attention to ESD precautions during assembling.
 - Assembly of LED modules includes power supplier must be appropriately.
 - When installing on metallic or other surface, an electrical isolation point between strip and the installing surface is recommended.
 - Only qualified person allowed to operate installations.
- Damaged by corrosion will not be materials defect claim. It is the user's responsibility to provide a suitable protection against moisture, condensation and other harmful elements.





Zhongshan Besen Lighting Factory



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