

LEDGEAR™ Specification

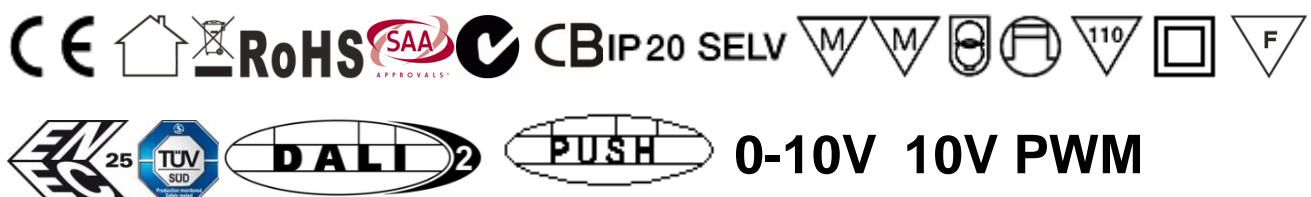
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GENERAL GUIDELINES

As a DALI member of DiiA, Kinglumi launched the fully functional LED electronics control gear(ECG)

--LEDGEAR™ one4all version, it combinations DALI-2, Push-DIM, 0-10V and 10V PWM functions, and corridorFUNCTION for options. They are positioned and designed to reduce your inventory and make it one for all applications, with adjustable current from 650mA to 1100mA/250mA-600mA.

LEDGEAR™ one4all ECG supply constant current output. Operation from 200-240VAC and offers output voltage ranging between 14V and 42V. The driver without fans is design to be able to operate ambient temperature from -20°C to 40°C under free air convection (no total enclosed). DALI Tested and approved according to IEC 62386 Part 102(DALI-2), 207.



LED Electronic Control Gear

DALI-2, Push-dim,0-10V, 10V PWM Constant Current Output
With 14-42VDC Output Series

Product description

- One4all design(DALI-2, Push-DIM, 0-10V, 10V PWM)
- DALI member, compatible with universal DALI masters
- Tested in DALI house according to IEC 62386 Part 101,102(DALI-2), 207
- ENEC, CE, CB approved by TUV SUD, SAA, Ctick qualified
- Adjustable constant current output from 650 to 1100 mA(Preselected 650mA), and 250mA to 600mA(Preselected 250mA)
- Reliable, Class II, SELV according EN 61347
- Independent ECG and with strain-relief.
- Permissible AC cable 0.5-1.5mm² wire gauge, 3.5~8mm PVC jacket diameter
- Working Ta=-25°C ~ +45°C
- 50,000 hrs nominal lifespan
- 5-year factory guarantee
- Flicker Free(less than 3% flicker percentage)
- Built-in active PFC
- Built--in with permanent memory for DALI and Push-DIM, 100,000 times memory
- Grow wire tested 650° for 30S and 850° for 5S
- Push-DIM, from 100% to 1.5% dimming range

Housing Properties

- Casing: polycarbonate, white
- Type of protection IP20

Typical applications

- For spot light and downlight in retail and hospitality applications
- For panel light and area light in office and education application

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PARAMETERS

MODEL		[605D004] - C350-421100DB-F	[605D005] - C328-42600DB-F	
OUTPUT	DC voltage range	(14-42V) @36V		
	Rated current	650-1100mA(selectable every 50mA, preselected 650mA)	250-600mA(selectable every 50mA, preselected 250mA)	
	Current tolerance	±5%		
	Max. output power	39.6		
	Dimming range	DALI 1%-100%; Push-DIM 2%-100%, 0-10V: 10%-100%		
	Ripple & noise(max.)	<1V		
	Starting time	<0.3S @230V		
	Warm up time to 60%	<1.0 @230V		
	Turn off time	<2.0 @230V		
	Flicker percentage	<3%		
	Flicker index	<1%		
INPUT	AC Voltage range	200-240VAC		
	Frequency range	47 ~ 63Hz		
	Max. input power	45.8		
	Power factor(typ.)	>0.95 at full power	>0.95 at full power	
	THD	<7%		
	Efficiency (typ.)	87%	85%	
	AC current (typ.)	126-205		
	In-rush current (typ.)	<40A/350uS@230V		
	Max. No. of psus on 16A circuit breaker			
	Leakage current	≅ 0.5mA		
	Switching cycles	>15,000		
Standby power	<1W			

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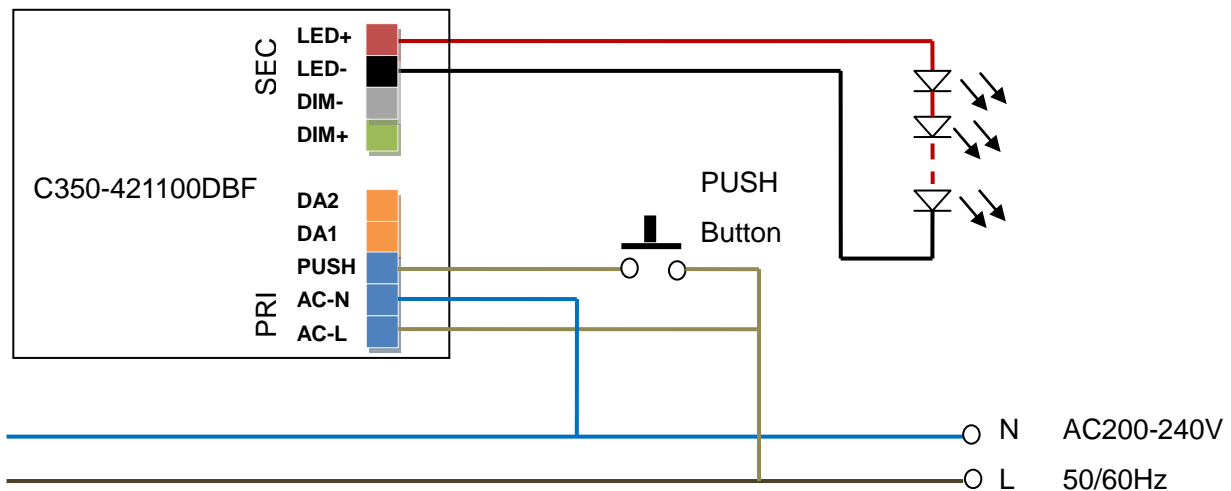
Protection	Over current	√	√
	Short circuit	√	√
	Over voltage	√	√
	Over temperature	√	√
	No-load operation	√	√
	No damage at wrong mains voltage level	√	√
Environment	Working Temp.	-20°C ~45°C	
	Max. case(tc point) Temp.	85°C	
	Working humidity	20%-85%RH	
	Storage temp., humidity	-40°C ~80°C	
Connection	AC Connector	Push Type Terminal, Max. 1.5mm ² input cable cord	
	DC Connector/	Not included	
	Output wire(type, length)	Not included	
Others	MTBF		
	Warranty years	5	
	Lifespan (hrs) @ ta=25°C	≥ 50000H	
	DALI Standard	IEC 62386-101: 2014, IEC 62386-102: 2014, IEC 62386-207: 2009, DALI-2	
	Glow wire test	850°C for 5S; 650°C for 30S	
	Dimension L x W x H	125X76X30mm	
	Packing	50pcs per cartons, Size 57.5x18.5x19cm, Gross Weight kgs	
Note	DALI and PUSH with memory function		

DIAGRAM&INSTALLATION MANUAL

PUSH Dimming

PUSH-DIM, also known as Switch-Dim or Touch-Dim. To be able to make simple light management systems, the one4all also integrated PUSH-DIM Function. This makes it possible to dim and switch them directly with mains AC voltage using the PUSHI control terminals (PUSH-DIM interface). Only one commercial push-button is required; the controller takes over the drivers. PUSH-DIM may never be used at the same time as a DALI control system.

Circuit diagram



Wiring and cable compensation

- Do not use more than 20 one4all ECGs in a single PUSH-DIM application (up to 20 ECGs can be controlled by one push-button). The greater the number of one4all ECGs controlled imultaneously, the greater the risk of asynchronisms.
- The cable length between the push-button and the farthest one4all ECGs may not be longer than 105 meters. Compensation measures must be applied for line lengths required to be more than 25 meters long (bell transformer, resistance).
- The push button can only be connected to the AC/L and PUSH terminals of the driver. It results in the short circuit if the Push Button is connected to the AC/N terminal.

Instructions

Operation	Action duration	Action
Ultra Short Press	<0.04 sec	Won't cause any action
Briefly Press	0.04-0.5 sec	Light ON/OFF
Press and hold at ON status	0.50-5.0sec	Brightness Dimming down to 2%, or up to 100%
Press and hold at OFF status	0.50-5.0sec	Brightness Dimming From 2% up to 100%
Long Press	>5.0 sec	Won't cause any action

Note:

- Factory defaults 100% brightness, dimming level down to 2%.
- Built-in with permanent memory:

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Light returns to the previous dimming level when switched off and on again, even at power failure.

- c) Synchronization of switching state and dimming direction:
For physical reasons, a PUSH-DIM system can work asynchronously; in other words, the switching state and dimming direction of the individual luminaires are different. The following steps are used to synchronize a PUSH-DIM system:
1. Step: Press and hold (> 0,5 s) → All luminaires switch on
 2. Step: Press briefly (< 0,5 s) → All luminaires switch off
 3. Step: Press and hold (> 0,5 s) → All luminaires switch on and dim
- d) The PUSH-DIM wiring and the operator button must be rated for mains voltage (240 V).
e) It must be AC voltage with a frequency between 48 and 63 Hz.
f) Warning: Make sure the conduct core connected to PUSH terminal is not exposed, as it connected to the live wire.

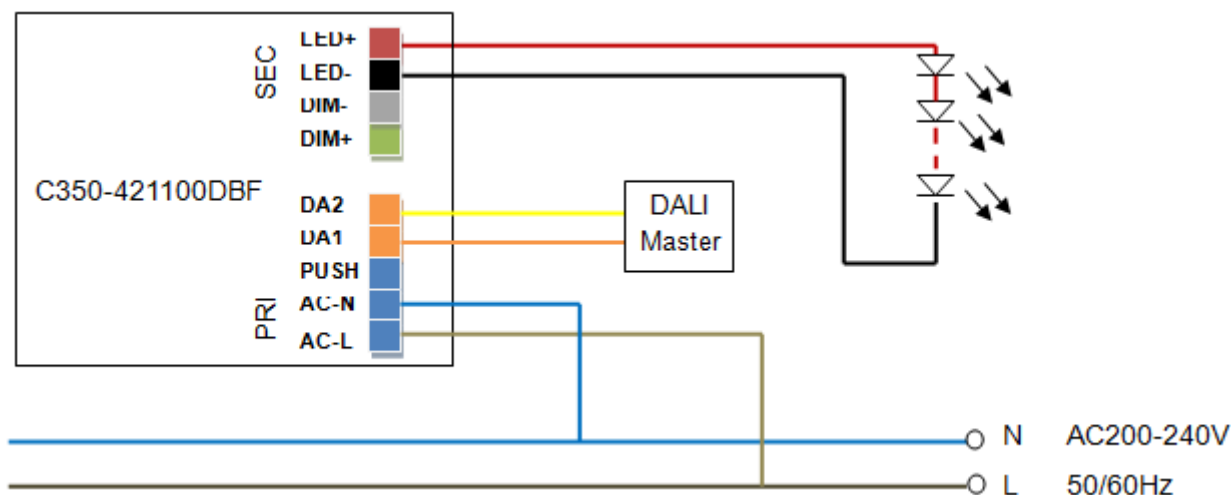
Asynchronism

As a matter of principle, asynchronisms can occur with push-button operation in systems with more than one ECGs. The higher the number of ECGs and the longer the control line length, the greater the chance of asynchronisms. In order to avoid lighting installations running asynchronously in practice, the permissible number of ECGs(20) and the total line length of 25 meters must be adhered to.

DALI Diming

The DALI logo, is only allowed to use for members of the DALI Group. The LEDGEAR one4all ECG is DALI-compliant to any DALI master or application controller if they bear the DALI logo.

Circuit diagram



Instructions

- a) Compatible with both DALI-2 application controller or DALI-I master.
- b) Connect the DALI signal to the DA1 and DA2 terminals (polarity-free)
- c) Addressing possible:
 - Individually (max. 64 IP addresses)
 - In groups (max. 16)
 - All together
- d) The least dimming depth of DALI is of 1% * Iout.
- e) Built-in with permanent memory: light returns to the previous dimming level when switched off and on

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again, even at power failure.

- f) Wiring in groups not necessary
- g) Signal voltage requirement.

If the ECGs are not reacting to the command of the control unit. Please inspect the wiring; approx. 16 V DC must be applied to the DALI terminal of the ECG.

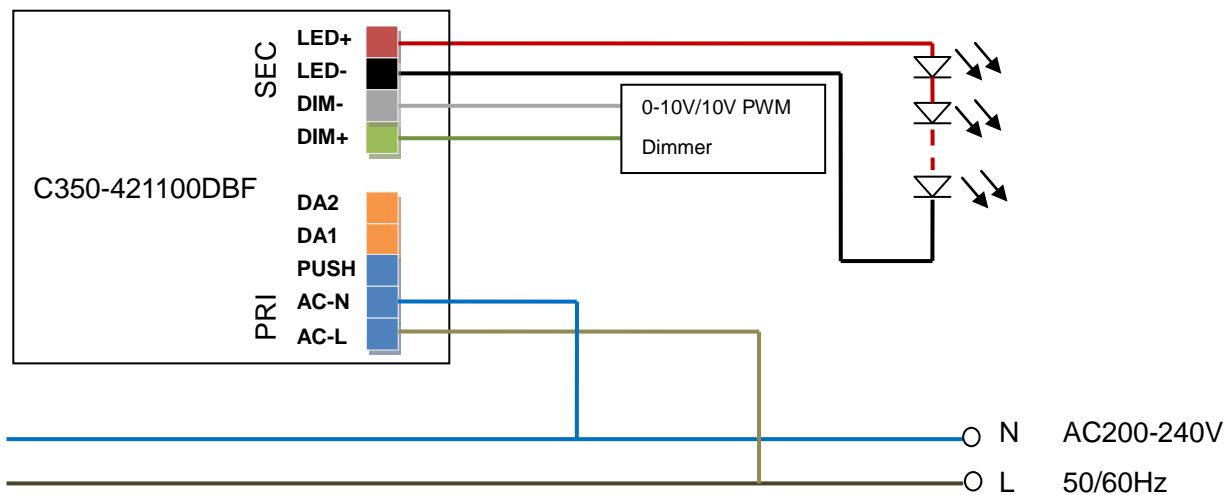
DALI INPUT	MIN	TYP	MAX
High level	9.5V	16V	22.5V
Low level	-6.5V	0	6.5V

0-10V or 10V PWM Dimming

LEDGEAR one4all ECG offer dimming function to fit the modern lighting control demand. The ECG will change its output current based on 2 different input signal/setup including DC 0-10V, or 10V PWM. For 0-10V dimming, the 0.1mA current is sourcing out from the dimming wire of LED driver and therefore it is perfect for passive electronic dimmer application. On the other hand it is also possible for using with active dimmer to control the output of LED driver.

The maximum level is still 100% in case the dimming signal is given at 10V or open the dimming wires. However the minimum level for DC0-10V is 5.7% in case the dimming signal is given at 0.57V. In case the dimmer is giving lower than 0.57V or user just short the dimming wires, the LED driver will cut off the output current resulting no light output in the LED module.

Circuit diagram



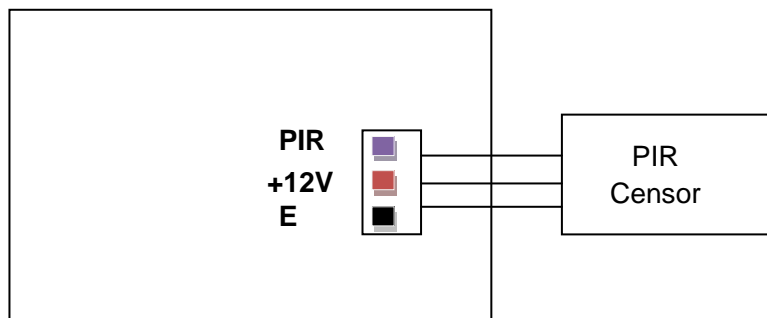
Instructions

- a) Compatible with both passive and active 0-10V dimmer
For active dimmer, over 11.0VDC output to ECG is not permitted.
- b) Connect the 0-10V Master or 10V PWM Master following the above diagram, then you can dim with the dimmer.
- c) Please note: There has "+" & "-" pole for 0-10V and 10V PWM, don't connect the wrong way, otherwise, it cannot dim the light.
- d) The maximum permissible length of the control line is 100 meters.
- e) No memory function.

CorridorFUNCTION

This function is an option, not in the standard mode. Please inquire the sales for quote and technical requirement.

Circuit diagram



Instructions

- a) Connect the PIR motion sensor following the above diagram, then the LED module(s) activates the occupation function as following details.

Hold on time	DIP Switch # 5
*Sec, to be confirm according to your request	—
*Sec, to be confirm according to your request	ON

DIP Switch Table

LEDGEAR one4all ECG is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below:

C350-421100DBF

DIP S.W. Iout	1	2	3	4	5
650mA	-	-	-	-	-
700mA	ON	-	-	-	-
750mA	-	ON	-	-	-
800mA	-	-	ON	-	-
850mA	ON	-	ON	-	-
900mA	-	ON	ON	-	-
950mA	-	-	ON	ON	-
1000mA	ON	-	ON	ON	-
1050mA	-	ON	ON	ON	-
1100mA	ON	ON	ON	ON	-

C328-42600DB-F

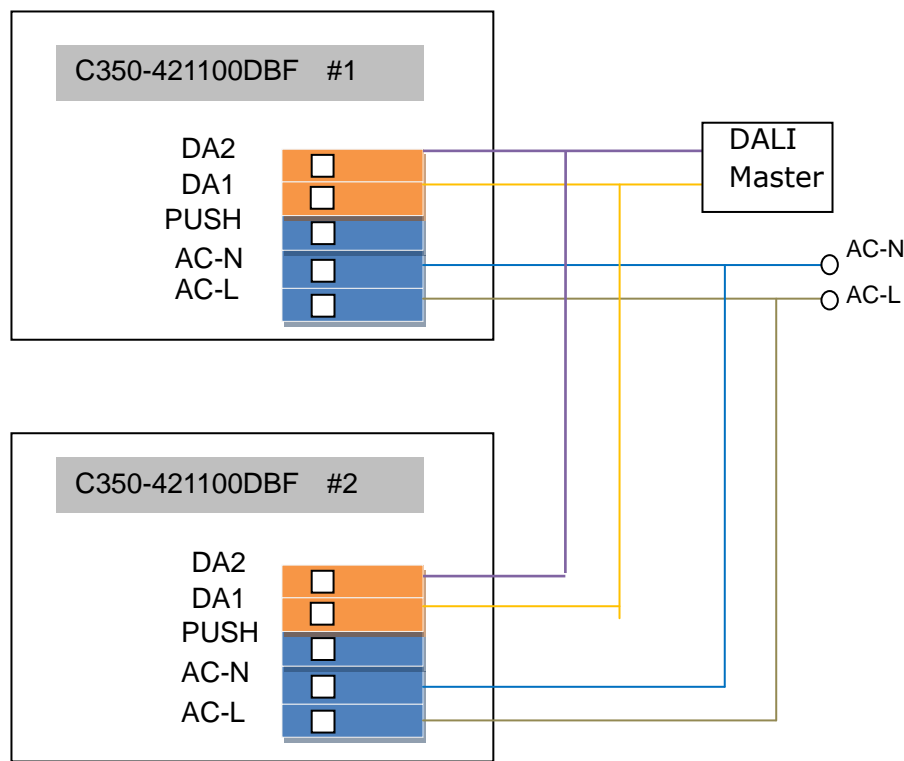
DIP S.W. Iout	1	2	3	4	5
250mA	-	-	-	-	-
300mA	ON	-	-	-	-
350mA	-	ON	-	-	-
400mA	ON	ON	-	-	-
450mA	-	-	ON	-	-
500mA	ON	-	ON	-	-
550mA	-	ON	ON	-	-
600mA	ON	ON	ON	-	-

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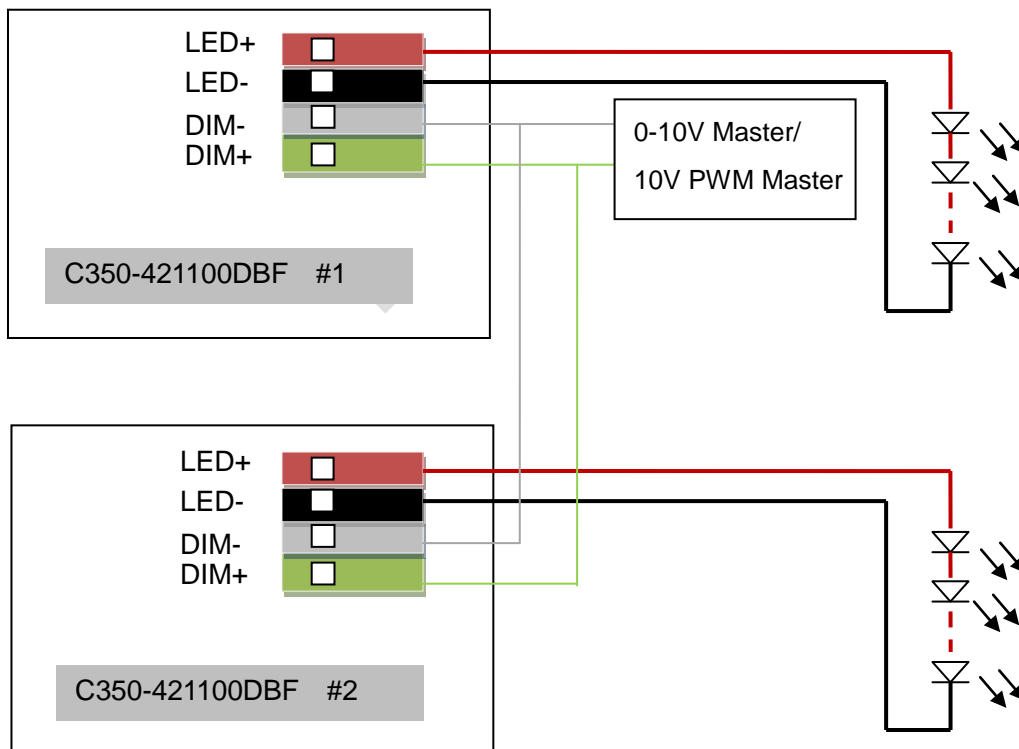
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Parallel wiring

DALI



0-10V or 10V PWM



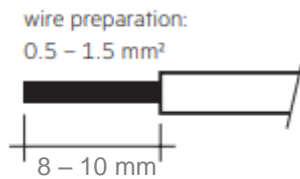
Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.5–1.5 mm². Strip

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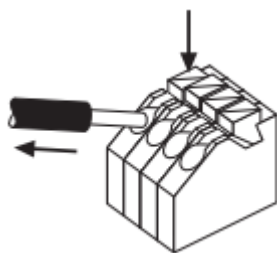
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8-10mm of insulation from the cables to ensure perfect operation of the push-wire terminals. Use one wire for each terminal connector only



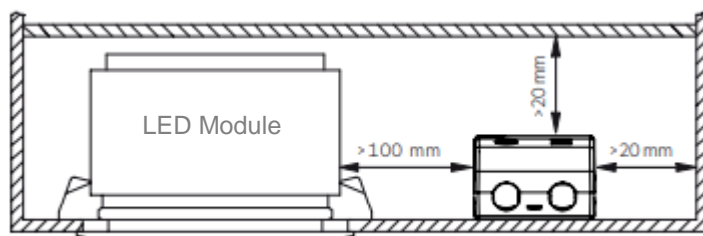
Release of the wiring

Press down the “push button” and remove the cable from front.



Fixing conditions

Dry, acid-free, oil-free, fat-free. It is not allowed to exceed the maximum ambient temperature (t_a) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire. Is not suitable for fixing in corner.



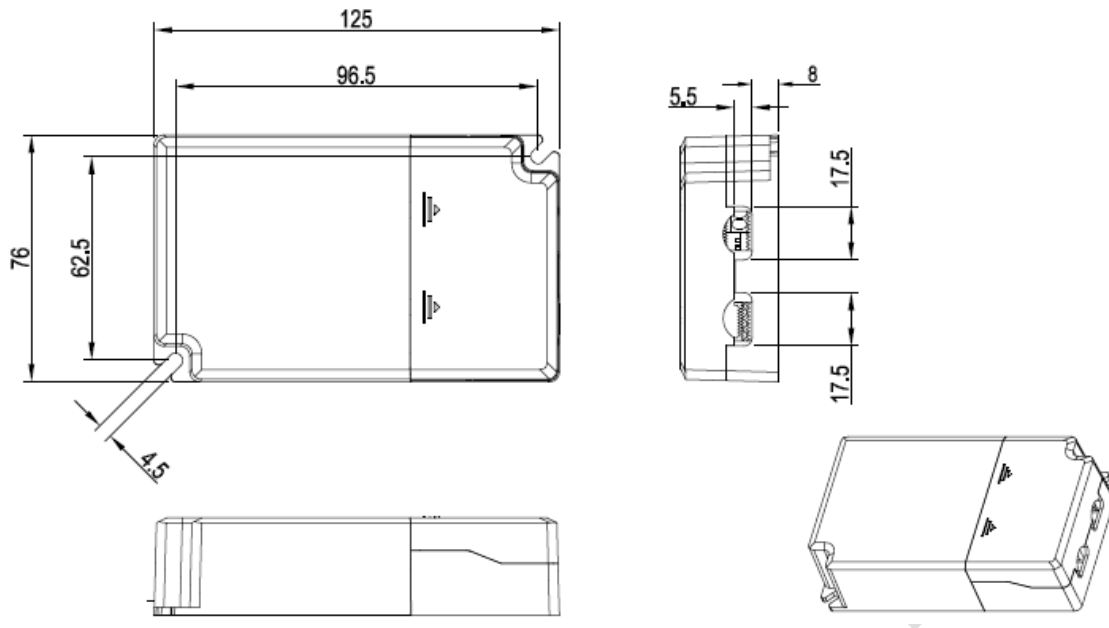
Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behavior.
- Mains leads should be kept apart from LED Driver and other leads (ideally 10 – 20 cm distance)
- Secondary switching is not permitted
- Incorrect wiring can damage LED modules
- The wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.)

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MECHANICAL



PACKAGING

Master Carton	Qty per carton	50
	Length x Width x Height (cm)	40x40x15
	Net Weight (kg)	9.5
	Gross Weight (kg)	NA