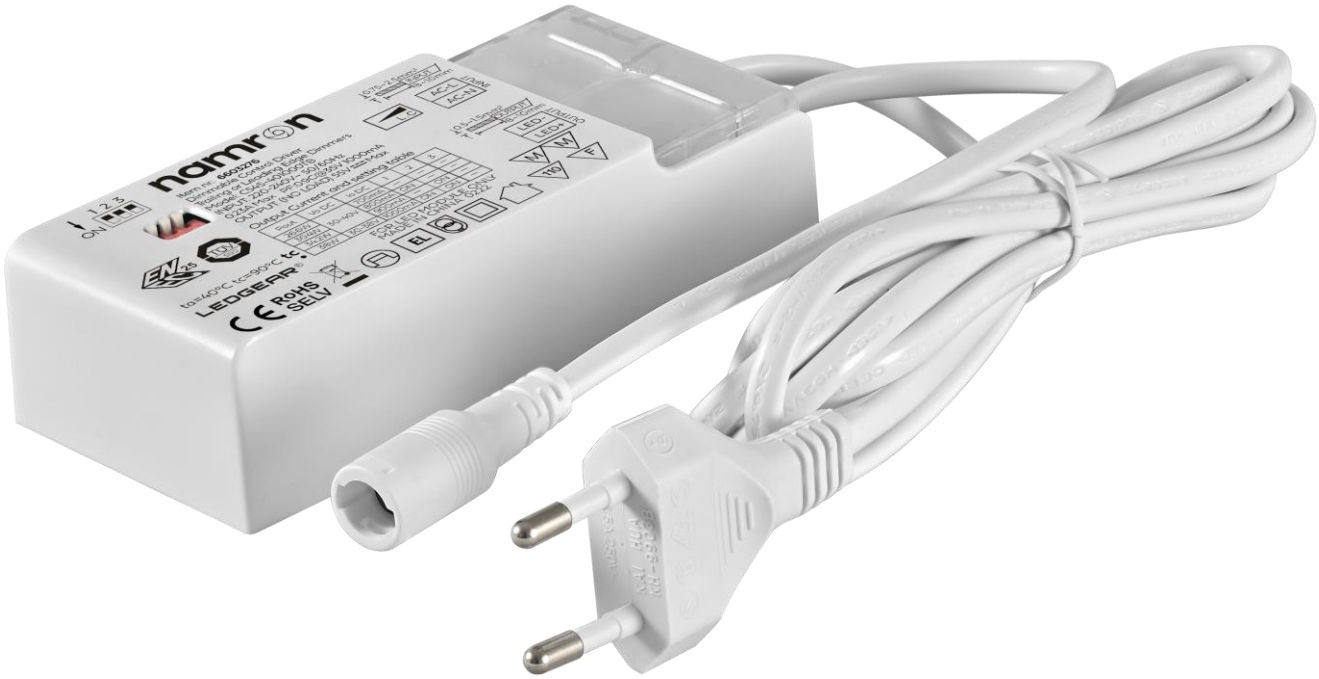
FDV-DOKUMENT

Driver dimbar til LED panel 700-1000mA



PRODUCT DESCRIPTION

•Leading and trailing edge dimmable LED constant current independent driver

•±5% output current accuracy(under maximum load)

•90°C Maximum case operation temperature(tc-point [1])

•Pending certification: ENEC, CE

•Reliable, Class II, SELV output according EN 61347

•Permissible AC cable 0.75-2.5mm² wire gauge, 3.5~10mm PVC jacket diameter

•Grow wire tested 650° for 30S and 850° for 5S

•Operating temperature [1]: -25°C ~ +50°C, the humidity: 20% ~ 85%

•Over 50,000 hrs nominal lifespan at tc=60°C

•Protection for output open load, short circuits, over voltage and over temperature

“1” Detailed data please refer to the "Specification" table .

Features & Benefits

Flexibility & Optimized Inventory

•Wattage selectable by 3xDIP switches.

•Push-fit secondary terminals for LED module wires

•Easy & Quick connection with push-fit terminals and clip-on end cap for strain relief

•Large wiring space

•Loop in and loop out function, max.2.5mm2 cross section L, L, N, N stranded wire or solid wire

•Loose wiring inspection don't need to open the transparent end cap

Housing Properties

•Casing: polycarbonate, white housing but transparent end cap

•Type of protection IP20

Typical applications

•For panel light and area light in office and education application

PARAMETERS

MODEL		C545-401000TB
Output	DC voltage range	30-40V(Iout<1000mA) 30-40V(Iout=1000mA)
	Rated current	700-1000mA selectable
	Maximum power	38W
	Current tolerance	±5%
	Ripple voltage [2]	2.4Vp-p
	Ripple current	450mAp-p
	Line regulation	±4%
	Load regulation	±8%
	Flicker percentage [3]	<20%
	Starting time	<500mS
	Turn off time	<1.0S
	Noise [4]	<22dB
Input	Voltage	Rated:220-240Vac; Range:198-264Vac;
	Frequency	Rated:50-60Hz; Range:47-63Hz;
	Power factor	≥0.9; (Rated voltage input, rated max. current output conditions)
	I-THD [5]	≤18%
	Efficiency [6]	≥87%
	AC current	230mA max.
	Inrush current [7]	4A
	Inrush current time	60uS
	Leakage current	<1mA
	ON/OFF switches cycle	>100,000
Protection	Over current	Constant current limiting, recovers automatically after fault condition is removed
	Over voltage	Shut down output voltage, with auto-recovery or re-power on to recovery
	Over temperature	Shut down output voltage, recovers automatically after temperature goes down
	Short circuit	Constant current limiting, recovers automatically after fault condition is removed
Safety & EMC	Safety standards	EN61347-2-13; Design refer to TUV EN60950-1, TUV EN61347-1
	Withstand voltage	I/P-O/P:3KVac I/P-FG:1.5KVac O/P-FG：500Vdc
	Isolation resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500Vdc/25℃/75%RH
	EMC emission [8]	EN55015B, EN55022 Class B, EN61000-3-2, EN61000-3-3

	EMC immunity		EN61000-4-2, EN61547, EN55024, EN-61000-4-5 Surge immunity Line-Earth: 2KV, L Line- N Line:1KV (≥25W); Line-Earth:1KV, L Line- N Line:0.5KV(<25W)
Environment	Ambient temperature range[9]		-25°C ~ +45°C
	Max. case temperature(tc)[10]		85°C
	Relative humidity range		20% ~ 85%RH
	Storage temperature range		-40°C ~ +80°C
Connection	AC Connector		Looping Push-fit Terminals L, L, N, N; 0.75-2.5 mm^2 cross-section Looping Push-fit Terminals L, L, N, N; 0.75-2.5 mm^2 cross-section
	DC Connector		On request
	Output wire(type, length)		On request
Max. No. of PSUS(Driver supply unit) on miniature circuit breaker(MCB)	MCB TYPE A	10A	27pcs @ full load
		16A	42pcs @ full load
		20A	52pcs @ full load
	MCB TYPE B	10A	28pcs @ full load
		16A	45pcs @ full load
		20A	56pcs @ full load
	MCB TYPE C	10A	33pcs @ full load
		16A	52pcs @ full load
		20A	65pcs @ full load
Others	Dimming control mode		Phase-cut Dimmable
	Lifetime(hrs)@tc=60℃		> 50,000H
	MTBF [MIL-HDBK-217F(ta=25℃)]		206K Hrs min
	Glow wire test		850°C for 5S; 650°C for 30S
	Dimension L x W x H		115 x 52 x 30mm

"2" Ripple voltage is measured at 20MHz of bandwidth by using a 12'' twisted pair-wire terminated with a 100nF & 47uF parallel capacitor.

"3" The flicker for frequencies of 200 Hz or below, input voltage 230Vac , at 100% output current level and 20% output current level with dimmer attached, output current ripple is defined as [(Imax - Imin)/(Imax + Imin)] * 100%, (CEC-400-2016-018-FS, Title 24 part 6 JA8).

"4" The noise of LED driver is defined as test data when driver tested in noise room with 50~60dB environment, and been hang in 1ft (305mm) inside chamber.

"5" Rated voltage input, rated output current, maximum output current.

"6" The typical efficiency is test data of output current at input @230Vac with 36V output voltage, maximum output current.

"7" The inrush current. is test data of 230Vac input, cold start, measured at input current peak.

"8" The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC directive on the complete installation again.

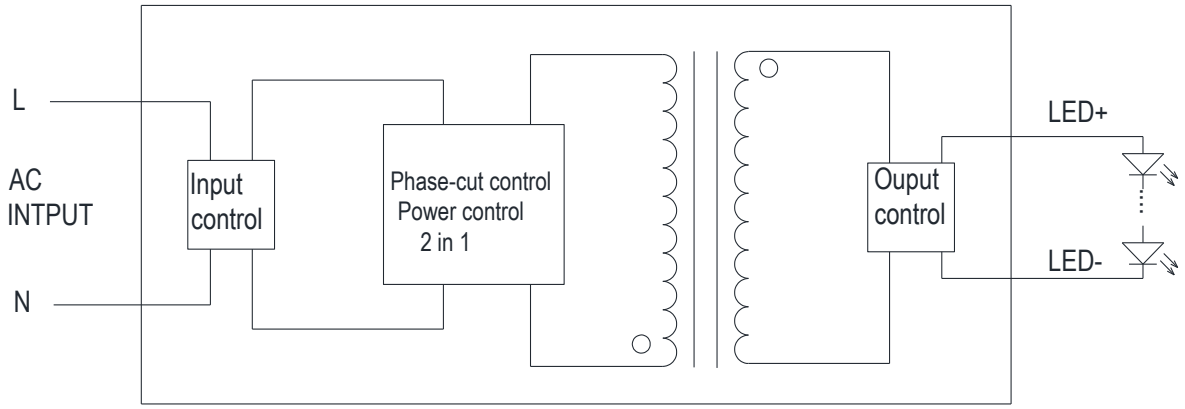
"9" For other than independent use, higher ta of the control gear possible as long as highest allowed tc point temperature is not exceeded.

"10" The tc is defined as the highest permissible temperature which may occur on the outer surface of the power under normal operating

conditions and at the rated voltage/current/power or the maximum of the rated voltage/current/power range, refer to “output power vs temperature” section.

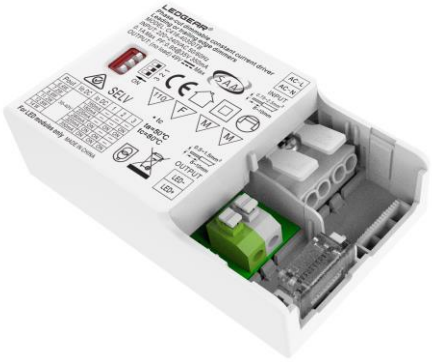
DIAGRAM&INSTALLATION MANUAL

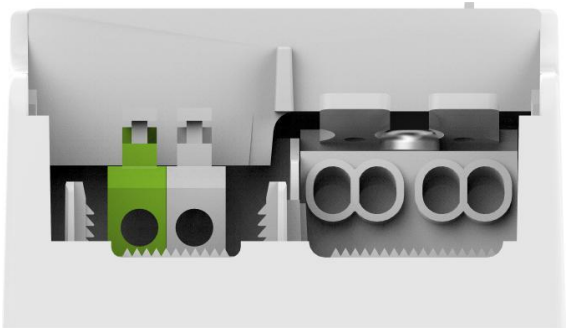
Isolated circuit (Fly-back)

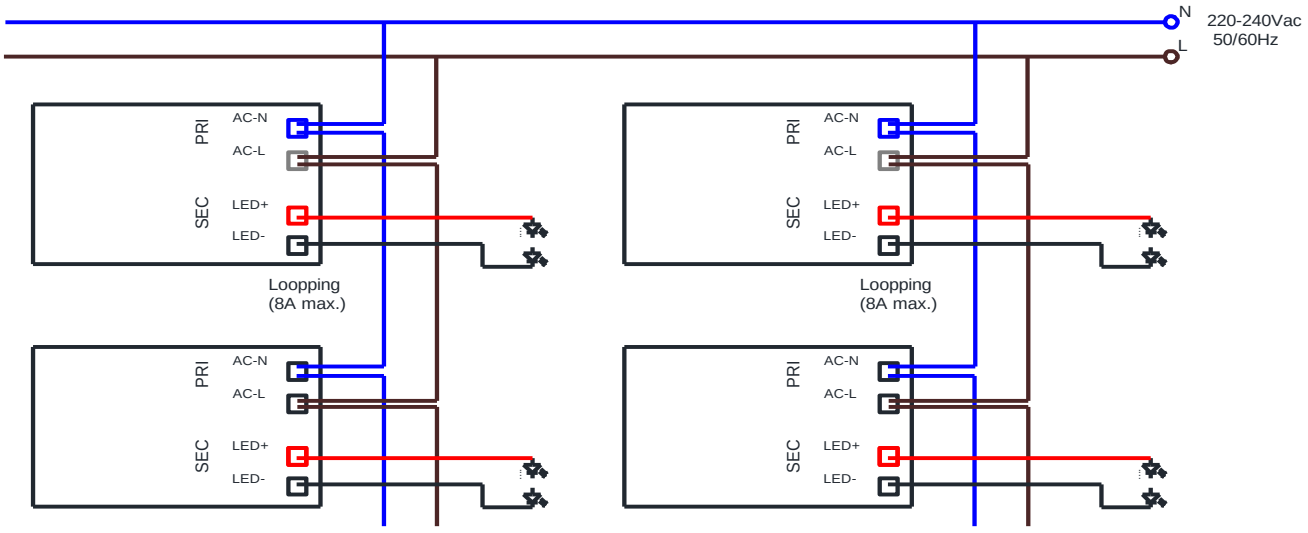


Looping Circuit diagram

These LEDGEAR® drivers provides "through wiring functions" at primary for the L and N input, which allows quick looping from driver to driver and save the installation labour.







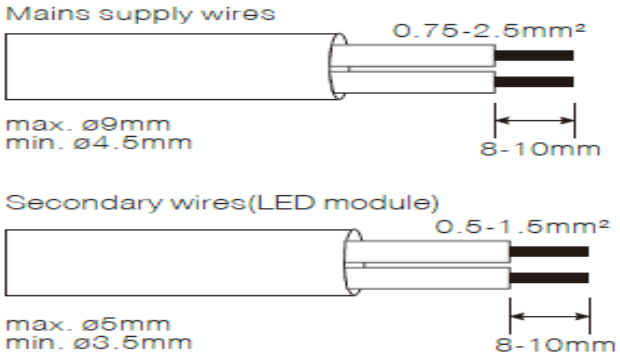
DIP Switch Table

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

	C545-401000TB		
DIP S.W. / Iout	1	2	3
700mA	-	-	-
800mA	ON	-	-
900mA	-	ON	-
1000mA	ON	ON	-

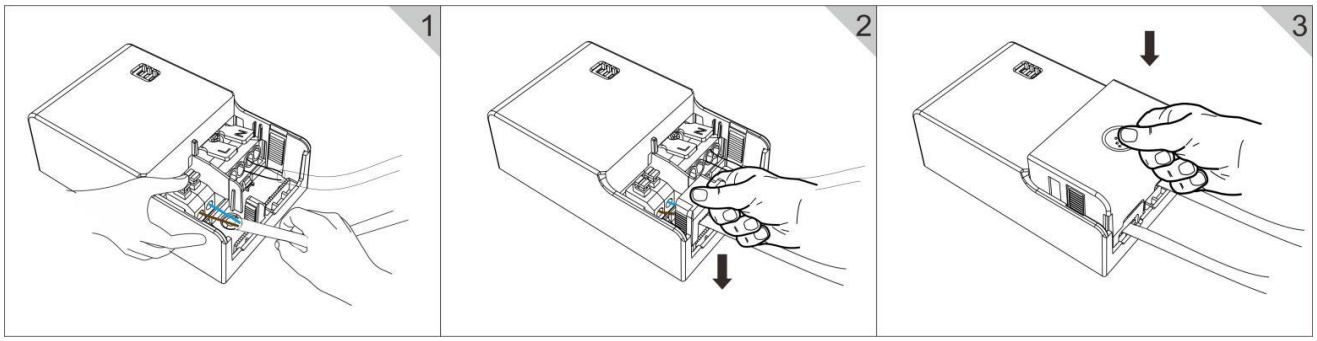
Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.75–2.5 mm². Strip 8-10mm of insulation from the cables to ensure perfect operation of the push-wire terminals. Use one wire for each terminal connector only



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 – 30 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.)



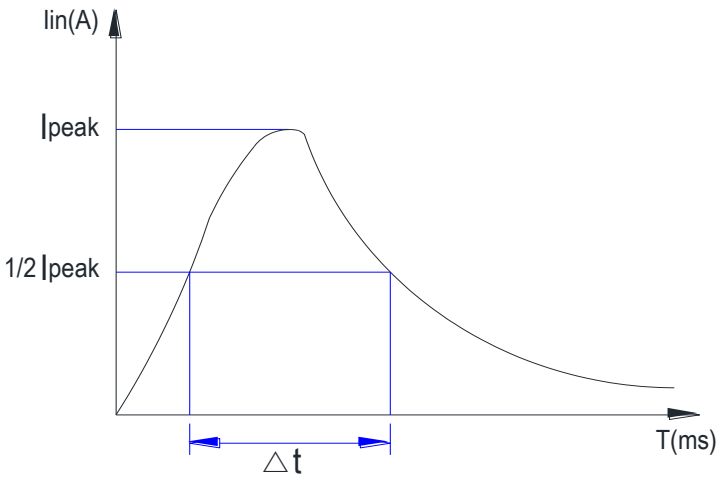
Release of the wiring

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

Miniature circuit breaker application

Total continuous current of the drivers and installation environment must always be considered and taken into calculations when installing drivers behind miniature circuit breaker(MCB).

Quantity of drivers per miniature circuit breaker 16 A Type C

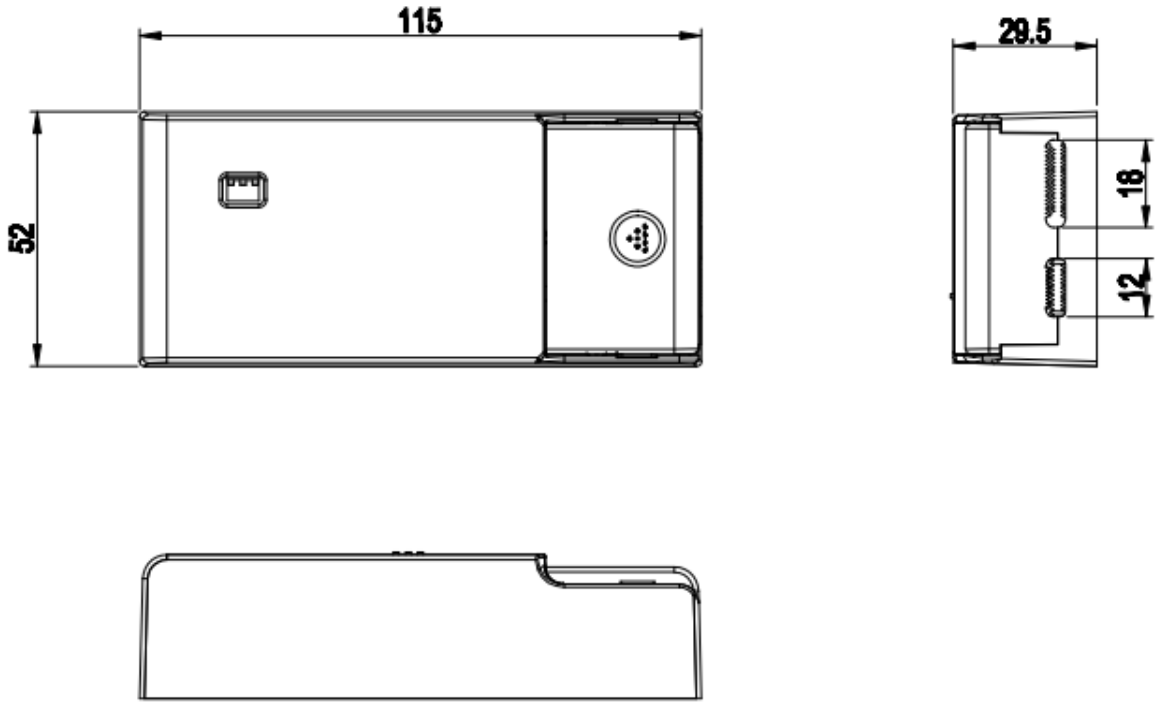
Based on inrush current Ipeak	Typ. peak inrush current Ipeak	1/2 value time, Δt	Calculated energy, Ipeak ² Δt
120pcs	1.5A	125uS	0.0029A²s
		**Example** calculation of total drivers amount limited by continuous current: n(Icont) = (16 A (Inom, ta) / “nominal mains current with full load”) x 0.75). This calculation is an example according to recommended precautions due to multiple adjacent circuit breakers (> 9 MCBs) and installation environment (ta=30°C); variables may vary according to the use case. Both inrush current and continuous current calculations are based on "Schneider Acti9" series circuit breakers. More specific information in "Schneider Acti9" series circuit breaker documentation.	

NOTE ! Type B or C MCB’s are strongly recommended to use with the LED driver.

Fixing conditions

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

MECHANICAL



PACKAGING

Part Number	Dimension	Gross Weight	Net Weight	Qty/Carton
C545-401000TB	440 x 345 x 270mm	10.5kg	8kg	40pcs
* This is typical value. Due to the driver is potted with silicon, which the potting weight is uncertainly, so the consistency of product weight can't be guaranteed. Expected ±6% weight deviation.				