

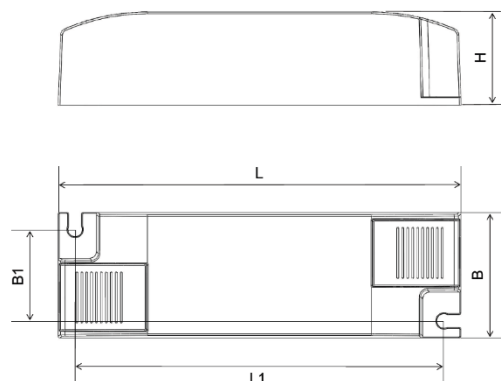
EM 20/220-240/500 II

Constant Current LED Power Supply 500mA

Element LED Power Supply fits in light fixtures for office, shop lighting or other indoor applications that require high quality of light

Benefits:

High compatibility with COBs and discrete LEDs;
High quality of light with ripple current < 5%
Safe and reliable
Safety ensured by OSRAM (SELV)



L	119mm
L1	109mm
B	37mm
B1	27mm
H	27.5mm

Applications

Panel lights, Downlights and other indoor luminaires
For class II luminaires, independent installations.

Approval marks and Symbol



Product Features

- Output currents: 500mA
- Output voltage: 30VDC – 42VDC
- Output power: 15W – 21W
- Input voltage : 220 – 240 VAC
- Suitable for class II luminaires
- 35'000 h lifetime at $t_c \text{ max} = 70 \text{ }^\circ\text{C}$
- Fixed Output (i.e. no dimming)
- Typ. Efficiency: 87%
- SELV
- Ambient temp range, t_a : -20°C to $+40^\circ\text{C}$

Electrical Specifications

	Item	Value	Unit	Remarks
Input	Nominal Voltage	220 – 240	Vac	
	Nominal frequency	50/60	Hz	
	AC voltage range	198 – 264	Vac	Permitted voltage range
	DC voltage range	176 – 280	Vdc	Operational for safety
	Maximum voltage	300	V	2hrs
	Nominal current	110	mA	220V
	Total Harmonic Distortion (THD)	< 15	%	Full load, 230 V, 50 Hz / see graphs
	Power factor	0.95		Full load, 230 V, 50 Hz / see graphs
	Efficiency	87	%	Full load, 230 V, 50 Hz, typical / see graphs
	No-load power	NA	W	230V, typical
	Power loss	3.1	W	@230V, Input power 24.1 W max.
	Protection class	II		Suitable for class II luminaires
	Inrush current	13	A	twidth = 160 μ s typical (measured at 50% Ipeak)
	Max. units per circuit breaker	B10: 39; B16 63; C10: 66; C16 106		
	Leakage current	< 0.7	mA	Output floating
Output	Nominal voltage range	30 – 42	V _{DC}	
	Maximum voltage	60	V _{DC}	Open circuit
	Nominal current range	500	mA	
	Current accuracy	\pm 7.5 %		
	Current ripple	< 5%		Ripple / average @ 100 Hz
	Pst LM	\leq 1		Full load
	SVM	\leq 0.4		Full load
	Nominal power range	15 – 21	W	Partial Load
	Maximum power	21	W	T _a \leq 40°C
	Galvanic isolation	SELV		3, 75 kVrms. Output to mains - Touch current < 0.7 mA
Dim	Dimming control	No		Not dimmable
	Dimming range	NA	%	
	Dimming technique	NA		
	Frequency	NA	Hz	
	Galvanic isolation	NA		
Environment	Ambient temperature range t _a	-20 ...+40	°C	
	Max. case temperature t _c max	70	°C	Measured on t _c point indicated of the product label.
	Max. case temp. in fault condition	110	°C	
	Storage temperature range	-40 ...+85	°C	Cool down before operating
	Relative humidity	5 ... 95	%	Not condensing
	Surge transient protection	1 2	kV	L/N LN/PE acc. IEC 61547 Clause 5.7
	Environmental rating	Indoor		
	IP rating	IP 20		
	Mains switching cycles	> 100'000		
	Expected lifetime	35'000	hrs	@t _c = 70°C, max. 10% failure rate
	Expected lifetime	50'000	hrs	@t _c = 60°C, max. 10% failure rate

Protection

Overload

Automatic, reversible

No load

Automatic, reversible

Short-circuit

Automatic, reversible

Input overvoltage

Maximum allowed input voltage 300V AC/ 2hrs

Output overvoltage

Yes, limitation of Output voltage $\leq 60V$

Output under voltage

NA

Wiring Diagram

Terminal:

Max. cable length :

Geometry (l x b x h):

Weight:

Push in terminals

2 m

119 x 37 x 27.5 mm

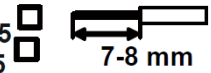
72 g

wire preparation:

push in

s:0.75--1.5

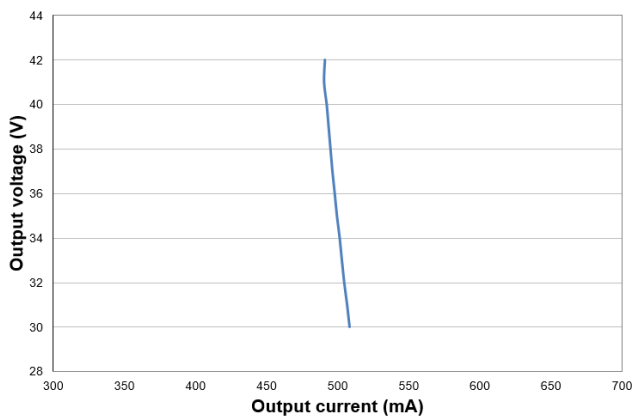
f:0.75--1.5



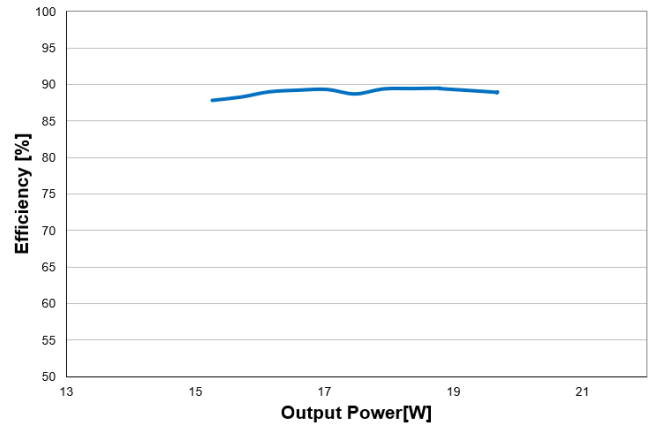
For independent: 0.75-1.5 mm²

Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs

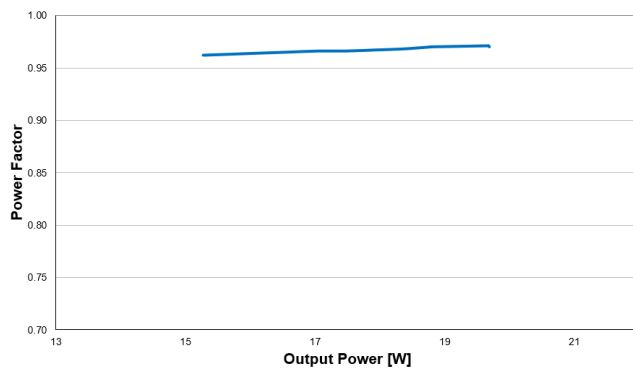
Typical Operating window



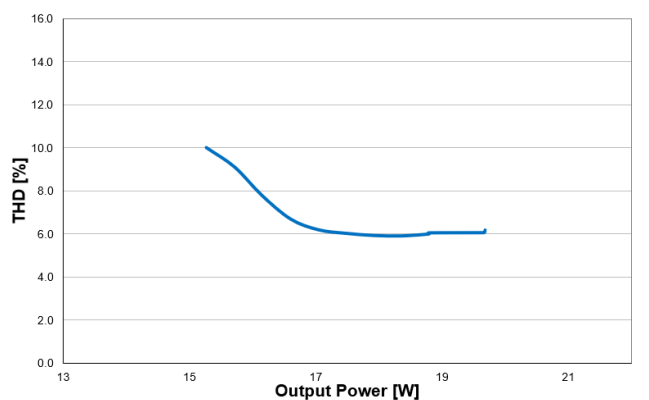
Typical Efficiency Vs load



Typical Power factor Vs load



Typical THD Vs load



Standards

Safety: IEC 61347-1, IEC 61347-2-13
 Performance: IEC 62384
 Harmonic content: IEC 61000-3-2
 Immunity: IEC 61547
 IEC 61000-3-3

EAN10	Product name	Pcs/ box
4055462434265	EM 20/220-240/500 II	100

Ecodesign regulation information:

Intended for use with LED modules.

The forward voltage of the LED light source shall be within the defined operating window of the control gear in all operating conditions including dimming if applicable.

Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

ELEMENT EM II classified as “Non IC”: The independent LED driver cannot be abutted against or covered by normally flammable materials or used in installations where building insulation or debris is, or may be, present in normal use.

No use for residential installations.

The minimum clearance distance from the top and sides of the independent LED driver to normally flammable building elements is $A=B=C=10\text{mm}$.

