

## Element LD 20W

Constant Current LED Power Supply

500mA

Element LED Power Supply with high efficiency and reliability in small compact housing fits in light fixtures for office and shop lighting.

### Benefits

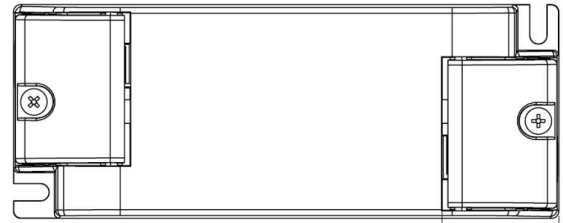
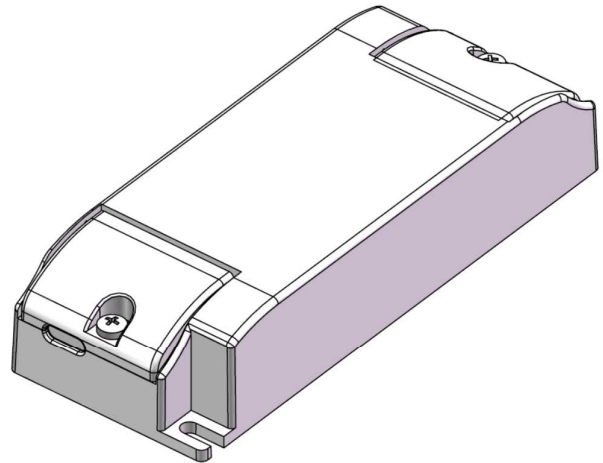
High compatibility with COBs and discrete LEDs;  
High efficiency and reliability  
Simple to use with easy installation and LED connection

### Applications

Spotlight;  
Downlight;  
Other Indoor LED luminaries

### Approval marks

(Under preparation if not shown on label)



### Product Features

- Output currents :500mA
- Output voltage :  $21V_{DC} - 42V_{DC}$
- Output power : 11W - 21W
- Input voltage : 220 – 240  $V_{AC}$
- Typ. Efficiency :  $\geq 87\%$
- 30'000 h lifetime at  $t_c = 85^\circ C$
- Ambient temp range,  $t_a$ :  $-10^\circ C$  to  $+45^\circ C$
- Max. case temperature at  $t_c$  point :  $85^\circ C$
- SELV (< 60V)
- Suitable for class I and II luminaires
- Fixed Output (i.e. no dimming)

## Electrical Specifications

	Item	Value	Unit	Remarks
INPUT	Nominal voltage	220 – 240	V <sub>AC</sub>	
	Nominal frequency	50 - 60	Hz	
	AC voltage range	198 – 264	V <sub>AC</sub>	Permitted voltage range
	DC voltage range	NA	V	
	Maximum voltage	275	V	2hrs
	Nominal current	120	mA	230V, Refer to Table 1 for details
	Total Harmonic Distortion (THD)	< 30	%	Full load, 230 V, 50 Hz / see graphs
	Power factor	0.98		Full load, 230 V, 50 Hz / see graphs
	Efficiency	> 87	%	Full load, 230 V, 50 Hz, typical / see graphs
	No-load power	< 1.5	W	230V, typical
	Stand-by power	NA	W	
	Power loss	3.7	W	at 230V, Input power 24.7 W max. Refer to Table 1 for details
	Protection class	I/II		Suitable for class I and class II luminaires
	Inrush current	<16	A	t <sub>width</sub> = 50 µs typical (measured at 50% Ipeak)
	Max. units per circuit breaker	B16: 60; B10: 35		
OUTPUT	Leakage current	0.7	mA	Output floating
	Nominal voltage range	21 – 42	V <sub>DC</sub>	Refer to Table 1 for details
	Maximum voltage	60	V <sub>DC</sub>	Open circuit
	Nominal current range	500	mA	
	Current accuracy	±10 %		
	Current ripple (typical)	± 40%		Ripple / average @ 100 Hz
	Nominal power range	11 – 21	W	Partial Load. Refer to Table 1 for details
	Maximum power	21	W	Ta ≤ 45°C, Refer to Table 1 for details
DIMMING	Galvanic isolation	SELV		3,75 kVrms . Output to mains - Touch current < 0.7 mA
	Dimming control	No		Not dimmable
	Dimming range	NA	%	
	Dimming technique	NA		
	Frequency	NA	Hz	
Cable clamp	Galvanic isolation	NA		
	Tested cable types: according to IEC60598			
	Input side	H03VV-F 2x0.75 H03VV-H2F 2x0.75		Cable type
Output side	H03VV-F 2x0.75 H03VV-H2F 2x0.75		Cable type	
ENVIRONMENT	Ambient temperature range t <sub>a</sub>	-10 ...+45	°C	Refer to Table 1 for details
	Maximum case temperature t <sub>c</sub>	110	°C	Measured on t <sub>c</sub> point indicated of the product label. Refer to Table 1 for details
	Max. case temp. in fault condition	85	°C	
	Storage temperature range	-10 ...+85	°C	Cool down before operating
	Relative humidity	5 ... 85	%	Not condensing
	Surge transient protection	1   2	kV	L/N   LN/PE acc. IEC 61000-3-2 (ANSI C62.41 Cat.A ...)
	Environmental rating	Indoor		
	IP rating	IP 20		
	Mains switching cycles	> 100'000		
	Expected lifetime	30'000	hrs	t <sub>cmax</sub> = 85°C, 10% failure rate

### Protections

#### Over temperature

Latch-off, reversible with mains power on/off

#### Overload

Latch-off, reversible with mains power on/off

#### No load

Yes

#### Short-circuit

Automatic, auto reversible

#### Input overvoltage

Maximum allowed input voltage 275V AC

#### Output overvoltage

Yes, Limitation of Output voltage < 60V

#### Output undervoltage

NA

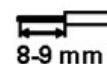
#### LED load protection

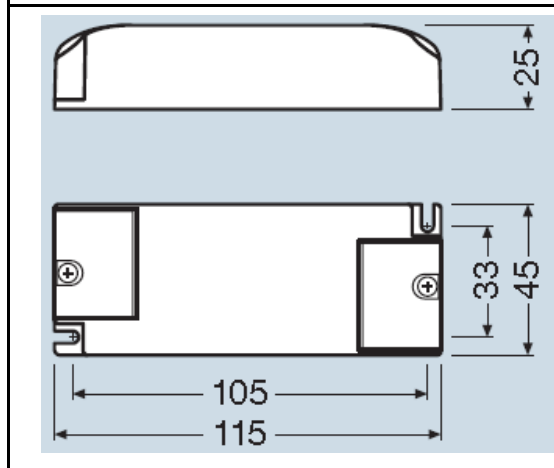
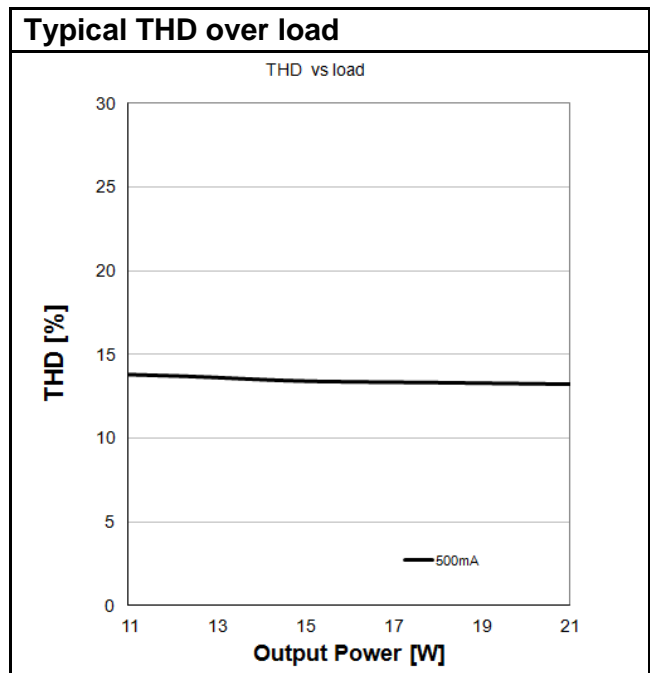
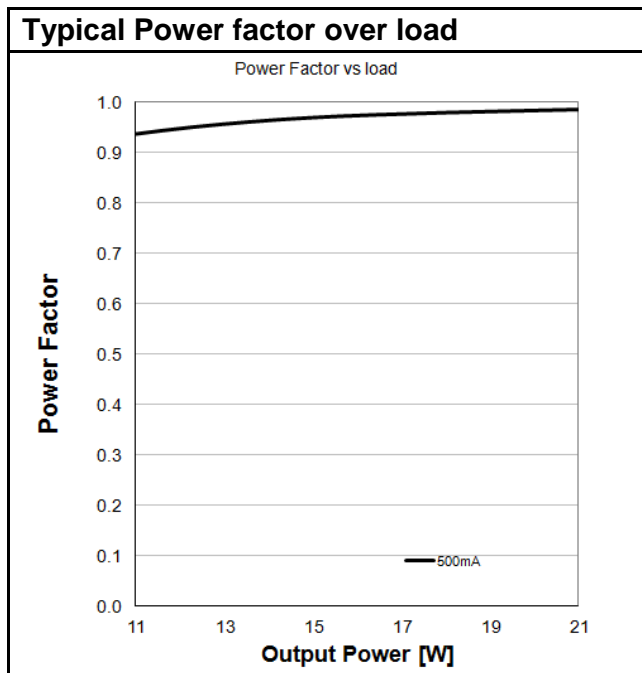
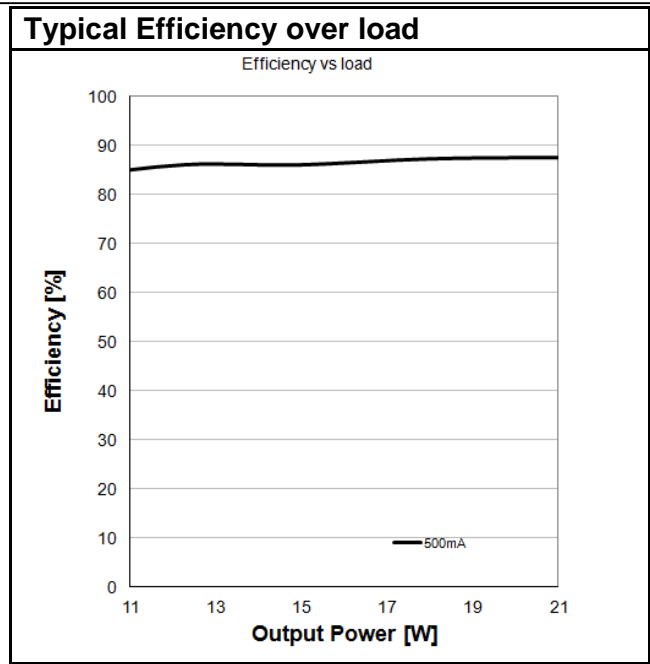
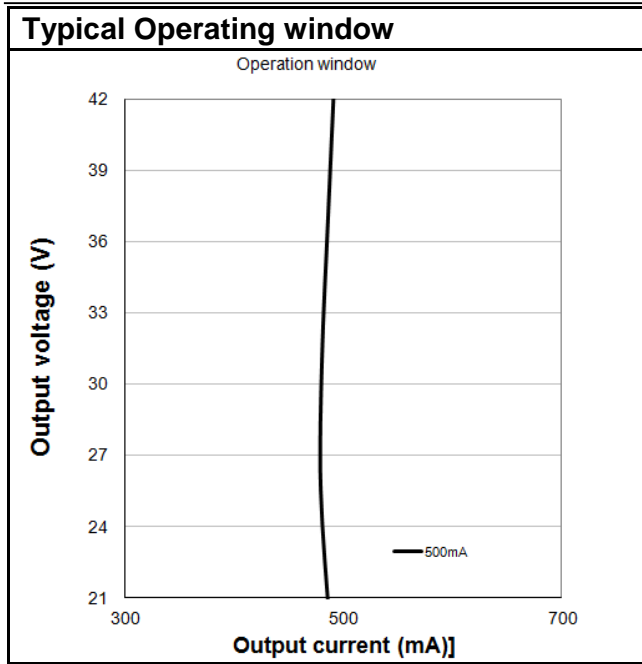
NA

### Wiring Diagram

Terminal: Push in terminals  
 Max. cable length - system: 2 m  
 Geometry (l x b x h): 115 x 45 x 25 mm  
 Weight: 90 g

Wire preparation (Push in)	
Built in	Independent
s: 0.5 - 1.5 □	0.75 - 1.5 □
f: 0.75 - 1.5 □	





L x W x H: 115 x 45 x 25 mm

Table 1 - Rated output power and current sets	
I <sub>out</sub> (mA)	500
U <sub>min</sub> [V]	21
U <sub>max</sub> [V]	42
P <sub>min</sub> [W]	11
P <sub>max</sub> [W]	21
T <sub>a</sub> [°C]	45
T <sub>c</sub> [°C]	85
Line Current, nominal @230V mA	120
Max Power Loss @230V [W]	3.7
Input Power @230V [W]	24.7

Table 2 - Expected lifetime	
T <sub>a</sub> = 50°C , T <sub>c</sub> [°C] , All I <sub>out</sub>	85°C
Lifetime	30'000h

#### Standards

Safety: IEC 61347-1, IEC 61347-2-13

Performance: IEC 62384

Harmonic content: IEC 61000-3-2

Radio interference: CISPR 15

Immunity: IEC 61000-3-3  
IEC 61547

Product name	EAN10	EAN40	Pieces / box
Element LD 20W	4052899947092	4052899947160	20

#### Manufacturer's address:

**OSRAM GmbH**

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#### Technical support:

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