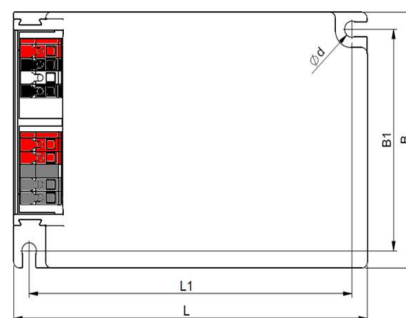
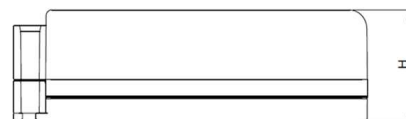
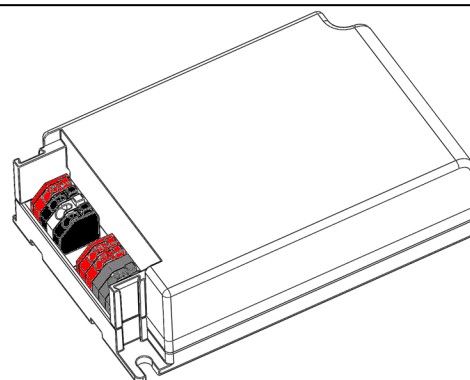


Model : SI-EPD006460EU

SELV Constant Current LED Driver

Wide operating area up to 700mA - Dimmable



Benefits

Wide operating range: 180 – 700 mA
Adjustable current via LEDset
Long lasting and high reliability
Built-in mounting
Suitable for emergency lighting units

Applications

Downlight and spotlight
Office – industry - shop

Approval marks



L	103 mm
L1	94 mm
B	67 mm
B1	58 mm
H	29,5 mm

Housing material:
plastic, white

Product Features

- Output current range 180 – 700 mA
- Smart dimming down to 1%
- Very low output current ripple
- SELV-equivalent, U_{out} : 12 – 54 V_{DC}
- Output power up to 27 W
- Mains voltage 220 – 240 V
- Suitable for emergency lighting
- Overload protection
- Overtemperature protection
- Load hot plug protection
- 100'000 h lifetime at $t_c = 65^\circ\text{C}$
- $t_c \text{ max} = 75^\circ\text{C}$
- Wide t_a range -20 – +50 °C
- 5 years guarantee

Electrical Specifications

	Item	Value	Unit	Remarks
INPUT	Nominal voltage	220 – 240	V	
	Nominal frequency	0 / 50 / 60	Hz	Incl. DC or pulse DC
	AC voltage range	198 – 264	V	
	DC voltage range	176 – 276	V	DC or pulse DC
	Maximum voltage	280	Vac	2 h maximum, unit might not operate in this abnormal condition
	Nominal current	0.14	A	
	Total Harmonic Distortion (THD)	< 15	%	Full load, 220 – 240 V, 50 Hz / see graphs
	Power factor	> 0.95		Full load, 220 – 240 V, 50 Hz / see graphs
	Efficiency	86	%	Full load, 220 – 240 V, 50 Hz, typical / see graphs
	Power losses	5.0	W	Maximum, full load
	No-load power	n/a	W	Load switching on output side is safe but not permitted
	Stand-by power	< 350	mW	
	Protection class	II		Suitable for class I and II luminaires
	Inrush current	< 20	A pk	Max, Th < 100 µs
	Max. units per circuit breaker	B16: 80; B10: 45		
OUTPUT	Nominal voltage range	12 – 54	V	
	Maximum voltage	60	V	No load protection, restart trials every 1-3 s
	Nominal current range	180-700	mA	LEDset open: 90 mA; LEDset short: 500 mA
	Current accuracy	± 5	%	± 5% through the LEDset interface
	Current ripple	< 2	%	Ripple / average @ 100 Hz; Full load
	Nominal power range	7 – 27	W	
	Maximum power	27	W	LED output
	Galvanic isolation	SELV-equivalent		Output and LEDset to mains - Touch current < 0.7 mA
DIMMING	Dimming control	yes		DALI, TouchDIM
	Dimming range	1 – 100	%	Of selected nominal current
	Dimming technique	mixed		AM (>160mA) + PWM (<160mA)
	PWM frequency	> 280	Hz	
	Galvanic isolation	basic / double		Basic DALI to Primary / Double DALI to Secondary
ENVIRONMENT	Ambient temperature range t_a	-20 ...+50	°C	
	Maximum case temperature t_c	75	°C	Measured on t_c point indicated of the product label, t_a not exceeded
	Max. case temp. in fault condition	110	°C	
	Storage temperature range	-25 ...+85	°C	
	Relative humidity	5 ... 85	%	Not condensing
	Surge transient protection	1	kV	L/N acc to. EN 61547
	Environmental rating	Indoor		
	IP rating	IP 20		
	Mains switching cycles	> 100'000		
	Expected lifetime	50'000 100'000	h	$t_c = 75^\circ\text{C}$, 0.2% / 1'000 h failure rate $t_c = 65^\circ\text{C}$, 0.1% / 1'000 h failure rate

Protections

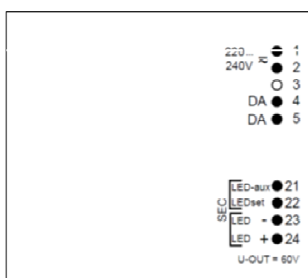
Overtemperature, Overload, No load, Short-circuit, Input overvoltage, Output overvoltage, Output undervoltage

See remarks on page 4.

Wiring Diagram

Input

Gray	1 - Mains
Gray	2 - Mains
RED	4 – DALI
RED	5 – DALI



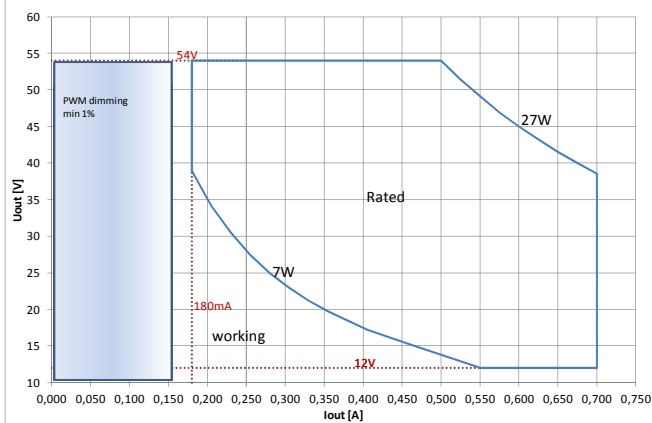
Output

Black	21 - LED-aux
White	22 - LEDset
Black	23 - LED -
Red	24 - LED +

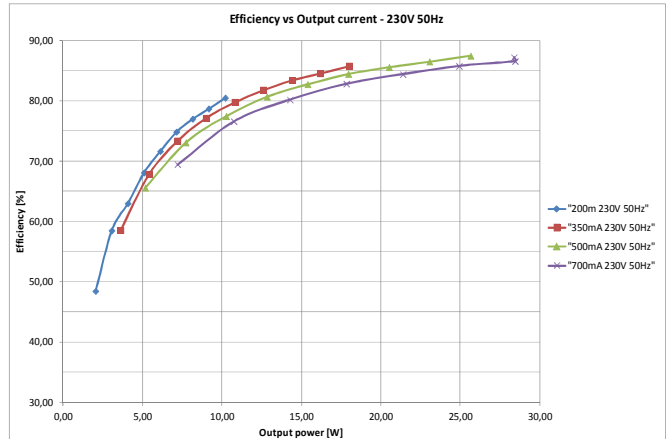
Load wires length: 2m max.

- Wires cross section: massive leads 0,2-1,5 mm² / flexible leads 0,2 – 1,5 mm²
- Wire peeling length: 8-9 mm

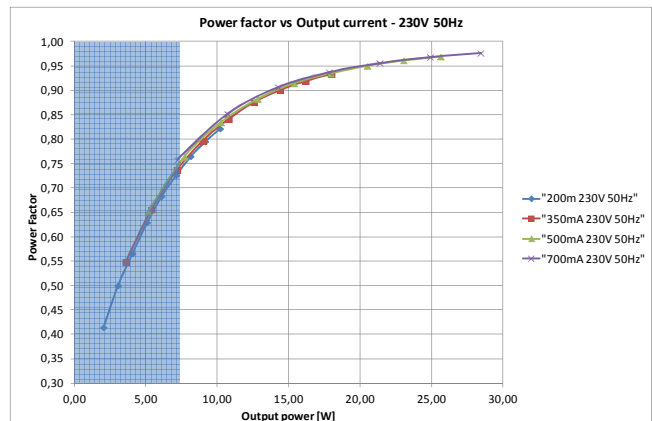
Typical Operating window



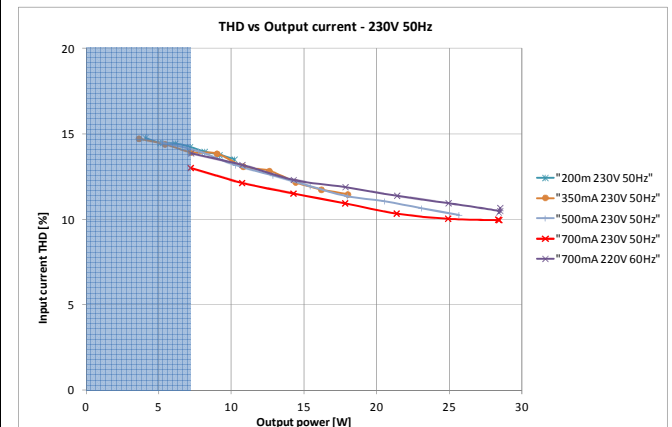
Typical Efficiency vs load



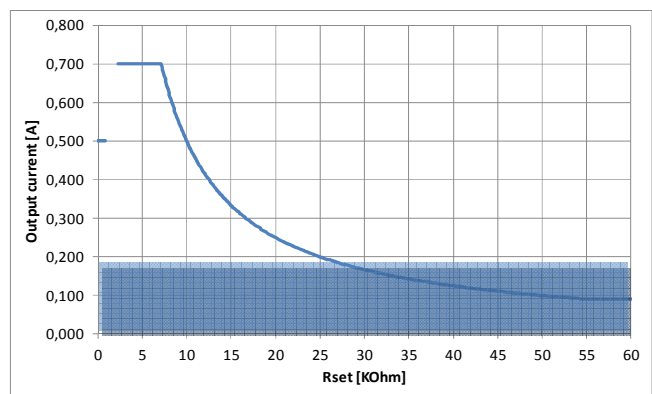
Typical Power factor vs load



Typical THD vs load



Typical Iout vs Rset

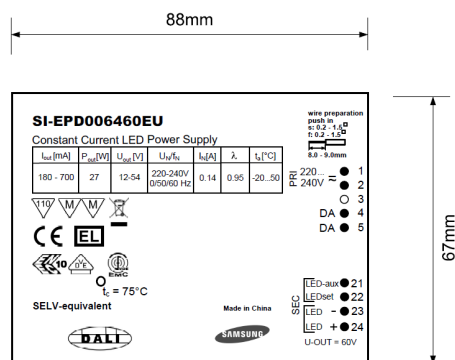


Rset formula and standard Iout values

$$I_{OUT[A]} = \frac{5V}{R_{set[\Omega]}} \times 1000$$

I_{out} [mA] nominal	I_{out} [mA] actual	R_{set} [kOhm] E48 series
350	357	14
500	500	10
700	699	7.15

Product label



Remarks

- **Input over voltage protection:** mains up to 280 Vac, for two hours maximum, will not destroy both the unit and the load; shut down of load might occur in this condition.
- **Output short circuit / undervoltage protection:** shut down of load happens if Uout is below 12 V (typ. 10 V); the unit automatically tries to switch on the load again every 1 s for 0.5 s delivering the selected nominal current.
- **Output overload protection:** the unit automatically reduces the output current to keep the output power below 27W .
- **Output over voltage protection:** shut down of load happens if Uout exceeds 54V (typ. 55V); the unit automatically tries to switch on the load again every 1 s for 0.5 s delivering the selected nominal current.
- **No load operation:** the unit automatically tries to switch on the load delivering the selected nominal current; despite this operation mode is safe for both unit and load, it is not recommended. Do not put a switch between load and unit.
- **Over temperature protection:** the unit is protected against temporary overheating by automatic reduction of the output current. The protection is self restoring.
- **Touch current: lower than 0.7 mA**, according to EN 60598-1 annex G and EN 61347-2-13 annex A. Max. 2 ECG per luminaire, each ECG supplying separately its load (two or more units cannot be connected together on secondary side).
- **Switchover time:** typical 0.6s, both AC and DC mains.
- **Output power hold time:** ≤ 2 ms, in case of mains dips.
- **Emergency lighting:** this LED power supply is suitable for emergency lighting fixtures acc. to EN 60598-2-22, with emergency output factor EOF_I = 0,15 (default value) and related duration time of 10 h at least. Function in emergency is ensured up to ta = 80°C and tc = 92°C.
- **HOT Plug: connection of LED** on secondary is allowed without damage of LED. LED turns on automatically

Standards

EN 61347-1
EN 61347-2-13
EN 55015
EN 61547
EN 61000-3-2
EN 62384
EN 62386

Product name	EAN10	EAN40	NAED	Pieces / box
SI-EPD006460EU	4052899210615	4052899210622	n/a	20