

Light is OSRAM

OSRAM

Product data sheet: OTi DALI 35/220-240/1A0 LT2

SELV Constant current LED driver

Wide operating area up to 1 A - dimmable

The reliable choice for the energy saving lighting:
DALI dimmable, embedded corridor functionality
and advanced Touch Dim with daylight harvesting,
constant lumen output. Digitally programmable.
Automatic current set through the LEDset interface.

Benefits

Wide operating range: 350 – 1050 mA.
Mobile camera friendly (Amplitude-dimming)
DALI ed 2 compatible
Soft Switch off
Low standby < 100 mW
Built-in and independent mounting (with opt. kit).
Suitable for emergency lighting: EL-sign

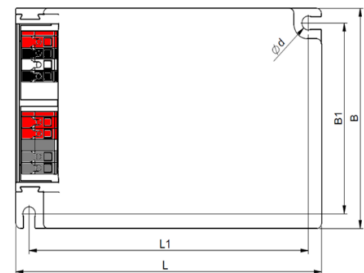
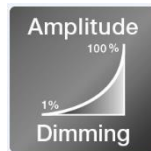
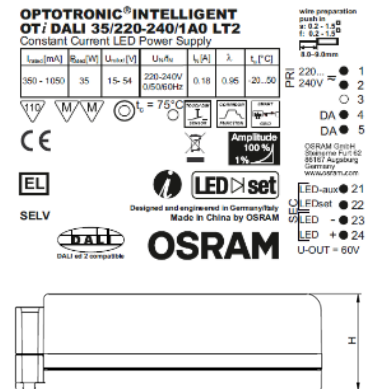
Approvals



Applications

Downlight and spot.
Office – industrial – shop

Housing material: plastic, white.



L	103 mm
B	67 mm
H	29.5 mm

Product Features

- Output current range 350 – 1050 mA
- Smart dimming down to 1%
- Fully digitally programmable
- SELV, U_{out} : 15- 54 V_{DC}
- Output power up to 35 W
- Mains voltage 220 – 240 V
- Overload protection
- Over temperature protection
- Load hot plug protection
- 100`000 h lifetime at $T_c = 65^\circ\text{C}$
- T_c max = 75°C
- Wide t_a range $-20...+50^\circ\text{C}$

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	V _{AC}	2 h maximum, unit might not operate in this abnormal condition
	Nominal current	0.18	A	
	Total Harmonic Distortion (THD)	< 10	%	Full load, 220-240V, 50Hz / see graphs
	Power factor	> 0.95		Full load, 220-240V, 50 Hz / see graphs
	Efficiency	Typical 86	%	Full load, 220-240V, 50Hz / see graphs
	Power losses	5.7	W	Maximum, full load
	No-load power	n/a	W	Load switching on output side is safe but not permitted
	Stand-by power	<100	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: 55 B10: 33		
OUTPUT	Nominal voltage range	15 - 54	V	
	Maximum voltage	60	V	No load protection, restart trials every 4s
	Nominal current range	350 - 1050	mA	LEDset open: 175 mA; LEDset short: 700 mA (digitally programmable)
	Current accuracy	+/- 3	%	Digital programming. +/- 5% through the LEDset interface.
	Current ripple	< 2	%	Ripple / average @ 100 Hz; Full load
	Nominal power range	15 – 35	W	
	Maximum power	35	W	LED output
	Galvanic isolation	SELV		Output to earth – Touch current < 0.7 mA
DIM	Dimming control	Yes		DALI ed 2 compatible, TouchDIM
	Dimming range	1-100	%	Of selected nominal current
	Dimming technique	Amplitude		
	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 _c 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		10 sec on, 10 sec off
	Expected lifetime	50'000 100'000	hrs	t _c = 75°C, 0.2% / 1'000 h failure rate t _c = 65°C, 0.1% / 1'000 h failure rate

Protections

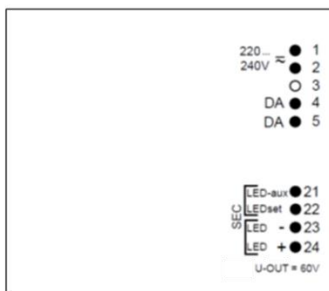
Overtemperature, Overload, No load, Short-circuit, Input overvoltage, Output overvoltage, Output undervoltage

See remarks on page 4.

Wiring Diagram

Input

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



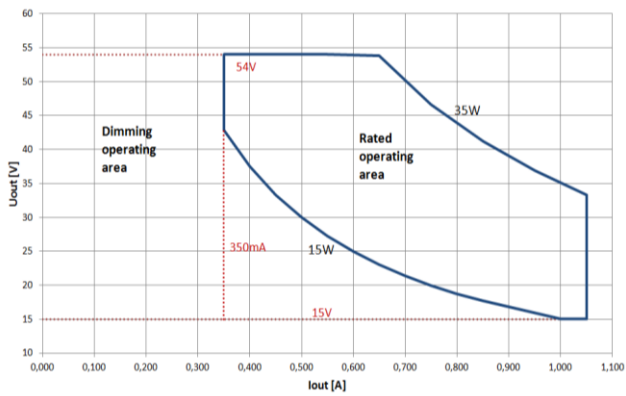
Output

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

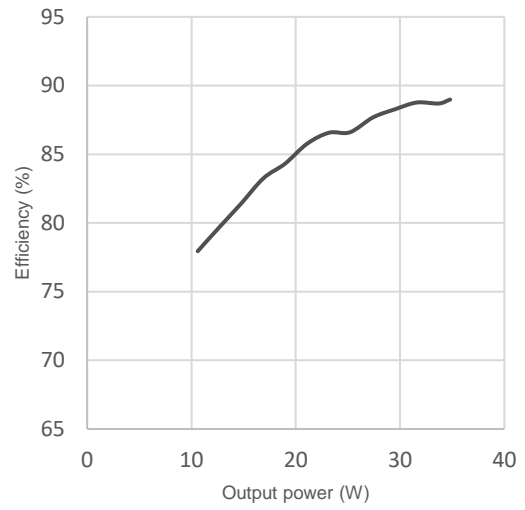
Load wires length: 2m max.

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

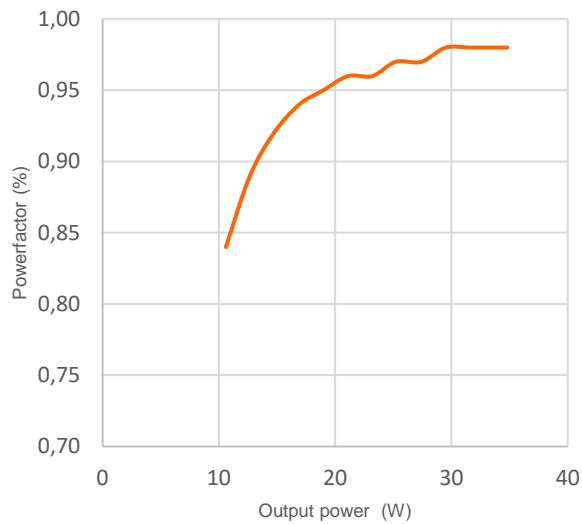
Typical Operating window



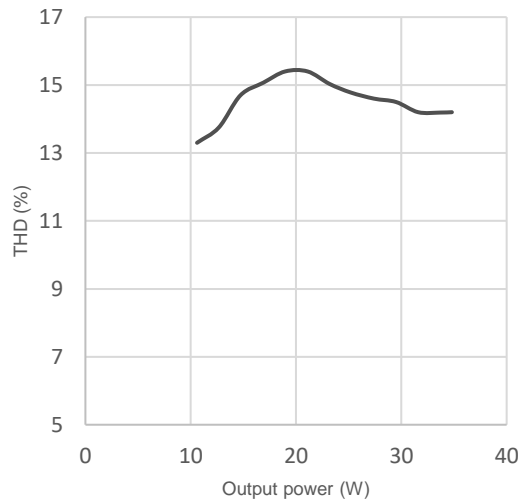
Typical Efficiency vs Load (230V/ 50hz)



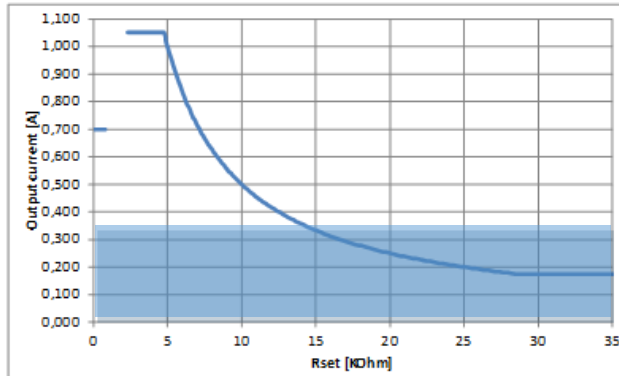
Typical Power factor vs Load



Typical THD vs Load



Typical I_{out} vs R_{set}



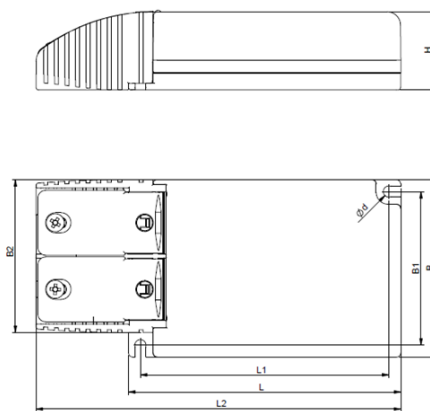
R_{set} formula and standard I_{out} values

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

I _{out} [mA] nominal	I _{out} [mA] actual	R _{set} [kOhm] E48 series
350	357	14
700	699	7.15
1050	1050*	4.64

*R_{set} value set I_{out} = 1078 mA but I_{out} is internal limited to 1050 mA please refer to "Typical I_{out} vs. R_{set}" graph.

L	103mm
L1	94mm
L2	138mm
B	67mm
B1	58mm
B2	57,7mm
H	29,5mm
d	Ø4,2



Remarks

- **Input over voltage protection:** mains up to 280 Vac, for 2 hours maximum, will not destroy both the unit and the load; shut down of load might occur in this condition.
- **Output short circuit / under voltage protection:** shut down of load happens if U_{rated} is below 12V (typ. 9V); the unit automatically tries to switch on the load again every 4-5 s for 0.1 s delivering the selected nominal current.
- **Output overload protection:** the unit automatically reduces the output current to keep the output power below 35 W.
- **Output over voltage protection:** the unit tries to stabilize the voltage by reducing the current as necessary down to 50%, if U_{rated} still exceeds 54V (typ. 58V) a shutdown will occur; the unit tries automatically to switch on the load again every 4-5 s for 0.1 s delivering the selected nominal current.
- **No load operation:** the unit automatically tries to switch on the load every 4-5 s for 0.1 s delivering the selected nominal current; this operation mode is safe for the unit but 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 (up to a complete power off) when t_c > 75 °C (typ. 80°C). The protection is self-restoring.
- **Touch current:** lower than 0.7 mA, according to EN 60598-1 ann. G and EN 61347-a ann. 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:** lower than 0.5 s, both AC and DC mains.
- **Emergency lighting:** this LED power supply is suitable for emergency lighting fixtures acc. to EN 60598-2-22, with emergency output factor EOFI = 0,15 (default value, can be programmed up to EOFI = 1) and related duration time of 10 h at least. Function in emergency is ensured up to t_a = 80°C and t_c = 92°C.
- **HOT Plug: connection of LED on secondary** is allowed without damage of LED. LED turns on automatically
- For DALI LED drivers (version **DALI ed 2 compatible**), the **corridor function is not available when the Touch Dim function is activated**. To Switch from corridor function to Touch DIM function is only by use of T4T software possible.

Standards**EN 61347-1****EN 61347-2-13****EN 55015****EN 61547****EN 61000-3-2****EN 62384****EN 62386****Ordering information**

Product name	Type	EAN10	EAN40	NAED	Pieces / box
OTi DALI 35/220-240/1A0 LT2	AA62433	4052899919440	4052899919518	n/a	20
OT Cable Clamp B-style	AA62261	4052899077881	4052899077898		20
OT Cable Clamp B-style TL	AB32534	4052899948051	4052899268227	20	AB32534

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