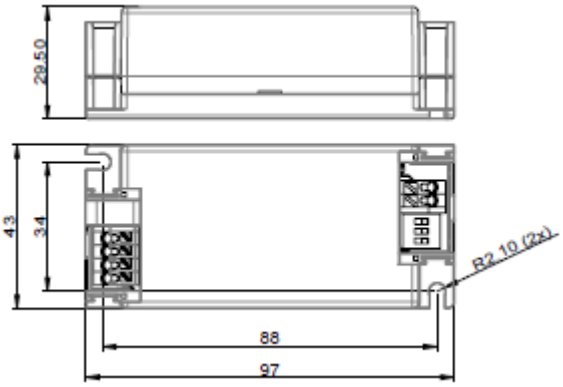
Product Datasheet

IT DALI 20/220-240/500 CS
Constant Current DALI LED driver

The reliable driver for energy saving lighting.
DALI-2 certified; Embedded with Touch DIM/Corridor function; High flexibility thanks to wide operating range; Simple and easy current setting via dipswitch interface.

Benefits

Wide operating range: 150/200/250/300/350/400/450/500mA
Simple and easy current setting via dipswitch
High quality of light with low ripple current < 5%
Small size enables compact fixture design
Built in and independent mounting options (with cable clamp)
With Touch DIM functionality



Applications

Office - Shop - Hospitality
Spotlights, Downlights
Panels and other indoor luminaires

Approvals (In preparation, if not printed on product label)

Size (L x W x H) mm: 97 x 43 x 29.5
Housing material: plastic, white
Product Weight: 96.8g

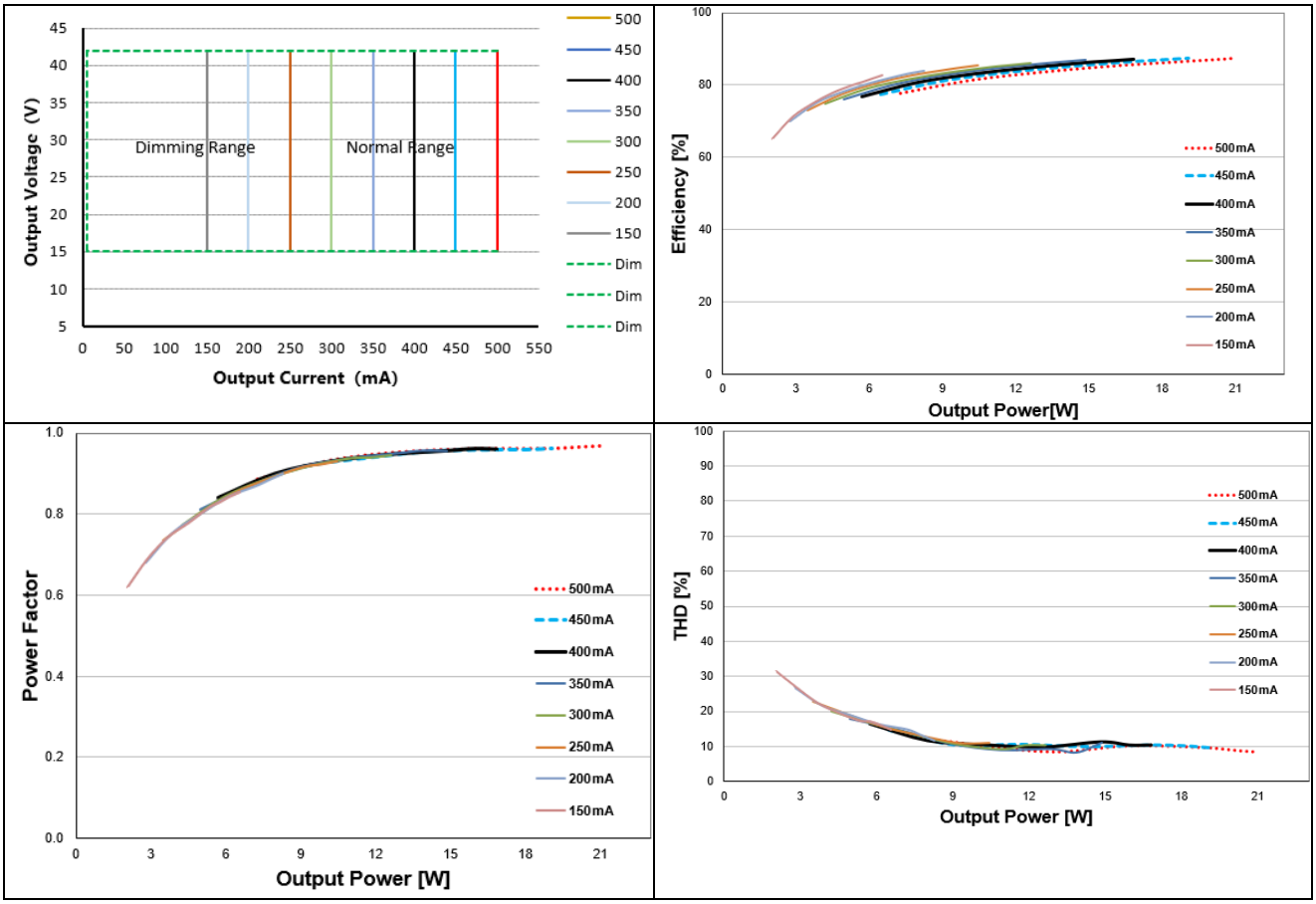
Product Features

- Output currents: 150/200/250/300/350/400/450/500 mA
- Output voltage: 15 VDC – 42 VDC
- Amplitude dimming 1...100%
- Typ. Efficiency: 87 %
- Low stand-by consumption < 0.5 W
- Ambient temp range, ta: -20°C to + 50°C
- Dipswitch interface
- Touch DIM/Corridor Function
- Low ripple < 5 %
- Low THD < 10 %
- Suitable for class I and II luminaires
- 50,000 hours lifetime at tc max.

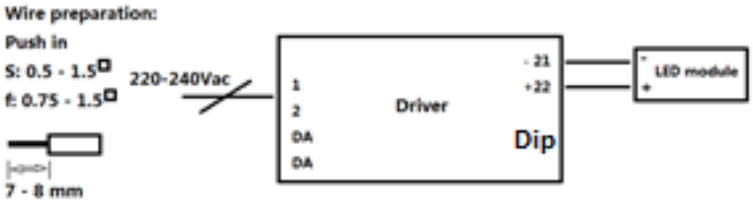
Electrical Specifications

	Item	Value	Unit	Remarks
INPUT	Nominal Voltage	220 - 240	V	
	Nominal frequency	0 / 50 / 60	Hz	
	AC voltage range	198 – 264	V	
	DC voltage range	176 – 276	V	
	Maximum voltage	275	VAC	48hrs maximum
	AC Nominal current	0.117	A	Full load, 230V, 50Hz
	DC Nominal current	0.056	A	50% load, 230V, 0Hz
	Total Harmonic Distortion (THD)	< 10	%	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
	Power losses	3.0	W	Maximum, full load
	No-load power	n/a	W	Load switching on output side is not permitted
	Network stand-by power	< 0.5	W	
	Protection class	II		Suitable for class I & II luminaires
	Leakage current	< 0.7	mA	Output floating
	Inrush current	20	A pk	twidth = 100µs typical (measured at 50% Ipeak)
	Max. units per circuit breaker	B10: 34; C10: 51 B16: 55; C16: 82 B25: 85; C25: 128	pcs	
OUTPUT	Nominal voltage range	15 – 42	V	
	Maximum voltage	⩽ 60	V	Open circuit
	Nominal current range	150/200/250/300/350/400/450/500	mA	Default current: 500mA
	Current accuracy	+/- 5	%	
	Current ripple	< 5	%	Ripple / average @ 100 Hz
	Pst LM	≤ 1		Full load
	SVM	≤ 0.4		Full load
	Nominal power range	2.3 – 21.0	W	Partial Load.
	Maximum power	21.0	W	Ta ≤ Max.
	Emergency output factor (EL)	0.15 – 0.5		EOFi = 0.15 – 0.5, @Ta=80 ℃ No hazard
	Galvanic isolation	SELV		3,75 kVrms. Output to mains - Touch current < 0.7 mA
DIM	Dimming control	Yes		DALI-2/TouchDIM/Corridor Function
	Dimming range	1 -100	%	@ Maximum nominal output current.
	Dimming technique	Analog dimming		
	PWM frequency	n/a	Hz	
	Galvanic isolation DALI/mains	Basic		
	Galvanic isolation DALI/output	SELV		
	TouchDIM	Yes		
ENVIRONMENT	Ambient temperature range ta	-20…+50	°C	
	Maximum case temperature tc	80	°C	
	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
	Environmental rating	Indoor		
	IP rating	IP 20		
	Mains switching cycles	> 100’000		
	Expected lifetime	50,000	hrs	@tcmax = 80°C, 10% failure rate
PROTECTIONS	Over temperature	Yes		
	Overload	Yes		Automatic, reversible
	No load	Yes		Limitation of Output voltage ⩽ 60V
	Short-circuit	Yes		Automatic, reversible
	Output overvoltage	Yes		Limitation of Output voltage ⩽ 60V

Electrical characteristics



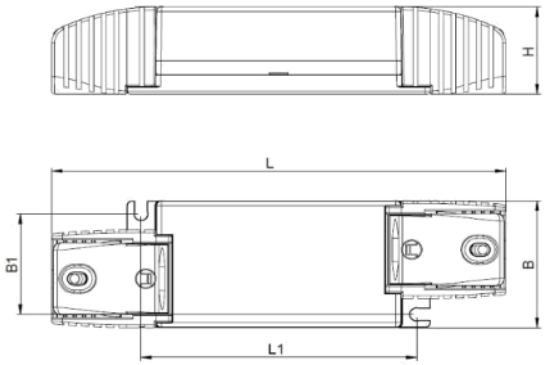
Wiring Diagram



For built-in: 0.5-1.5 mm^2, for independent: 0.75-1.5 mm^2
Max. cable length -system: 2m
Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs

DIP1	DIP2	DIP3	Current (mA)
OFF	OFF	ON	150
OFF	OFF	OFF	200
OFF	ON	OFF	250
OFF	ON	ON	300
ON	OFF	OFF	350
ON	OFF	ON	400
ON	ON	OFF	450
ON	ON	ON	500
Current selected by Dip switch			

For independent type



L	145mm
L1	88mm
B	43mm
B1	34mm
H	29.5mm

An optional cable clamp is available. This cable clamp can be snapped into the driver and thus converts it into an independent installation.

Rated output power and current sets								
I out (mA)	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
U min (V)	15	15	15	15	15	15	15	15
U max (V)	42	42	42	42	42	42	42	42
P min (W)	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5
P max (W)	6.3	8.4	10.5	12.6	14.7	16.8	18.9	21.0
Ta (°C)	50	50	50	50	50	50	50	50
Tc (°C)	80	80	80	80	80	80	80	80
AC Line Current, nominal@230V (A)	0.043	0.052	0.062	0.073	0.083	0.094	0.106	0.117
Max power Loss@230V (W)	1.4	1.6	1.8	2.0	2.2	2.5	2.8	3.0
Input Power@230V (W)	7.7	10.0	12.3	14.6	16.9	19.3	21.6	24.0
DC Line Current, nominal@230VDC (A) EOFi=15%	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.020
DC Line Current, nominal@230VDC (A) EOFi=50%	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.056

Remarks

— For built-in type: Controlgear relies upon the luminaire enclosure for protection against accidental contact with live parts.

 : Double or reinforced insulation between live parts and external parts which contact with the luminaire.

— 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=0.5) and related duration time of 1h at least. Function in emergency is ensured up to ta=80°C.

— Recommendations on how to dispose of it at the end of its life in line with Directive 2012/19/EU:

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 centers 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.

— 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 centers 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.

Standards

IEC 61347-1
IEC 61347-2-13
CISPR 15/EN 55015
IEC 61547
IEC 61000-3-2
IEC 62384

Product name	EAN10	EAN40	Units per shipping box
IT DALI 20/220-240/500 CS	4062172373920	4062172373937	20
OT Cable Clamp D-style	4052899077904	4052899077911	40

Inventronics GmbH
Berliner Allee 65
86153 Augsburg
Germany
www.inventronicsglobal.com