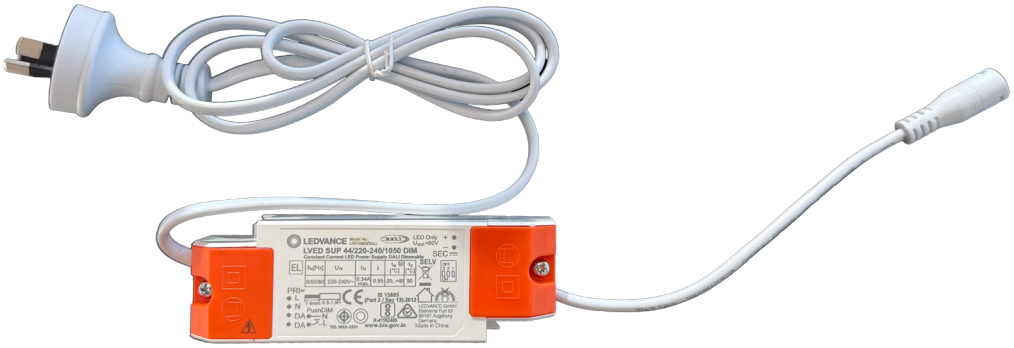
LDR50MWDALI DALI2.0 LED Driver



SPECIFICATION

Output	**Constant Current (mA)**	900-1200mA	1250mA	.....	1450mA	1500mA
	Voltage Range (VDC)	9-49VDC	9-48VDC		9-41.4VDC	9-40VDC
	Unload voltage Max. (VDC)	60V DC				
	Current Accuracy	±5%				
	Output current ripple (≤120Hz)	±3%				
	SVM	≤0.4@Full Load				
	PST	≤0.1@ Full Load				
	Efficiency (Typ.)	90%@650mA, Full Load, 230VAC				
	EOFI	100%				
Input	**Rated input voltage (VAC)**	220-240VAC				
	Range of input voltage (VAC)	198-264VAC				
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition				
	Range of input voltage (VDC)	176-280VDC				
	Frequency (Hz)	0/50/60 Hz				
	Displacement Factor	≥0.9@full load, 230VAC				
	Power Factor	>0.95@full load, 230VAC				
	Input Current max	AC:0.35A max DC:0.39A max				
	Start-up time	<0.8S				
	Switch over time (AC/DC mode)	<0.5S				
	No Load Power	≤0.3W, @220VAC				
	Standby Power	≤0.3W, @220VAC				
	Network Standby Power	≤0.3W,@220VAC				
	THD (Typ.)	<10%@full load,230VAC				
Dimming	**Dimming**	YES				
	Dimming mode	DALI-2 (IEC 62386-101,102,207,251,252,253) & Push Dimming (Corridor Function)				
	Dimming depth	1%@mA				
	Dimming current range	1~100%				
	Dimming method	1%-12.5% @PWM dimming, 12.5%-100% @AM dimming				

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SPECIFICATION

Protection	**Over Load Protection**	103-120%
		YES/Latch off
	Over Voltage Protection	60VDC
		YES/Latch off
	Short circuit Protection	YES/Latch off
	Over Temperature Protection	YES/Auto Resume
Capability	**Surge capability (L-N)**	1KV
	Surge capability (L/N-Ground)	NA
Environment	**Operating Temperature**	-20°C...+45°C
	Humidity	20%-90%RH
	Tc	90°C
	Storage Temperature	-40°C...+80°C
	Lifetime	> 50,000h@ta=80°C
	Ripple&Noise	≤25dB(A)@20cm
Surface	**Dimension**	L 113 mm X W 43mm X H 25 mm (With side caps: 147x43x25mm)
	Material	Polycarbonate
Standards	**Safety**	GB19510.1, GB19510.14; IEC61347-1, IEC61347-2-13; AS/NZS61347-1, AS/NZS61347-2-13; AS 61347.2.13; EN62384
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547
	ErP	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/865
DALI performance	EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)	
Note	1. All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature. 2. Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3. Hot plug-in or secondary switching of LEDs is not permitted and may causes very high current to the LEDs. 4. DALI protocol comprises 16 groups and 64 addresses. Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button. 5. The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered. 6. EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications.	

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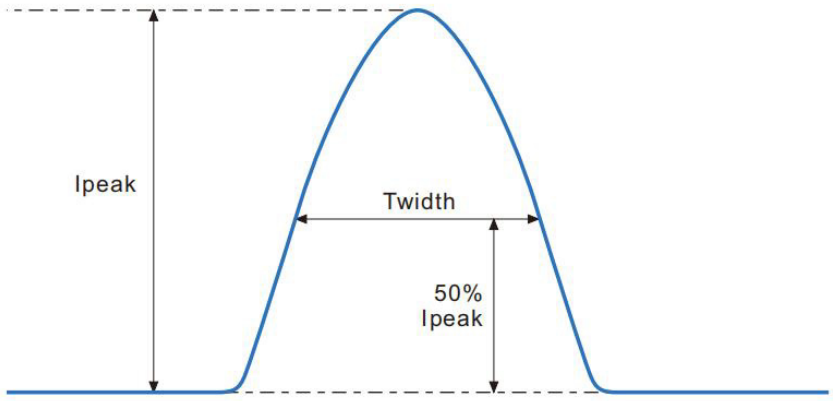
INPUT & OUTPUT

No.	Output				Switch Position			
	Current (mA)	Voltage (VAC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	900mA	9-49VDC	60VDC	44.1W	--	--	--	--
2	900mA			44.1W	ON	--	--	--
3	900mA			44.1W	--	ON	--	--
4	900mA			44.1W	ON	ON	--	--
5	950mA			46.6W	--	--	ON	--
6	1000mA			49W	ON	--	ON	--
7	1050mA			51.5W	--	ON	ON	--
8	1100mA			53.9W	ON	ON	ON	--
9	1150mA			56.4W	--	--	--	ON
10	1200mA			58.8W	ON	--	--	ON
11	1250mA	9-48VDC		60W	--	ON	--	ON
12	1300mA	9-46.2VDC		60W	ON	ON	--	ON
13	1350mA	9-44.4VDC		60W	--	--	ON	ON
14	1400mA	9-42.9VDC		60W	ON	--	ON	ON
15	1450mA	9-41.4VDC		60W	--	ON	ON	ON
16* Factory Default	1500mA	9-40VDC		60W	ON	ON	ON	ON

CIRCUIT BREAKER

$I_{[Peak]}$	$T_{[width]}$	B10	B16	B20	C10	C16	C20
10.8A	33.6μs	22pcs	36pcs	45pcs	22pcs	36pcs	45pcs



Remarks:

1. The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
2. Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

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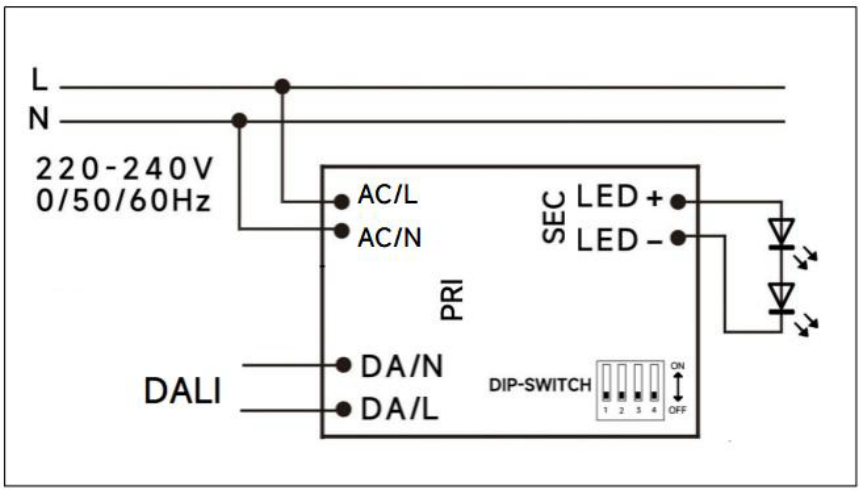
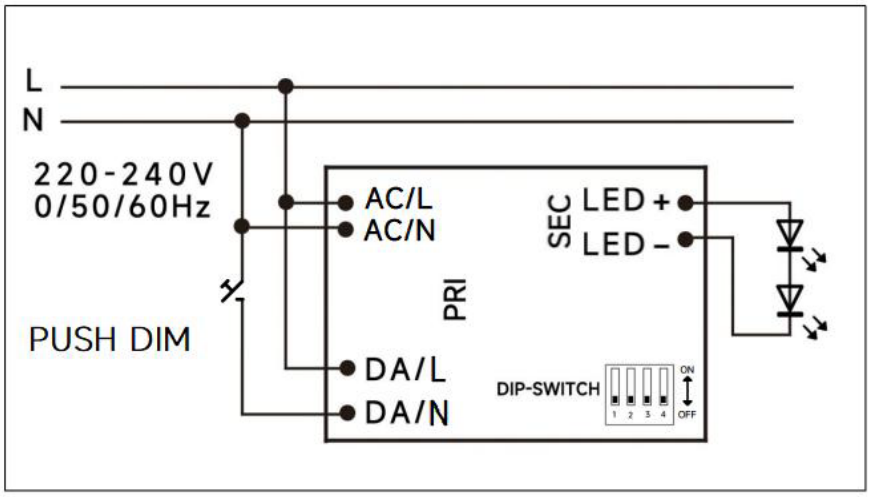
WIRING DIAGRAM

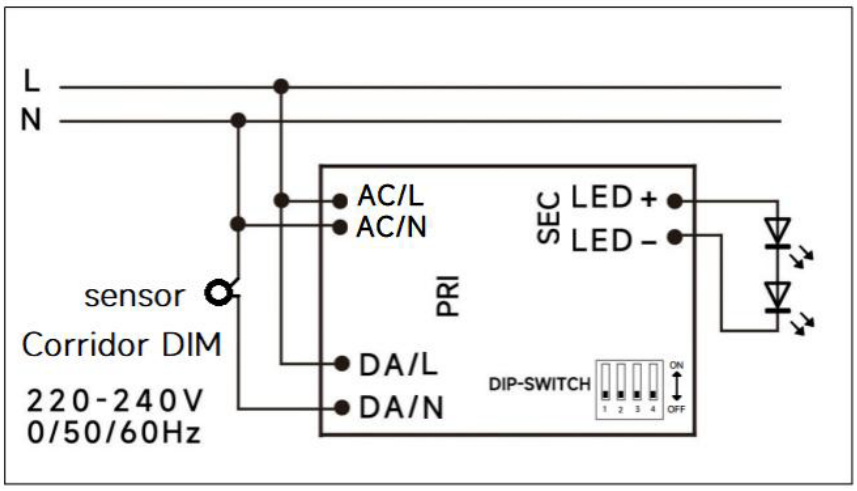
DALI DIMMING APPLICATION



PUSHDIM DIMMING APPLICATION



CORRIDOR DIM DIMMING APPLICATION



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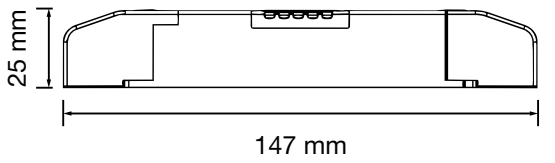
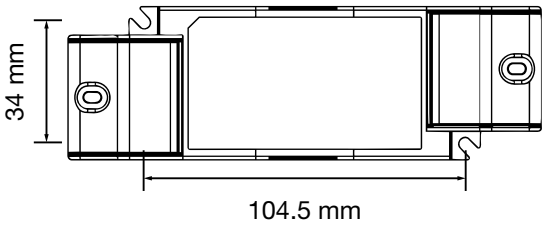
2D DIAGRAM

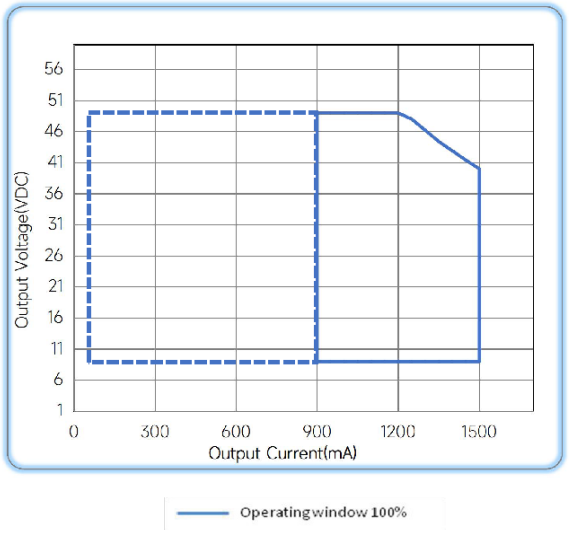




WIRING & CONNECTIONS

Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm^2
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5. 1.5 mm^2
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

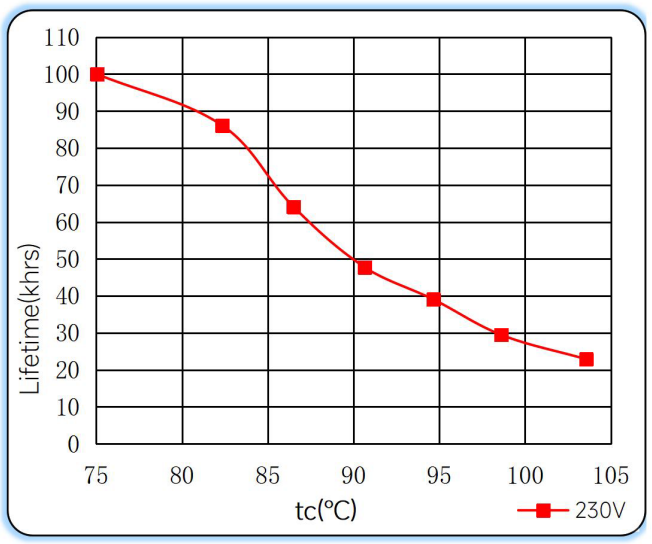
OPERATING WINDOW



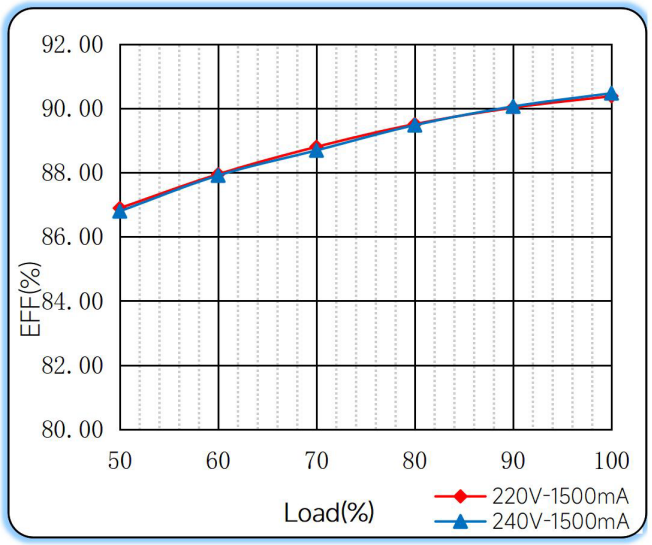
LDR50MWDALI DALI2.0 LED Driver

CURVE FOR LDR50MWDALI, Io=1500mA

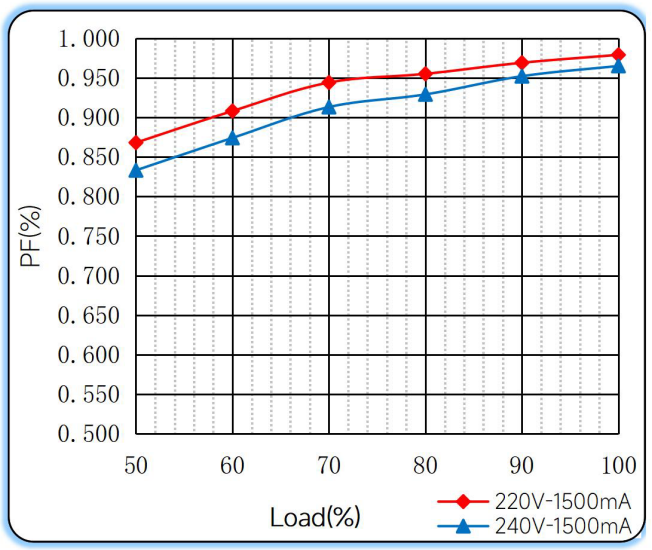
Lifetime vs. Temperature Curve



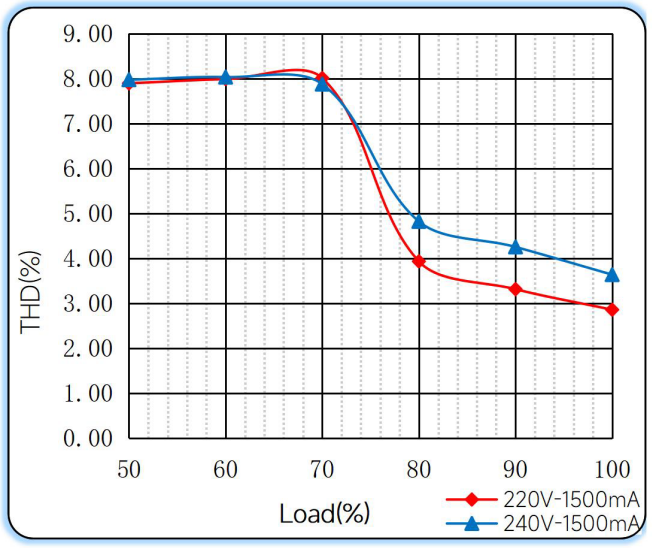
Efficacy vs. Load



Power Factor Characteristics



THD vs. Load



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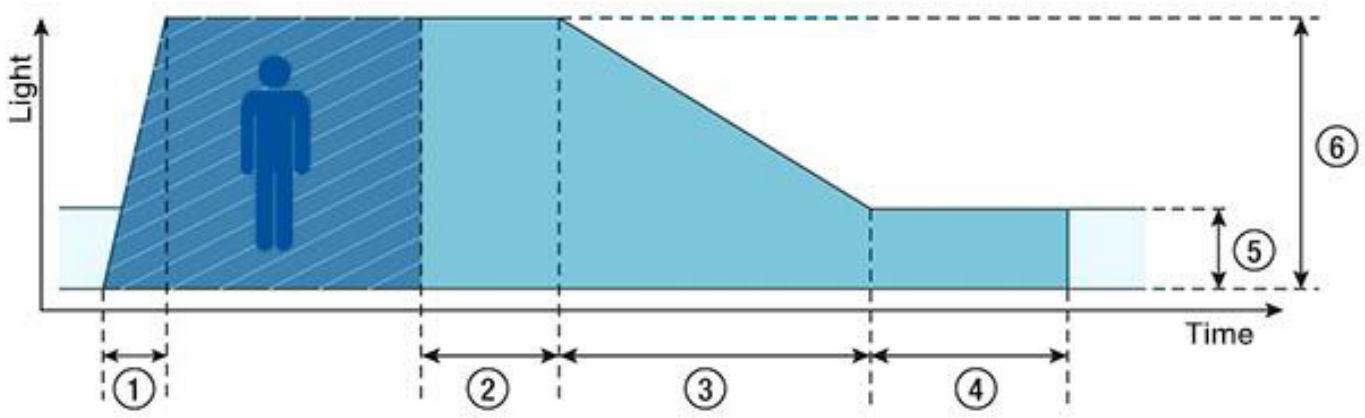
PUSH DIMMING OPERATION

Action	Action duration	Function
Short push	<0.5s	Turn on/off
Short push - twice	<0.5s	LED on: Save current brightness level LED off: Delete saved level and turn on at 100% brightness
Short push - five times	<3s	Quit Corridor mode
Long push	0.5-14s	Dimming up or down
Long push	15s-2mins	Sync all LEDs to be 100% brightness
Long push	>2mins	Enter Corridor mode - LED keep 100% brightness for 2mins. Then brightness will turn to be 10% within 32s if no action during 2mins 100% brightness.

Note:

1. The factory default brightness is at 100%.
2. Up to 30 drivers can perform the PUSH dimming at the same time when utilizing one common push button
3. The maximum length of the cable from the push button to the last driver is 200 meters.

CORRIDOR MODE



1. Fade-in time(0.5s): the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
2. Run-on time(120s): the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
3. Fade time(32s): the time during which the luminous intensity is faded from the presence value to the absence value.
4. Switch-off delay (level=10%.Non-configurable): the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
5. Absence value(default: 10 %): the luminous intensity when there is no person present.
6. Presence value (default: 100 %): the luminous intensity when persons are present.