

## Intelligent LED Driver (Constant Current)

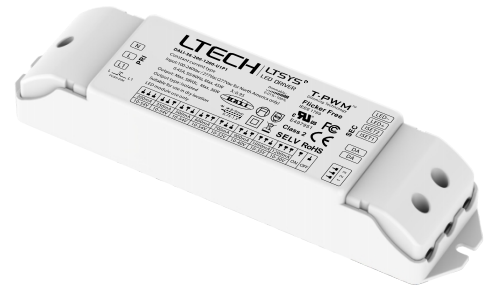
- Dimming interface: DALI, Push DIM.
- T-PWM™ dimming technology allows continuous and flicker-free images under high-speed photography.
- Dimming range: 0-100%, LED start at 0.01% possible.
- 0-100% flicker free, High frequency exemption level.
- DALI dimming curve can be either linear or logarithmic.
- Multi-current & wide voltage, suitable for different power LED.
- Non-load output voltage 0V to prevent damages to LED caused by poor contact.
- Innovative thermal management technology, intelligent power life protection.
- Short circuit / Over-heat / Over load / Non-load protection, recover automatically.
- DALI bus standard: IEC62386-101, 102, 207.
- Suitable for internal lights application for I / II / III.
- Up to 50,000-hour life time.
- 5-years warranty (Rubycon capacitor).



**T-PWM™**  
Super depth dimming technology

**Flicker-Free**  
IEEE 1789

Dimmable:  
0.01-100%



RoHS

SELV Class 2



## Specification

Model	DALI-15-100-700-U1P1		DALI-25-150-900-U1P1		DALI-36-200-1200-U1P1	
OUTPUT	Output Voltage	10-54Vdc				
	Max Output Voltage	58Vdc				
	Non-load Output Voltage	0Vdc				
	Output Current	100-700mA	150-900mA		200-1200mA	
	Output Power	1-15W	1.5-25W		2-36W	
	Strobe Level	Almost flicker-free / High frequency exemption level				
	Dimming Range	0-100%, 0.01% dimming depth				
	Dimming Frequency	≤3600Hz				
	LF Current Ripple(120Hz)	<2%				
	Current Accuracy	±5%				
Ripple & Noise	≤2V					
INPUT	Dimming Interface	DALI, Push DIM				
	Input Voltage	100-277Vac, (Max. 90-305Vac)				
	Frequency	50/60Hz				
	Input Current	115Vac≤0.2A, 230Vac≤0.15A, 277Vac≤0.1A	115Vac≤0.3A, 230Vac≤0.2A, 277Vac≤0.15A		115Vac≤0.45A, 230Vac≤0.25A, 277Vac≤0.2A	
	Power Factor	PF>0.97/115Vac, PF>0.93/230Vac, PF>0.88/277Vac	PF>0.97/115Vac, PF>0.93/230Vac, PF>0.85/277Vac		PF>0.95/115Vac, PF>0.9/230Vac, PF>0.85/277Vac	
	THD	<16%/115Vac, <20%/230Vac, <29%/277Vac				
	Efficiency(typ.)	82%		85%		88%
	Inrush Current(typ.)	Cold start 8A at 230Vac (twidth=75µs measured at 50% Ipeak)	Cold start 10A at 230Vac (twidth=75µs measured at 50% Ipeak)		Cold start 20A at 230Vac (twidth=75µs measured at 50% Ipeak)	
Anti Surge	L-N: 1kV					
Leakage Current	<0.5mA/230Vac					
ENVIRONMENT	Working Temperature	ta: -30°C ~ 55°C tc: 75°C				
	Working Humidity	20 ~ 95%RH, non-condensing				
	Storage Temp., Humidity	-40°C ~ 80°C, 10-95%RH				
	Temp. Coefficient	±0.03%/°C [0-50°C]				
	Vibration	10-500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes				
PROTECTION	Over-heat Protection	Intelligently adjusting or turning off the output current if the PCB temperature ≥ 110°C, auto recovers				
	Over Load Protection	Shut down the output when current load>102%, auto recovers				
	Short Circuit Protection	Shut down automatically if short circuit occurs, auto recovers				
	Non-load Protection:	Shut down the output if no load, auto recovers				
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac				
	Isolation Resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH				
	Safety Standards	UL	America	UL8750		
		CUL	Canada	CSA C22.2 No. 250. 13		
		CE	European Union	EN61347-1, EN61347-2-13, EN62384		
	EMC Emission	FCC	America	FCC part 15		
		CE	European Union	En55015, EN61000-3-2, EN61000-3-3		
EMC Immunity	EN61000-4-2,3,4,5,6,8,11 EN61547					
Strobe Test Standard	IEEE 1789					
OTHERS	Dimensions	175×44×30mm[L×W×H]				
	Packing	178×48×33mm[L×W×H]				
	Weight(G.W.)	175g±10g				

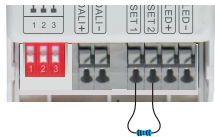
## LED Current Selection

Quick options: DIP switch for 8 optional currents' quick selection(see the table below).

DIP Switch		⬇ ⬇ ⬇	⬇ ⬇ ⬆	⬇ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬇	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬇ ON OFF
<b>DALI-15-100-700-U1P1</b>	Output Current	100mA	180mA	300mA	350mA	450mA	500mA	600mA	700mA	
	Output Voltage	10-54V	10-54V	10-50V	10-43V	10-34V	10-30V	10-25V	10-22V	
	Output Power	1W-5.4W	1.8W-9.72W	3W-15W	3.5W-15.05W	4.5W-15.3W	5W-15W	6W-15W	7W-15.4W	
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DIP Switch		⬇ ⬇ ⬇	⬇ ⬇ ⬆	⬇ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬇	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬇ ON OFF
<b>DALI-25-150-900-U1P1</b>	Output Current	150mA	250mA	300mA	350mA	500mA	600mA	700mA	900mA	
	Output Voltage	10-54V	10-54V	10-54V	10-54V	10-50V	10-42V	10-36V	10-28V	
	Output Power	1.5W-8.1W	2.5W-13.5W	3W-16.2W	3.5W-18.9W	5W-25W	6W-25.2W	7W-25.2W	9W-25.2W	
<hr/>										
DIP Switch		⬇ ⬇ ⬇	⬇ ⬇ ⬆	⬇ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬇	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬆ ⬆	⬆ ⬇ ON OFF
<b>DALI-36-200-1200-U1P1</b>	Output Current	200mA	350mA	500mA	600mA	700mA	900mA	1050mA	1200mA	
	Output Voltage	10-54V	10-54V	10-54V	10-54V	10-52V	10-40V	10-35V	10-30V	
	Output Power	2W-10.8W	3.5W-18.9W	5W-27W	6W-32.4W	7W-36.4W	9W-36W	10.5W-36.75W	12W-36W	

- \* After current setting by DIP switch, power off and then power on to make the new current effective.
- \* E.g. LED 3.2V/pcs: 10-54V can power 3-16pcs LEDs in series, 10-22V can power 3-6pcs LEDs, the max quantity of LEDs in series will be subject to the actual voltage of LED.

**Advanced options:** connect ISET port with resistors of different values to set up currents

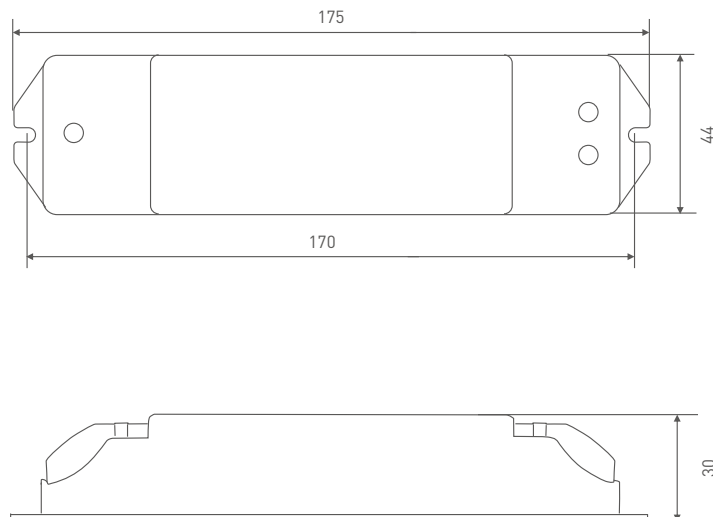


Connect to resistor

DALI-15-100-700-U1P1 <small>Connecting ISET with resistors can obtain the following typical currents.</small>	Current(mA)	140mA	180mA	220mA	260mA	300mA	340mA	380mA	420mA	460mA	500mA
	Resistor(KΩ)	33.93 KΩ	27.78KΩ	23.19 KΩ	19.32KΩ	16.34 KΩ	14.05 KΩ	11.96KΩ	10.17 KΩ	8.57KΩ	7.16 KΩ
DALI-25-150-900-U1P1 <small>Connecting ISET with resistors can obtain the following typical currents.</small>	Current(mA)	540mA	580mA	620mA	660mA						
	Resistor(KΩ)	5.98 KΩ	4.9 KΩ	3.87 KΩ	3 KΩ						
DALI-25-150-900-U1P1 <small>Connecting ISET with resistors can obtain the following typical currents.</small>	Current(mA)	200mA	250mA	300mA	350mA	400mA	450mA	500mA	550mA	600mA	650mA
	Resistor(KΩ)	34KΩ	26.93KΩ	22.3KΩ	18.98 KΩ	15.93 KΩ	13.31 KΩ	11.45 KΩ	9.53KΩ	8.23 KΩ	6.72KΩ
DALI-36-200-1200-U1P1 <small>Connecting ISET with resistors can obtain the following typical currents.</small>	Current(mA)	250mA	300mA	350mA	400mA	450mA	500mA	550mA	600mA	650mA	700mA
	Resistor(KΩ)	41.6KΩ	34.7 KΩ	29.52KΩ	25.4 KΩ	21.9 KΩ	19 KΩ	16.66 KΩ	14.5KΩ	12.62 KΩ	11.19KΩ
DALI-36-200-1200-U1P1 <small>Connecting ISET with resistors can obtain the following typical currents.</small>	Current(mA)	750mA	800mA	850mA	900mA	950mA	1000mA	1050mA	1100mA	1150mA	
	Resistor(KΩ)	9.8 KΩ	8.57 KΩ	7.43 KΩ	6.42 KΩ	5.47 KΩ	4.65 KΩ	3.93 KΩ	3.2 KΩ	2.57 KΩ	

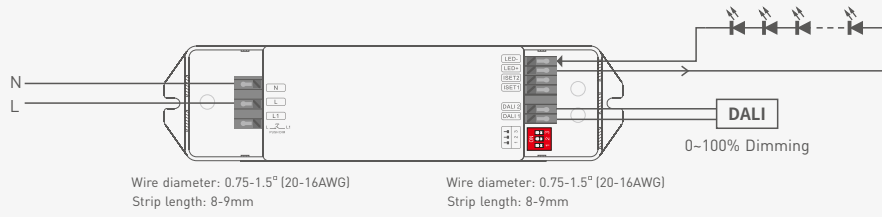
## Dimensions

Unit: mm

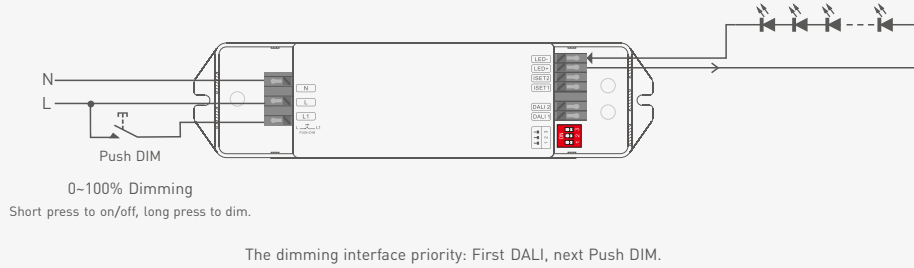


## Wiring diagram

### DALI connection



### Push DIM connection



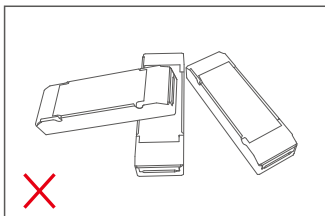
## Push DIM



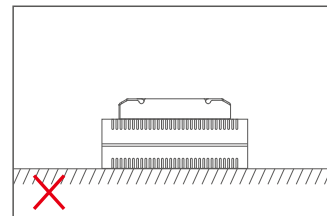
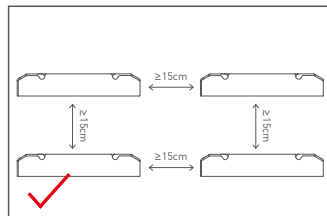
Reset Switch

- On/off control: Short press.
- Stepless dimming: Long press.
- With every other long press, the brightness goes to the opposite direction.
- Dimming memory: Brightness will be the same as previously adjusted when turning off and on again.

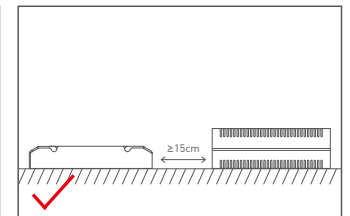
## Installation Precautions



Please do not stack the products. The distance between two products should be  $\geq 15\text{cm}$  so as not to affect heat dissipation and the lifespan of the products.



Please do not place the products on LED drivers. The distance between the product and the driver should be  $\geq 15\text{cm}$  so as not to affect heat dissipation and shorten the lifespan of the products.



## Flicker Test Form

IEEE 1789

Limit of Modulation in low risk area	
Waveform frequency of Optical output	limit [%]
$f \leq 8\text{Hz}$	0.2
$8\text{Hz} < f \leq 90\text{Hz}$	$0.025 \times f$
$90\text{Hz} < f \leq 1250\text{Hz}$	$0.08 \times f$
$f > 1250\text{Hz}$	Exemption assessment
Limit of Modulation in no effect area	
Waveform frequency of Optical output	limit [%]
$f \leq 10\text{Hz}$	0.1
$10\text{Hz} < f \leq 90\text{Hz}$	$0.01 \times f$
$90\text{Hz} < f \leq 3125\text{Hz}$	$[0.08/2.5] \times f$
$f > 3125\text{Hz}$	Exemption assessment (High frequency exemption)

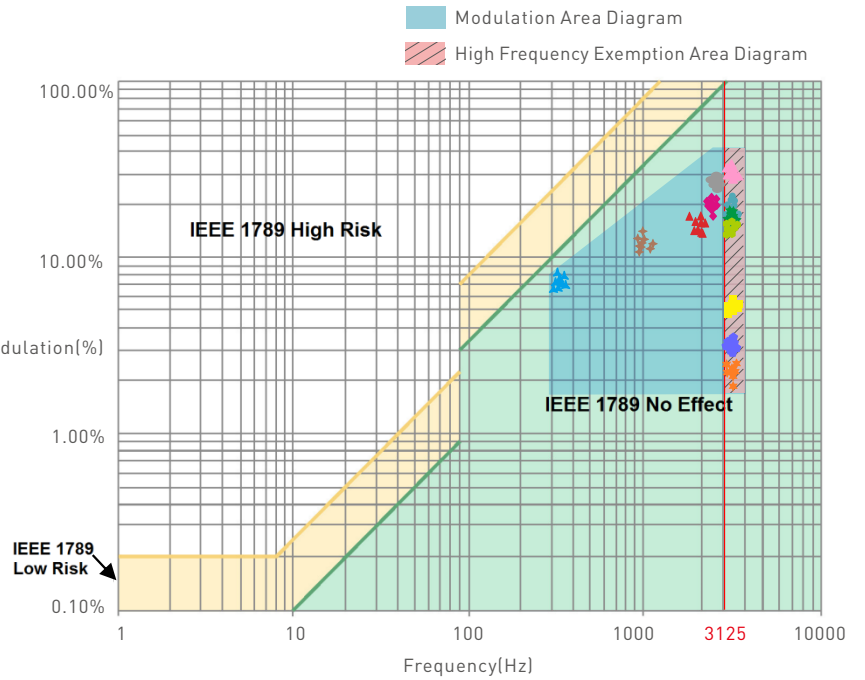
Brightness

- ▲ 0.1%
- ◆ 1%
- ▲ 5%
- ◆ 10%
- 20%
- ▲ 30%
- 40%
- ★ 50%
- 60%
- 70%
- 80%
- ★ 90%
- ◆ 100%

Marks in the right chart were tested results of different current ranges.

The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

In excess of 30% brightness, dimming frequency is more than 3125Hz and it achieves high frequency exemption level.



## Attentions

- Products shall be installed by qualified professionals.
  - LTECH products are non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure it is mounted in a water proof enclosure.
  - Good heat dissipation will extend the working life of products. Please ensure good ventilation.
  - Please check if the working voltage used complies with the parameter requirements of products.
  - The diameter of wire used must be able to load the light fixtures you connect and ensure the firm wiring.
  - Before you power on products, please make sure all the wiring is correct in case of incorrect connection that causes damage to light fixtures.
  - If a fault occurs, please do not attempt to fix products by yourself. If you have any question, please contact your suppliers.
- \* This manual is subject to changes without further notice. Product functions depend on the goods. Please feel free to contact our official distributors if you have any question.

## Warranty Agreement

- Warranty periods from the date of delivery: 5 years.
- Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

- Beyond warranty periods.
- Any artificial damage caused by high voltage, overload, or improper operations.
- Products with severe physical damage.
- Damage caused by natural disasters and force majeure.
- Warranty labels and barcodes have been damaged.
- No any contract signed by LTECH.

1. Repair or replacement provided is the only remedy for customers. LTECH is not liable for any incidental or consequential damage unless it is within the law.
2. LTECH has the right to amend or adjust the terms of this warranty, and release in written form shall prevail

## Update Log

Version	Updated Time	Update Content	Updated by
A3	2020.05.18	Add Flicker Test Form; P1 plus life 50000 hours	Liu Weili
A4	2021.01.25	Technical parameters increase LF current ripple	Liu Weili
A5	2022.04.22	Update product certification icons	Liu Weili