

Intelligent LED Driver (Constant Current)

- Dimming interface: 0-10V (1-10V/10V PWM/RX), Push DIM.
- T-PWM™ dimming technology allows continuous and flicker-free images under high-speed photography.
- With soft-on and fade in function, visual more comfortable.
- Automatic recognition of 0-10V, 1-10V input signal.
- Dimming range: 0-100%, LED start at 0.01% possible.
- 0-100% flicker-free, High frequency exemption level.
- Innovative thermal management technology, intelligent power life protection.
- Multiple current & wide voltage, suitable for different power LED.
- Non-load output voltage 0V to prevent damages to LED caused by poor contact.
- Short circuit / Over-heat / Over load / Non-load protection, recover automatically.
- Suitable for internal lights application for I / II / III.
- Up to 50,000-hour life time.
- 5 years warranty (Rubycon capacitor).

T-PWM™
Dimming Technology

Flicker Free
IEEE 1789

Dimmable:
0.01% - 100%

5 in 1 dimming

0-10V
1-10V
PWM
RX
Push DIM

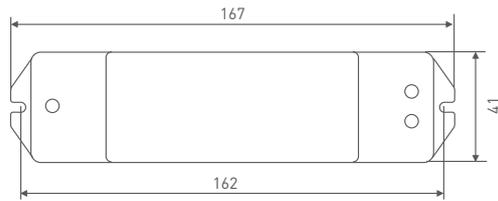


Specification

Model	AD-15-100-700-E1A1	AD-25-150-900-E1A1	AD-36-200-1200-E1A1	
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%, LED start at 0.01% possible		
	PWM Frequency	≤3600Hz		
	LF Current Ripple	<2%		
	Current Accuracy	±5%		
Ripple & Noise	≤2V			
INPUT	Dimming Interface	0-10V (1-10V/PWM/RX), Push DIM		
	Input Voltage Range	220-240Vac		
	Frequency	50/60Hz		
	Input Current	<0.15A	<0.2A	<0.3A
	Power Factor	PF>0.90/230Vac, at full load	PF>0.93/230Vac, at full load	PF>0.95/230Vac, at full load
	THD	≤20% at 230Vac, at full load		
	Efficiency(typ.)	83%	84%	87%
	Inrush Current(typ.)	Cold start 2.48A at 230Vac (twidth=25.1μs measured at 50% Ipeak)	Cold start 2.28A at 230Vac (twidth=36μs measured at 50% Ipeak)	Cold start 6.32A at 230Vac (twidth=60.1μs measured at 50% Ipeak)
	Anti Surge	L-N: 1kV		
	Leakage Current	<0.5mA/230Vac		
ENVIRONMENT	Working Temperature	ta: 50°C tc: 90°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 rated power ≥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 when load back to normal		
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac		
	Isolation Resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH		
	Safety Standards	CCC	China	GB19510.1, GB19510.14
		TUV	Germany	EN61347-1, EN61347-2-13, EN62493
		CE	European Union	EN61347-1, EN61347-2-13, EN62384
		UKCA	Britain	BS EN 61347-2-13:2014+A1:2017 BS EN 61347-1:2015+A1:2021
		RCM	Australia	AS61347-1, AS61347-2-13
		ENEC	Europe	EN61347-1, EN61347-2-13, EN62384
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		RCM	Australia	EN550515, EN61000-3-2, EN61000-3-3, EN61547
		CE	European Union	EN550515, EN61000-3-2, EN61000-3-3
		UKCA	Britain	BS EN IEC 55015:2019/A11:2020, BS EN 61547:2009, BS EN IEC 61000-3-2:2019, BS EN 61000-3-3:2013/A1:2019
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11 EN61547		
Strobe Test Standard	IEEE 1789			
OTHERS	Dimensions	167×41×32mm(L×W×H)		
	Packing	168×43×35mm(L×W×H)		
	Weight(G.W.)	165g±10g		

Dimensions

Unit: mm



LED Current Selection

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

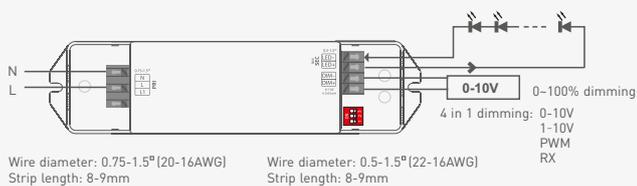
AD-15-100-700-E1A1	DIP Switch	⬇⬇⬇	⬇⬇⬆	⬇⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬇ ON OFF
	Output Current	100mA	180mA	300mA	350mA	450mA	500mA	600mA	700mA	
	Output Voltage	10-54V	10-54V	10-50V	10-43V	10-34V	10-30V	10-25V	10-22V	
	Output Power	1W-5.4W	1.8W-9.72W	3W-15W	3.5W-15.05W	4.5W-15.3W	5W-15W	6W-15W	7W-15.4W	
AD-25-150-900-E1A1	DIP Switch	⬇⬇⬇	⬇⬇⬆	⬇⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬇ ON OFF
	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	
AD-36-200-1200-E1A1	DIP Switch	⬇⬇⬇	⬇⬇⬆	⬇⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬆⬇	⬆⬆⬆	⬆⬇ ON OFF
	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.

Wiring Diagram

0-10V Connection



Push DIM Connection



The dimming interface priority: First 0-10V, next Push DIM.

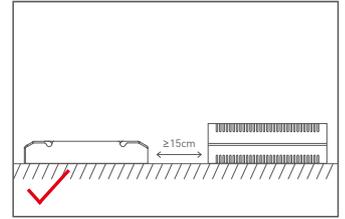
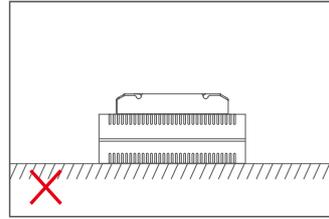
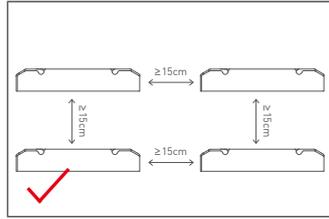
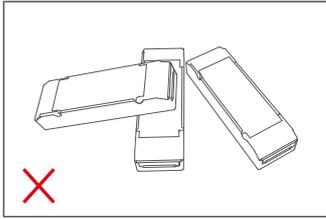
Push DIM



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.

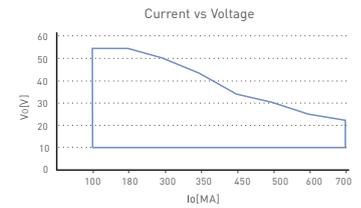
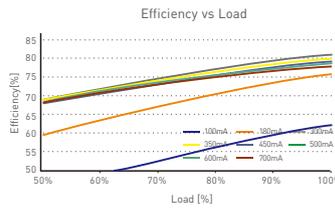
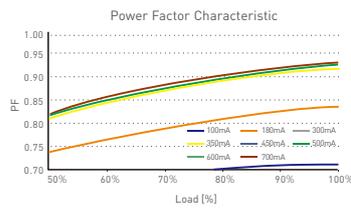
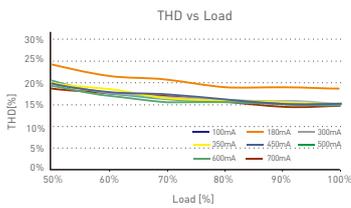
Installation Precautions



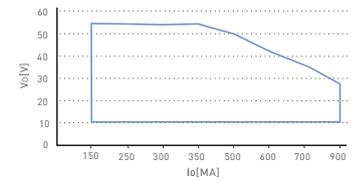
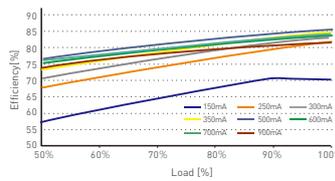
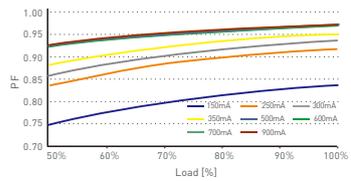
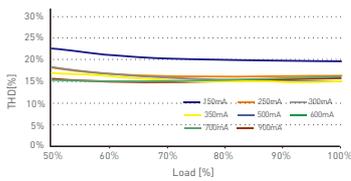
Please do not stack the products. The distance between two products should be $\geq 15\text{cm}$ so as not to affect heat dissipation and the lifespan of the products.

Please 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.

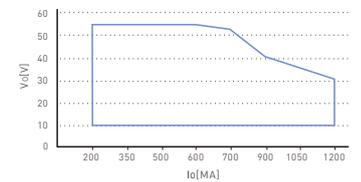
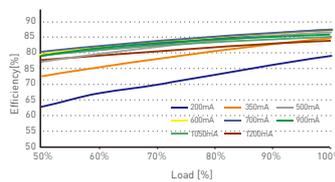
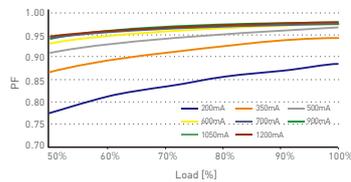
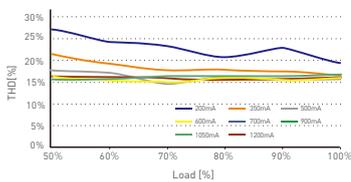
Relationship Diagrams



AD-15-100-700-E1A1



AD-25-150-900-E1A1



AD-36-200-1200-E1A1

Flicker Test Form

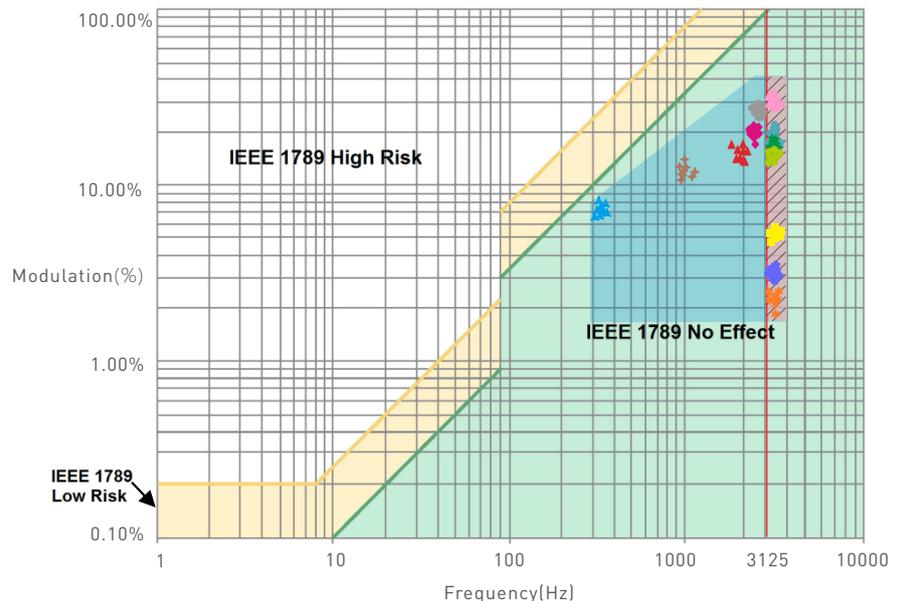
IEEE 1789

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%

- Modulation Area Diagram
- High Frequency Exemption Area Diagram



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.

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
A5	2020.03.30	Increase constant current test table; increase 50,000 hours of life	Liu Weili
A6	2021.12.10	Increase the low-frequency current ripple; change the product silk screen	Liu Weili
A7	2022.04.21	Update product certification icons	Liu Weili