

## Intelligent LED Driver (Constant Current)

- Small size and light weight. The clamshell design and screwless type for strain-relief. The clamshell design and screwless type for strain-relief. The design of dismountable end cap allows you to adjust the length of housing depending on your needs.
- Multiple current levels and wide voltage range. Suitable for different power of LEDs.
- Comply with no-load power consumption of the EU's ErP Directive, standby power consumption < 0.5W.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- T-PWM™ dimming technology allows continuous and flicker-free images under high-speed photography.
- The whole dimming process is flicker-free with high frequency exemption level.
- Dimming from 0-100%, down to 0.1%.
- DALI bus standard IEC62386-101, 102, 207.
- DALI dimming curves are available in linear and logarithmic curve.
- The secure and reliable design for signal isolation.
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, over voltage, overload, short circuit protection and automatic recovery.
- Suitable for Class I / II / III indoor light fixtures.
- Up to 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).

**T-PWM™**  
Dimming Technology

**Flicker Free**  
IEEE 1789

Dimmable:  
0.01-100% 



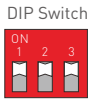
The certification icon represents on-going certification applications only, and final certification qualification is subject to actual products.

### Technical Specs

Model	SE-12-100-450-W1D			
<b>Features</b>	Output Type	Constant Current		
	Dimming Interface	DALI DT6		
	Output Feature	Isolation		
	Protection Grade	IP20		
	Insulation Grade	Class II (Suitable for class I / II / III light fixtures)		
<b>OUTPUT</b>	Maximum output voltage	≤48V		
	Output Voltage	9-42Vdc		
	Output Current Range	100-450mA		
	Output Power Range	0.9-12W		
	Dimming Range	0-100%, down to 0.01%		
	Ripple Current	<3%(Maximum current non dimming state)		
	Current Accuracy	±5%		
	PWM Frequency	<3600Hz		
<b>INPUT</b>	DC Voltage Range	120-300Vdc		
	AC Voltage Range	100-240Vac		
	Rated voltage	115Vac / 230Vac		
	Frequency	50/60Hz		
	Power transmission	Max. 16W		
	Input Current	≤0.18A/115Vac, at full load ≤0.08/230Vac, at full load		
	Power Factor	PF>0.9C/230Vac, at full load PF>0.95C/115Vac, at full load		
	THD	THD<10%/230Vac, at full load		
	Efficiency (Typ.)	>82%, at full load		
	Inrush Current	Cold start 15A[Test width=102us tested under 50% Ipeak/230Vac		
	Anti Surge	L-N: 2kV		
Leakage Current	<0.5mA/230Vac			
<b>ENVIRONMENT</b>	Working Temperature	ta: -20 ~ 50°C tc: 80°C		
	Working Humidity	20 ~ 95%RH, non-condensing		
	Storage Temperature/Humidity	-40 ~ 80°C, 10 ~ 95%RH		
	Temperature Coefficient	±0.03%/°C [-20°C ~ 45°C]		
	Vibration	10-500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively		
<b>PROTECTION</b>	Overload Protection	Shut down the output and recover automatically once it exceeds 1.02-1.35 times of the rated power		
	Overheat Protection	Intelligently adjust or turn off the current output if the PCB temperature >110°C. When the PCB temperature <90°C, automatically recover normal output		
	Short Circuit Protection	When short circuit occurs, shut down the output and recover automatically		
<b>SAFETY &amp; EMC</b>	Withstand Voltage	I/P-O/P: 3750Vac		
	Insulation 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
		CB	European Union	IEC61347-1, IEC61347-2-13
		RCM	Korea	AS/NZS61347.1, AS61347-2-13
		CE	Australia	EN61347-1, EN61347-2-13, EN62493
		KC	Europe	KC61347-1 KC61347-2-13
		UKCA	CB Member States	BS EN61347-1, BS EN61347-2-13, BS EN62493
		ENEC	Russia	EN61347-1, EN61347-2-13, EN62384
	BIS	India	IS 15885(PART 2/SEC 13)	
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		RCM	Australia	EN IEC 55015, EN IEC 61000-3-2, EN61000-3-3
		UKCA	Europe	BS EN61347-1, BS EN61347-2-13, BS EN62493
		KC	Korea	KS C 9815, KS C 9547
		CE	European Union	EN IEC 55015, EN IEC 61000-3-2, EN61000-3-3
		EAC	Russia	IEC 62493 IEC 61547 EH 55015 IEC 61000-3-2, IEC 61000-3-3
BIS		India	IS 15885(PART 2/SEC 13)	
EMC Immunity	EN 61000-4-2,3,4,5,6,8,11, EN 61547			
<b>ErP</b>	Standby power consumption	No standby mode	No standby mode	
		Networked standby	< 0.5W	
		No-load power consumption	< 0.5W	
	Flicker/Stroboscopic Effect	IEEE 1789	Meet IEEE 1789 standard/High frequency exemption level	
		CIE SVM	Pst LM≤1.0, SVM≤0.4	
DF	Phase factor	DF≥0.9		
<b>OTHERS</b>	Weight(N.W.)	80±10g		
	Dimensions	110×35×20mm(L×W×H)		

## LED Current Selection

DIP switch quickly selects 8-gear current value

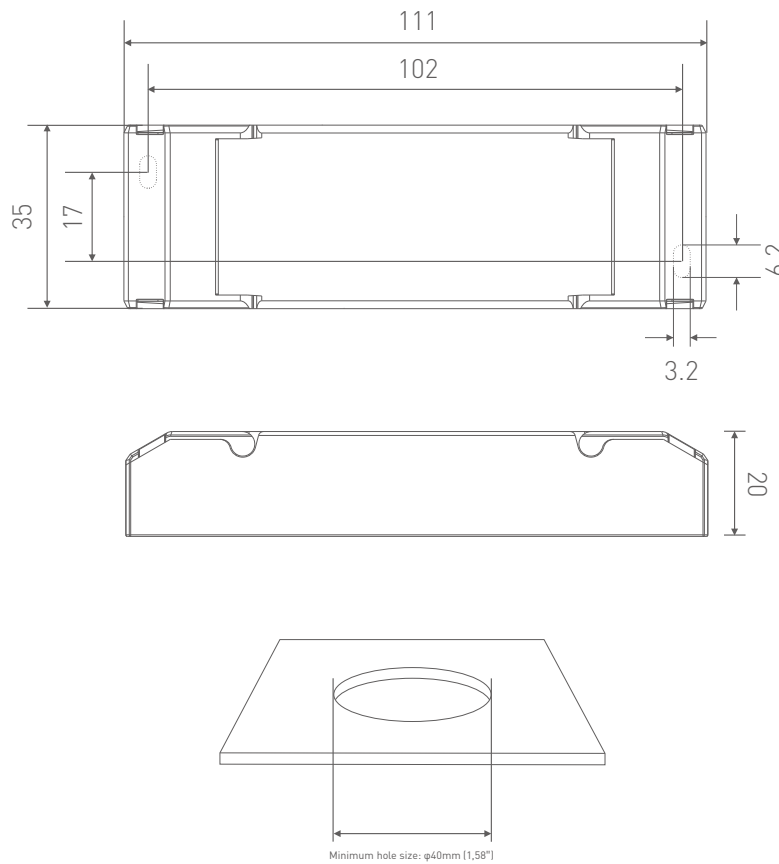


SE-12-100-450-W1D	DIP Switch								
	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	
Output Voltage	9-42V	9-42V	9-42V	9-42V	9-40V	9-34V	9-30V	9-27V	
Output Power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W	3.15-11.9W	3.6-12W	4.05-12.15W	

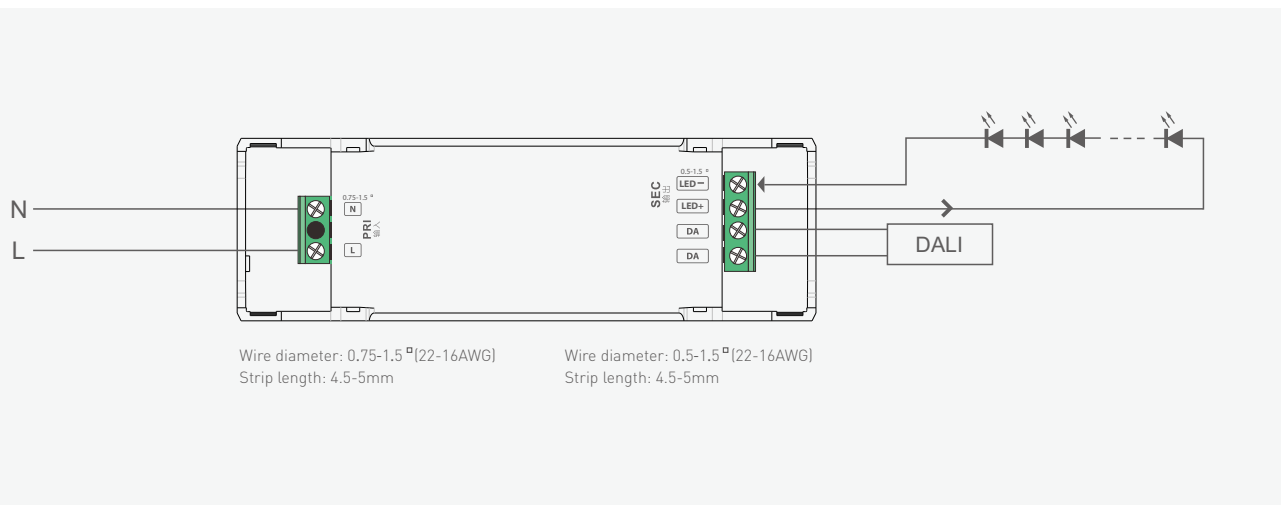
- \* After setting the current via DIP switches, power off and then power on the driver to make the new current setting effective.
- \* E.g. LED 3V/pcs: 9-42V can power 3-14pcs LEDs in series, 9-21.5V can power 3-7pcs LEDs, the max quantity of LEDs in series will be subject to the actual voltage of LEDs.

## Product Size

Unit: mm



## Wiring Diagram

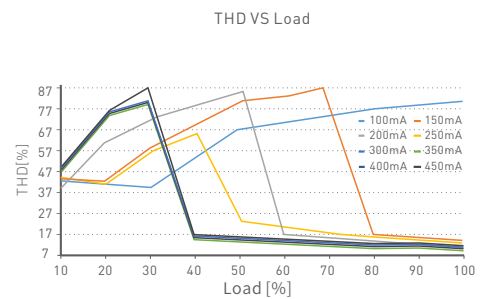
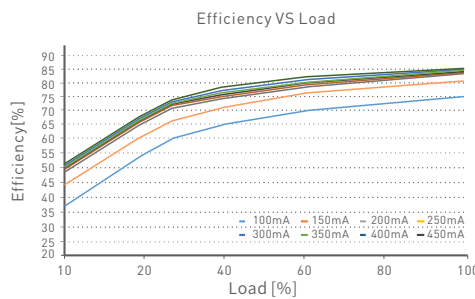
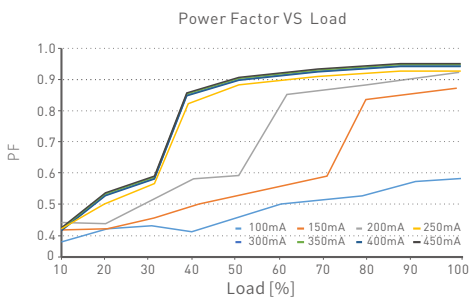


## Protective Housing Application Diagram



1. Use a tool to pry up the protective housing on the side panel.
2. Pry up the protective housing in the side plate position with a tool.
3. Connect to electrical wires with a screwdriver as wiring diagram shows.
4. Press down the tension plate to fix the the electrical wires.
5. Close the protective housing.

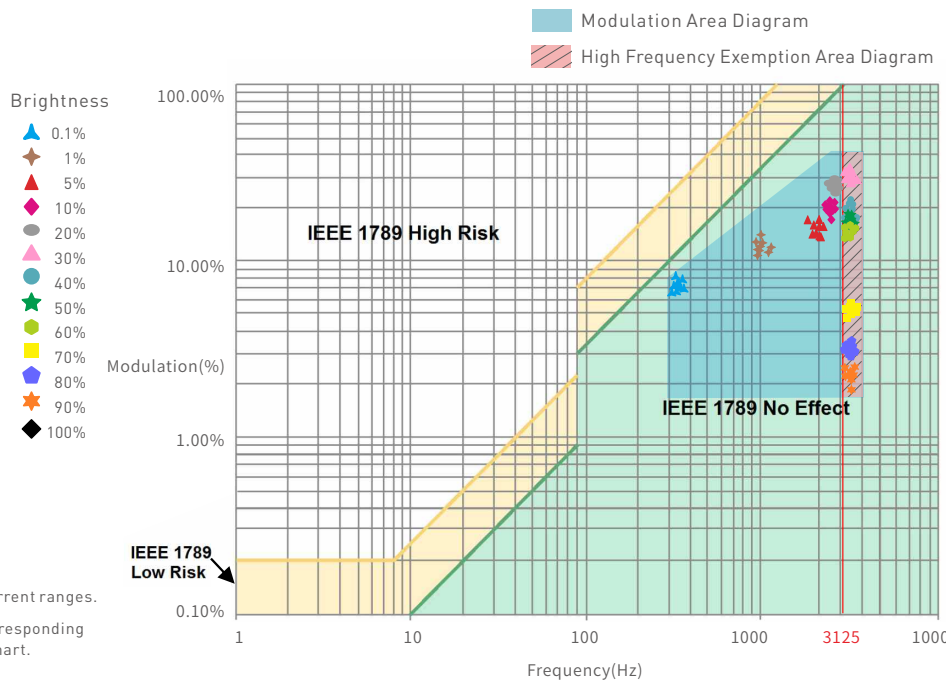
## Relationship Diagrams



## 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]



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.

Packaging Specifications

Model	SE-12-100-450-W1D
Carton Dimensions	260×235×195mm(L×W×H)
Quantity	20 PCS/Layer; 5 Layers/Carton; 100 PCS/Carton
Weight	0.077kg/PC; 15.75kg±5%/Carton

Packaging Image



Inner Packaging Box



Carton Packaging

## Transportation and Storage

### 1. Transportation

Products can be shipped via vehicles, boats and planes.

During transportation, products should be protected from rain and sun. Please avoid severe shock and vibration during the loading and unloading process.

### 2. Storage

The storage conditions should comply with the Class I Environmental Standards. The products that have been stored for more than six months are recommended to be re-inspected and can be used only after they have been qualified.

## Attentions

- This product must be installed and adjusted by a qualified professional.
- This product is 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 life the product. Please install the product in a environment with good ventilation.
- When you install this product, please avoid being near a large area of metal objects or stacking them to prevent signal interference.
- Please keep the product away from a intense magnetic field, a high pressure area or a place where lightning is easy to occur.
- Please check whether the working voltage used complies with the parameter requirements of the product.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection that may cause a short circuit and damage the components, or trigger a accident.
- If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

\* 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
A0	2022.11.26	Original version	Yang Weiling