

Intelligent LED Driver (Constant Current)

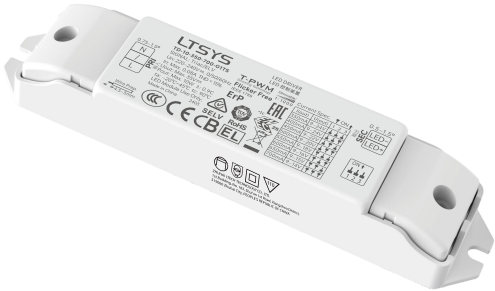
- Small size and light weight. The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO.
- Support Leading edge(Triac), Trailing edge(ELV).
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- T-PWM™ dimming technology allows continuous and flicker-free images under high-speed photography.
- Dimming from 0~100%, down to 0.1%.
- The whole dimming process is flicker-free with high frequency exemption level.
- Multiple current levels and wide voltage range. Suitable for different power of LEDs.
- Class 2 LED driver, Safety Extra Low Voltage (SELV).
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, 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).

0~100% Diming

T-PWM™
Dimming Technology

Flicker Free
IEEE 1789

Dimmable:
1 : 1000



Triac
ELV

T-PWM™
Dimming Technology

Flicker Free
IEEE 1789

Multiple
Current

Short Circuit
Protection

Over Load
Protection

Overheat
Protection

Technical Specs

Model		TD-10-100-450-G1TS		TD-10-350-700-G1TS		TD-10-650-1000-G1TS	
Features	Output Type	Constant Current					
	Dimming Interface	Triac/ELV					
	Output Feature	Isolation					
	Protection Grade	IP20					
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)					
OUTPUT	Output Voltage	≤54Vdc			≤35Vdc		≤22Vdc
	Output Voltage Range	9-42Vdc			9-24Vdc		2-12Vdc
	Output Current	100-450mA			350-700mA		650-1000mA
	Output Power	Max. 10W					
	Output Power Range	0.9-10W			3.15-10W		1.3-10W
	Dimming Range	0~100%, down to 0.1%					
	LF Current Ripple	<3%					
	Current Accuracy	±5%					
INPUT	PWM Frequency	≤3600Hz					
	DC Voltage Range	200-280Vdc (Dimming is not available)					
	AC Voltage Range	220-240Vac					
	Rated Voltage	230Vac					
	Frequency	0/50/60Hz					
	Input Current	≤0.08A/230Vac				≤0.12A/230Vac	
	Power Factor	PF>0.9/230Vac, at full load					
	Efficiency (Typ.)	THD<15%@230Vac, at full load				THD<18%@230Vac, at full load	
	Efficiency (Typ.)	>78%@250mA			>76%@400mA		>75%@900mA
Inrush Current	Cold start 10A@230Vac (Test twidth=300us tested under 50% Ipeak)						
Anti Surge	L-N: 1KV						
Leakage Current	Max. 0.5mA						
ENVIRONMENT	Working Temperature	ta: -20 ~ 45°C tc: 90°C					
	Working Humidity	20 ~ 95%RH, non-condensing					
	Storage Temperature/Humidity	-40 ~ 80°C/10~95%RH					
	Temperature Coefficient	±0.03%/°C (-20~45°C)					
	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively					
PROTECTION	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					
SAFETY & EMC	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, GB19510.213			
		CE	European Union	EN 61347-1, EN 61347-2-13, EN 62493			
		TUV	Germany	EN 61347-1, EN 61347-2-13, EN 62493			
		ENEC	Europe	EN 61347-1, EN 61347-2-13, EN 62384			
		CB	CB Member States	IEC 61347-1, IEC 61347-2-13			
		RCM	Australia	AS/NZS 61347.1, AS 61347.2.13			
	EMC Emission	EAC	Russia	IEC 61347-1, IEC 61347-2-13			
		CCC	China	GB/T 17743, GB 17625.1			
		CE	European Union	EN IEC 55015, EN IEC 61000-3-2, EN 61000-3-3			
		RCM	Australia	EN IEC 55015, EN IEC 61000-3-2, EN 61000-3-3			
	EMC Immunity	EAC	Russia	IEC 62493, IEC 61547, EH 55015, IEC 61000-3-2, IEC 61000-3-3			
EN 61000-4-2,3,4,5,6,8,11, EN 61547							
ErP	Power Consumption	Standby power consumption		No standby mode			
		Networked standby		No networked standby mode (No Phase-cut signal, no power consumption)			
		No-load power consumption		Without no-load mode			
	Flicker/Stroboscopic Effect	IEEE 1789		Meet IEEE 1789 standard/High frequency exemption level			
		CIE SVM		Pst LM≤1.0, SVM≤0.4			
OTHERS	DF	Phase factor		DF≥0.9			
	Life Time	50000 hours					
	Warranty	5 years					

LED Current Selection

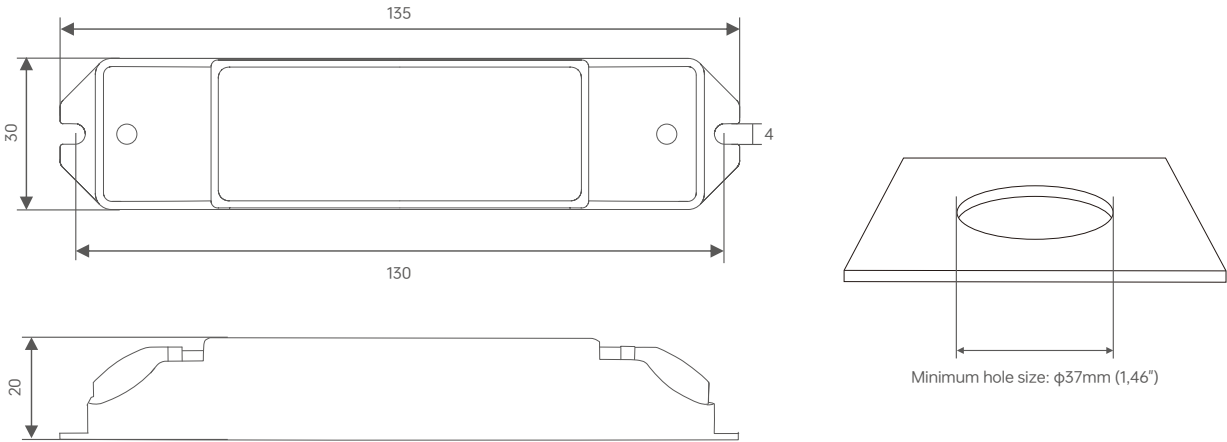
8 current levels are optional by DIP switch setting

DIP Switch										 ON OFF
TD-10-100-450-G1TS	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA	
	Output Voltage	9-42V	9-42V	9-42V	9-40V	9-33V	9-28V	9-25V	9-22V	
	Output Power	0.9-4.2W	1.4-6.3W	1.8-8.4W	2.3-10W	2.7-9.9W	3.2-9.8W	3.6-10W	4.1-9.9W	
TD-10-350-700-G1TS	Output Current	350mA	400mA	450mA	500mA	550mA	600mA	650mA	700mA	
	Output Voltage	9-24V	9-24V	9-22V	9-20V	9-18V	9-16V	9-15V	9-14V	
	Output Power	3.15-8.4W	3.6-9.6W	4.05-9.9W	4.5-10W	4.95-9.9W	5.4-9.6W	5.85-9.8W	6.3-9.8W	
TD-10-650-1000-G1TS	Output Current	650mA	700mA	750mA	800mA	850mA	900mA	950mA	1000mA	
	Output Voltage	2-12V	2-12V	2-12V	2-12V	2-12V	2-12V	2-12V	2-12V	
	Output Power	1.3-7.8W	0.4-8.4W	1.5-9W	1.6-9.6W	1.7-9.35W	1.8-9.9W	1.9-9.5W	2-10W	

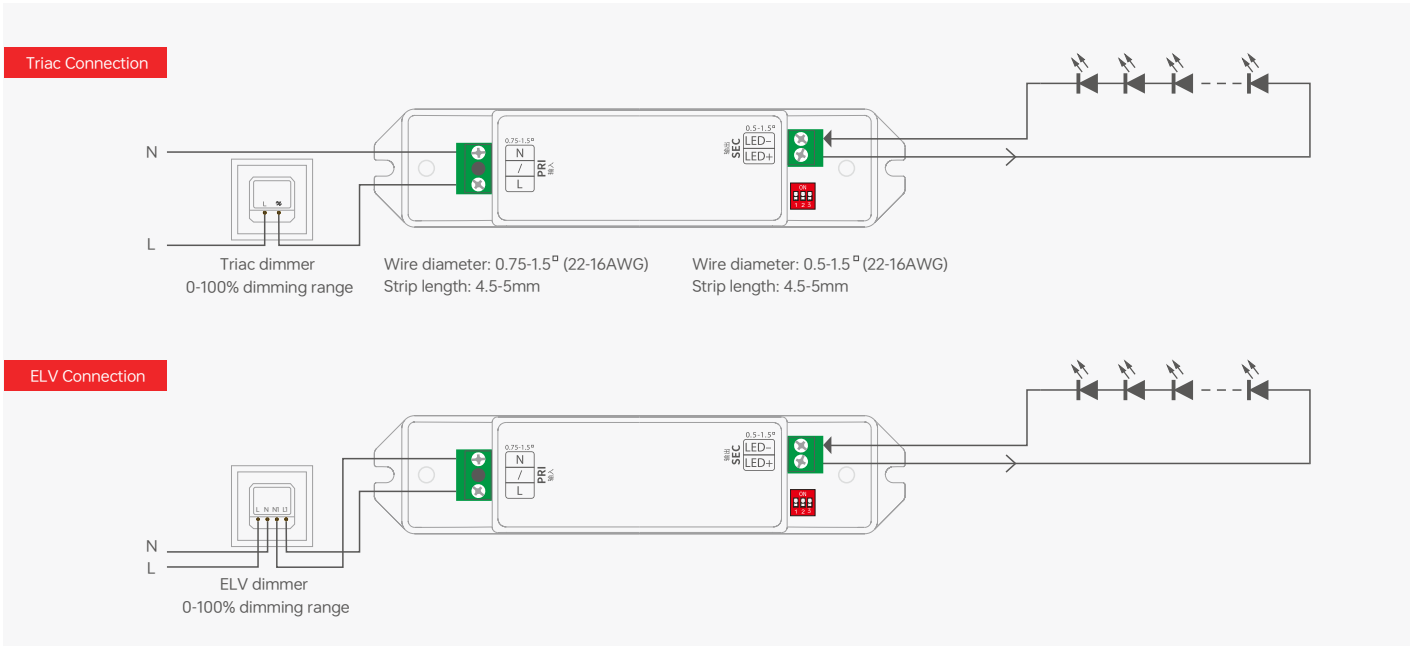
- ★ After setting the current via DIP switches, power off and then power on the driver to make the new current setting effective.
- ★ E.g. LED 3.2V/pcs: 3-24V can power 1-7pcs LEDs in series, 3-14V can power 1-4pcs LEDs, the max quantity of LEDs in series will be subject to the actual voltage of LEDs.

Product Size

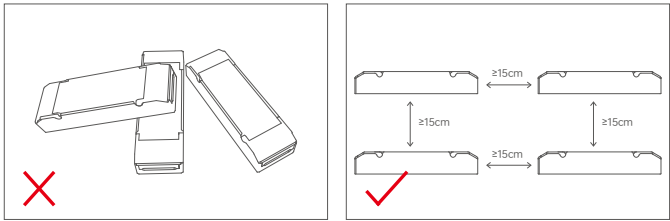
Unit: mm



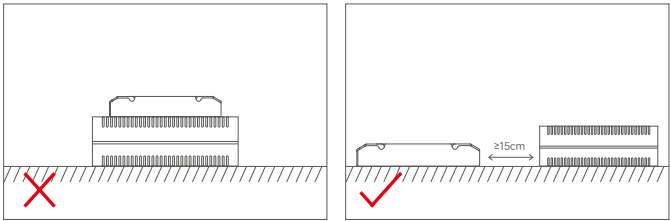
Wiring Diagram



Installation Precautions

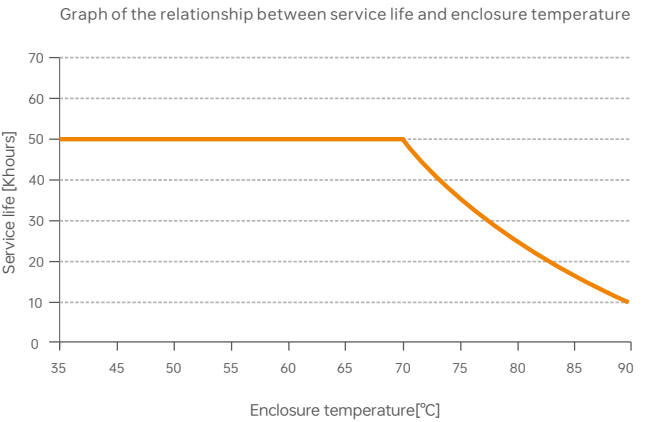
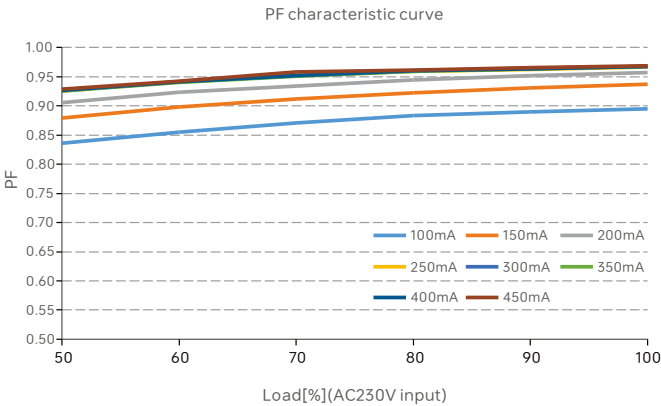
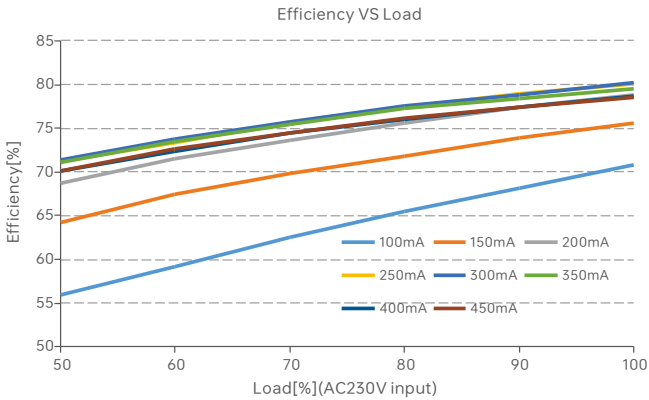
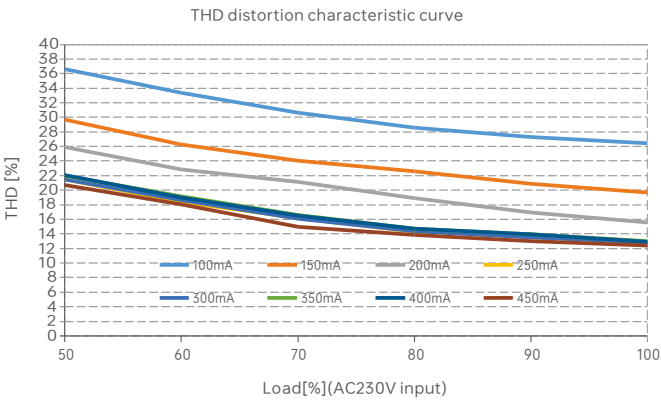


Please do not stack the products. The distance between two products should be $\geq 15\text{cm}$ so as not to affect heat dissipation and the lifespan of the products.

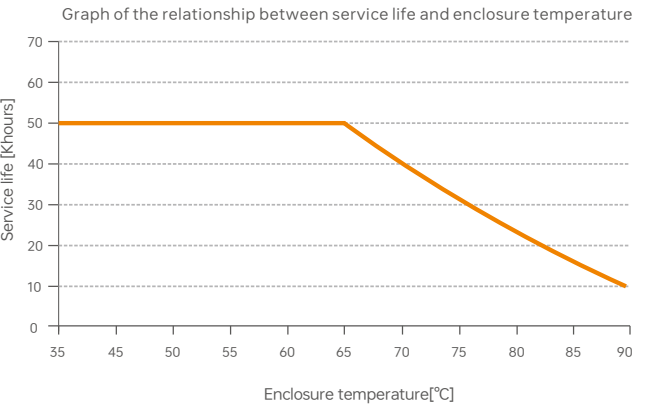
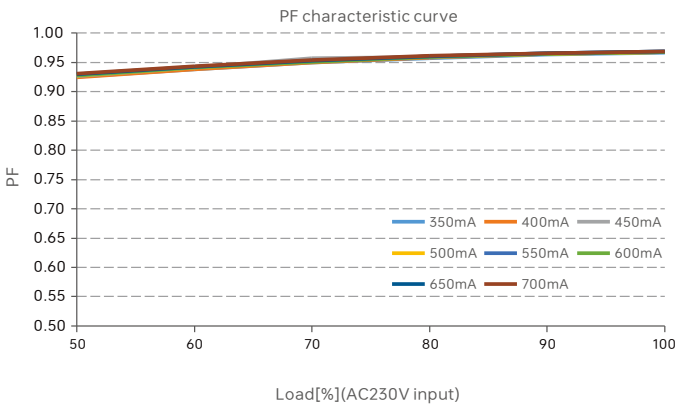
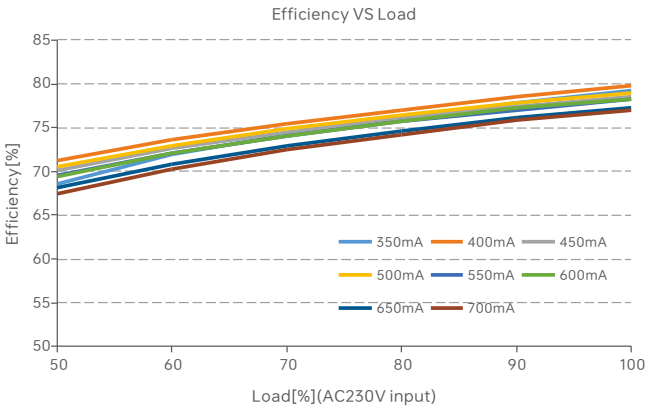
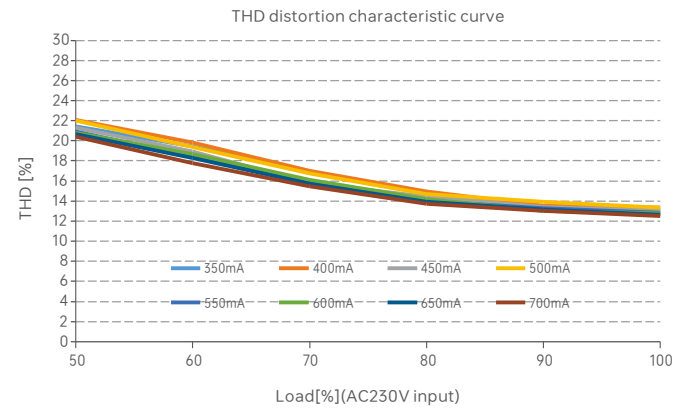


Please not place the products on LED drivers. The distance between the product and the driver should be $\geq 15\text{cm}$ so as not to affect heat dissipation and shorten the lifespan of the products.

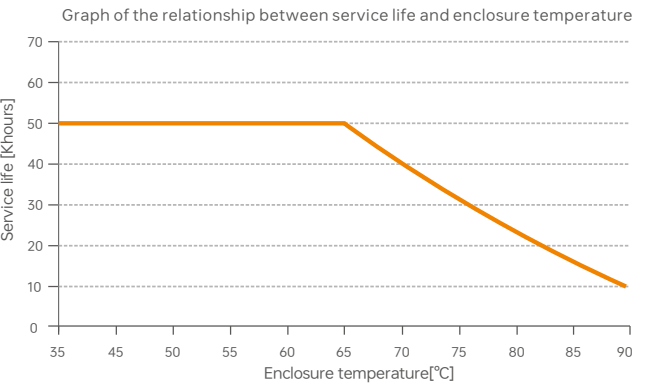
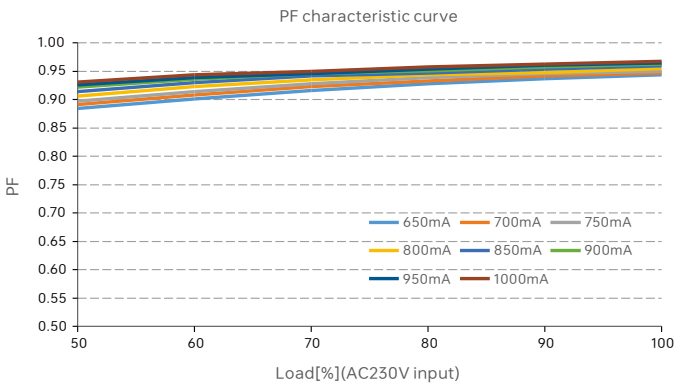
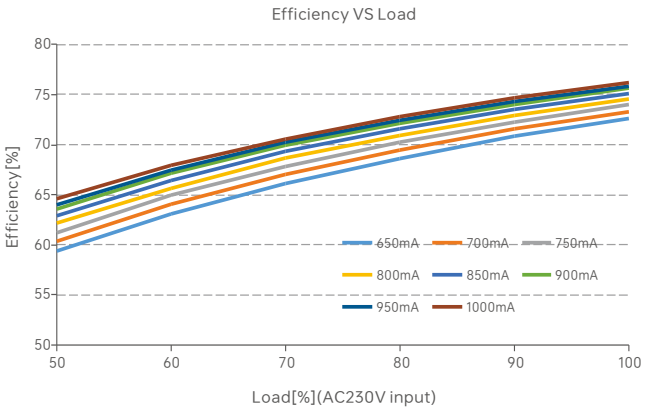
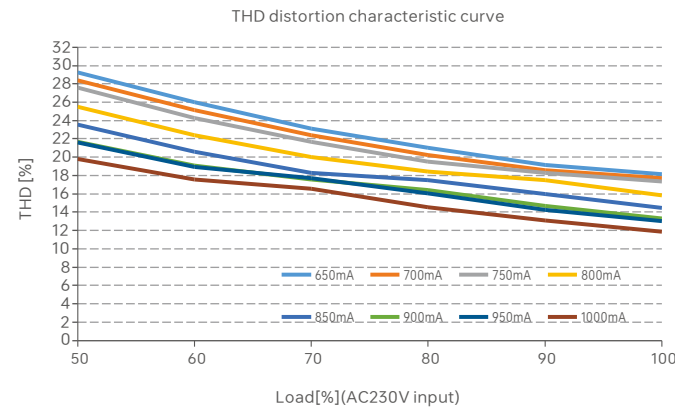
Relationship Diagrams



TD-10-100-450-G1TS

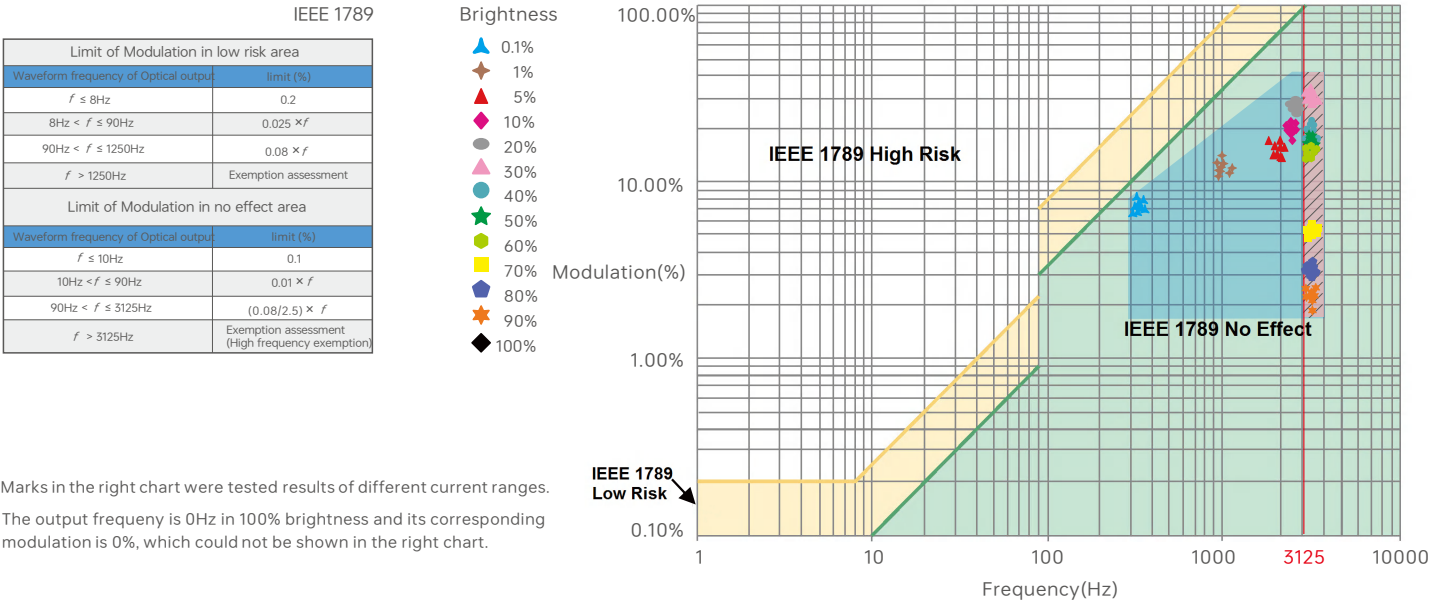


TD-10-350-700-G1TS



TD-10-650-1000-G1TS

Flicker Test Form



Packaging Specifications

Model	TD-10-100-450-G1TS / TD-10-350-700-G1TS / TD-10-650-1000-G1TS
Carton Dimensions	350×285×180mm(L×W×H)
Quantity	30 PCS/Layer; 5 Layers/Carton; 150 PCS/Carton
Weight	0.08 kg/PC; 12.8 kg/Carton

Packaging Image



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.
 - 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 aaccident.
 - 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	2024.11.01	Original version	Li Haipeng
A1	20260119	Update certification-related labels	HaipengLi

LED智能调光驱动器 (恒流型)

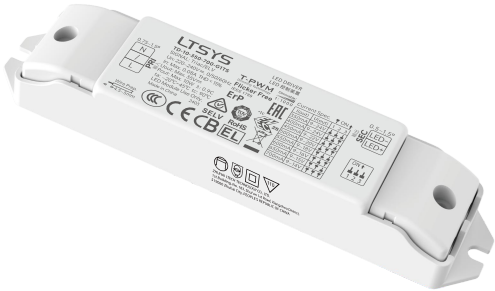
- 体积小、重量轻；外壳采用科思创/三星PC阻燃V0级原料
- 前沿(Triac)，后沿(ELV)切相调光
- 带软启动渐亮功能，让人眼视觉更舒服
- T-PWM 超深度调光技术，呈现高级感
- 0-100%全程调光无可视频闪, 高频豁免考核级别
- 调光范围0~100%，LED从0.1%开始调光
- 多电流、宽电压，适用不同功率的LED
- 创新的热管理技术, 智能保护电源寿命
- 短路、过温、过载, 可自动恢复
- 常规使用下寿命可达5万小时
- 5年保修期 (采用红宝石电容)



T-PWM
超深度调光技术

无频闪
IEEE 1789
高频豁免考核级别

Dimmable:
1:1000



Triac
ELV

T-PWM™
超深度调光技术

无频闪
IEEE 1789

ON
1 2 3
多电流

过温保护

短路保护

过载保护

技术参数

型号		TD-10-100-450-G1TS		TD-10-350-700-G1TS	TD-10-650-1000-G1TS
特征	输出类型	恒流			
	调光接口	Triac/ELV			
	输出特征	隔离			
	防护等级	IP20			
	绝缘等级	II 类 (适用于室内 I、II、III类灯具)			
输出	最大输出电压	≤54Vdc		≤35Vdc	≤22Vdc
	输出电压范围	9-42Vdc		9-24Vdc	2-12Vdc
	工作电流范围	100-450mA		350-700mA	650-1000mA
	输出功率	Max. 10W			
	负载功率范围	0.9-10W		3.15-10W	1.3-10W
	调光范围	0~100%，调光深度: Max. 0.1%			
	低频电流纹波	<3%			
	电流精度	±5%			
	PWM调光频率	≤3600Hz			
输入	直流电压范围	200-280Vdc (调光不可用)			
	交流电压范围	220-240Vac			
	额定电压	230Vac			
	频率范围	0/50/60Hz			
	输入电流	≤0.08A/230Vac			
	功率因数	PF>0.9/230Vac (满载)			
	谐波THD	THD<15%@230Vac (满载)		THD<15%@230Vac (满载)	THD<18%@230Vac (满载)
	效率(Typ.)	>78%@250mA		>76%@400mA	>75%@900mA
	浪涌电流	冷启动10A (在50%Ipeak下测试twidth=300us)@230Vac			
	抗浪涌	L-N: 1KV			
环境	漏电流	Max. 0.5mA			
	工作温度	ta: -20°C ~ 45°C tc: 90°C			
	工作湿度	20 ~ 95%RH, 无冷凝			
	储存温度/湿度	-40 ~ 80°C/10~95%RH			
	温度系数	±0.03%/°C(-20°C~45°C)			
保护	耐振动	10-500HZ, 2G 12分钟/周期, X,Y,Z轴各72分钟			
	过载保护	负载超过额定功率≥1.02-1.35倍时自动保护, 减轻负载自动恢复			
	过温保护	根据PCB温度超标情况(≥110°C), 智能调节电流输出或关闭, 后可自动恢复。PCB温度<90°C时, 自动恢复正常输出			
	短路保护	输出线路短路自动关闭, 可自动恢复			
安规和电磁规格	耐压	输入对输出: 3750Vac			
	绝缘阻抗	输入对输出: 100MΩ/500VDC/25°C/70%RH			
	安全规范	CCC	中国	GB19510.1, GB19510.14, GB19510.213	
		CE	欧盟	EN 61347-1, EN 61347-2-13, EN 62493	
		TUV	德国	EN 61347-1, EN 61347-2-13, EN 62493	
		ENEC	欧洲	EN 61347-1, EN 61347-2-13, EN 62384	
		CB	CB成员国	IEC 61347-1, IEC 61347-2-13	
		RCM	澳洲	AS/NZS 61347.1, AS 61347.2.13	
	电磁兼容发射	EAC	俄罗斯	IEC 61347-1, IEC 61347-2-13	
		CCC	中国	GB/T 17743, GB 17625.1	
		CE	欧盟	EN IEC 55015, EN IEC 61000-3-2, EN 61000-3-3	
		RCM	澳洲	EN IEC 55015, EN IEC 61000-3-2, EN 61000-3-3	
		EAC	俄罗斯	IEC 62493, IEC 61547, EH 55015, IEC 61000-3-2, IEC 61000-3-3	
	电磁兼容抗扰度	EN 61000-4-2,3,4,5,6,8,11, EN 61547			
ErP	功耗	待机功耗	无待机模式		
		网络待机功耗	无网络待机功耗 (可控硅信号为0时, 电源功耗为0)		
		空载功耗	无空载模式		
	频闪/频闪效应	IEEE 1789	满足无影响/高频豁免考核级别		
		CIE SVM	Pst LM≤1.0, SVM≤0.4		
	DF	相位因素	DF≥0.9		
其他	寿命	50,000小时			
	质保	5年			

LED电流选择

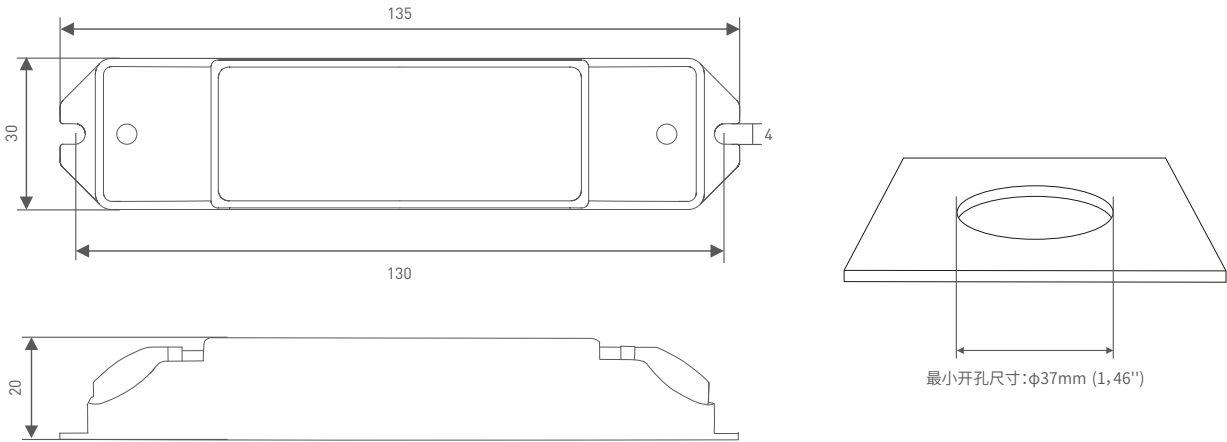
DIP开关快速选择 8 档电流值

DIP开关										
TD-10-100-450-G1TS	电流输出	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA	
	电压输出	9-42V	9-42V	9-42V	9-40V	9-33V	9-28V	9-25V	9-22V	ON OFF
	功率输出	0.9-4.2W	1.4-6.3W	1.8-8.4W	2.3-10W	2.7-9.9W	3.2-9.8W	3.6-10W	4.1-9.9W	
TD-10-350-700-G1TS	电流输出	350mA	400mA	450mA	500mA	550mA	600mA	650mA	700mA	
	电压输出	9-24V	9-24V	9-22V	9-20V	9-18V	9-16V	9-15V	9-14V	
	功率输出	3.15-8.4W	3.6-9.6W	4.05-9.9W	4.5-10W	4.95-9.9W	5.4-9.6W	5.85-9.8W	6.3-9.8W	
TD-10-650-1000-G1TS	电流输出	650mA	700mA	750mA	800mA	850mA	900mA	950mA	1000mA	
	电压输出	2-12V	2-12V	2-12V	2-12V	2-11V	2-11V	2-10V	2-10V	
	功率输出	1.3-7.8W	0.4-8.4W	1.5-9W	1.6-9.6W	1.7-9.35W	1.8-9.9W	1.9-9.5W	2-10W	

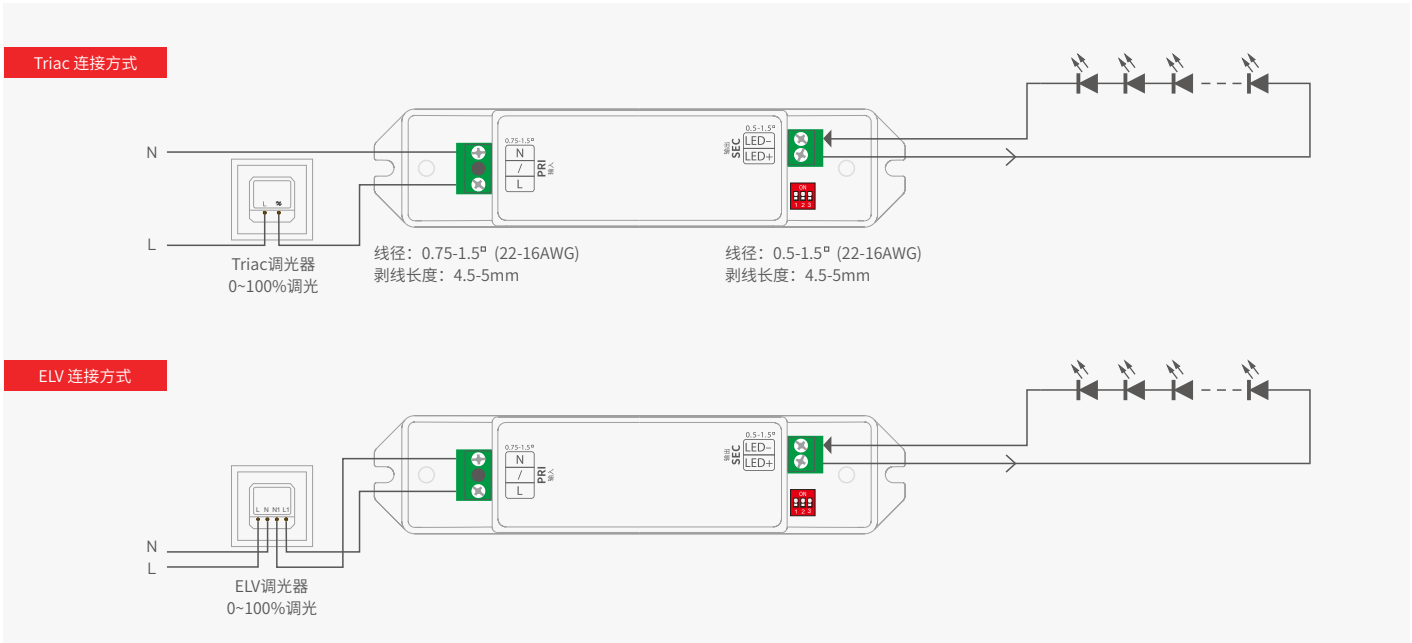
- * DIP开关设置不同的电流后，需要断电后再通电，这样新设置的电流才有效。
- * 假设LED的电压是3.2V/颗：电源3-24V的输出电压范围可串联1-7颗LED，3-14V的输出电压范围可串联1-4颗LED，最大串联数量以LED实际电压为准。

尺寸图

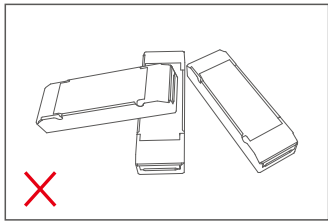
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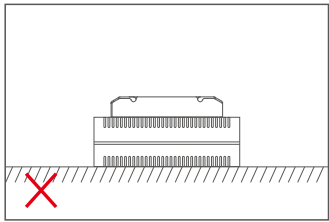
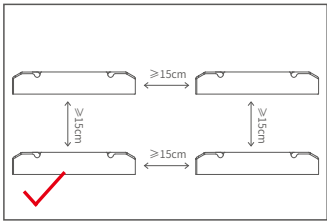
连接应用图



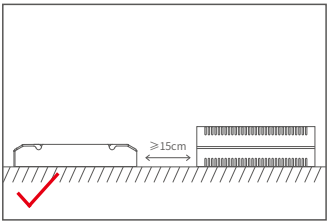
安装注意事项



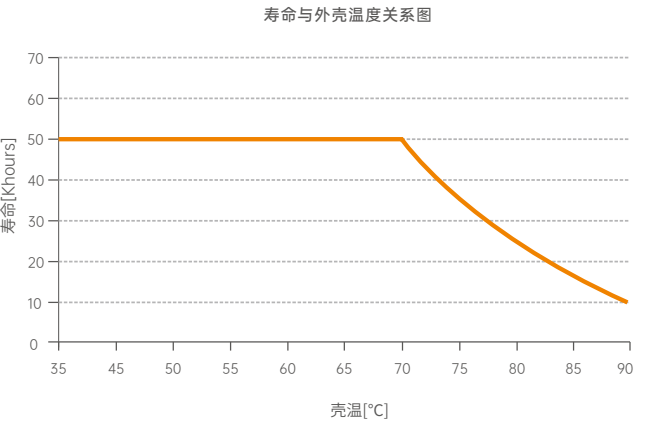
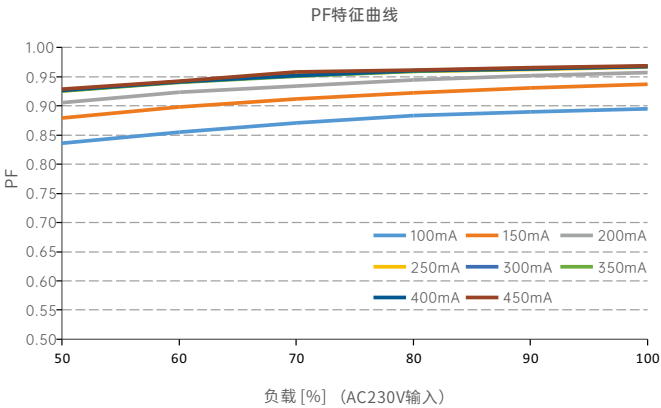
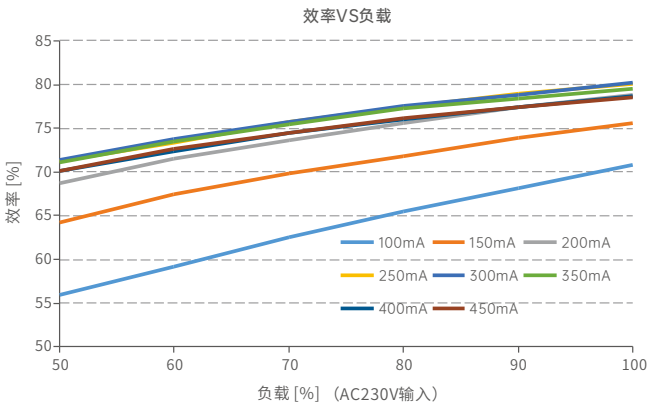
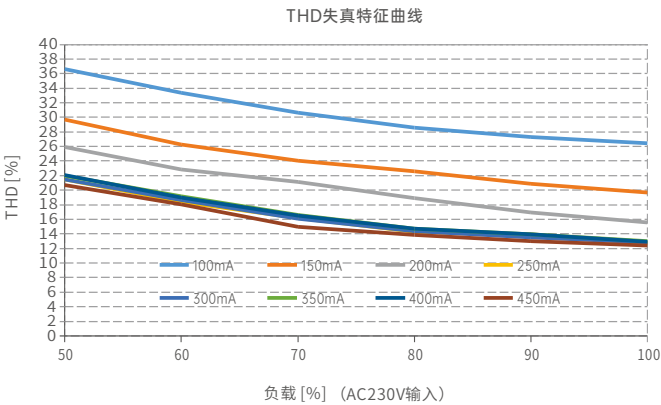
请勿将产品堆叠摆放，产品与产品间隔距离应≥15cm，避免影响产品散热和使用寿命。



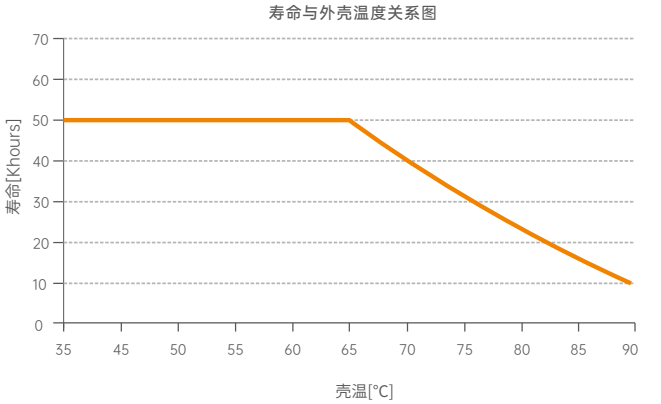
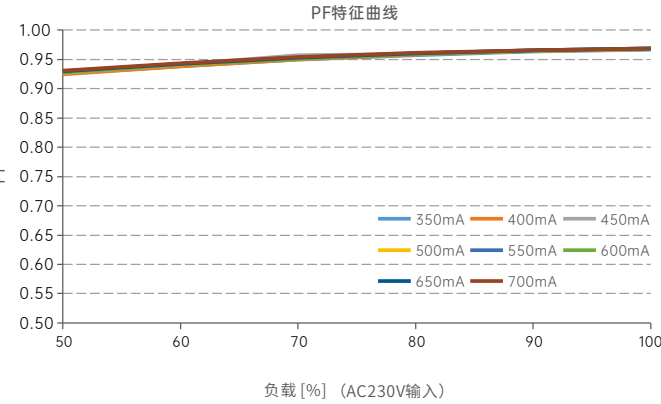
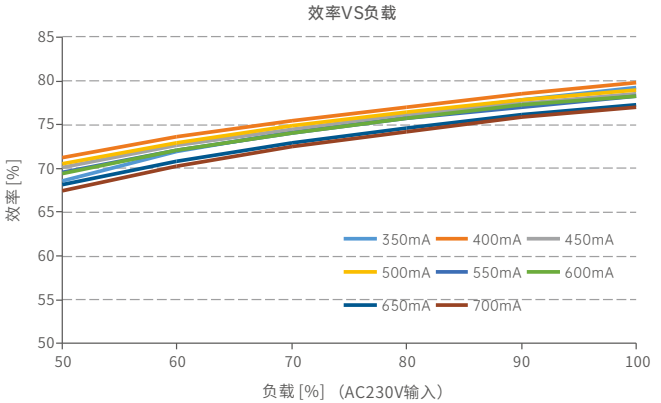
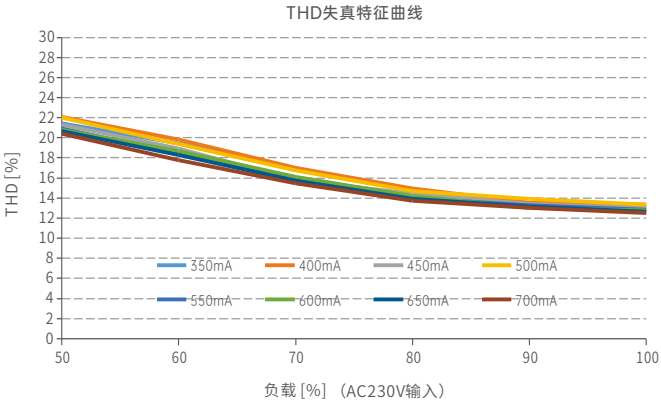
请勿将产品置于电源上方，与电源间隔距离应≥15cm，避免影响产品散热而减少使用寿命。



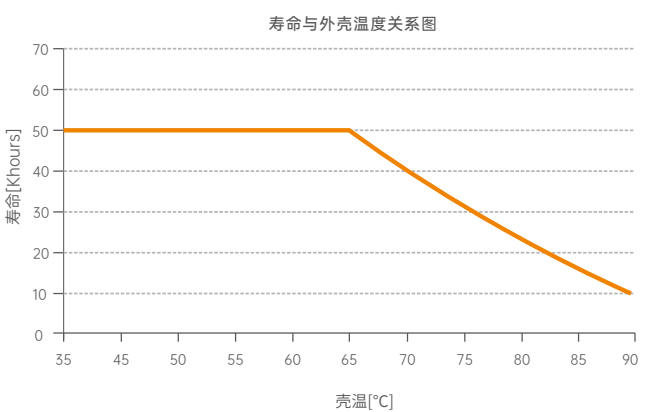
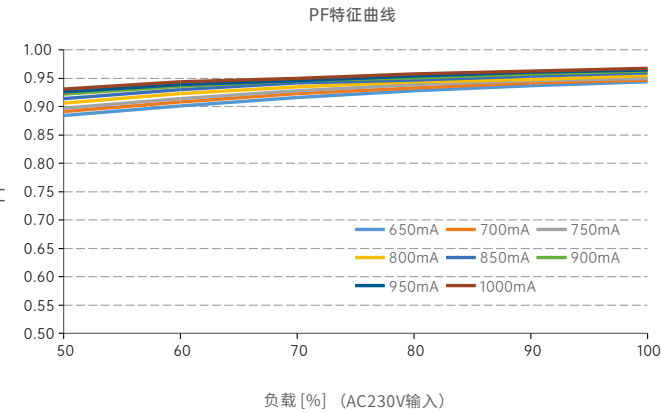
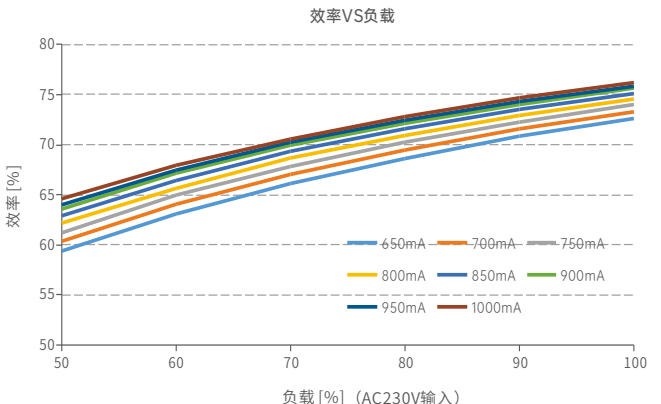
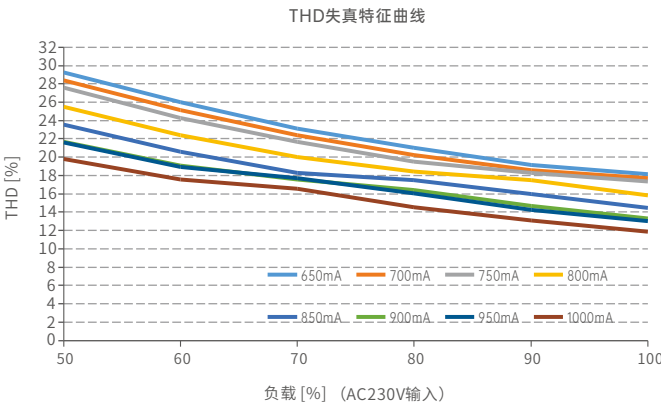
关系图表



TD-10-100-450-G1TS

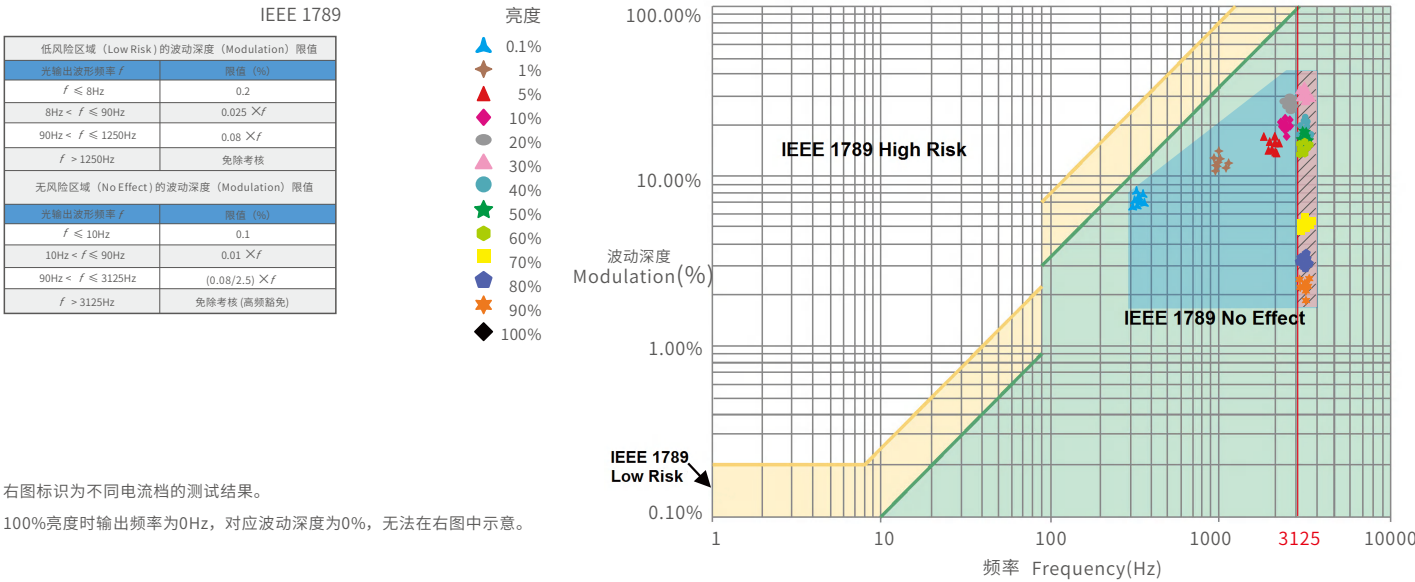


TD-10-350-700-G1TS



TD-10-650-1000-G1TS

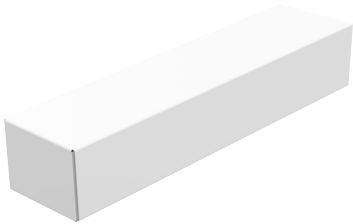
频闪测试表



包装规格

型号	TD-10-100-450-G1TS / TD-10-350-700-G1TS / TD-10-650-1000-G1TS
包装箱尺寸	350×285×180mm(L×W×H)
数量	30PCS/层; 5层/箱; 150PCS/箱
重量	0.08kg/PC; 12.8kg/箱

包装样式图



内包装盒



整箱包装

运输和贮存

1. 运输
- 产品适用车、船、飞机交通运输工具运输。
- 在运输中，应使用遮蓬进行防雨和防晒，并保持文明装卸，不应有剧烈振动、撞击等。
2. 贮存
- 贮存符合I类环境的规定。贮存期限超过6个月的产品建议重新检验，合格后方可使用。

注意事项

- 本产品请由具有专业资格的人员进行调试安装；
 - 本产品(专有型号除外)不能防水，需避免日晒雨淋。如安装在户外，请使用防水箱；
 - 良好的散热条件会延长产品的使用寿命，请把产品安装在通风良好的环境；
 - 请检查使用的工作电压是否符合产品的参数要求；
 - 通电调试前，确保所有接线正确且牢固，以免短路损坏部件，触发事故；
 - 如果发生故障，请勿私自维修；如有疑问，请联系供应商。
- ※ 本说明书的内容如有变更，恕不另行通知。若内容与您使用的功能有所不同，则以实物为准。如有疑问，欢迎向我司授权的经销商咨询。

保修条例

- 自出厂之日起保修服务期为5年。
- 在保修服务期内出现产品质量问题雷特将给予免费修理或更换服务。

非保修条例：
属下列情况不在免费保修或更换服务范围之内：

- 已经超出保修服务期；
 - 过高电压、超负载、操作不当等人为造成的损坏；
 - 产品外形严重损坏或变形；
 - 自然灾害以及人力不可抗拒原因造成的损坏；
 - 产品保修标签和产品唯一条形码损坏；
 - 无雷特签订的合同或发票凭证。
1. 修理或更换是雷特对客户的一补救措施。雷特不承担任何附带引起的损害赔偿，除非在适用法律范围之内。
 2. 雷特享有修正或调整本保修条款的权利，并以书面形式发布为准。

更新日志

版本	更改日期	更改内容	更改人
A0	2024.10.30	正稿	黎海鹏
A1	20260119	更新认证相关标识	黎海鹏