

250W Current adjustable Driver

RMS-250-1050 IP67 (0-10) L

Features

- Input voltage range:176-264VAC
- High efficiency up to 94%
- Low THD,10%Max up to 230Vac
- Full Power at Wide Output Current Range (Constant Power)
- 3 In 1 Dimming Function(0-10V/0-100kΩ/PWM)
- All-Around Protection: OVP,SCP,OTP
- Waterproof(IP67) and UL Dry/Damp/Wet Location
- Input Surge Protection:6kV line-line,10kV line-earth
- High Reliability & Long Lifetime & 5 Years Warranty

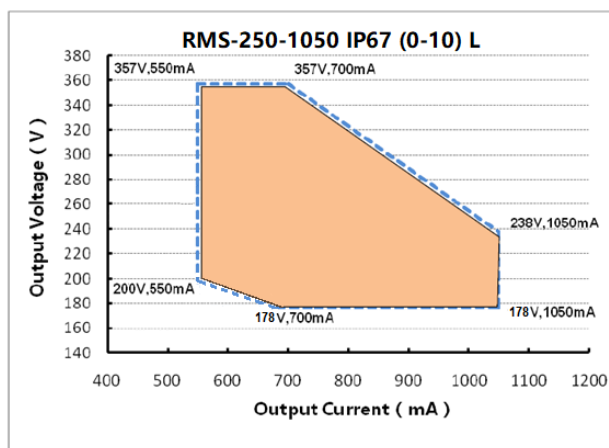
Description

The RMS-250-1050 IP67 (0-10) L series is a 250W, constant-current IP67 LED driver that operates from 176-264Vac input with excellent power factor and THD feature. It is created for high bay, tunnel and street lights. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

Model	Input Voltage Range	Output Current Range	Full-power Current Range (2)	Output Voltage Range	Max output Power	Max Output Voltage	Power Factor	Typical Efficiency
RMS-250-1050 IP67 L	176~264Vac	550~1050mA	700~1050mA	178~357Vdc	250W	420V	0.98	94%
RMS-250-1050 IP67 0-10 L	176~264Vac	550~1050mA	700~1050mA	178~357Vdc	250W	420V	0.98	94%

I-V Operation Area



Note:

1. Test condition: 230Vac/50Hz, at full Load;
2. Output current range with constant power at 250W.

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Input Specifications

Parameter	Min.	Typ.	Max	Notes
Rated Input Voltage	220V	-	240V	Can survive input over-voltage stress of 320VAC for 2 hours
Range of input voltage	176V	-	264V	
Input Frequency	47Hz	-	63Hz	
Leakage Current	-	-	0.7mA	240Vac
Input Current	-	-	1.7A	176Vac, at full load condition
Inrush Current	-	-	65A	230Vac/50Hz, 90° degree phase, full load, cold start, 50%Ipk~50%Ipk, duration≈550μS
No Load Loss	-	-	10W	230Vac/50Hz, no load
Power Factor	0.95	0.98	-	230Vac/50Hz, at full load condition
THD	-	-	10%	230Vac, 100%Load
Surge withstand capability	L-N: 6kV L- PE& N- PE: 10kV			L-N: IEC 61000-4-5 L/N-PE: acc. IEC 61547.

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current				
RMS-250-1050 IP67 L	550mA	-	1050mA	Full-Power Current Range : 700mA-1050mA See I-V Operation Area for the detail
RMS-250-1050 IP67 0-10 L	550mA	-	1050mA	
Output Current Tolerance	-5%	-	5%	At full load condition
Total Output Current Ripple	-	5%	10%	At full load condition, PK-PK
Startup Overshoot Current	-	-	10%	At full load condition
Load Regulation	-5%	-	5%	
Line Regulation	-5%	-	5%	220Vac~240Vac, full load
Startup times	-	0.5S	1S	

Note:

- 1) All parameters NOT specially mentioned are measured at 220Vac input 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 & 47 μF parallel capacitor.

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General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 230Vac input: RMS-250-1050 IP67 L				Measured at full load and steady –state temperature in 25℃ ambient Efficiency will be about 1% lower if measured immediately after startup
I _o =1050mA	92%	93%	-	
I _o =700mA	93%	94%	-	
I _o =550mA	92%	93%	-	
RMS-250-1050 IP67 0-10 L				
I _o =1050mA	92%	93%	-	
I _o =700mA	93%	94%	-	
I _o =550mA	92%	93%	-	
MTBF	-	250,000 Hours	-	Measured at 230Vac input, 100% Load and 25 °C ambient temperature (MIL-HDBK-217F)
Ambient Temperature	-40℃	-	+70℃	Refer to derating curve for the details.
Operating Case Temperature for Safety T _{c_s}	-40℃	-	+90℃	
Operating Case Temperature for Warranty T _{c_w}	-40℃	-	+80℃	Case temperature for 5 years warranty. Humidity: 10% RH to 100% RH.
Lifetime	-	50,000 Hours	-	Measured at 230Vac input, 100%Load and 80℃ case temperature; See lifetime vs. Case Temperature curve for the details
Storage Temperature	-40℃	-	+85℃	Humidity: 5% RH to 100% RH.
Dimensions	243X60X34.6mm			With mounting ear, See Mechanical Outline for the detail
Net Weight	-	950g	-	

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the V _{dim} (+) Pin	-2	-	15V	
Source Current on V _{dim} (+)	90uA	100uA	110uA	Bias current (100uA) and not sink current ability
Dimming Output Range	10%	-	100%	See Dimming Cure for the detail
Recommended Dimming Input Range	0	-	10V	
PWM_in High Level	-	10V	-	10V PWM signal, See Dimming Cure for the detail
PWM_in Low Level	-0.3V	0V	0.6V	
PWM_in Frequency Range	200Hz	-	2KHz	
PWM_in Duty Cycle	2%	-	100%	

Note:

Dimming Specifications only for RMS-250-1050 IP67 0-10 L.

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Safety Standards

Safety Category	Country / Territory	Standards
CE,TUV	Europe	EN61347-1, EN61347-2-13
CCC	China	GB19510.1, GB19510.14

EMC Compliance

EMC Category	Country / Territory	Standards
CE	Europe	EN 55015, EN 61000-3-2, EN 61000-3-3
		EN61000-4-2,3,4,5,6,8,11
		EN 61547
CCC	China	GB 17743, GB 17625.1

Note:

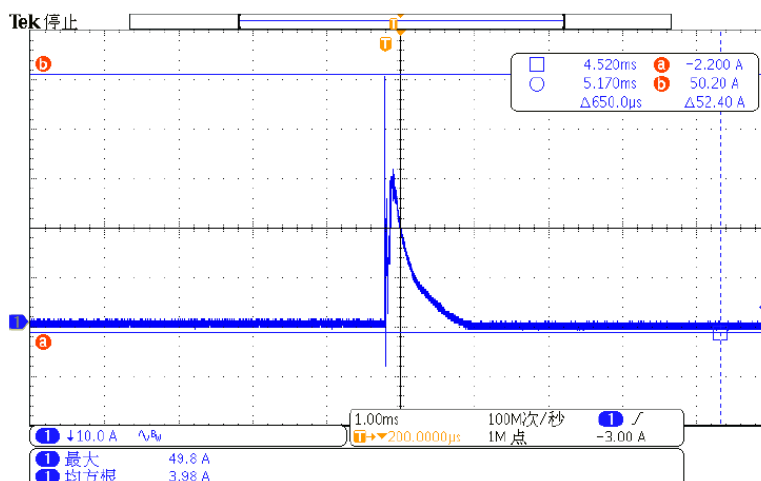
- 1) This LED driver meets the EMI specifications above, but EMI performance of a lighting fixture also depends on the other devices on the fixture.
- 2) To perform electric strength (hi-pot) testing, the "GDT ground disconnect" (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line to earth surge protection and secure the end cap.

Protection Functions

Parameter	Min.	Typ.	Max.	Note
Short Circuit Protection	-	-	-	Hiccup, Auto Recovery
Over Voltage Protection	-	-	420V	Hiccup, Auto Recovery
Over Temperature Protection	-	-	-	Hiccup, Auto Recovery

Curve

▲ Inrush Current Waveform

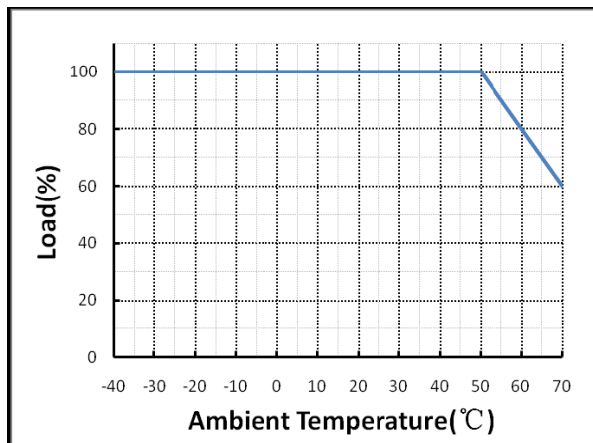


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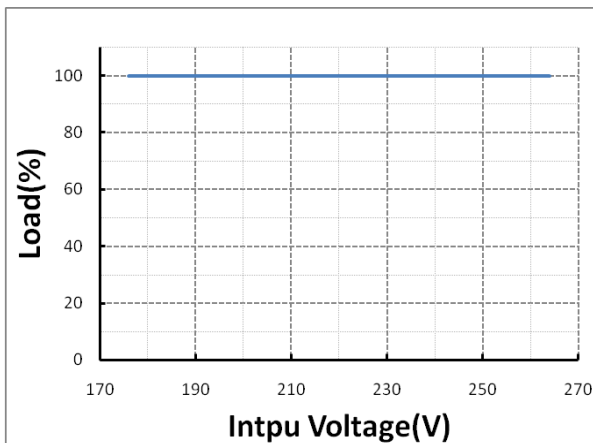
RMS-250-1050 IP67 (0-10) L

▲ Derating

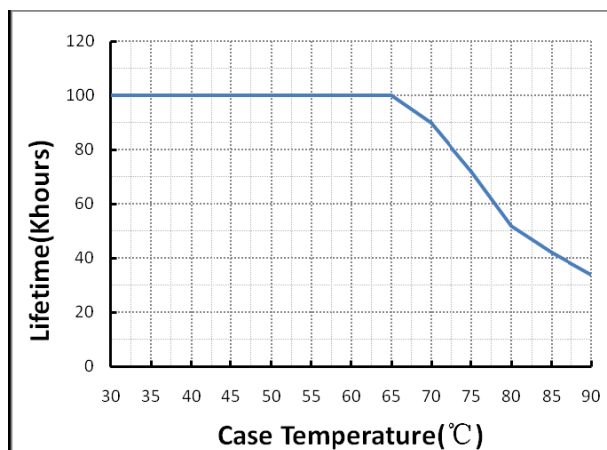
Output Power-Temperature



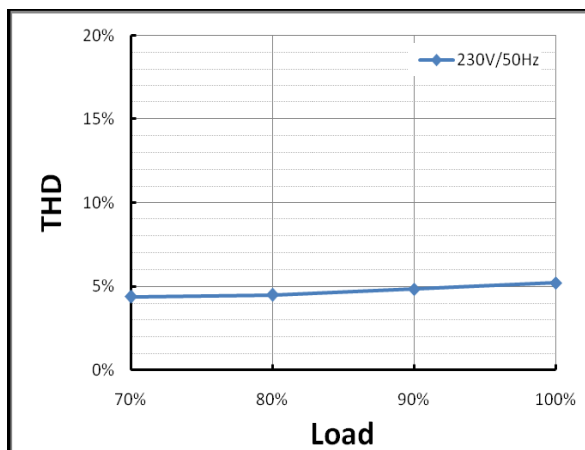
Output Power-Input Voltage



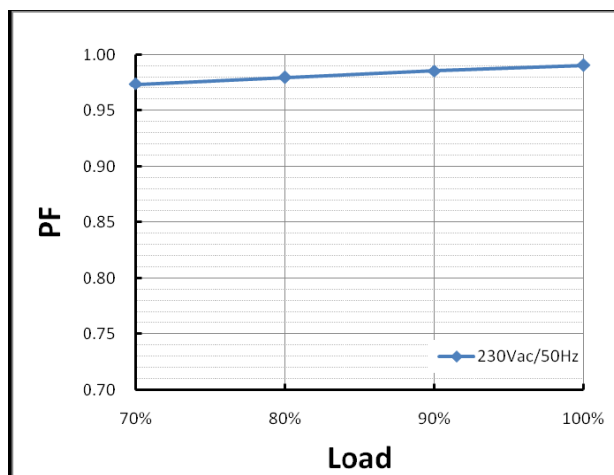
▲ Lifetime



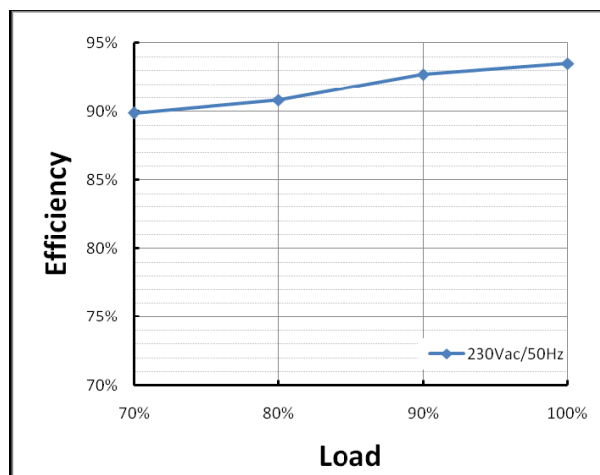
▲ Total Harmonic Distortion



▲ Power Factor



▲ Efficiency



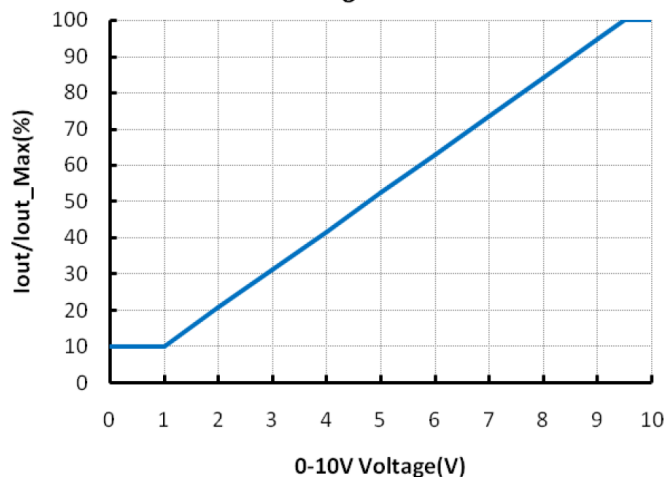
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Dimming

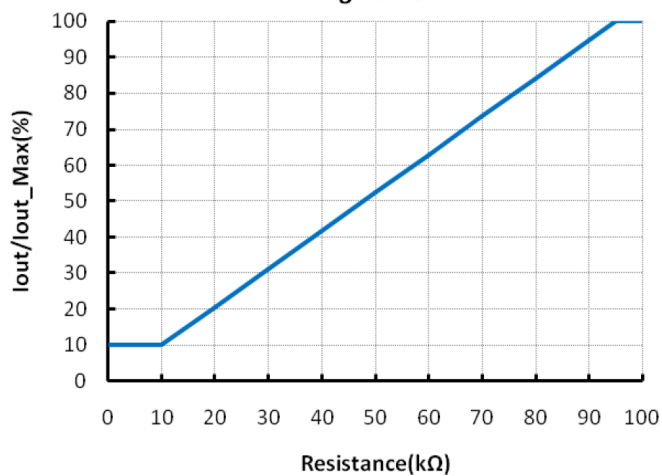
● 0-10V Dimming

Dimming Curve



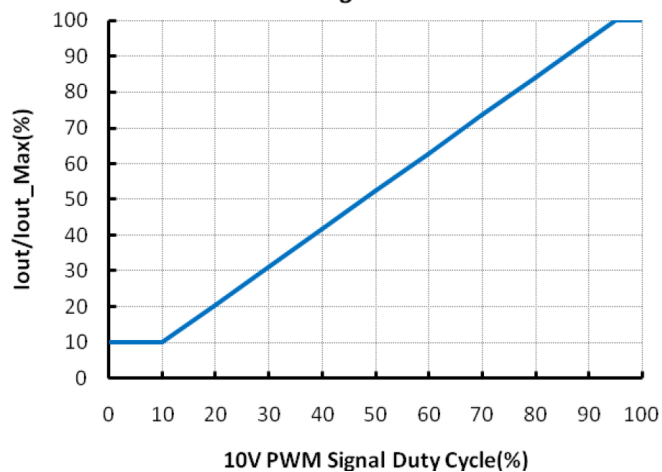
● 100K External Resistor

Dimming Curve



● 10V PWM Signal

Dimming Curve



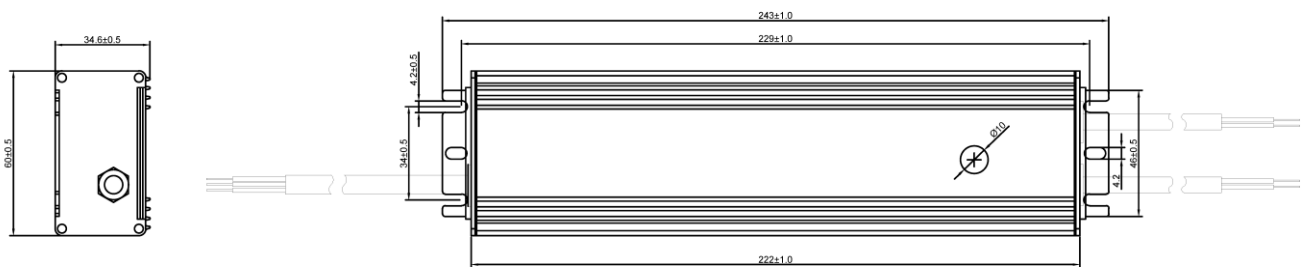
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Notes:

1. It can use 0-10V voltage source or passive component (100K Ω adjustable resistance) instead of dimmer
2. Please do not connect the dimming GND wire to output, it will fail to work.
3. Please disconnected the dimmable positive cable when not using the dimming function.

Mechanical Outline



Note: Wire length of input and output can be changed as customer's requirement

TYPE	Total Length	Outside Color	Inside Wires Color	Wire Model/Diameter
Input wire	0.65M	Black	Brown/Blue/(Yellow/Green)	H05RN-F.3X1.0mm ²
Output wire	0.30M	Black	Brown/Blue	H05RN-F.2X1.0mm ²
Dimming wire	0.30M	Black	Brown/Blue	H05RN-F.2X1.0mm ²