



LED Drivers

Lighting Accessories



SKU: 100339
SKU: 151173



SKU: 100321
SKU: 100354



SKU: 101600
SKU: 101667



SKU: 106096
SKU: 150030



SKU: 105593



SKU: 105601
SKU: 109496



SKU: 150011



SKU: 150836



SKU: 150837
SKU: 151616

Beyond LED Technology carries a variety of Meanwell drivers to suit a plethora of needs. Meanwell drivers vary in wattage and/or voltage. Some are encased for outdoor use and some are for indoor use only. Our special laptop-style driver is excellent for use with modules and other products. Many of the drivers we carry have built-in mechanisms that keep them from short circuit, overload, over voltage, and/or over temperature.

LED Drivers

Lighting Accessories

SKU #	Model #	Working Temp	Environment	Output Voltage	IP	Efficiency
100339	BLT-60-12	-22°F/158°F	Outdoor	12V DC	N/A	83%
151173	BLT-100-24	32°F/104°F	Indoor	24V DC	N/A	89%
100321	MW LPV 60-12	-22°F/158°F	Outdoor	12V DC	IP67	83%
100354	MW LPV 60-24	-22°F/158°F	Outdoor	24V DC	IP67	86%
101600	MW LPV 100-12	-13°F/158°F	Outdoor	12V DC	IP67	85%
101667	MW LPV 100-24	-13°F/158°F	Outdoor	24V DC	IP67	88%
106096	MW LPVL 150-12	-13°F/158°F	Outdoor	12V DC	IP67	87%
150030	MW LPVL 150-24V	-13°F/158°F	Outdoor	24V DC	IP68	87%
105593	MW HLG 150-12	-40°F/158°F	Outdoor	12V DC	IP67	91.50%
105601	MW HLG 240-12	-40°F/158°F	Outdoor	12V DC	IP65	90%
109496	MW HLG 240-24	-40°F/158°F	Outdoor	24V DC	IP65	90%
150011	MW HLG 320-24	-40°F/158°F	Outdoor	24V DC	IP65	90%
150836	MW LRS-200-12V	-4°F/122°F	Indoor	24V DC	N/A	87%
150837	MW LRS-350-12V	-4°F/122°F	Indoor	12V DC	N/A	85%
151616	MW-LRS-350-24V	-4°F/122°F	Indoor	24V DC	N/A	87%



LED Drivers

Laptop Series



SKU: 100339 - BLT-60-12

- -22°F/158°F Working Temp
- Outdoor Environment
- 12V DC Output Voltage
- 83% Efficiency

LED Drivers

Laptop Series



SKU: 151173 - BLT-100-24

- 32°F/104°F Working Temp
- Indoor Environment
- 24V DC Output Voltage
- 89% Efficiency

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Due to continuous product improvement, information in this document is subject to change.

LED Drivers

MW LPV 60 Series



- Features :
 - Constant voltage design
 - Universal AC input / Full range
 - Withstand 300VAC surge input for 5 seconds
 - Protections: Short circuit / Over load / Over voltage
 - Cooling by free air convection
 - Fully encapsulated with IP67 level (Note.8)
 - Fully isolated plastic case
 - Class II power unit, no FG
 - Class 2 power unit
 - Pass LPS
 - Suitable for LED related fixture or appliance (such as LED Decoration or Advertisement devices)(Note.7)
 - 100% full load burn-in test
 - Low cost, high reliability
 - 2 years warranty

LPS (except for 5V)
 IP67
 R-41027766 (for 12V,24V only)
 IS 15885(Part 2)Sec13 (for 48V only) (except for 5V,48V)

SPECIFICATION

MODEL	LPV-60-5	LPV-60-12	LPV-60-15	LPV-60-24	LPV-60-36	LPV-60-48	
OUTPUT	DC VOLTAGE	5V	12V	15V	24V	36V	48V
	RATED CURRENT	8A	5A	4A	2.5A	1.67A	1.25A
	CURRENT RANGE	0 ~ 8A	0 ~ 5A	0 ~ 4A	0 ~ 2.5A	0 ~ 1.67A	0 ~ 1.25A
	RATED POWER	40W	60W	60W	60W	60W	60W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	120mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE TOLERANCE Note.3	±8.0%	±5.0%				
	LINE REGULATION	±1.0%					
	LOAD REGULATION	±6.0%	±2.0%				
	SETUP, RISE TIME Note.6	500ms, 20ms / 230VAC	500ms, 20ms / 115VAC at full load(for 5~36V) ; 500ms, 30ms / 230VAC		500ms, 30ms / 230VAC	500ms, 30ms / 115VAC at full load(for 48V)	
HOLD UP TIME (Typ.)	50ms/230VAC	16ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC	127 ~ 370VDC				
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	76%	83%	83%	86%	86%	86%
	AC CURRENT (Typ.)	1.2A/115VAC	1A/230VAC				
	INRUSH CURRENT(Typ.)	COLD START 60A(twidth=525µs measured at 50% Ipeak) at 230VAC					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	0.25mA / 240VAC					
PROTECTION	OVER LOAD	110 ~ 150% rated output power					
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V	41.4 ~ 48.6V	55.2 ~ 64.8V
	Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
	VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
SAFETY & EMC	SAFETY STANDARDS	UL879(except for LPV-60-5), UL1310(except for LPV-60-5), CSA C22.2 No. 207-M89(except for LPV-60-5, LPV-60-48), CAN/CSA C22.2 No. 223-M91(except for LPV-60-5,LPV-60-48), BIS IS15885(for LPV-60-12,LPV-60-24 only), EAC TP TC 004, IP67, IEC/EN 62368-1 approved					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C/ 70% RH					
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2 Class A, EN61000-3-3, EAC TP TC 020					
	EMC IMMUNITY Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020						
OTHERS	MTBF	732Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	162.5*42.5*32mm (L*W*H)					
	PACKING	0.4Kg; 32pcs/13.8Kg/0.63CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Derating may be needed under low input voltage. Please check the static characteristics for more details. 5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-quality EMC Directive on the complete installation again. 6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 7. Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minute. 8. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). 9. Products sourced from the Americas regions may not have the TUV/BIS/CCC logo. Please contact your MEAN WELL sales for more information. 10. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf 11. This product is not intended for LED applications in the EU.(In the EU NPF/LPF/XLG series are recommended.) 12. To fulfill requirements of latest ErP regulation for lighting luminaires, this LED Driver can only be used behind a switch without permanently connected to mains. ※ Product liability disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						

LED Drivers

MW LPV 100 Series



■ Features :

- Constant voltage design
- Universal AC input / Full range
- Fully encapsulated with IP67 level (Note.8)
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage
- Fully isolated plastic case
- Cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Suitable for LED lighting and moving sign applications(Note 7.)
- 2 years warranty

☐ IP67 CE

SPECIFICATION

MODEL	LPV-100-5	LPV-100-12	LPV-100-15	LPV-100-24	LPV-100-36	LPV-100-48	
OUTPUT	DC VOLTAGE	5V	12V	15V	34V	48V	
	RATED CURRENT	12A	8.5A	8.7A	4.2A	2.8A	2.1A
	CURRENT RANGE	0 ~ 12A	0 ~ 8.5A	0 ~ 6.7A	0 ~ 4.2A	0 ~ 2.8A	0 ~ 2.1A
	RATED POWER	60W	102W	100.5W	100.8W	100.8W	100.8W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	120mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE TOLERANCE Note.3	±8.0%	±5.0%				
	LINE REGULATION	±1.0%					
	LOAD REGULATION	±8.0%	±2.0%				
	SETUP, RISE TIME Note.8	2000ms, 25ms / 230VAC, 2000ms, 25ms / 115VAC					
	HOLD UP TIME (Typ.)	50ms/230VAC	14ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4	90 ~ 264VAC		127 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	80%	85%	87%	88%	88%	89%
	AC CURRENT	2.2A/115VAC		1.2A/230VAC			
	INRUSH CURRENT(max.)	COLD START 30A/115VAC		75A/230VAC			
	LEAKAGE CURRENT	0.25mA / 240VAC					
PROTECTION	OVER CURRENT	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V	41.4 ~ 48.6V	55.2 ~ 64.8V
		Protection type : Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
SAFETY & EMC	VIBRATION	10 ~ 500Hz, 2G 10min./cycle, period for 60min. each along X, Y, Z axes					
	SAFETY STANDARDS	IP67 approved, Design refer to TUV EN60950-1, EN61347-2-13					
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC					
	ISOLATION RESISTANCE	I/P-O/P->100M Ohms / 500VDC / 25°C/ 70% RH					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
OTHERS	HARMONIC CURRENT	Compliance to EN61000-3-2 Class A(=, 80% load), EN61000-3-3					
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, heavy industry level, criteria A					
	MTBF	703K hrs min., MIL-HDBK-217F (25°C)					
NOTE	DIMENSION	190*52*37mm (L*W*H)					
	PACKING	0.63Kg/20pcs/13.6Kg/0.57CUFT					

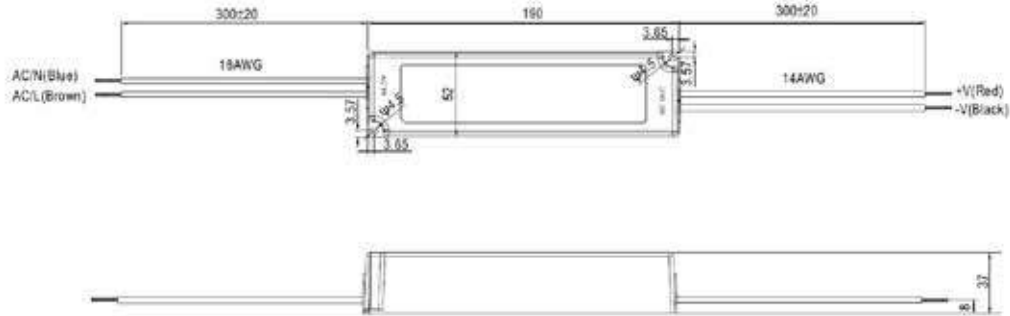
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : Includes set up tolerance, line regulation and load regulation.
4. Derating may be needed under low input voltage. Please check the static characteristics for more details.
5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
7. In the European market this product is only suitable for LED lighting applications that don't have to comply with the harmonic current requirements of EN61000-3-2 Class C.
8. Suitable for indoor use or outdoor use without direct sunlight exposure.

LED Drivers

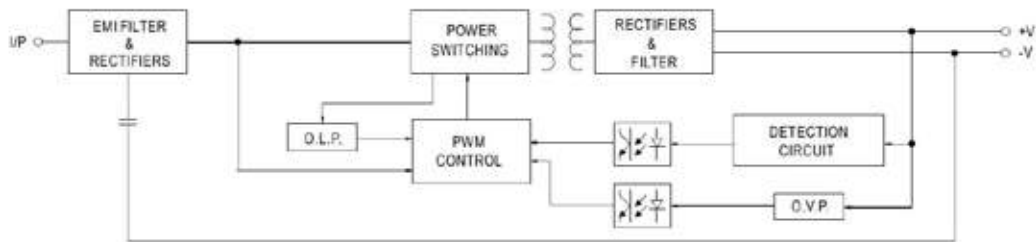
MW LPV 100 Series

Mechanical Specification

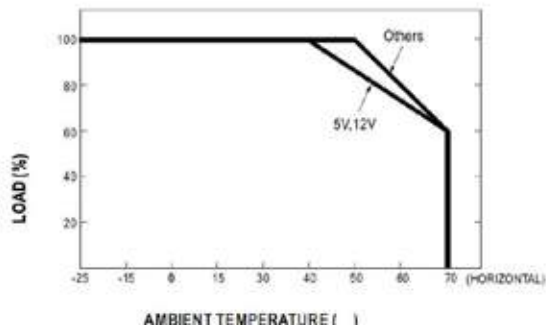
Case No. 999A Unit:mm



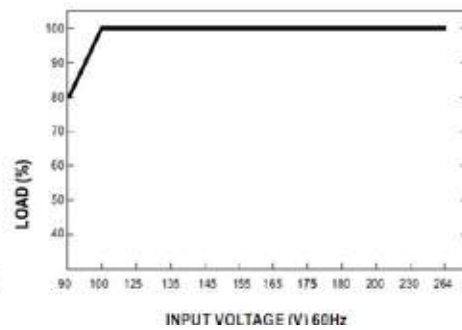
Block Diagram



Derating Curve



Static Characteristics



LED Drivers

MW LPVL 150 Series



SKU: 106096 - MW LPVL 150-12



SKU: 150030 - MW LPVL 150-24V

LED Drivers

MW LPVL 150 Series



■ Features

- Constant voltage design
- 90~132VAC input for LPVL-150
180~305VAC input for LPV-150
- Fully encapsulated with IP67 level (Note.8)
- Class II power unit, no FG
- Protections: Short circuit/Overload/Over voltage/
Over temperature
- Fully isolated plastic case
- Fanless design, cooling by free air convection
- 100% full load burn-in test
- Low cost, high reliability
- Listed in UL Sign Component Manual (SAM)
- Type "HL" for use in class I, Division 2 hazardous (Classified)
location luminaires for LPVL-150
- 2 years warranty

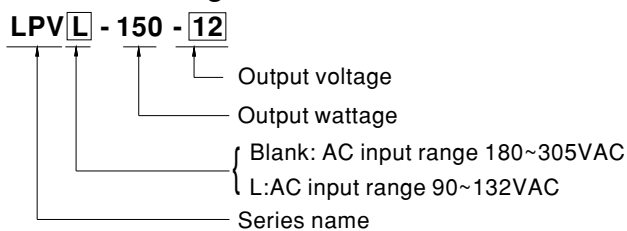
■ Applications

- Suitable for LED related
fixture or appliance
(such as LED Decoration
or Advertisement devices)

■ Description

LPV-150 and LPVL-150 are 150W single output power supplies that specifically and perfectly work for LED lighting and LED moving sign applications. As a class II power unit, these two series are housed with the UL 94V-0 rated flame retardant plastic enclosure. The IP67 design allows every model to fit the use at dry, damp and wet locations. Both series are constant voltage mode design that various models with 12V, 15V, 24V, 36V and 48V are offered for LPV-150 where as 12V and 24V are provided for LPVL-150.

■ Model Encoding



LED Drivers

MW LPVL 150 Series

SPECIFICATION

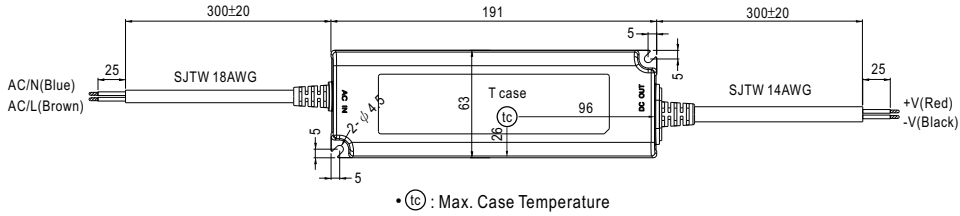
MODEL		LPV□-150-12	LPV-150-15	LPV□-150-24	LPV-150-36	LPV-150-48	
OUTPUT	DC VOLTAGE	12V	15V	24V	36V	48V	
	RATED CURRENT	10A	8A	6.3A	4.2A	3.2A	
	CURRENT RANGE	0 ~ 10A	0 ~ 8A	0 ~ 6.3A	0 ~ 4.2A	0 ~ 3.2A	
	RATED POWER	120W	120W	151.2W	151.2W	153.6W	
	RIPPLE & NOISE (max.) Note.2	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	
	VOLTAGE TOLERANCE Note.3	±5.0%					
	LINE REGULATION	±1.0%					
	LOAD REGULATION	±2.0%					
	SETUP, RISE TIME Note.6	LPV-150: 500ms, 50ms / 230VAC 500ms, 50ms / 277VAC; LPVL-150: 1500ms, 50ms / 115VAC					
	HOLD UP TIME (Typ.)	LPV-150: 18ms/230VAC 20ms/277VAC at full load; LPVL-150: 10ms/115VAC at full load					
INPUT	VOLTAGE RANGE Note.4	LPV-150: 180 ~ 305VAC 254 ~ 431VDC; LPVL-150: 90~132VAC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	87%	88%	89%	89%	90%	
	AC CURRENT	LPV-150: 1.7A/230VAC 1.5A/277VAC; LPVL-150: 3.0A/115VAC					
	INRUSH CURRENT (Typ.)	Blank type	COLD START 60A(twidth=900µs measured at 50% Ipeak) at 230VAC				
		L type	COLD START 75A(twidth=900µs measured at 50% Ipeak) at 115VAC				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	Blank type	2 units (circuit breaker of type B) / 3 units (circuit breaker of type C) at 230VAC				
		L type	1 units (circuit breaker of type B) / 2 units (circuit breaker of type C) at 115VAC				
LEAKAGE CURRENT	LPV-150: 0.25mA / 240VAC LPVL-150: 0.25mA / 120VAC						
PROTECTION	OVERLOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	13.5 ~ 18V	17 ~ 25V	27 ~ 35V	40 ~ 49V	52 ~ 63V	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down					
ENVIRONMENT	WORKING TEMP.	-25 ~ +65°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 40°C for LPV-150-12,15 and LPVL-150-12,24; 0~50°C for LPV-150-24,36,48)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS	Blank type	UL8750, CSA C22.2 No 250.13-12, UL879, CSA C22.2 No.207-M89, BIS IS15885 (for LPV-150-12,24 only), EAC TP TC 004, IP67; IEC/EN 62368-1 approved.				
		L type	UL8750(type"HL"), CSA C22.2 No 250.13-12, UL879, CSA C22.2 No.207-M89, IP67 approved				
	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC					
	ISOLATION RESISTANCE	I/P-O/P: >100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Blank type	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2 Class A(≤80% load), EN61000-3-3, EAC TP TC 020				
		L type	Compliance to FCC part 15				
EMC IMMUNITY	Blank type	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024, light industry level, criteria A, EAC TP TC 020					
	L type	Design refer to IEC61000-4-2,3,4,5,6,8,11; light industry level, criteria A					
OTHERS	MTBF	703Khrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	191*63*37.5mm (L*W*H)					
	PACKING	LPV-150: 0.74Kg; 20pcs/15.8Kg/0.95CUFT; LPVL-150: 0.85Kg; 20pcs/17Kg/0.95CUFT					
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC(115VAC for LPVL) input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltage. Please check the static characteristics for more details.</p> <p>5. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</p> <p>6. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</p> <p>7. Suitable for indoor use or outdoor use without direct sunlight exposure.</p> <p>8. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>9. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf</p> <p>10. This product is not intended for LED applications in the EU.(In the EU NPF/LPF/XLG series are recommended.)</p> <p>11. To fulfill requirements of latest ErP regulation for lighting luminaires, this LED Driver can only be used behind a switch without permanently connected to mains.</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>						

LED Drivers

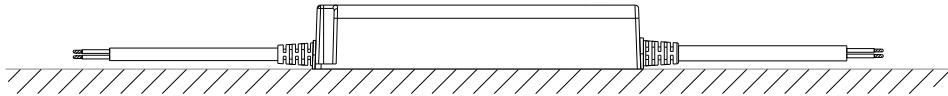
MW LPVL 150 Series

Mechanical Specification

Case No. LPC-150 Unit:mm

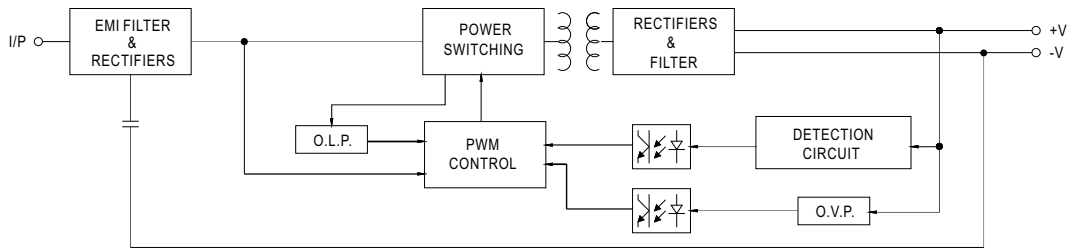


Recommend Mounting Direction

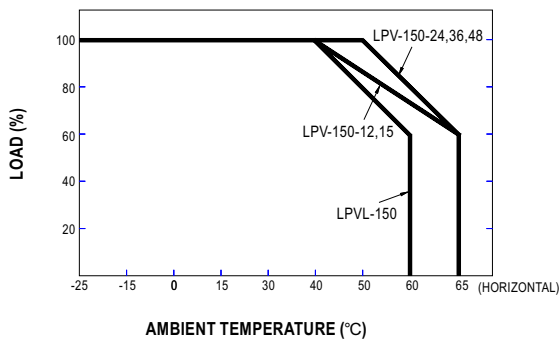


Block Diagram

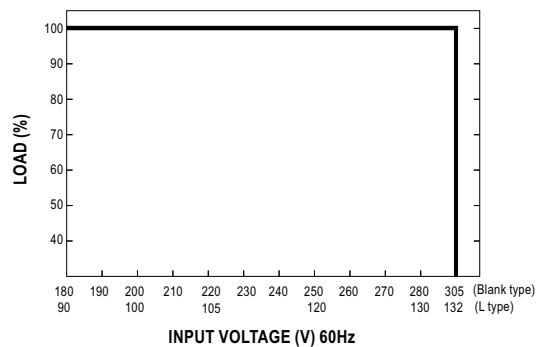
PWM fosc: 47KHz



Derating Curve

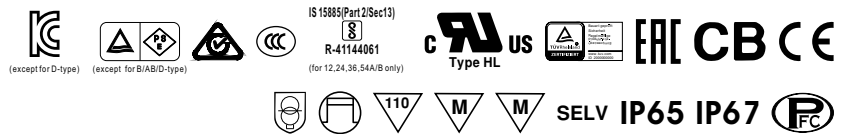


Static Characteristics



LED Drivers

MW HLG 150 Series



■ Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

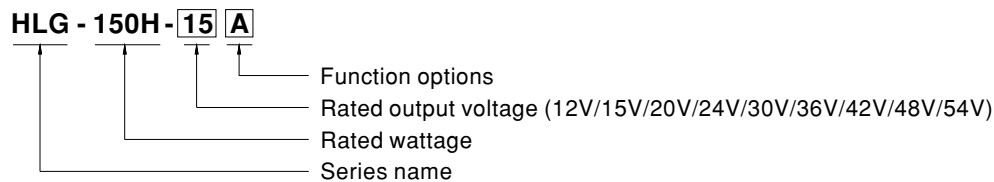
■ Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location.

■ Description

HLG-150H series is a 150W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-150H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-150H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding



Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

LED Drivers

MW HLG 150 Series

SPECIFICATION

MODEL	HLG-150H-12	HLG-150H-15	HLG-150H-20	HLG-150H-24	HLG-150H-30	HLG-150H-36	HLG-150H-42	HLG-150H-48	HLG-150H-54	
OUTPUT	DC VOLTAGE									
	CONSTANT CURRENT REGION Note.4									
	RATED CURRENT									
	RATED POWER									
	RIPPLE & NOISE (max.) Note.2									
	VOLTAGE ADJ. RANGE									
	CURRENT ADJ. RANGE									
	VOLTAGE TOLERANCE Note.3									
	LINE REGULATION									
	LOAD REGULATION									
INPUT	SETUP, RISE TIME Note.6									
	HOLD UP TIME (Typ.)									
	VOLTAGE RANGE Note.5									
	FREQUENCY RANGE									
	POWER FACTOR (Typ.)									
	TOTAL HARMONIC DISTORTION									
	EFFICIENCY (Typ.)									
	AC CURRENT (Typ.)									
	INRUSH CURRENT (Typ.)									
	MAX. No. of PSUs on 16A CIRCUIT BREAKER									
LEAKAGE CURRENT										
PROTECTION	OVER CURRENT									
	SHORT CIRCUIT									
	OVER VOLTAGE									
	OVER TEMPERATURE									
ENVIRONMENT	WORKING TEMP.									
	MAX. CASE TEMP.									
	WORKING HUMIDITY									
	STORAGE TEMP., HUMIDITY									
	TEMP. COEFFICIENT									
SAFETY & EMC	VIBRATION									
	SAFETY STANDARDS									
	WITHSTAND VOLTAGE									
	ISOLATION RESISTANCE									
	EMC EMISSION									
OTHERS	EMC IMMUNITY									
	MTBF									
	DIMENSION									
NOTE	PACKING									
	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</p> <p>6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.</p> <p>7. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</p> <p>8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.</p> <p>9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (Tc) point (or TMP, per DLC), is about 80°C or less.</p> <p>10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.</p> <p>11. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>12. For any application note and IP water proof function installation caution, please refer our user manual before using.</p> <p>https://www.meanwell.com/Upload/PDF/LED_EN.pdf</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>									

LED Drivers

MW HLG 150 Series

■ BLOCK DIAGRAM

Fosc : 100KHz

■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

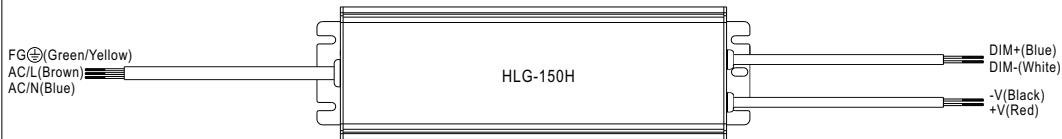
Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.
Should there be any compatibility issues, please contact MEAN WELL.

LED Drivers

MW HLG 150 Series

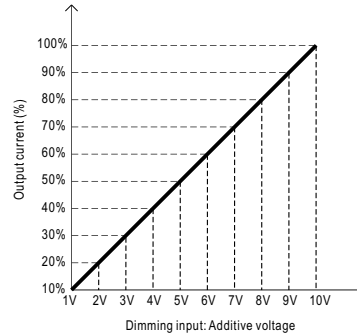
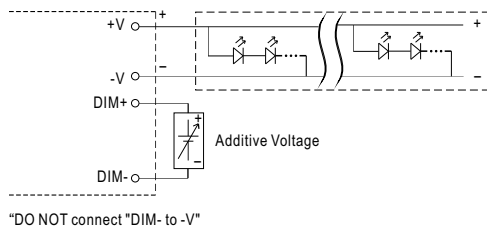
DIMMING OPERATION



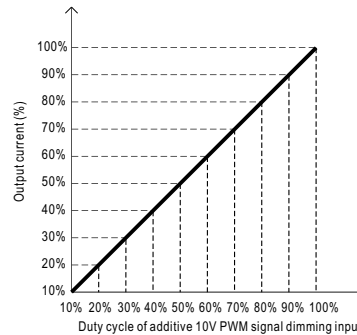
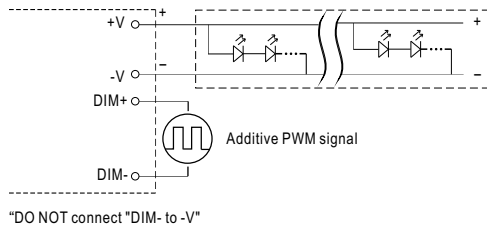
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 μ A (typ.)

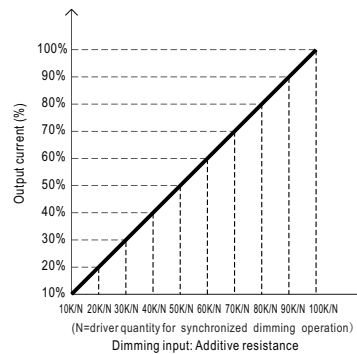
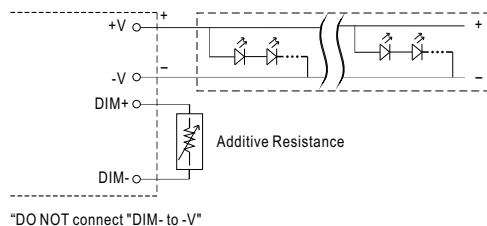
◎ Applying additive 1 ~ 10VDC



◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



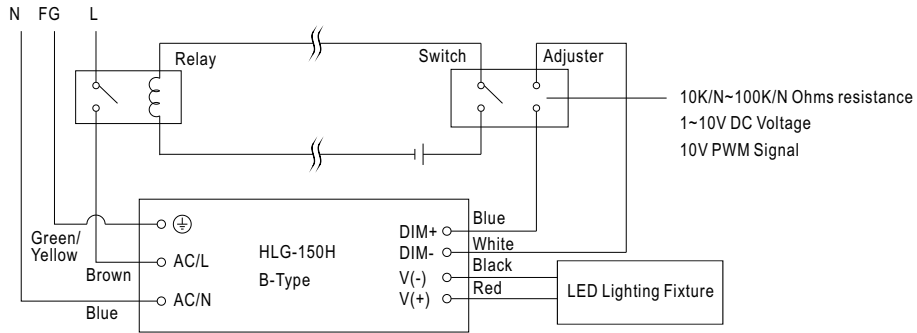
◎ Applying additive resistance:



LED Drivers

MW HLG 150 Series

Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.

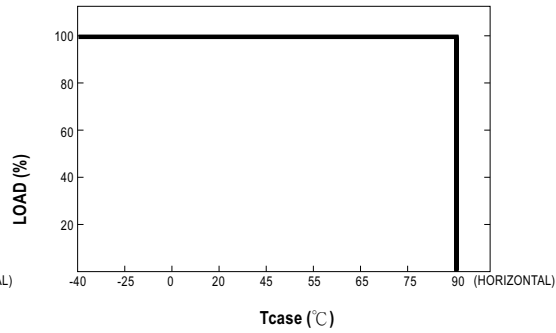
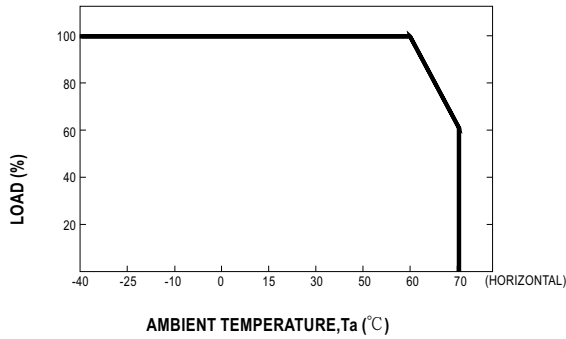


Using a switch and relay can turn ON/OFF the lighting fixture.

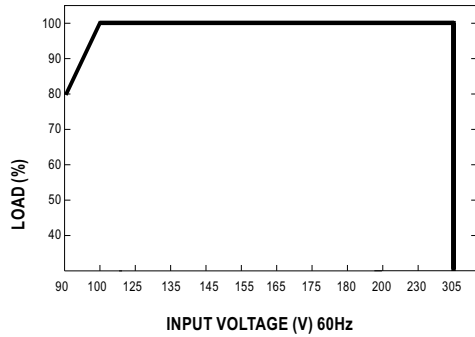
LED Drivers

MW HLG 150 Series

OUTPUT LOAD vs TEMPERATURE(Notes.10)

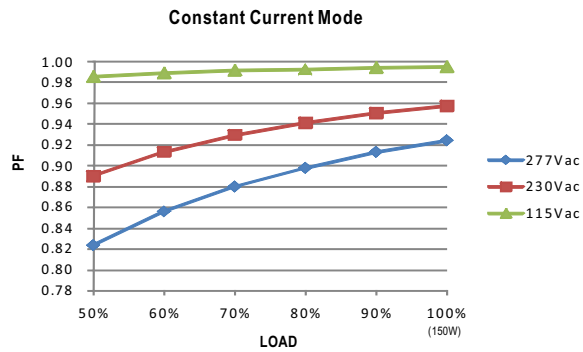


STATIC CHARACTERISTICS



POWER FACTOR(PF) CHARACTERISTIC

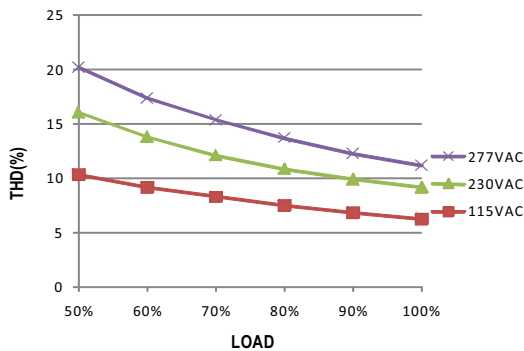
※ Tcase at 80°C



※ De-rating is needed under low input voltage.

TOTAL HARMONIC DISTORTION (THD)

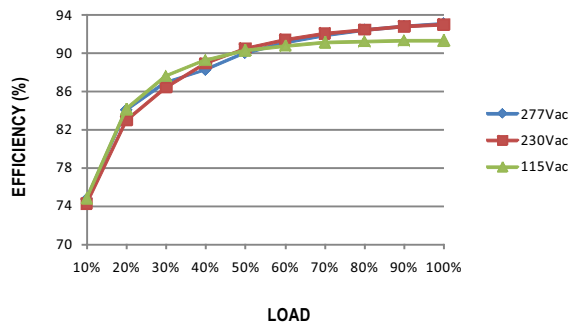
※ 48V Model, Tcase at 80°C



EFFICIENCY vs LOAD

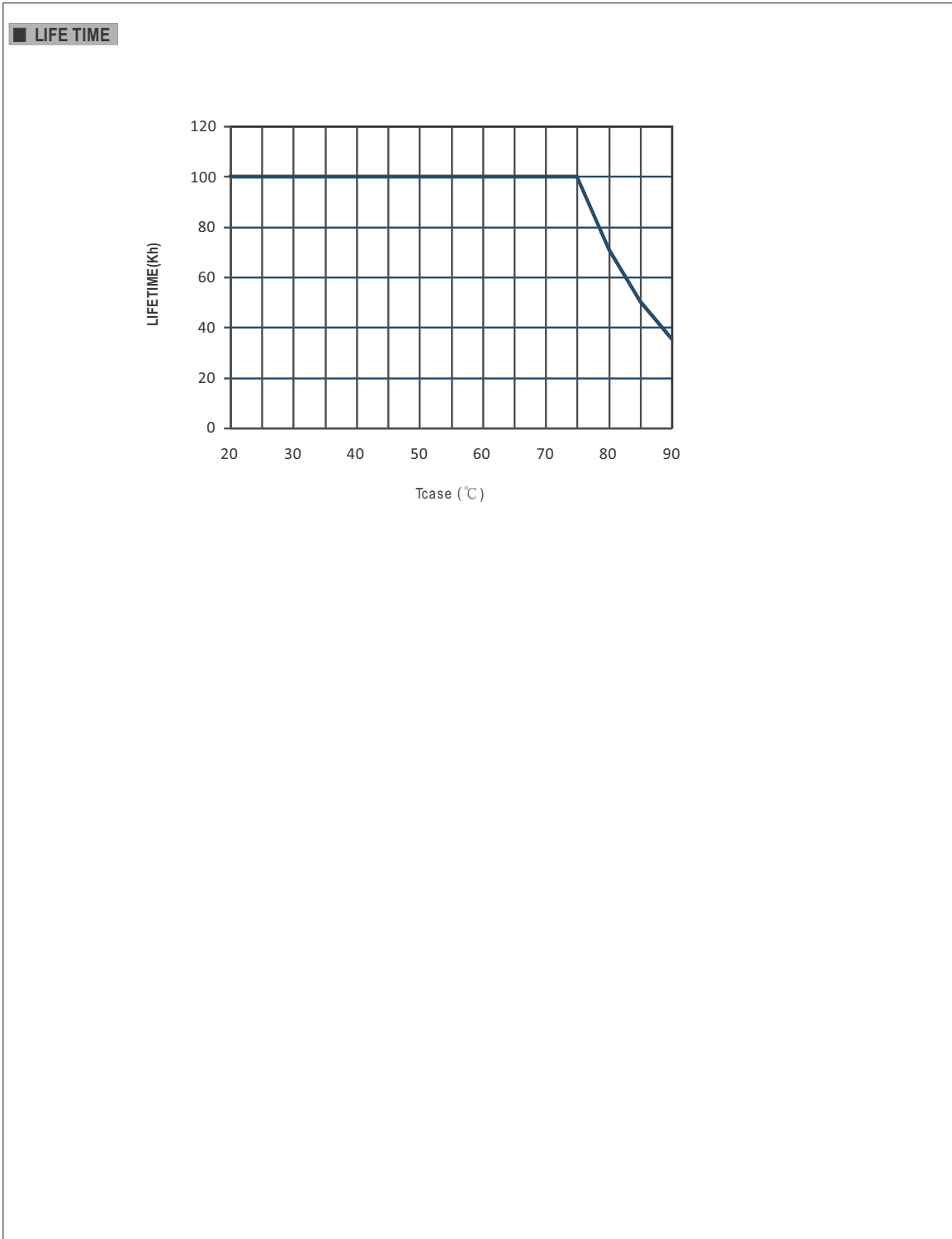
HLG-150H series possess superior working efficiency that up to 94% can be reached in field applications.

※ 48V Model, Tcase at 80°C



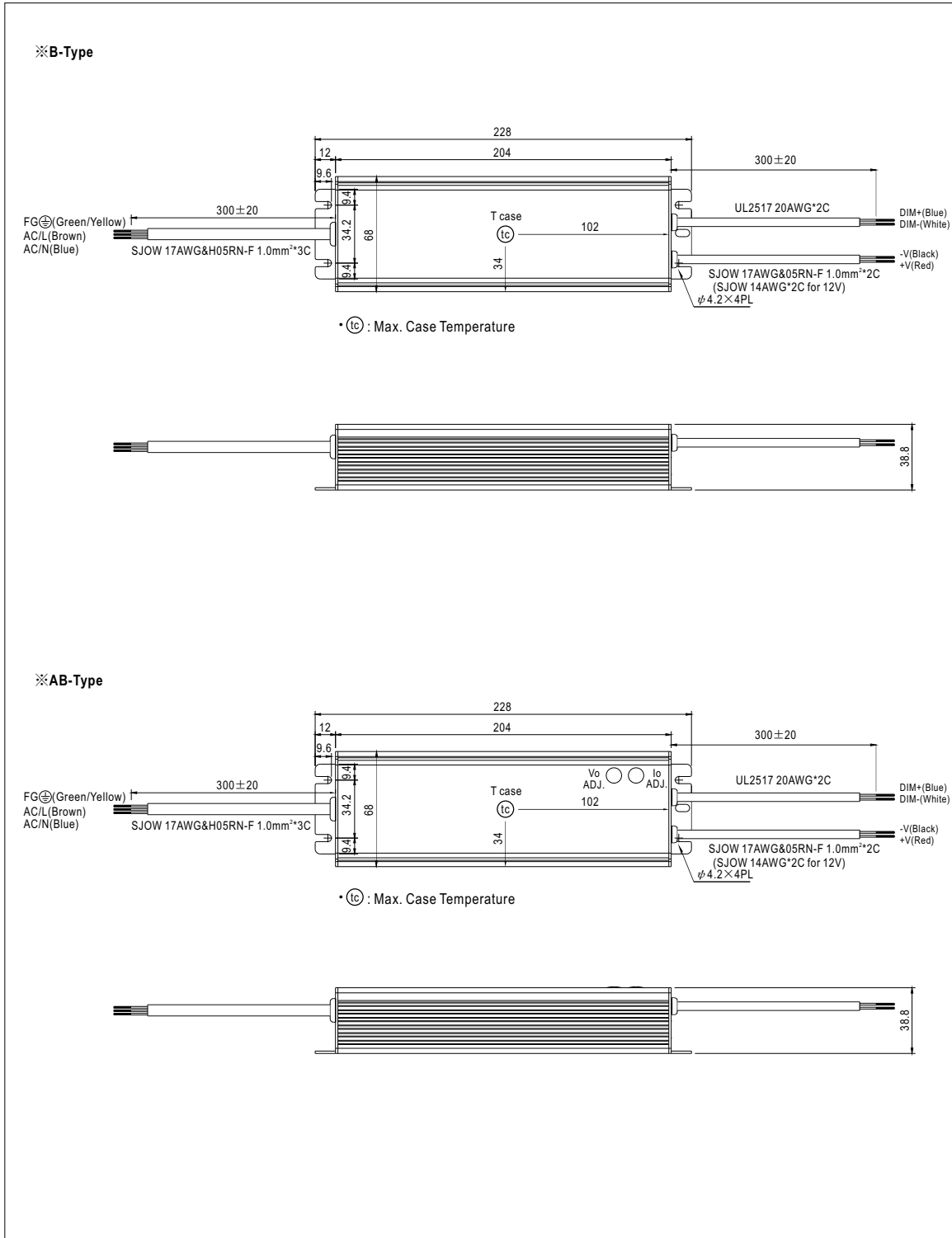
LED Drivers

MW HLG 150 Series



LED Drivers

MW HLG 150 Series



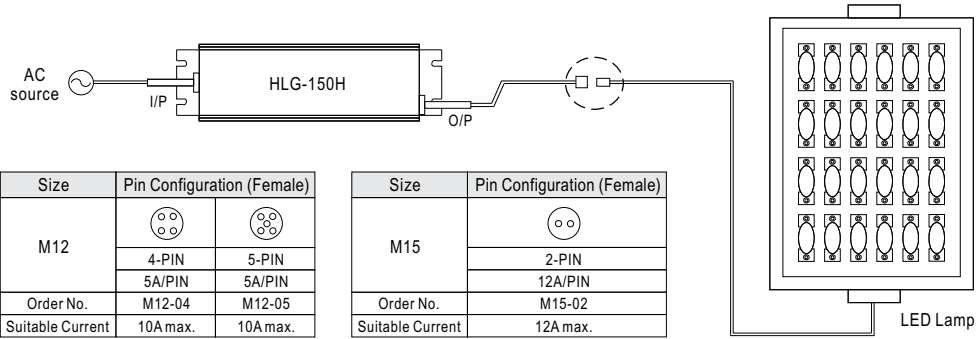
LED Drivers

MW HLG 150 Series

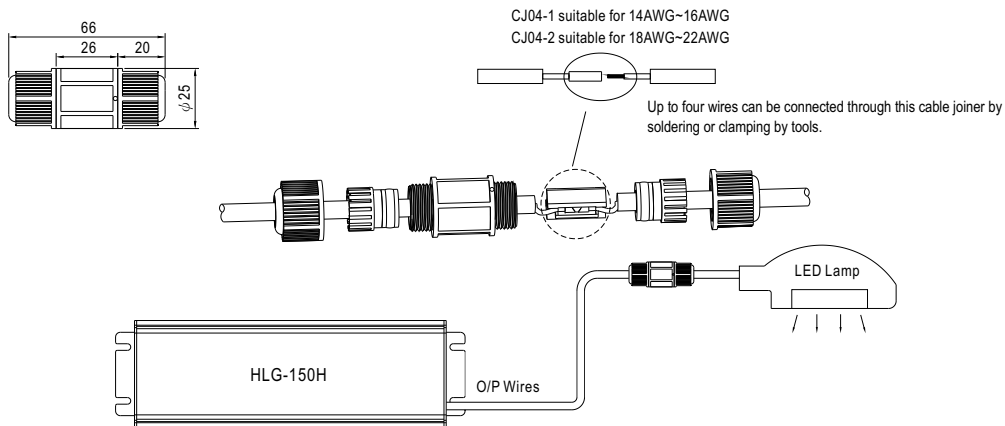
■ WATERPROOF CONNECTION

※ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-150H to operate in dry/wet/damp or outdoor environment.

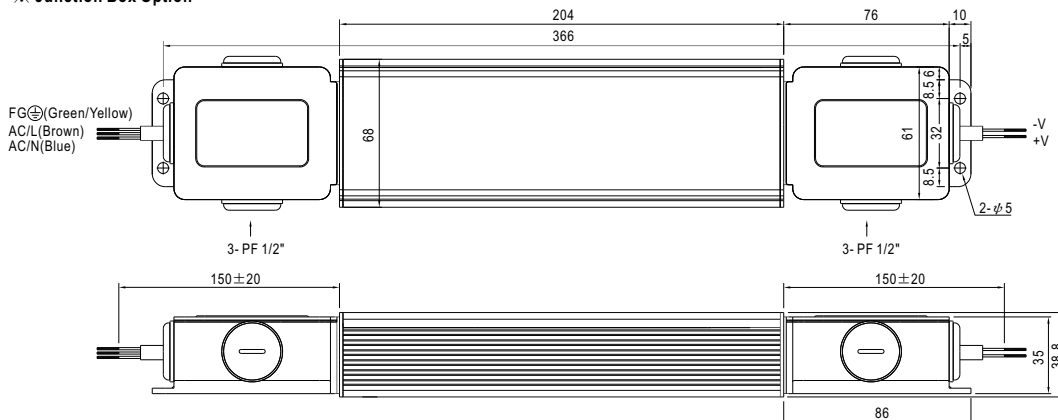


※ Cable Joiner



© CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ Junction Box Option



© Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>

LED Drivers

MW HLG 240 Series



■ Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

■ Applications

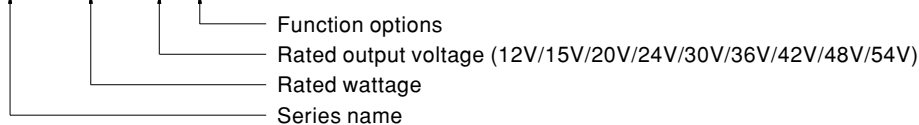
- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

■ Description

HLG-240H series is a 240W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-240H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for -40°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-240H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding

HLG - 240H - 15 A



Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
C	-----	Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.	By request
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

LED Drivers

MW HLG 240 Series

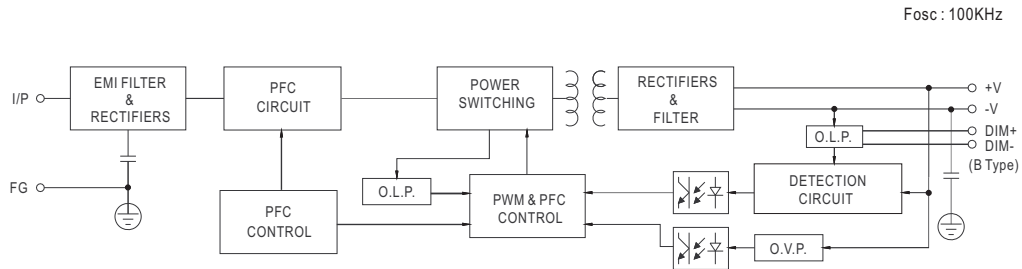
SPECIFICATION

MODEL	HLG-240H-12	HLG-240H-15	HLG-240H-20	HLG-240H-24	HLG-240H-30	HLG-240H-36	HLG-240H-42	HLG-240H-48	HLG-240H-54		
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION ^{Note.4}	6 ~ 12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V	
	RATED CURRENT	16A	15A	12A	10A	8A	6.7A	5.72A	5A	4.45A	
	RATED POWER	192W	225W	240W	240W	240W	241.2W	240.24W	240W	240.3W	
	RIPPLE & NOISE (max.) ^{Note.2}	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p	
	VOLTAGE ADJ. RANGE	Adjustable for A/AB/C-Type only (via built-in potentiometer)									
		11.2 ~ 12.8V	14 ~ 16V	18.6 ~ 21.4V	22.4 ~ 25.6V	28 ~ 32V	33.5 ~ 38.5V	39 ~ 45V	44.8 ~ 51.2V	50 ~ 57V	
	CURRENT ADJ. RANGE	Adjustable for A/AB/C-Type only (via built-in potentiometer)									
		8 ~ 16A	7.5 ~ 15A	6 ~ 12A	5 ~ 10A	4 ~ 8A	3.3 ~ 6.7A	2.86 ~ 5.72A	2.5 ~ 5A	2.23 ~ 4.45A	
	VOLTAGE TOLERANCE ^{Note.3}	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
SETUP, RISE TIME ^{Note.6}	1000ms, 80ms/115VAC 500ms, 80ms/230VAC										
HOLD UP TIME (Typ.)	15ms / 115VAC, 230VAC										
INPUT	VOLTAGE RANGE ^{Note.5}	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)									
	FREQUENCY RANGE	47 ~ 63Hz									
	POWER FACTOR (Typ.)	PF ≥ 0.98/115VAC, PF ≥ 0.95/230VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)									
	TOTAL HARMONIC DISTORTION	THD < 20% (@ load ≥ 50% / 115VAC, 230VAC; @ load ≥ 75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)									
	EFFICIENCY (Typ.)	90%	90%	91.5%	92.5%	92.5%	92.5%	92.5%	93%	93.5%	
	AC CURRENT (Typ.)	4A / 115VAC		2A / 230VAC		1.2A / 277VAC					
	INRUSH CURRENT (Typ.)	COLD START 75A (width=570μs measured at 50% I _{peak}) at 230VAC; Per NEMA 410									
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	2 units (circuit breaker of type B) / 4 units (circuit breaker of type C) at 230VAC									
LEAKAGE CURRENT	< 0.75mA / 277VAC										
PROTECTION	OVER CURRENT	95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed									
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed									
	OVER VOLTAGE	13.5 ~ 18V	17.5 ~ 21.5V	23.5 ~ 27.5V	27 ~ 34V	33 ~ 39V	43 ~ 49V	48 ~ 54V	55 ~ 63V	60 ~ 67V	
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down									
ENVIRONMENT	WORKING TEMP.	T _{case} = -40 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)									
	MAX. CASE TEMP.	T _{case} = +90°C									
	WORKING HUMIDITY	20 ~ 95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH									
	TEMP. COEFFICIENT	± 0.03%/°C (0 ~ 50°C)									
SAFETY & EMC	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes									
	SAFETY STANDARDS	UL1012, CAN/CSA-C22.2 No. 107.1-01, UL8750(type"HL"), CSA C22.2 No. 250.0-08; EN/AS/NZS 61347-1, EN/AS/NZS 61347-2-13 independent (except for HLG-240H C type); IEC/UL/EN 62368-1 (except for AB, D type), UL8750, GB19510.1, GB19510.14 (except for C-type); IP65 or IP67; J61347-1, J61347-2-13 (except for B, AB and D-type), BIS IS15885 (for 48V only), EAC TP TC 004, KC61347-1, KC61347-2-13 (except for AB, C, D-type) approved									
OTHERS	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC I/P-FG: 2KVAC O/P-FG: 1.5KVAC									
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH									
	EMC EMISSION	Compliance to EN55015, EN55032 (CISPR32) Class B, EN61000-3-2 Class C (@ load ≥ 50%); EN61000-3-3, GB17743 and GB17625.1, EAC TP TC 020; KC KN15, KN61547 (except for AB, C, D-type)									
	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV) EAC TP TC 020; KC KN15, KN61547 (except for AB, C, D-type)									
NOTE	MTBF	729.2K hrs min. Telcordia SR-332 (Bellcore); 207.9K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	244.2*68*38.8mm (L*W*H)(HLG-240H-Blank/A/B)				251*68*38.8mm (L*W*H)(HLG-240H C-Type)					
	PACKING	1.3Kg; 12pcs/16.6Kg/0.84CUFT(HLG-240-Blank/A/B)				1.23Kg; 12pcs/15.8Kg/1.16CUFT(HLG-240 C-Type)					
<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Please refer to "DRIVING METHODS OF LED MODULE".</p> <p>5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</p> <p>6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.</p> <p>7. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</p> <p>8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.</p> <p>9. This series meets the typical life expectancy of >62,000 hours of operation when T_{case}, particularly (T_{case}) point (or TMP, per DLC), is about 75°C or less.</p> <p>10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.</p> <p>11. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft)</p> <p>12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>											

LED Drivers

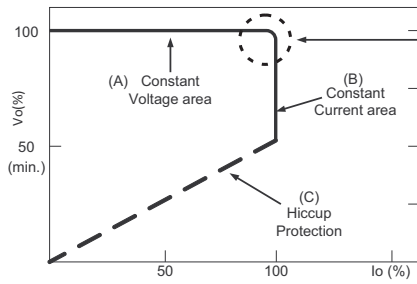
MW HLG 240 Series

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



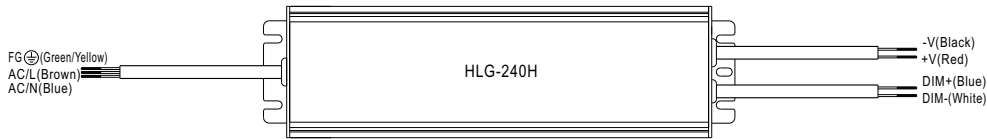
Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems. Should there be any compatibility issues, please contact MEAN WELL.

LED Drivers

MW HLG 240 Series

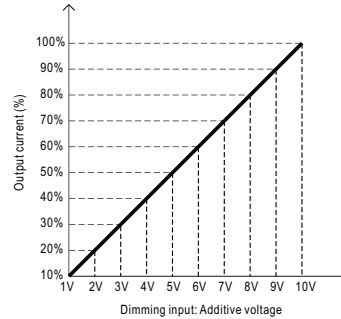
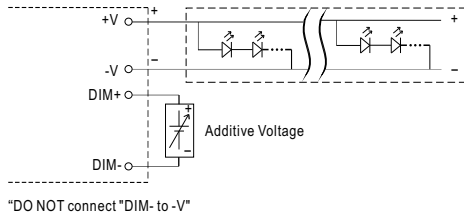
DIMMING OPERATION



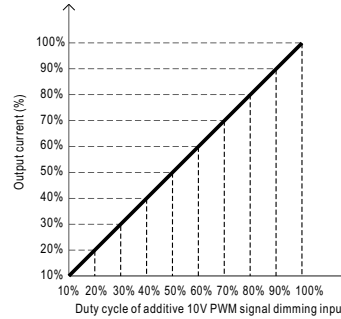
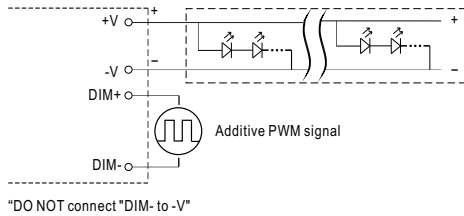
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 μ A (typ.)

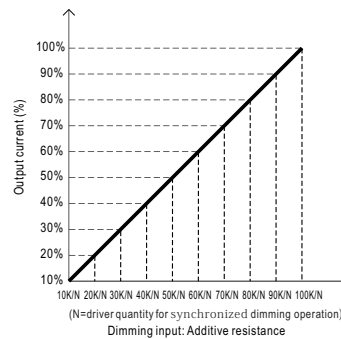
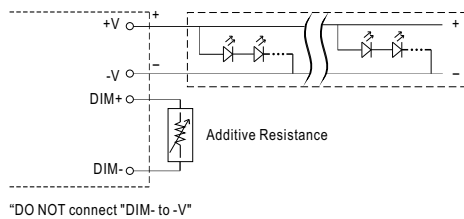
◎ Applying additive 1 ~ 10VDC



◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



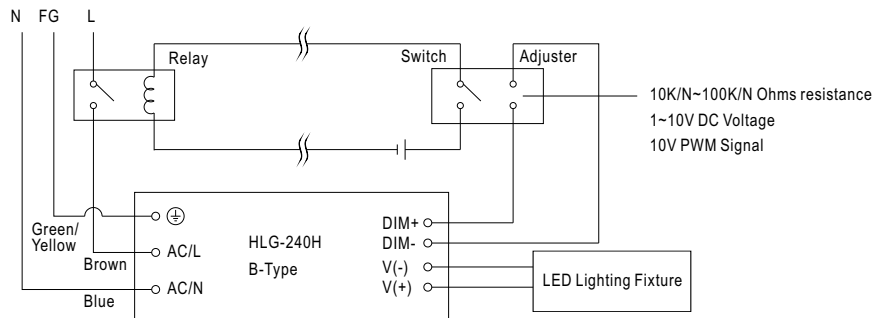
◎ Applying additive resistance:



LED Drivers

MW HLG 240 Series

Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.

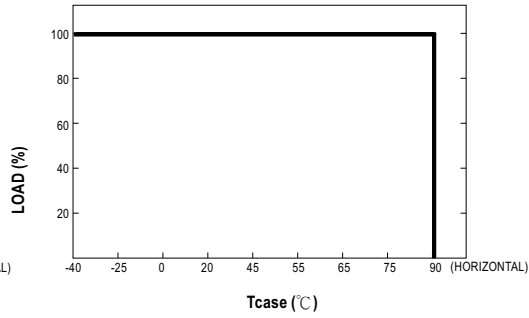
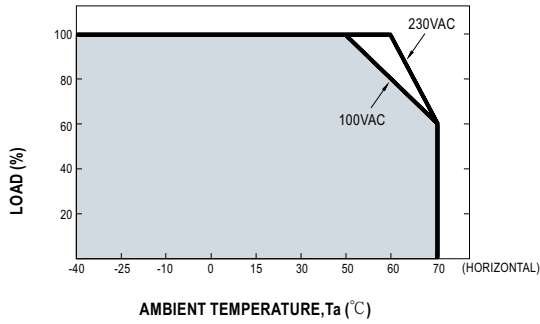


Using a switch and relay can turn ON/OFF the lighting fixture.

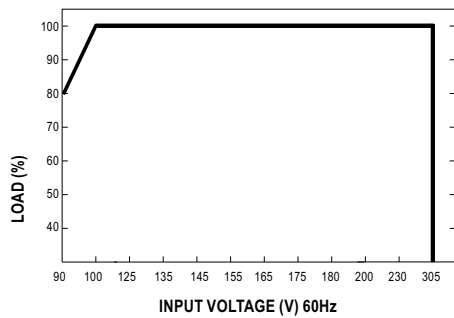
LED Drivers

MW HLG 240 Series

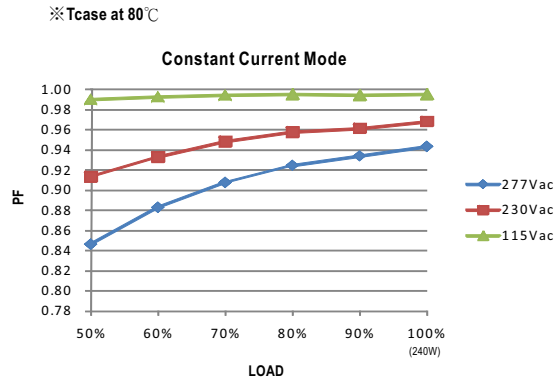
OUTPUT LOAD vs TEMPERATURE(Note. 10)



STATIC CHARACTERISTICS



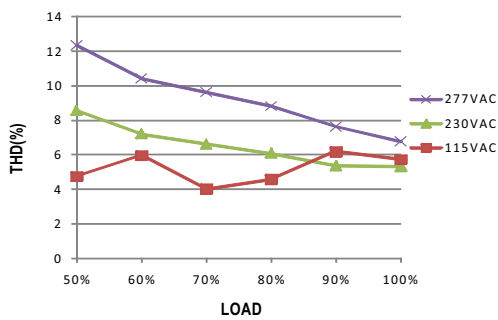
POWER FACTOR(PF) CHARACTERISTIC



※ De-rating is needed under low input voltage.

TOTAL HARMONIC DISTORTION (THD)

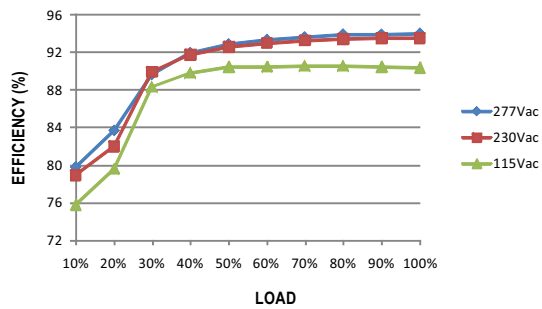
※ 48V Model, Tcase at 80°C



EFFICIENCY vs LOAD

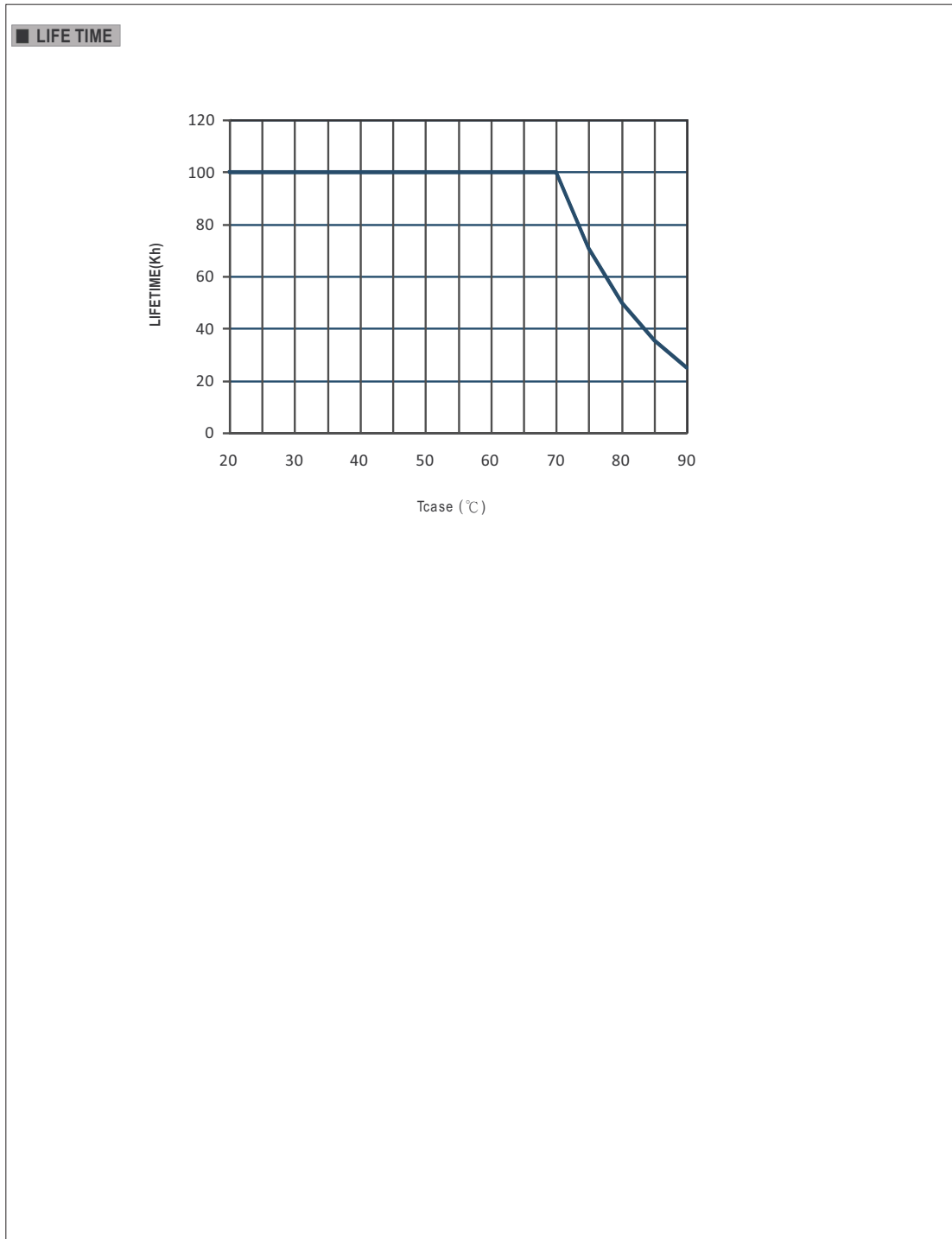
HLG-240H series possess superior working efficiency that up to 93.5% can be reached in field applications.

※ 48V Model, Tcase at 80°C



LED Drivers

MW HLG 240 Series



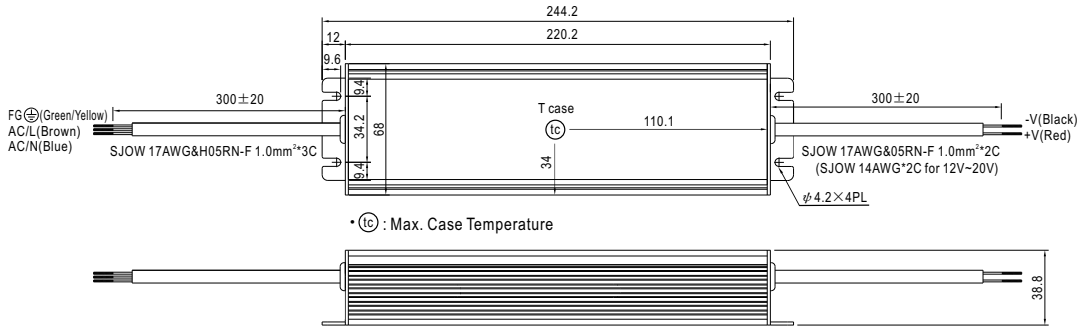
LED Drivers

MW HLG 240 Series

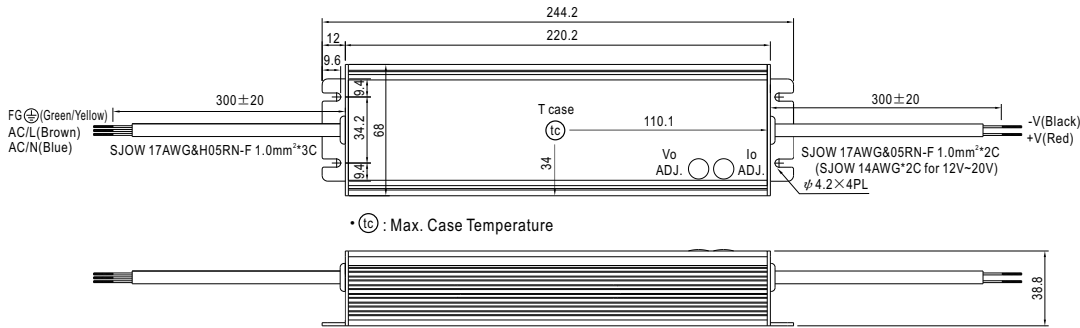
MECHANICAL SPECIFICATION

Case No.994C Unit:mm

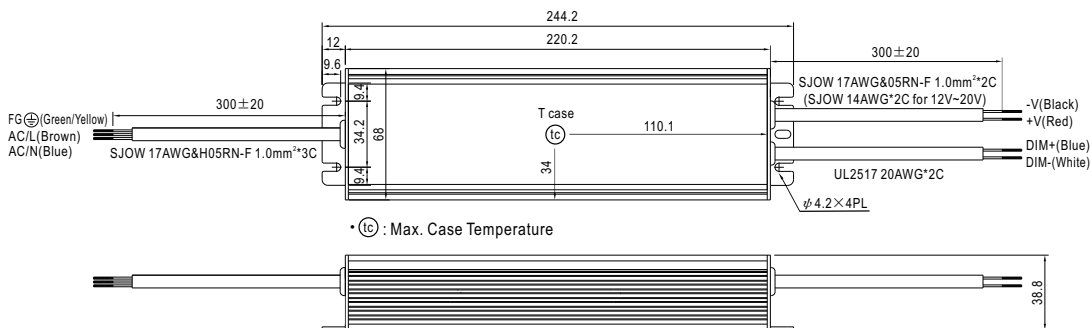
※Blank/D-Type



※A-Type

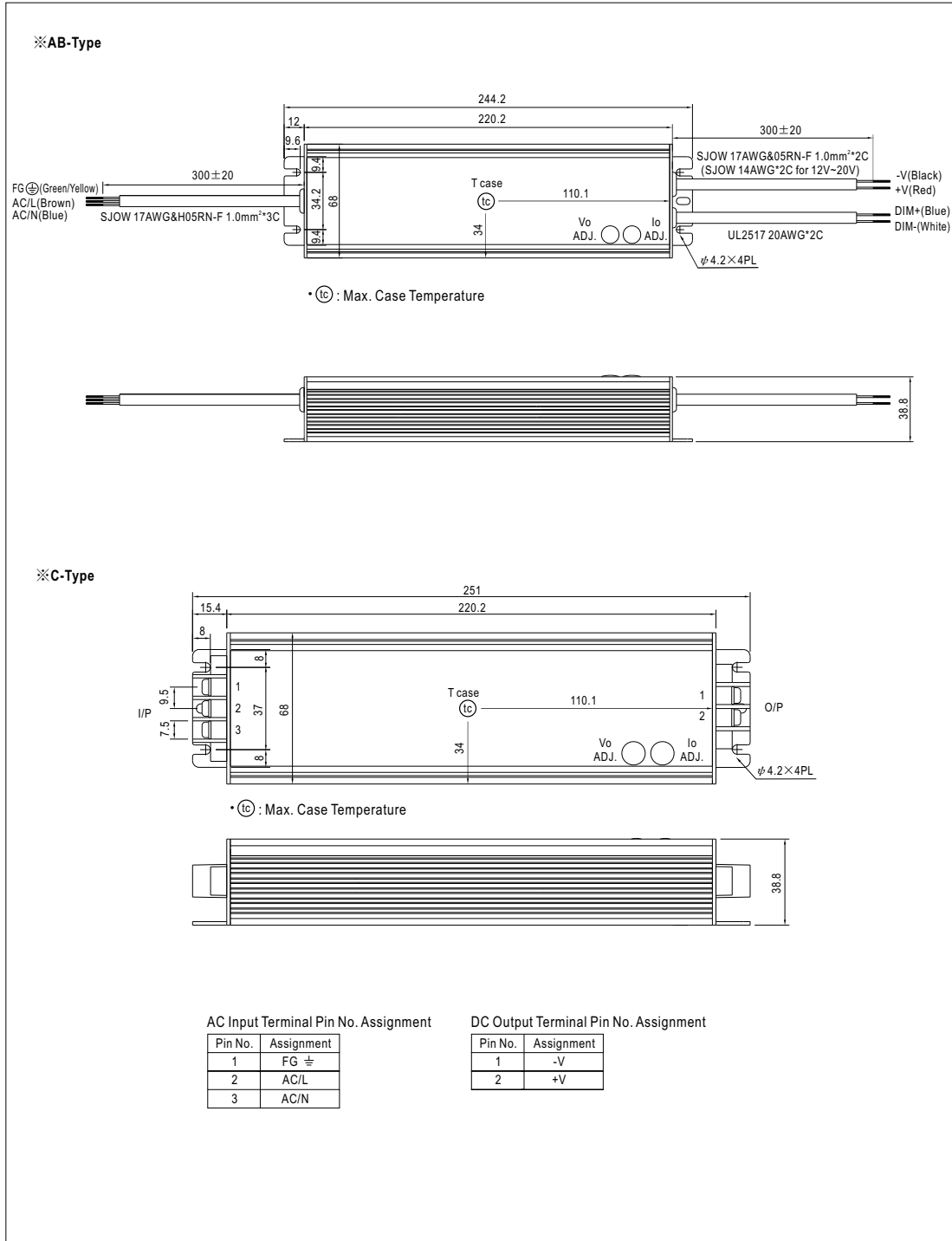


※B-Type



LED Drivers

MW HLG 240 Series



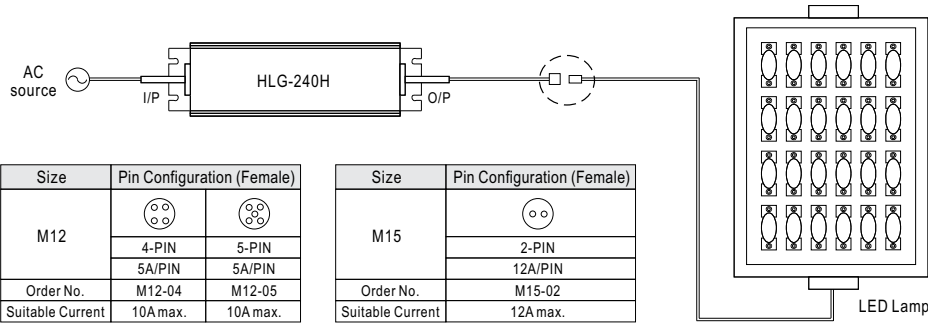
LED Drivers

MW HLG 240 Series

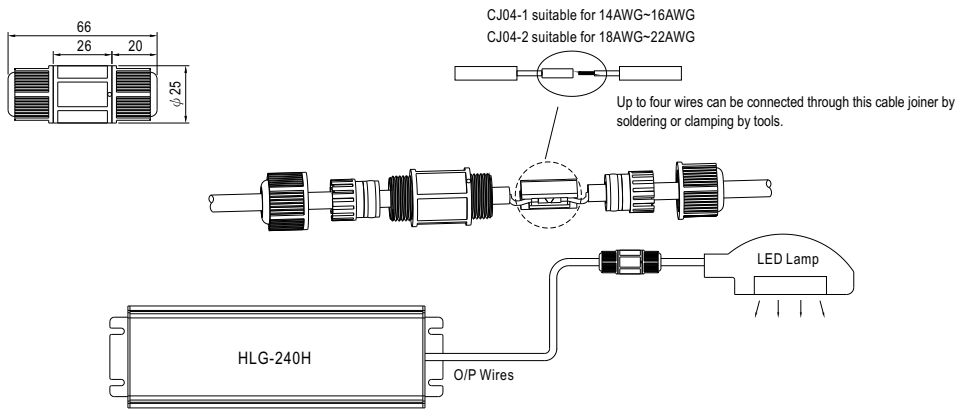
■ WATERPROOF CONNECTION

※ Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-240H to operate in dry/wet/damp or outdoor environment.

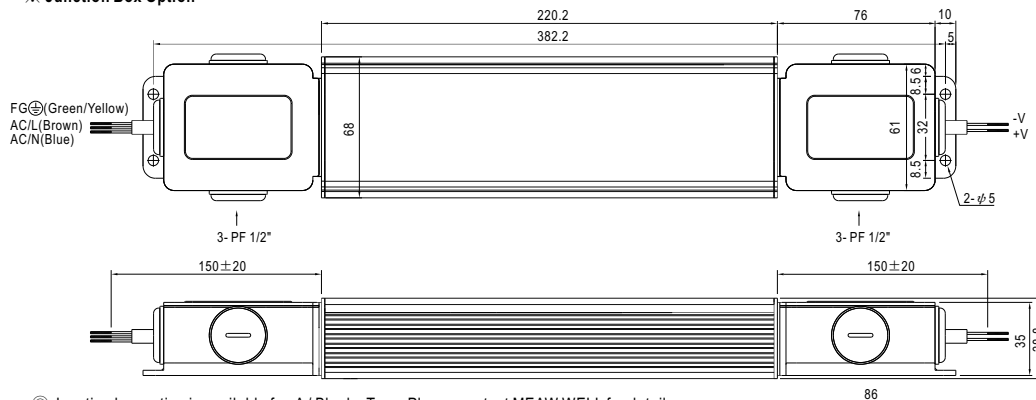


※ Cable Joiner



© CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ Junction Box Option



© Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>

LED Drivers

HLG 320 Series



SKU: 150011 - MW HLG 320-24

LED Drivers

HLG 320 Series



Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 95%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- Type HL LED Driver for use in Class I , Division 2 hazardous location luminaires
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and street lighting applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet location
- 5 years warranty (Note.10)



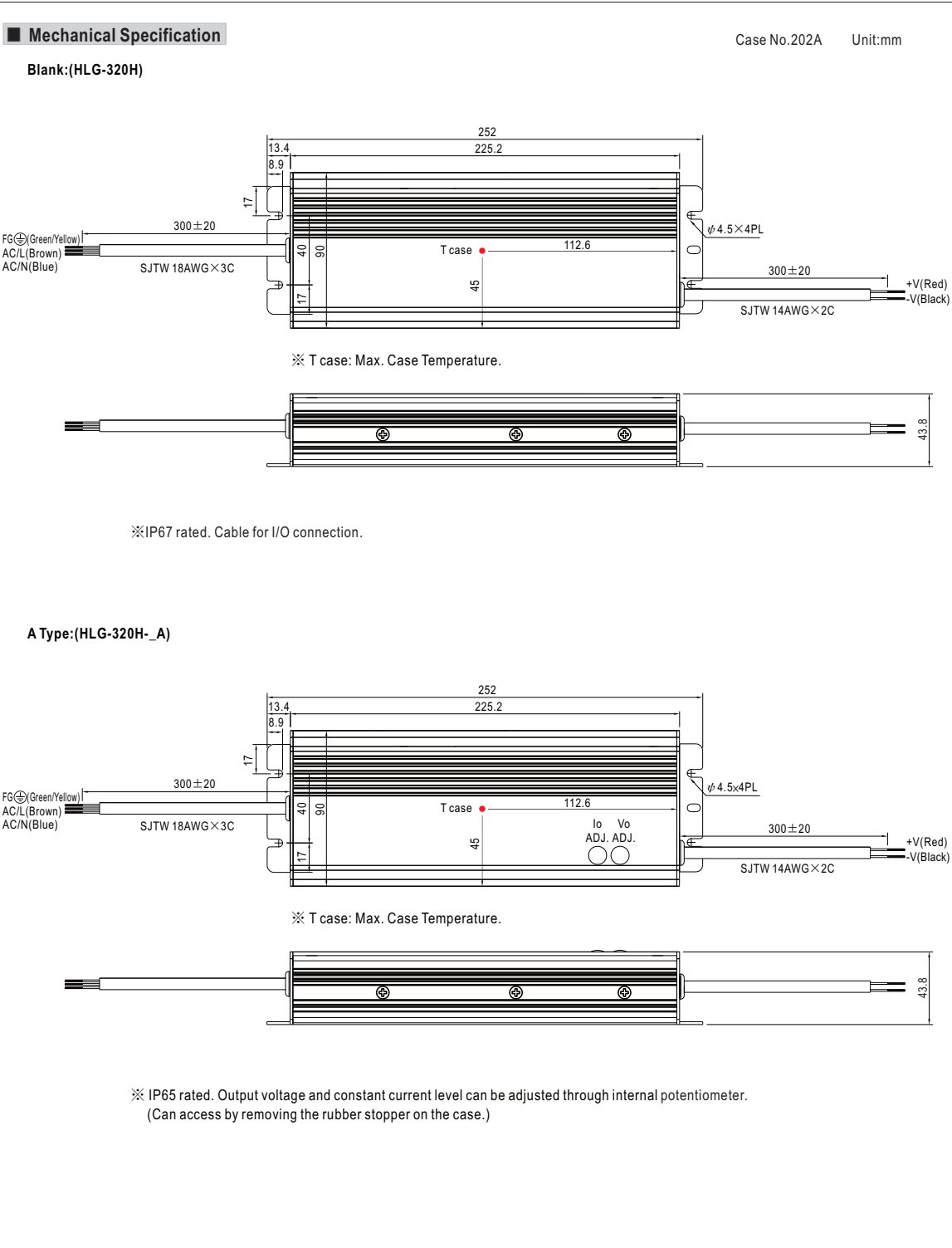
HLG-320H-12 [A] Blank : IP67 rated. Cable for I/O connection.
 A : IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
 B : IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or PWM signal or resistance.
 C : Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.
 D (option) : IP67 rated. Timer dimming function, contact MEAN WELL for details.

SPECIFICATION

MODEL	HLG-320H-12	HLG-320H-15	HLG-320H-20	HLG-320H-24	HLG-320H-30	HLG-320H-36	HLG-320H-42	HLG-320H-48	HLG-320H-54		
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V	
	CONSTANT CURRENT REGION Note.4	6~12V	7.5~15V	10~20V	12~24V	15~30V	18~36V	21~42V	24~48V	27~54V	
	RATED CURRENT	22A	19A	15A	13.34A	10.7A	8.9A	7.65A	6.7A	5.95A	
	RATED POWER	264W	285W	300W	320.16W	321W	320.4W	321.3W	321.6W	321.3W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p	
	VOLTAGE ADJ. RANGE Note.6	10.8~13.5V	13.5~17V	17~22V	21~26V	26~32V	32~39V	38~45V	43~52V	49~58V	
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type and C type only									
	VOLTAGE TOLERANCE Note.3	±3.0%	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
SETUP, RISE TIME Note.8	2500ms, 80ms/115VAC 500ms, 80ms/230VAC at full load										
HOLD UP TIME (Typ.)	15ms at full load 230VAC / 115VAC										
INPUT	VOLTAGE RANGE Note.5	90~305VAC		127~431VDC							
	FREQUENCY RANGE	47~63Hz									
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.94/277VAC at full load (Please refer to "Power Factor Characteristic" curve)									
	TOTAL HARMONIC DISTORTION	THD<20% when output loading ≥ 50% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input									
	EFFICIENCY (Typ.) (230Vac)	91%	92.5%	93.5%	94%	94%	94.5%	95%	95%	95%	
	EFFICIENCY (Typ.) (277Vac)	91.5%	93%	94%	94.5%	94.5%	95%	95%	95%	95%	
	AC CURRENT (Typ.)	3.5A / 115VAC		1.65A / 230VAC		1.45A / 277VAC					
	INRUSH CURRENT (Typ.)	COLD START 70A (tw=10/10;s measured at 50% Ipeak) at 230VAC									
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	1 unit (circuit breaker of type B) / 2 units (circuit breaker of type C) at 230VAC									
	LEAKAGE CURRENT	<0.75mA / 277VAC									
PROTECTION	OVER CURRENT Note.4	95~108% Protection type : Constant current limiting, recovers automatically after fault condition is removed									
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed									
	OVER VOLTAGE	14~17V	17.5~21V	22.5~27V	27~33V	33~37V	40~46V	46.5~53V	53.5~60V	59~65V	
	OVER TEMPERATURE	Protection type : Shut down and latch off o/p voltage, re-power on to recover Shut down and latch off o/p voltage, re-power on to recover									
ENVIRONMENT	WORKING TEMP.	-40~+70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	20~95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40~+80°C, 10~95% RH									
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)									
SAFETY & EMC	VIBRATION	10~500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes									
	SAFETY STANDARDS Note.7	UL8750, CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent, IP65 or IP67 (except for HLG-320H C type), J61347-1, J61347-2-13 (except for HLG-320H C type) approved									
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC		I/P-FG: 2KVAC		O/P-FG: 1.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH									
	EMC EMISSION	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥50% load) ; EN61000-3-3									
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, EN55024, light industry level (surge 4KV), criteria B									
	MTBF	157.1K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	252*90*43.8mm (L*W*H)									
NOTE	PACKING	1.88Kg; 8pcs/16Kg/0.92CUFT									
		1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. Please refer to "DRIVING METHODS OF LED MODULE". 5. Derating may be needed under low input voltages. Please check the static characteristics for more details. 6. A type and C type only. 7. Safety and EMC design refer to EN60598-1, subject CNS15233, GB7000.1, FCC part18. 8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time. 9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 10. Refer to warranty statement. 11. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.									

LED Drivers

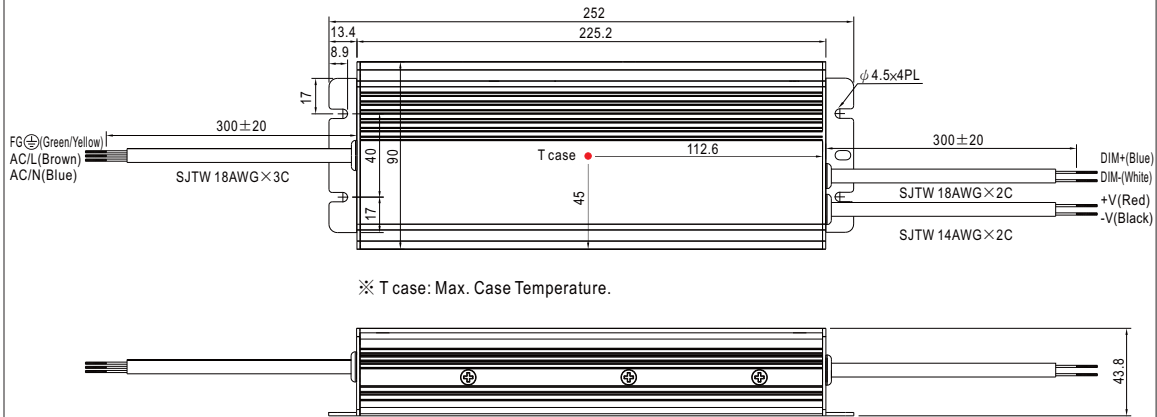
HLG 320 Series



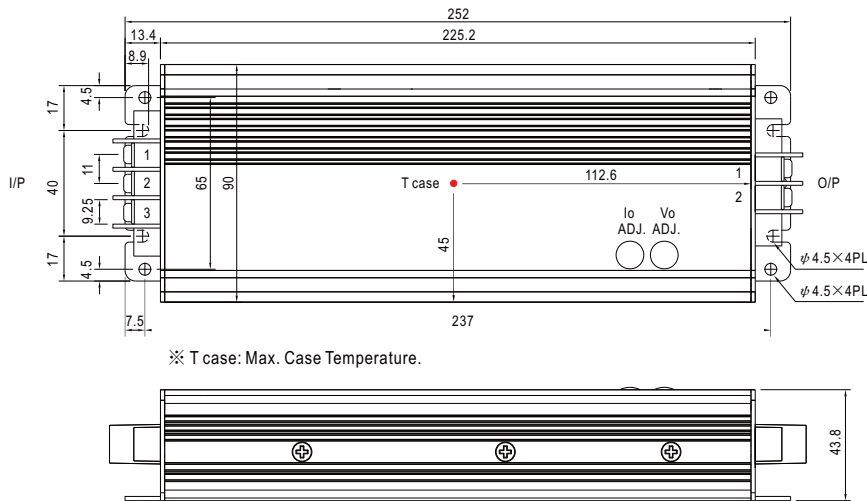
LED Drivers

HLG 320 Series

B Type:(HLG-320H_B)



C Type:(HLG-320H_C)



※ Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG 𠄎
2	AC/L
3	AC/N

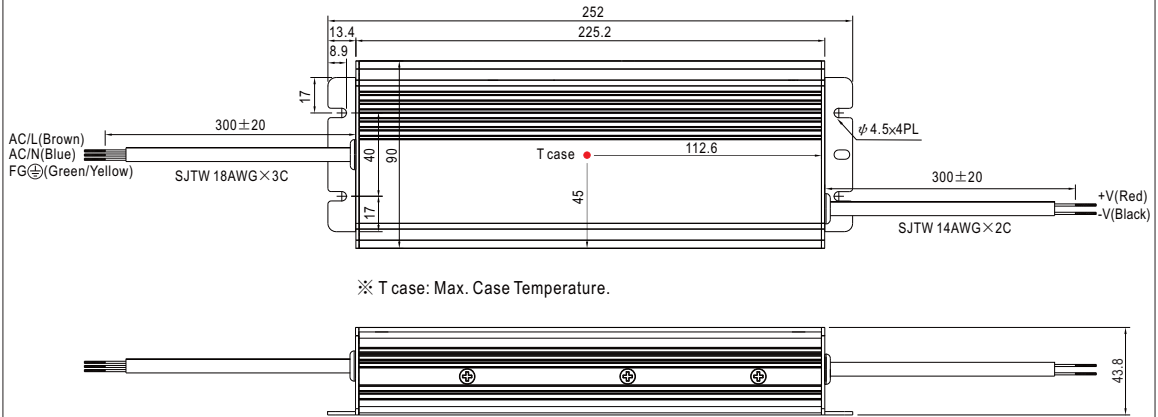
DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1	+V
2	-V

LED Drivers

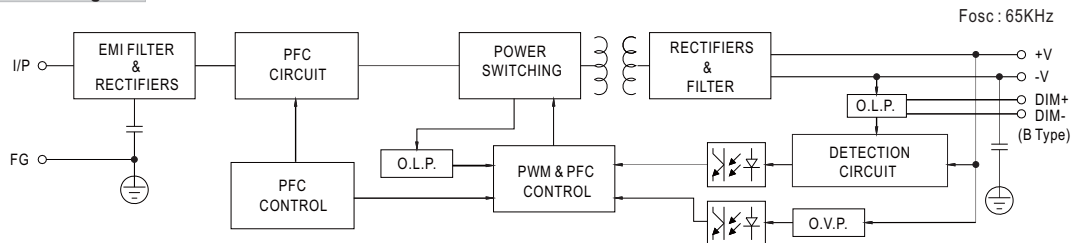
HLG 320 Series

D Type(option):(HLG-320H_D)

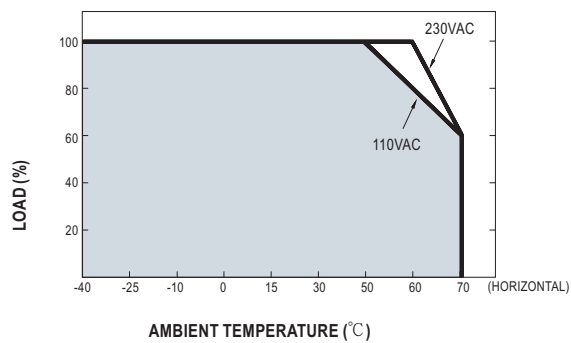


※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

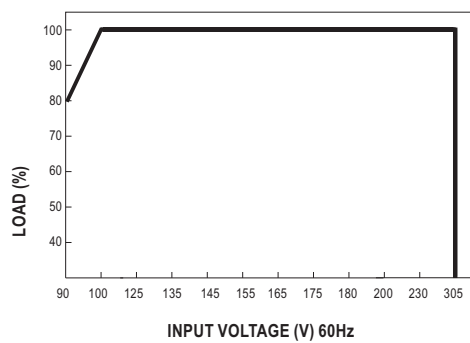
Block Diagram



Derating Curve



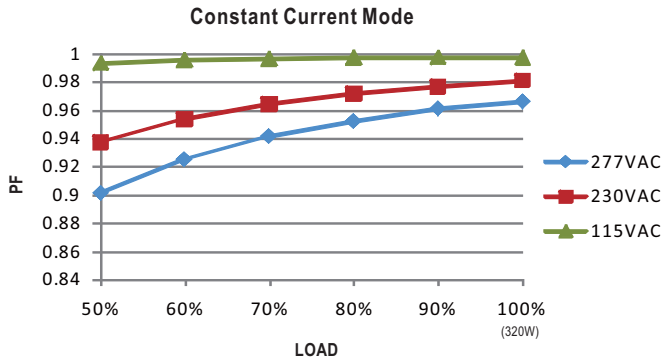
Static Characteristics



LED Drivers

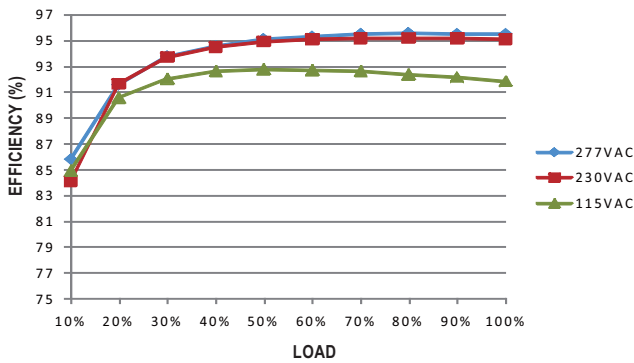
HLG 320 Series

Power Factor Characteristic



EFFICIENCY vs LOAD (48V Model)

HLG-320H series possess superior working efficiency that up to 95% can be reached in field applications.

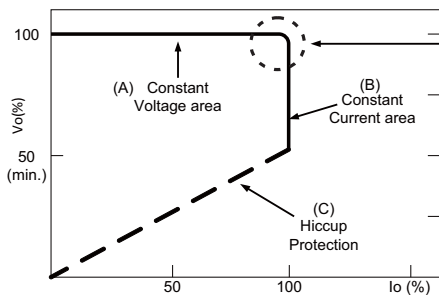


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B)).



Typical LED power supply I-V curve

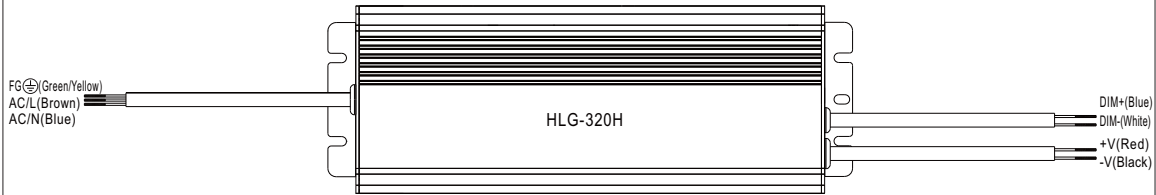
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

LED Drivers

HLG 320 Series

■ DIMMING OPERATION (for B-type only)



- ※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.
- ※ Please DO NOT connect "DIM-" to "-V".
- ※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
		Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N
Percentage of rated current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

- ※ 1 ~ 10V dimming function for output current adjustment (Typical)

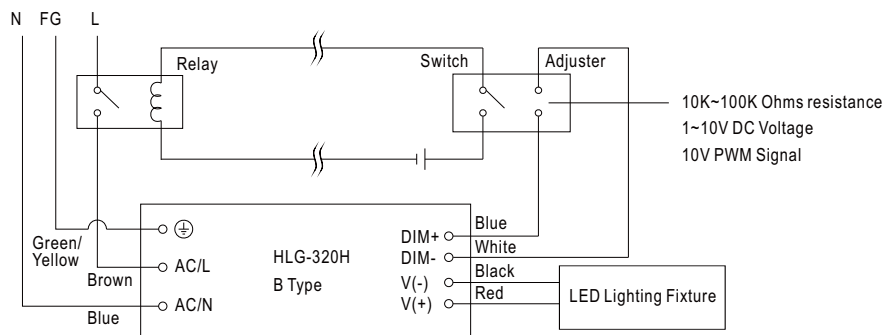
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

- ※ 10V PWM signal for output current adjustment (Typical): Frequency range :100HZ ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

- ※ Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.
- ※ Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF :



Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.

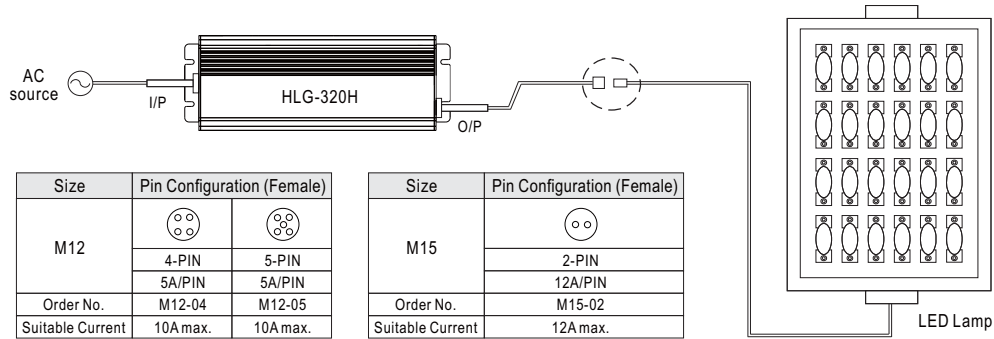
LED Drivers

HLG 320 Series

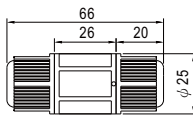
WATERPROOF CONNECTION

Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-320H to operate in dry/wet/damp or outdoor environment.

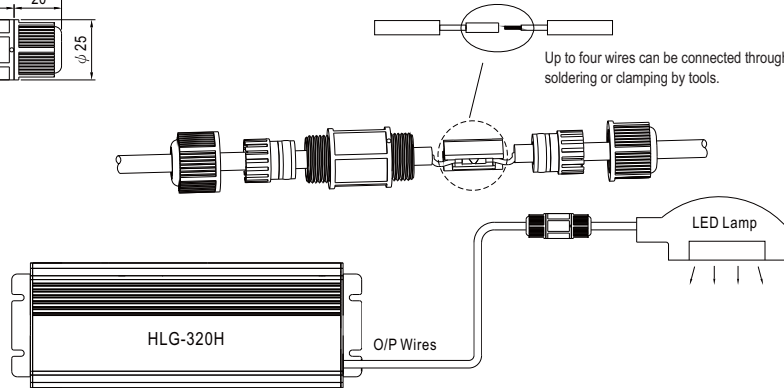


Cable Joiner



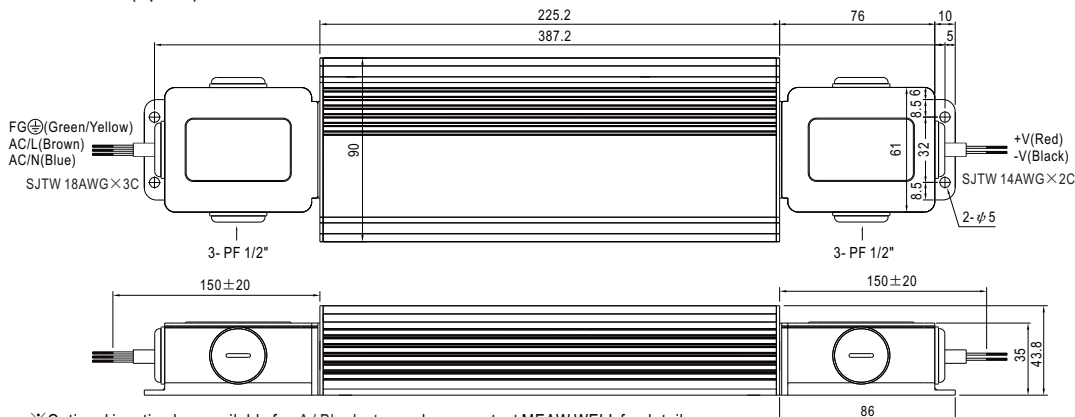
CJ04-1 suitable for 14AWG~16AWG
CJ04-2 suitable for 18AWG~22AWG

Up to four wires can be connected through this cable joiner by soldering or clamping by tools.



※CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

Junction Box (Option)



※Optional junction box available for A/ Blank - type, please contact MEAN WELL for details.

LED Drivers

MW LRS 200 Series



■ Features

- AC input range selectable by switch
- Withstand 300VAC surge input for 5 second
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- 1U low profile
- Withstand 5G vibration test
- LED indicator for power on
- No load power consumption<0.75W
- 100% full load burn-in test
- High operating temperature up to 70°C
- Operating altitude up to 5000 meters (Note.8)
- High efficiency, long life and high reliability
- 3 years warranty

■ Applications

- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus

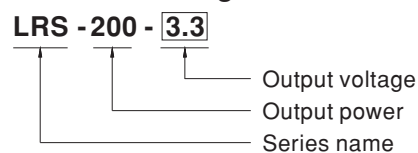
■ Description

LRS-200 series is a 200W single-output enclosed type power supply with 30mm of low profile design. Adopting the input of 115VAC or 230VAC (select by switch), the entire series provides an output voltage line of 3.3V, 4.2V, 5V, 12V, 15V, 24V, 36V and 48V.

In addition to the high efficiency up to 90%, the design of metallic mesh case enhances the heat dissipation of LRS-200 that the whole series operates from -25°C through 70°C under air convection without a fan. Delivering an extremely low no load power consumption (less than 0.75W), it allows the end system to easily meet the worldwide energy requirement. LRS-200 has the complete protection functions and 5G anti-vibration capability; it is complied with the international safety regulations such as UL 60950-1.

LRS-200 series serves as a high price-to-performance power supply solution for various industrial applications.

■ Model Encoding



LED Drivers

MW LRS 200 Series

SPECIFICATION

MODEL	LRS-200-3.3	LRS-200-4.2	LRS-200-5	LRS-200-12	LRS-200-15	LRS-200-24	LRS-200-36	LRS-200-48		
OUTPUT	DC VOLTAGE	3.3V	4.2V	5V	12V	15V	24V	36V	48V	
	RATED CURRENT	40A	40A	40A	17A	14A	8.8A	5.9A	4.4A	
	CURRENT RANGE	0 ~ 40A	0 ~ 40A	0 ~ 40A	0 ~ 17A	0 ~ 14A	0 ~ 8.8A	0 ~ 5.9A	0 ~ 4.4A	
	RATED POWER	132W	168W	200W	204W	210W	211.2W	212.4W	211.2W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE	2.97 ~ 3.6V	3.6 ~ 4.4V	4.5 ~ 5.5V	10.2 ~ 13.8V	13.5 ~ 18V	21.6 ~ 28.8V	32.4 ~ 39.6V	43.2 ~ 52.8V	
	VOLTAGE TOLERANCE Note.3	±3.0%	±4.0%	±3.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION Note.4	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION Note.5	±2.5%	±2.5%	±2.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	1300ms, 50ms/230VAC 1300ms, 50ms/115VAC at full load								
HOLD UP TIME (Typ.)	16ms/230VAC 12ms/115VAC at full load									
INPUT	VOLTAGE RANGE	90 ~ 132VAC / 180 ~ 264VAC by switch 240 ~ 370VDC (switch on 230VAC)								
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY (Typ.)	83%	86%	87%	87.5%	88%	89.5%	89.5%	90%	
	AC CURRENT (Typ.)	4A/115VAC 2.2A/230VAC								
	INRUSH CURRENT (Typ.)	COLD STAR 60A/115VAC 60A/230VAC								
	LEAKAGE CURRENT	<2mA / 240VAC								
PROTECTION	OVER LOAD	110 ~ 140% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	3.8 ~ 4.45V	4.6 ~ 5.4V	5.75 ~ 6.75V	13.8 ~ 16.2V	18 ~ 21V	28.8 ~ 33.6V	41.4 ~ 46.8V	55.2 ~ 64.8V	
	OVER TEMPERATURE	Hiccup mode, recovers automatically after fault condition is removed								
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)								
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes								
SAFETY	SAFETY STANDARDS	UL60950-1, BSMI CNS14336-1, EAC TP TC 004 approved								
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH								
	EMC EMISSION	Compliance to BSMI CNS13438, EAC TP TC 020								
	EMC IMMUNITY	Compliance to EAC TP TC 020								
OTHERS	MTBF	347.5K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	215*115*30mm (L*W*H)								
	PACKING	0.66Kg; 15pcs/10.9Kg/0.78CUFT								
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Line regulation is measured from low line to high line at rated load.</p> <p>5. Load regulation is measured from 0% to 100% rated load.</p> <p>6. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time.</p> <p>7. The 150% peak load capability is built in for up to 1 second for 12~48V.LRS-200 will enter hiccup mode if the peak load is delivered for over 1 second and will recover once it resumes to the rated current level(115VAC/230VAC).</p> <p>8. The ambient temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m(6500ft).</p> <p>9. This power supply does not meet the harmonic current requirements outlined by EN61000-3-2. Please do not use this power supply under the following conditions:</p> <p>a) the end-devices is used within the European Union, and</p> <p>b) the end-devices is connected to public mains supply with 220Vac or greater rated nominal voltage, and</p> <p>c) the power supply is:</p> <ul style="list-style-type: none"> - installed in end-devices with average or continuous input power greater than 75W, or - belong to part of a lighting system <p>Exception:</p> <p>Power supplies used within the following end-devices do not need to fulfill EN61000-3-2</p> <p>a) professional equipment with a total rated input power greater than 1000W;</p> <p>b) symmetrically controlled heating elements with a rated power less than or equal to 200W</p>									

LED Drivers

MW LRS 200 Series

■ Block Diagram

■ Static Characteristics

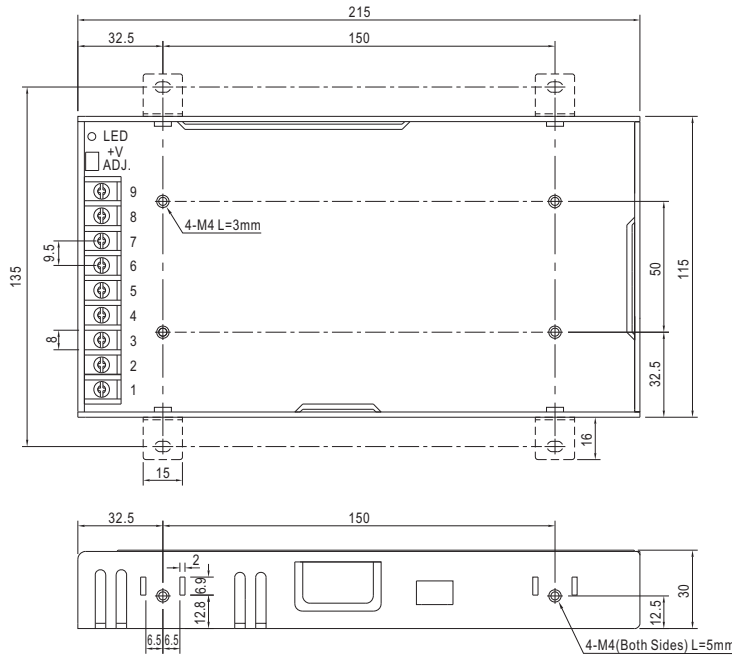
■ Derating Curve

LED Drivers

MW LRS 200 Series

Mechanical Specification

Case No. 207 Unit:mm



Terminal Pin No. Assignment :

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4~6	DC OUTPUT -V
2	AC/N	7~9	DC OUTPUT +V
3	FG \perp		

Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>



LED Drivers

MW LRS 350 Series



■ Features

- AC input range selectable by switch
- Withstand 300VAC surge input for 5 second
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- Built-in cooling Fan ON-OFF control
- 1U low profile
- Withstand 5G vibration test
- LED indicator for power on
- No load power consumption < 0.75W
- 100% full load burn-in test
- High operating temperature up to 70°C
- Operating altitude up to 5000 meters (Note.8)
- High efficiency, long life and high reliability
- 3 years warranty

■ Applications

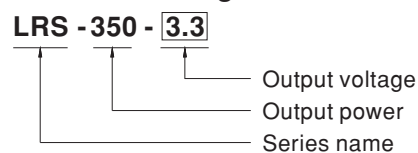
- Industrial automation machinery
- Industrial control system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus

■ Description

LRS-350 series is a 350W single-output enclosed type power supply with 30mm of low profile design. Adopting the input of 115VAC or 230VAC (select by switch), the entire series provides an output voltage line of 3.3V, 4.2V, 5V, 12V, 15V, 24V, 36V and 48V.

In addition to the high efficiency up to 89%, with the built-in long life fan LRS-350 can work under -25~+70°C with full load. Delivering an extremely low no load power consumption (less than 0.75W), it allows the end system to easily meet the worldwide energy requirement. LRS-350 has the complete protection functions and 5G anti-vibration capability; it is complied with the international safety regulations such as UL60950-1. LRS-350 series serves as a high price-to-performance power supply solution for various industrial applications.

■ Model Encoding



LED Drivers

MW LRS 350 Series

SPECIFICATION

MODEL	LRS-350-3.3	LRS-350-4.2	LRS-350-5	LRS-350-12	LRS-350-15	LRS-350-24	LRS-350-36	LRS-350-48		
OUTPUT	DC VOLTAGE	3.3V	4.2V	5V	12V	15V	24V	36V	48V	
	RATED CURRENT	60A	60A	60A	29A	23.2A	14.6A	9.7A	7.3A	
	CURRENT RANGE	0 ~ 60A	0 ~ 60A	0 ~ 60A	0 ~ 29A	0 ~ 23.2A	0 ~ 14.6A	0 ~ 9.7A	0 ~ 7.3A	
	RATED POWER	198W	252W	300W	348W	348W	350.4W	349.2W	350.4W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE	2.97 ~ 3.6V	3.6 ~ 4.4V	4.5 ~ 5.5V	10.2 ~ 13.8V	13.5 ~ 18V	21.6 ~ 28.8V	32.4 ~ 39.6V	43.2 ~ 52.8V	
	VOLTAGE TOLERANCE Note.3	±4.0%	±4.0%	±3.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION Note.4	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION Note.5	±2.5%	±2.5%	±2.0%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	1300ms, 50ms/230VAC 1300ms, 50ms/115VAC at full load								
HOLD UP TIME (Typ.)	16ms/230VAC 12ms/115VAC at full load									
INPUT	VOLTAGE RANGE	90 ~ 132VAC / 180 ~ 264VAC by switch 240 ~ 370VDC (switch on 230VAC)								
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY (Typ.)	79.5%	81.5%	83.5%	85%	86%	88%	88.5%	89%	
	AC CURRENT (Typ.)	6.8A/115VAC 3.4A/230VAC								
	INRUSH CURRENT (Typ.)	60A/115VAC 60A/230VAC								
	LEAKAGE CURRENT	<2mA / 240VAC								
PROTECTION	OVER LOAD	110 ~ 140% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	3.8 ~ 4.45V	4.6 ~ 5.4V	5.75 ~ 6.75V	13.8 ~ 16.2V	18 ~ 21V	28.8 ~ 33.6V	41.4 ~ 46.8V	55.2 ~ 64.8V	
	OVER TEMPERATURE	Hiccup mode, recovers automatically after fault condition is removed								
FUNCTION	FAN ON/OFF CONTROL (Typ.)	RTH3 ≥ 50°C FAN ON, ≤ 40°C FAN OFF								
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)								
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes								
SAFETY	SAFETY STANDARDS	UL60950-1, BSMI CNS14336-1, EAC TP TC 004 approved								
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC / 25°C / 70% RH								
	EMC EMISSION	Compliance to BSMI CNS13438, EAC TP TC 020								
	EMC IMMUNITY	Compliance to EAC TP TC 020								
OTHERS	MTBF	327.9K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	215*115*30mm (L*W*H)								
	PACKING	0.76Kg; 15pcs/12.4Kg/0.78CUFT								
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. Line regulation is measured from low line to high line at rated load. Load regulation is measured from 0% to 100% rated load. Length of set up time is measured at cold first start. Turning ON/OFF the power supply very quickly may lead to increase of the set up time. The 150% peak load capability is built in for up to 1 second for 12~48V.LRS-350 will enter hiccup mode if the peak load is delivered for over 1 second and will recover once it resumes to the rated current level(115VAC/230VAC). The ambient temperature derating of 5°C /1000m is needed for operating altitude greater than 2000m(6500ft). This power supply does not meet the harmonic current requirements outlined by EN61000-3-2. Please do not use this power supply under the following conditions: <ol style="list-style-type: none"> the end-devices is used within the European Union, and the end-devices is connected to public mains supply with 220Vac or greater rated nominal voltage, and the power supply is: <ul style="list-style-type: none"> installed in end-devices with average or continuous input power greater than 75W, or belong to part of a lighting system <p>Exception: Power supplies used within the following end-devices do not need to fulfill EN61000-3-2 a) professional equipment with a total rated input power greater than 1000W; b) symmetrically controlled heating elements with a rated power less than or equal to 200W</p>									

LED Drivers

MW LRS 350 Series

■ Block Diagram

■ Derating Curve

Ambient Temperature (°C)	Load (%)
-25	100
0	100
50	100
70	60

■ Static Characteristics

Input Voltage (VAC) 60Hz	Load (%) - 180 ~ 264VAC	Load (%) - 90 ~ 132VAC
90	80	80
100	100	100
110	100	100
120	100	100
132	100	100

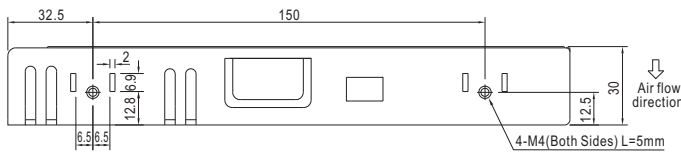
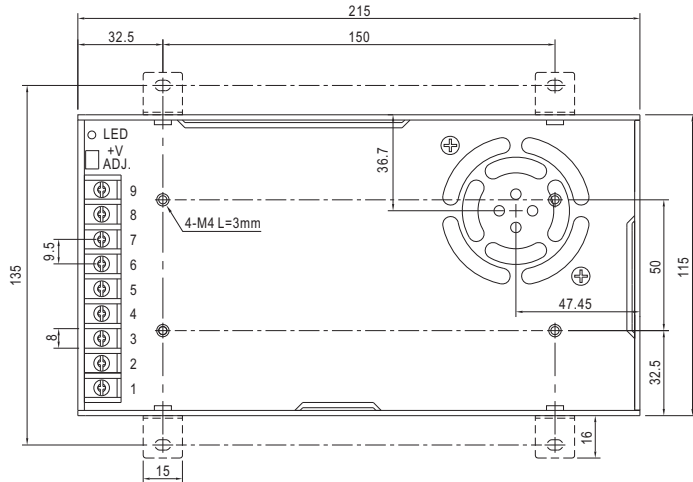
Product Image: A photograph of the LRS-350-12 LED driver unit, showing its top surface with a fan and its bottom terminal block with output terminals labeled +V, -V, N, and L.

LED Drivers

MW LRS 350 Series

Mechanical Specification

Case No.207A Unit:mm



Terminal Pin No. Assignment :

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4~6	DC OUTPUT -V
2	AC/N	7~9	DC OUTPUT +V
3	FG \perp		

Installation Manual

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