



- Constant Voltage and Current Output
- Universal AC Input of 100~305VAC
- Built-in Active PFC function
- Protections: Short Circuit/Over Voltage/Over Load
- Fixed Derating-Cutoff Type of Temperature Protection
- Cooling by Free Air Convection
- 3 in 1 Dimming Function (optional)
- Adjustable Output Voltage and Current (optional)
- Suitable for LED Lighting and LED Electronic Display Applications
- IP65 with Vo/Io Adjustment Screws, IP67 without
- Suitable for Dry / Damp / Wet Locations
- 5 Year Warranty

c **UL** [®] **us** **CE** **FC** **IP67** **RoHS**

■ General functions

Output Power	120W	Input Frequency	50/60Hz
Input Voltage Range	100~305Vac	Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+85°C	Safety & EMC	UL8750, IEC61347, EN55015
Turn-on Delay Time	3.0S max.	Inrush Current	65A at 230Vac, Cold start
Over Temp Protection	Fixed derating-cutoff type temperature protection	Waterproof	IP65/IP67

120W Single Output LED Driver with PFC

TABLE 1:

Model		DR120-172S070X-YY	DR120-110S110X-YY	DR120-058S210X-YY	DR120-048S250X-YY	DR120-036S350X-YY
Output	DC Voltage	172Vdc	110Vdc	58Vdc	48Vdc	36Vdc
	Constant Current Operation Voltage <small>note.5</small>	103 ~172Vdc	66 ~110Vdc	35~58Vdc	29~48Vdc	22~36Vdc
	Rated DC Current	700 mA	1100 mA	2100 mA	2500 mA	3500 mA
	Current Range	0~700 mA	0~1100mA	0~2100mA	0~2500mA	0~3500mA
	Dimming Current Range	10~100% rated output current (≥50% rated output voltage)				
	Ripple and Noise	10%Vo	10%Vo	10%Vo	10%Vo	10%Vo
	Voltage ADJ. Range <small>note.3</small>	155~181Vdc	99~116Vdc	52~61Vdc	43~50Vdc	32~38Vdc
	Current ADJ. Range <small>note.3</small>	420~700 mA	660~1100mA	1260~2100mA	1500~2500mA	2100~3500mA
	Voltage Tolerance	±5%	±5%	±5%	±5%	±5%
	Voltage Line Regulation	±1%	±1%	±1%	±1%	±1%
	Voltage Load Regulation	±5%	±5%	±5%	±5%	±5%
Input	Efficiency	92%	91%	91%	91%	90%
	Power Factor	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac
	AC Current	1.5A/100Vac, 0.7A/230Vac				
	Leakage Current	<0.75mA/230Vac; <0.5mA/120Vac				
Output Protection	Over Current	Constant current limiting				
	Short Circuit	Non-dimmer type: recover automatically at hiccup; Dimmer type: Short-circuit power ≤10W.				
	Over Voltage	Shut down at 140% Vo and latch off o/p voltage, re-power on to recover				
Environmental	Operating Humidity	20~95% RH, non-condensing				
	Storage Humidity	10~95% RH				
	Temperature Coefficient	±0.03%/°C (0~50°C)				
	Vibration	10~300Hz, 1G, Period for 60min, each along X、Y、Z axes.				
Safety & EMC	Withstand Voltage	I/P-OP: 3.75KVdc; IP-FG: 1.56KVdc/2.00KVdc (remove discharge tube); O/P-FG: 2.00KVdc				
	Isolation Resistance	IP-OP, IP-FG, O/P-FG: 100M Ohms/500Vdc/25°C/70% RH				
	EMC Interference	Compliance to EN55015, EN55022 (CISPR22) Class B				
	EMC Emission	Compliance to EN61000-3-2 Class C (≥50%load); EN61000-3-3				
	EMC Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024				
Others	Authentication	UL/TUV/CE/FCC/RoHS/CQC/REACH				
	MTBF	341k Hrs at full load and 30°C ambient conditions per MIL-HDBK-217F				
	Input Over-voltage	Can survive input over-voltage stress of 320Vac for 48 hours				
	Dimensions (mm)	211×68×40				
	Max. Case Temp.	Tc max=80°C				
	Net Weight	1.01Kg/pcs				
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. Output voltage and current can be adjusted by internal potentiometer ("A" type only).					
	4. Tolerance: includes set up tolerance, voltage line regulation and voltage load regulation.					
	5. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.					
	6. Derating may be needed under low input voltages. Please check the Static Characteristics for more details.					
	7. Safety and EMC design refer to EN60598-1, subject 8750 (UL), 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.					

120W Single Output LED Driver with PFC

TABLE 2:

Model		DR120-029S420X-YY	DR120-024S500X-YY	DR120-020S600X-YY	DR120-343S035X-YY	DR120-267S045X-YY
Output	DC Voltage	29Vdc	24Vdc	20Vdc	343Vdc	267Vdc
	Constant Current Operation Voltage <small>note.5</small>	17~29Vdc	15~24Vdc	12~20Vdc	206 ~343Vdc	160 ~267Vdc
	Rated DC Current	4200 mA	5000mA	6000mA	350 mA	450 mA
	Current Range	0~4200mA	0~5000mA	0~6000mA	0~350mA	0~450mA
	Dimming Current Range	10~100% rated output current (≥50% rated output voltage)				
	Ripple and Noise	10%Vo	10%Vo	10%Vo	10%Vo	10%Vo
	Voltage ADJ. Range <small>note.3</small>	26~30Vdc	22~25Vdc	18~21Vdc	309~360Vdc	240~280Vdc
	Current ADJ. Range <small>note.3</small>	2520~4200mA	3000~5000mA	3600~6000mA	210~350mA	270~450mA
	Voltage Tolerance	±5%	±5%	±5%	±5%	±5%
	Voltage Line Regulation	±1%	±1%	±1%	±1%	±1%
	Voltage Load Regulation	±5%	±5%	±5%	±5%	±5%
Input	Efficiency	90%	89%	88%	92%	92%
	Power Factor	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac
	AC Current	1.5A/100Vac, 0.7A/230Vac				
	Leakage Current	<0.75mA/230Vac; <0.5mA/120Vac				
Output Protection	Over Current	Constant current limiting				
	Short Circuit	Non-dimmer type: recover automatically at hiccup; Dimmer type: Short-circuit power ≤10W.				
	Over Voltage	Shut down at 140% Vo and latch off o/p voltage, re-power on to recover				
Environmental	Operating Humidity	20~95% RH, non-condensing				
	Storage Humidity	10~95% RH				
	Temperature Coefficient	±0.03%/°C (0~50°C)				
	Vibration	10~300Hz, 1G, Period for 60min, each along X、 Y、 Z axes.				
Safety & EMC	Withstand Voltage	I/P-OP: 3.75KVdc; IP-FG: 1.56KVdc/2.00KVdc (remove discharge tube); O/P-FG: 2.00KVdc				
	Isolation Resistance	IP-OP, IP-FG, O/P-FG: 100M Ohms/500Vdc/25°C/70% RH				
	EMC Interference	Compliance to EN55015, EN55022 (CISPR22) Class B				
	EMC Emission	Compliance to EN61000-3-2 Class C (≥50%load); EN61000-3-3				
	EMC Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024				
Others	Authentication	UL/TUV/CE/FCC/RoHS/CQC/REACH			TUV/CE/RoHS/REACH	
	MTBF	341k Hrs at full load and 30°C ambient conditions per MIL-HDBK-217F				
	Input Over-voltage	Can survive input over-voltage stress of 320Vac for 48 hours				
	Dimensions (mm)	211×68×40				
	Max. Case Temp.	Tc max=80°C				
	Net Weight	1.01Kg/pcs				
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. Output voltage and current can be adjusted by internal potentiometer ("A" type only).					
	4. Tolerance: includes set up tolerance, voltage line regulation and voltage load regulation.					
	5. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.					
	6. Derating may be needed under low input voltages. Please check the Static Characteristics for more details.					
	7. Safety and EMC design refer to EN60598-1, subject 8750 (UL), 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.					

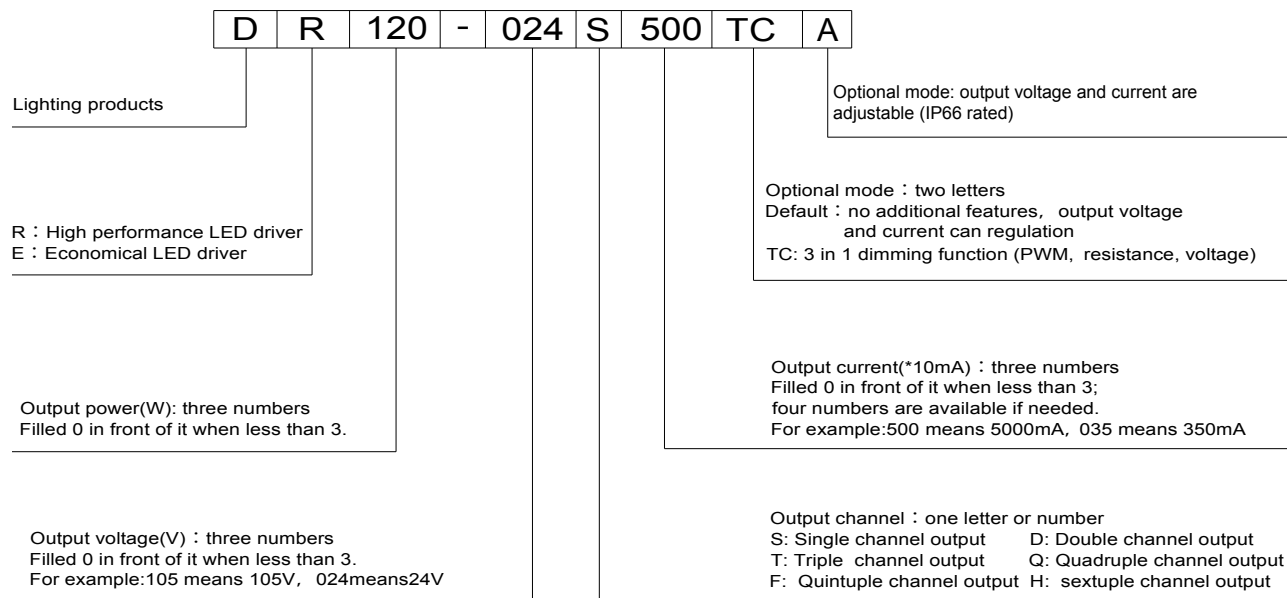
120W Single Output LED Driver with PFC

TABLE 4:

Model		DR120-038S315X-YY				
Output	DC Voltage	38Vdc				
	Constant Current Operation Voltage <small>note.5</small>	23~38Vdc				
	Rated DC Current	3150 mA				
	Current Range	0~3150mA				
	Dimming Current Range	10~100% rated output current (≥50% rated output voltage)				
	Ripple and Noise	10%Vo				
	Voltage ADJ. Range <small>note.3</small>	34~40Vdc				
	Current ADJ. Range <small>note.3</small>	1890~3150mA				
	Voltage Tolerance	±5%				
	Voltage Line Regulation	±1%				
	Voltage Load Regulation	±5%				
Input	Efficiency	90%				
	Power Factor	0.96/230Vac				
	AC Current	1.5A/100Vac, 0.7A/230Vac				
	Leakage Current	<0.75mA/230Vac; <0.5mA/120Vac				
Output Protection	Over Current	Constant current limiting				
	Short Circuit	Non-dimmer type: recover automatically at hiccup; Dimmer type: Short-circuit power ≤10W.				
	Over Voltage	Shut down at 140% Vo and latch off o/p voltage, re-power on to recover				
Environmental	Operating Humidity	20~95% RH, non-condensing				
	Storage Humidity	10~95% RH				
	Temperature Coefficient	±0.03%/°C (0~50°C)				
	Vibration	10~300Hz, 1G, Period for 60min, each along X、Y、Z axes.				
Safety & EMC	Withstand Voltage	I/P-OP: 3.75KVdc; IP-FG: 1.56KVdc/2.00KVdc (remove discharge tube); O/P-FG: 2.00KVdc				
	Isolation Resistance	IP-OP, IP-FG, O/P-FG: 100M Ohms/500Vdc/25°C/70% RH				
	EMC Interference	Compliance to EN55015, EN55022 (CISPR22) Class B				
	EMC Emission	Compliance to EN61000-3-2 Class C (≥50%load); EN61000-3-3				
	EMC Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024				
Others	Authentication	TUV/CE/ RoHS/REACH				
	MTBF	341k Hrs at full load and 30°C ambient conditions per MIL-HDBK-217F				
	Input Over-voltage	Can survive input over-voltage stress of 320Vac for 48 hours				
	Dimensions (mm)	211×68×40				
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Note	1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25°C of ambient temperature.					
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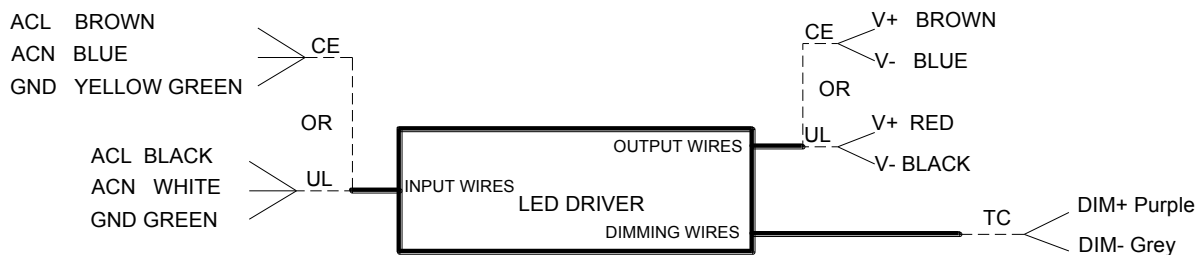
120W Single Output LED Driver with PFC

Part number code

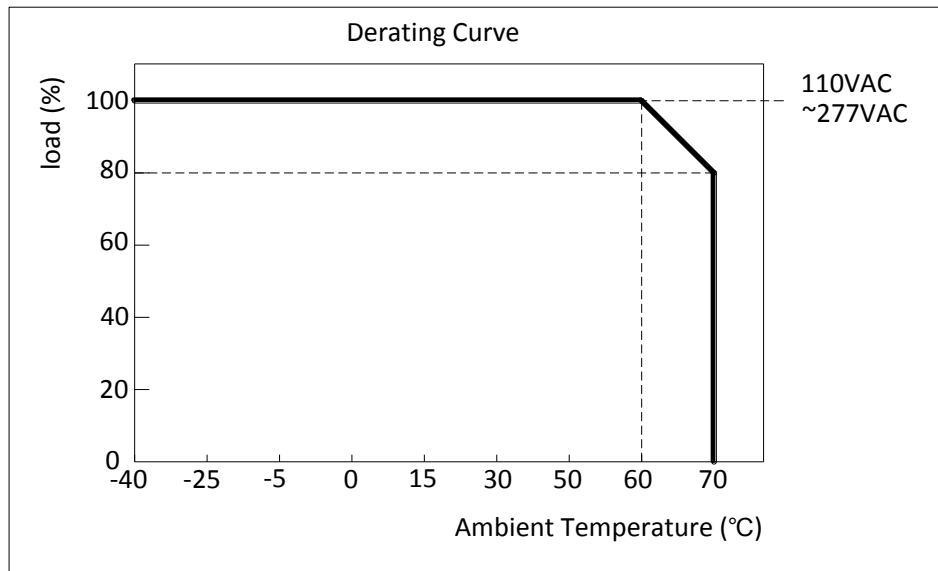


For example: DR120-024S500TC means it is a high performance LED driver, output power 120W, output voltage 24Vdc, output current 5000mA , single output, with 3 in 1 dimming function.

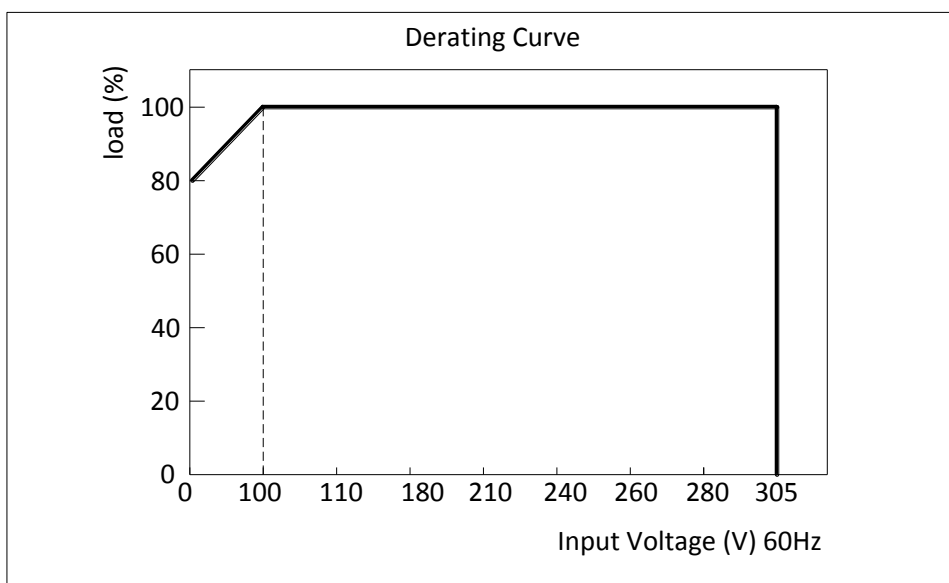
wiring diagram



■ Derating Curve

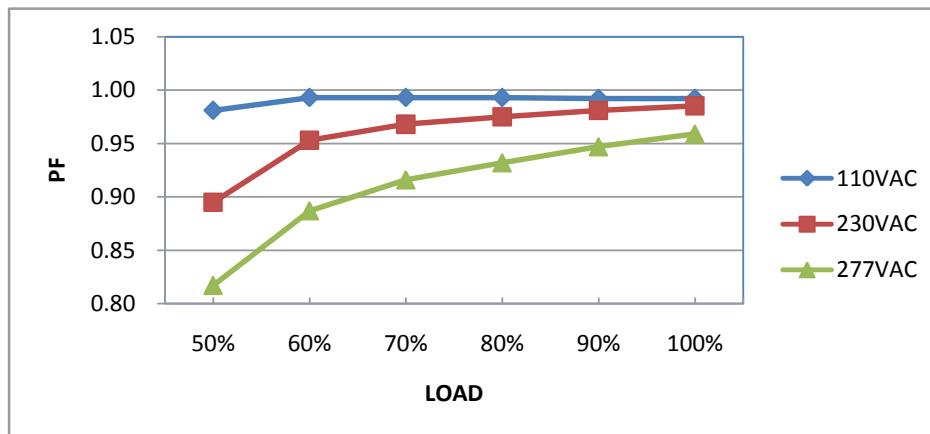


■ Static Characteristics

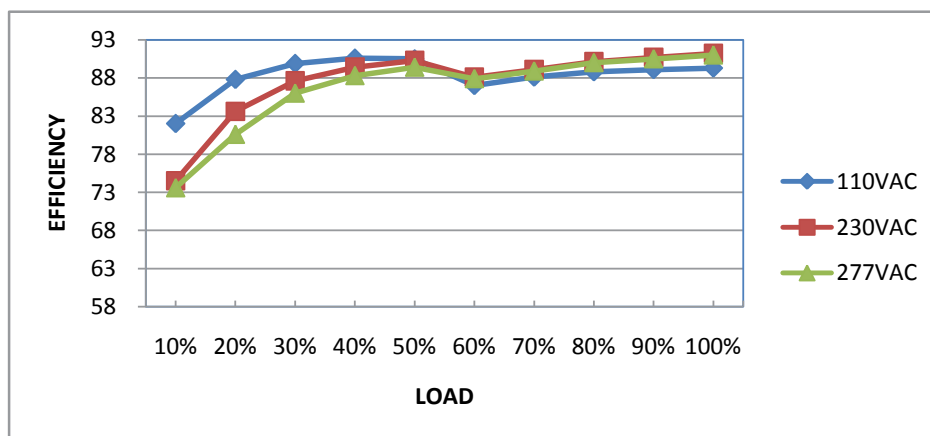


120W Single Output LED Driver with PFC

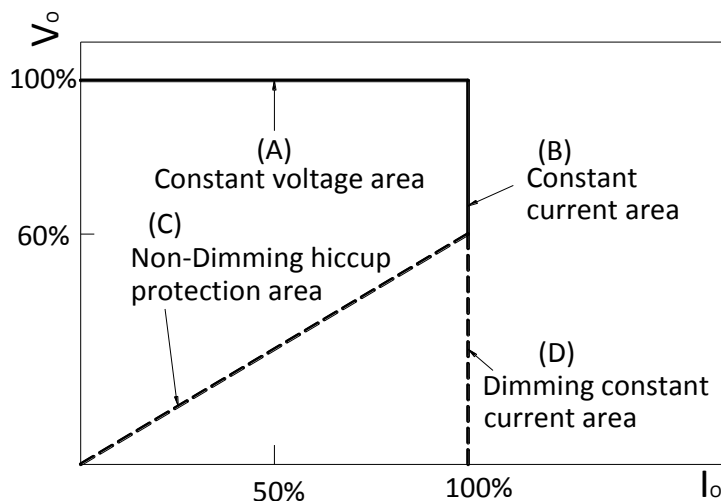
■ Power Factor Characteristic (DR120-024S500)



■ EFFICIENCY vs LOAD (DR120-024S500)

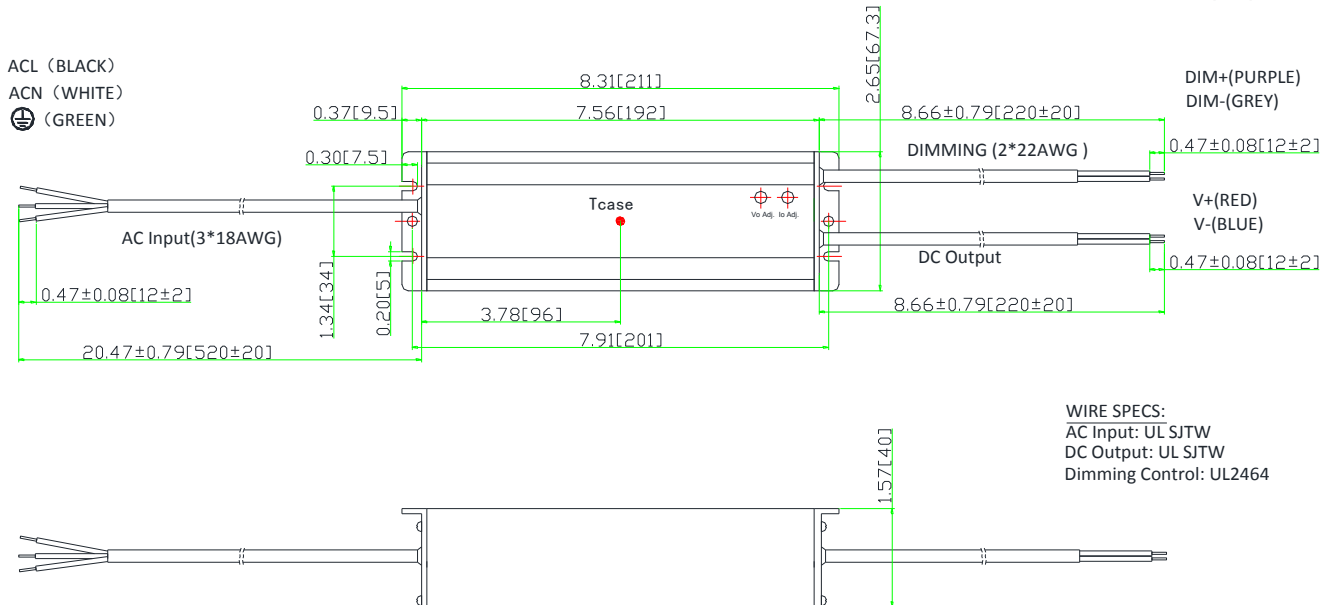


■ Typical LED power supply I-V curve



■ Mechanical Outline

Unit: Inches[mm]



- ※Tcase: Max. Case Temperature
- ※Power's internal temperature is 10 °C warmer than case temperature.
- ※No dimming control wire if without dimming function.

NO.	DC Output Current	Wire Number	Wire specification
1	≤5A	1	2×AWG18
2	5~12A(Including 12A)	1	2×AWG16

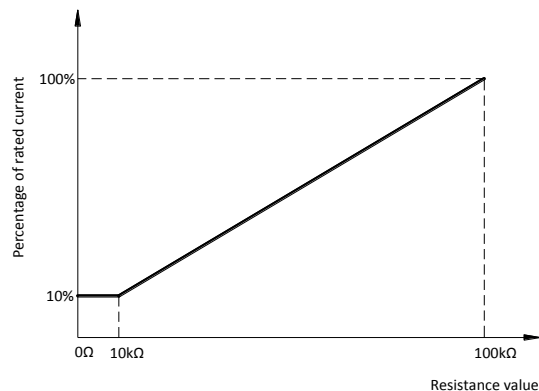
■ “A” option

- a. Output voltage and current can be adjusted by internal potentiometer.
- b. IP65.
- c. These products shall be enclosed in the end product, when the unit provided with voltage and current adjustable holes.

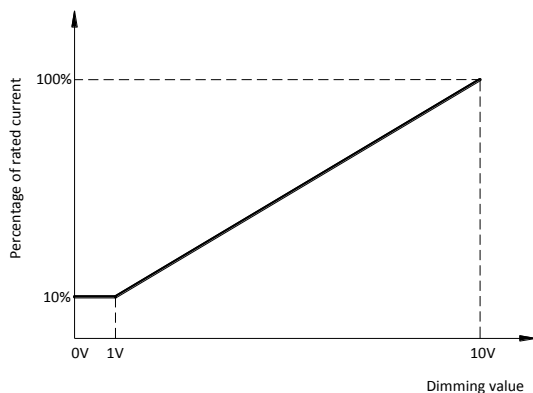
120W Single Output LED Driver with PFC

■ “-TC” option: 0-10V, resistance & PWM dimming

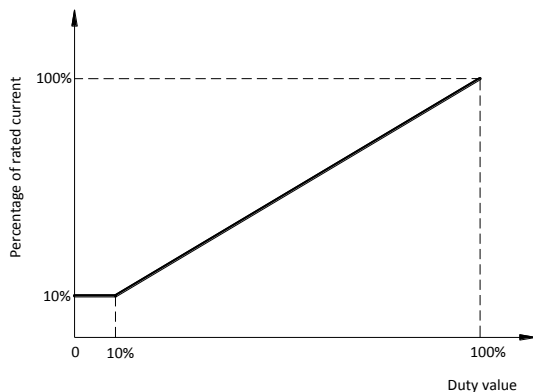
a. Reference resistance value for output current adjustment (Typical)



b. 0-10V dimming function for output current adjustment (Typical)



c. 10V PWM signal for output current adjustment (Typical): Frequency range: 200Hz~1.5KHz



120W Single Output LED Driver with PFC

Dimming control details:

Parameters		Minimum	Typical	Maximum
Dimming Type	Resistance	0k Ω	0-100k Ω	∞
	Voltage	-2V	0-10V	15V
	PWM(10%~100% f=200Hz~1.5KHz)	-2V	0-10V	15V
Dimming Current		-0.5mA	-	0.5mA

■ Input and output Dielectric strength

Isolation	Input Wires	Output Wires	Isolated Dimming Control Wires	Chassis
Input Wires	NA	3750	2000	1560
Output Wires	3750	NA	2000	2000
Isolated Dimming Control Wires	2000	2000	NA	2000
Chassis	1560	2000	2000	NA

■ Fixed derating-cutoff type temperature protection

