LED Driver C.P. 710W Programmable Series

Main Features:

- Input Voltage: 100~305Vac or 127~420Vdc
- Output Wattage: Constant Wattage (C.P.) at 71**0W** with Adjustable Current Setting
- High Efficiency Smart LED Driver For Grow Lights
- Programmable Method: Wireless（NFC）
- High Efficiency: Up to **95%**
- Dimming Function: **0-10V**
- Auxiliaire Voltage : **12**Vaux with **300**mA
- Lightning Protection: Built-in Surge Protector at 10KV/5KA
- Reliability Protection: OVP, SCP, OTP
- Safety Regulation: Complies with UL8750 & EN61347
- **Type TL and HL** Program Certified from UL
- **Class P** UL standard for retrofit kit
- Waterproof Rating: IP67
- Five Year Warranty under Normal Usage Conditions

c UL US LISTED

SPECIFICATION

Model No. (*)	Output Voltage Range	C.C. or C.P. Programmable Rated Output or Range	Programming Method	Dimming Control Method	Dim to off (dto)	Aux
LDD-www(D)vvv(P/F)cccc-(V/D)	(Vdc)	(mA) (i)			(V or %)	(Vdc)
LDD-710D338P2100-U-V	200 – 412	1700 – 2100	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12
LDD-710D254P2800-U-V	150 – 333	2100 – 2800	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12
LDD-710D169P4200-U-V	100 – 250	2800 – 4200	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12
LDD-710D118P6000-U-V	70 – 167	4200 – 6000	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12
LDD-710D083P8600-U-V	49 – 117	6000 – 8600	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12
LDD-710D044P16K-U-V	30 – 56	12500 – 16000	Digital/NFC	0-10V/PWM/Time	0.5V or 5%	12

(*) model name pattern:
LDD-www(D)vvv(P/F)ccccHH-(V/D)
LDD means, LED Driver with C.C.
(D) means, 12V Aux
(P/F) means, Wire/Wireless Programming method
(-U/HH)means , Input voltage
(V/D) means, Analog Voltage/Digital DALI Dimming method

(i) Pre-set Constant Current Value with dimming

Auxiliaries Voltage: 12Vaux with 300mA
Dim to Off (dto) with 0.5W Standby Power
Case Tamp: Tc: 90C
OVP: 110% Vo max, typ. | OSP: 110% Io max
OTP: Lower the output current when Tc≧105±10℃; Auto Recovery When Tc≦70±10℃

Input Spec.	Condition Description	Min.	Normal	Max.	Units
Input Voltage Range	Dedicated High Voltage Input	90	100-277	305	VAC
Input Frequency Range		47	50/60	63	Hz
Input Current	**120 VAC/277 VAC input, full load output**			**6.1/2.9**	A
Power Factor	@60% - 100% load		＞0.9		
THD (total harmonic distortion)	@60% - 100% load		<15		%
Inrush Current	At 277 VAC input, 25°C cold start / At 220 VAC input, 25°C cold start			8/ 5	A
Leakage Current	max @277Vac 60Hz			1.0	mA
Surge Protection	Line to line 6kV, line to ground 10kV, IEC 61000-4-5				

Output Spec.	Condition Description	Min.	Normal	Max.	Units
Current Accuracy			±2		%
Ripple Current	At 100%-60% Load. The result differs according to different LED load characteristic.			< 5	% Ip-p (Io)
Overshoot/Undershoot	% of Iout max & LED load			< 10	%
Turn-On Delay	Startup time at cold start			< 1.2	s
Auxiliary Power (Vaux)	With 300mA max	-5%	12	+5%	Vdc

General Spec.	Condition Description	Min.	Normal	Max.	Units
Efficiency	Measured at full load in the thermal balanced condition		92	95	%
MTBF	measured at Tc= 75℃ (MIL-HDBK-217F)		≥320,000		Hours
Lifetime	measured at Tc= 75℃		≥100,000		Hours
Operating/Storage Temperature	10%RH～100%RH (See De-rating Curve for more details)	-40/-40		90/85	°C
Dimension (OL/L x W x H)	OL is the overall length with mounting plates	**363/336*90*41.5**			mm
		14.29/13.22*3.54*1.63			inch
Weight	Net weight without package	**5.73/2.6**			lb/kg

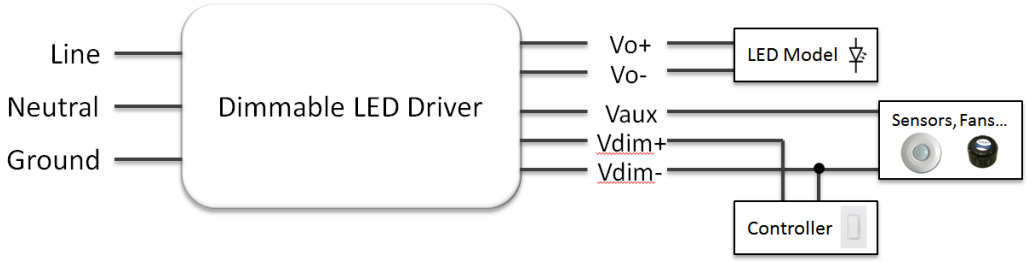
Safety & EMC Compliance	Category	Condition Description
Safety Regulations	UL8750	Light Emitting Diode(LED) Equipment for Use in Lighting Products
	UL1012	Power Unit Other Than Class 2
	IEC 61347-1	Lamp Control gear Part 1: General and Safety Requirements
	IEC 61347-2-13	Lamp Control gear Part 2-13: Particular Requirement for d.c. or a.c. Supplied Electronic Controlgear foe LED Modules
	CE	Europe: EN 61347-1, EN61347-2-13
EMI Standards	IEC 55015	Conducted emission test & Radiated emission test
	IEC 61000-3-2	Harmonic current emissions; Class C (≥75% load)
	IEC 61000-3-3	Voltage fluctuations & flicker
	FCC Part 15	Class B

EMS Standards	IEC 61000-4-2	Electrostatic discharge (ESD)
	IEC 61000-4-3	Radio frequency electromagnetic field susceptibility test (RS)
	IEC 61000-4-4	Electrical fast transient (EFT)
	IEC 61000-4-5	Surge immunity test L-N:2kV; LN-PE:4kV (Extemal Surge Protection Device 4K/6K or 6K/10K)
	IEC 61000-4-6	Conducted radio frequency disturbances test (CS)
	IEC 61000-4-8	Power frequency magnetic field test
	IEC 61000-4-11	Voltage dips
	IEC 61547	Electromagnetic immunity requirements applies to lighting equipment

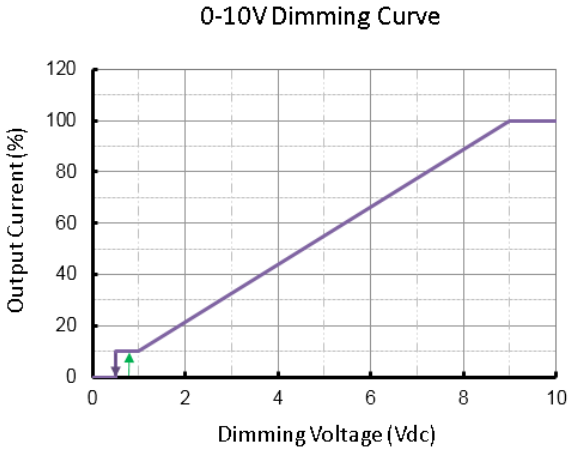
■ Dimming Curve

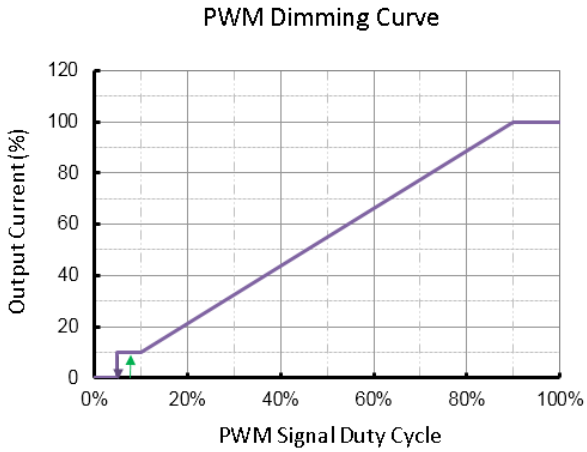
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	100uA	150uA	200uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold	0.4V or 4%	0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	0.7V or 7%	0.8V or 8%
PWM High	3.8V		10V
PWM Low	0V		0.6V
PWM Frequency	300Hz		2kHz
External PWM Controller Current Sinking Capability	300uA		

Dimming Wire

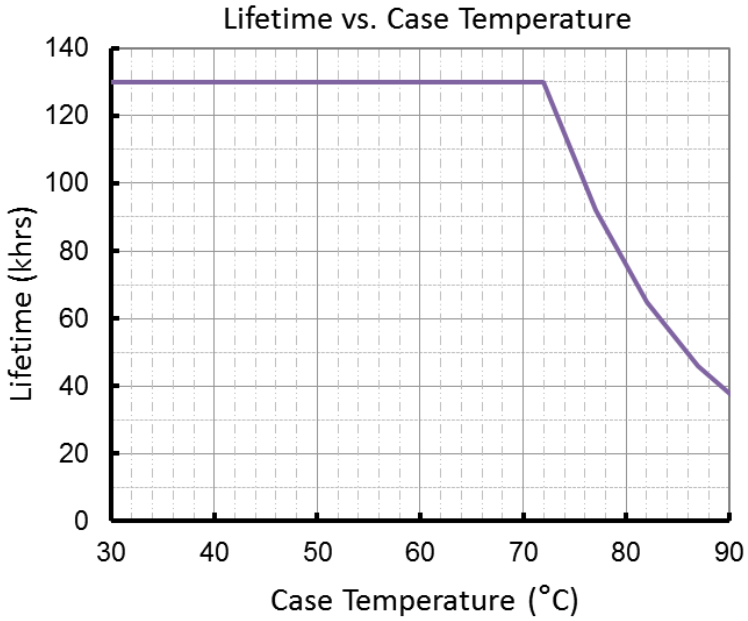


With dim-off (dto)



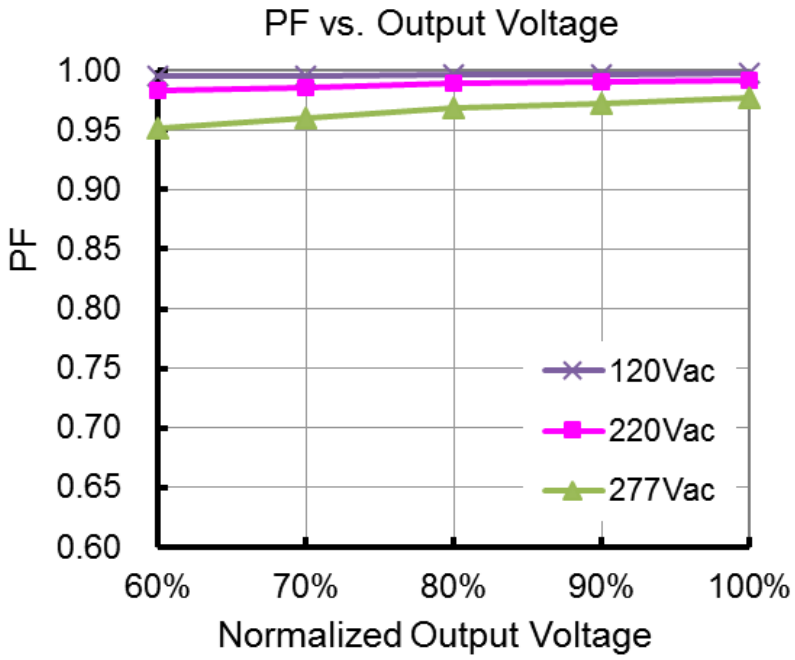


■ Lifetime vs. Case Temperature

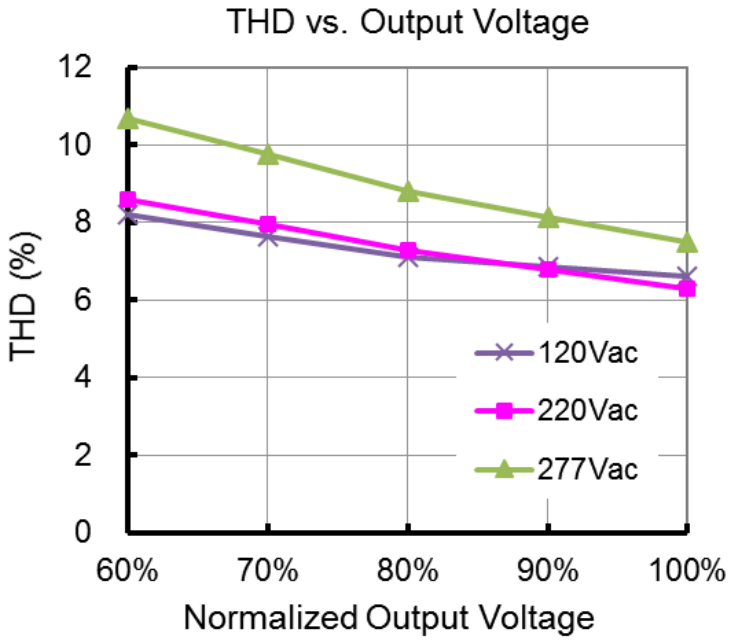


(End of Life: Maximum Failure Rate=10%)

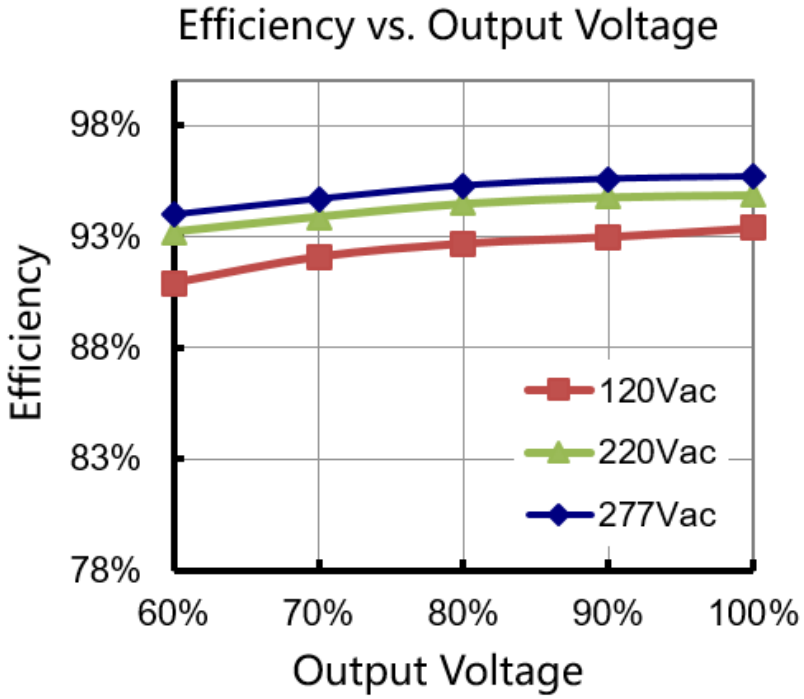
■ Power Factor VS Loa



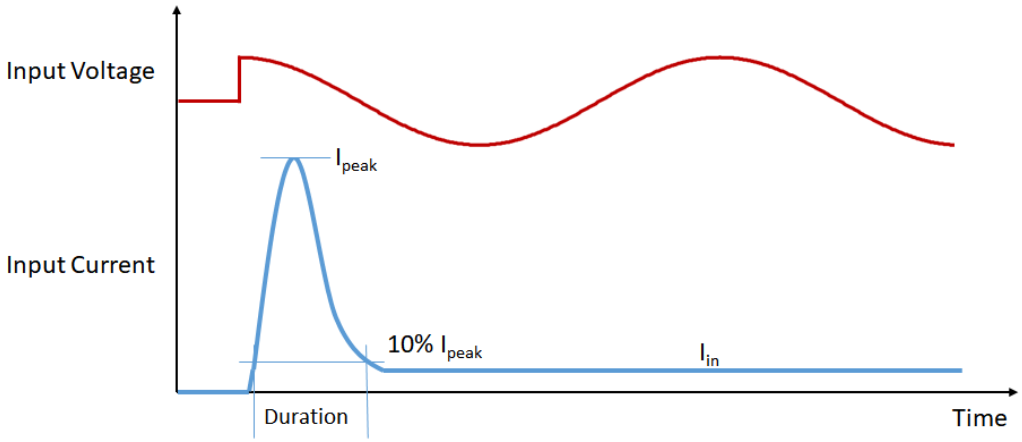
■ THD VS Load



■ Efficient VS Load(16A model)



■ Inrush current

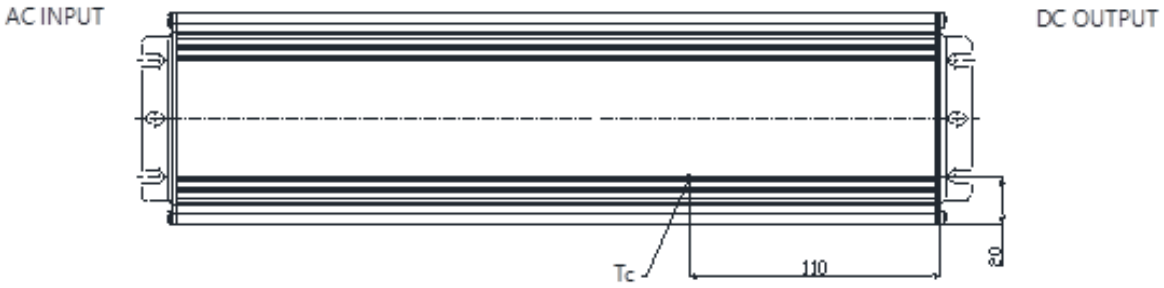


Input Voltage	I_{peak}	Duration
120Vac	3A	60mS
220Vac	5A	70mS
277Vac	8A	70mS

■ Dielectric Strength

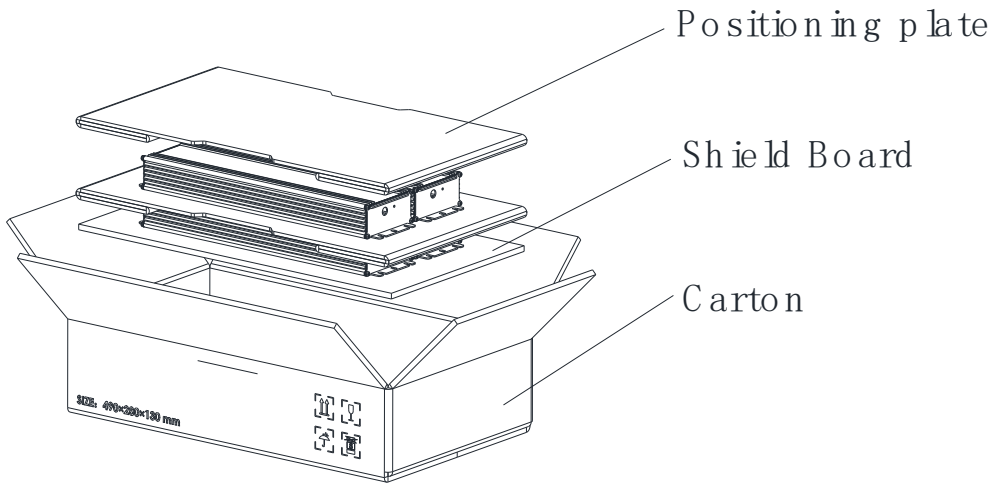
Unit: Vac	Input	Output	Dimming	Case
Input	-	3750	3750	1554
Output	3750	-	1554	1554
Dimming	3750	1554	-	1554
Case	1554	1554	1554	-

■ Tc Point

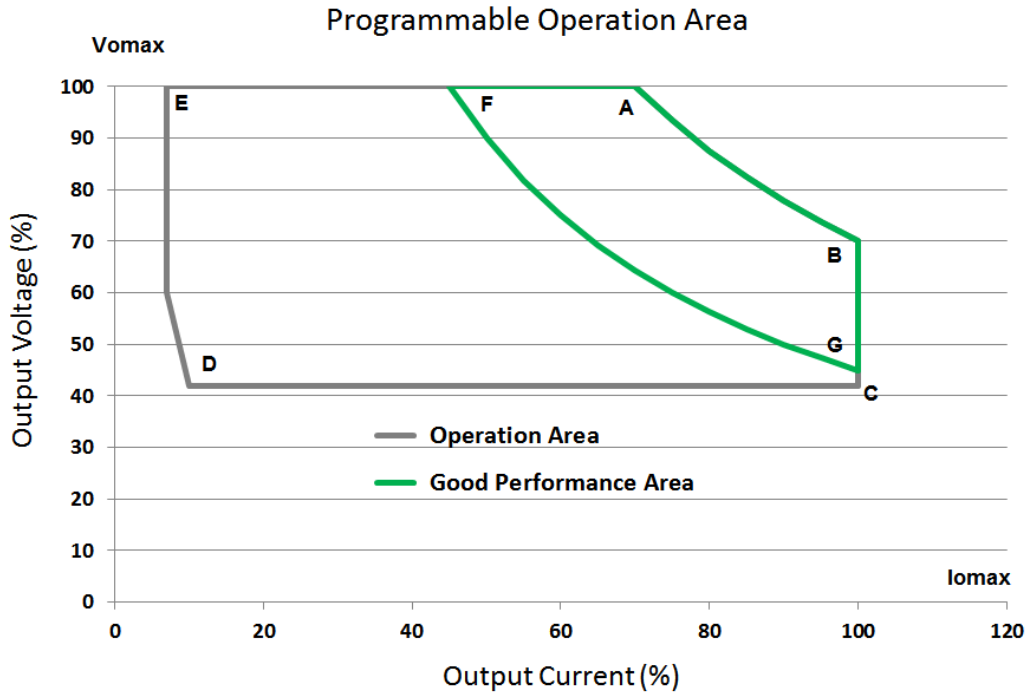


■ Packaging information

Typical Carton Dimension(L×W×H)	490×280×130 mm
Positioning plate	2pcs/carton
Shield Board	1pcs/carton
LED Drivers	4pcs/carton



■ Current vs. Voltage Curve



Io (mA) | Vo (V)	**B** Imax (Rated Current)	**A** Vmax (Min I of C.P.)	**F** (60% of I at A) | (as Vmax)	**G** (as Imax) | (60% of V at B)	**C** (as Imax) | Vmin = (60% of V at B)	**D** (10% of Imax) | (60% of V at B)	**E** (10% of I at A) | (as Vmax)
LDD-710D338P2100-U-V	***2100 | 338***	***1700 |412***	***1020 |412***	***2100 | 203***	***2100 | 203***	***210 | 203***	***170 |412***
LDD-710D254P2800-U-V	***2800 | 254***	***2100 |333***	***1260 |333***	***2800 | 152***	***2800 | 152***	***280 | 152***	***210 |333***
LDD-710D169P4200-U-V	***4200 | 169***	***2800 | 250***	***1680 | 250***	***4200 | 101***	***4200 | 101***	***420 | 101***	***280 | 250***
LDD-710D118P6000-U-V	***6000 | 118***	***4200 | 167***	***2520 | 167***	***6000 | 71***	***6000 | 71***	***600 | 71***	***420 | 167***
LDD-710D083P8600-U-V	***8600 | 83***	***6000 | 117***	***3600 | 117***	***8600 | 50***	***8600 | 50***	***860 | 50***	***600 | 117***
LDD-710D044P16K-U-V	***16000 | 44***	***12500 | 56***	***7500 | 56***	***16000 | 27***	***16000 | 27***	***1600 | 27***	***1250 | 56***
On **BA** Curve Line	Constant Power Area						
Within **BAFG** Box	Good Performance Area						
Within **ABCDE** Box	Operational Area						

■ Mechanical Outline (Unit: mm)

Note: Dimensions in millimeters, where 25.4 mm = 1 inch

Tolerance: ±0.51 mm

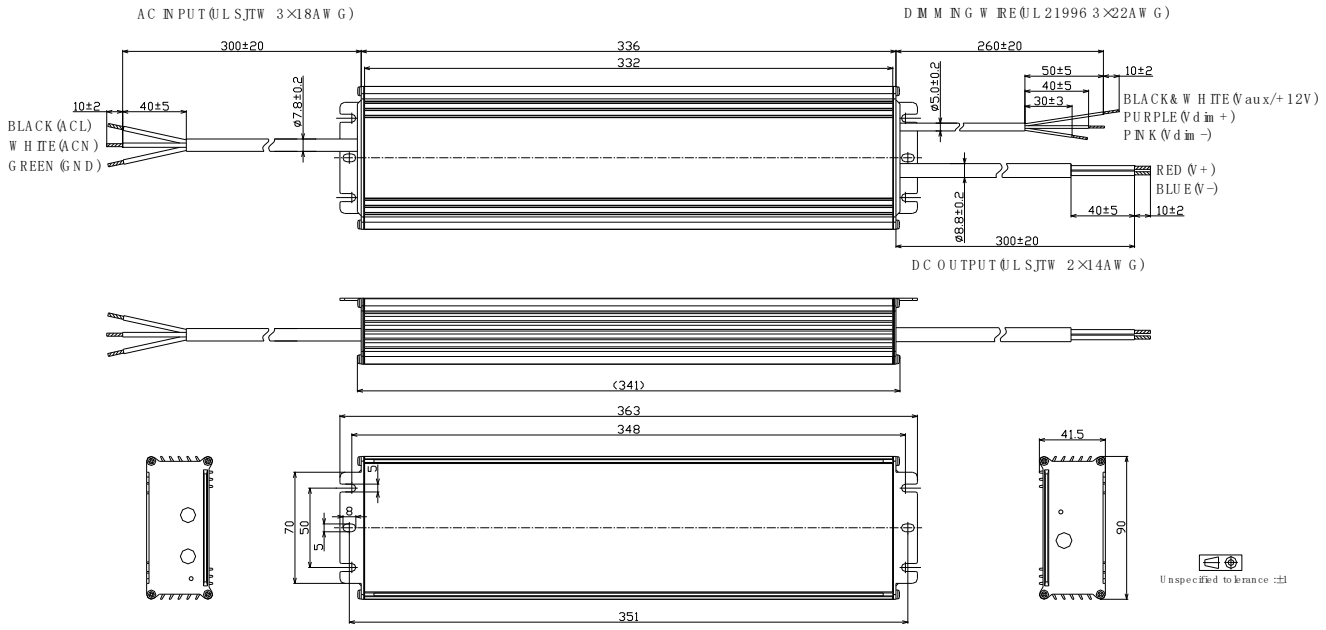


Figure 36, AR15PT

Safety Note: Please make sure the output cable does not connect to dimming cable or the cables of other drivers until 20 seconds after being tested because of the remained voltage in the output capacitor.

Revision

Date	Rev.	Description of Change		
		Item	Old	New
02/11/2023	V2a	In Draft Release	/	/