

610W, 120-277Vac Input, Long Life High Quality Driver

■ Features

- Absolute Supply Voltage: 108-305Vac or 127-420Vdc, 380Vac for 2 hours
- Horticultural Customizable Configuration
- 95% Efficiency Max.
- Low Inrush Current
- 100,000Hour Life @ Tc=75°C
- 7 Year Warranty @ Tc<=75°C
- NFC or Cable Programmability and Isolated Dimming
- +/-2% Output Current Accuracy (Programmable Model)
- 0-10V/PWM/Time/DALI /DMX (Optional) Dimmable
- Dim Off with 0.5W Standby Power
- 12V 300mA Auxiliary Power to Power Controllers and Fans
- UL Class P, ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3, 61347-2-13, 623847



■ Model List (See appendix for more details about the operation range)

Model Number	Input Voltage Range	Output Power	Output Voltage	Full Power Settable Current Min	Full Power Settable Current Max	Certification
BLD-610-C14A-XYU	108-305Vac	610 W	30-55Vdc	11A	14A	UL/FCC
BLD-610-C860-XYU	108-305Vac	610 W	42-100Vdc	6A	8.6A	UL/FCC
BLD-610-C600-XYU	108-305Vac	610 W	60-143Vdc	4.2A	6A	UL/FCC
BLD-610-C420-XYU	108-305Vac	610 W	86-214Vdc	2.8A	4.2A	UL/FCC
BLD-610-C14A-XYS	108-305Vac	610 W	30-55Vdc	11A	14A	CB/ENEC/CCC
BLD-610-C830-XYS	108-305Vac	610 W	42-100Vdc	6A	8.6A	CB/ENEC/CCC
BLD-610-C600-XYS	108-305Vac	610 W	60-143Vdc	4.2A	6A	CB/ENEC/CCC
BLD-610-C420-XYS	108-305Vac	610 W	86-214Vdc	2.8A	4.2A	CB/ENEC/CCC

XY=	Dimming Method	Programmable	12Vaux	Dim-off
NN	-	-	-	-
DN	0-10V	Cable	-	No Dim-off as default status, programmed to have Dim-off
EN	0-10V	Cable	300mA	√
TR	Time/Set Current	NFC Wireless	-	-
DR	0-10V	NFC Wireless	-	No Dim-off as default status, programmed to have Dim-off
ER	0-10V/PWM/Time	NFC Wireless	300mA	√
AR	DALI	NFC Wireless	-	√

■ Technical Data

Input Voltage	108-305Vac or 127-420Vdc, 380Vac for 2 hours
Input Frequency	47~63Hz
Power Factor	>0.9@60-100%load, refer to PF vs. Load curve
THD	<15%@60-100%load, refer to THD vs. Load curve
Input Current	5.4Amax@120Vac & Full-Load, 2.4Amax@277Vac & Full-Load
Inrush Current	10A peak, 2.2ms duration, <0.15A2s@220Vac, Cold Start 15A peak, 2.3ms duration, <0.35A2s@2770Vac, Cold Start
Leakage Current	1mA max @277Vac 60Hz, UL8750,0.75mA max @220Vac 50Hz, IEC61347-1
Input Under Voltage	Shut down and auto-restart
Surge Protection	Line to line 4kV, line to ground 4kV, IEC 61000-4-5
Current Accuracy	±5%Io for non programmable models, ±2%Io for programmable models
Ripple Current	Ip-p:5%Io max
Setup Time	1.2s max
Overshoot	10% Io max & LED Load
Output Over Voltage	110% Vomax, typ.
Short Circuit	Auto recovery. The output recovers when short is removed.
Over Temperature	Lower the output current when $T_c \geq 105 \pm 10^\circ\text{C}$; Auto Recovery When $T_c \leq 70 \pm 10^\circ\text{C}$
Auxiliary Power (Vaux)	12V+/-5%, 300mA max
Operating Temperature	Case Temperature $T_c = -40^\circ\text{C} \sim +90^\circ\text{C}$; 10%RH~100%RH
Storage Temperature	$-40^\circ\text{C} \sim +85^\circ\text{C}$; 5%RH~100%RH
MTBF	$\geq 320,000$ hours, 75°C case temperature (MIL-HDBK-217F)
Lifetime	$\geq 100,000$ hours, 75°C case temperature, refer to life vs. T_c curve
Case Temperature	90°C max, marked in the T_c point of label
Dimensions (Standard)	13.22x3.54x1.63 by inch (body), 14.29x3.54x1.63 by inch (endcaps included) 336x 90 x 41.5 by mm (body), 363 x 90 x 41.5 by mm (endcaps included)
Net Weight	2600g
Packing	8pcs/Carton/22.8kg, 490 x 370 x 250 by mm

Notes: Unless specified, all the test results are measured in 25°C room temperature.

■ Safety/EMC Compliance

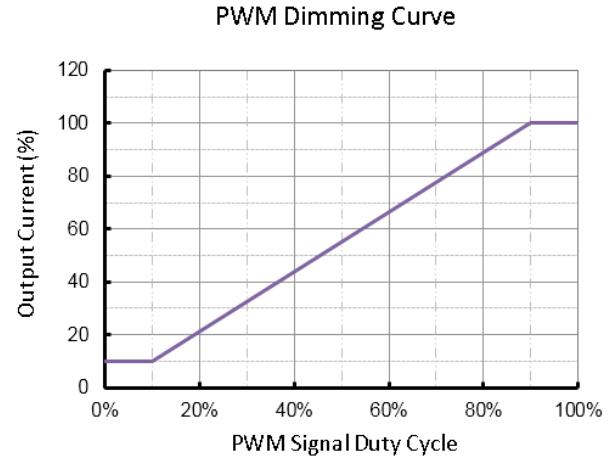
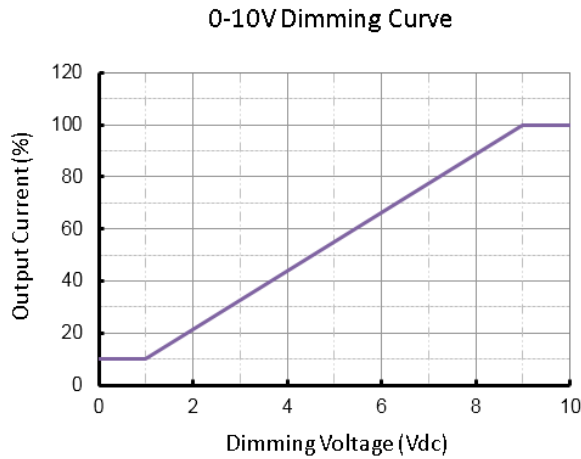
Safety Standard	Description
UL8750	Light emitting diode(LED) equipment for use in lighting products
UL1012	Power units other than class 2
IEC 61347-1	Lamp control gear Part 1: general and safety requirements
IEC 61347-2-13	Lamp control gear Part 2-13: particular requirement for d.c. or a.c. supplied electronic control gear for LED modules
EMI Standards	Description
IEC 55015	Conducted emission test & radiated emission test
IEC 61000-3-2	Harmonic current emissions; Class C
IEC 61000-3-3	Voltage fluctuations & flicker
FCC Part 15	ANSI C63.4:2009 Class B
EMS Standards	Description
IEC 61000-4-2	Electrostatic discharge (ESD): 8 kV air discharge, 4 kV contact discharge
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
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

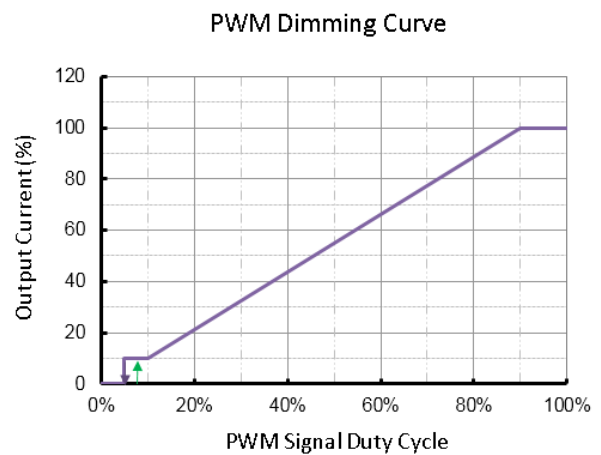
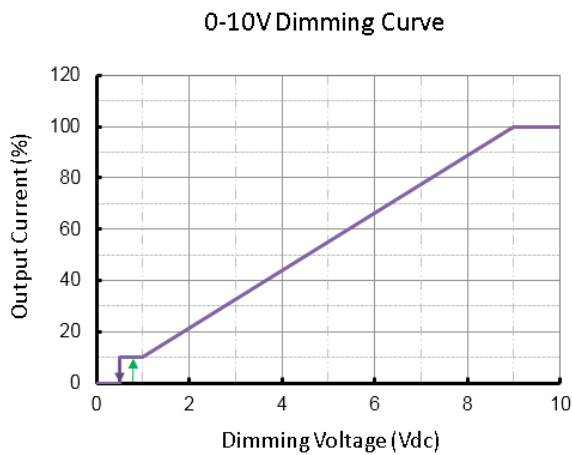
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold	0.4V or 4%	0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	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		
DALI Interface Standard		IEC62386	
DA1,DA2 High Level	9.5	16	22.5
DA1,DA2 Low Level	-6.5	0	6.5
DA1,DA2 Current	0		2mA

- Dimming Curve

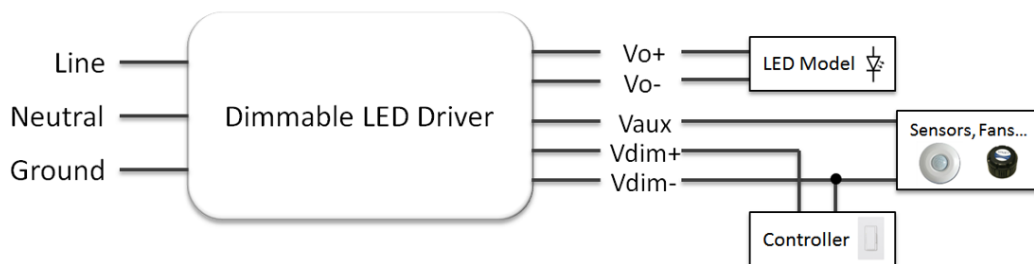
a. Without dim-off



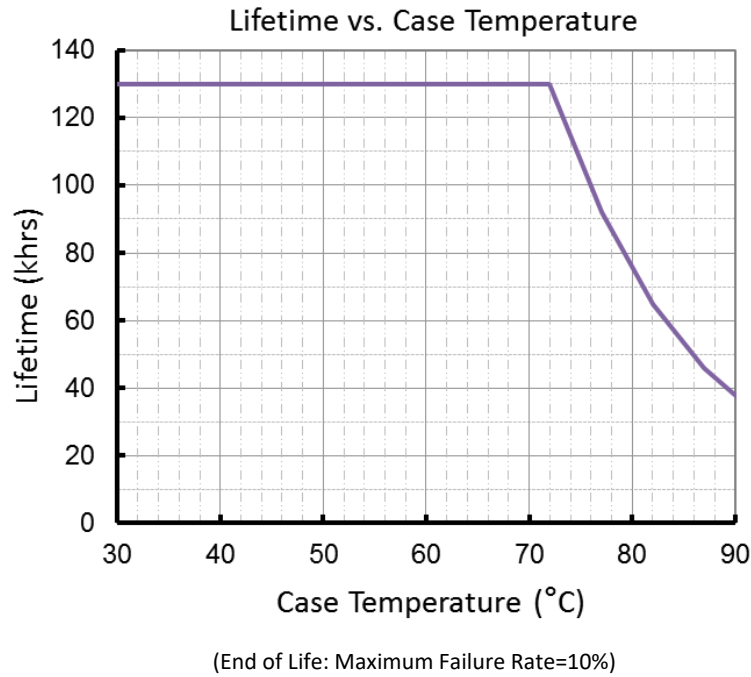
b. With dim-off



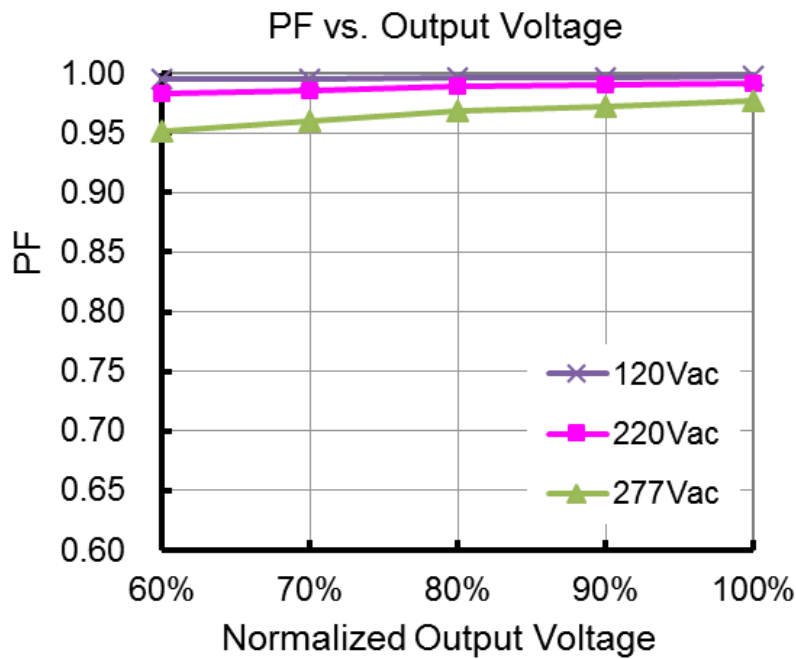
- Dimming Wiring



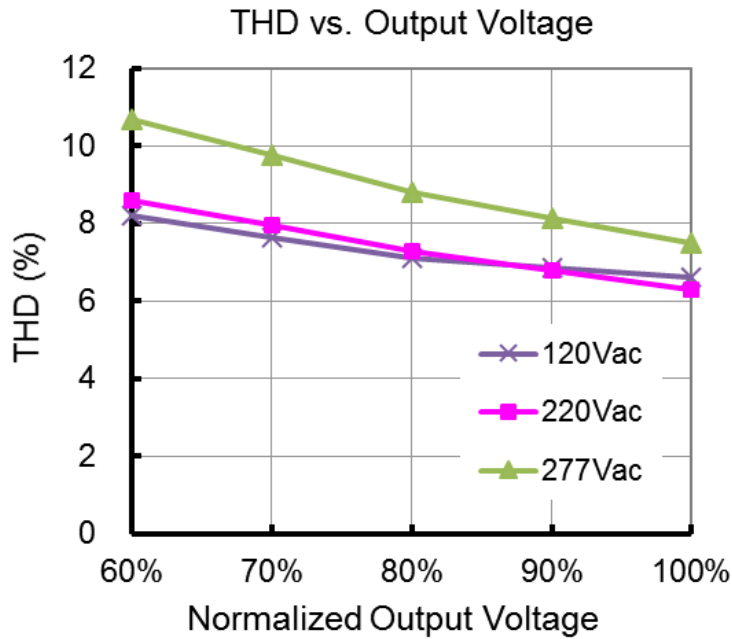
■ Lifetime vs. Case Temperature



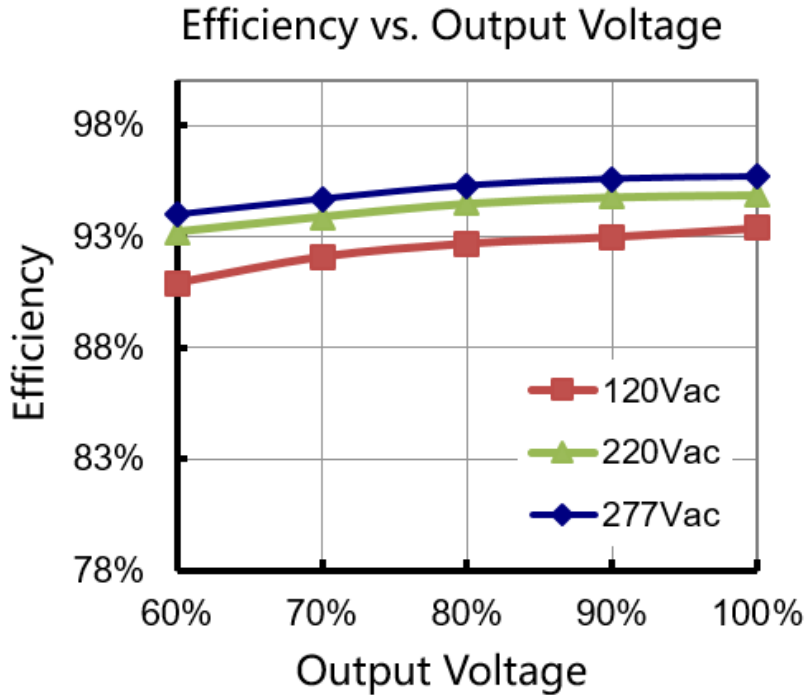
■ Power Factor vs. Load



■ THD vs. Load

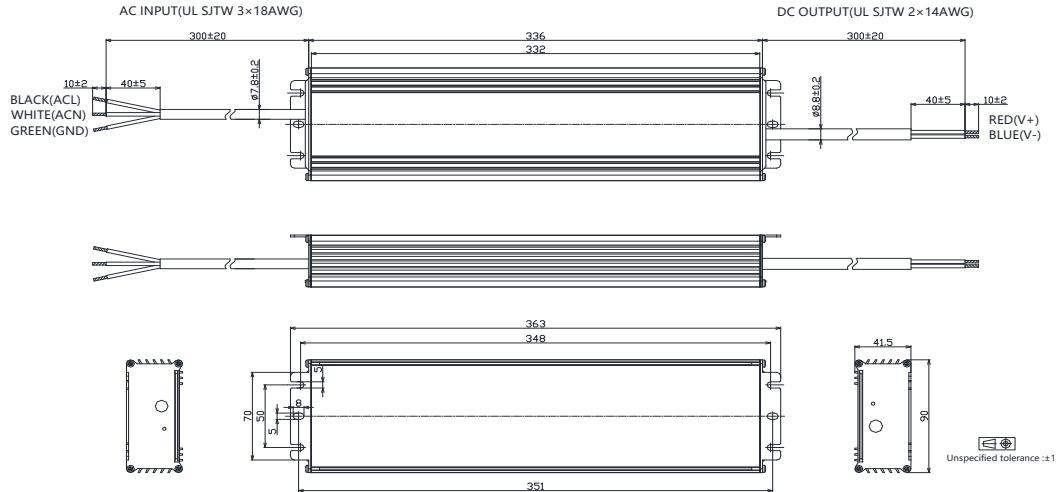


■ Efficiency vs. Load (12A Model)

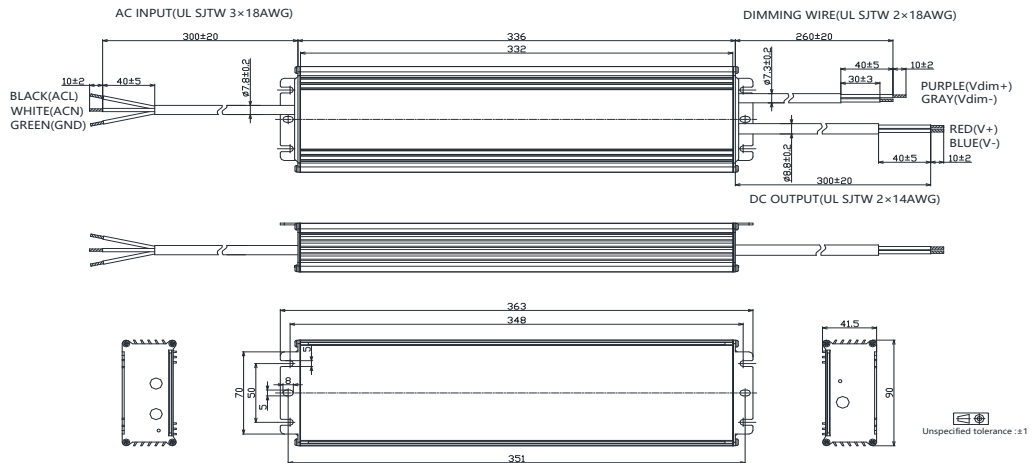


■ Mechanical Design

- BLD-610-Cxxx-NUU/TRU

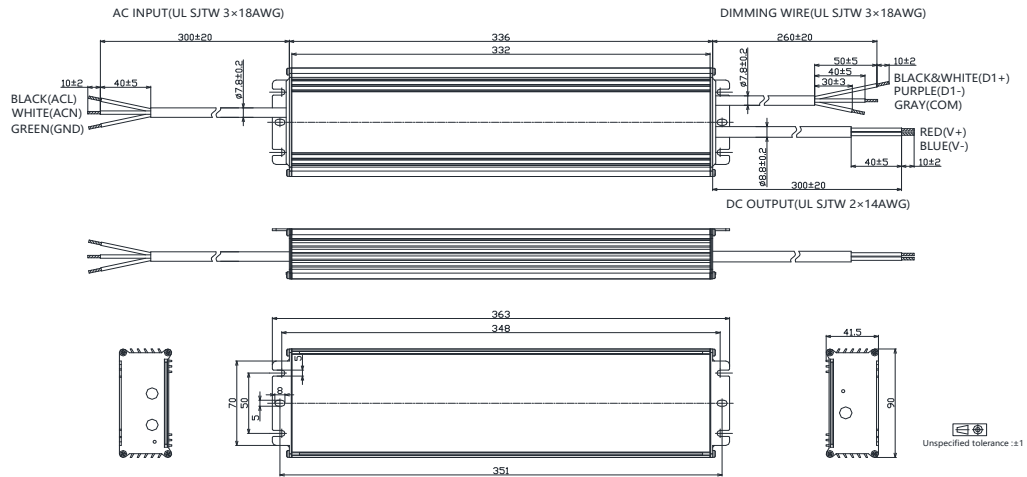


- BLD-610-Cxxx-DNU/DRU

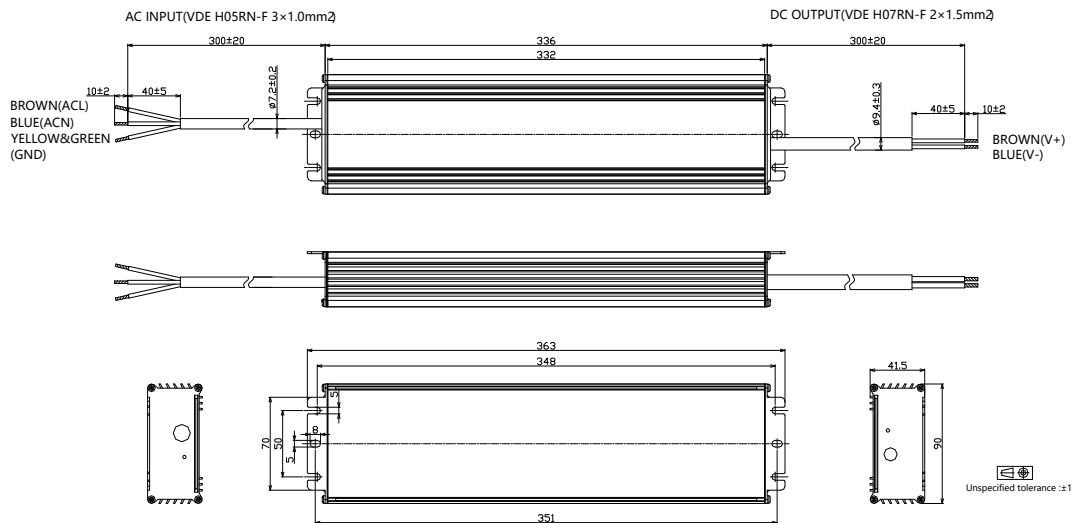


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- BLD-610-Cxxx-MRU

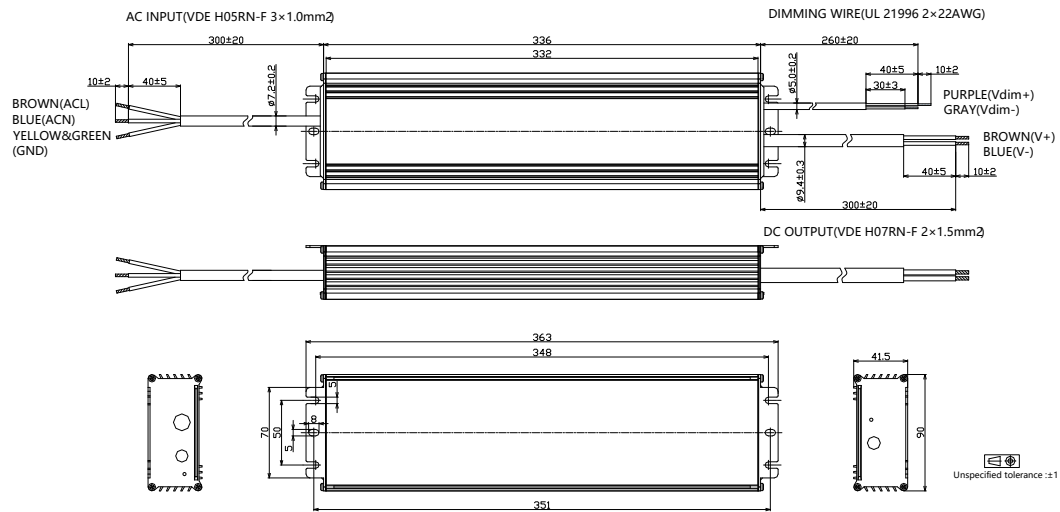


- BLD-610-Cxxx-NNS/TRS (MODELS WITH HIGHER THAN 60V OUTPUT VOLTAGE)

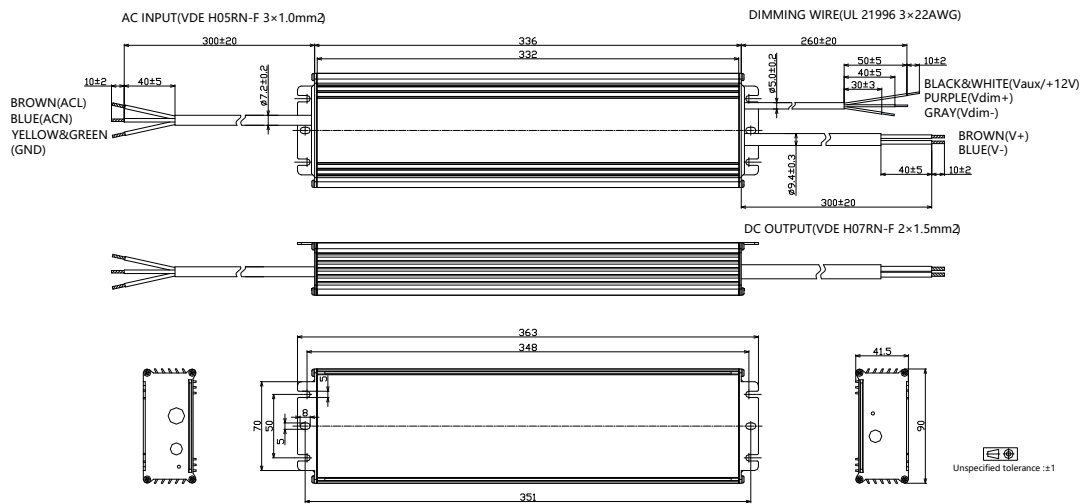


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- BLD-610-Cxxx-DNS/DRS (MODELS WITH HIGHER THAN 60V OUTPUT VOLTAGE)

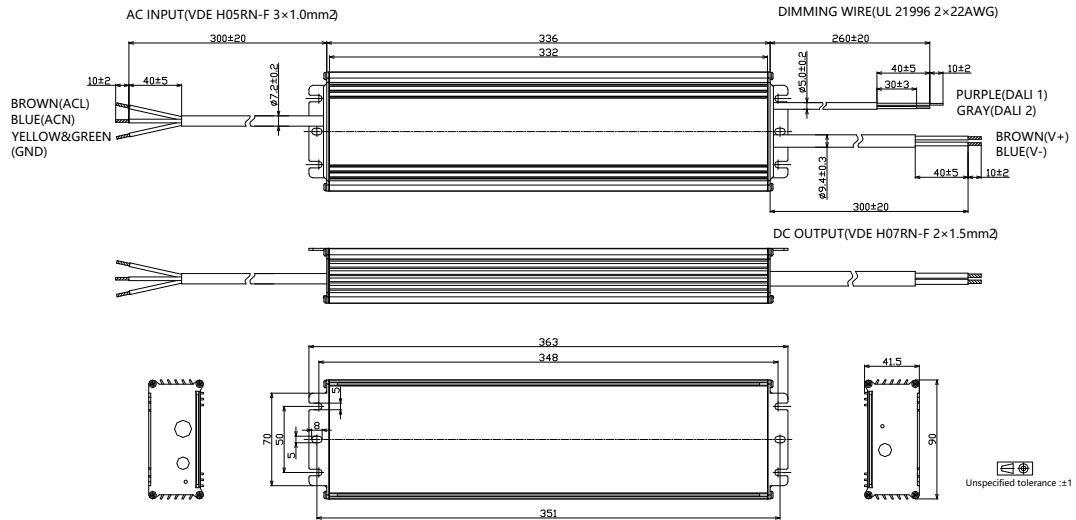


- BLD-610-Cxxx-ENS/ERS (MODELS WITH HIGHER THAN 60V OUTPUT VOLTAGE)

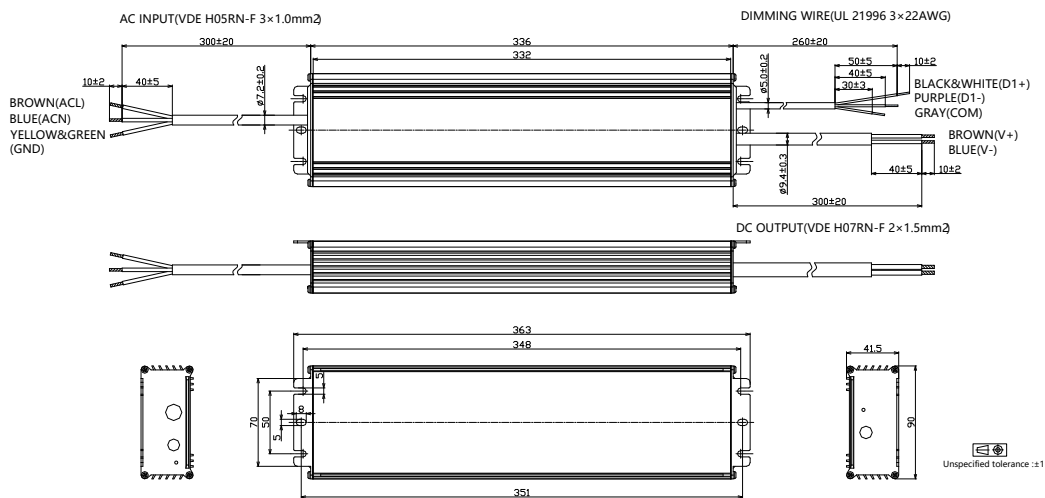


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- BLD-610-Cxxx-ANS/ARS (MODELS WITH HIGHER THAN 60V OUTPUT VOLTAGE)

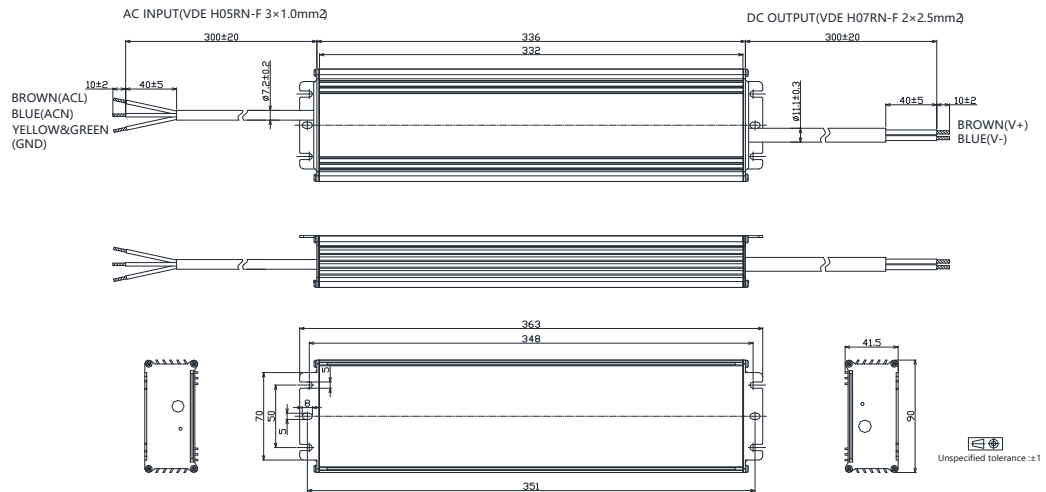


- BLD-610-Cxxx-MRS (MODELS WITH HIGHER THAN 60V OUTPUT VOLTAGE)

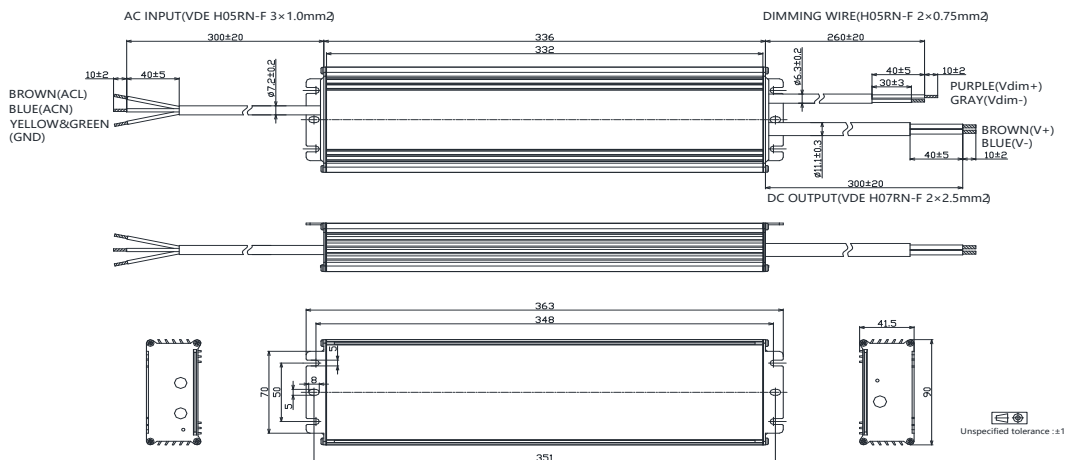


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- BLD-610-Cxxx-NNS/TRS (MODELS WITH LESS THAN 60V OUTPUT VOLTAGE)

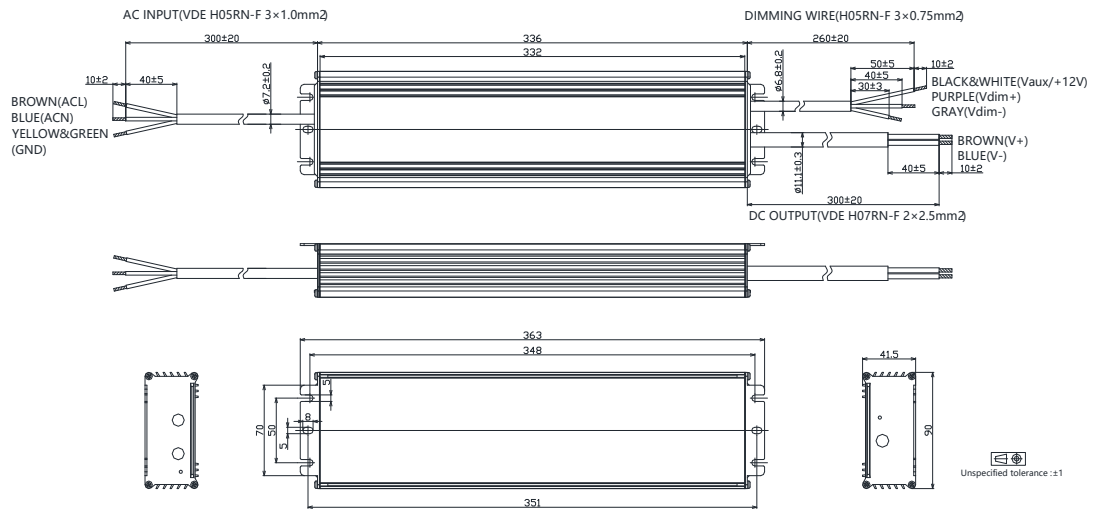


- BLD-610-Cxxx-DNS/DRS (MODELS WITH LESS THAN 60V OUTPUT VOLTAGE)

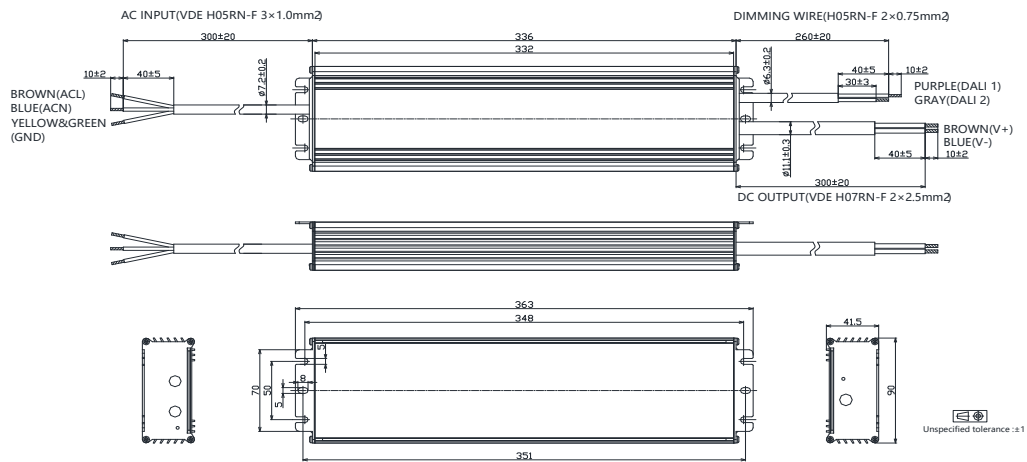


610W, 120-277Vac Input, Long Life High Quality Driver

- BLD-610-Cxxx-ENS/ERS (MODELS WITH LESS THAN 60V OUTPUT VOLTAGE)

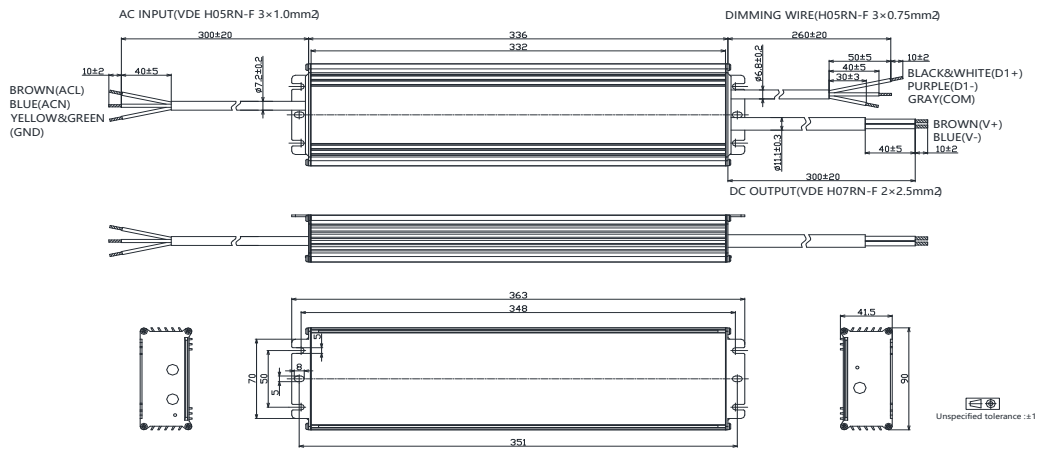


- BLD-610-Cxxx-ANS/ARS (MODELS WITH LESS THAN 60V OUTPUT VOLTAGE)



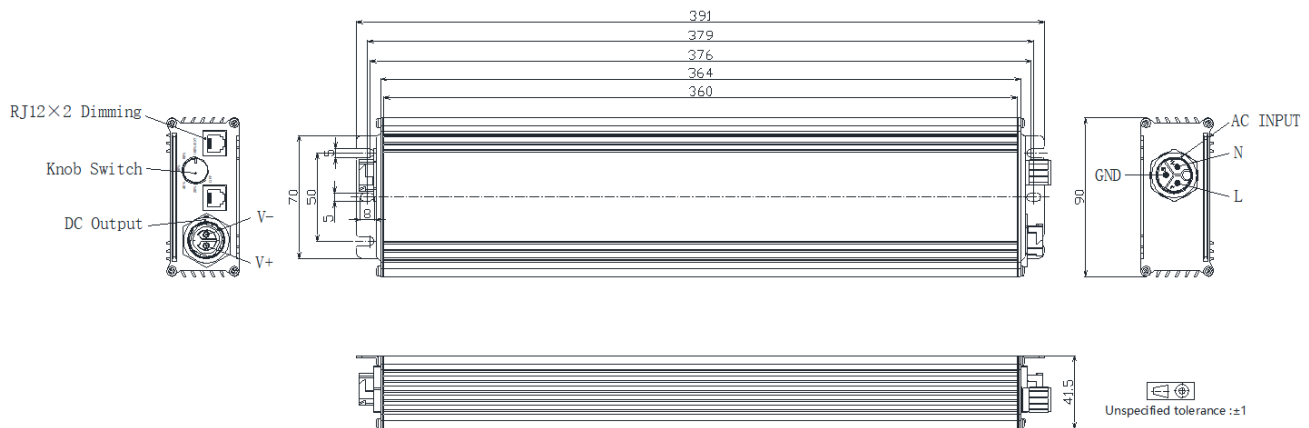
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- BLD-610-Cxxx-MRS (MODELS WITH LESS THAN 60V OUTPUT VOLTAGE)



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- Customized Functional End Cap Version

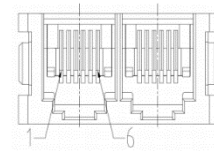


- Add suffix #abcd00 to the end of part number to indicate different configuration.

Item	Value Definition	Description
Input	a	F: M19 waterproof connector P: C14 plug N: Same cable as standard version
Output	b	F: M19 waterproof connector, 2 pins N: Same cable as standard version
Dimming	c	F: M12 waterproof connector R: RJ12 x 2 S: 3.5mm multi-media plug N: Same cable as standard version
Knob	d	K: Knob with steps B: Knob without steps N: No knob

- RJ12 pin configuration:

Pin	Description
1,6	12V Aux-power
2,5	Dim+
3,4	Dim-/RTN



Position	Description
100%/EXT	If there is no external control, 100% output. If there is external control, output is controlled by external signal.

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Off,20%,40%,60%,80%

External signal invalid.

- Knob Description:

■ Appendix – Operation Range

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C14A	14000	610	30	44	1400
	13000	610	30	47	1300
	12500	610	30	49	1250
	12000	610	31	51	1200
	11500	610	32	53	1150
	11000	610	33	55	1100
	10500	578	33	55	1100
	10000	550	33	55	1100

	1100	61	33	55	1100

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C860	8600	610	42	70	860
	8500	610	42	71	850
	8400	610	43	71	840
	8200	610	44	73	820
	8000	610	45	75	800
	7800	610	46	77	780
	7600	610	47	79	760
	7400	610	49	81	740
	7200	610	50	83	720
	7000	610	51	86	700
	6800	610	53	88	680
	6600	610	55	91	660
	6400	610	56	94	640
	6200	610	58	97	620
	6000	610	60	100	600
	5800	580	60	100	600
	5600	560	60	100	600

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	600	60	60	100	600
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Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C600	6000	610	60	100	600
	5800	610	62	103	580
	5600	610	64	107	560
	5400	610	67	111	540
	5200	610	69	115	520
	5000	610	72	120	500
	4800	610	75	125	480
	4600	610	78	130	460
	4400	610	82	136	440
	4200	610	86	143	420
	4000	571	86	143	420
	3800	543	86	143	420
	3600	514	86	143	420
	3400	486	86	143	420
	3200	457	86	143	420
	3000	429	86	143	420

	420	60	86	143	420

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C420	4200	610	86	143	420
	4100	610	88	146	410
	4000	610	90	150	400
	3900	610	92	154	390
	3800	610	95	158	380
	3700	610	97	162	370
	3600	610	100	167	360
	3500	610	103	171	350
	3300	610	109	182	330
	3200	610	113	188	320
	3100	610	116	194	310
	3000	610	120	200	300
	2900	610	124	207	290

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	2800	610	129	214	280
	2700	579	129	214	280
	2600	557	129	214	280

	280	60	129	214	280