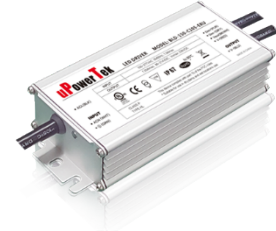


## 50W, 100-277Vac Input, NFC Programmable LED Driver

### ■ Features

- Supply Voltage: 90-305Vac or 127-420Vdc, 380Vac for 2 hours
- Great Surge Immunity 10kV
- -60°C Cold Ambient Startup (Optional)
- 100,000Hour Life @ Tc=75°C
- 7 Year Warranty @ Tc<=75°C
- +/-2% Output Current Accuracy (Programmable Model)
- Airset™ NFC Programmability
- 0-10V/PWM/Time/DALI/DMX512 Dimmable
- Dim Off with 0.5W Standby Power
- 12V 300mA Auxiliary Power to Power Controllers and Fans (Model Depending)
- Input Over Voltage Protection (Optional)
- Class II Model Available
- UL Class P, Class 2
- ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3, 61347-2-13, 62384



### ■ Application

- Bay lights, Street lights, Tunnel lights, Flood lights

### ■ 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-050-C105-XYZ	90 ~ 305 Vac	50 W	29-71Vdc	700mA	1050mA	UL/FCC/CB/ENEC/CCC/RCM/PSE
BLD-050-C140-XYZ	90 ~ 305 Vac	50 W	21-48Vdc	1050mA	1400mA	
BLD-050-C210-XYZ	90 ~ 305 Vac	50 W	14-36Vdc	1400mA	2100mA	

XY=	Dimming Method	Programmable	12Vaux	Dim-off	Body Size
NN	-	-	-	-	109.0x67.5x33.5 mm
DN	0-10V	-	-	-	109.0x67.5x33.5 mm
TR	Time	√	-	-	131.0x67.5x33.5 mm
DR	0-10V/PWM/Time	√	-	-	131.0x67.5x33.5 mm
ER	0-10V/PWM/Time	√	√	√	131.0x67.5x33.5 mm
AN	DALI	N	-	√	131.0x67.5x33.5 mm
MR	DMX512	√	-	√	131.0x67.5x33.5 mm

Z = U, UL cable with ground wire (green)    S, VDE cable/Class I    D, VDE cable/Class II

## ■ Technical Data

Input Voltage	90~305Vac or 127V-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	0.5 Amax@120Vac & Full-Load, 0.25Amax@220Vac & Full-Load
Inrush Current	65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start 70A peak, 1.3ms duration, <0.5A2s@277Vac, Cold Start
Leakage Current	1mA max @277Vac 60Hz, UL8750, 0.75mAmax @220Vac 50Hz, IEC61347-1
Input Under Voltage	Shut down and auto-recovery
Input Over Voltage	*Optional: Shutdown @320Vac
Surge Protection	Line to line 6kV, line to ground 10kV, IEC 61000-4-5
Current Accuracy	±2%lo for programmable model, ±5%lo for non-programmable model
Ripple Current	Ip-p:5%Io max
Setup Time	1.2s max
Overshoot	10% Io max & LED Load
Output Over Voltage	120% 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, $50^\circ\text{C}$ case temperature (MIL-HDBK-217F)
Lifetime	$\geq 100,000$ hours, $75^\circ\text{C}$ case temperature, refer to life vs. $T_c$ curve
Case Temperature	$90^\circ\text{C}$ max, marked in the $T_c$ point of label
Dimensions (-ERZ, -ARZ, -TRZ, -DRZ )	5.16x2.66x1.32 by inch (body), 6.22x2.66x1.32 by inch (endcaps included) 131.0x67.5x33.5 by mm (body), 158.0x67.5x33.5 by mm (endcaps included)
Dimensions (-NNZ, -DNZ)	4.29x2.66x1.32 by inch (body), 5.35x2.66x1.32 by inch (endcaps included) 109.0x67.5x33.5 by mm (body), 136.0x67.5x33.5 by mm (endcaps included)
Net Weight (ERZ, -TRZ, -DRZ -ARZ )	600g
Net Weight (-NNZ, -DNZ)	500g
Packing	25pcs/Carton/17.3kg, 490x370x230mm

Notes: Unless specified, all the test results are measured in  $25^\circ\text{C}$  room temperature.

\* marked items are optional and contact with sales people to get the functions.

## ■ Safety/EMC Compliance

Safety Standard	Description
UL8750	Light emitting diode(LED) equipment for use in lighting products
UL1012/1310	Power units other than class 2 / Class 2 power units
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

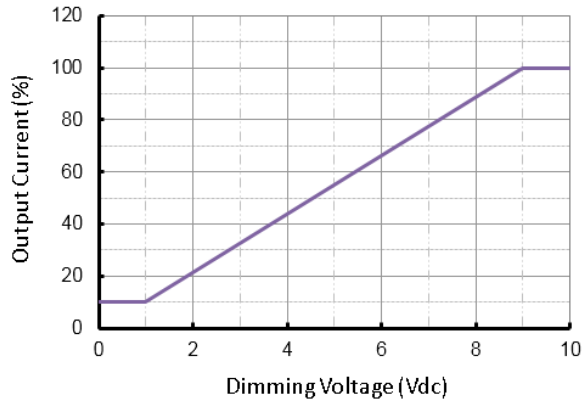
## ■ Dimming

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

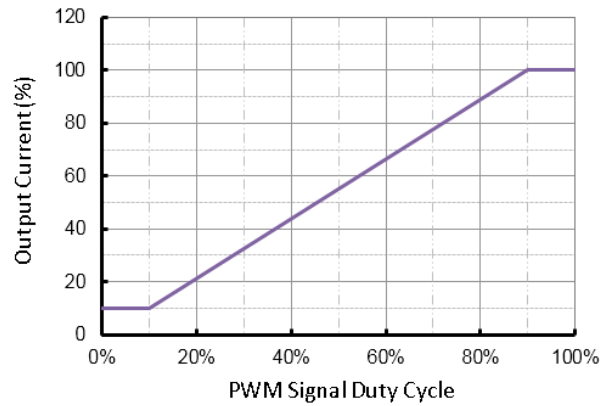
- Dimming Curve

a. Without dim-off

0-10V Dimming Curve

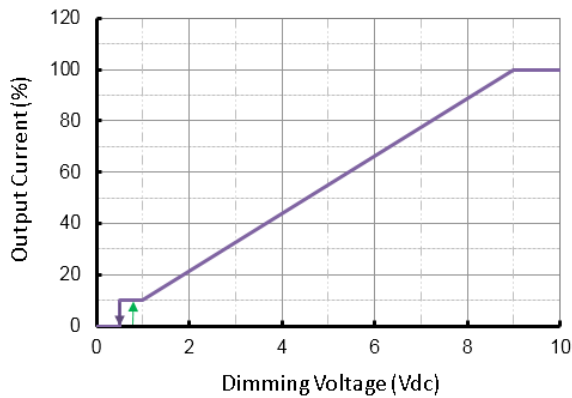


PWM Dimming Curve

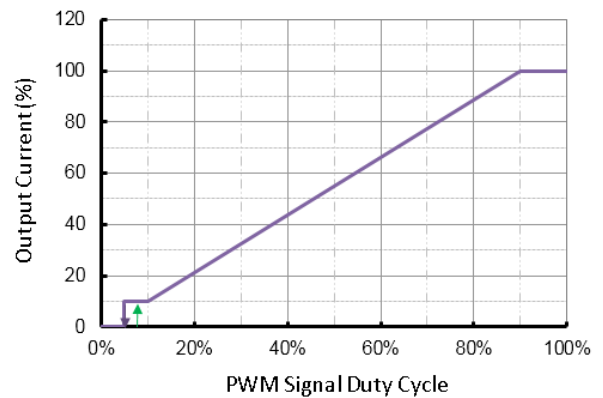


b. With dim-off

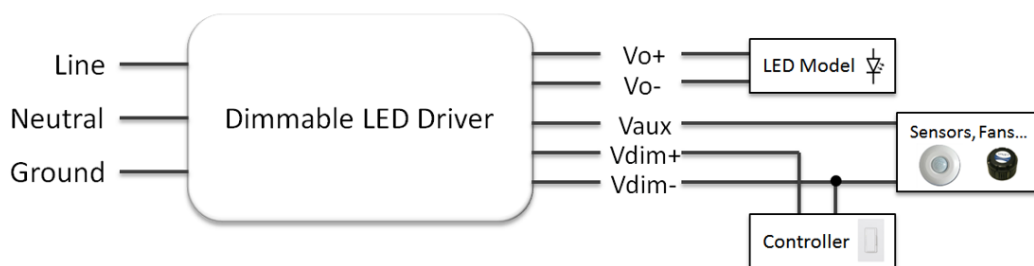
0-10V Dimming Curve



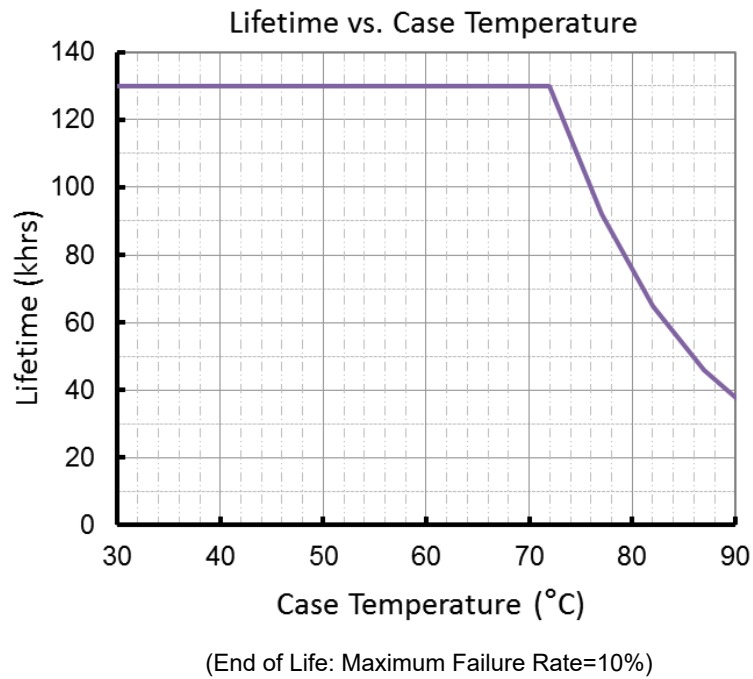
PWM Dimming Curve



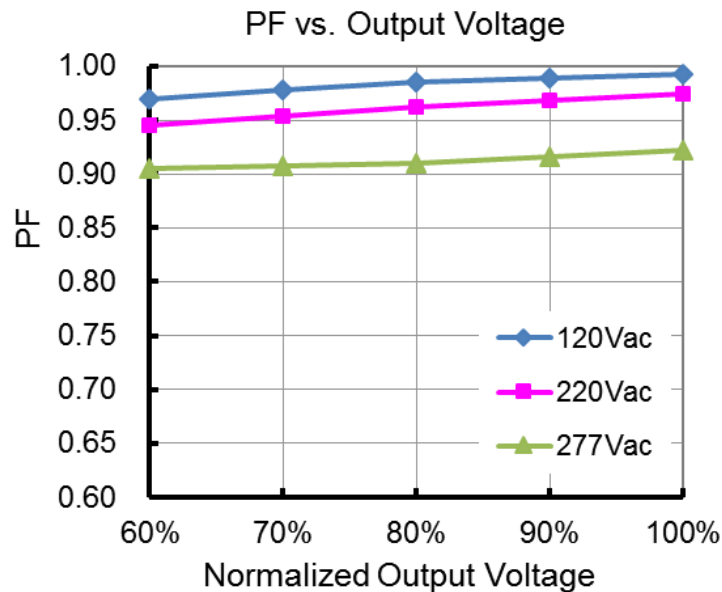
- Dimming Wiring



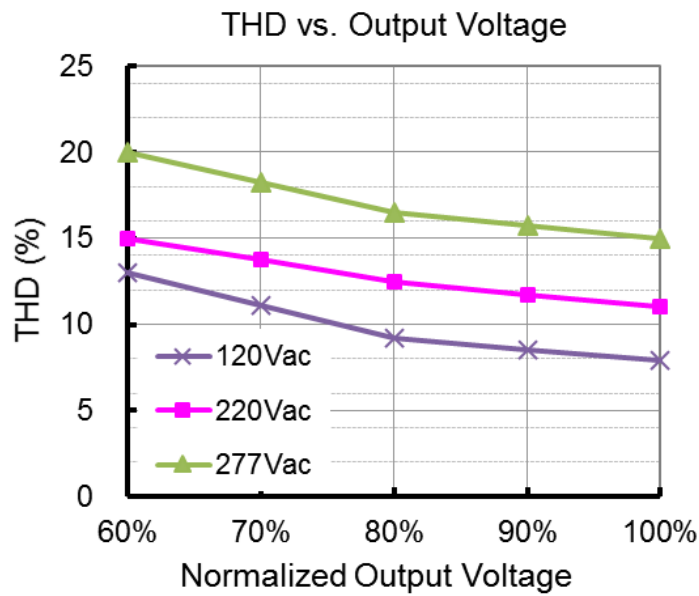
■ Lifetime vs. Case Temperature



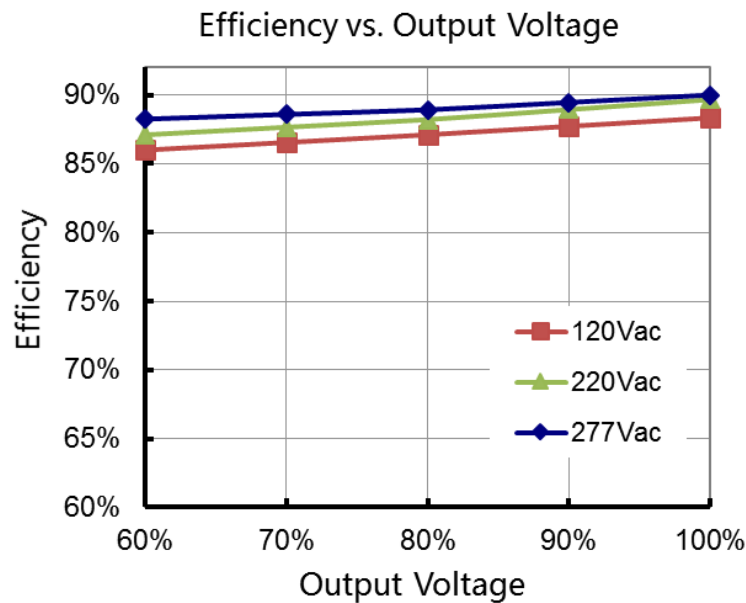
■ Power Factor vs. Load



■ THD vs. Load

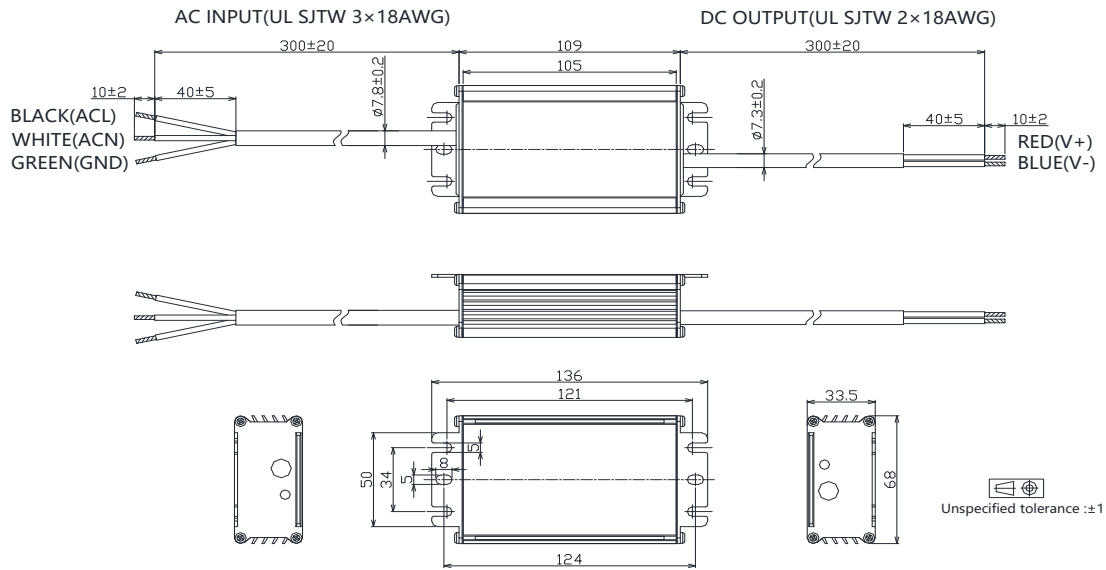


■ Efficiency vs. Load (1.05A Model)

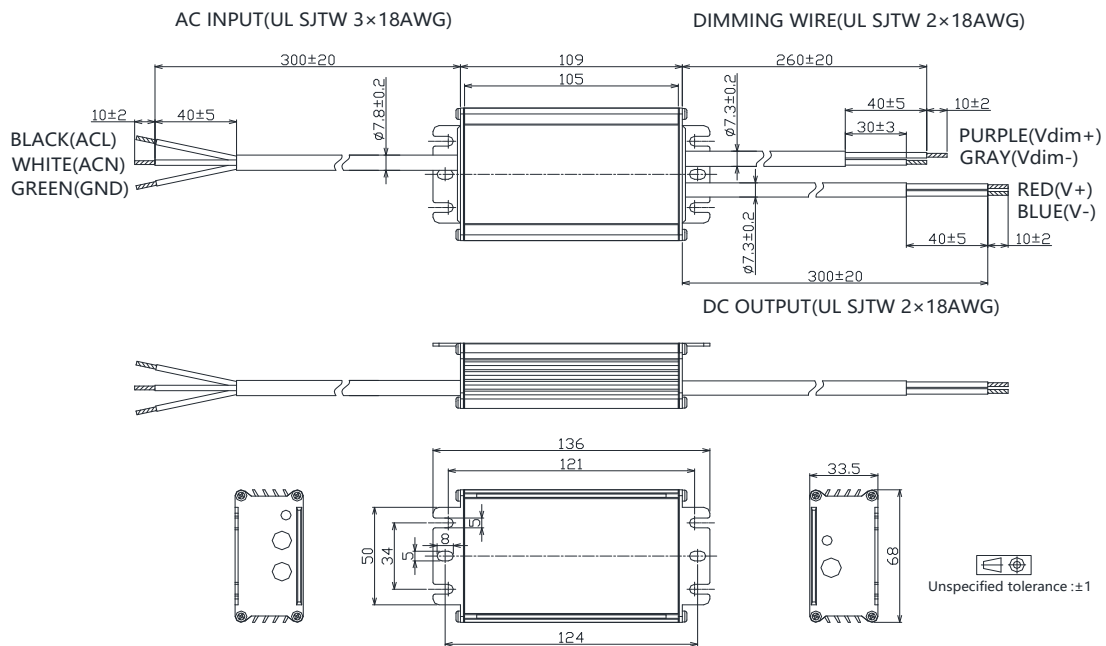


## ■ Mechanical Design

### - BLD-050-Cxxx-NUU (UL Cable)

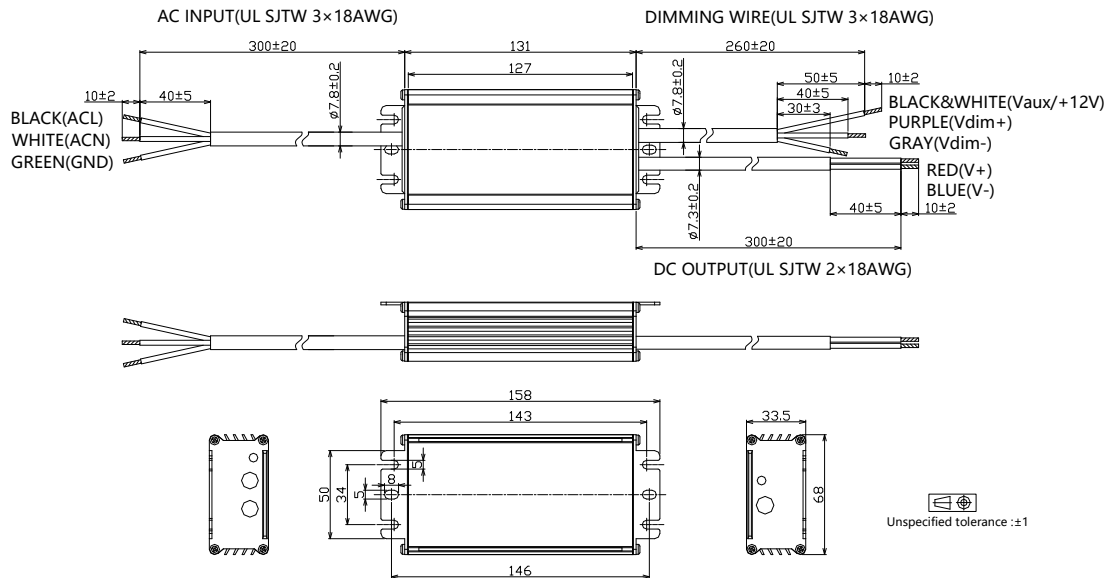


### - BLD-050-Cxxx-DNU (UL Cable)

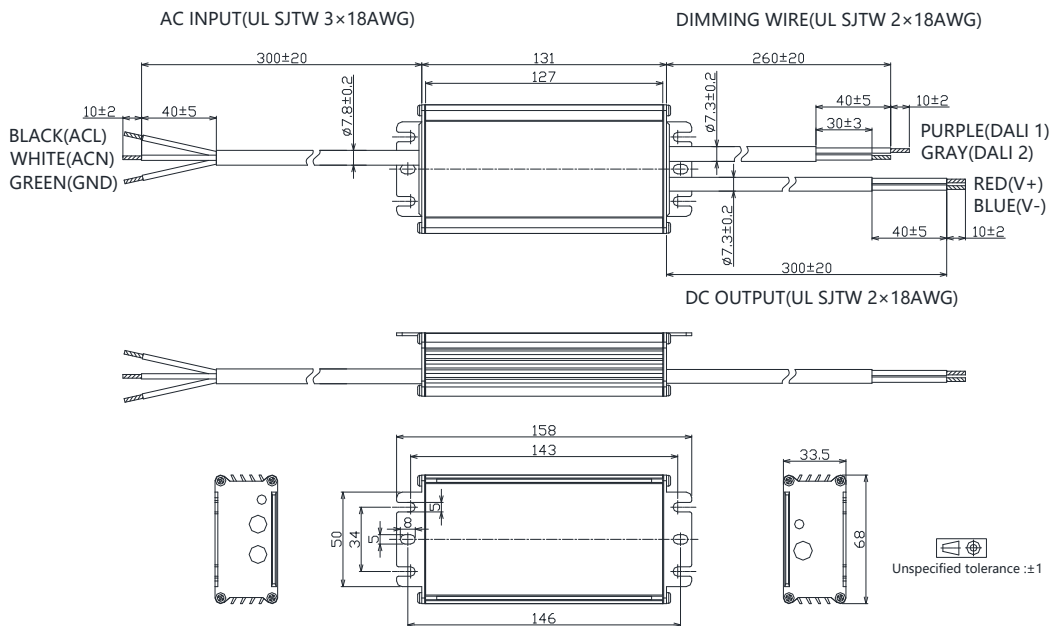


## 50W, 100-277Vac Input, NFC Programmable LED Driver

### - BLD-050-Cxxx-ERU (UL Cable)



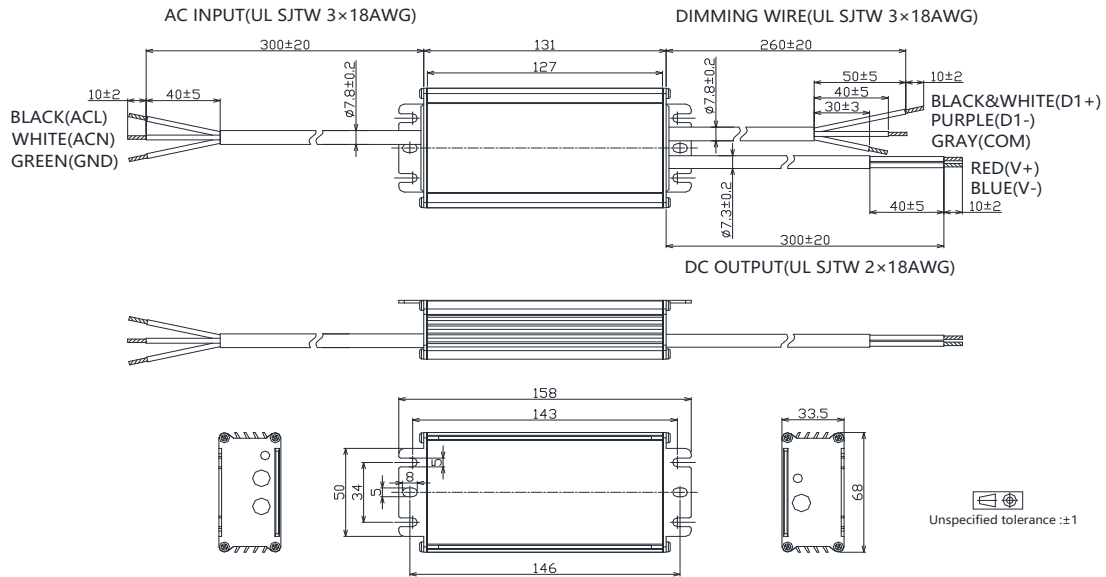
### - BLD-050-Cxxx-ANU (UL Cable)



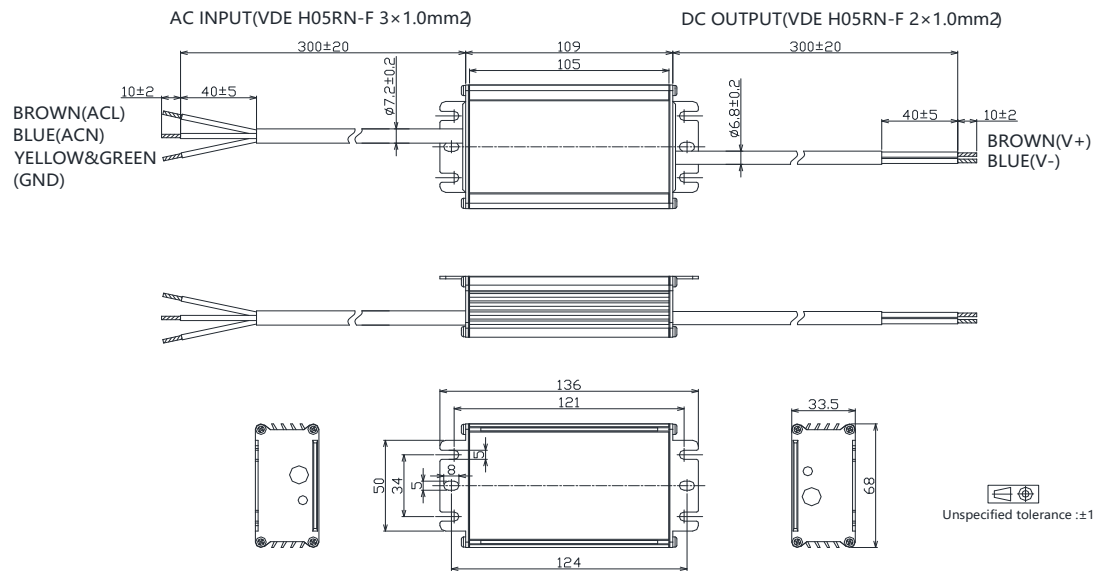


## 50W, 100-277Vac Input, NFC Programmable LED Driver

### - BLD-050-Cxxx-MRU (UL Cable)

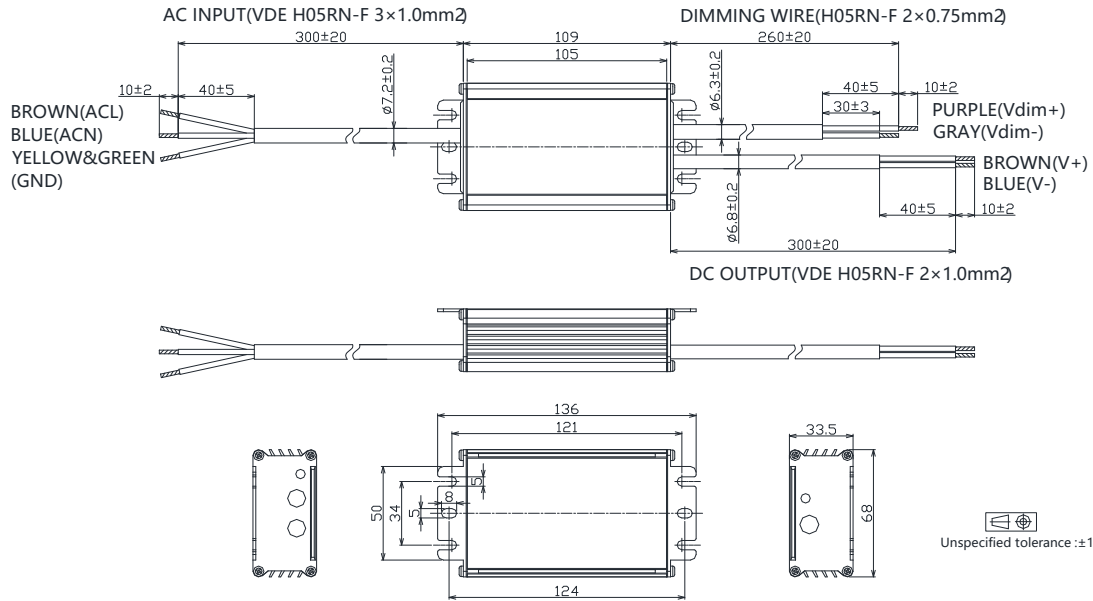


### - BLD-050-Cxxx-NNS (VDE Cable)

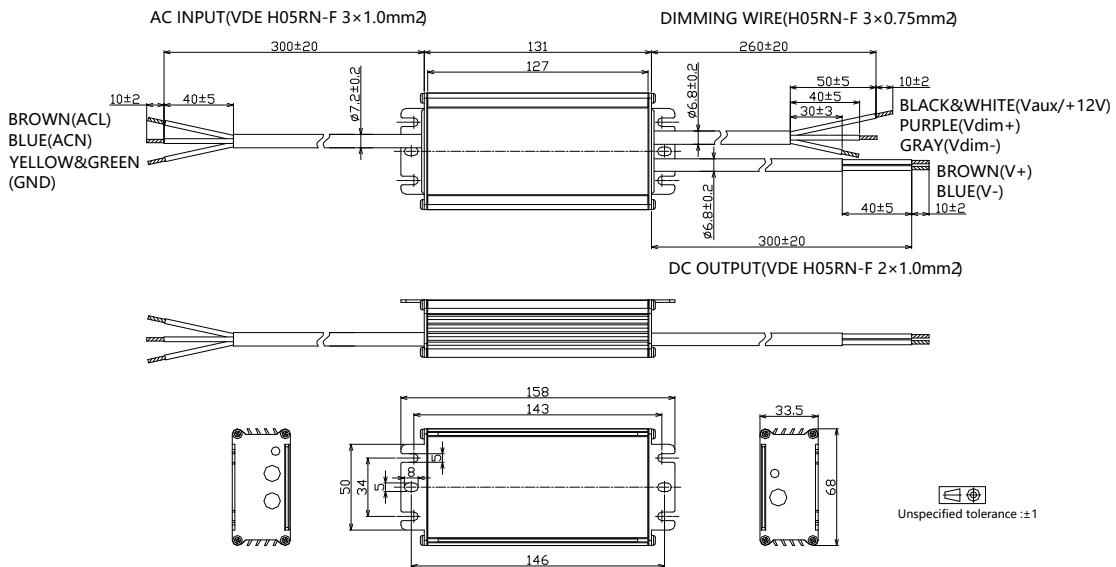


## 50W, 100-277Vac Input, NFC Programmable LED Driver

### - BLD-050-Cxxx-DNS (VDE Cable)

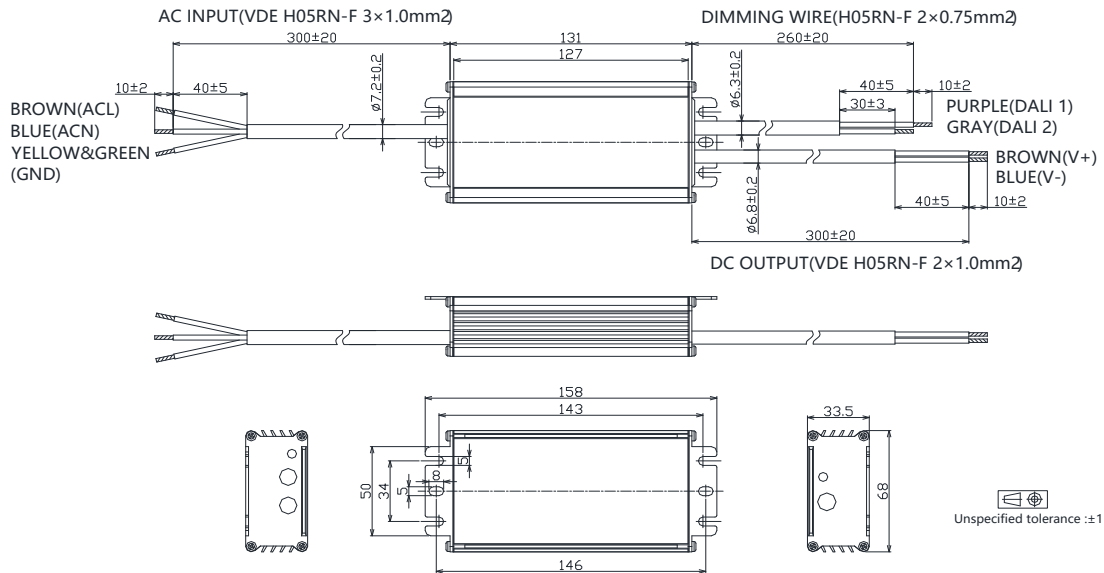


### - BLD-050-Cxxx-ERS (VDE Cable)

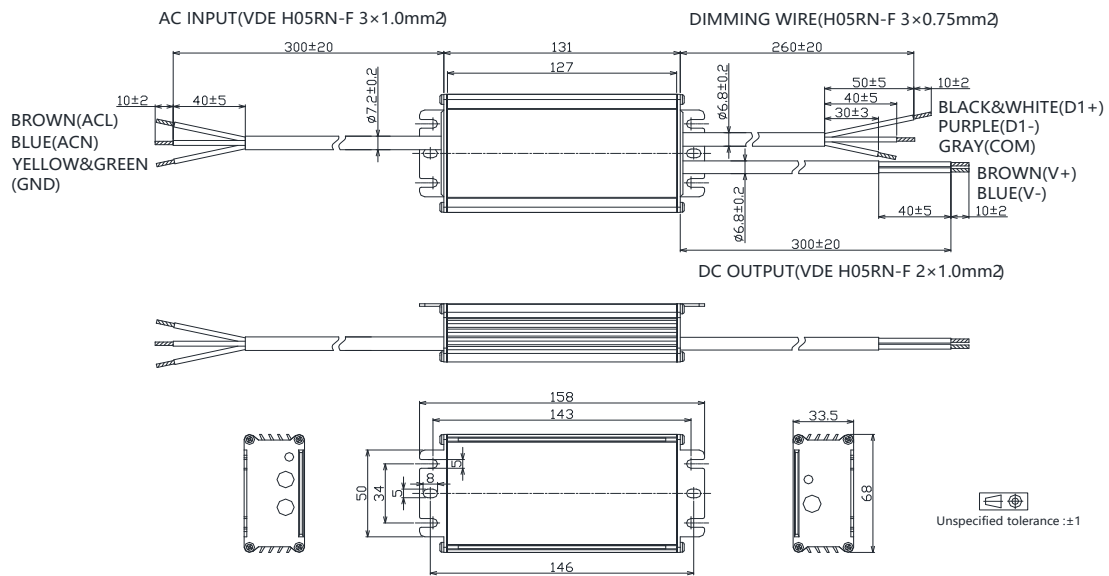


## 50W, 100-277Vac Input, NFC Programmable LED Driver

### - BLD-050-Cxxx-ANS (VDE Cable)



### - BLD-050-Cxxx-MRS (VDE Cable)



■ 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)
-C105	1050	50	29	48	105
	1000	50	30	50	100
	950	50	32	53	95
	900	50	33	56	90
	850	50	35	59	85
	800	50	38	63	80
	750	50	40	67	75
	700	50	43	71	70
	650	46	43	71	70
	600	43	43	71	70
	550	39	43	71	70
	500	36	43	71	70
	...	...	...	...	...
	70	5	43	71	70

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C140	1400	50	21	36	140
	1300	50	23	38	130
	1200	50	25	42	120
	1100	50	27	45	110
	1050	50	29	48	105
	1000	48	29	48	105
	950	45	29	48	105
	900	43	29	48	105
	850	40	29	48	105
	800	38	29	48	105
	750	36	29	48	105
	700	33	29	48	105
	...	...	...	...	...
	105	5	29	48	105

50W, 100-277Vac Input, NFC Programmable LED Driver

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C210	2100	50	14	24	210
	2000	50	15	25	200
	1900	50	16	26	190
	1800	50	17	28	180
	1700	50	18	29	170
	1600	50	19	31	160
	1500	50	20	33	150
	1400	50	21	36	140
	1300	46	21	36	140
	1200	43	21	36	140
	1100	39	21	36	140
	1000	36	21	36	140
	...	...	...	...	...
	140	5	21	36	140