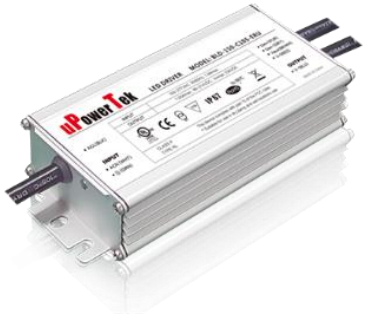
Product Datasheet



The global certified BLD-150-C is a dual stage D4i/DALI2 LED driver. 10kV surge protection level, 100khour long life and 7-year warranty provide high confidence to luminaire users. It supports high accuracy energy report and all D4i related requirement. NFC programming makes driver setting easier for users. All around protections including digital OTP with auto-recovery secure 24hour non-stop operation for luminaires.

☑ Street ☑ Flood ☑ Tunnel ☑ Shoe box ☑ Architectural

- Features 2
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Features

- Supply Voltage: 90~305Vac or 127-420Vdc, 186-250Vdc with EL Mark
- Great Surge Immunity 10kV
- -60C Ambient Startup Option
- D4i/DALI2.0 Comply with IEC62386-101,102,150,207,250,251,252,253
- Integrated 16Vdc Bus Power Supply
- ±1% Energy Report Accuracy
- Dim Off with 0.5W Standby Power
- 24V 3W (10W Transient Peak) Aux-Power
- 100,000Hour Life @ Tc=75℃
- 7 Year Warranty @ Tc<=75℃
- Airset™ NFC Programmability
- EL Mark with Programmable EOFx
- Dim Off with 0.5W Standby Power
- UL Class P, ENEC/CB/CCC SELV Output
- Class II Model Available
- Global Certified Model Available
- Safety according to EN 61347-1, 61347-2-3, 61347-2-13, 62384

Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Full Power Settable Current Min	Full Power Settable Current Max
BLD-150-C105-ARZ	90~305Vac or 127-420Vdc	150 W	86-214Vdc	700mA	1050mA
BLD-150-C140-ARZ		150 W	64-143Vdc	1050mA	1400mA
BLD-150-C210-ARZ		150 W	43-107Vdc	1400mA	2100mA
BLD-150-C380-ARZ		150 W	24-58Vdc	2600mA	3800mA
BLD-150-C630-ARZ		150 W	14-38Vdc	4000mA	6300mA

Note: 1. Add suffix –D00000 to indicate the D4i model without 24Vaux.

2. Add suffix –DAX000 to indicate the D4i model with 24Vaux.

3. See the **Output Operation Range Section** for programmable model details.

Z=	U	V	S	S-GLBD00	W	D
Input Cable	3 pin UL cable with ground	3 pin UL cable with ground	3 pin VDE cable with ground	3 pin Global cable with ground	3 pin VDE cable with ground	2 pin VDE cable without ground
Output Cable	2 pin UL cable without Ground	3 pin UL cable with ground	2 pin VDE cable without ground	2 pin Global cable without ground	3 pin VDE cable with ground	2 pin VDE cable without ground
Certified Input Voltage Range	UL Listed Class P FCC 120-277Vac	UL Listed Class P FCC 120-277Vac	ENEC CB RCM Class I 220-277Vac	UL Recognized 120-277Vac ENEC CB RCM Class I 220-277Vac	Class I 120-277Vac	ENEC CB Class II 220-277Vac

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Technical Data

Input Voltage	90~305Vac or 127-420Vdc
Input Frequency	47～63Hz
Power Factor	>0.95@60-100%load, refer to PF vs. Load curve
THD	<15%@60-100%load, refer to THD vs. Load curve
Input Current	1.4Amax@120Vac & Full-Load, 0.75Amax@220Vac & Full-Load
Inrush Current	See Inrush Current Section in the datasheet
Leakage Current	0.75MIU max @277Vac 60Hz, UL8750 0.7mA max @240Vac 50/60Hz, IEC60598-1
Input Under Voltage	Shut down and auto-restart
Surge Protection	Line to line 6kV, line to ground 10kV, IEC 61000-4-5
Current Accuracy	±2%Io for programmable model, ±5%Io 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 Tc≧105±10℃; Auto Recovery When Tc≦70±10℃
Operating Temperature	Case Temperature Tc=-40℃～+90℃； 10%RH～100%RH
Storage Temperature	-40℃～+85℃； 5%RH～100%RH
MTBF	≥320,000 hours, 75℃ case temperature (MIL-HDBK-217F)
Lifetime	≥100,000 hours, 75℃ case temperature, refer to life vs. Tc curve
Case Temperature	90℃ max, marked in the Tc point of label
Dimension	175.0x68.0x38.5 by mm (body), 201.0x68.0x38.5 by mm (endcaps included)
Net Weight	900g
Packing	See Package Information Section in the datasheet

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

Safety/EMC Compliance

Safety Standards	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
IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
IEC 55015/FCC Part 15	Conducted emission test & radiated emission test; ANSI C63.4:2009 Class B
IEC 61000-3-2	Harmonic current emissions; Class C
IEC 61000-3-3	Voltage fluctuations & flicker
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.
DALI Interface Standard	IEC62386-101,102,150,207,250,251,252,253		
Dimming Range	10%	Logarithmic (default)	100%
DA1,DA2 High Level	9.5V	16V	22.5V
DA1,DA2 Low Level	-6.5V	0	6.5V
DA1,DA2 Current	0		2mA
Bus Power Supply Voltage	12Vdc	16Vdc	20Vdc
Bus Power Supply Current	52mA	-	60mA
Auxiliary Power Voltage	21.6V	24V	26.4V
Auxiliary Power	3W	-	4W
Auxiliary Power Endurance @6W	3.8ms/6ms	-	4.5ms/6ms
Auxiliary Power Endurance @10W	1.8ms/6ms	-	2.2ms/6ms
Bus Power Supply Current	52mA	-	60mA
Fast Dimming On-Off Transition		300ms	
Fast Dimming 10-100% Io Transition		70ms	

Programming

- **Programmable Functions**

uPowerTek LED drivers offer a range of configurable functions to meet specific lighting requirements. The Output Current, Dimming Mode, Dim Off/On Voltage Threshold, and Timer Dimming can be set as basic programming functions. Constant Lumen Output (CLO) can also be customized to ensure consistent light performance. Additionally, depending on the different product model numbers, users can benefit from programming Thermal Protection by external NTC (with extra cable), DALI/D4i Features, and DMX addressing.



uPowreTek Programming Software Interface

- **Required Equipment**

To program uPowerTek LED drivers, users will need specific equipment based on their preferred method. For NFC wireless programming, users can use a smartphone with either IOS or Android, the uPowerTek NFC Programmer, or the FEIG NFC Programmers. These tools ensure a seamless and efficient setup process, realizing precise customization of the LED driver settings.



NFC Programmer V1



NFC Programmer V2



FEIG NFC Programmer



Android or iPhone

- **Connection Guide**

  This guide provides simple connection diagrams to help users understand the programming system. For more detailed operating instructions, including step-by-step procedures and additional configurations, please visit our website. You can download the comprehensive user manual and necessary software from the following link: https://www.upowertek.com/download-2/.

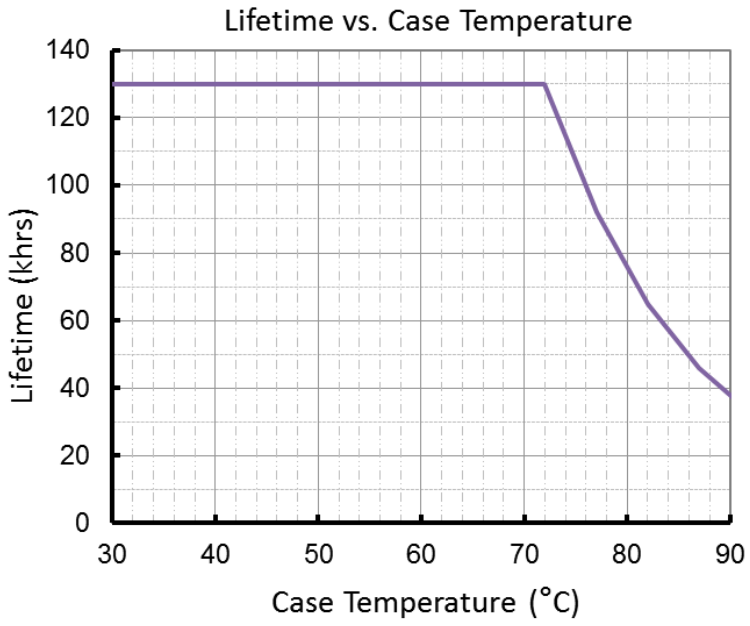


Wireless Programming



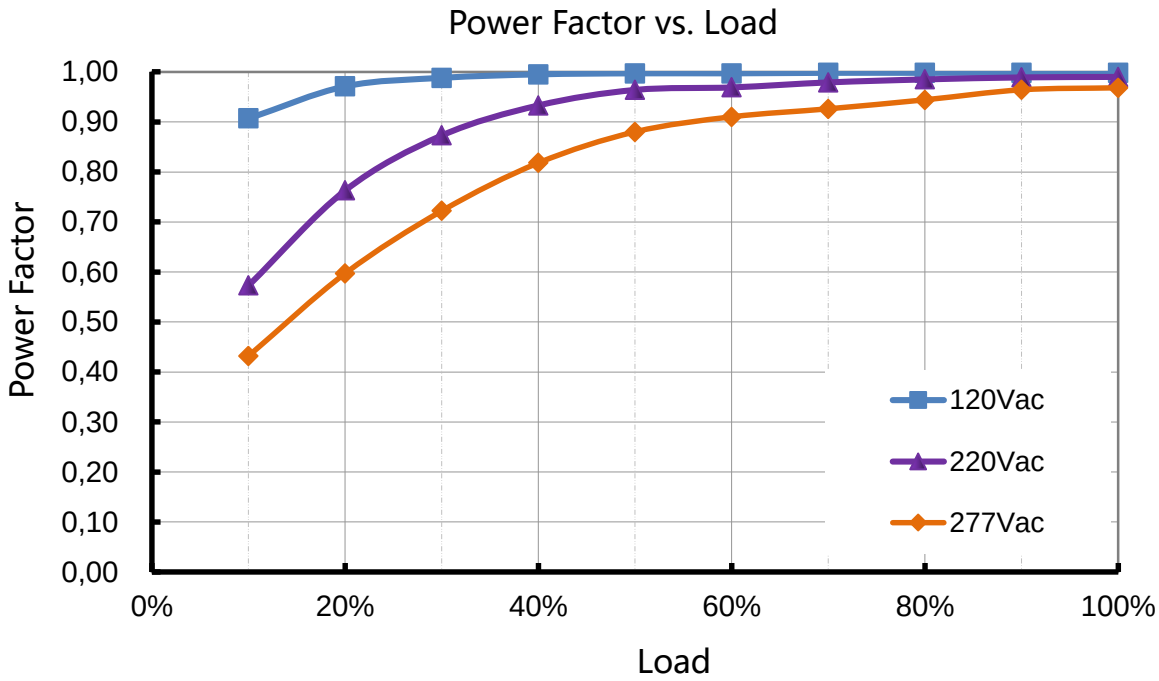
Cellphone Programming

Lifetime vs. Case Temperature

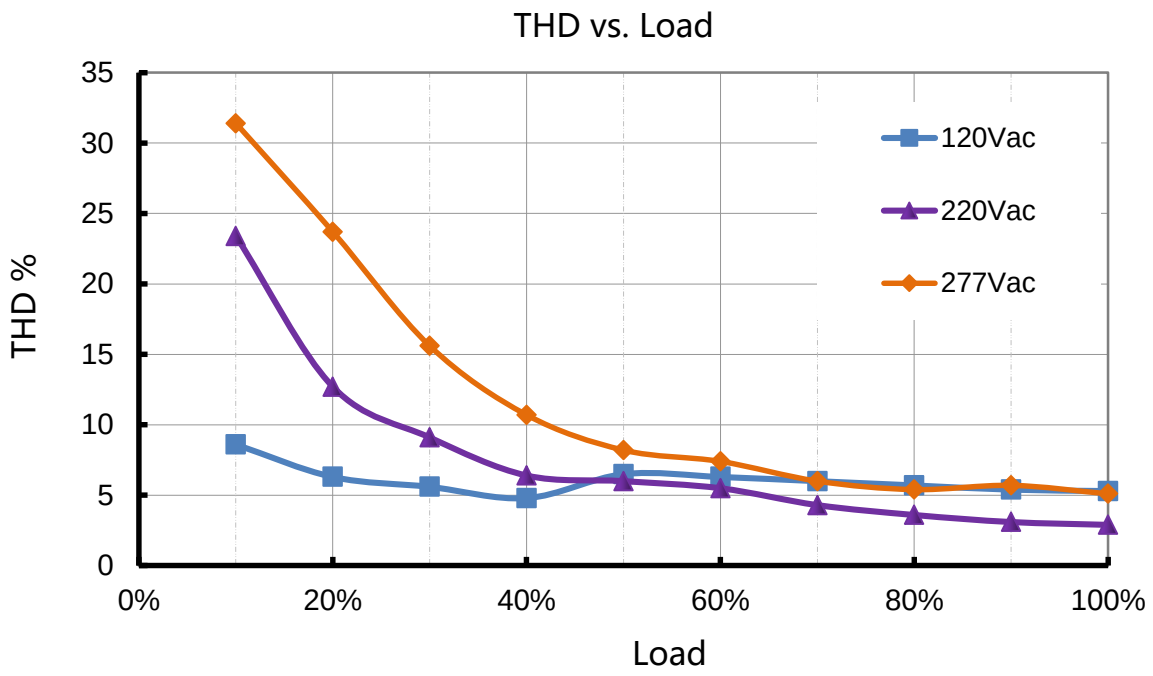


(End of Life: Maximum Failure Rate=10%)

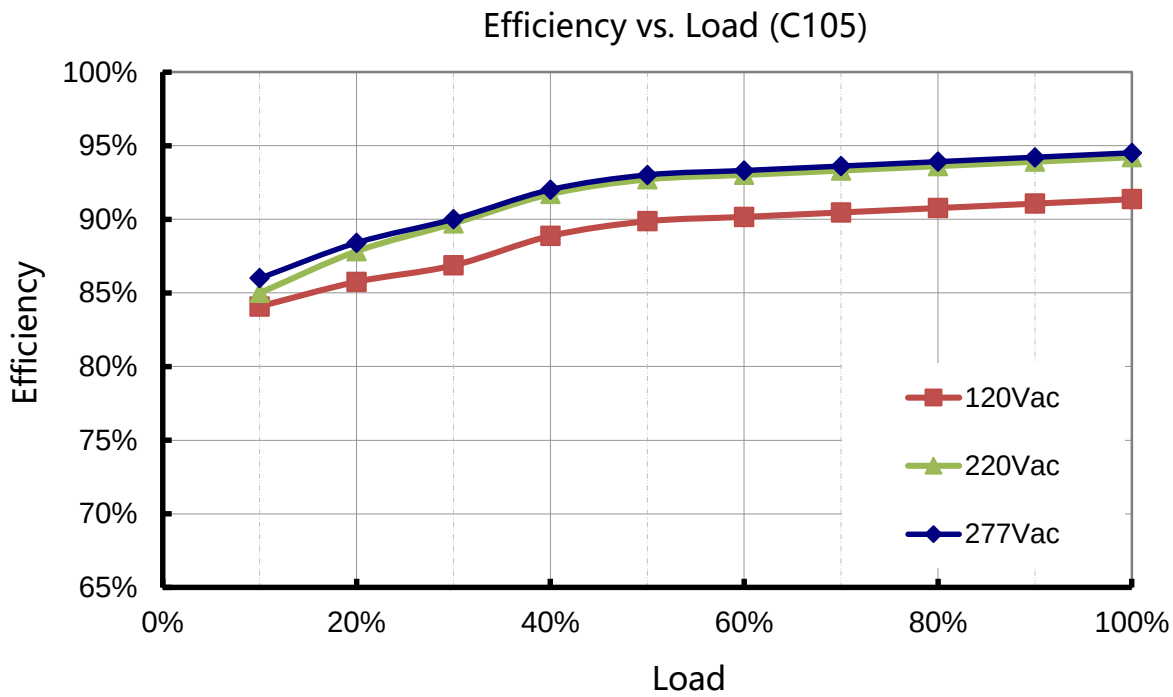
Power Factor vs. Load

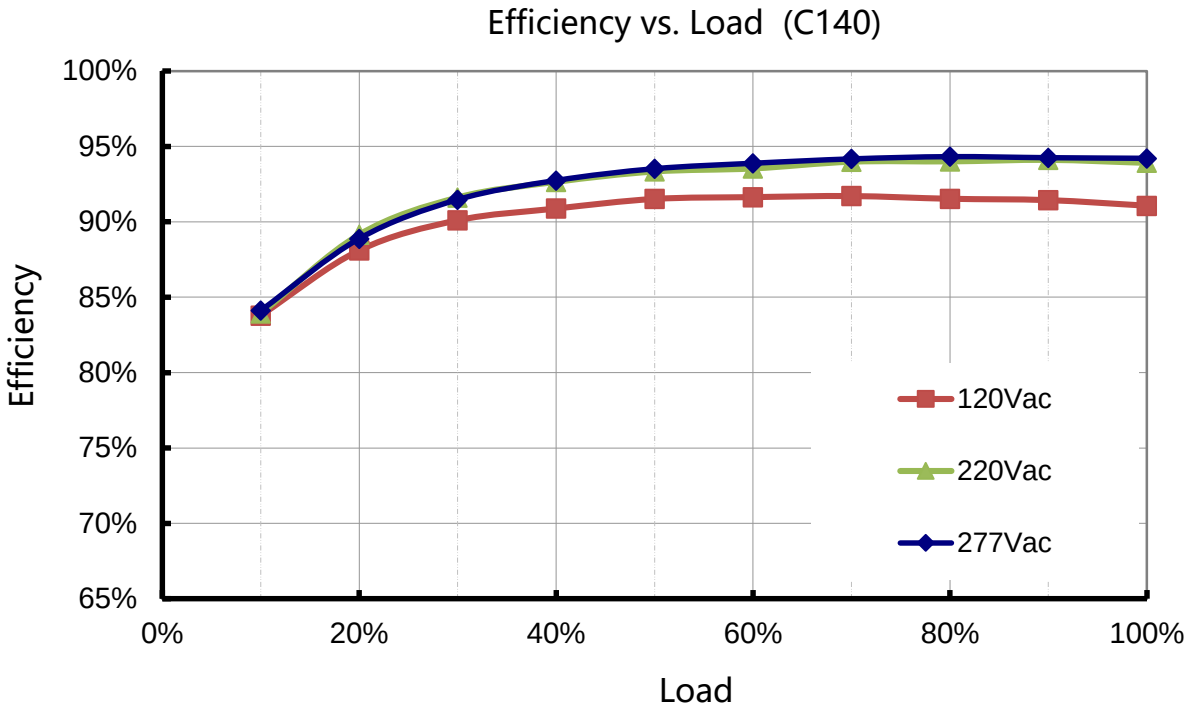


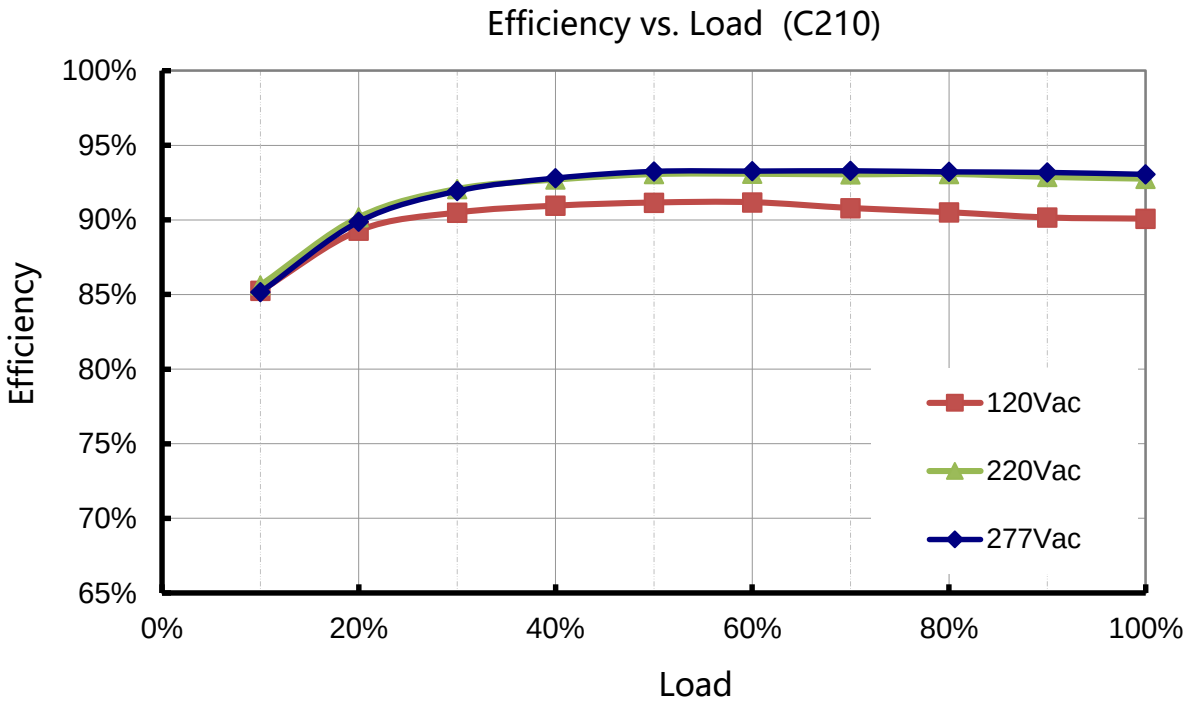
THD vs. Load



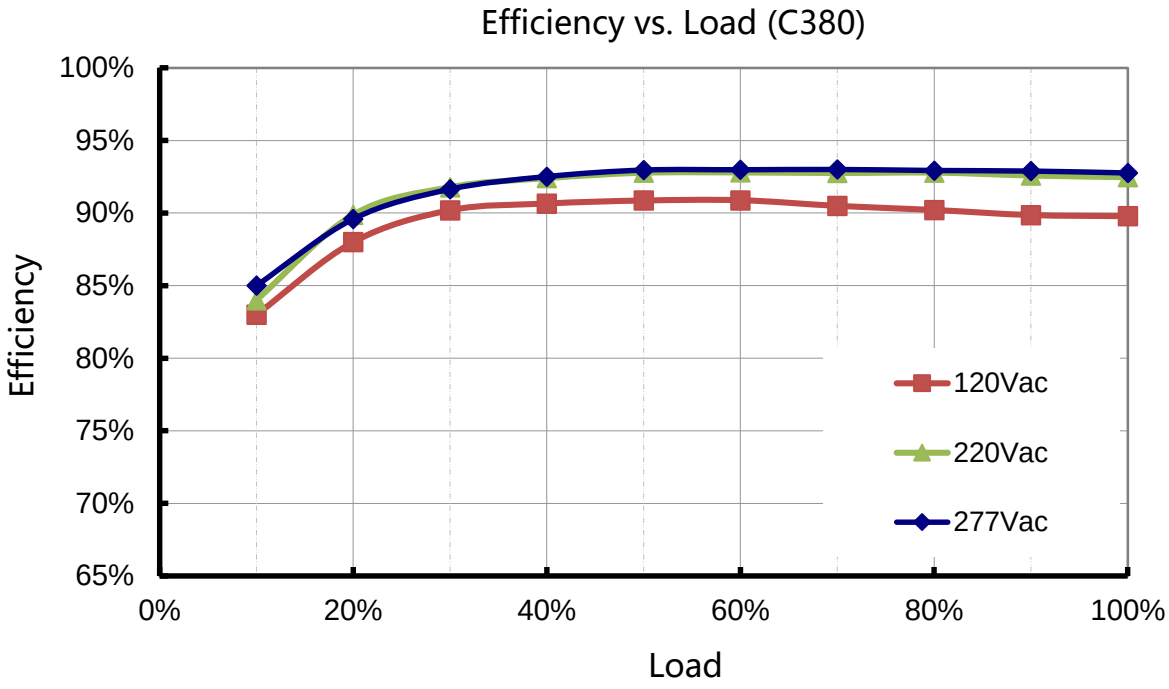
Efficiency vs. Load

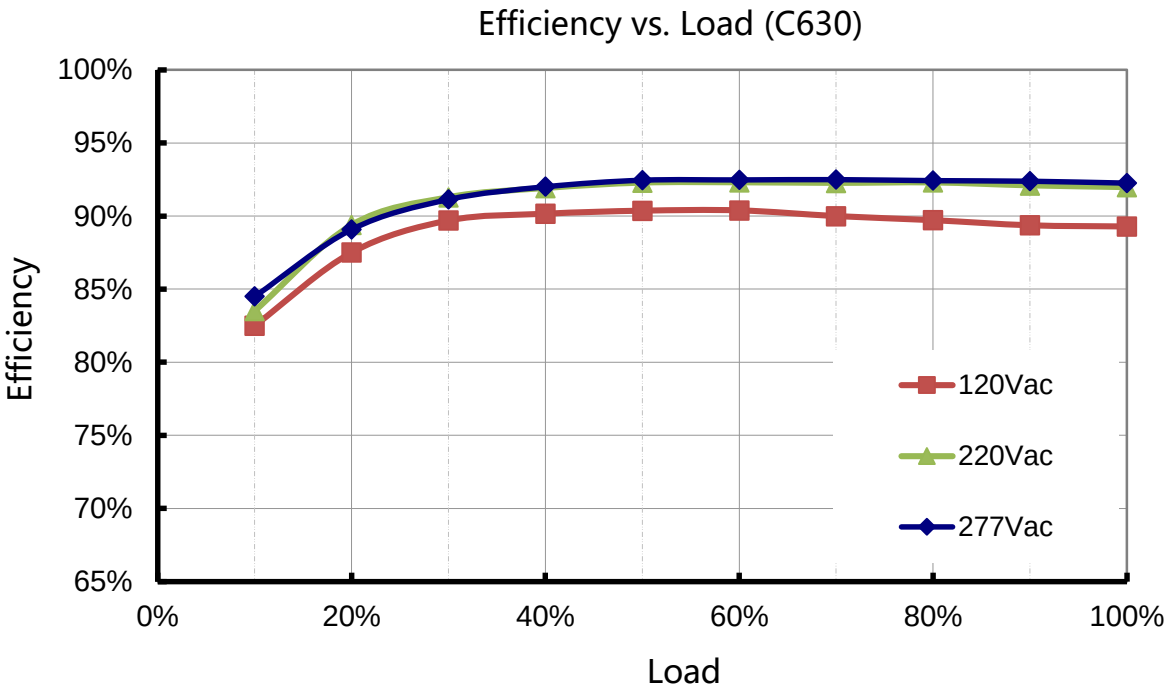




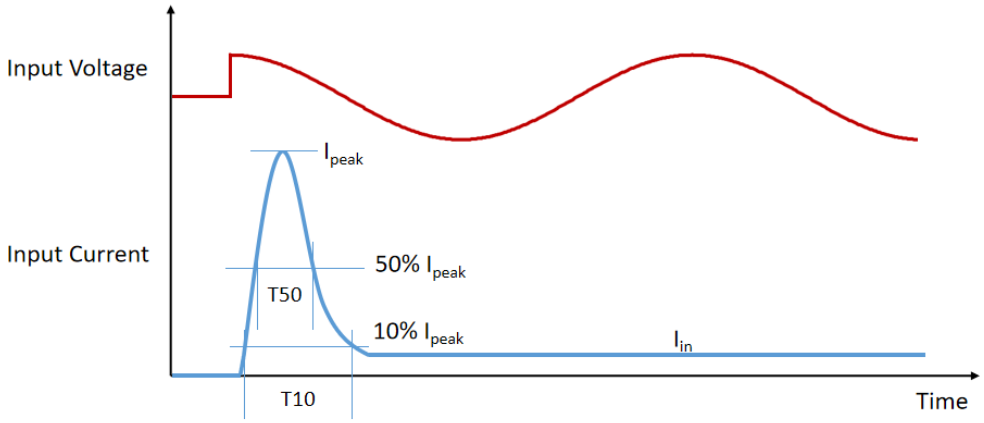


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Efficiency vs. Load (C380)
100%
95%
90%
85%
80%
75%
70%
65%
Efficiency
0%
20%
40%
60%
80%
100%
Load
120Vac
220Vac
277Vac


Efficiency vs. Load (C630)
100%
95%
90%
85%
80%
75%
70%
65%
Efficiency
0%
20%
40%
60%
80%
100%
Load
120Vac
220Vac
277Vac

Inrush Current



Input Voltage	I_{peak}	10% -10% T10 Duration	50% -50% T50 Duration
120Vac	37.2A	824μs	350μs
220Vac	66.8A	824μs	350μs
277Vac	90A	760μs	300μs

- **MCB Suggestion**

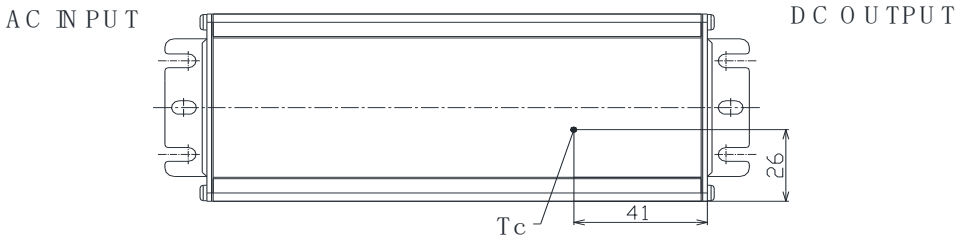
Type	B10	B16	B25	B32	C10	C16	C25	C32	D10	D16	D25	D32
Driver Quantity	3	5	8	10	5	8	13	17	10	16	26	33

Note: Calculated with MCB S200 series manufactured by ABB at 220Vac Input condition

Dielectric Strength

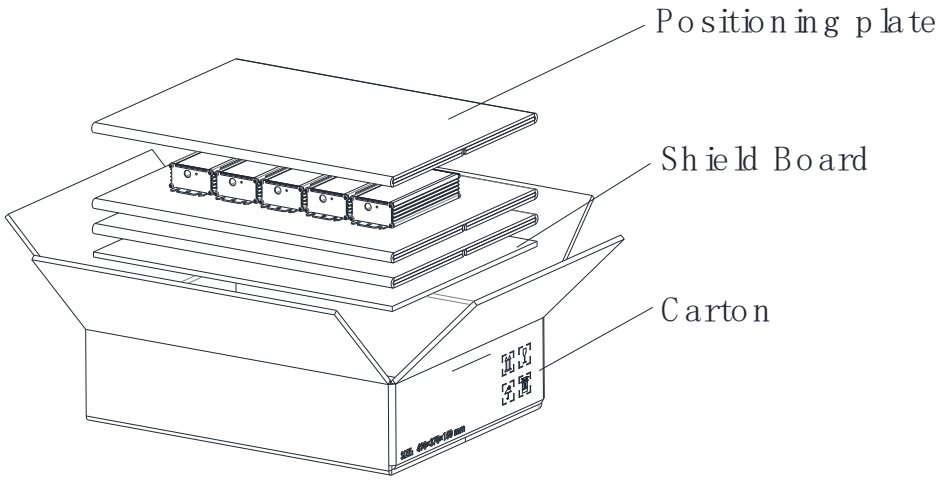
Unit: Vac	Input	Output	Dimming	Case
Input	-	3750	3750	1554
Output	3750	-	1554	1554
Dimming	3750	1554	-	1554
Case	1554	1554	1554	-

Tc Point



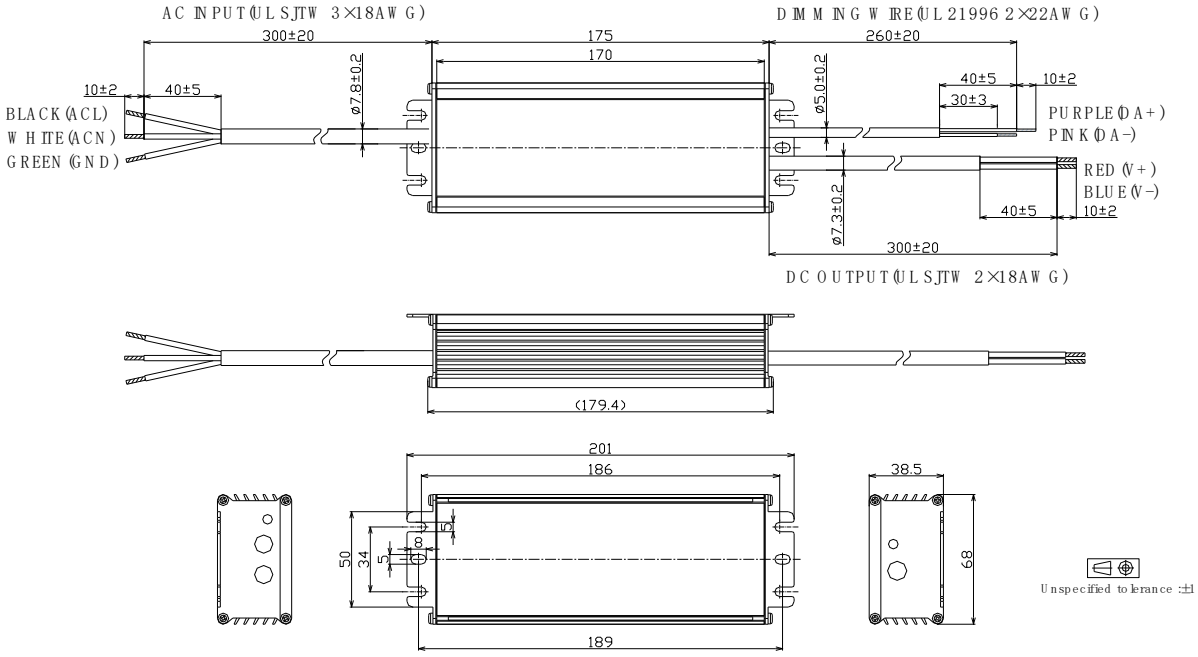
Packaging Information

Typical Carton Dimension(L×W×H)	490×370×160 mm
Positioning plate	3pcs/carton
Shield Board	1pcs/carton
LED Drivers/LED	12pcs/carton
Net Weight	10.8 kg/carton
Gross Weight	12.1 kg/carton

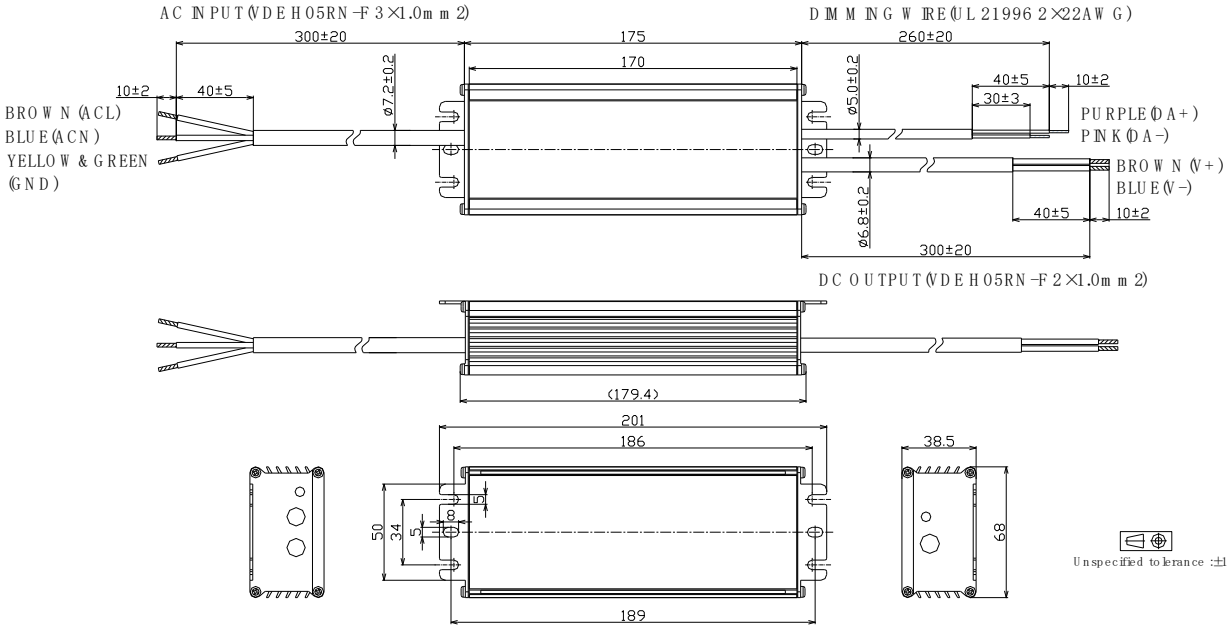


Mechanical Design

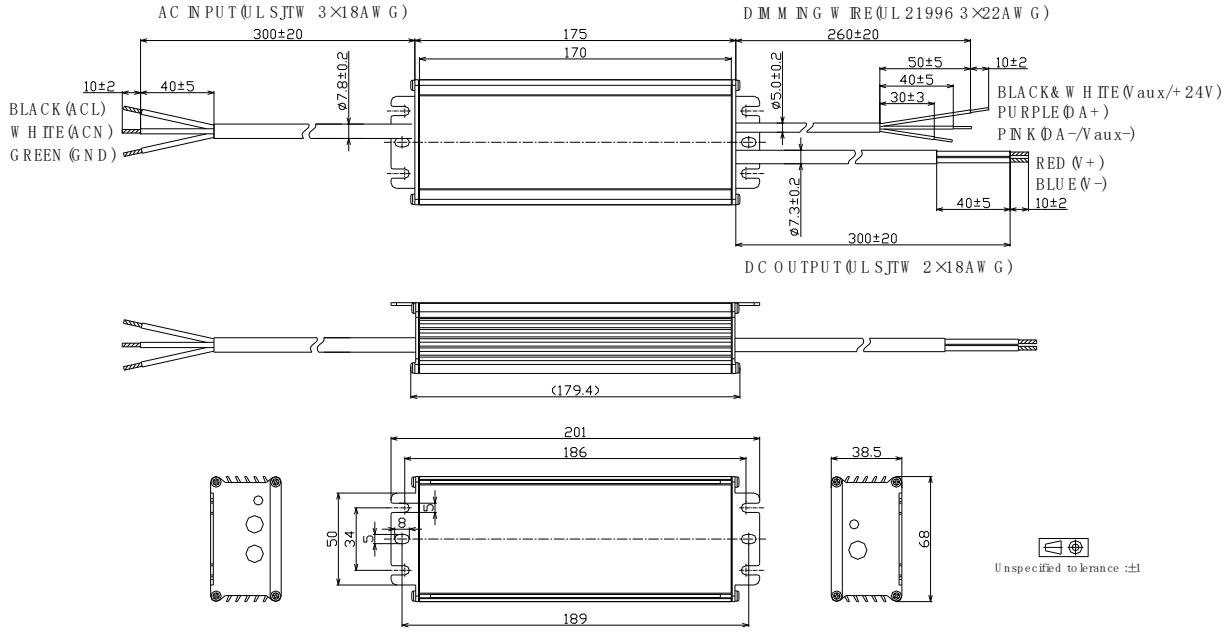
- **BLD-150-Cxxx-ARU-D00000 ((UL Cable without Vaux)**



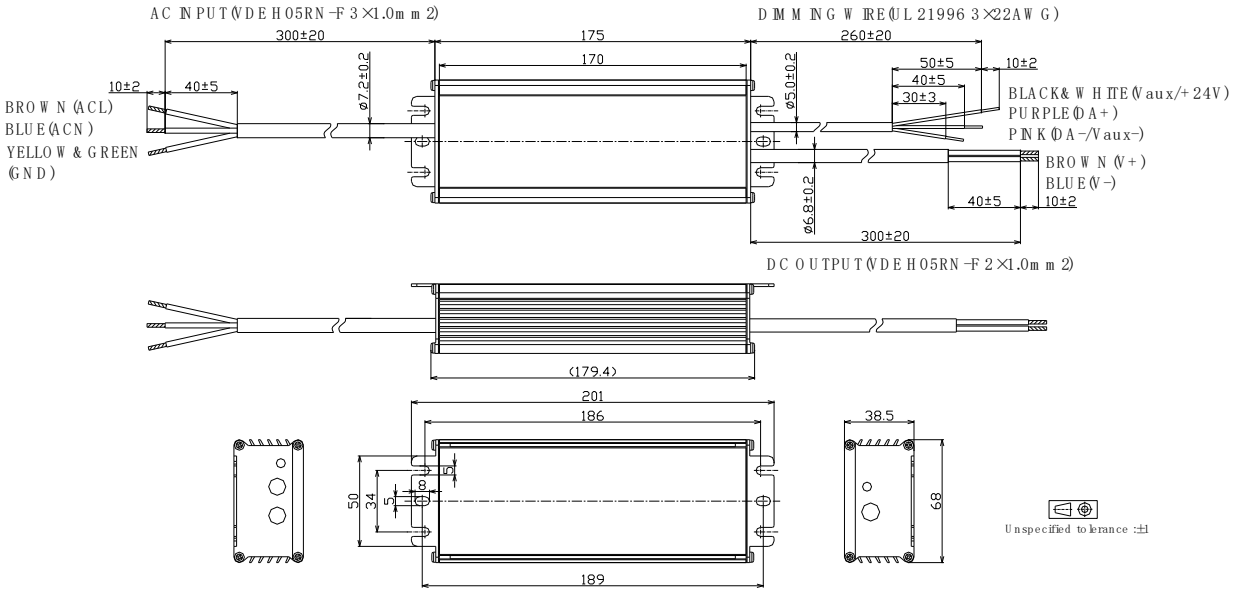
- **BLD-150-Cxxx-ARS-D00000 (VDE Cable without Vaux)**



- **BLD-150-Cxxx-ARU-DAX000 (UL Cable with Vaux)**



- **BLD-150-Cxxx-ARS-DAX000 (VDE Cable with Vaux)**



Output 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	150	86	143	105
	1000	150	90	150	100
	950	150	95	158	95
	900	150	100	167	90
	850	150	106	176	85
	800	150	113	188	80
	750	150	120	200	75
	700	150	129	214	70
	650	139	129	214	70
	600	129	129	214	70
	550	118	129	214	70
	500	107	129	214	70
	…	…	…	…	…
	70	15	129	214	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	150	64	107	140
	1300	150	69	115	130
	1200	150	75	125	120
	1100	150	82	136	110
	1050	150	86	143	105
	1000	143	86	143	105
	950	136	86	143	105
	900	129	86	143	105
	850	121	86	143	105
	800	114	86	143	105
	750	107	86	143	105
	700	100	86	143	105
	…	…	…	…	…
	105	15	86	143	105

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C210	2100	150	43	71	210
	2000	150	45	75	200
	1900	150	47	79	190
	1800	150	50	83	180
	1700	150	53	88	170
	1600	150	56	94	160
	1500	150	60	100	150
	1400	150	64	107	140
	1300	139	64	107	140
	1200	129	64	107	140
	1100	118	64	107	140
	1000	107	64	107	140
	…	…	…	…	…
	140	15	64	107	140

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C380	3800	150	24	39	380
	3700	150	24	41	370
	3600	150	25	42	360
	3500	150	26	43	350
	3400	150	26	44	340
	3300	150	27	45	330
	3200	150	28	47	320
	3100	150	29	48	310
	3000	150	30	50	300
	2900	150	31	52	290
	2800	150	32	54	280
	2700	150	33	56	270
	2600	150	35	58	260
	2500	144	35	58	260
	2400	138	35	58	260
	…	…	…	…	…
	260	15	35	58	260

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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)
-C630	6300	150	14	24	630
	6100	150	15	25	610
	5900	150	15	25	590
	5700	150	16	26	570
	5500	150	16	27	550
	5300	150	17	28	530
	5100	150	18	29	510
	4900	150	18	31	490
	4700	150	19	32	470
	4500	150	20	33	450
	4400	150	20	34	440
	4300	150	21	35	430
	4200	150	21	36	420
	4100	150	22	37	410
	4000	150	23	38	400
	3800	143	23	38	400
	…	…	…	…	…
	400	15	23	38	400

Revision History

Revision	Date	Contents
A	2023-06-01	1. First release
B	2023-7-14	1. Update cable selection table in Model List Section
C	2023-10-08	1. EL mark with programmable EOFx added
D	2024-07-25	1. Fast dimming description added 2. Power factor, THD, efficiency curves updated by 10-100% load range 3. MCB usage and driver quantity section added 4. Inrush current data updated

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