

Product Datasheet



The global certified BLD-075-C series is a high cost performance LED driver. 10kV surge protection level, 80khour long life and 5-year warranty provide high confidence to luminaire designers and users. All around protections including digital OTP, SCP and OVP/OCV with auto-recovery secure 24hour non-stop operation for luminaires.

- Street
- Tunnel
- Bay
- Shoe box
- Architectural



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75W, Isolated Dimming, Programmable LED Driver

■ Features

- Supply Voltage: 90~305Vac or 127-250Vdc, 380Vac for 2 hours
- Great Surge Immunity 10kV
- 80,000Hour Life @ Tc=75°C
- 5 Year Warranty
- Airset™ NFC Programmability
- Isolated 0-10V/PWM/Time Dimmable
- Class II Model Available
- UL Class P, Class 2
- ENEC/CB/CCC SELV Output
- Safety according to UL8750, EN 61347-1, 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-075-C070-XYZ	90 ~ 305 Vac	75 W	Refer to Output Operation Range Section	500mA	700mA
BLD-075-C105-XYZ	90 ~ 305 Vac	75 W		700mA	1050mA
BLD-075-C140-XYZ	90 ~ 305 Vac	75 W		1050mA	1400mA
BLD-075-C210-XYZ	90 ~ 305 Vac	75 W		1400mA	2100mA
BLD-075-C280-XYZ	90 ~ 305 Vac	75 W		2100mA	2800mA

XYZ Suffix	Dimming Method	Programmable	12Vaux	Dim-off
NNZ-B00000	-	-	-	-
DNZ-B00000	0-10V/PWM/Time	Cable	-	-
TRZ-B00000	Time	NFC	-	-
DRZ-B00000	0-10V/PWM/Time	NFC	-	-

Z=	U	V	S	S-BGLB00	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 with 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

75W, Isolated Dimming, Programmable LED Driver

■ Technical Data

Input Voltage	90~305Vac or 127V-250Vdc, 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	0.8Amax@120Vac & Full-Load, 0.4Amax@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	±5%Io
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 $T_c \leq 70 \pm 10^\circ\text{C}$
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	$\geq 300,000$ hours, 75°C case temperature (MIL-HDBK-217F)
Lifetime	$\geq 80,000$ 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	3.86x2.66x1.32 by inch (body), 4.92x2.66x1.32 by inch (endcaps included) 98.0x68.0x33.5 by mm (body), 125.0x68.0x33.5 by mm (endcaps included)
Net Weight	480g
Packing	See Package Information Section in the datasheet

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

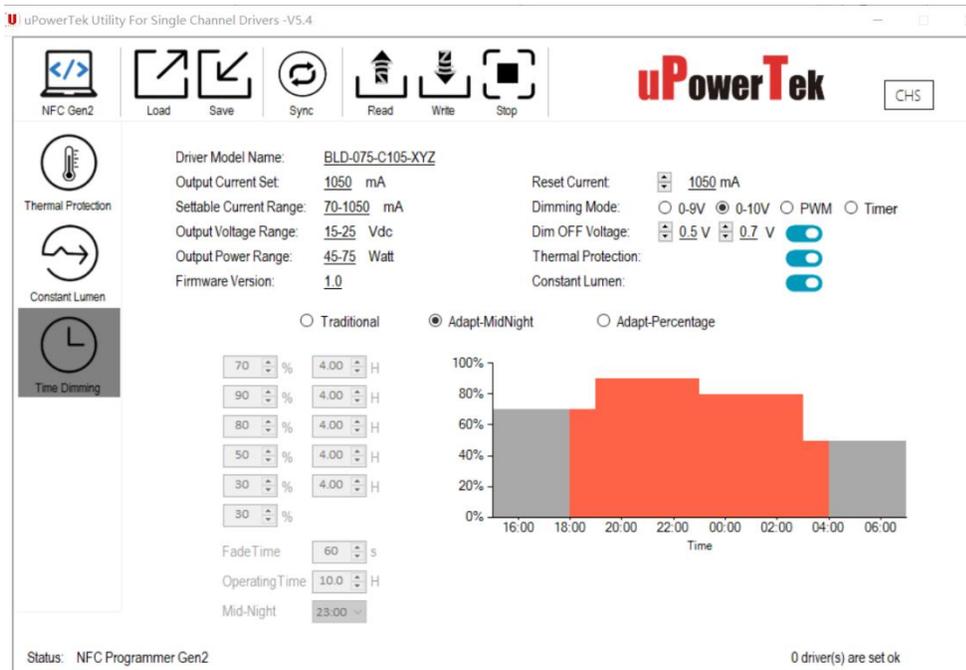
■ Safety/EMC Compliance

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

■ 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 wired programming, the uPowerTek Cable Programmer is essential. 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.



Cable Programmer



NFC Programmer V1



NFC Programmer V2



FEIG NFC Programmer



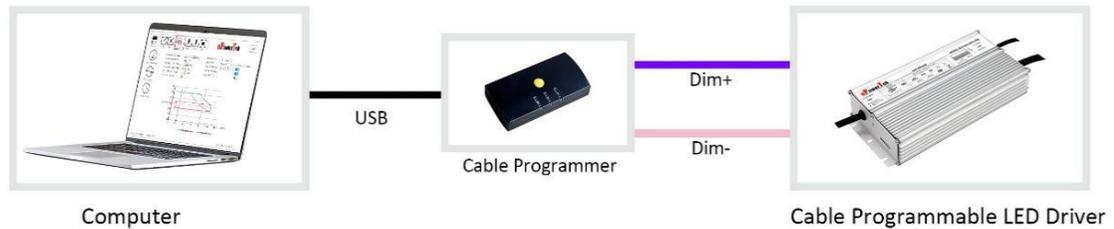
Android or iPhone

75W, Isolated Dimming, Programmable LED Driver

- 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/>.



Wired Programming



Wireless Programming



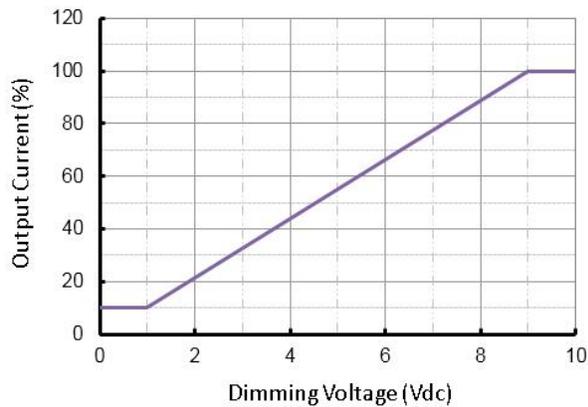
Cellphone Programming

■ Dimming

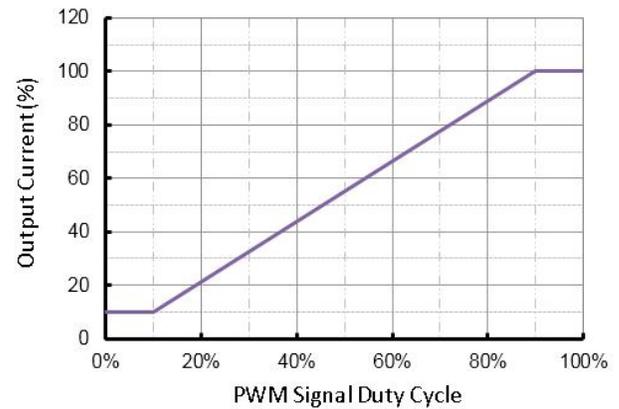
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	100uA	150uA	200uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Default Dim off Threshold	0.4V or 4%	0.5V or 5%	0.6V or 6%
Default Dim off Threshold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

- Dimming Curve

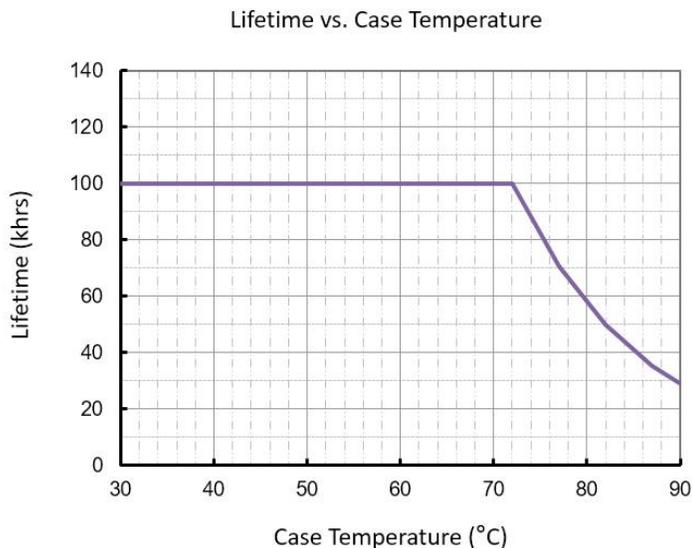
0-10V Dimming Curve



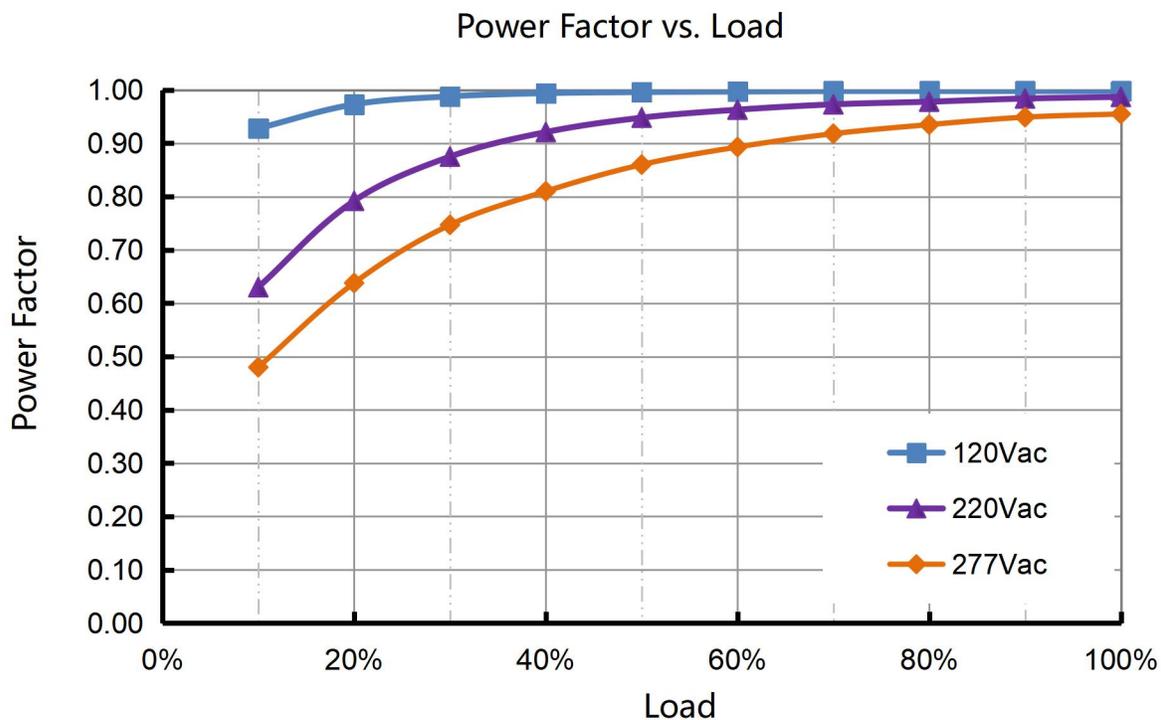
PWM Dimming Curve



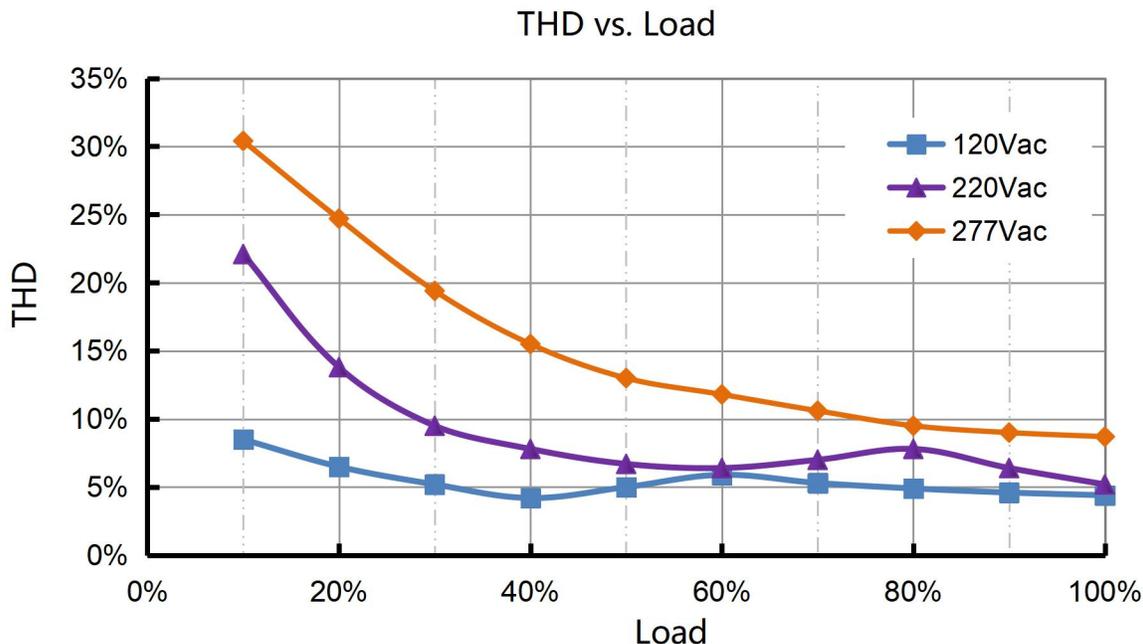
■ Lifetime vs. Case Temperature



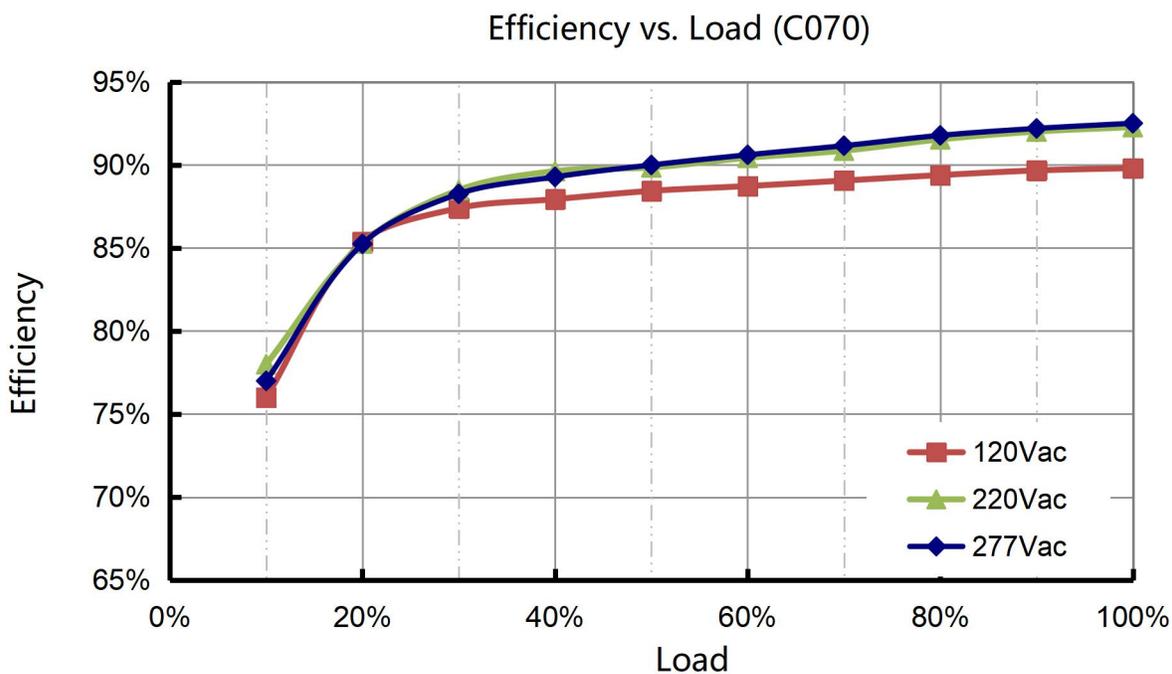
■ Power Factor vs. Load



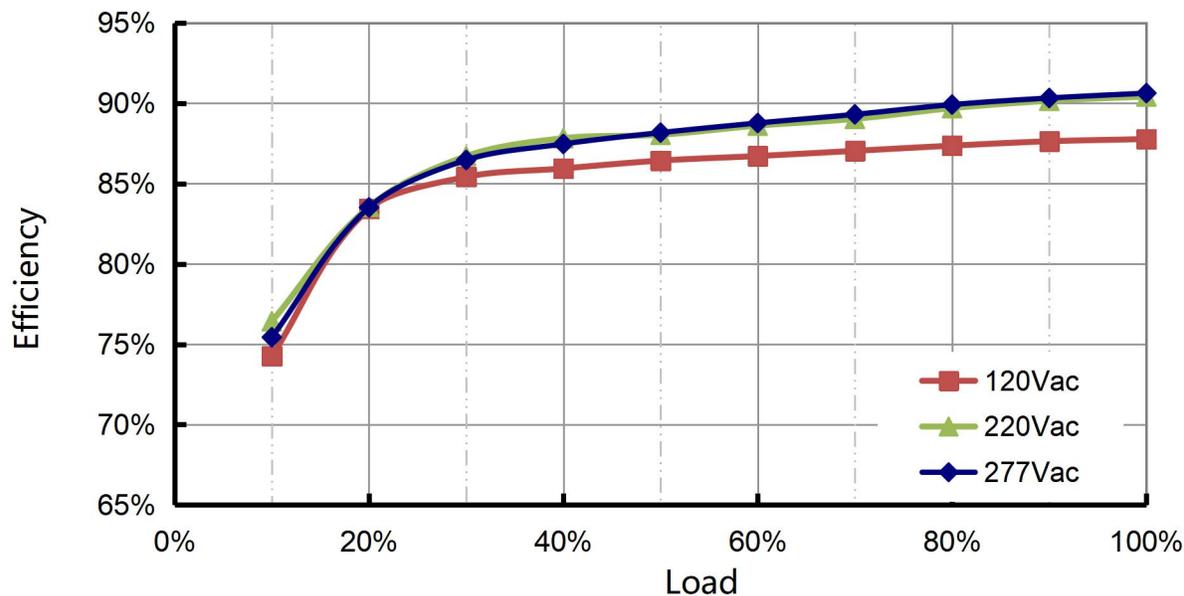
THD vs. Load



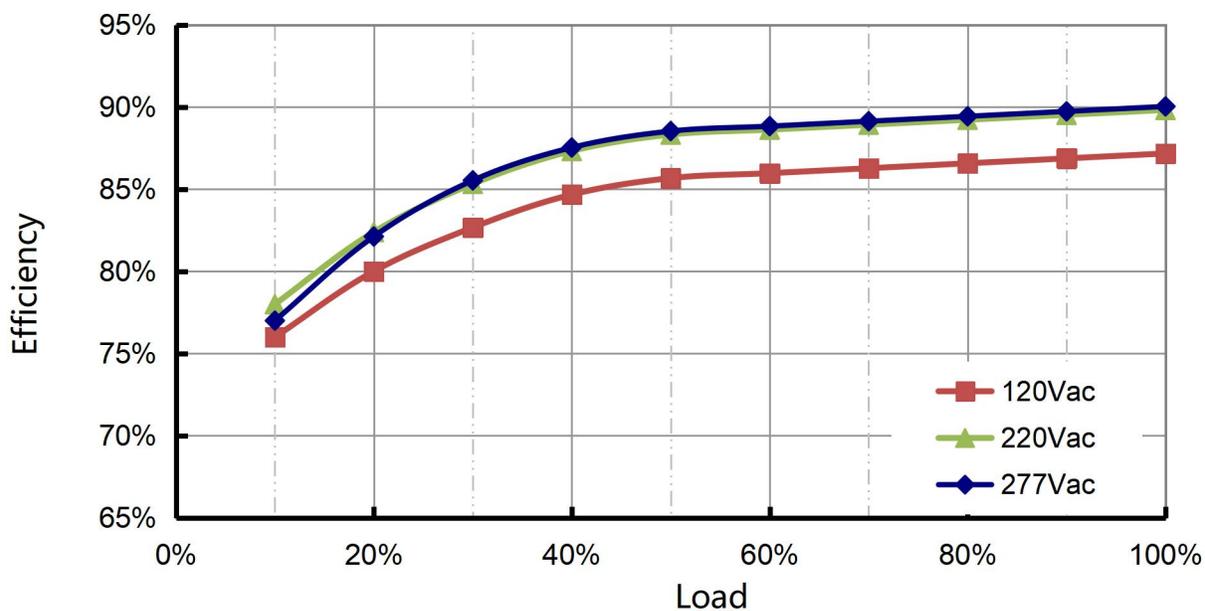
Efficiency vs. Load



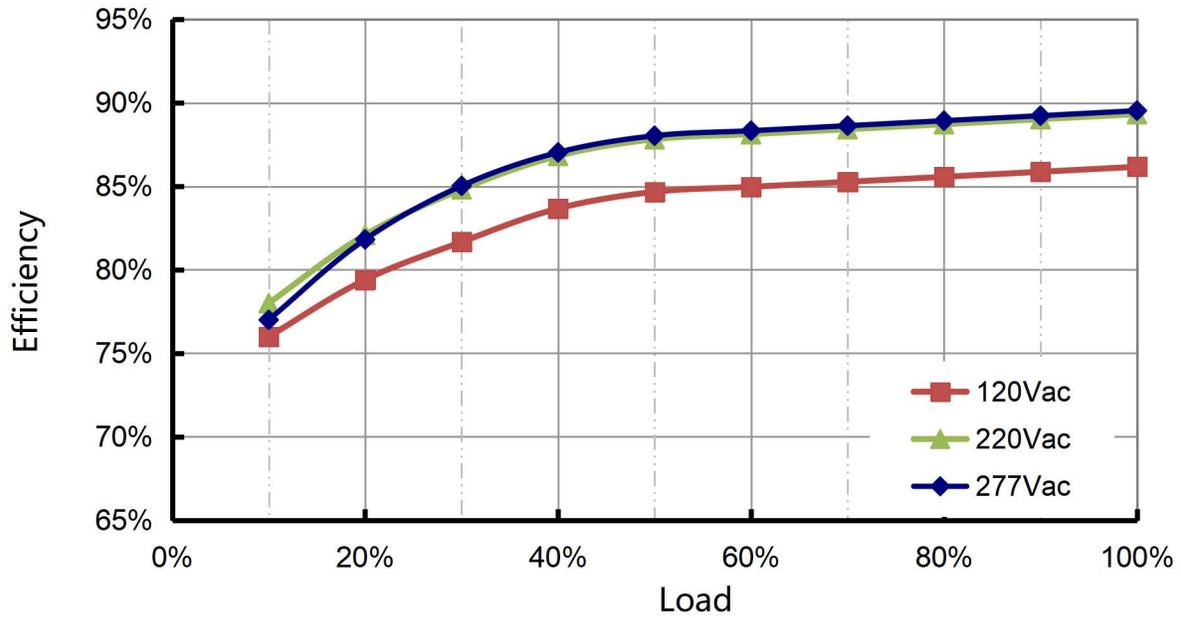
Efficiency vs. Load (C105)



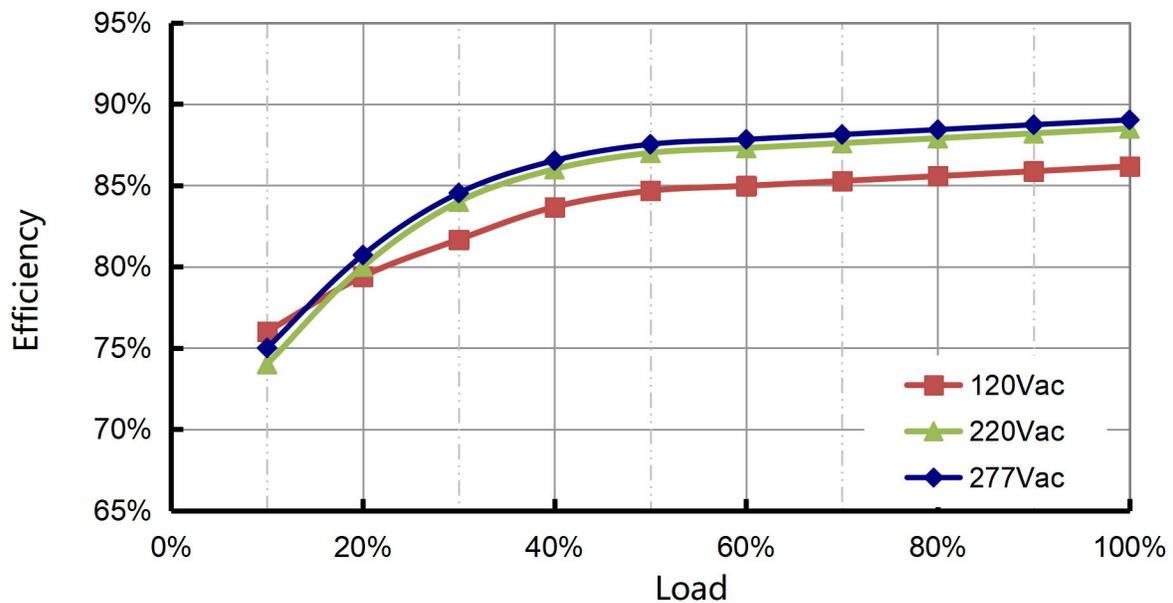
Efficiency vs. Load (140)



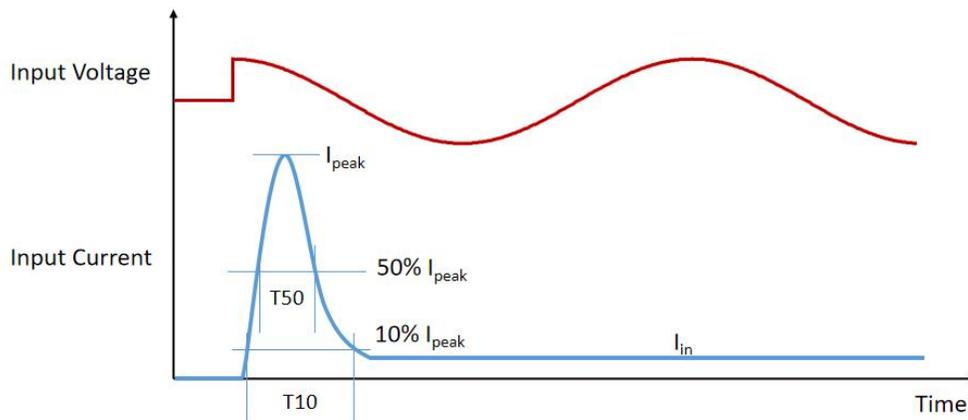
Efficiency vs. Load (C210)



Efficiency vs. Load (C280)



■ Inrush Current



Input Voltage	I_{peak}	10% -10% T10 Duration	50% -50% T50 Duration
120Vac	37A	464 μ s	180 μ s
220Vac	66A	412 μ s	170 μ s
277Vac	90A	424 μ s	172 μ s

- MCB Suggestion

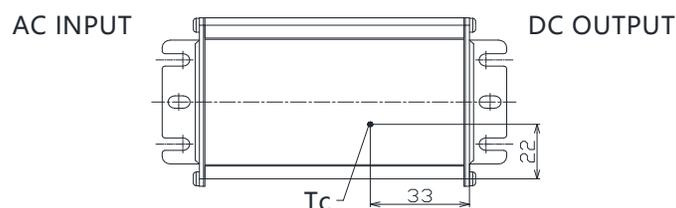
Type	B10	B16	B25	B32	C10	C16	C25	C32	D10	D16	D25	D32
Driver Quantity	2	3	5	7	3	6	9	12	7	12	18	24

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

■ Dielectric Strength

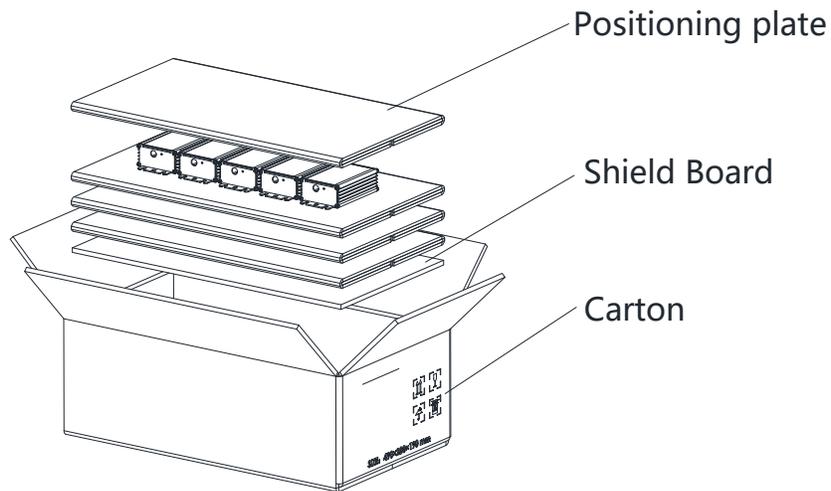
Unit: Vac	Input	Output	Dimming	Case
Input	-	3750	3750	1554
Output	3750	-	1554	1554
Dimming	3750	1554	-	1554
Case	1554	1554	1554	-

■ Tc Point



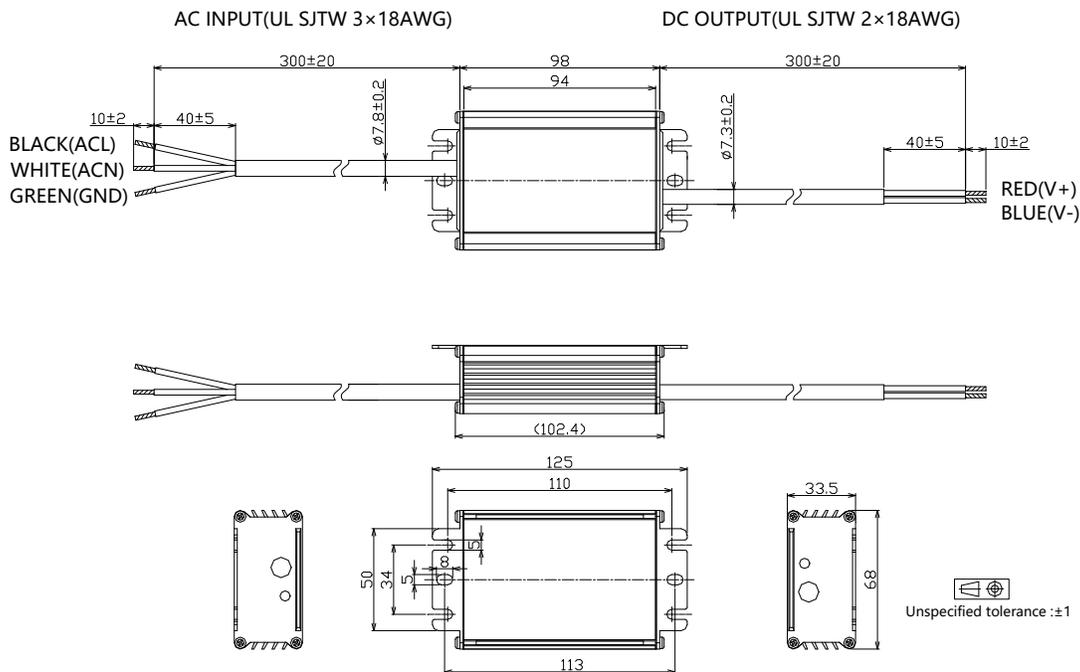
■ Packaging Information

Typical Carton Dimension(L×W×H)	490×280×190 mm
Positioning plate	4pcs/carton
Shield Board	1pcs/carton
LED Drivers/LED	20pcs/carton
Net Weight	9.0 kg/carton
Gross Weight	10.4 kg/carton

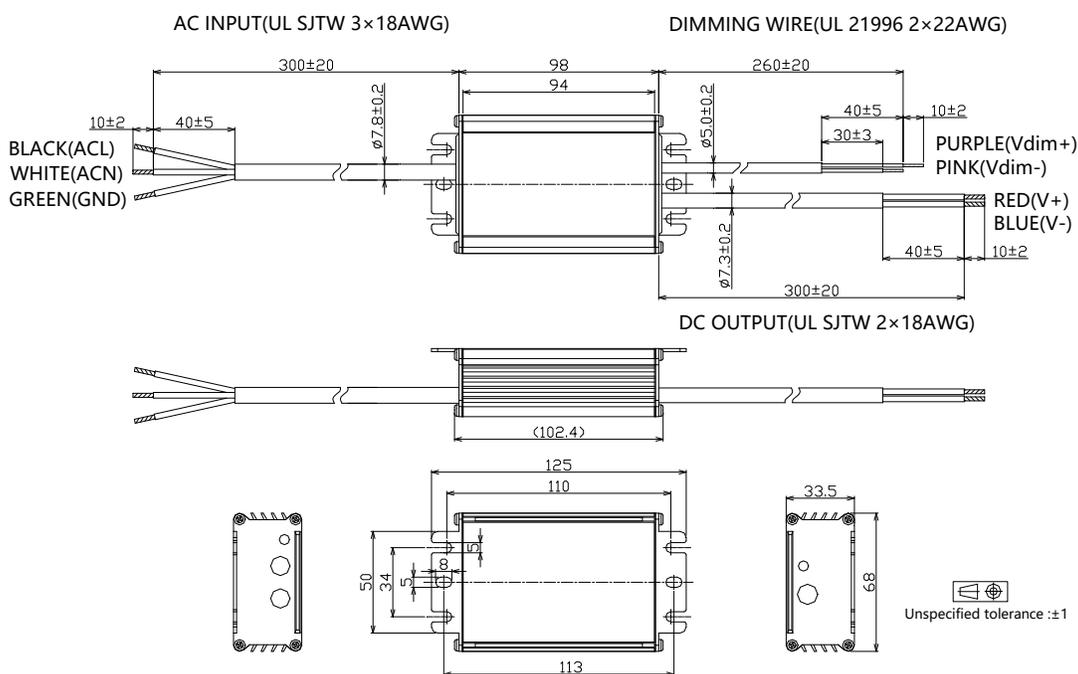


Mechanical Design

BLD-075-Cxxx-NN/TRU (UL Cable)

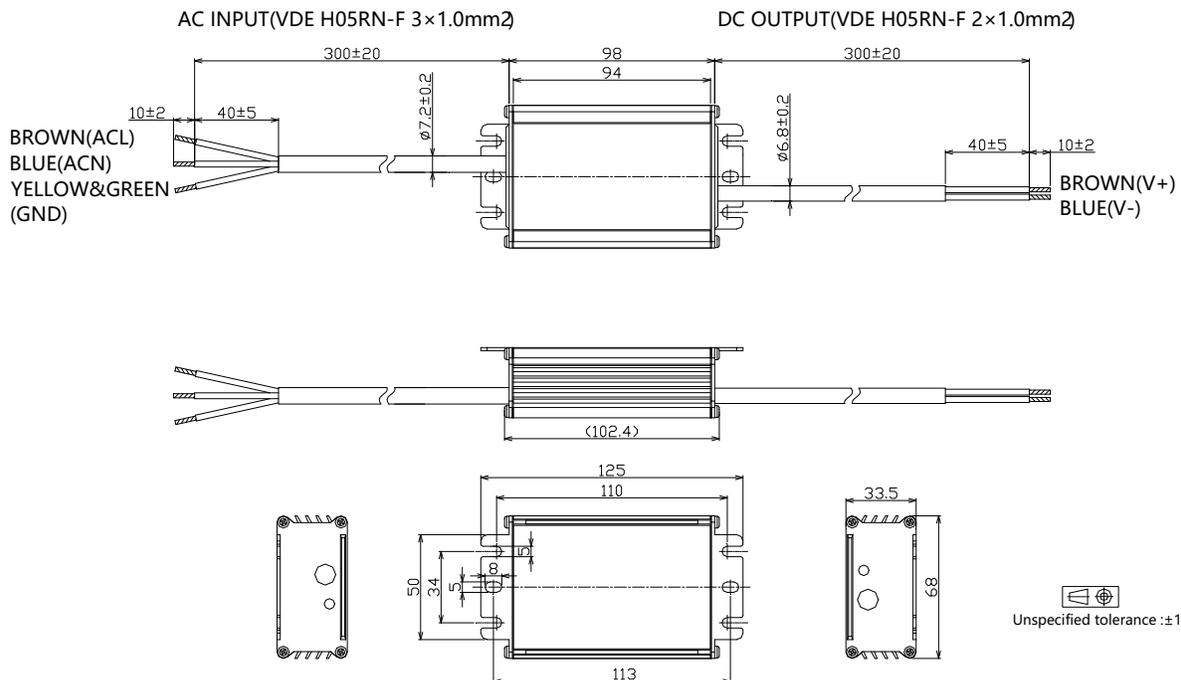


BLD-075-Cxxx-DN/DRU (UL Cable)

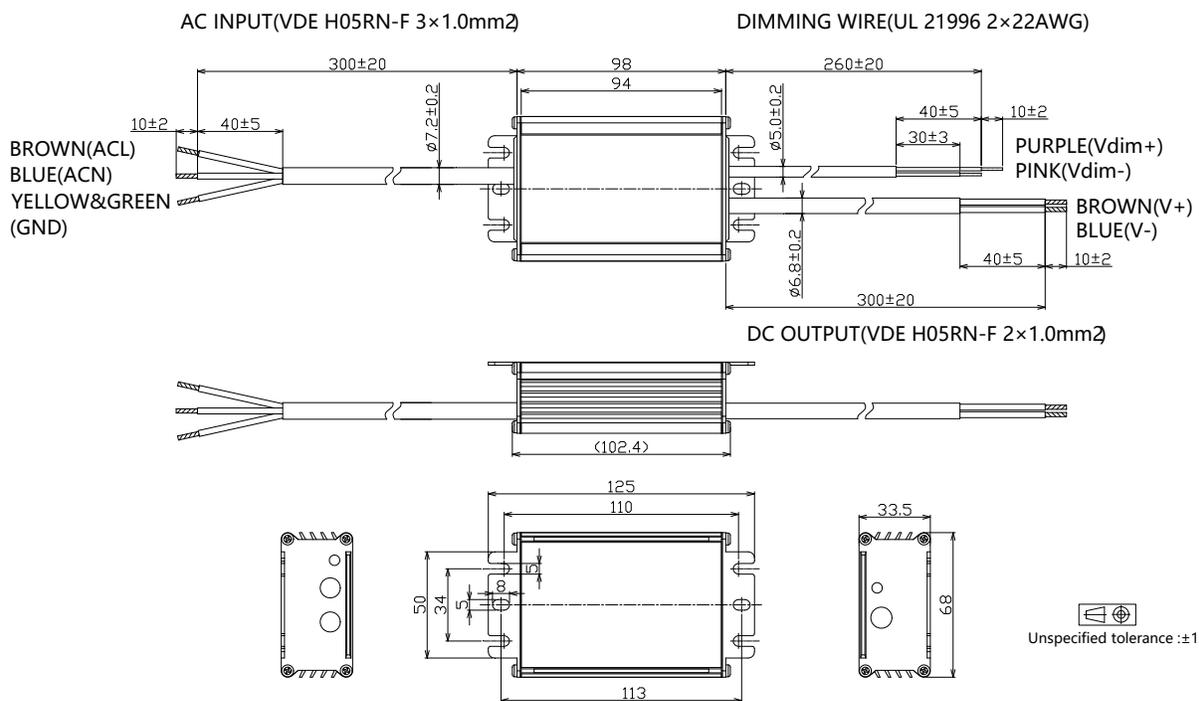


75W, Isolated Dimming, Programmable LED Driver

- BLD-075-Cxxx-NN/TRS (VDE Cable)



- BLD-075-Cxxx-DN/DRS (VDE Cable)



■ 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)
-C070	700	75	64	107	70
	650	75	69	115	65
	600	75	75	125	60
	550	75	82	136	55
	500	75	90	150	50
	450	68	90	150	50
	400	60	90	150	50
	350	53	90	150	50

	50	8	90	150	50

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
-C105	1050	75	43	71	105
	1000	75	45	75	100
	950	75	47	79	95
	900	75	50	83	90
	850	75	53	88	85
	800	75	56	94	80
	750	75	60	100	75
	700	75	64	107	70
	650	70	64	107	70
	600	64	64	107	70
	550	59	64	107	70
	500	54	64	107	70

	70	8	64	107	70

75W, Isolated Dimming, 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)
-C140	1400	75	32	54	140
	1300	75	35	58	130
	1200	75	38	63	120
	1100	75	41	68	110
	1050	75	43	71	105
	1000	71	43	71	105
	950	68	43	71	105
	900	64	43	71	105
	850	61	43	71	105
	800	57	43	71	105
	750	54	43	71	105
	700	50	43	71	105

	105	8	43	71	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	75	21	36	210
	2000	75	23	38	200
	1900	75	24	39	190
	1800	75	25	42	180
	1700	75	26	44	170
	1600	75	28	47	160
	1500	75	30	50	150
	1400	75	32	54	140
	1300	70	32	54	140
	1200	64	32	54	140
	1100	59	32	54	140
	1000	54	32	54	140

	140	8	32	54	140

75W, Isolated Dimming, 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)
-C280	2800	75	16	27	280
	2700	75	17	28	270
	2600	75	17	29	260
	2500	75	18	30	250
	2400	75	19	31	240
	2300	75	20	33	230
	2200	75	20	34	220
	2100	75	21	36	210
	2000	71	21	36	210
	1900	68	21	36	210
	1800	64	21	36	210
	1700	61	21	36	210

	210	61	21	36	210

■ Revision History

Revision	Date	Contents
B	2022-03-22	<ol style="list-style-type: none"> 1. Index page added 2. Reduced dimming interface sourcing current 3. Inrush current data added 4. Tc point position indication added 5. Dielectric strength level added 6. Packaging information added 7. Mechanical design change with dimming cable color 8. Revision history added
C	2022-09-22	<ol style="list-style-type: none"> 1. Cable programming function added -DNz models 2. PWM and time dimming added to -DNz models
D	2023-07-14	<ol style="list-style-type: none"> 1. Update cable selection table in Model List Section 2. Input DC voltage range updated
E	2024-07-25	<ol style="list-style-type: none"> 1. Power factor, THD, efficiency curves updated by 10-100% load range 2. MCB usage and driver quantity section added 3. Inrush current data updated