

Product Datasheet



The global certified BLD-1K1-V series is a dual stage high efficiency LED driver. 100khour long life and 7-year warranty provide high confidence to luminaire users. All around protections including digital OTP, SCP and OCP with auto-recovery secure 24hour non-stop operation for luminaires.

☒ Strip ☒ Industry ☒ Signage ☒ Bath ☒ Swimming



■ Features	2
■ Model List	2
■ Technical Data	3
■ Safety/EMC Compliance	4
■ Lifetime vs. Case Temperature	4
■ Power Factor vs. Load	5
■ THD vs. Load	5
■ Efficiency vs. Load	6
■ Inrush Current	7
■ Dielectric Strength	7
■ Tc Point	8
■ Packaging Information	8
■ Mechanical Design	9
■ Revision History	10

1000W, 120-277Vac Input, Constant Voltage Drivers

■ Features

- Absolute Supply Voltage: 108-305Vac
- Great Surge Immunity 10kV
- 95% Efficiency
- Low Inrush Current
- 100,000Hour Life @ Tc=75°C
- 7 Year Warranty @ Tc<=75°C
- UL Class P, ENEC/CB/RCM SELV Output
- Safety according to UL8750, EN 61347-1, 61347-2-13, 62384

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Output Current Min	Output Current Max
BLD-1K1-V054-NNZ	180-305Vac	1000 W	54Vdc	0A	18A
BLD-1K1-V048-NNZ	108-176Vac	800 W	48Vdc	0A	21A

Z=	U	V	S	S#NNNNG	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	Class I 120-277Vac	UL Recognized Class I 120-277Vac	Class I 120-277Vac	Class II 120-277Vac

■ Technical Data

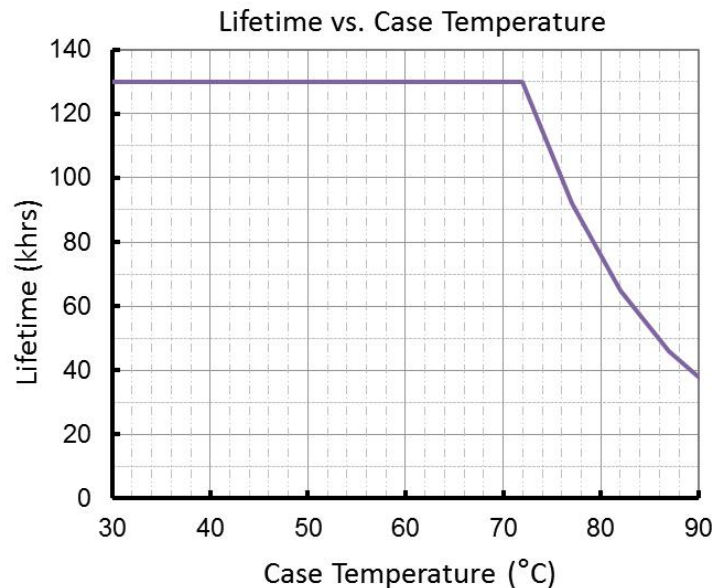
Input Voltage	108-305Vac
Input Frequency	47~63Hz
Power Factor	>0.9@60-100%load, refer to PF vs. Load curve
THD	<15%@60-100%load, refer to THD vs. Load curve
Input Current	3.8Amax@277Vac & Full-Load, 5.1Amax@220Vac & Full-Load
Inrush Current	See Inrush Current Section in the datasheet
Leakage Current	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
Voltage Accuracy	±5%Vo
Voltage Ripple	Vp-p:5%Vo 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 $T_c \leq 70 \pm 10^\circ\text{C}$
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	$\geq 280,000$ 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	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	See Package Information Section in the datasheet

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

■ Safety/EMC Compliance

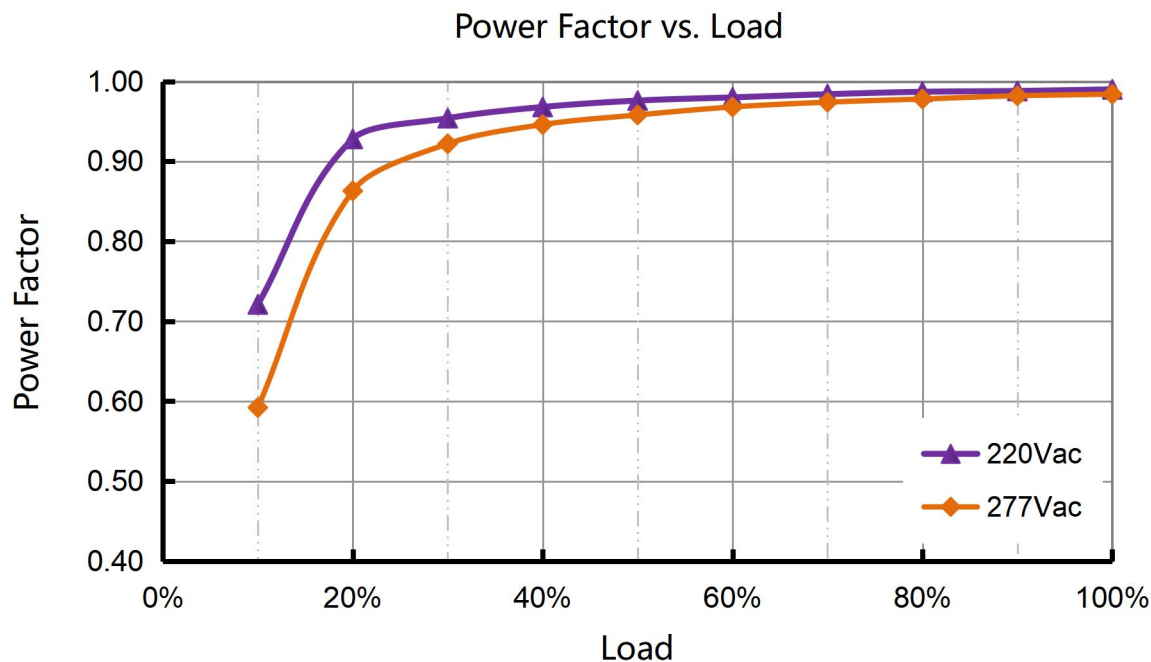
Safety Standards	Description
UL8750	Light emitting diode(LED) equipment for use in lighting products
UL1012	Power units other than class 2
IEC 61347-1	Lamp control gear Part 1: general and safety requirements
IEC 61347-2-13	Lamp control gear Part 2-13: particular requirement for d.c. or a.c. supplied electronic control gear for LED modules
IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
EMC 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
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

■ Lifetime vs. Case Temperature

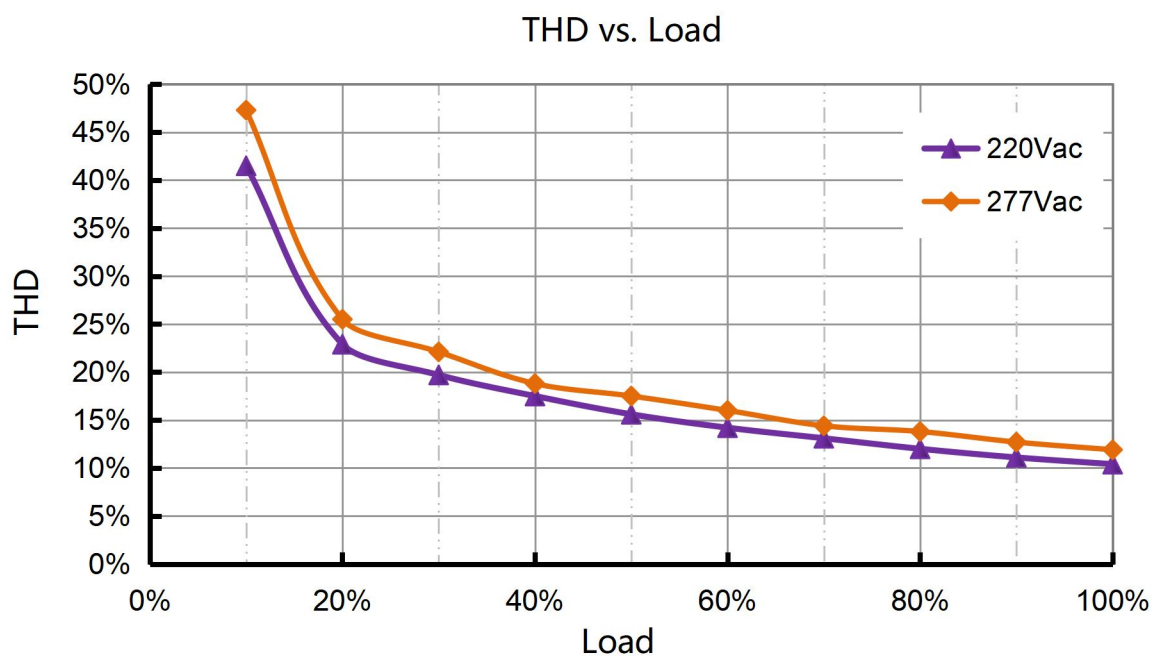


(End of Life: Maximum Failure Rate=10%)

■ Power Factor vs. Load

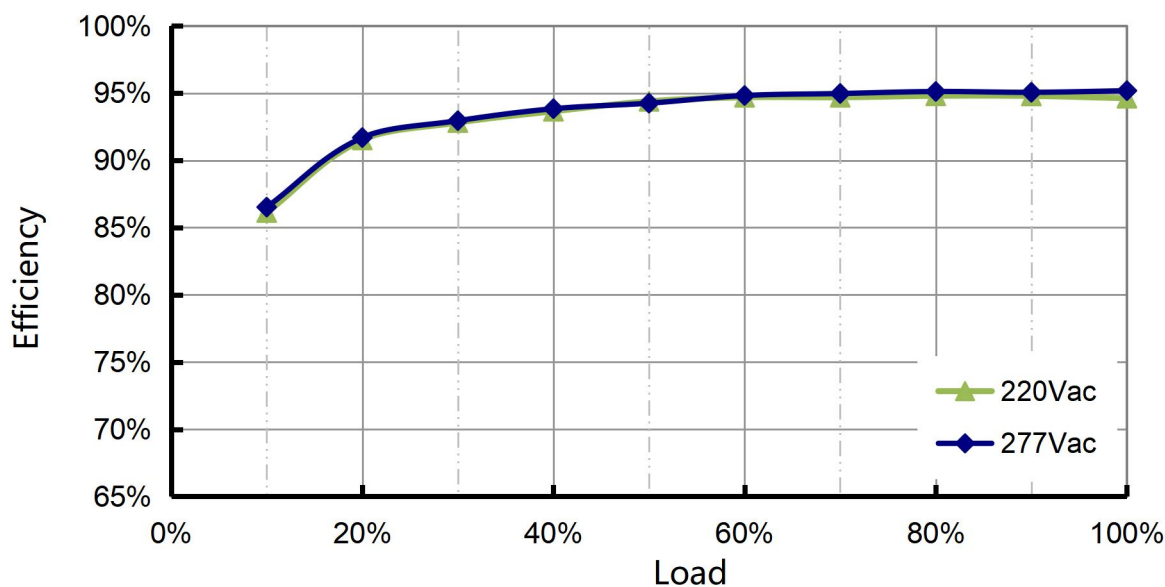


■ THD vs. Load

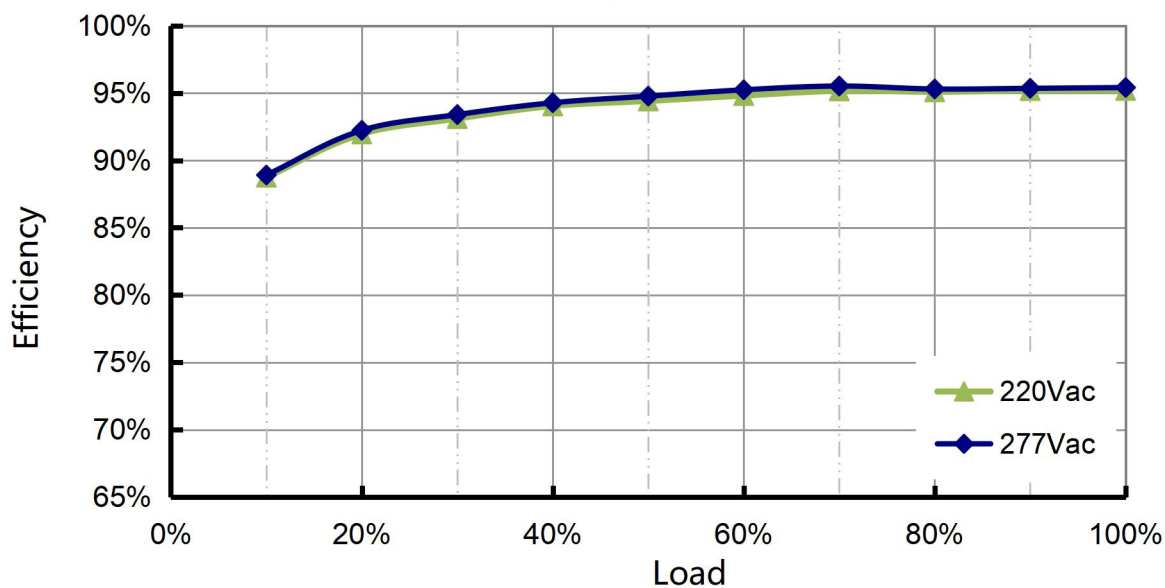


■ Efficiency vs. Load

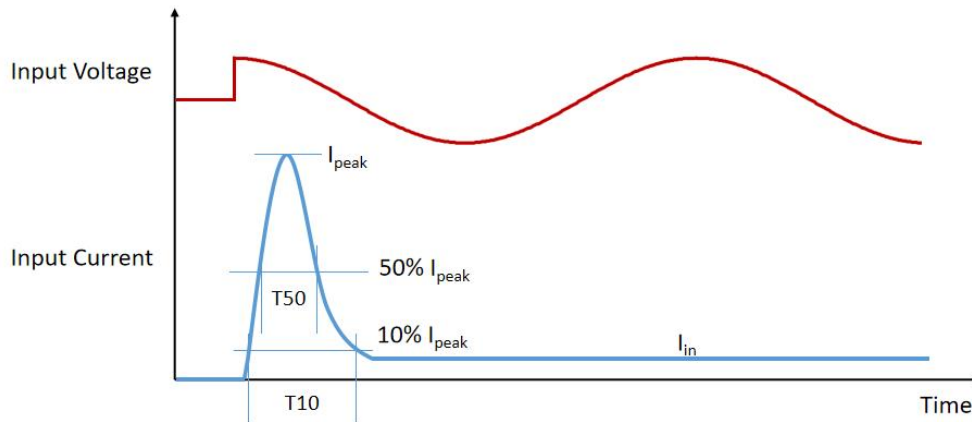
Efficiency vs. Load (V054)



Efficiency vs. Load (V048)



■ Inrush Current



Input Voltage	I_{peak}	10% -10% T10 Duration	50% -50% T50 Duration
120Vac	3A	67ms	16ms
220Vac	5A	70ms	17ms
277Vac	8A	70mS	17ms

- MCB Suggestion

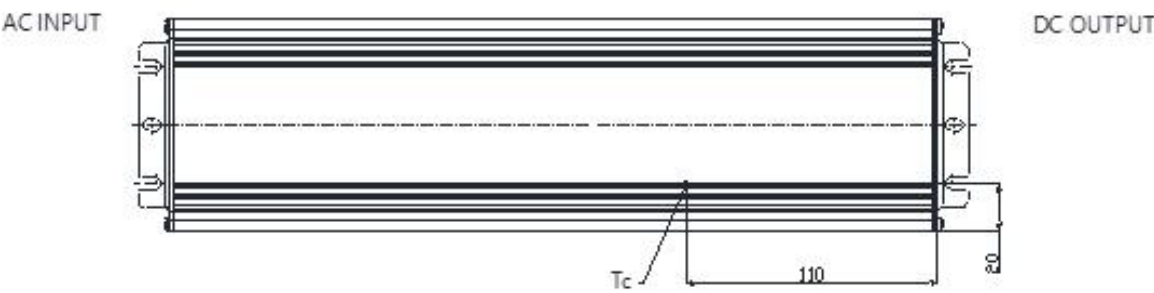
Type	B10	B16	B25	B32	C10	C16	C25	C32	D10	D16	D25	D32
Driver Quantity	1	1	3	4	1	2	3	4	1	2	4	5

Note: Calculated with MCB S200 series manufactured by ABB at 230Vac Input condition

■ Dielectric Strength

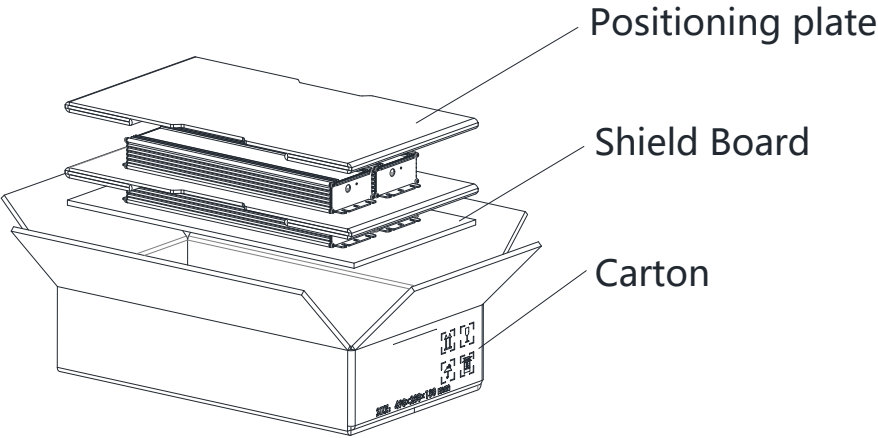
Unit: Vac	Input	Output	Dimming	Case
Input	-	3750	3750	1554
Output	3750	-	1554	1554
Dimming	3750	1554	-	1554
Case	1554	1554	1554	-

Tc Point



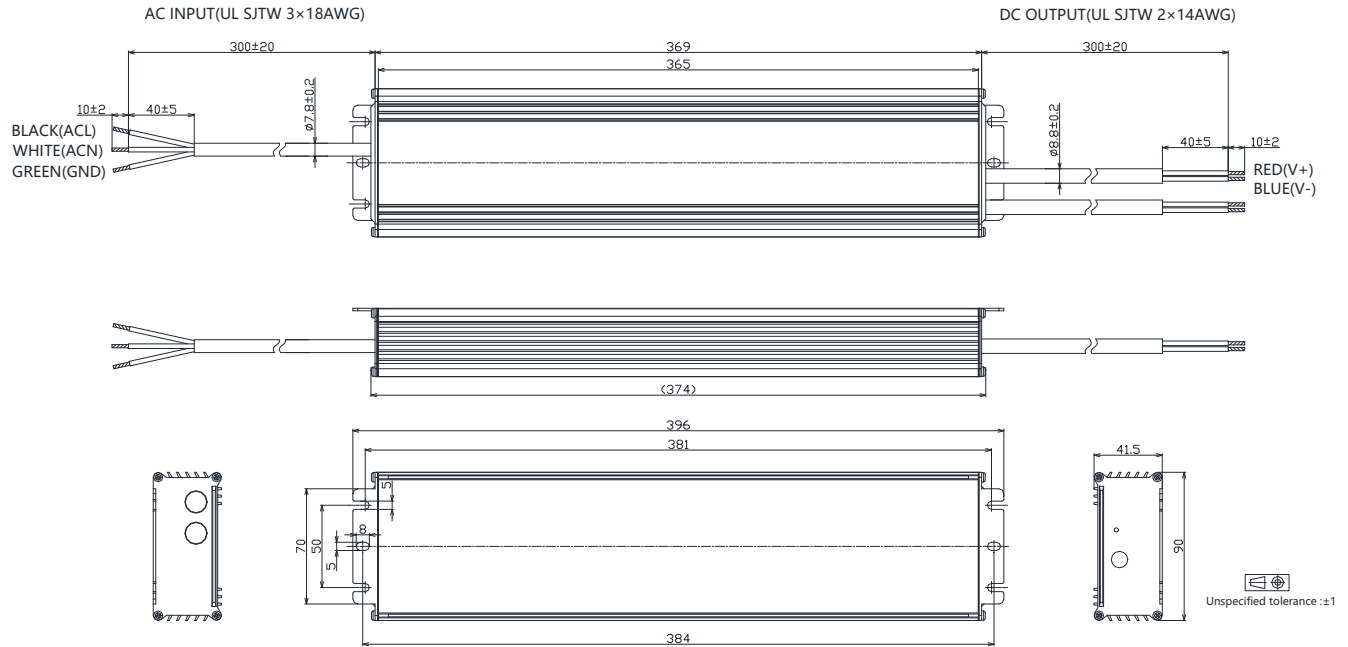
Packaging Information

Typical Carton Dimension(L×W×H)	490×280×130 mm
Positioning plate	2pcs/carton
Shield Board	1pcs/carton
LED Drivers/LED	4pcs/carton
Net Weight	10.2kg/carton
Gross Weight	10.8 kg/carton

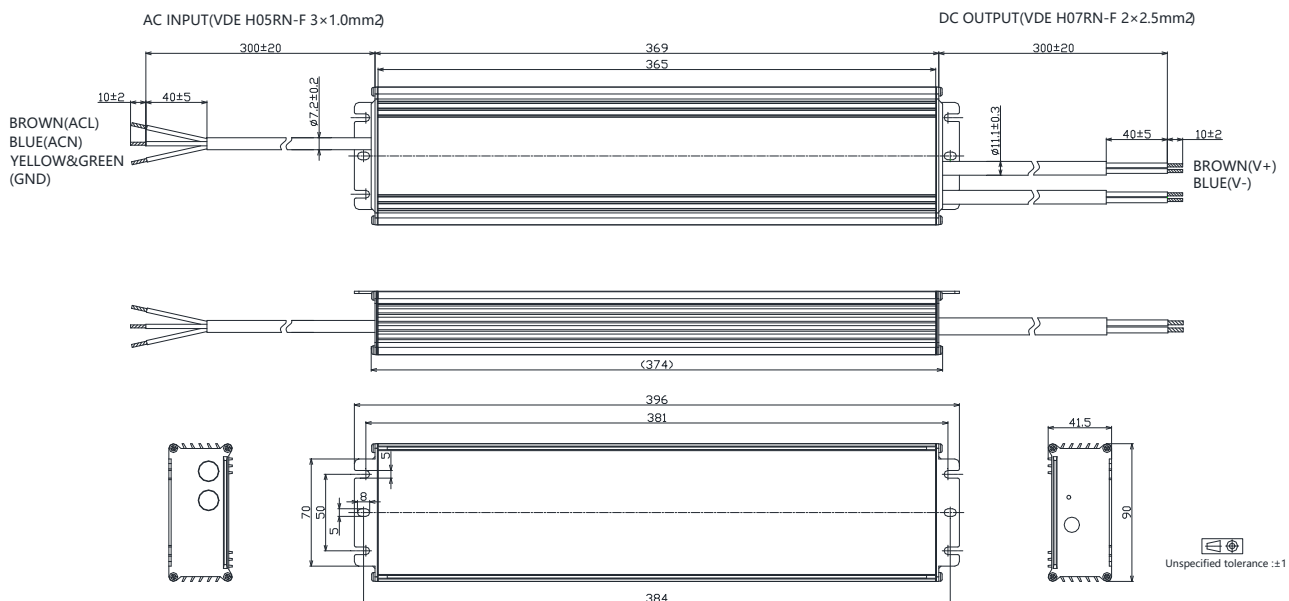


■ Mechanical Design

- UL Cable Model



- VDE Cable Model



■ Revision History

Revision	Date	Contents
A	2022-03-22	1. First Release
B	2023-07-14	1. Update cable selection table in Model List Section
C	2023-08-23	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