

■ Features

- Supply Voltage: 180-528Vac or 250-740Vdc
- Surge Immunity 10kV
- 100,000Hour Life @ Tc=75C
- 5 Year Warranty @ Tc<=80C
- Near Field Communication Programmability
- High-Efficiency @ 90% and above
- +/-2% Output Current Accuracy (Programmable Model)
- 0-10V/PWM/Timer/DALI (Optional) Dimmable
- Dim Off with 1.5W Standby Power
- 12V 300mA Auxiliary Power to Power Controllers and Fans (Optional)
- UL Class P, ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3  
61347-2-13, 62384



■ Application

- Bay lights, Pole lights, Stadium lights

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Full Power Settable Current Min	Full Power Settable Current Max	Certification
LHA160-C105-XYZ	180-528Vac	160 W	91-228Vdc	700mA	1050mA	UL/FCC/CB ENEC/CCC
LHA160-C140-XYZ	180-528Vac	160 W	68-152Vdc	1050mA	1400mA	UL/FCC/CB ENEC/CCC
LHA160-C210-XYZ	180-528Vac	160 W	45-115Vdc	1400mA	2100mA	UL/FCC/CB ENEC/CCC
LHA160-C420-XYZ	180-528Vac	160 W	23-57Vdc	2800mA	4200mA	UL/FCC/CB ENEC/CCC
LHA160-C630-XYZ	180-528Vac	160 W	14-34Vdc	4400mA	6300mA	UL/FCC/CB ENEC/CCC

XY=	Dimming Method	Programmable	12Vaux	Dim-off
NN	-	-	-	-
EN	0-10V	-	√	√
TR	Timer	√	-	-
ER	0-10V/PWM/Time	√	√	√
AR	DALI	√	√	√
Z = K, UL cable with ground wire	S, VDE cable/Class I	D, VDE cable/Class II		

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**■ Technical Data**

Input Voltage	180-528Vac or 250-740Vdc
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	0.90Amax@277Vac & Full-Load, 0.45Amax@480Vac & Full-Load
Inrush Current	65A peak, 1.2ms duration, <0.25A2s@277Vac, Cold Start 70A peak, 1.3ms duration, <0.5A2s@480Vac, Cold Start
Leakage Current	1mA max @480Vac 60Hz, UL8750,0.75mAmax @220Vac 50Hz, IEC61347-1
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%lo
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	-40°C~+70°C ; 10%RH~100%RH (See Derating Curve for more details)
Storage Temperature	-40°C~+85°C; 5%RH~100%RH
MTBF	≥280,000 hours, 75°C case temperature (MIL-HDBK-217F)
Lifetime	≥100,000 hours, 75°C case temperature, refer to life vs. Tc curve
Case Temperature	90°C max, marked in the Tc point of label
Dimensions	8.46x2.66x1.32 by inch (body), 9.52x2.66x1.32 by inch (endcaps included) 215.0x67.5x33.5 by mm (body), 242.0x67.5x33.5 by mm (endcaps included)
Net Weight	1200g
Packing	TBD

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

\* Marked items are optional. Please contact Sales to specify the required functions.

## ■ 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

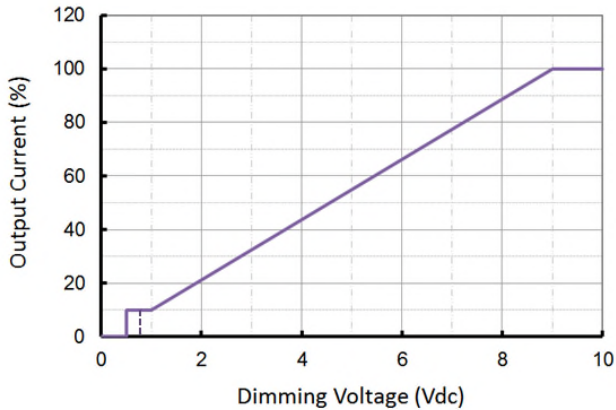
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold		0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	0.7V or 7%	
PWM High	3V		10V
PWM Low	0V		0.6V
PWM Frequency	300Hz		2kHz
External PWM Controller Current Sinking Capability	300uA		
DA1,DA2 High Level	9.5	16	22.5
DA1,DA2 Low Level	-6.5	0	6.5
DA1,DA2 Current	0		2mA

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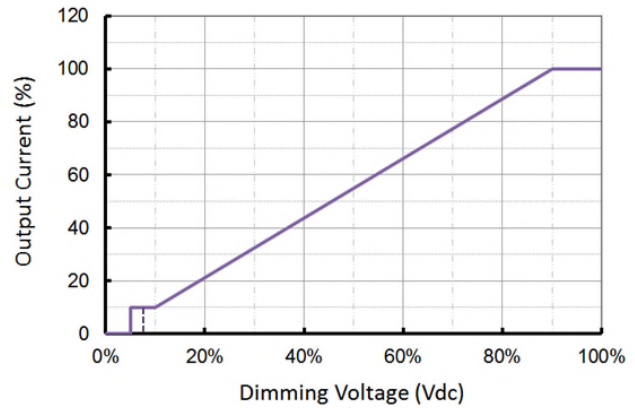
- Dimming Curve

a. With dim-off (default)

0-10V Dimming Curve

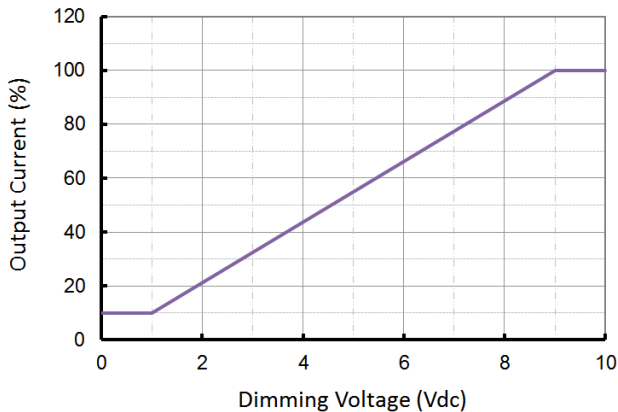


PWM Dimming Curve

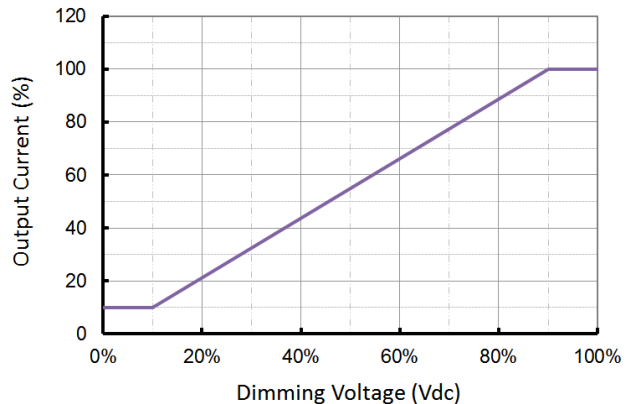


b. Without dim-off (contact sales to get this feature)

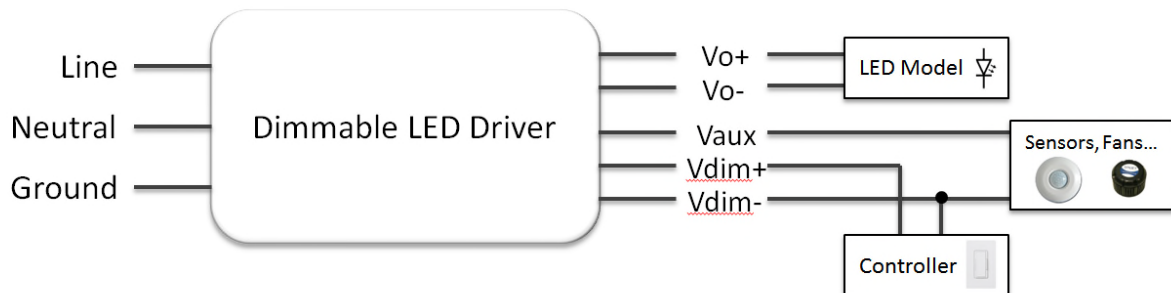
0-10V Dimming Curve



PWM Dimming Curve

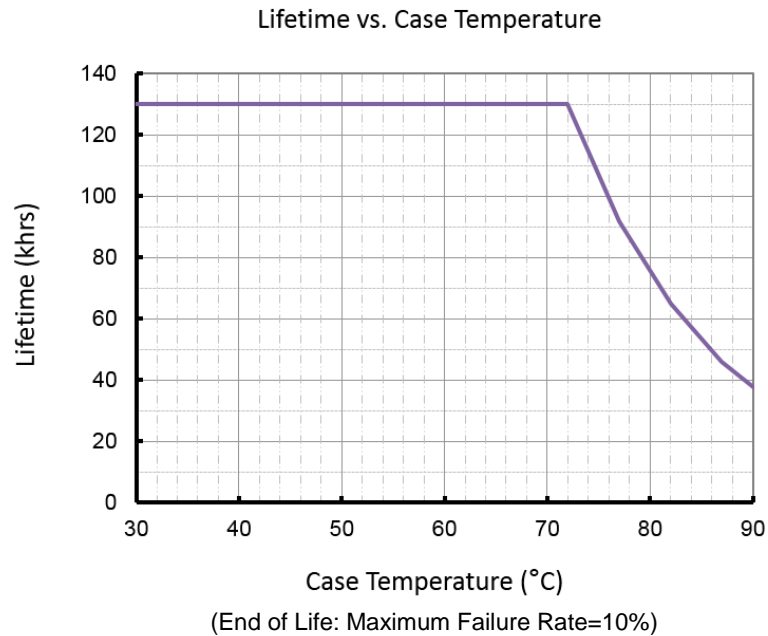


- Dimming Wiring



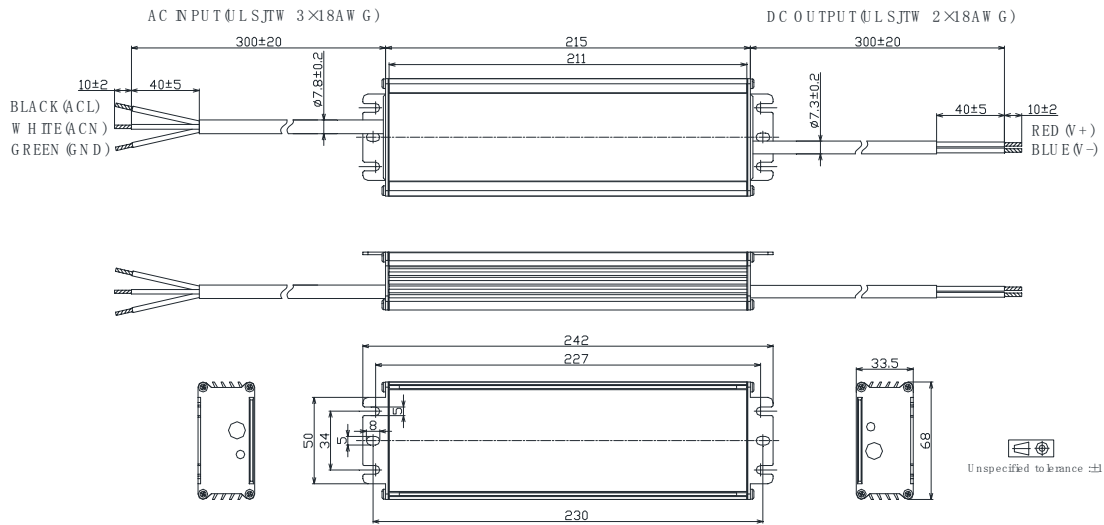
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## ■ Lifetime vs. Case Temperature

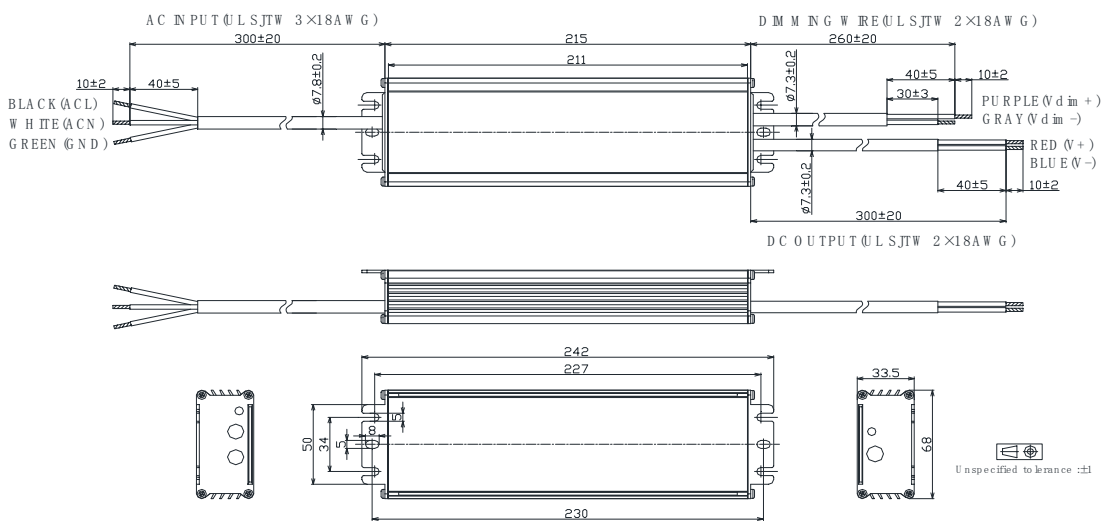


■ Mechanical Design

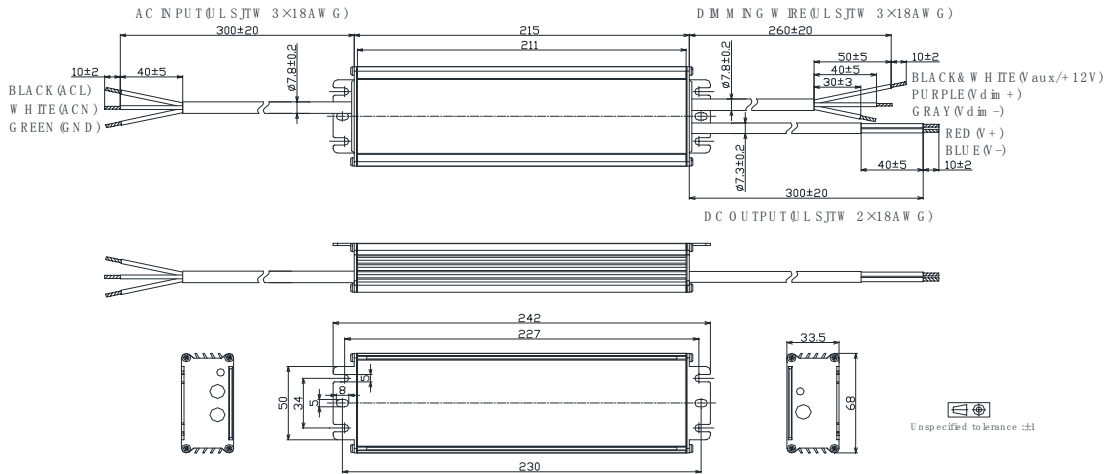
- LHA160-Cxxx-NN/TRK (UL Cable)



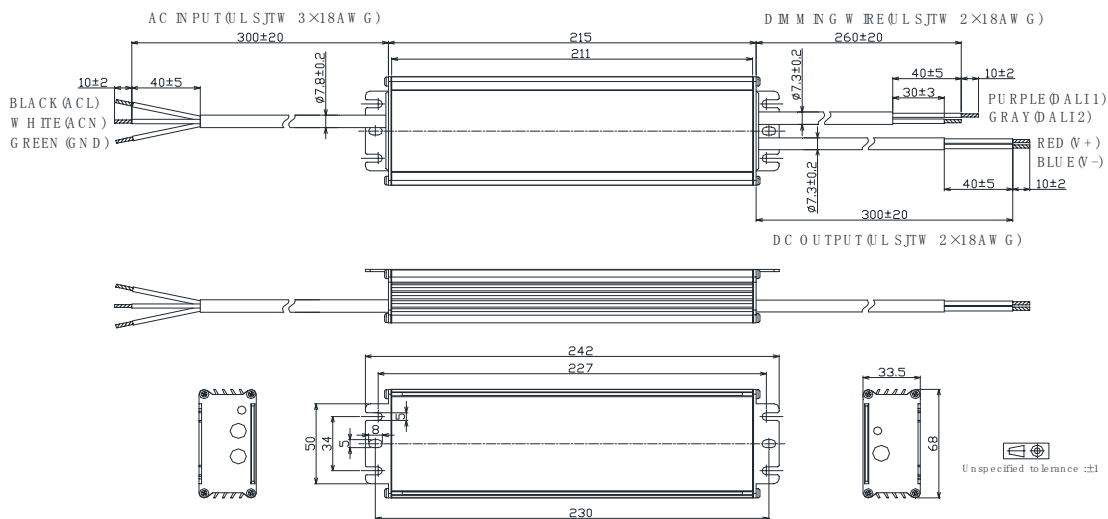
- LHA160-Cxxx-DN/DRK (UL Cable)



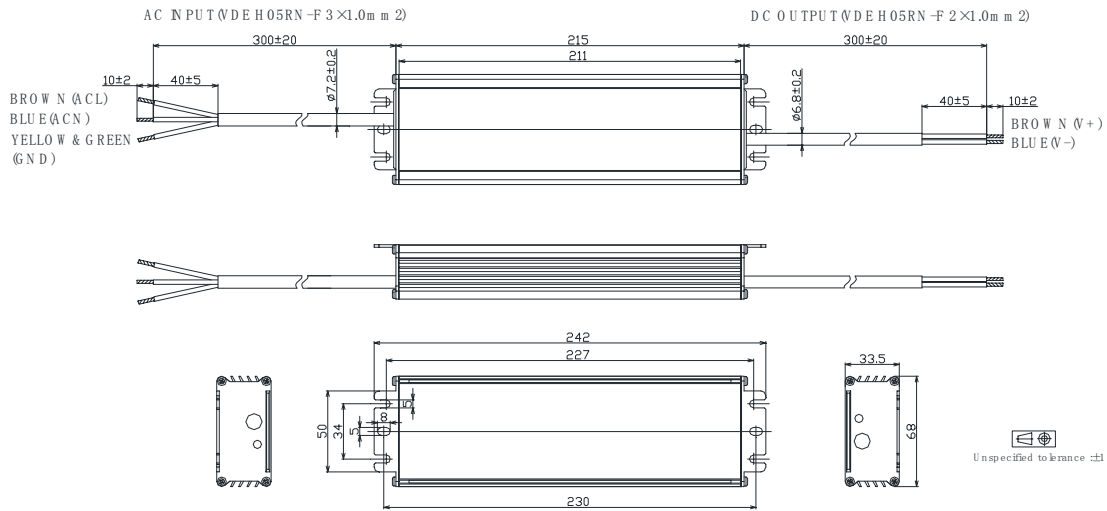
- LHA160-Cxxx-EN/ERK (UL Cable)



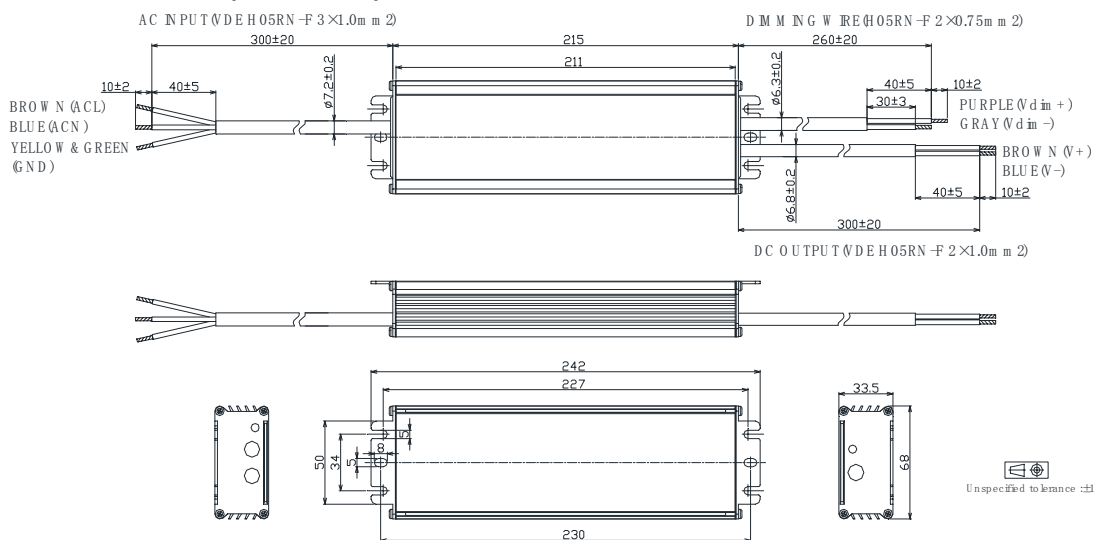
- LHA160-Cxxx-ARK (UL Cable)



- LHA160-Cxxx-NN/TRS (VDE Cable)

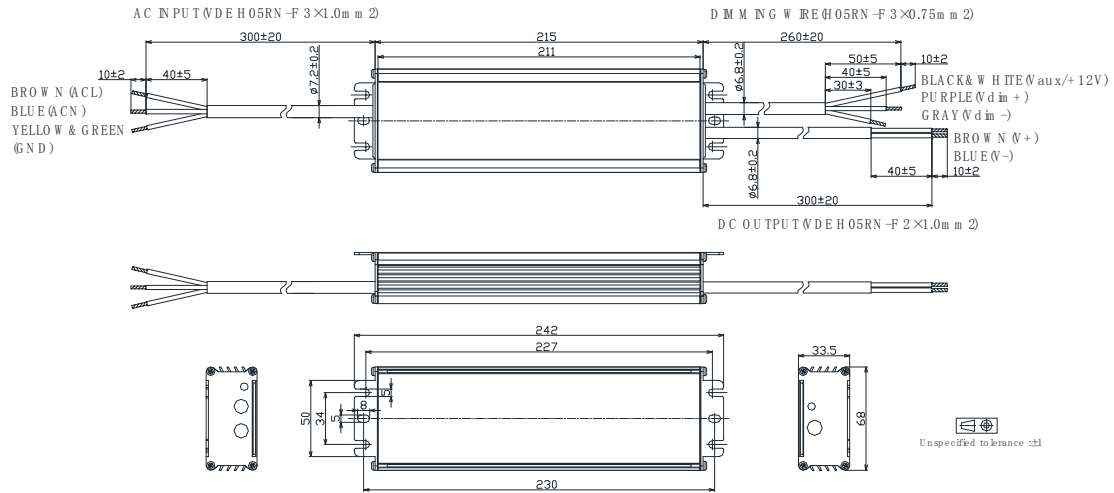


- LHA160-Cxxx-DN/DRS (VDE Cable)





- LHA160-Cxxx-EN/ERS (VDE Cable)



- LHA160-Cxxx-ARS (VDE Cable)

