

## 600W, 200-480Vac Input, Isolated Dimming Interface

### ■ Features

- Supply Voltage: 180-528Vac or 250-740Vdc
- Great Surge Immunity 10kV
- Low Inrush Current Option
- 100,000Hour Life @ Tc=75°C
- 7 Year Warranty @ Tc<=75°C
- NFC Programmability and Isolated Dimming
- +/-2% Output Current Accuracy (Programmable Model)
- 0-10V/PWM/Time/DALI /DMX (Optional) Dimmable
- Dim Off with 0.5W 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, 623847



### ■ 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 (To be done)
TLD-600-C12A-XYU	200-528Vac	600 W	29-48Vdc	12.5A	12.5A	UL/FCC
TLD-600-C860-XYU	200-528Vac	600 W	42-100Vdc	6A	8.6A	UL/FCC
TLD-600-C600-XYU	200-528Vac	600 W	60-143Vdc	4.2A	6A	UL/FCC
TLD-600-C420-XYU	200-528Vac	600 W	86-214Vdc	2.8A	4.2A	UL/FCC
TLD-600-C280-XYU	200-528Vac	600 W	128-285Vdc	2.1	2.8	UL/FCC
TLD-600-C12A-XYS	200-528Vac	600 W	29-48Vdc	12.5A	12.5A	CB/ENEC/CCC
TLD-600-C830-XYS	200-528Vac	600 W	42-100Vdc	6A	8.6A	CB/ENEC/CCC
TLD-600-C600-XYS	200-528Vac	600 W	60-143Vdc	4.2A	6A	CB/ENEC/CCC
TLD-600-C420-XYS	200-528Vac	600 W	86-214Vdc	2.8A	4.2A	CB/ENEC/CCC
TLD-600-C280-XYS	200-528Vac	600 W	128-285Vdc	2.1	2.8	CB/ENEC/CCC

XY=	Dimming Method	Programmable	12Vaux	Dim-off
NN	-	-	-	-
DN	0-10V	-	-	-
EN	0-10V	-	√	√
TR	Time/Set Current	√	-	-
DR	0-10V	√	-	-
ER	0-10V/PWM/Time	√	√	√
AR	DALI	√	-	√

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## ■ Technical Data

Input Voltage	200-528Vac 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	2.4Amax@277Vac & Full-Load, 1.4Amax@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 @277Vac 60Hz, UL8750,0.75mA max @220Vac 50Hz, IEC61347-1
Input Under Voltage	Shut down and auto-restart
Input Over Voltage	*Optional: Shutdown @320Vac
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	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 $T_c \leq 70 \pm 10^\circ\text{C}$
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	$\geq 280,000$ hours, $75^\circ\text{C}$ 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	9.33x4.92x1.93 by inch (body), 10.3x4.92x1.93 by inch (endcaps included) 237 x 125 x 49 by mm (body), 262 x 125 x 49 by mm (endcaps included)
Net Weight	2200g
Packing	8pcs/Carton/20.5kg, 490x370x250mm

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	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

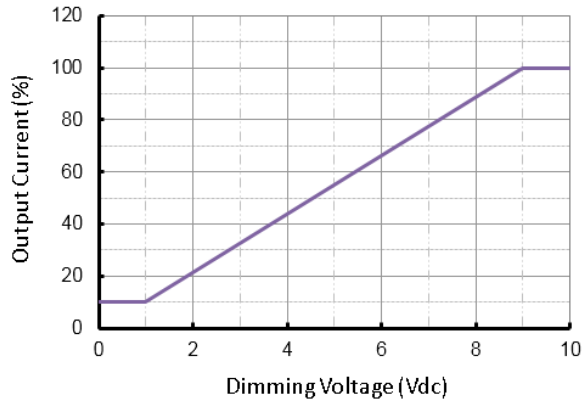
■ **Dimming**

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	0.4V 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

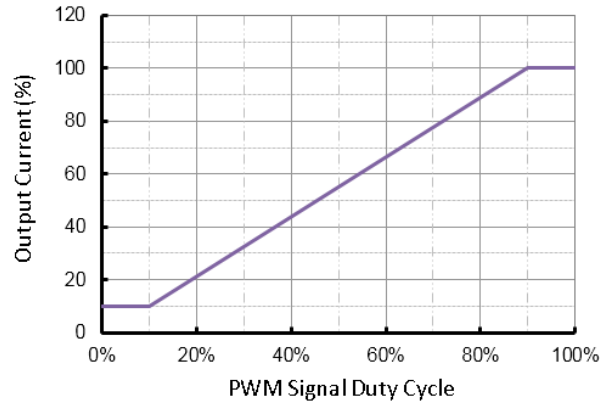
- Dimming Curve

a. Without dim-off

0-10V Dimming Curve

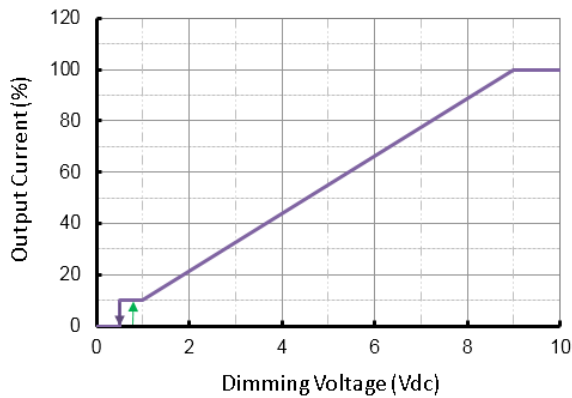


PWM Dimming Curve

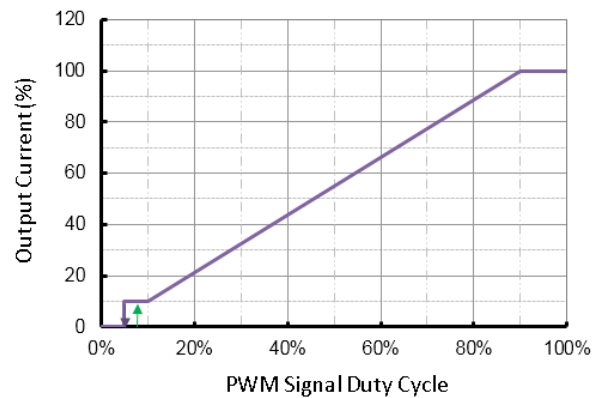


b. With dim-off

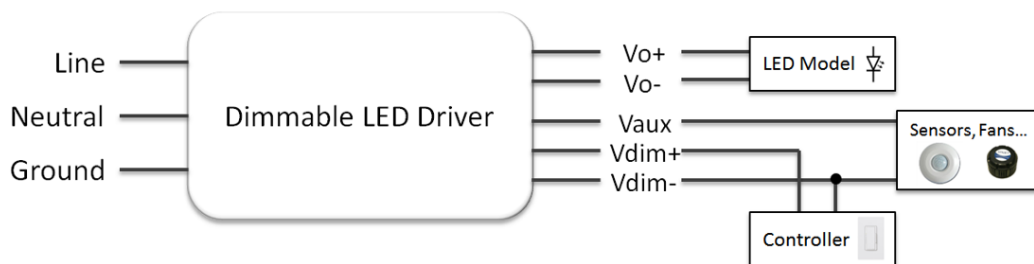
0-10V Dimming Curve



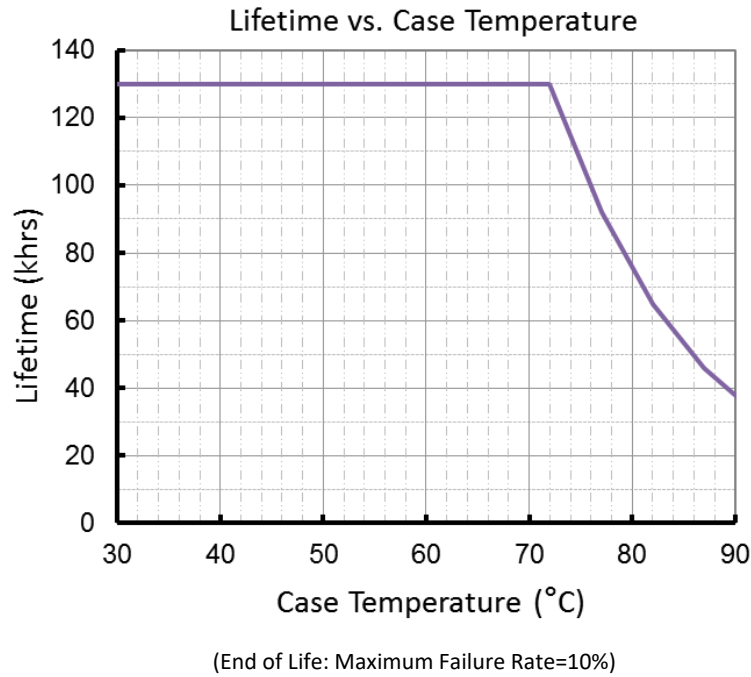
PWM Dimming Curve



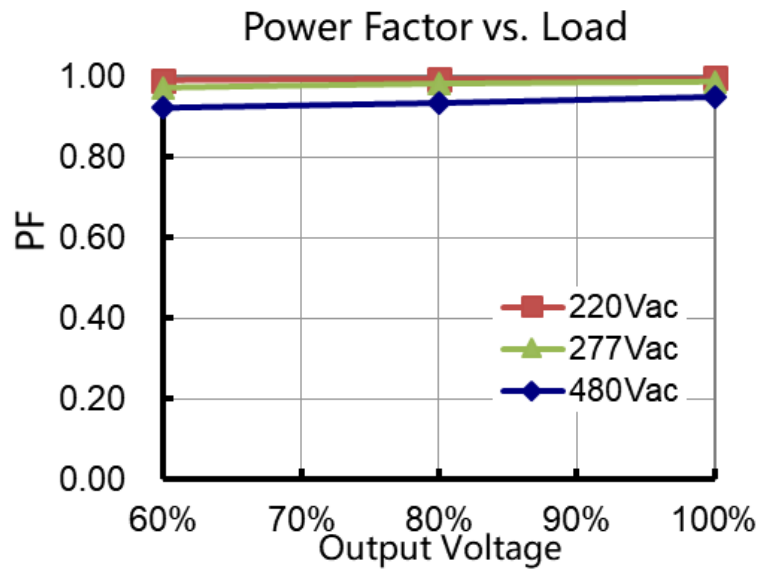
- Dimming Wiring



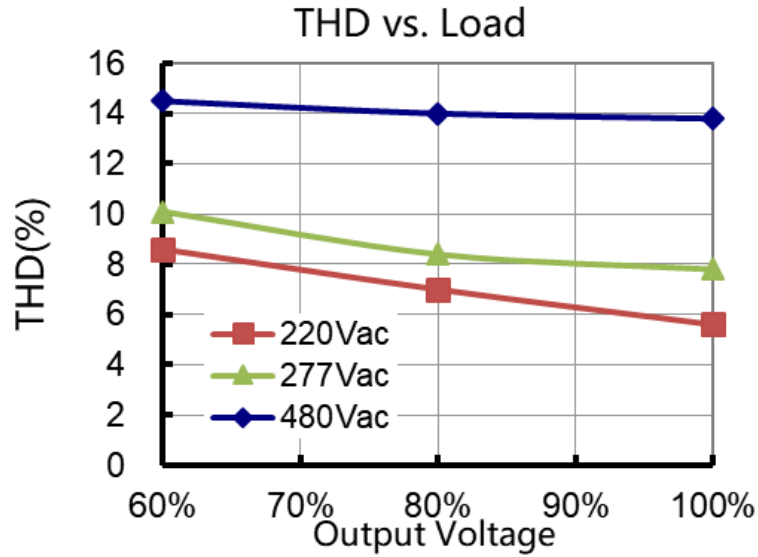
## ■ Lifetime vs. Case Temperature



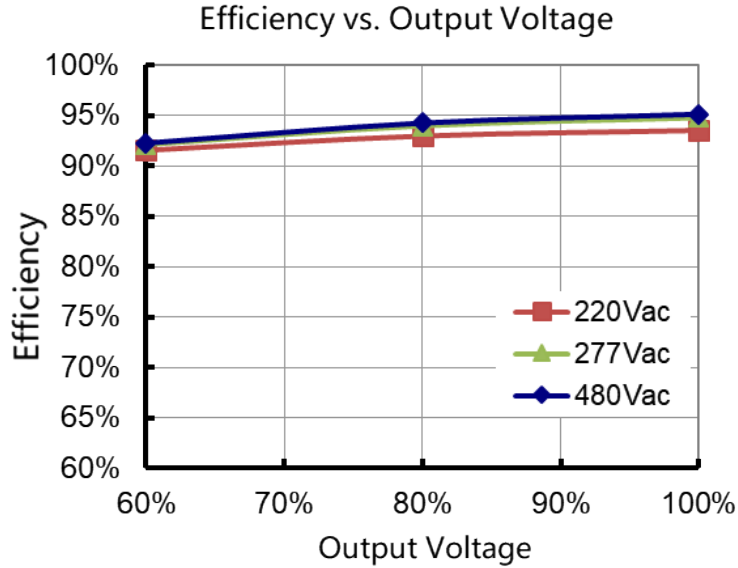
## ■ Power Factor vs. Load



■ THD vs. Load



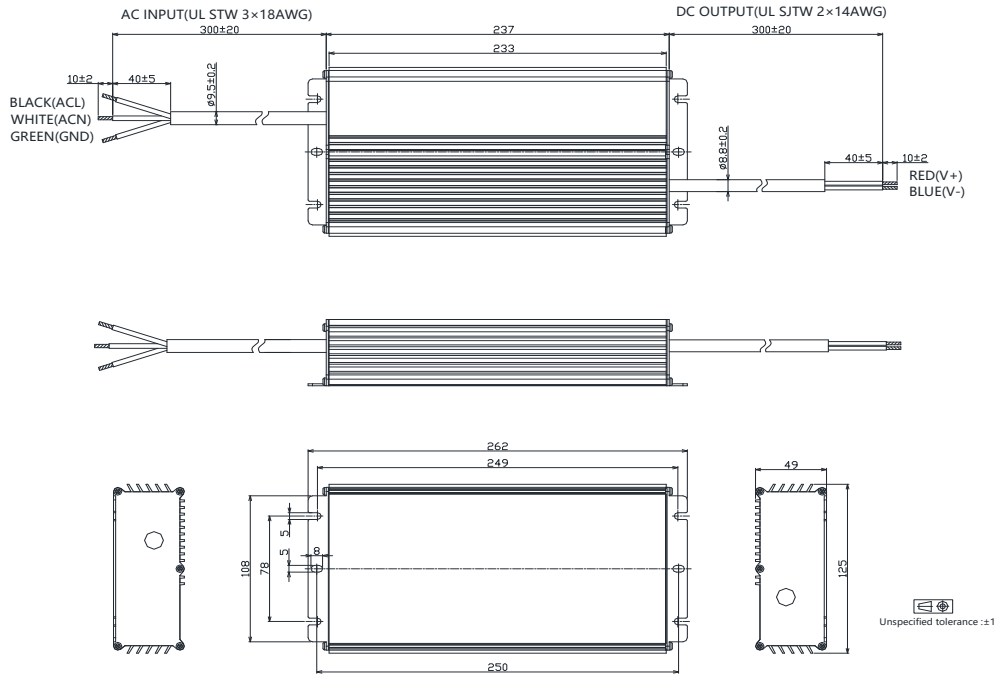
■ Efficiency vs. Load



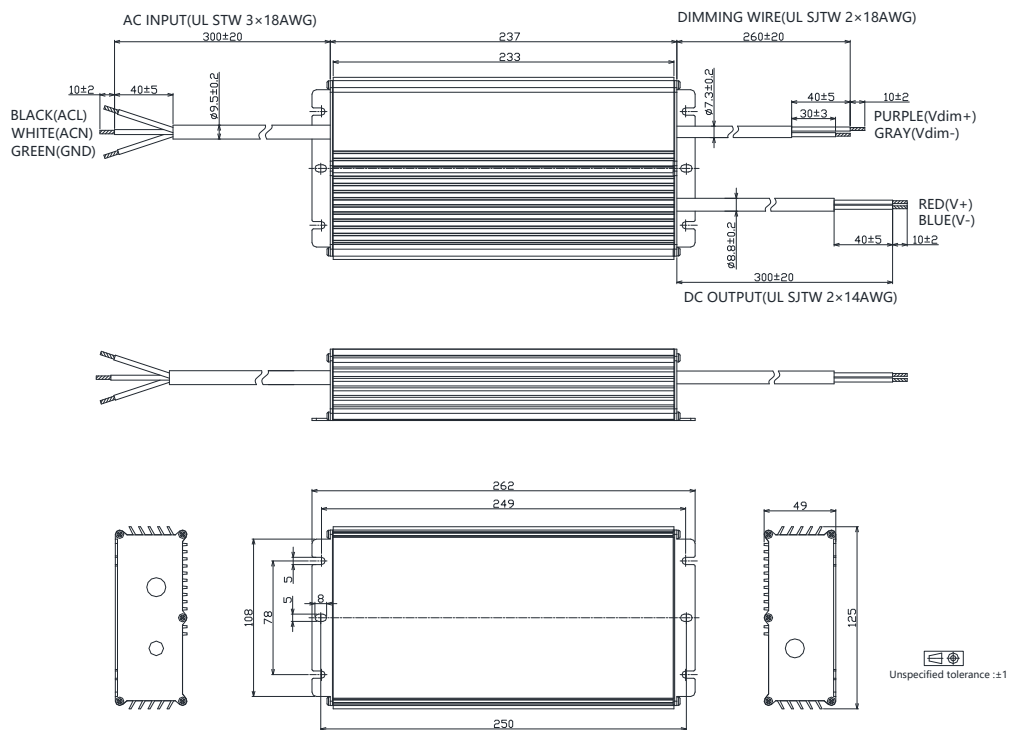
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### ■ Mechanical Design

- TLD-600-Cxxx-NNU/TRU

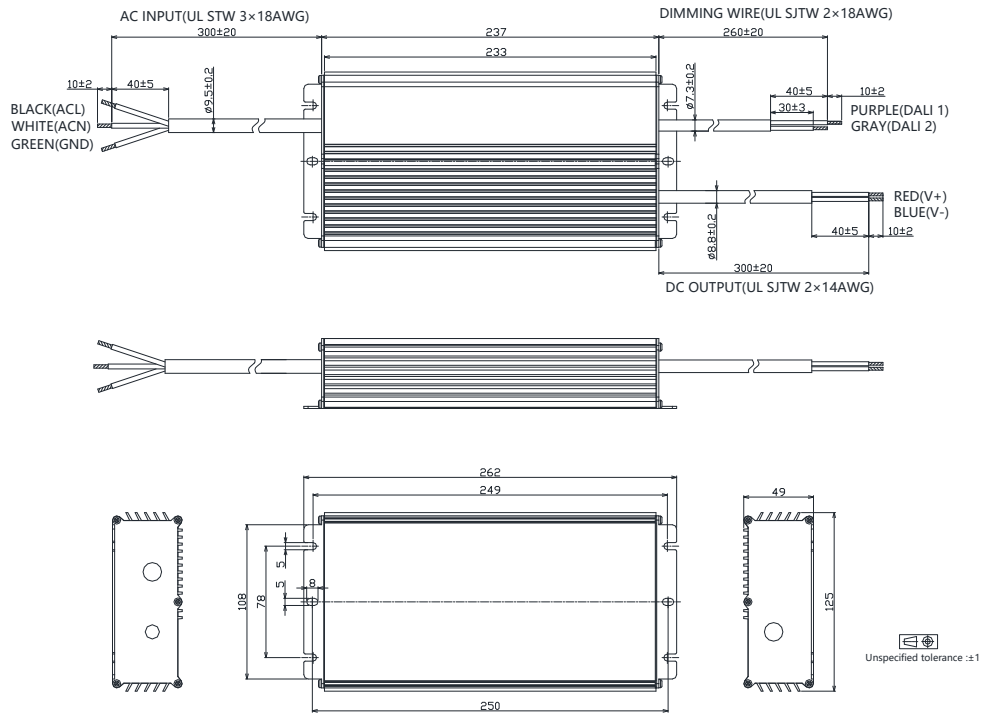


- TLD-600-Cxxx-DNU/DRU

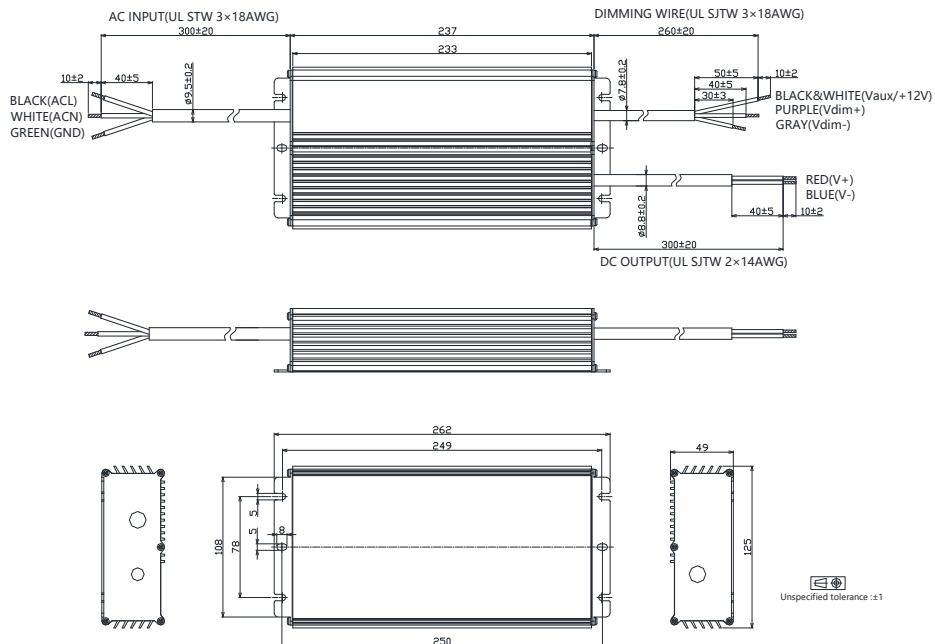


## 600W, 200-480Vac Input, Isolated Dimming Interface

- TLD-600-Cxxx-ANU



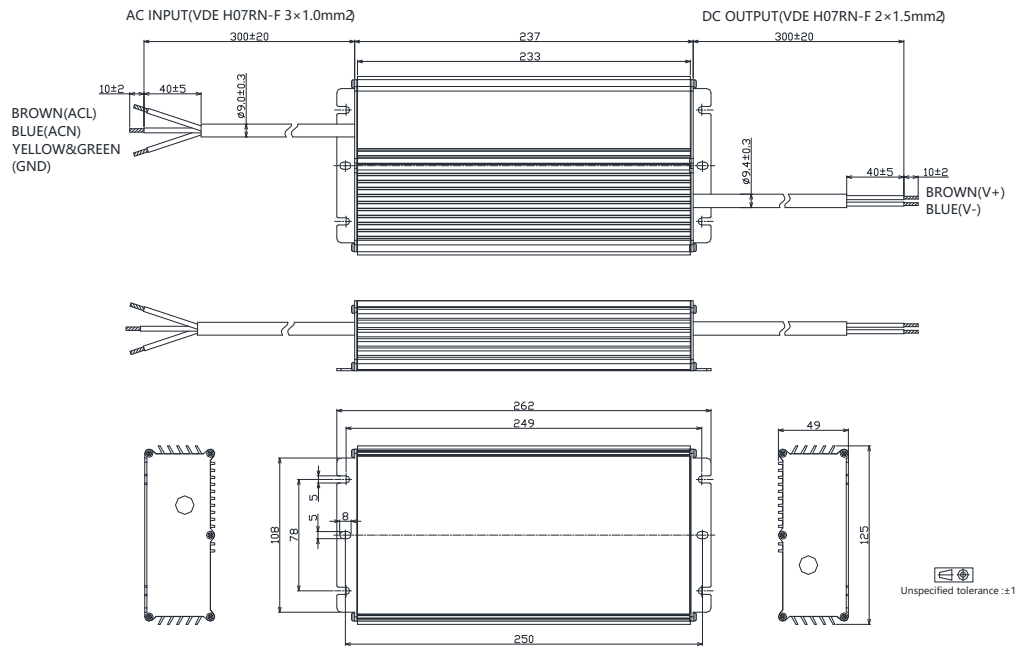
- TLD-600-Cxxx-ERU/ENU



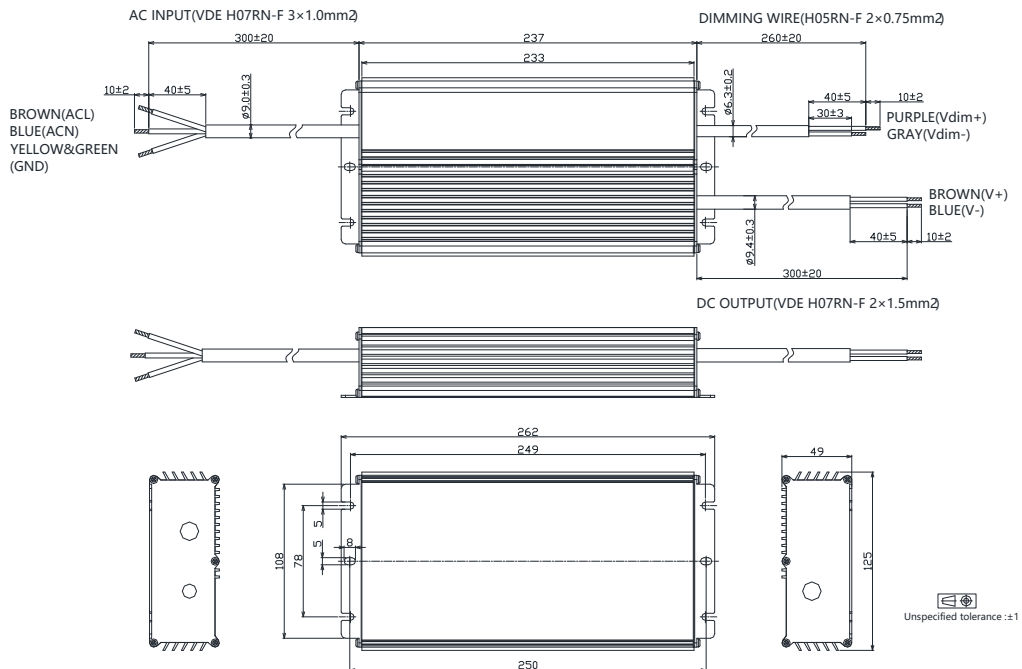


## 600W, 200-480Vac Input, Isolated Dimming Interface

- TLD-600-Cxxx-NNS/TRS

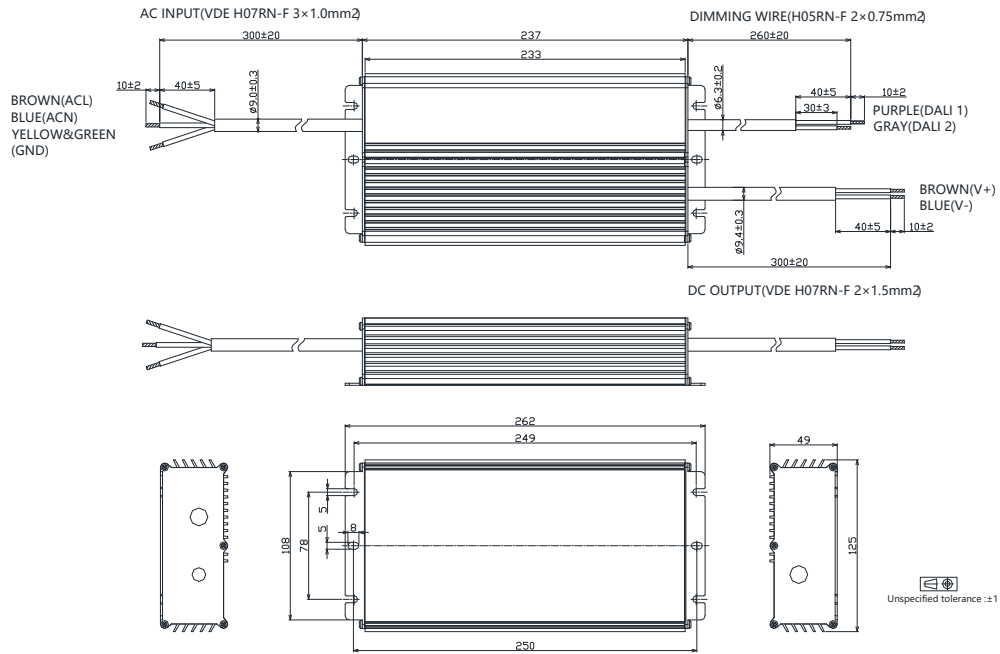


- TLD-600-Cxxx-DNS/DRS



## 600W, 200-480Vac Input, Isolated Dimming Interface

- TLD-600-Cxxx-ANS



- TLD-600-Cxxx-ERS

