

150W, 100-277Vac Input Constant Voltage LED Driver

■ Features

- Supply Voltage: 90-305Vac or 127-420Vdc, 380Vac for 2 hours
- Great Surge Immunity 10kV
- PWM Output Frequency >1kHz
- 100,000Hour Life @ Tc=75°C
- 7 Year Warranty @ Tc<=75°C
- 0-10V/PWM/DALI /Push (Switch) /DMX (RDM) Dimmable
- 2% Minimum Dimming Output
- Dim Off with 0.5W Standby
- 12V 300mA Auxiliary Power to Power Controllers and Fans (Optional)
- Input Over Voltage Protection (Optional)
- Class II Model Available
- UL Class P, ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3 61347-2-13, 62384



■ Application

- Strip lights, Landscape lights, Bay lights, Street lights, Tunnel lights, Flood lights

■ Model List

| Model Number | Input Voltage Range | Output Power | Output Voltage | Output Current Min | Output Current Max | Certification |
|------------------|---------------------|--------------|----------------|--------------------|--------------------|--------------------------------|
| BLD-150-V012-XYZ | 90 ~ 305 Vac | 150 W | 12V | 0 | 12.5A | CE/FCC |
| BLD-150-V024-XYZ | 90 ~ 305 Vac | 150 W | 24V | 0 | 6.3A | UL/FCC/CB/ENEC/CCC/BIS/RCM/PSE |
| BLD-150-V036-XYZ | 90 ~ 305 Vac | 150 W | 36V | 0 | 4.2A | |
| BLD-150-V048-XYZ | 90 ~ 305 Vac | 150 W | 48V | 0 | 3.2A | |

| XY= | Dimming Method | Programmable | 12Vaux | Dim-off Power |
|-----|----------------|--------------|--------|---------------|
| NN | - | - | - | - |
| DN | 0-10V | - | - | <1.5W |
| EN | 0-10V | - | √ | <0.5W |
| AN | DALI | - | - | <1.5W |
| MR | DMX | Set Address | - | <1.5W |

Z = U, UL cable with ground wire S, VDE cable/Class I D, VDE cable/Class II

Note: Dimmable Drivers Do NOT Support Switching DCDC Regulator as Load

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■ Technical Data

| | |
|-----------------------|--|
| Input Voltage | 90~305Vac or 127V-420Vdc, 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 | 1.4Amax@120Vac & Full-Load, 0.75Amax@220Vac & Full-Load |
| Inrush Current | 65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start 70A peak, 1.3ms duration, <0.5A2s@277Vac, Cold Start |
| Leakage Current | 1mA max @277Vac 60Hz, UL8750, 0.75mAmax @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 |
| Voltage Accuracy | ±3%Vo |
| Setup Time | 1.2s max. |
| Overshoot | 10% Vo, max. |
| Output Over Current | 120% Io, typ. |
| Short Circuit | Auto recovery. The output recovers when short is removed. |
| Over Temperature | Turn off the output 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 | $\geq 320,000$ 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 | 6.34x2.66x1.32 by inch (body), 7.40x2.66x1.32 by inch (endcaps included) 161.0x67.5x33.5 by mm (body), 188.0x67.5x33.5 by mm (endcaps included) |
| Net Weight | 800g |
| Packing | 25pcs, 21kg per carton, carton size: 490x370x230mm |

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

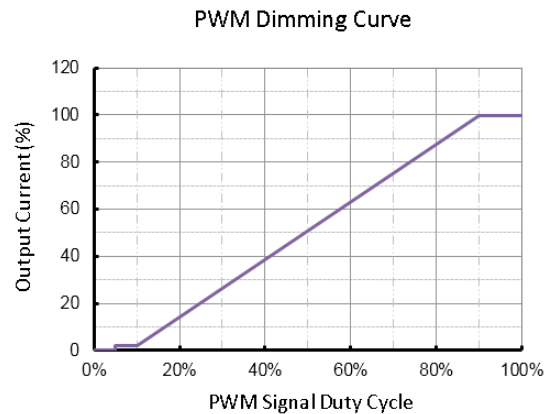
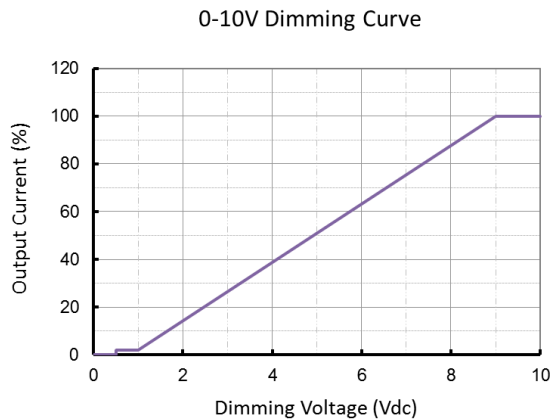
■ Dimming

| Parameter | Min. | Typ. | Max. |
|----------------------------|---------------|------------|---------------------|
| Vdim Sourcing Current | 200uA | 300uA | 450uA |
| Vdim Allowed Input Voltage | -20 V | | 20 V |
| 0-10V Dimming Range | 2% (Vdim=1V) | Linear | 100% (Vdim=9~10V) |
| PWM Dimming Range | 2% (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 |

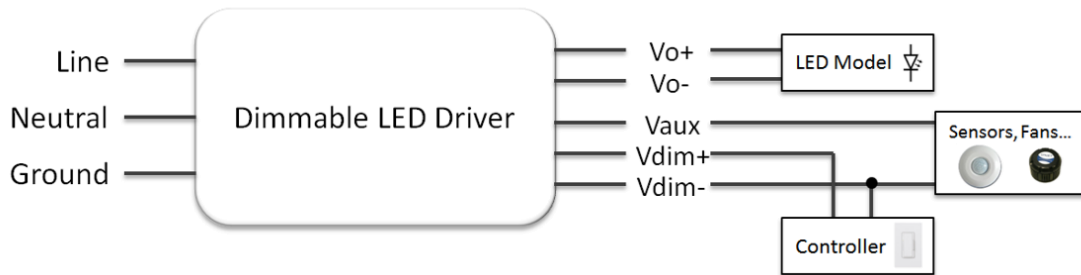
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| | | |
|--|----------|---------|
| PWM Frequency | 300Hz | 2kHz |
| External PWM Controller Current Sinking Capability | 300uA | |
| DALI Interface Standard | IEC62386 | |
| DA1,DA2 High Level | 9.5 | 16 22.5 |
| DA1,DA2 Low Level | -6.5 | 0 6.5 |
| DA1,DA2 Current | 0 | 2mA |

Dimming Curve

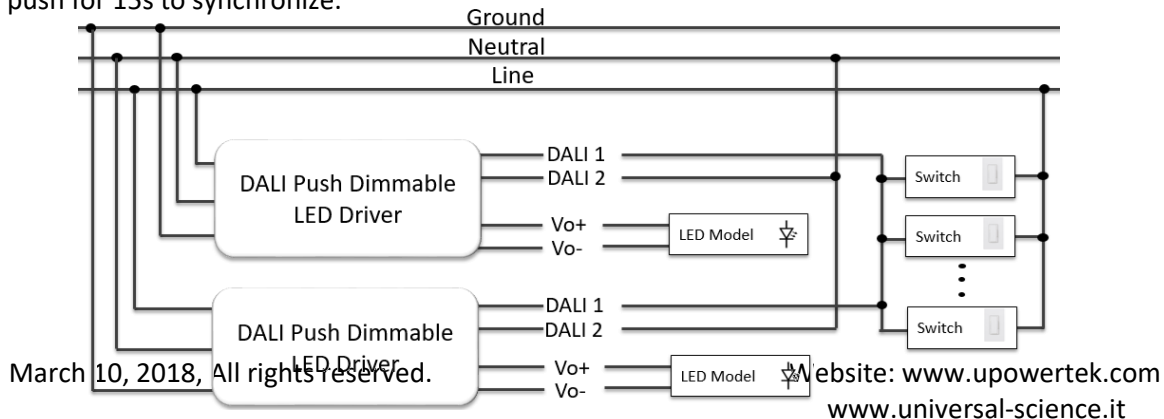


Dimming Wiring



Push (Switch) Dim

A short press (50-600 ms) switches the device on or off
 A long press (> 600 ms) fades the connected operating device alternately up and down (between 2 and 100%).
 Up and down slew rate is 20%/second.
 Long push for 15s to synchronize.



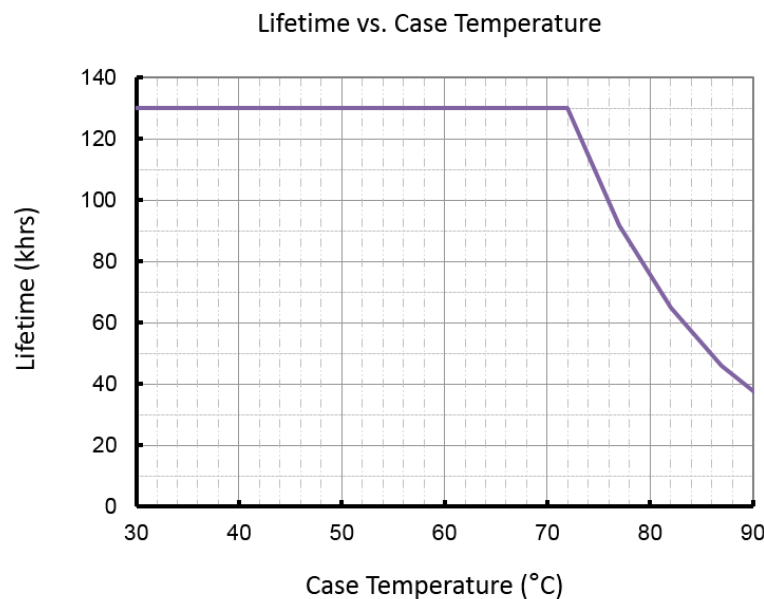
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Website: www.upowertek.com
www.universal-science.it

■ 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 |

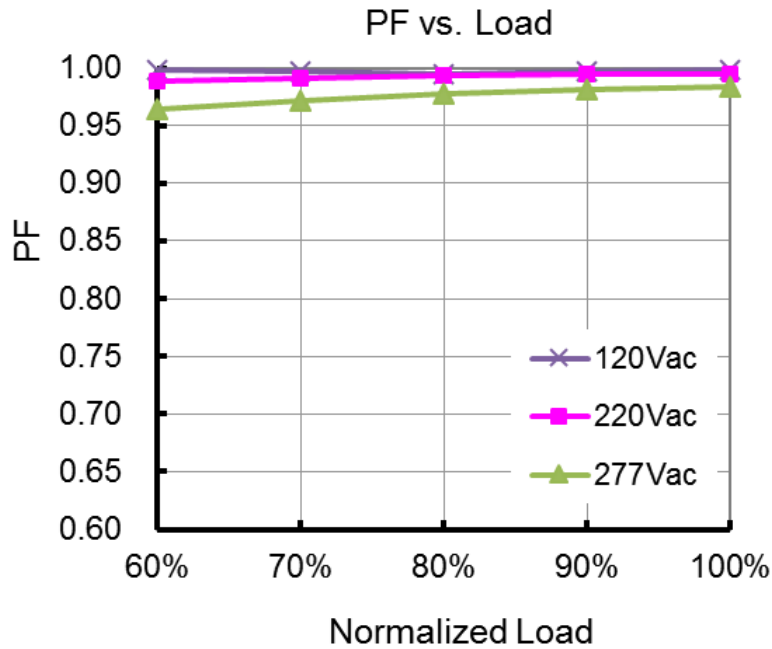
■ Lifetime vs. Case Temperature



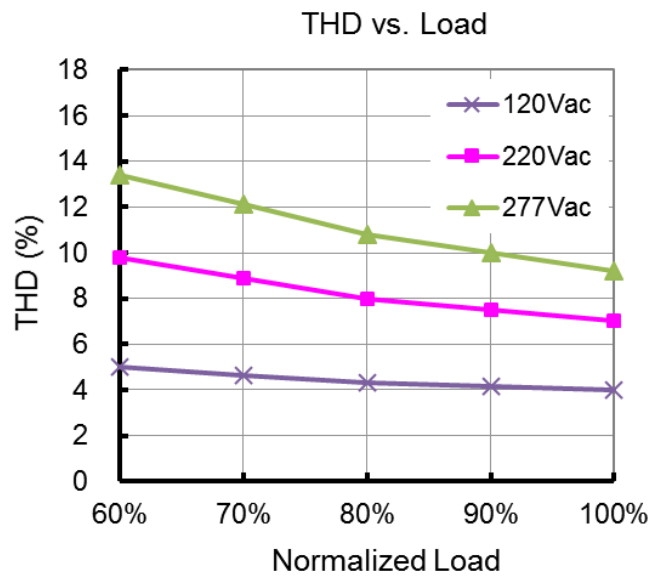
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(End of Life: Maximum Failure Rate=10%)

■ Power Factor vs. Load

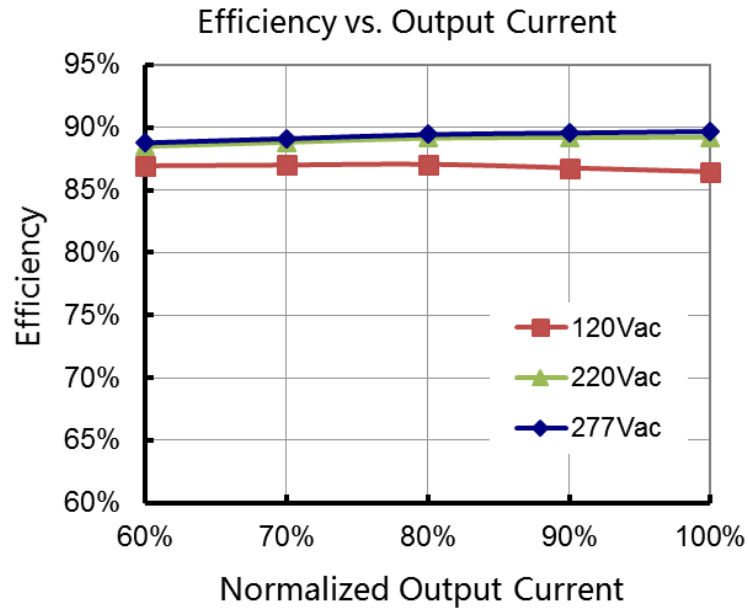


■ THD vs. Load



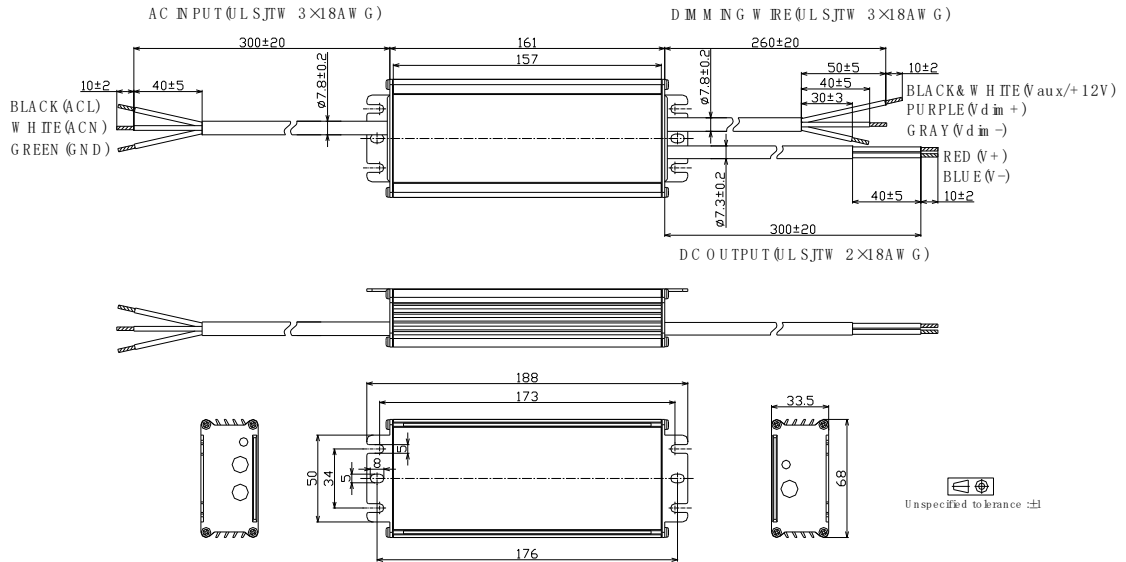
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■ Efficiency vs. Load (24V Model)

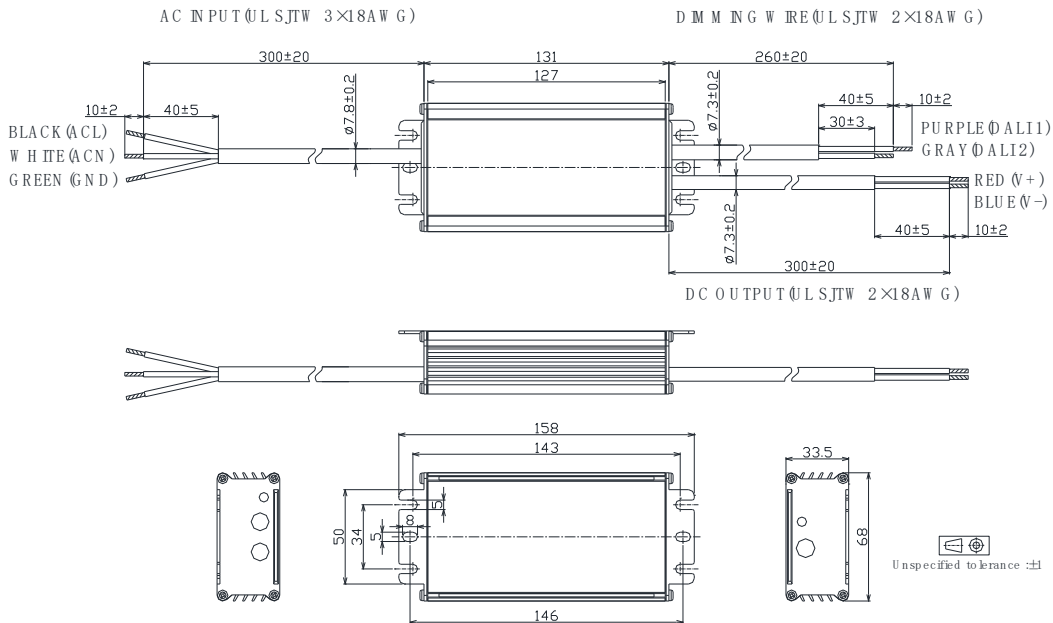


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- BLD-150-Vxxx-ENU (UL Cable)

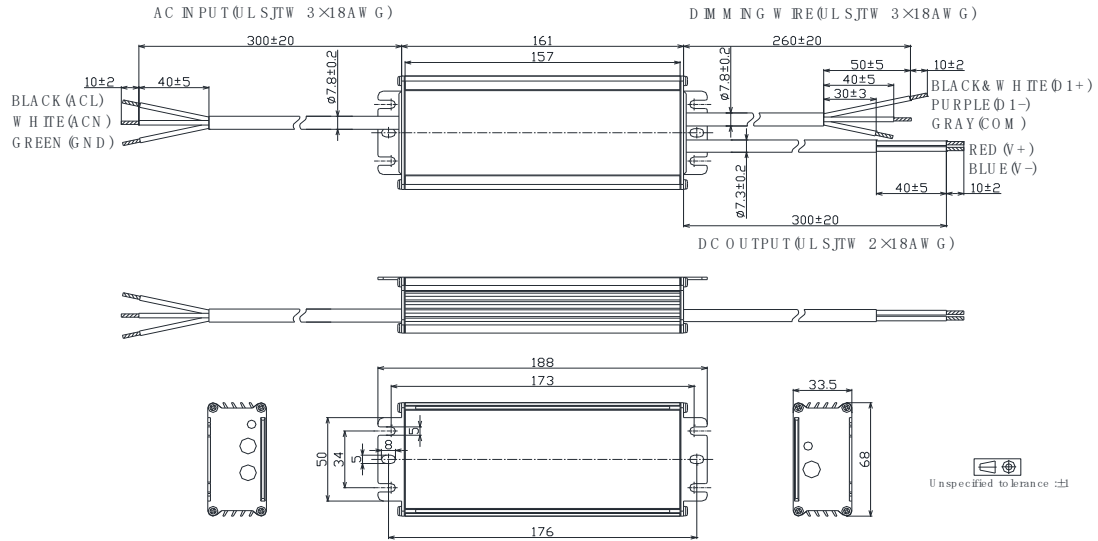


- BLD-150-Vxxx-ANU (UL Cable)

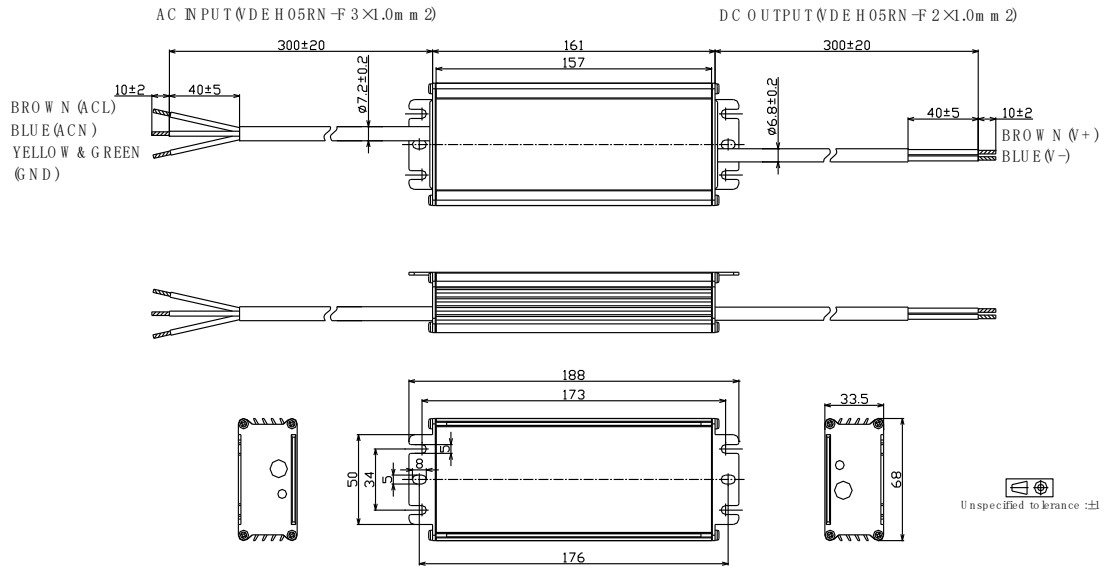


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- BLD-150-Cxxx-MRU (UL Cable)

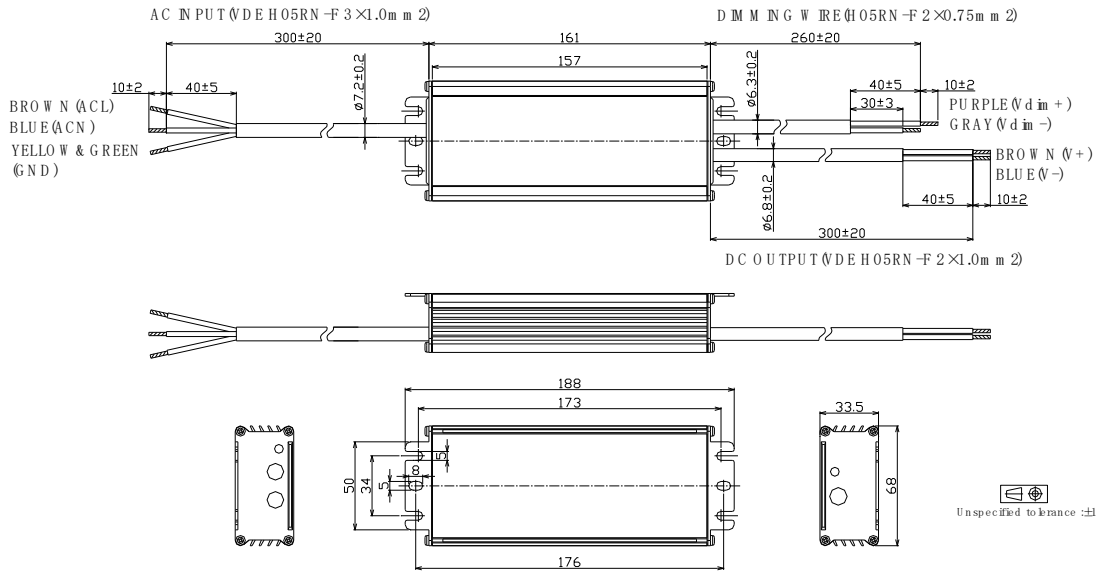


- BLD-150-Vxxx-NNS (VDE Cable)

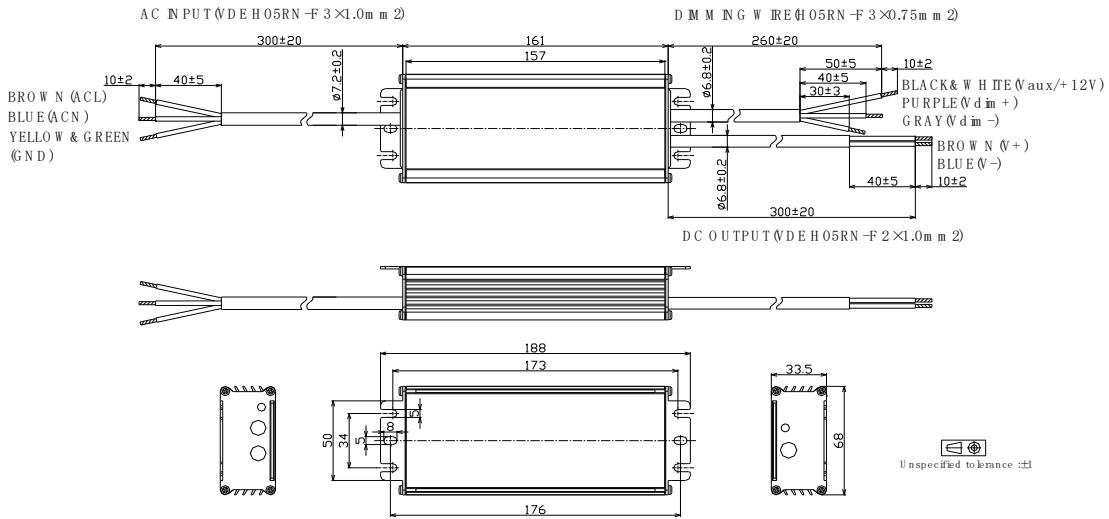


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- BLD-150-Vxxx-DNS (VDE Cable)

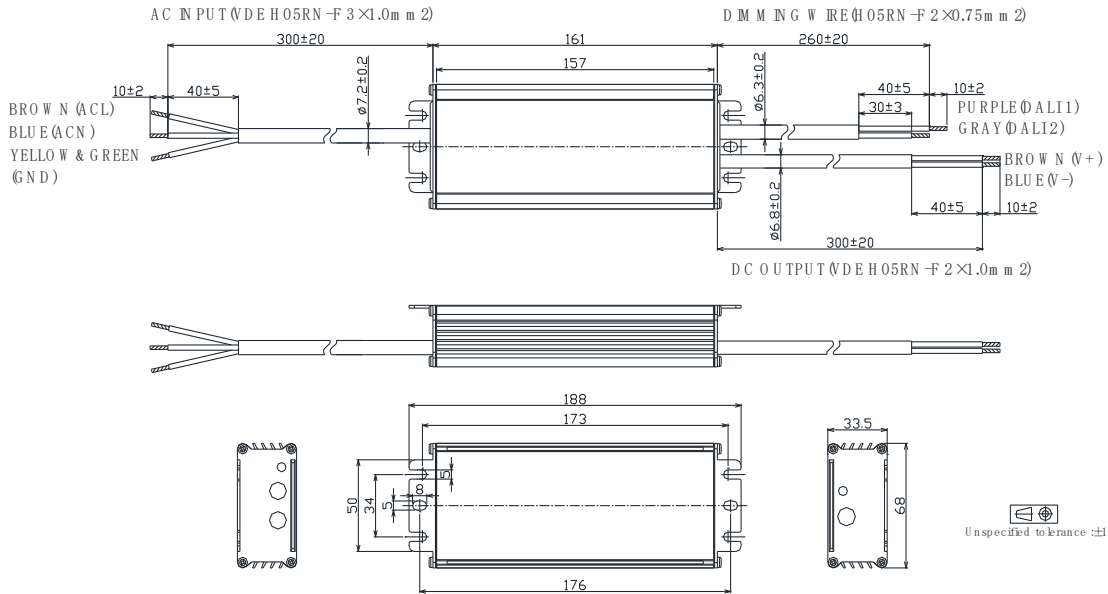


- BLD-150-Vxxx-ENS (VDE Cable)



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- BLD-150-Vxxx-ANS (VDE Cable)



- BLD-150-Vxxx-MRS (VDE Cable)

