

■ Features

- Power Rating: 120W
- Input Voltage: 120-277Vac
- Constant current design
- Output current settable(700mA-2800mA)
- +/-2% Output Current Accuracy (Programmable Model)
- Near Field Communication Programmability
- High-Efficiency @ 90% and above
- 0-10V/PWM/Timer/DALI/DMX (Optional) Dimming
- Dim to Off with 0.5W Standby Power
- Optional External Thermal Protection NTC
- UL Class P, Type HL
- OVP, SCP, & OTP
- Tc = 90°C
- IP67
- 5+ year warranty
- Surge Immunity 10kV



\*Product images are for illustrative purposes only and may vary from actual design.

■ Application

- Bay lights, Street lights, Tunnel lights, Flood lights, Horticultural lighting

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Output Current Min	Output Current Max	Efficiency	Certification
LWA120-C105-XYZ	120-277Vac	120W	69-171V	700mA	1050mA	89 % @ 120Vac 91.5% @ 277Vac	UL/cUL
LWA120-C140-XYZ	120-277Vac	120W	51-114V	1050mA	1400mA	88.5% @ 120Vac 91% @ 277Vac	UL/cUL
LWA120-C280-XYZ	120-277Vac	120W	26-57V	2100mA	2800mA	88% @ 120Vac 90.5% @ 277Vac	UL/cUL

Ordering Options	XY=	Dimming Method	Programmable	12Vaux	Dim-off
	NN	-	-	-	-
	DN	0-10V	-	-	-
	EN	0-10V	-	√	√
	TR	Timer	√	-	-
	DR	0-10V/PWM/Timer	√	-	-
	ER	0-10V/PWM/Timer	√	√	√
	AR	DALI	√	-	√
	AN	DALI	-	-	√
	MX	DMX	√	-	√
<b>Cable Options</b>	<b>Z=</b>	K=UL cable with ground wire (green), S=VDE cable/Class I, D=VDE cable/Class II			
<b>External Thermal Protection NTC Option</b>	<b>-THR</b>	LWA120-C105-XYZ-THR			

DMX Notes: Works with DMX-512 Presently. DMX Dimming range 10-100% (1% DMX command will be treated as 10% Dimming). Recommended number of LED drivers per DMX channel is ~32, and ~40 meter (132 ft) drop length. You may need a DMX signal amplifier for quantities above 32 drivers per channel, with a maximum allowed of 150 drivers per single channel.

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**■ Technical Data**

Input Voltage	120-277Vac or 127V-420Vdc
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	1.2 Amax@120Vac & Full-Load, 0.6Amax@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 4kV, line to ground 10kV, IEC 61000-4-5
Current Accuracy	±5%lo
Ripple Current	Ip-p:5%lo 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 $T_c \leq 70 \pm 10^\circ\text{C}$ 105 +/- 10°C (relates to internal component temperature / optional settings are possible, contact Autec sales)
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	≥320,000 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	6.34x2.66x1.32 by inch (body), 7.40x2.66x1.32 by inch (endcaps included) 161.0x68x33.5 by mm (body), 188.0x68x33.5 by mm (endcaps included)
Net Weight	750g
Packing	25pcs/Carton/21kg, 490x370x230mm

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

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

**■ 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 DC or AC 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

**Disclaimer:**

Autec Power Systems' (Autec) LED Drivers are Hi-Pot tested during the manufacturing process. Autec assumes no responsibility for secondary Hi-Pot testing at customer location or designated production line(s). Should customer require further Hi-Pot testing, at their own production line, following assembly of the LED Driver into the customer's assembled fixture, Autec requests advance notice. This request must be communicated to Autec in a timely manner and is recommended to be requested at time of issuing each purchase order.

**■ 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	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

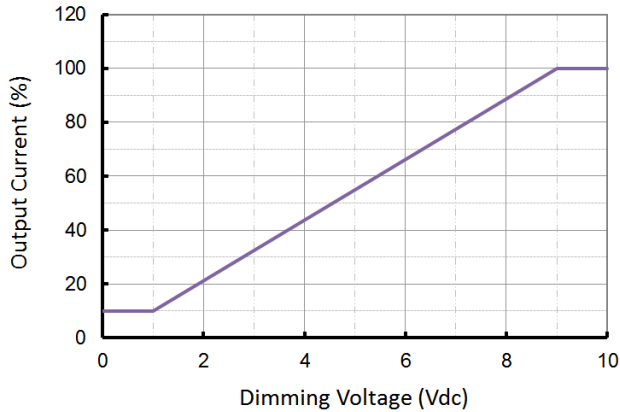
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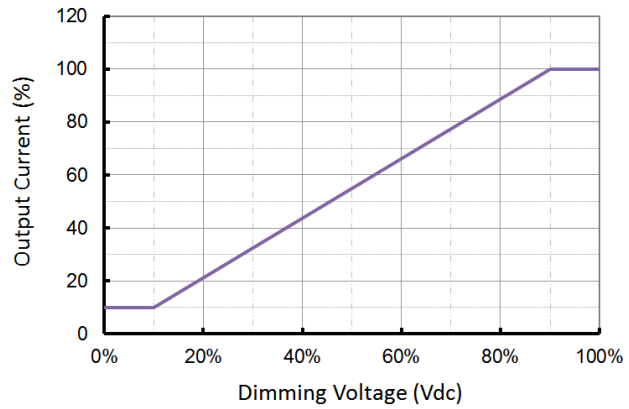
■ **Dimming Curve**

a. **Without dim-off**

0-10V Dimming Curve

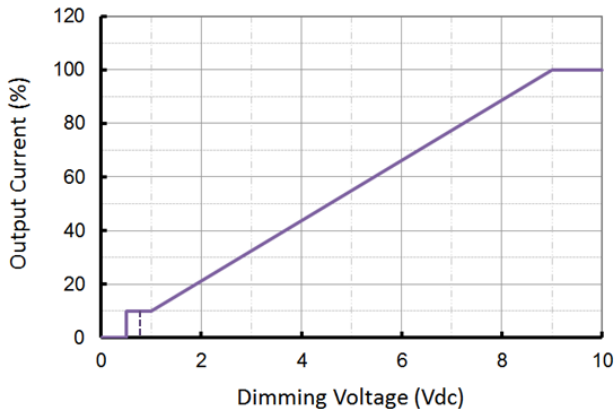


PWM Dimming Curve

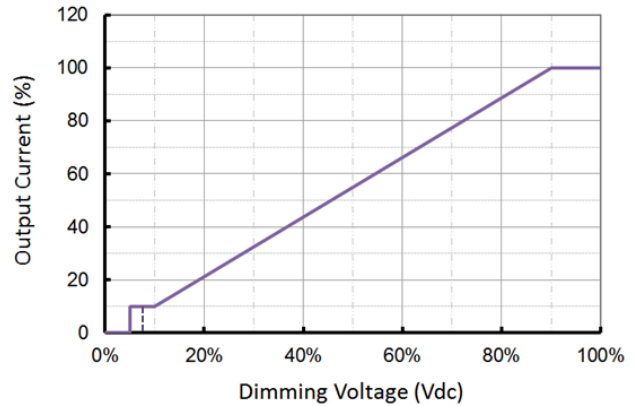


b. **With dim-off**

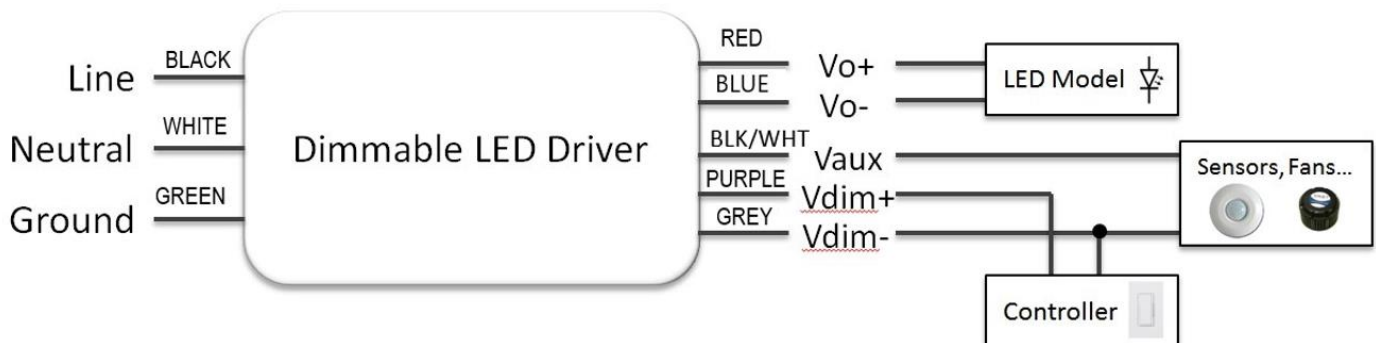
0-10V Dimming Curve



PWM Dimming Curve



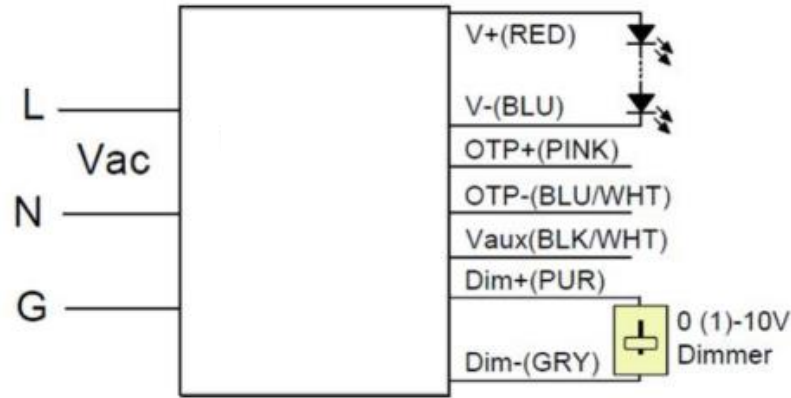
■ **Wiring Diagram**



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■ **Wiring Diagram/Optional External Thermal Protection**



■ **External Thermal Protection Table(optional)**

Parameter		Min.	Typ.	Max.	Notes
External Thermal Protection NTC	R1	-	7.81 kOhm	-	When R_NTC falls below R1, External Thermal Protection is triggered, reducing output current until R2 is reached.
	R2	-	4.16 kOhm	-	When R_NTC is less than R2, output current is reduced to the programmed "Protection Current Floor."
	Protection Current Floor	10%loset	60%loset	100%loset	10%loset > I <sub>omin</sub> (default setting is 60%)
		I <sub>omin</sub>	60%loset	100%loset	10%loset ≤ I <sub>omin</sub> (default setting is 60%)

■ **Near Field Communication Programmability**

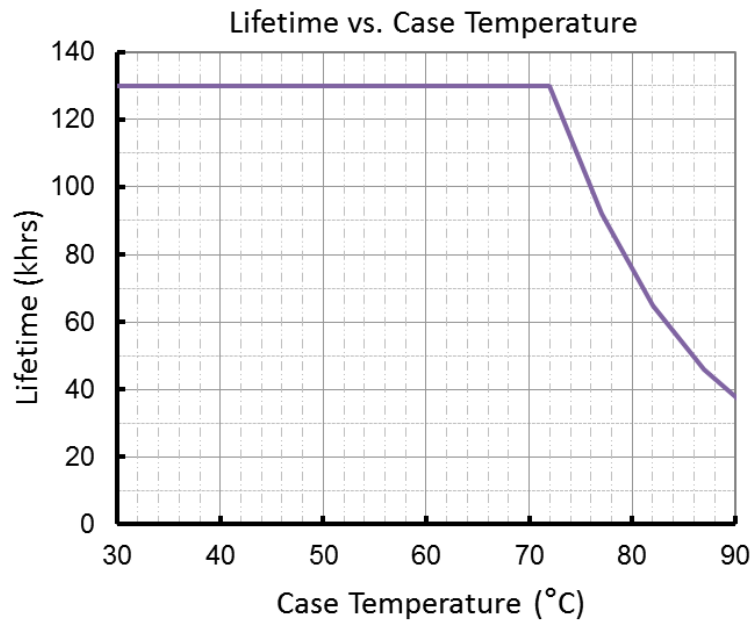


Programming Module  
REF. Part# UPRG-NFC

**NOTES:**

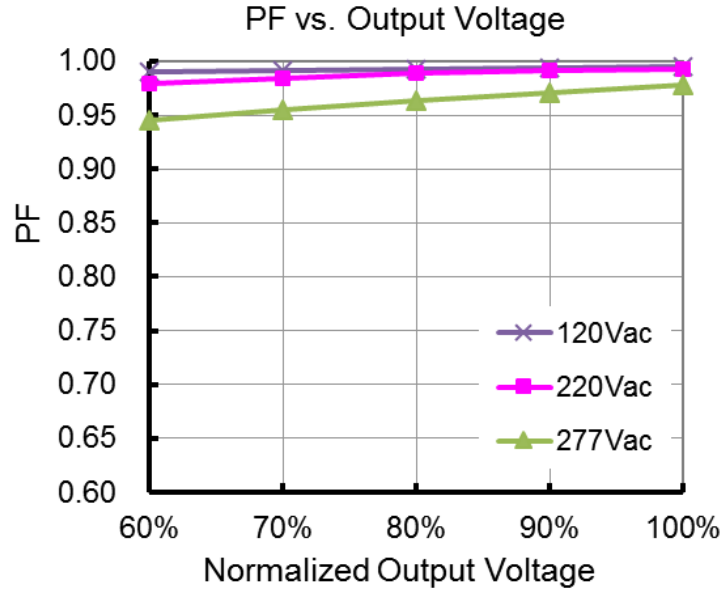
1. The Near Field Communication programming module is used to program the output current, voltage, dimming, and timer settings.
2. The programming function is a non-contact process, which is safer and more efficient compared to traditional programming methods.
3. During programming the LED Driver does not require any external power source.
4. REF. Ordering part number UPRG-NFC (includes programming module, USB cable, and \*software).
5. Contact Autec Sales for User Guide and programming software for complete programming instructions.

■ **Lifetime vs. Case Temperature**

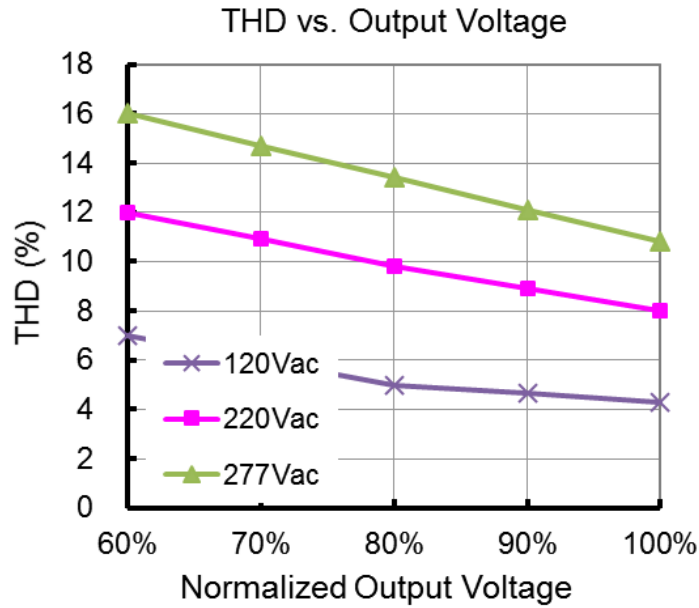


(End of Life: Maximum Failure Rate=10%)

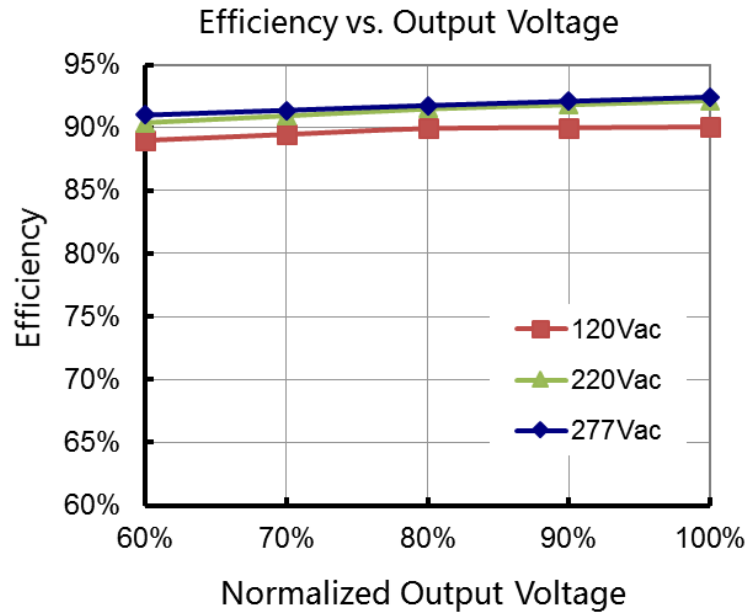
■ Power Factor vs. Load



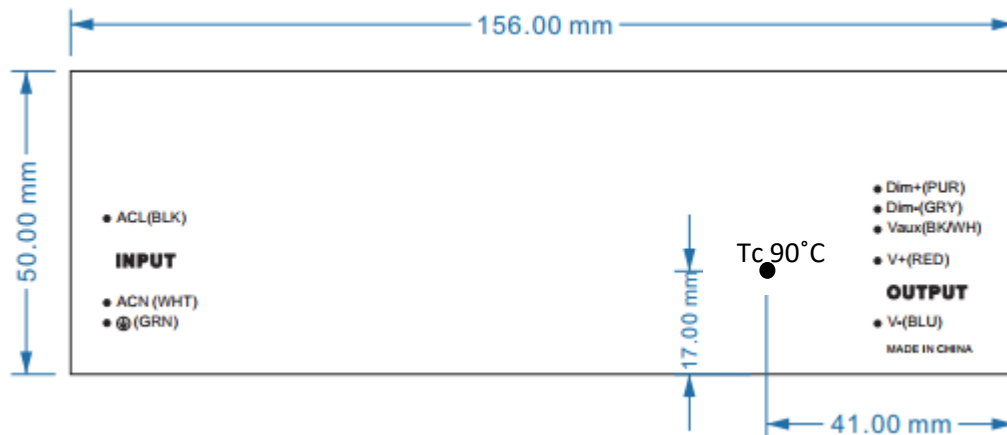
■ THD vs. Load



■ Efficiency vs. Load (1.05A Model)



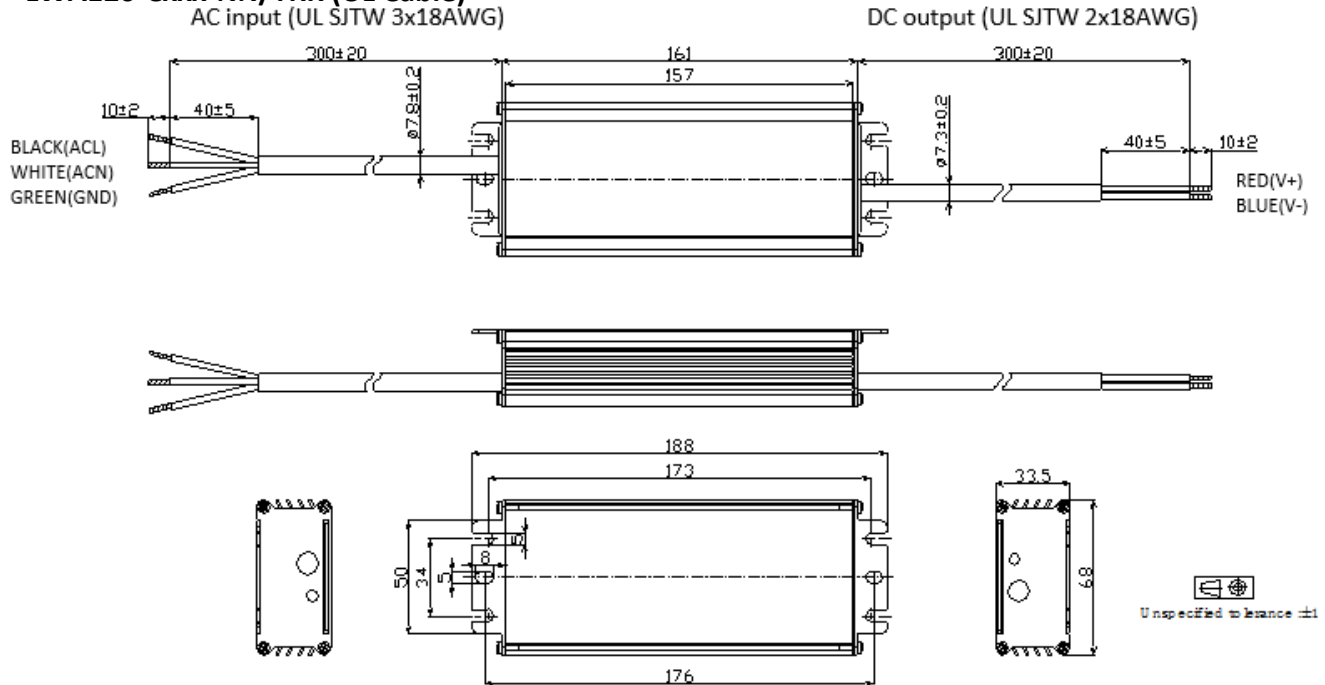
■ Tc Location(LED Driver Label)



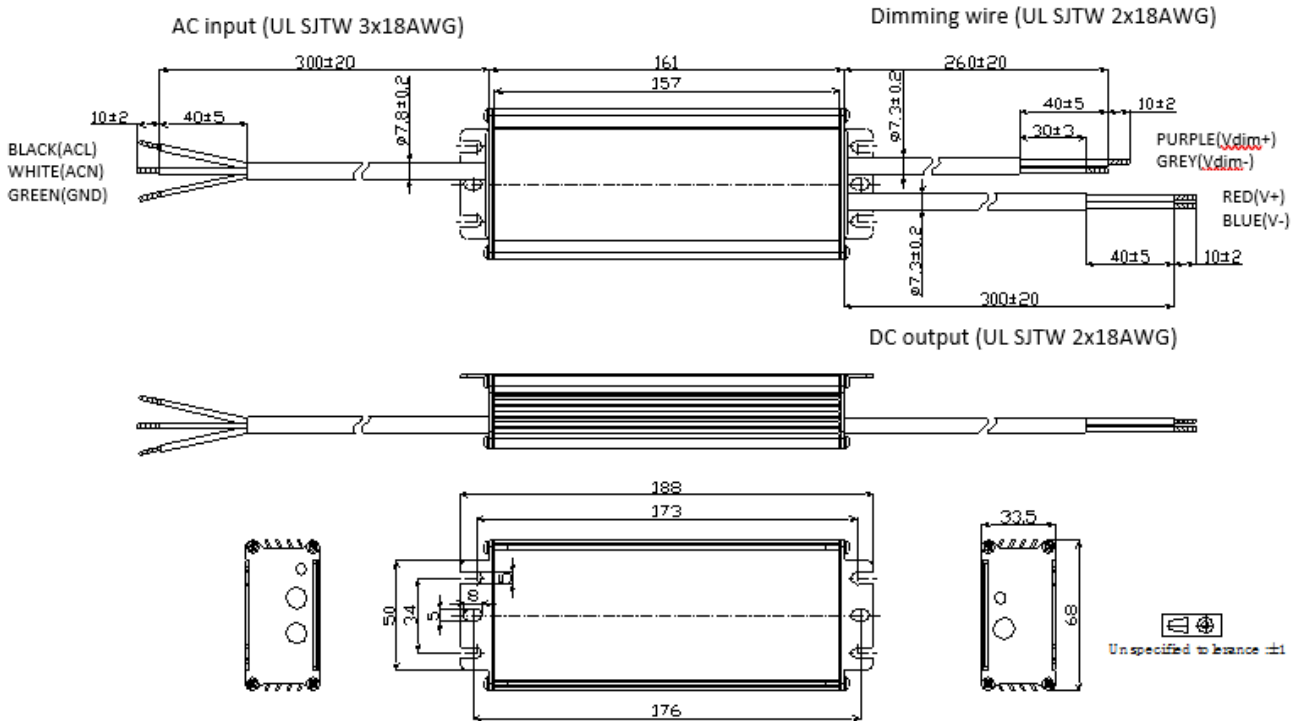


■ **Mechanical Design**

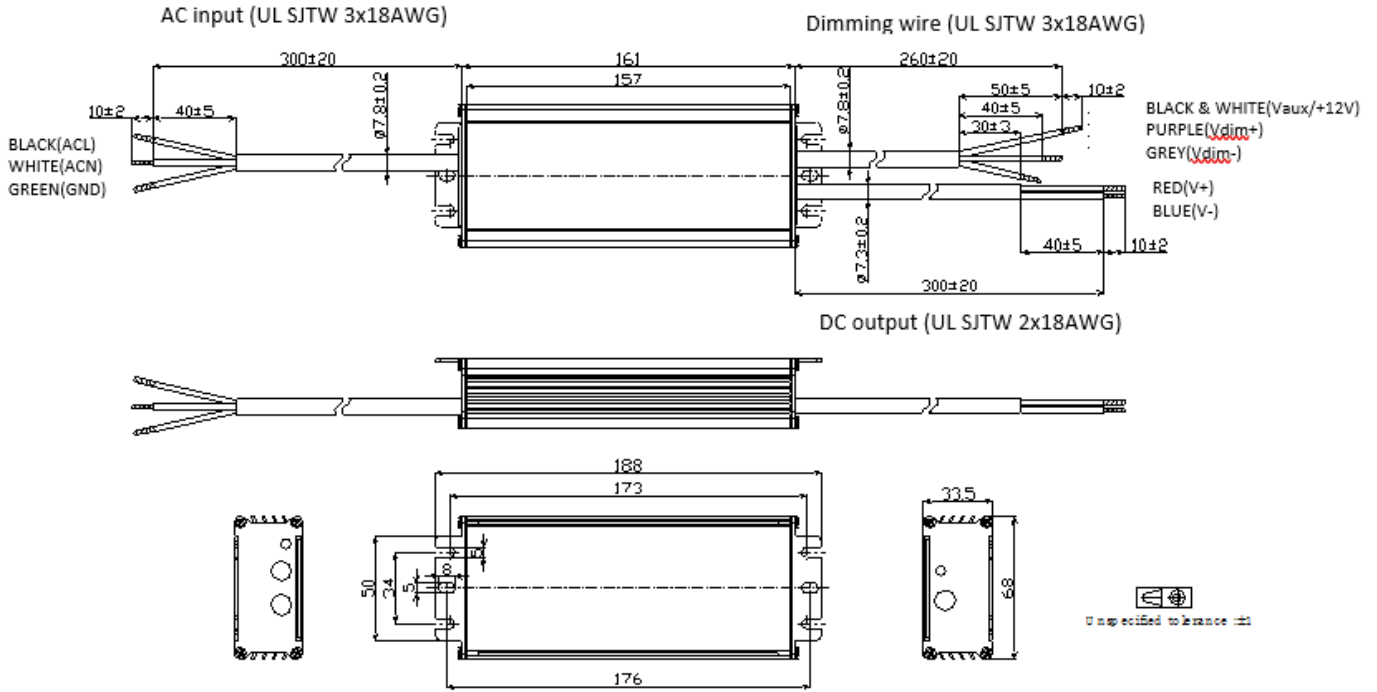
- **LWA120-Cxxx-NN/TRK (UL Cable)**



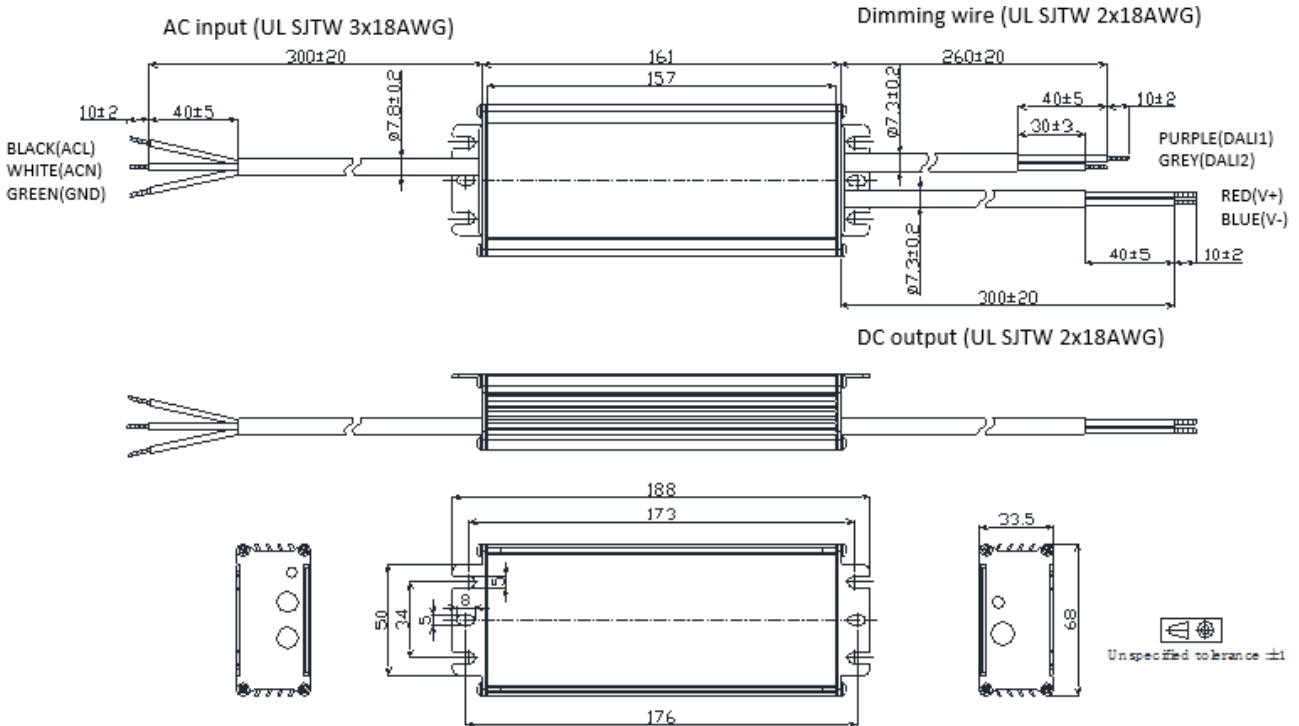
- **LWA120-Cxxx-DN/DRK (UL Cable)**



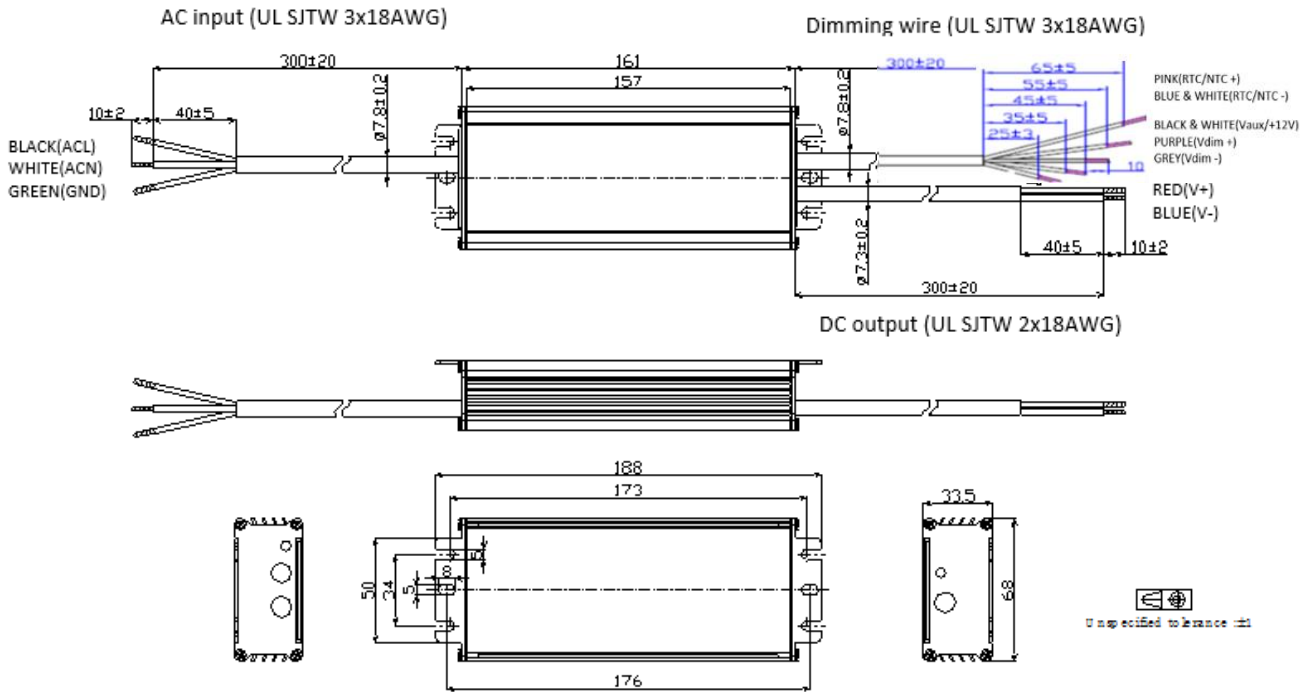
- **LWA120-Cxxx-ERK (UL Cable)**



- **LWA120-Cxxx-ANK (UL Cable)**



- **LWA120-Cxxx-ERK-THR (UL Cable)**



**\*Contact Autec Sales for non UL Mechanical Diagrams**

■ **Operation Range**

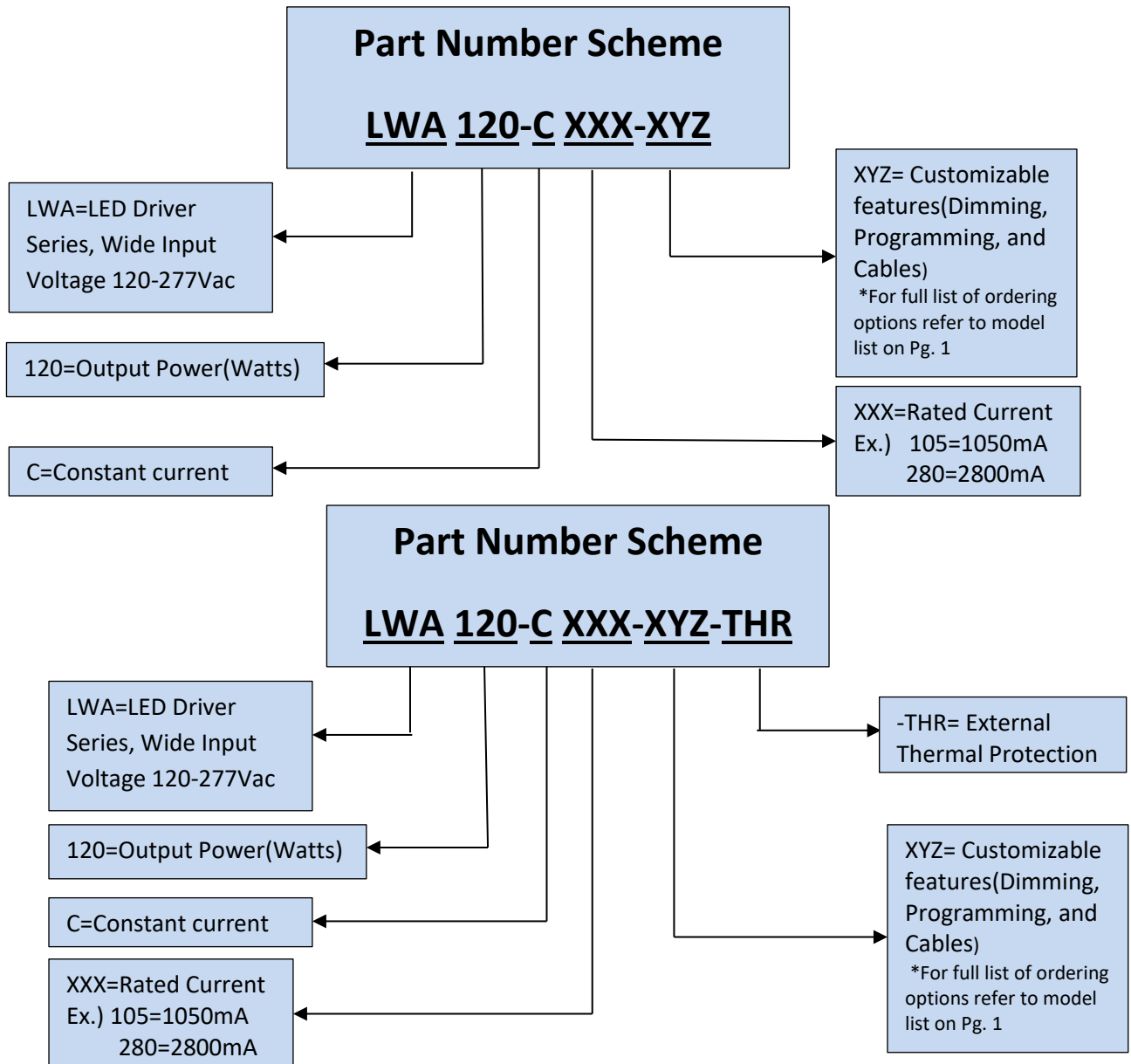
Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA120-C105-XYZ	1050	120	69	114	105
	1000	120	72	120	100
	950	120	76	126	95
	900	120	80	133	90
	850	120	85	141	85
	800	120	90	150	80
	750	120	96	160	75
	700	120	103	171	70
	650	111	103	171	70
	600	103	103	171	70
	550	94	103	171	70
	500	86	103	171	70
	...	...	...	...	...
70	12	12	103	171	70

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Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA120-C140-XYZ	1400	120	51	86	140
	1300	120	55	92	130
	1200	120	60	100	120
	1100	120	65	109	110
	1050	120	69	114	105
	1000	114	69	114	105
	950	109	69	114	105
	900	103	69	114	105
	850	97	69	114	105
	800	91	69	114	105
	750	86	69	114	105
	700	80	69	114	105
	...	...	...	...	...
	105	12	69	114	105

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA120-C280-XYZ	2800	120	26	43	280
	2700	120	27	44	270
	2600	120	28	46	260
	2500	120	29	48	250
	2400	120	30	50	240
	2300	120	31	52	230
	2200	120	33	55	220
	2100	120	34	57	210
	2000	114	34	57	210
	1900	109	34	57	210
	1800	103	34	57	210
	1700	97	34	57	210
	1600	91	34	57	210
	...	...	...	...	...
210	12	34	57	210	



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**\*Specifications are subject to change without notice. Autec is not responsible for issues arising from errors or omissions.**

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