

■ **Features**

- Power Rating: 40W
- Input Voltage: 120-277Vac
- Constant current design
- Output current settable(500mA-1400mA)
- +/-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, Class 2
- OVP, SCP, & OTP
- Tc = 90°C
- IP67
- 5+ year warranty
- Surge Immunity 10kV



RoHS
Compliant



*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	Certification
LWA040-C070-XYZ	120-277 Vac	40W	34-80Vdc	500mA	700mA	UL/cUL
LWA040-C105-XYZ	120-277 Vac	40W	23-57Vdc	700mA	1050mA	UL/cUL
LWA040-C140-XYZ	120-277 Vac	40W	17-38Vdc	1040mA	1400mA	UL/cUL

Ordering Options	XY=	Dimming Method	Programmable	12Vaux	Dim-off	Body Size
	NN	-	-	-	-	109x67.5x33.5mm
	DN	0-10V	-	-	-	109x67.5x33.5mm
	EN	0-10V	-	√	√	109x67.5x33.5mm
	TR	Timer	√	-	-	109x67.5x33.5mm
	DR	0-10V/PWM/Timer	√	-	-	109x67.5x33.5mm
	ER	0-10V/PWM/Timer	√	√	√	131x67.5x33.5mm
	AR	DALI	√	-	√	131x67.5x33.5mm
	AN	DALI	-	-	√	131x67.5x33.5mm
	MX	DMX	√	-	√	131x67.5x33.5mm
Cable Options	Z=	K=UL cable with ground wire (green), S=VDE cable/Class I, D=VDE cable/Class II				
External Thermal Protection NTC Option	-THR	LWA040-C070-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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March 19, 2020

■ 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	0.4 Amax@120Vac & Full-Load, 0.22Amax@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-recovery
Input Over Voltage	*Optional: Shutdown @320Vac
Surge Protection	Line to line 4kV, line to ground 10kV, IEC 61000-4-5
Current Accuracy	±2%lo for programmable model, ±5%lo for non-programmable model
Ripple Current	Ip-p:5%lo max
Setup Time	1.2s max
Overshoot	10% lo 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, 50°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 (NN, DN, EN, TR, DR)	4.29x2.66x1.32 by inch (body), 5.35x2.66x1.32 by inch (endcaps included) 109.0x67.5x33.5 by mm (body), 136.0x67.5x33.5 by mm (endcaps included)
Dimensions (ER, AN, DMX)	5.16x2.66x1.32 by inch (body), 6.22x2.66x1.32 by inch (endcaps included) 131.0x67.5x33.5 by mm (body), 158.0x67.5x33.5 by mm (endcaps included)
Net Weight (NN, DN, EN, TR, DR)	500g
Net Weight (ER, AN, DMX)	600g
Packing	25pcs/Carton/17.3kg, 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
UL1012/1310	Power units other than class 2 / Class 2 power units
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.

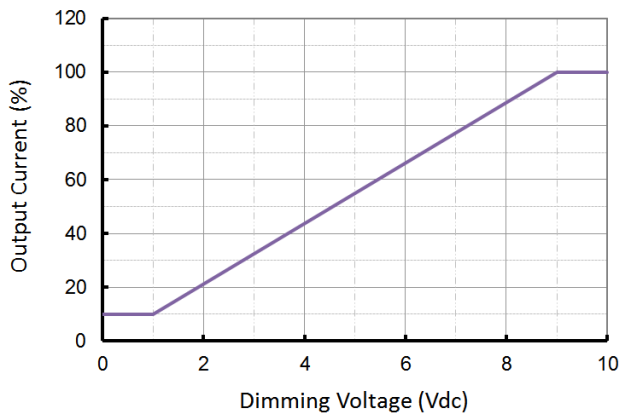
■ Dimming

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		0.5V 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

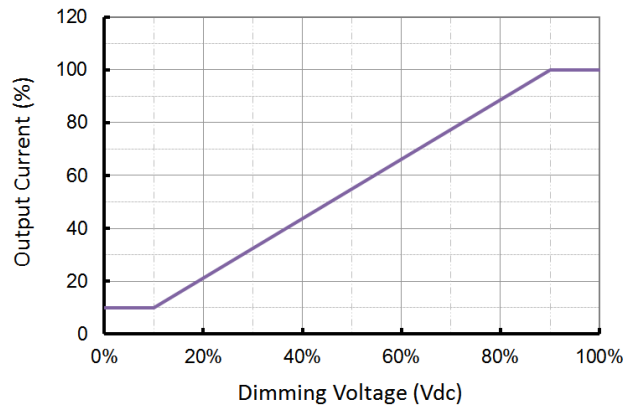
■ Dimming Curve

a. Without dim-off

0-10V Dimming Curve

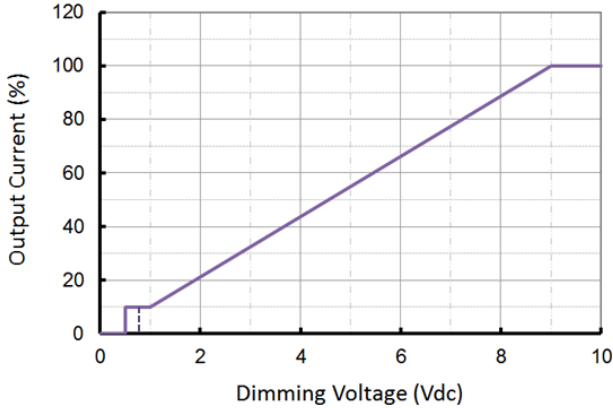


PWM Dimming Curve

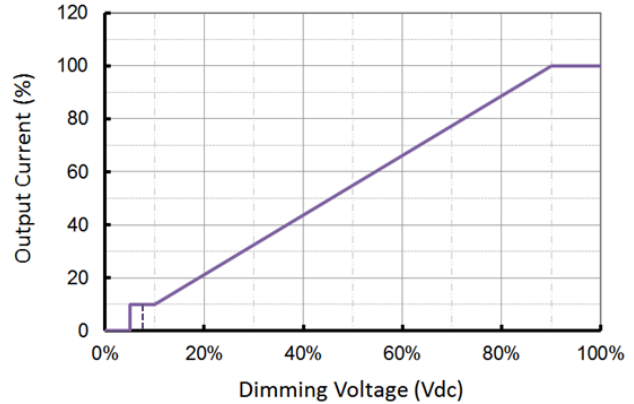


b. With dim-off

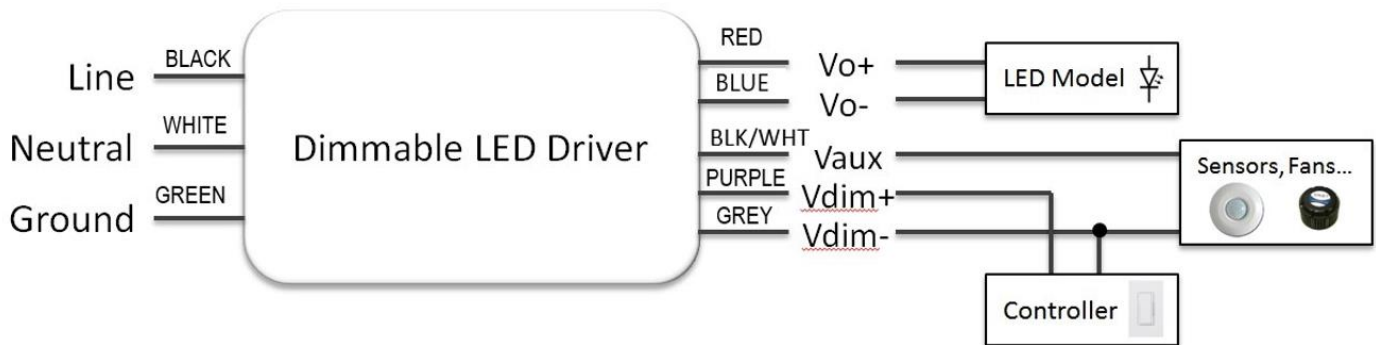
0-10V Dimming Curve



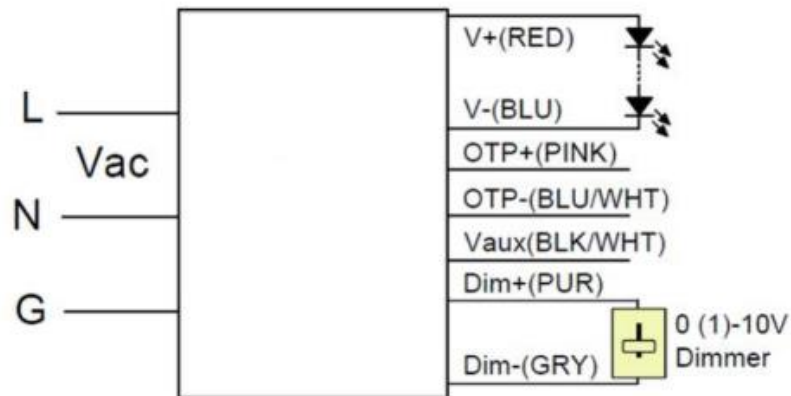
PWM Dimming Curve



■ Wiring Diagram



■ Wiring Diagram/Optional External Thermal Protection



■ External Thermal Protection Table(optional)

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 March 19, 2020

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 _{omin} (default setting is 60%)
		I _{omin}	60%loset	100%loset	10%loset ≤ I _{omin} (default setting is 60%)

■ Near Field Communication Programmability

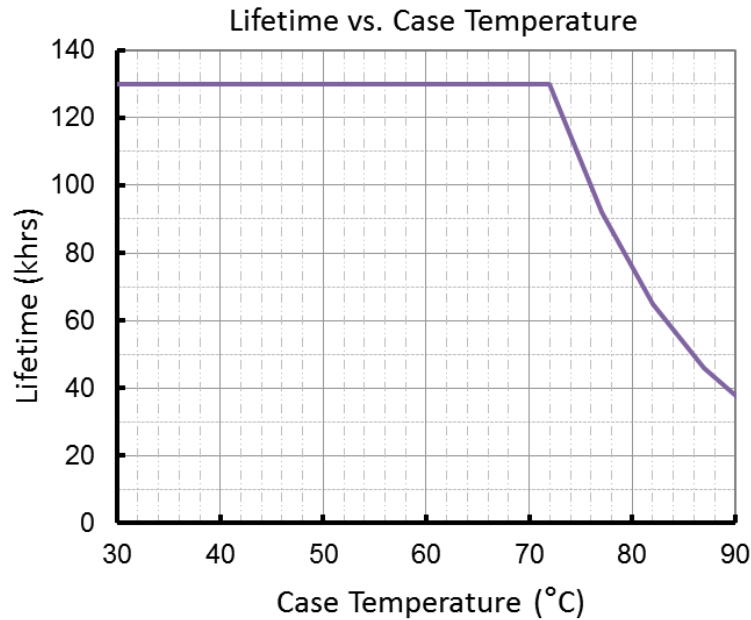


Programming Module
REF. Part# UPRG-NFC

NOTES:

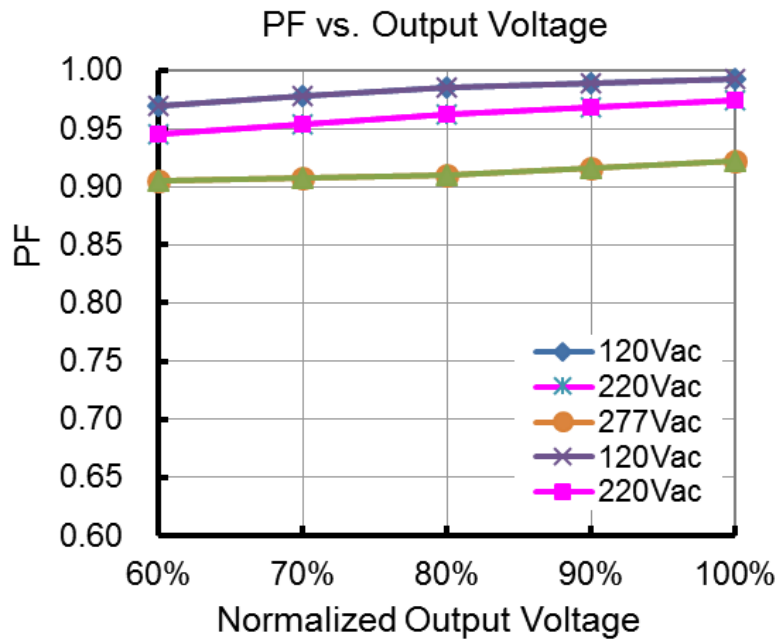
1. The Near Field Communication programming module is used to program the output current, voltage, dimming, and timer settings.
2. The programming function is a non-contact process, which is safer and more efficient compared to traditional programming methods.
3. During programming the LED Driver does 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

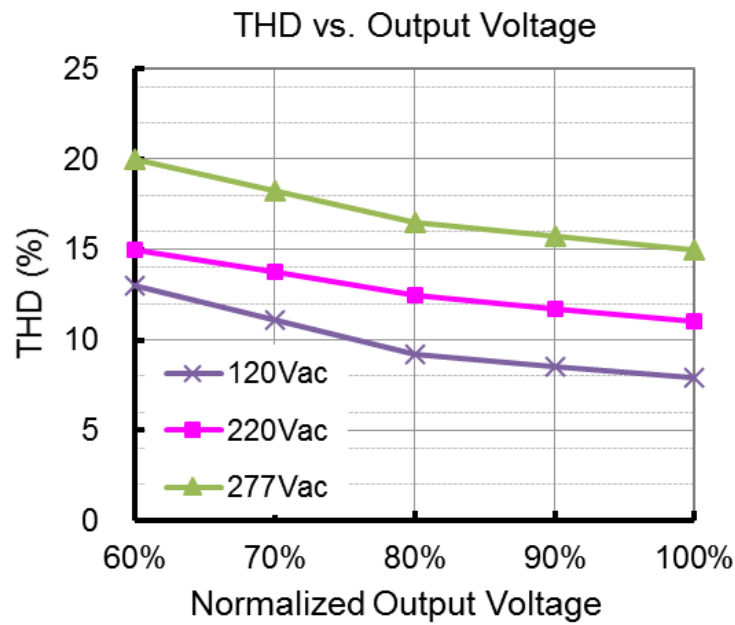


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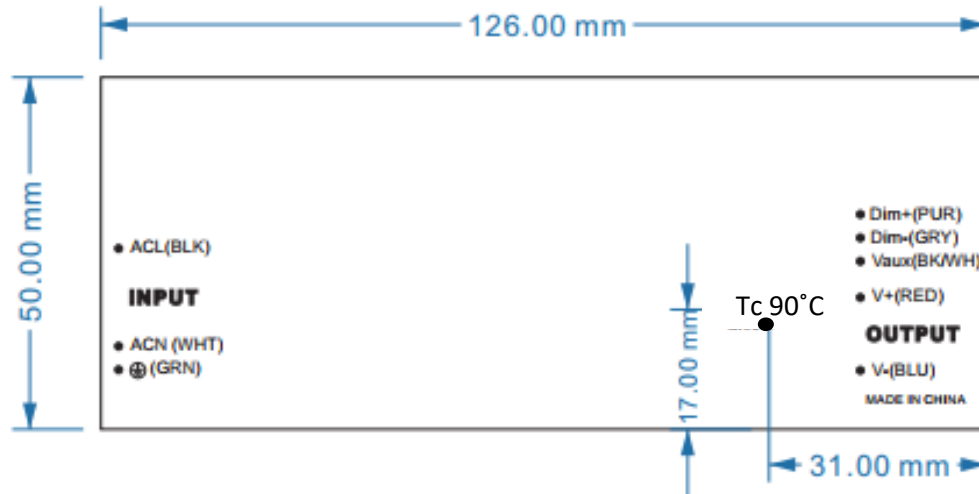
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■ THD vs. Load



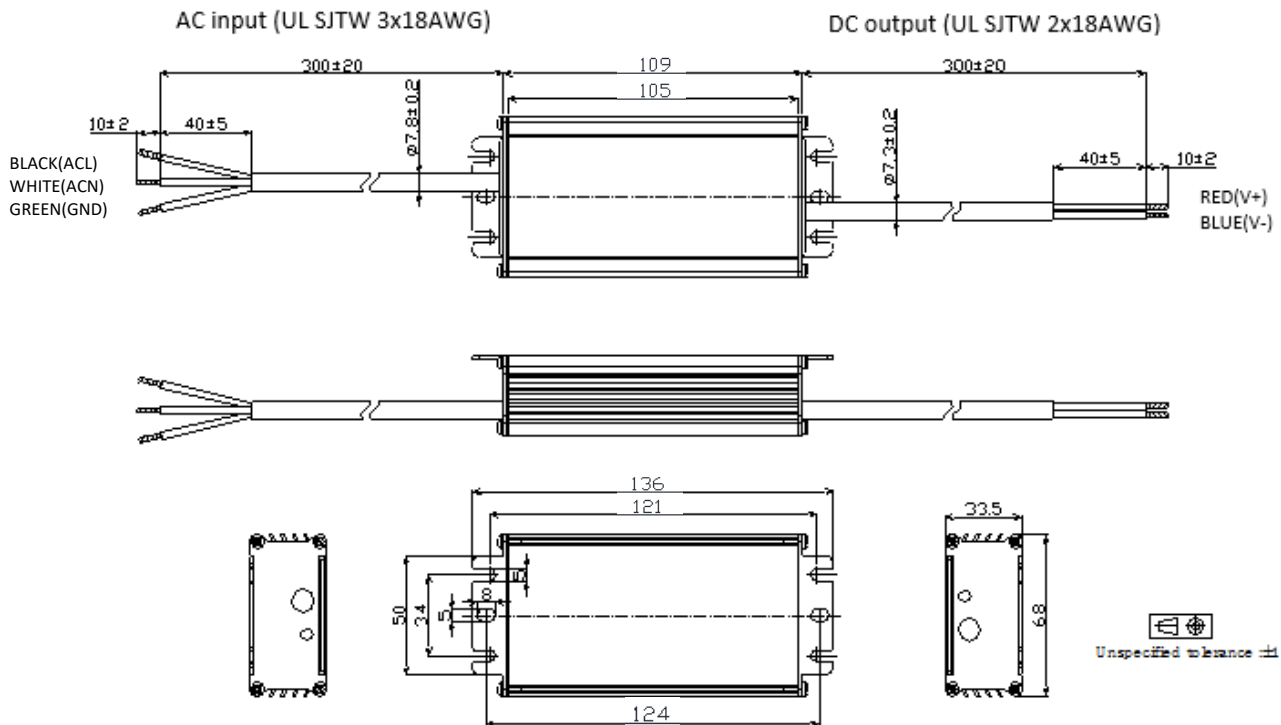
■ Efficiency vs. Load (1.05A Model) (TBA)

■ Tc Location(LED Driver Label)



■ Mechanical Design

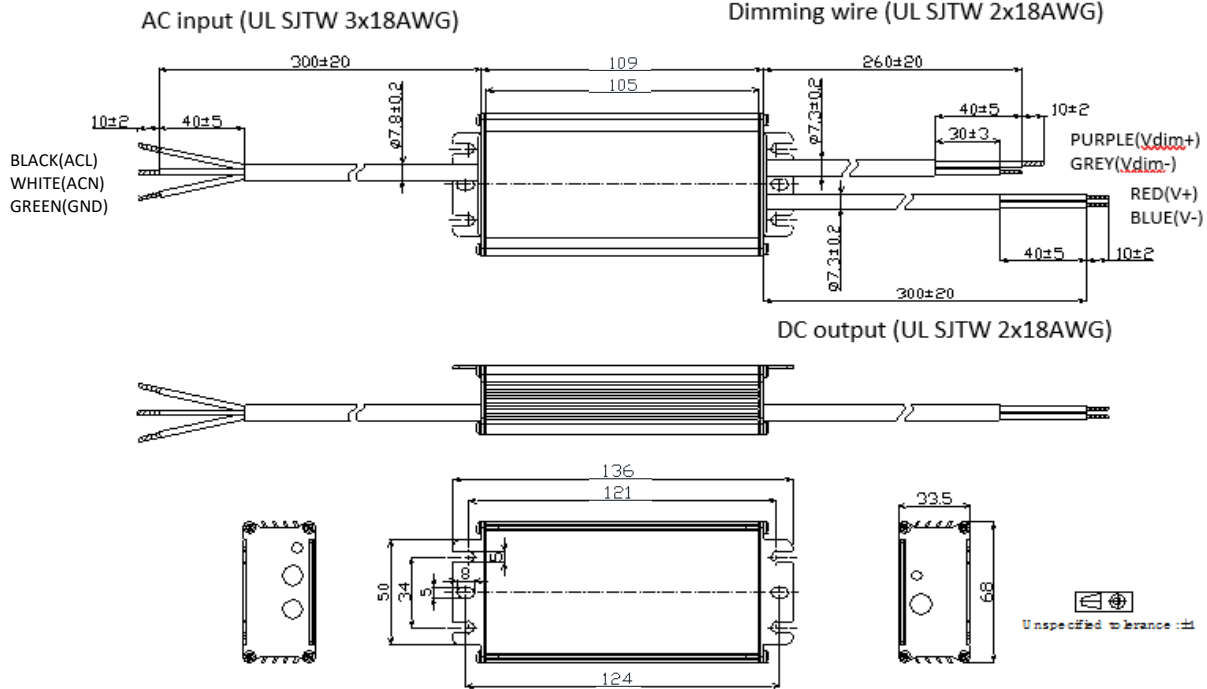
- LWA040-Cxxx-NN/TRK (UL Cable)



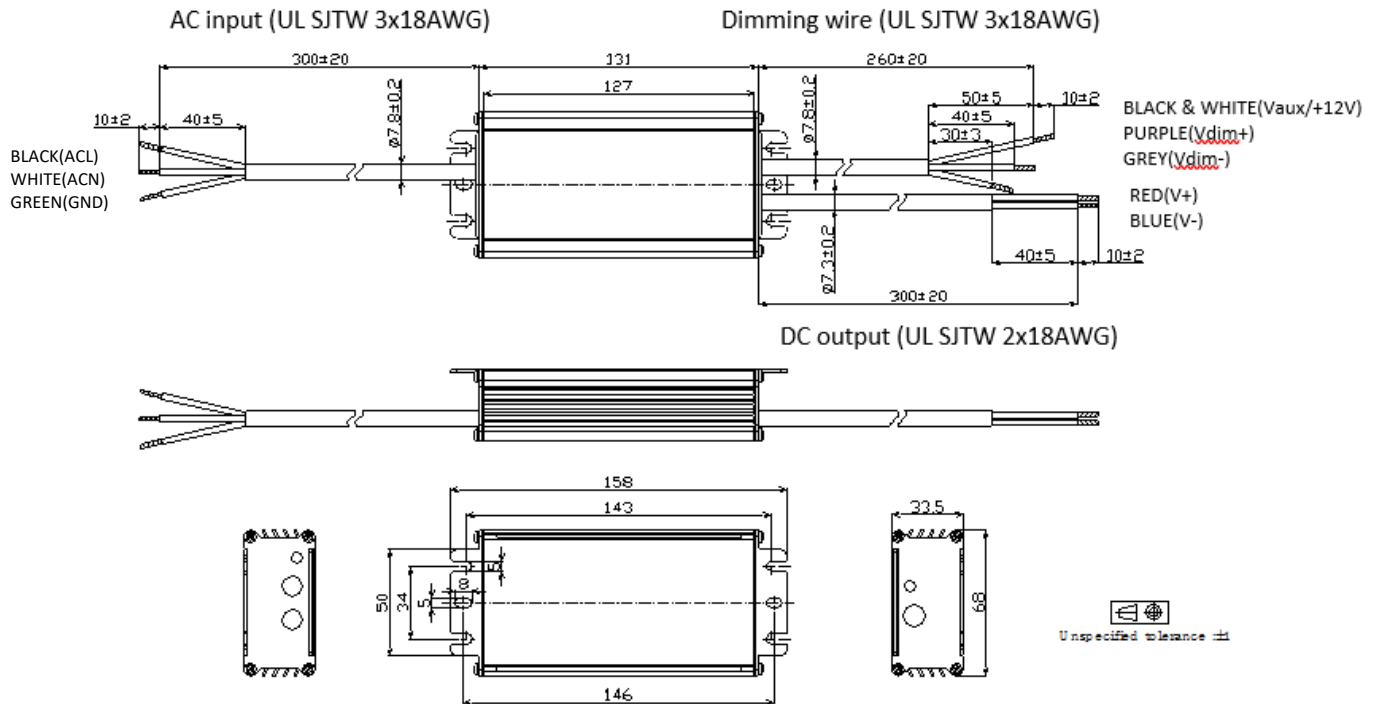
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- **LWA040-Cxxx-DN/DRK (UL Cable)**



- **LWA040-Cxxx-ERK (UL Cable)**

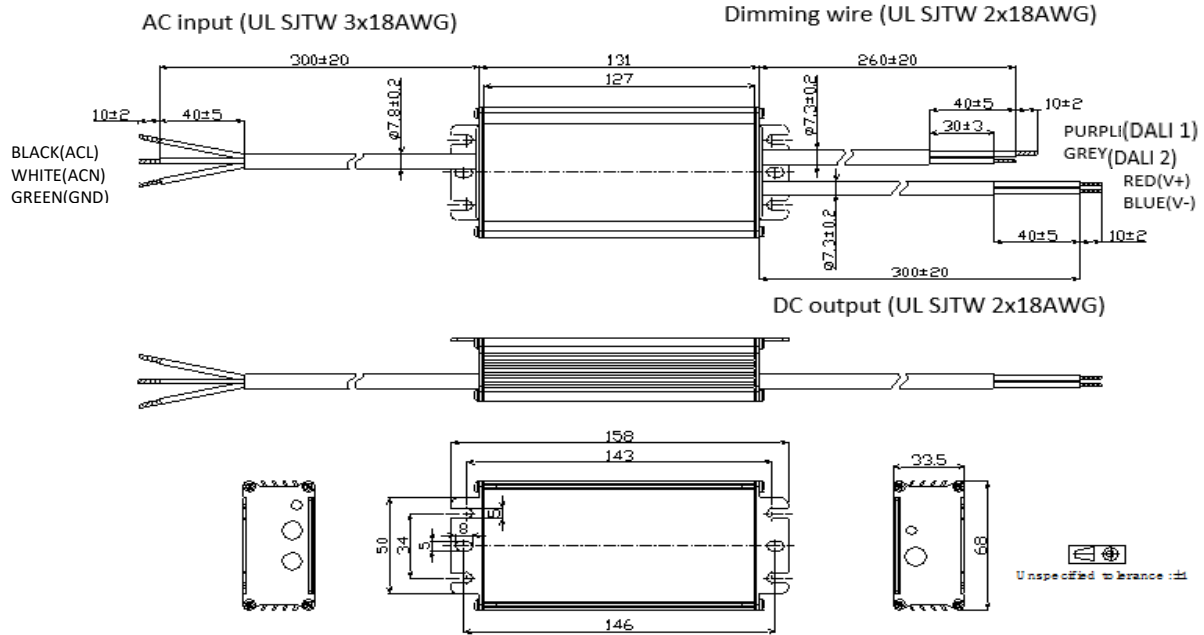


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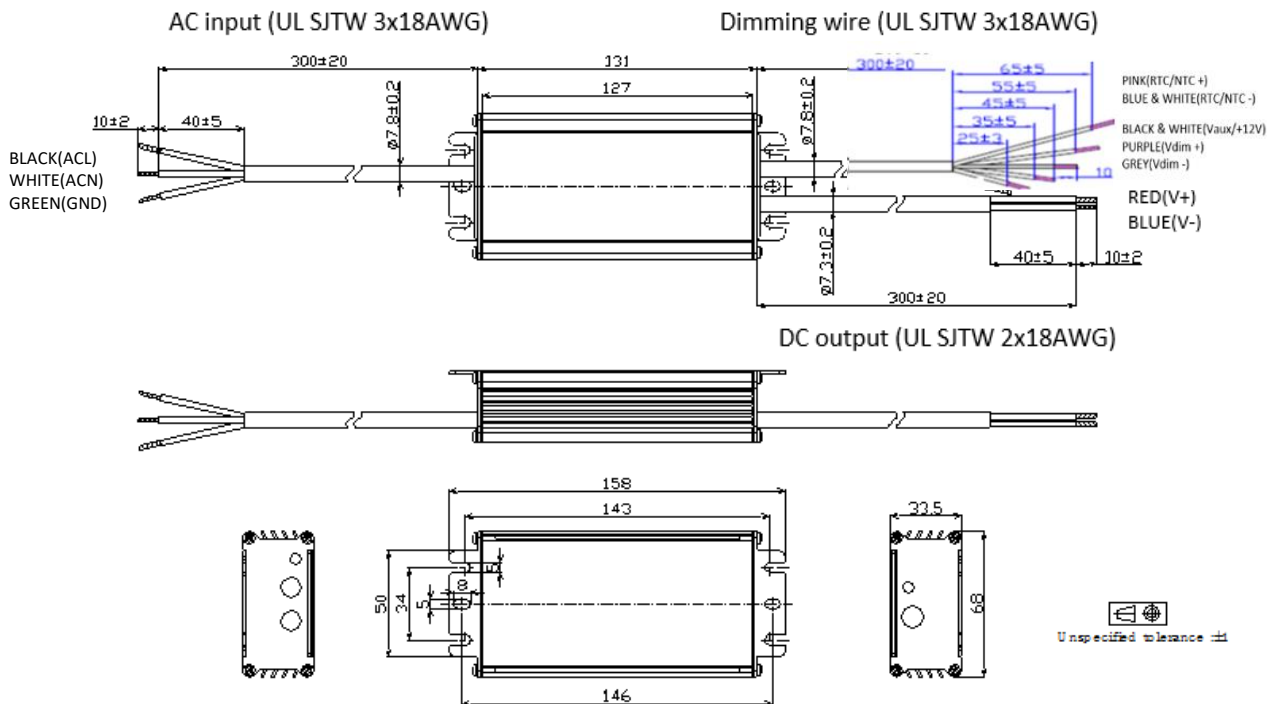
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- LWA040-Cxxx-ANK (UL Cable)



- LHA040-Cxxx-ERK-THR (UL Cable)



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

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March 19, 2020

■ Operation Range

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA040-C070-XYZ	700	40	34	57	70
	650	40	37	62	65
	600	40	40	67	60
	550	40	44	73	55
	500	40	48	80	50
	450	36	48	80	50
	400	32	48	80	50
	350	28	48	80	50

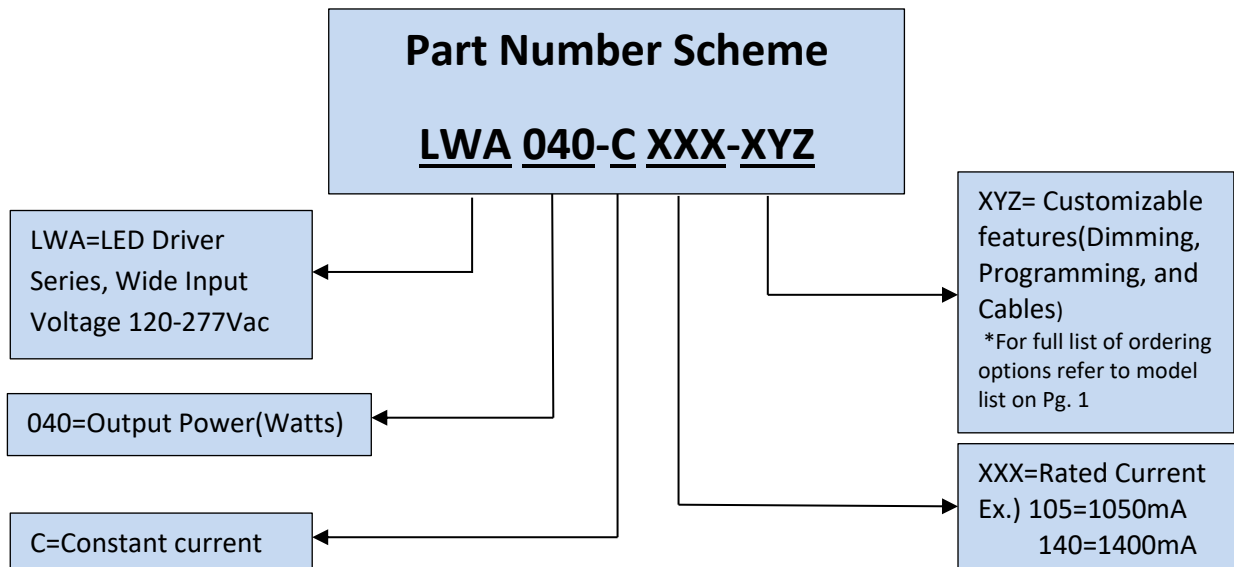
	50	4	48	80	50

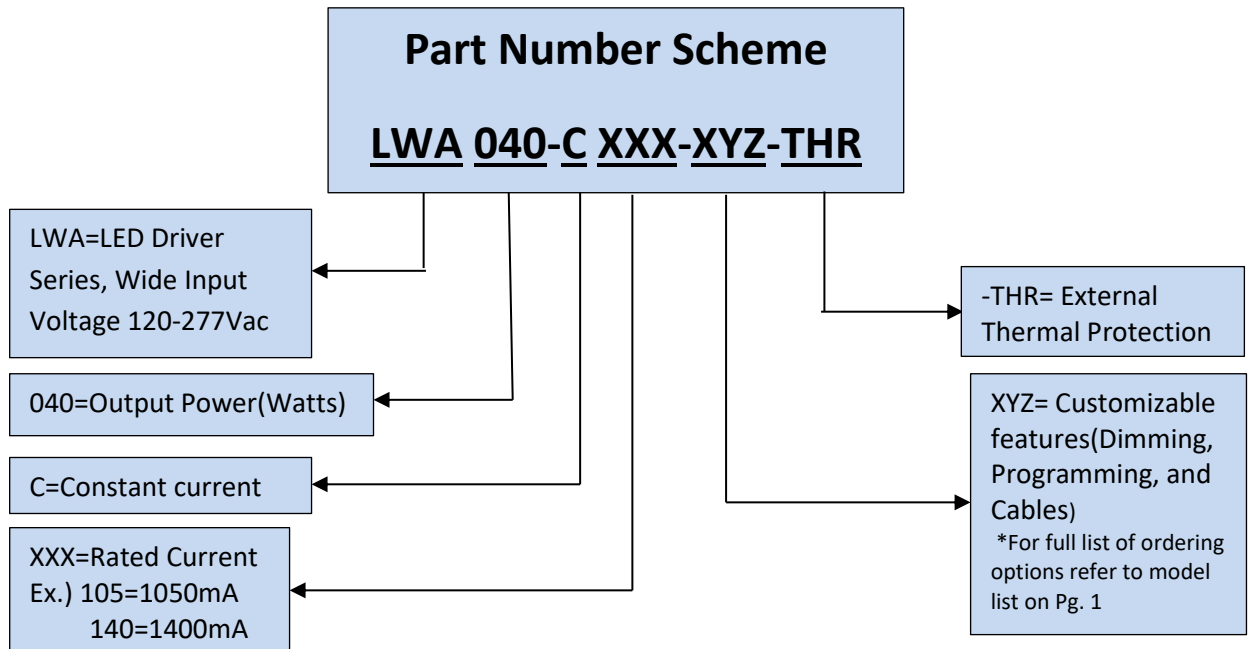
Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA040-C105-XYZ	1050	40	23	38	105
	1000	40	24	40	100
	950	40	25	42	95
	900	40	27	44	90
	850	40	28	47	85
	800	40	30	50	80
	750	40	32	53	75
	700	40	34	57	70
	650	37	34	57	70
	600	34	34	57	70
	550	31	34	57	70
	500	29	34	57	70

	70	4	34	57	70

Model	Typical Set Output Current (mA)	Max Output Power (W)	Output Voltage Min (V)	Output Voltage Max(V)	Minimum Dimming Current (mA)
LWA040-C140-XYZ	1400	40	17	29	140
	1300	40	18	31	130
	1200	40	20	33	120
	1100	40	22	36	110
	1050	40	23	38	105
	1000	38	23	38	105
	950	36	23	38	105
	900	34	23	38	105
	850	32	23	38	105
	800	30	23	38	105
	750	29	23	38	105
	700	27	23	38	105

	105	4	23	38	105





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

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