

55W, 100-277Vac Input, Dimmable Constant Voltage LED Driver

■ Features

- Supply Voltage: 90-305Vac or 127-250Vdc
- 100,000Hour Life @ Tc=75C
- PWM Output Frequency >1kHz
- 7 Year Warranty
- 2% 0-10V/PWM/Time/DALI Dimmable (0.1% Optional)
- Low Inrush Current
- Class II (Optional)
- UL Class P, Class 2
- ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3
61347-2-13, 62384



■ Application

- 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 (TBD)
BSR-055-V024-XYZ	90 ~ 305 Vac	55 W	24Vdc	0	2.3A	UL/FCC/CB/ENEC/CCC
BSR-055-V048-XYZ	90 ~ 305 Vac	55 W	48Vdc	0	1.2A	UL/FCC/CB/ENEC/CCC

XY=	Dimming Method	Programmable	12Vaux	Dim-off Power
NN	-	-	-	-
DN	0-10V	-	-	<1.5W
AN	DALI	-	-	<1.5W

Z: C, Class I input; E, Class II Input

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■ Technical Data

Input Voltage	90~305Vac or 127V-250Vdc
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	0.58 Amax@120Vac & Full-Load, 0.31Amax@220Vac & Full-Load
Inrush Current	2A peak, 1.2ms duration, <0.025A2s@230Vac, Cold Start 4A peak, 1.3ms duration, <0.05A2s@277Vac, Cold Start
Leakage Current	1mA max @277Vac 60Hz, UL8750, 0.75mAmax @220Vac 50Hz, IEC61347-1
Input Under Voltage	Shut down and auto-recovery
Surge Protection	Line to line 2kV, line to ground 4kV, IEC 61000-4-5
Voltage Accuracy	±3%Vo
Ripple Current	Ip-p:5%Vo max
Setup Time	1.2s max
Overshoot	10% Vo, max.
Output Over Voltage	120% Io, 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)	-
Operating Temperature	Case Temperature $T_c = -30^\circ\text{C} \sim +90^\circ\text{C}$; 10%RH~100%RH
Storage Temperature	$-30^\circ\text{C} \sim +85^\circ\text{C}$; 5%RH~100%RH
MTBF	$\geq 350,000$ 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	14.88x1.18x0.82 by inch 378 x 30 x 21 by mm
Net Weight	330g
Packing	56pcs/Cartron/20.5kg, 490x370x210mm

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

* marked items are optional and contact with sales people to get the functions.

■ Safety/EMC Compliance

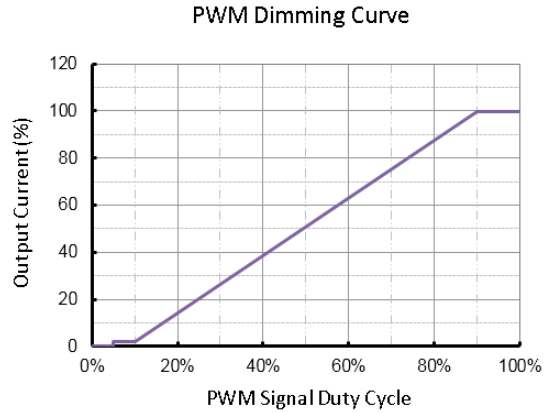
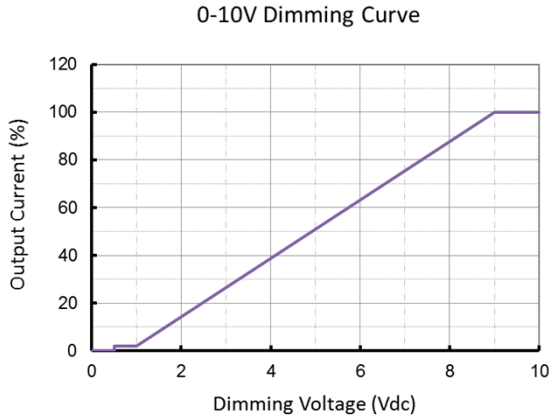
Safety Standard	Description
UL8750	Light emitting diode(LED) equipment for use in lighting products
UL1012/1310	Power units other than class 2 / Class 2 power units
IEC 61347-1	Lamp control gear Part 1: general and safety requirements
IEC 61347-2-13	Lamp control gear Part 2-13: particular requirement for 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

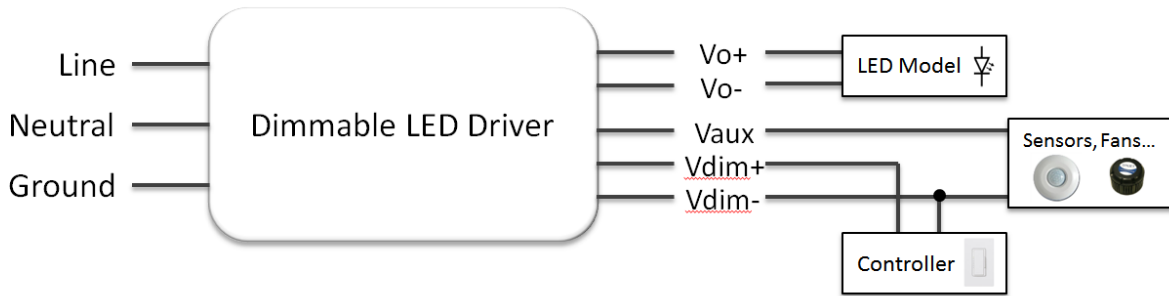
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold	0.4V or 4%	0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	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		
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



Dimming Wiring



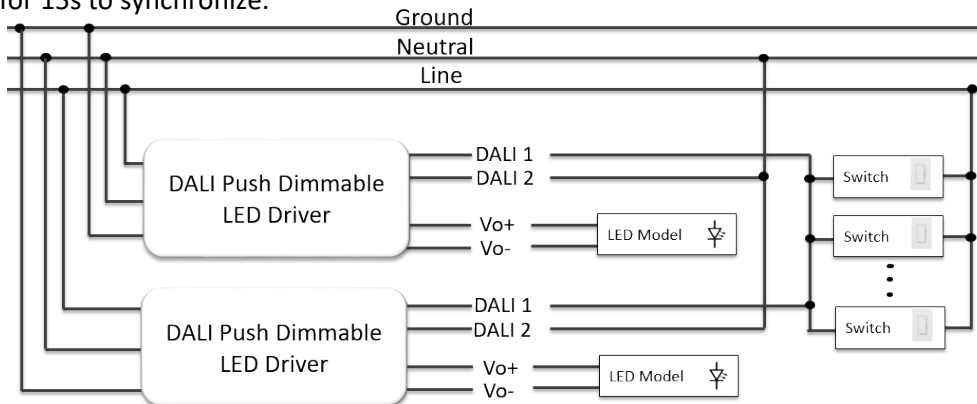
Push (Switch) Dim

A short press (50-600 ms) switches the device on or off

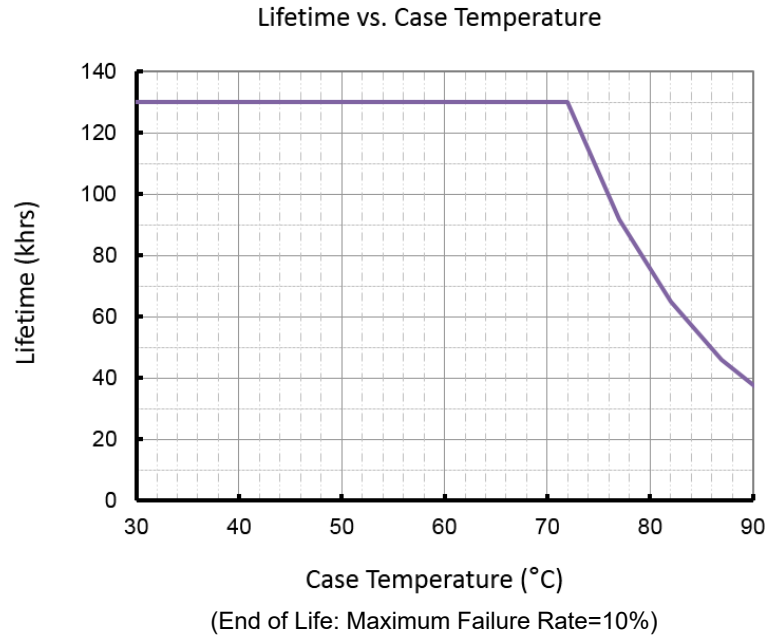
A long press (> 600 ms) fades the connected operating device alternately up and down (between 2 and 100%).

Up and down slew rate is 20%Io/second.

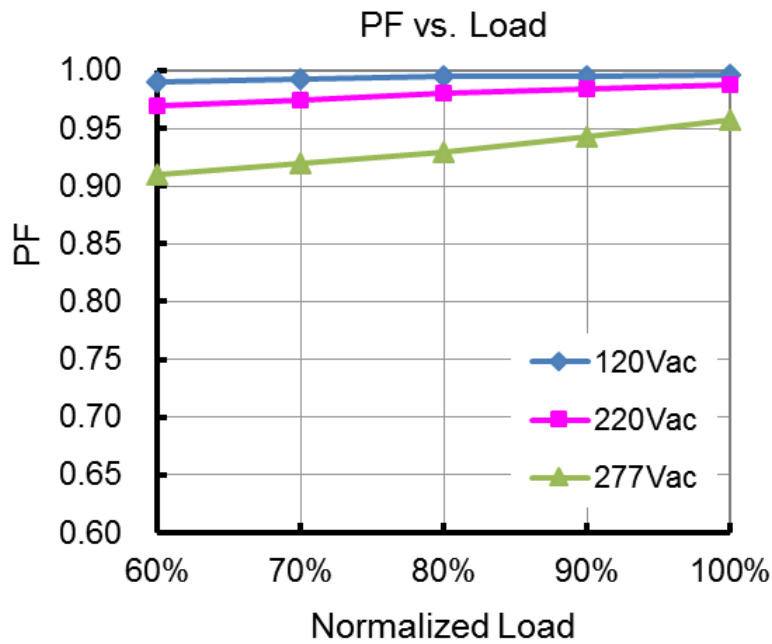
Long push for 15s to synchronize.



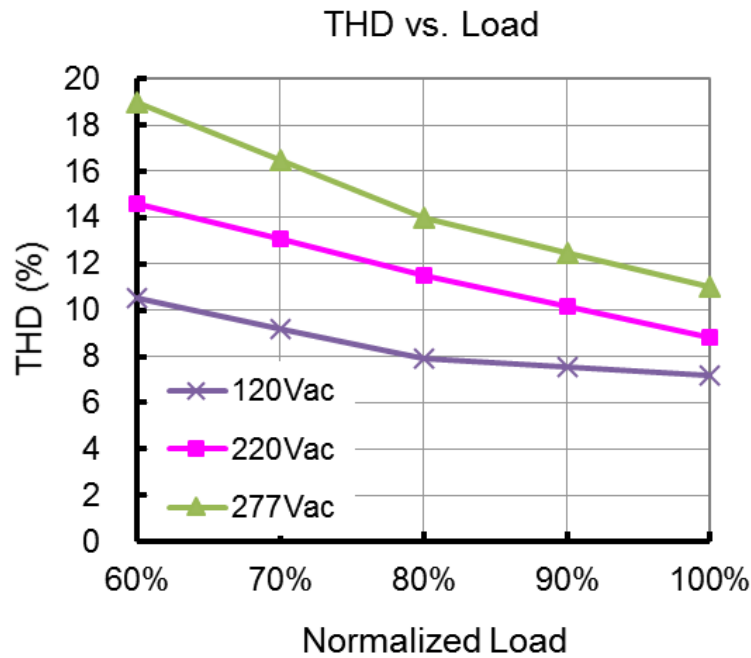
■ **Lifetime vs. Case Temperature**



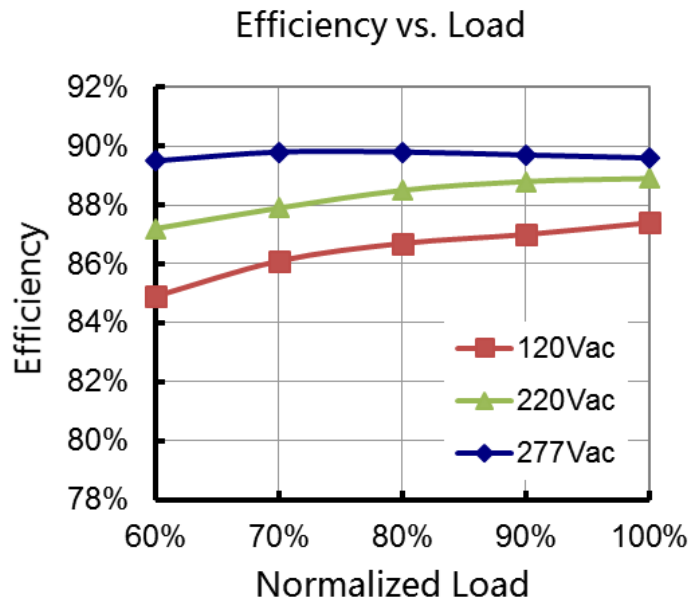
■ **Power Factor vs. Load**



■ THD vs. Load



■ Efficiency vs. Load (24V Model)



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■ Mechanical Design

