

# ALCV100 LED DRIVER SERIES

## DALI DIMMABLE IP67 CONSTANT VOLTAGE LED DRIVER

ALCV100-0xx-67-DALI

### FEATURES

- IP67 rated
- High Efficiency 93%
- Active PFC design
- Universal AC Input Range 90 ~ 305Vac
- Cooling by Free Air Convection (Metal Housing)
- Standby power consumption < 0.5W at 230Vac (for dimming models)
- The output and dimming lines are compliant with the new regulations with isolation
- Protections: OVP / OCP / SCP / OTP

### APPLICATION

- Can be used with LED Strips (aLED KIDEFLEX)
- Indoor or outdoor installations



IP67



SELV

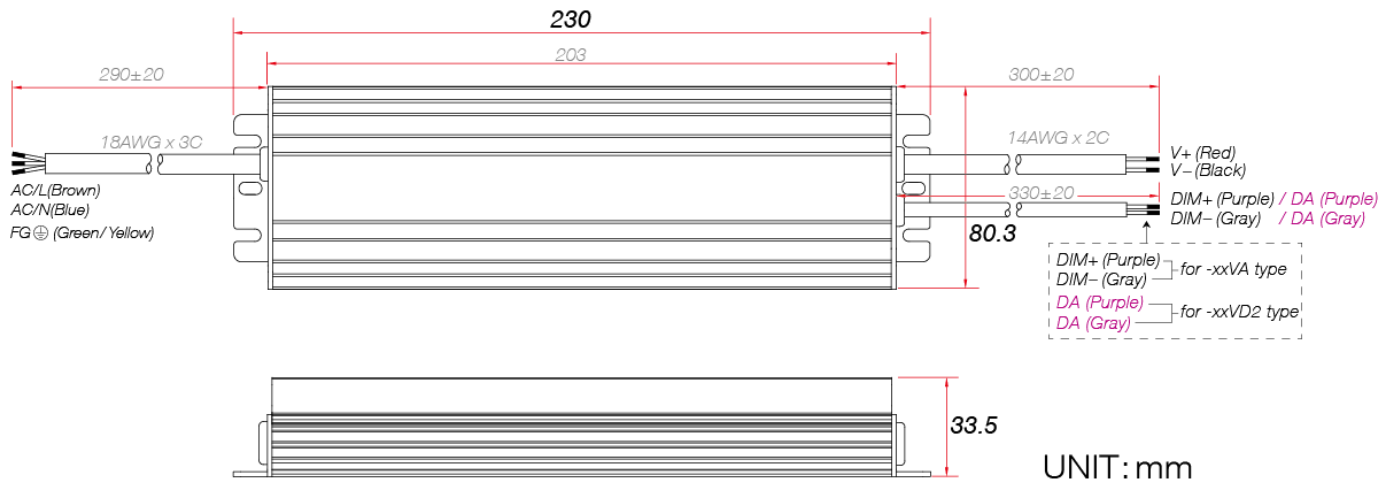
## Technical Data

Product Code		ALCV100-012-67-DALI	ALCV100-024-67-DALI
Output	DC Voltage	12V	24V
	Rated Current	0~8.3A	0~4.2A
	Rated Power	99.6W	100.8W
	Ripple & Noise (Max.) Note.2	300mV	350mV
	Efficiency at 230VAC (Typ.)	93%	93%
	Voltage Tolerance Note.3	± 5%	± 5%
	PWM Dimming (optional)	> 1600 Hz (for dimmable version)	
	Set up time (Max.)	DALI2 version	
Input	Rated Voltage	100 ~ 277VAC	
	Voltage Range	90 ~ 305VAC	
	Frequency Range	47 Hz ~ 63 Hz	
	AC Current (Max.)	1.5A at 115VAC / 0.6A at 230VAC	
	Power Factor	>0.98 at 115VAC / >0.94 at 230VAC at full load. PF ≥ 0.9 at 70% load	
	Total Harmonic Distortion	THD < 15% at 230VAC, full load. Note 4	
	Inrush Current (Typ.)	Cold Start 70A (Td=600us measured at 50% Ipeak) at 230VAC	
	Max. Number of PSUs on Circuit Breaker	B type : 1 unit (10A) / 2 units (16A) / 4 units (25A), C type : 3 units (10A) / 4 units (16A) / 7 units (25A), D type : 9 units (16A) / 15 units (25A) at 230VAC	
	Leakage Current	<1mA / 240VAC	
DIM. Control (DALI)	DALI Standards	Compatibility with IEC 62386-101, 102 and 207	
	DALI bus current consumption	< 2mA	
Protections	Over Current	105~180% rated current. Type: Auto recover after fault condition disappeared.	
	Short Circuit	Type: Hiccup mode & recovers after fault condition disappeared.	
	Over Voltage	13~19V	26~38V
		Type: Hiccup mode (re-power on to recover).	
	Over Temperature	Tcase: 95°C ± 10°C	
		Type: Shutdown mode (re-power on to recover).	
Environment	Operation Temp.	-30°C ~50°C (Refer to output load derating curve).	
	Operation Humidity	20% ~ 90% RH non-condensing.	
	Storage Temp.	-40 ~ +80°C	
	Storage Humidity	10% ~ 90% RH	
	Vibration	10~500 Hz, 2G 10 min./1 cycle, period for 60 min. each along X, Y, Z axes.	

### NOTES

1. All specifications not specially mentioned are measured at 230VAC full load and 25°C ambient temperature.
2. Ripple & Noise are measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with 0.1uf & 47uf parallel capacitor.
3. Voltage Tolerance: includes line regulation, load regulation and set-up tolerance.
4. THD < 25% at 277VAC, full load.

## Dimensions



Lenght	230mm
Width	80.3mm
Height	33.5mm
Weight	840g

### Safety

Safety Standards	EN61347-1, EN61347-2-13, independent, IP67 Approved
Withstand Voltage	I/P-O/P: 3.75KVAC I/P-FG: 1.88KVAC O/P-FG: 0.5KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M ohms / 500VDC at 25°C
EMI Conduction & Radiation	Compliance to EN55015, FCC part 15
Harmonic Current	Compliance to EN61000-3-2 Class C (-75% load), EN61000-3-3
EMS Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547, criteria B

### Others

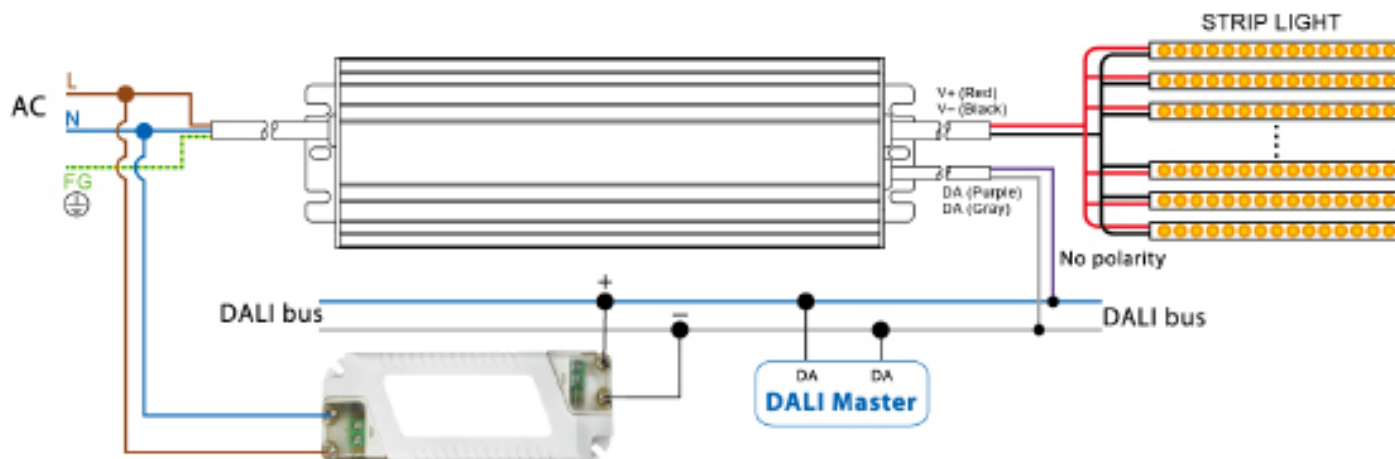
Warranty	5 years
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The figure consists of two graphs. The left graph shows Load (%) on the y-axis (0 to 100) versus Ambient Temperature (°C) on the x-axis (-30 to 70). Two lines represent 115VAC and 230VAC inputs. Both lines show a constant load of 100% until approximately 45°C, after which they decrease linearly. The 230VAC line reaches 60% load at 70°C, while the 115VAC line reaches 60% load at approximately 50°C. The right graph shows Load (%) on the y-axis (20 to 100) versus Input Voltage (VAC) 60Hz on the x-axis (90 to 305). The graph is labeled 'Ta=25°C'. The load is 0% at 90V, rises linearly to 100% at 115V, and then remains constant at 100% for higher input voltages up to 305V. The word 'HORIZONTAL' is written near the constant load region.

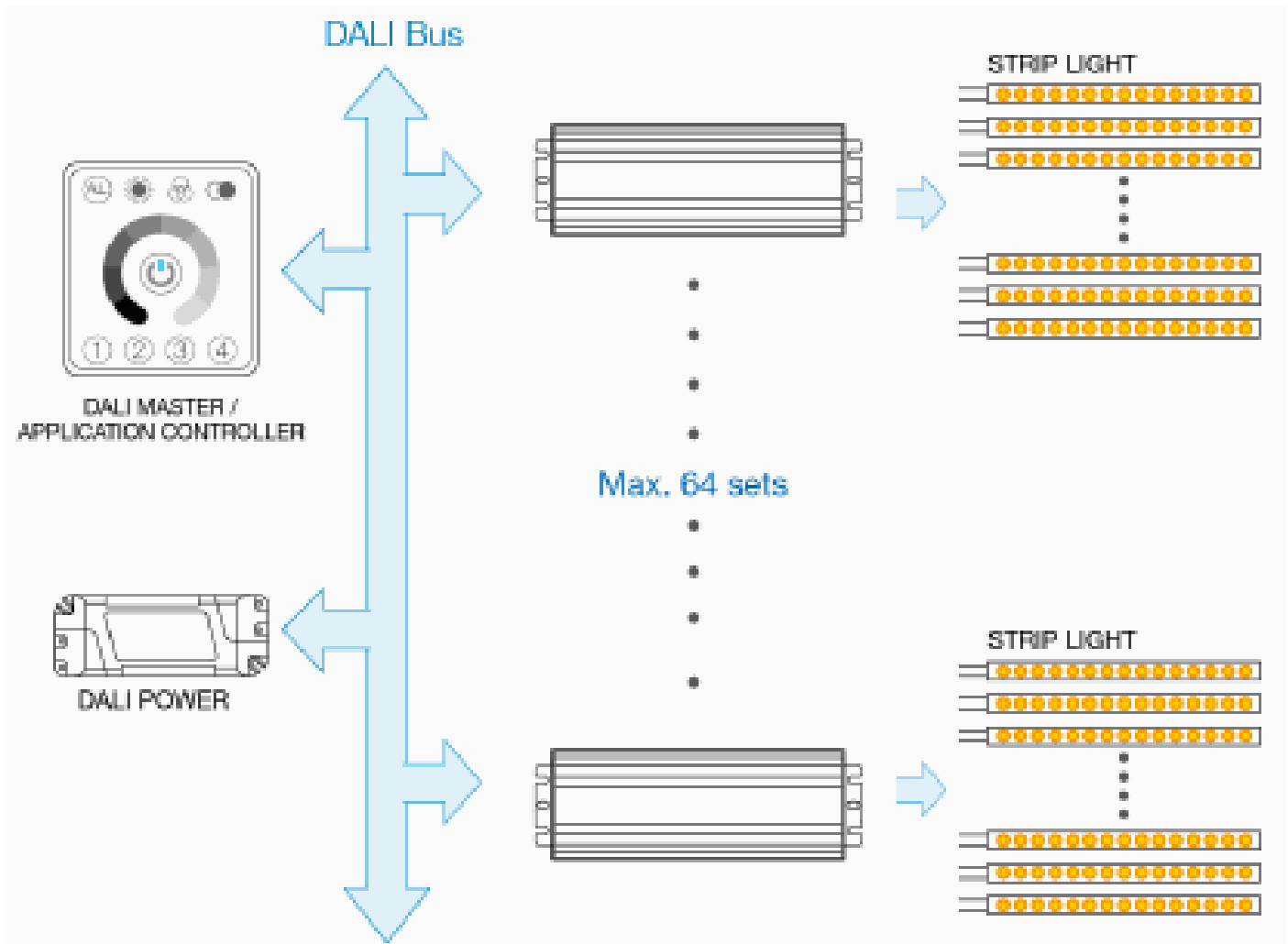
The left graph shows the Output Duty Cycle (%) on the y-axis (0.0% to 110.0%) versus the Input Dimming Signal (V) on the x-axis (0.0V to 11.0V). The duty cycle is 0% for signals from 0.0V to approximately 0.8V (DIM to OFF), then increases linearly to 100% at 10.0V (DIM to ON), and remains at 100% for signals above 10.0V.

The right graph shows the Output Duty Cycle (%) on the y-axis (0.0% to 30.0%) versus the Input Dimming Signal (V) on the x-axis (0.0V to 3.2V). The duty cycle is 0% for signals from 0.0V to approximately 0.6V (DIM to OFF), then increases linearly to 26% at 3.0V (DIM to ON).

1. Apply DALI signal between DA wires
2. First step is fixed at 1% of output
3. Wiring diagram



## Application Diagram



## Electrical Label

<ul style="list-style-type: none"> <li>● AC L (BROWN)</li> <li>● AC N (BLUE)</li> <li>● (GREEN/YELLOW)</li> </ul>		<b>ALCV100-024-67-DALI</b> <b>Constant Voltage</b> <b>Dali 2.0 Dimming Driver</b> PRI: 100-240VAC 1.5A 50-60HZ SEC: 4200mA 24VDC 100.8W	<b>SELV IP67</b> 	V+ (RED) ○ V- (BLACK) ○ SEC ○ DALI DA(PURPLE) DA(GRAY) ○
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tc: 90°C  
 ta: 45°C (100-200VAC)  
 ta: 50°C (200-240VAC, 277VAC)

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