

# ALCV400 LED DRIVER SERIES

## DALI DIMMABLE IP67 CONSTANT VOLTAGE LED DRIVER

ALCV400-0xx-67-DALI

### FEATURES

- IP67 rated
- DALI-2 dimmable
- 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
- 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

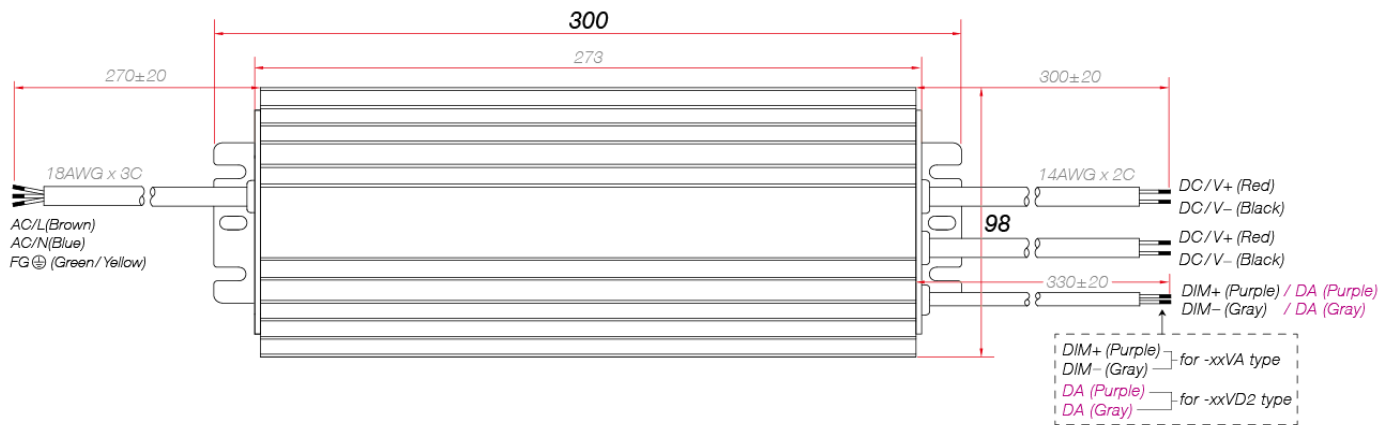
## Technical Data

Product Code		ALCV400-012-67-DALI	ALCV400-024-67-DALI
Output	DC Voltage	12V	24V
	Rated Current	0~26.7A	0~16.7A
	Rated Power	320.4W	400.8W
	Ripple & Noise (Max.) Note.2	300mV	350mV
	Efficiency at 230VAC (Typ.)	92.5%	93%
	Voltage Tolerance Note.3	± 5%	± 5%
	PWM Dimming (optional)	> 1600 Hz (for dimmable version)	
	Set up time (Max.)	0.7s / 230VAC, at full load	
Input	Rated Voltage	100 ~ 277VAC	
	Voltage Range	90 ~ 305VAC	
	Frequency Range	47 Hz ~ 63 Hz	
	AC Current (Max.)	4.5A at 115VAC / 2.3A 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 90A (Td=960us measured at 50% Ipeak) at 230VAC	
	Max. Number of PSUs on Circuit Breaker	B type : 1 unit (10A) / 1 unit (16A) / 2 units (25A), C type : 1 unit (10A) / 3 units (16A) / 4 units (25A), D type : 3 units (10A) / 6 units (16A) / 9 units (25A) at 230VAC	
	Leakage Current	<1mA / 240VAC	
DIM. Control (DALI)	DALI2 Standards	Compatibility with IEC 62386-101, 102, and 207	
	DALI bus current consumption	< 2mA	
Protections	Over Current	105~180% rated current. Type: Hiccup mode (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: Latch off 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



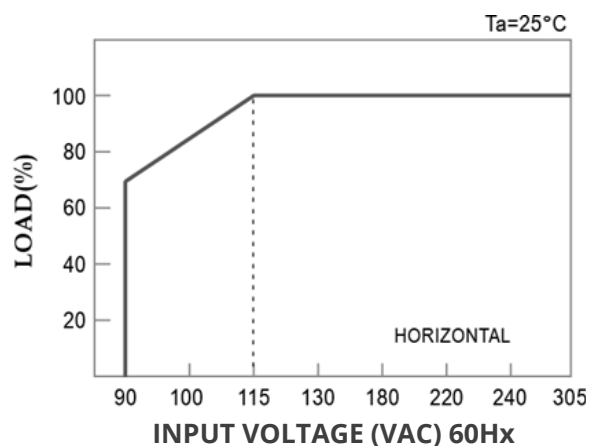
Length	300mm
Width	98mm
Height	38.5mm
Weight	1308g

### 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 ( $\geq 75\%$ load), EN61000-3-3
EMS Immunity	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547, criteria B

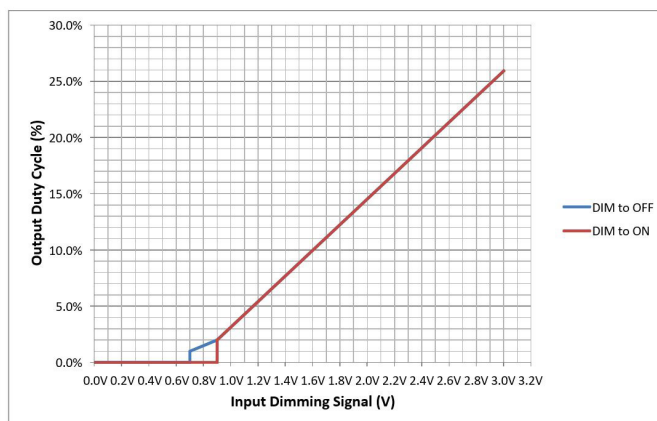
### Others

Warranty	5 years
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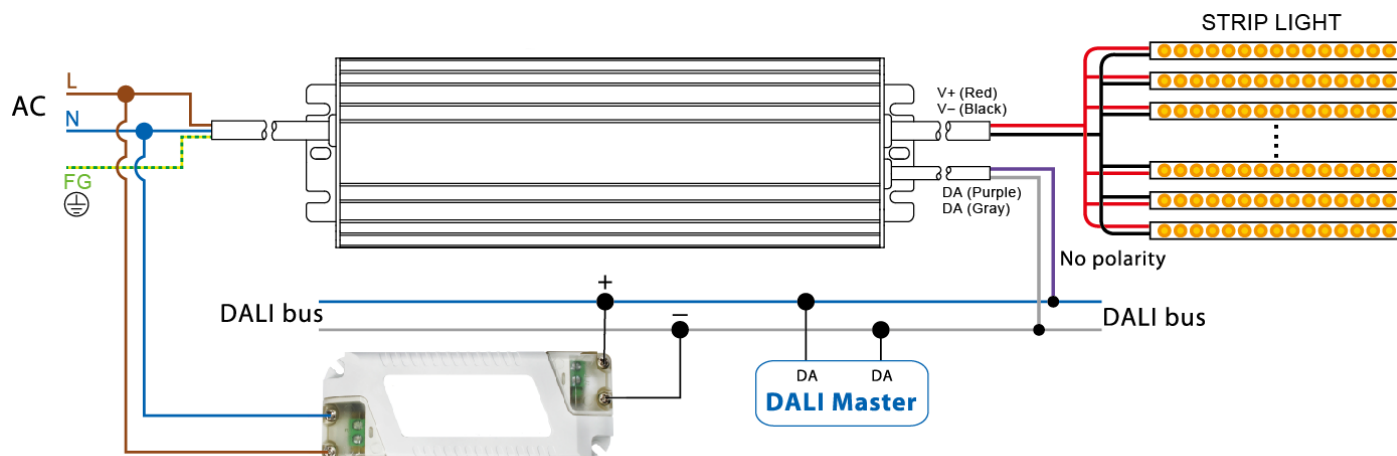
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The graph shows the relationship between the input dimming signal voltage and the output duty cycle for two different dimming modes. The x-axis represents the Input Dimming Signal in Volts (V), ranging from 0.0V to 11.0V. The y-axis represents the Output Duty Cycle in percentage (%), ranging from 0.0% to 110.0%. The 'DIM to OFF' mode (blue line) shows a duty cycle of 0% for signals up to approximately 0.8V, then a linear increase to about 1.5% at 1.0V. The 'DIM to ON' mode (red line) shows a linear increase from 0% at 0.0V to 100% at 9.5V, where it then remains constant at 100% up to 10.0V.

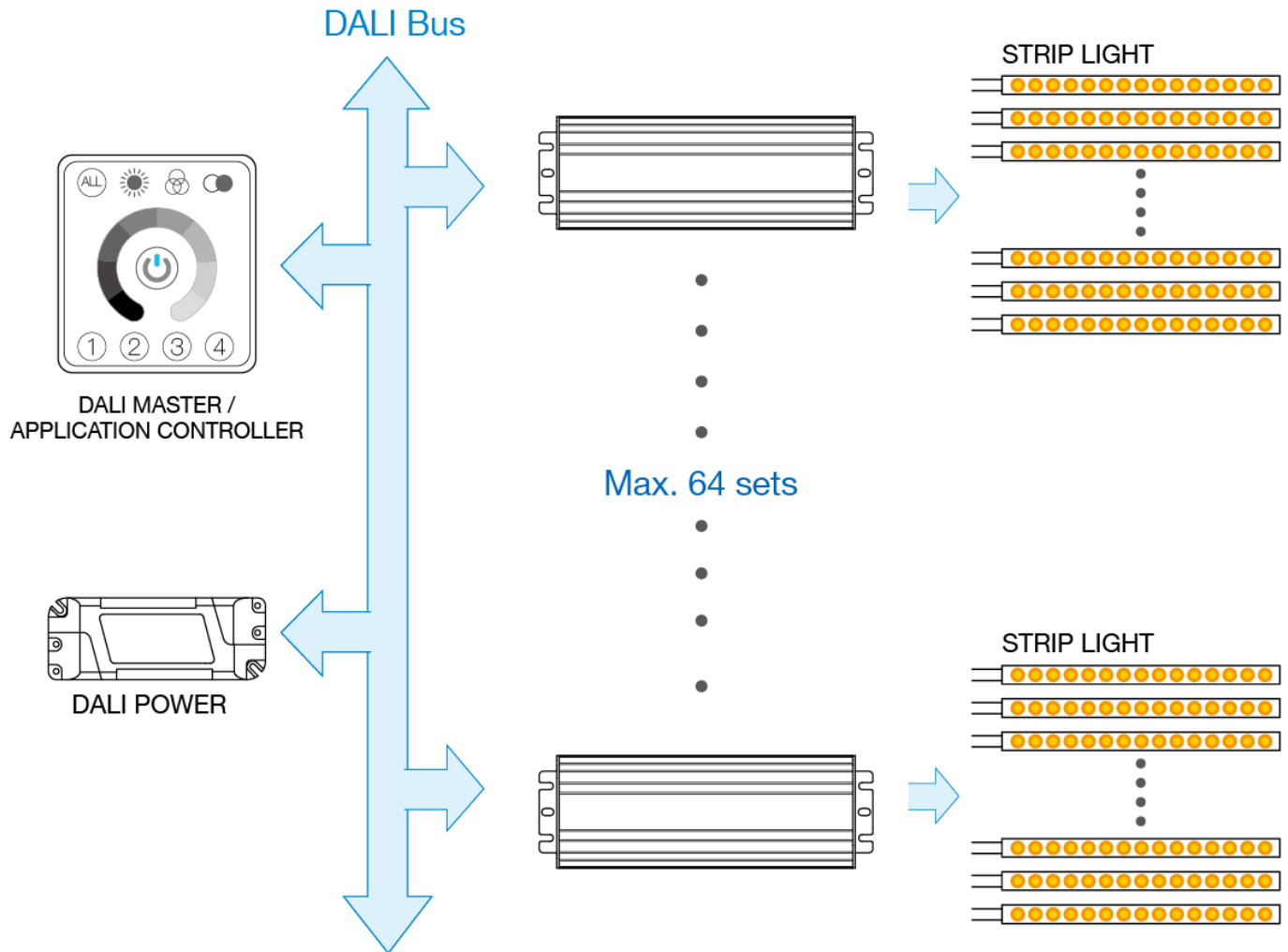
Input Dimming Signal (V)	DIM to OFF (%)	DIM to ON (%)
0.0	0.0	0.0
1.0	1.5	11.1
2.0	3.0	22.2
3.0	4.5	33.3
4.0	6.0	44.4
5.0	7.5	55.6
6.0	9.0	66.7
7.0	10.5	77.8
8.0	12.0	88.9
9.0	13.5	100.0
9.5	14.25	100.0
10.0	15.0	100.0



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>ALCV400-024-67-DALI</b> <b>Constant Voltage</b> <b>DALI-2 Dimming Driver</b> PRI: 100-240VAC 6.3A 50-60HZ SEC: 16700mA 24VDC 400.8W	<b>SELV IP67</b> 	tc: 90°C ta: 45°C (100-200VAC) ta: 50°C (200-240VAC, 277VAC)	V+ (RED) ○ V- (BLACK) ○ SEC ○ DALI DA(PURPLE) ○ DA(GRAY) ○
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ARRANT-LIGHT OY WWW.LIGHT.FI MADE IN CHINA