



# ALD-E SERIES

## 50.4 WATT

### BUCK LED DRIVER with DALI



### Features

- \* LED Driver Current up to 1400mA
- \* Constant Current Output
- \* Digital Address Lighting Interface (DALI)
- \* DALI Dimming Range 1-100%
- \* High Efficiency up to 95%
- \* Continuous Short Circuit Protection
- \* High Reliability
- \* IP65 Protection (note7)



MODEL	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power	Ripple and Noise (max.) note2	Efficiency (TYPICAL) note3
ALD-E035	11 – 50 VDC	8-45 VDC	350 mA	15.75 W	300 mVpp	95%
ALD-E050	11 – 50 VDC	8-45 VDC	500 mA	22.50 W	500 mVpp	95%
ALD-E070	11 – 50 VDC	8-45 VDC	700 mA	31.50 W	500 mVpp	95%
ALD-E100	11 – 50 VDC	8-45 VDC	1050 mA	47.25 W	500 mVpp	95%
ALD-E140	11 – 40 VDC	8-36 VDC	1400 mA	50.4 W	500 mVpp	95%

Note:

1.  $3V < V_{in} - V_{ou} < 20V_{dc}$  to Keep Current Accuracy, Nominal Input Voltage: 36Vdc.
2. Ripple and Noise are Measured at Rated Current, Nominal Input and 33Vdc Output and 20MHz Bandwidth with a 0.1uF Ceramic Capacitor.
3. Measured at Rated Current, Nominal Input and 33Vdc output.
4. Acceptable Customer Modifications.

Installation Drawing



## Specifications

All specifications are Typical at nominal line, full load and 25°C unless otherwise noted

### INPUT SPECIFICATIONS:

Input Voltage ..... 1400mA/other ..... 11-40Vdc/11-50Vdc  
 Input Surge Voltage (1second) ..... 50Vdc max.  
 Input Filter ..... Capacitor  
 Under Voltage Lockout ..... Power Up ..... 8.1Vdc typ.  
 Power Down ..... 6.9Vdc typ.

### OUTPUT SPECIFICATIONS:

Constant Current Accuracy ..... (note1) ..... ±5% max.  
 Current Line Regulation ..... (note2) ..... ±5% typ.  
 Current Load Regulation ..... (note3) ..... ±5% max.  
 Short Circuit Protection ..... Constant Current with Auto Recovery  
 Start up Time ..... 150ms max.

### GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Temperature Coefficient ..... ±0.05%/°C (0~50°C)  
 Isolation Voltage ..... Non-Isolation  
 Switching Frequency ..... 40-700KHz.  
 Operating Ambient Temperature ..... -40 ~ 80°C see Derating Curve  
 Case Temperature ..... 100°C max.  
 Cooling ..... Natural Convection  
 Storage Temperature ..... -55 ~ 125°C  
 Operating Humidity ..... 10%~95%RH non-condensing  
 Operating Altitude ..... Sea Level to 3000m  
 Shock/Vibration ..... MIL-STD-810F  
 MTBF ..... MIL-HDBK-217F/25°C ..... 700Khrs typ.  
 Dimensions ..... Other: 1.60x0.93x0.40 Inches(40.6x23.5x10.1mm)  
 T:2.354x1.339x0.646 Inches(59.80x34.01x16.40mm)  
 Weight ..... PIN/LW/T ..... 20g/23g/30g  
 Case Material ..... Plastic Case

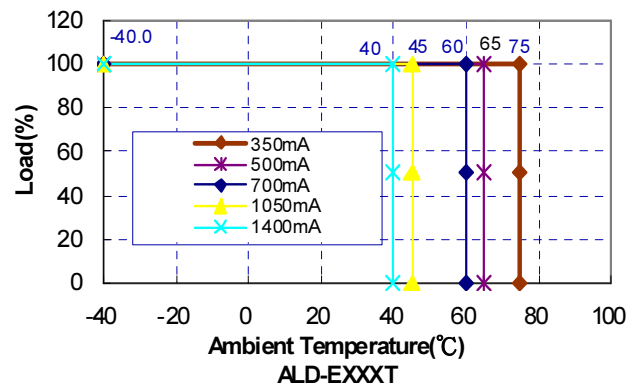
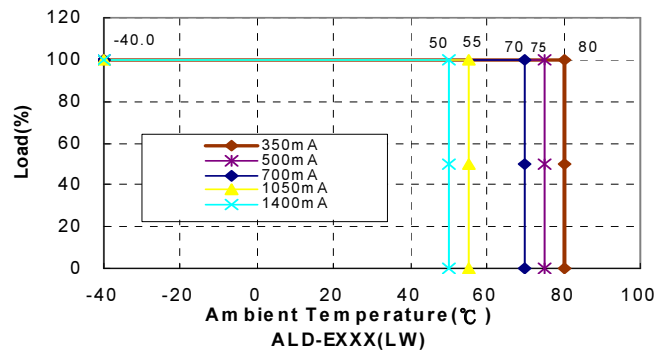
### DALI Control:

Output Current Range ..... (Hybrid Dimming) ..... 1%-100%

### SAFETY AND EMISSIONS:

EMI ..... EN55022/EN55015 Class B  
 EMS ..... EN61547, EN61000-4-2, 3, 4, 5, 6

## ALD Derating Curve

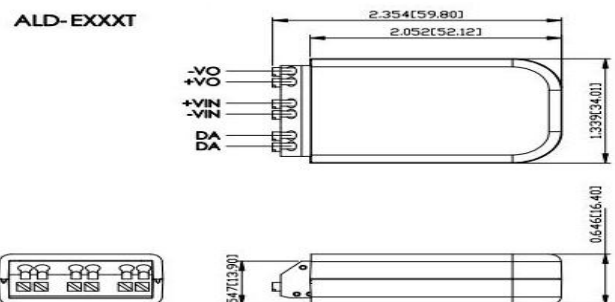
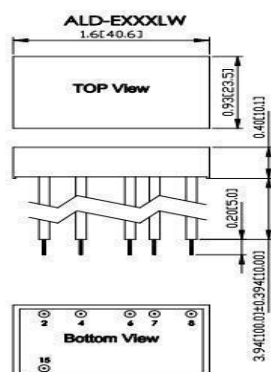
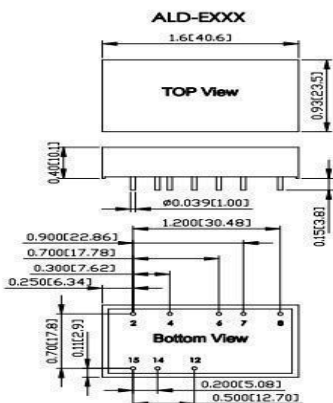


### NOTE:

- 3V < Vin - Vout < 20Vdc to keep current accuracy.
- Current line regulation is measured from high line to low line.
- Current load regulation is measured from high to low operating voltage.
- Suffix "LW" to the model number with wire type.
- Suffix "T" to the model number with terminal type and only meets IP20  
Terminal: WAGO 250-108 or equivalent; wire range: 16~20 AWG.
- Acceptable customer modifications.
- IP65 for model: ALD-EXXX · ALD-EXXXLW.  
IP64 for model: ALD-EXXXT.

## Mechanical Specification

NOTE: Pin Size is 0.039" Inch (1.00mm) DIA±0.05  
 All Dimensions in Inches[mm]  
 Tolerance Inches: x.xx=±0.02, x.xxx=±0.010  
 Millimeters: x.x=±0.5, x.xx=±0.25



ALD CONNECTION		
ALD-EXXX	ALD-EXXXLW	Function
2	2 (Red)	+V Input
4	4 (Yellow)	+V Output
6	6 (Blue)	-V Output
7	7 (Brown)	DA
8	8 (Brown)	DA
12	NC	Analogue Dimming
14	NC	PWM DIM
15	15 (Black)	-V Input