



# MLD SERIES MULTI-CHANNEL BUCK DC LED DRIVER with DALI



## Features

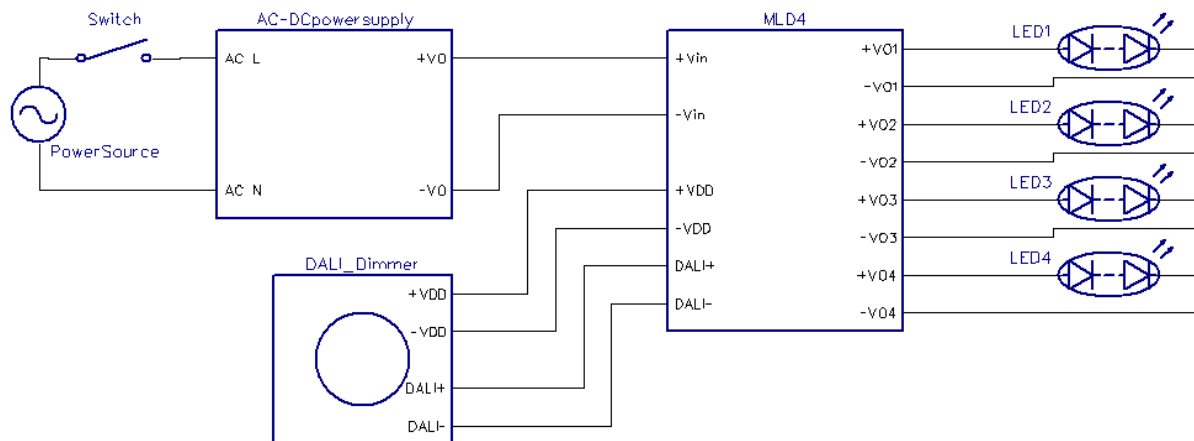
- \* Wide Input Range
- \* LED Driver Current up to 1400mA
- \* Compatible to the DALI Standard
- \* Provides Multi-channel of LED Lighting Synchronization Controls
- \* Constant Current Dimming Control (PWM mode)
- \* Option Auxiliary power



MODEL	Input Voltage Range	Output Operating Voltage	Output Rated Current	Output Rated Power/Channel I	Ripple and Noise (max.) Note2	Efficiency (TYPICAL) Note3
MLD4-C070	4.5-60Vdc	2-57VDC x4	700mA x4	40W	500mVpp	95%
MLD4-C100	4.5-60Vdc	2-57VDC x4	1000mA x4	57W	500mVpp	95%
MLD4-C140	10-36Vdc	8-33VDC x4	1400mA x4	46.2W	500mVpp	95%
MLD6-C070	4.5-60Vdc	2-57VDC x6	700mA x6	40W	500mVpp	95%
MLD6-C100	4.5-60Vdc	2-57VDC x6	1000mA x6	57W	500mVpp	95%
MLD6-C140	10-36Vdc	8-33VDC x6	1400mA x6	46.2W	500mVpp	95%

- Note:
1. Nominal Input Voltage: 48Vdc, 28Vdc( C140 models)
  2. Ripple and Noise are measured at rated current, Nominal Input and 36Vdc or 24Vdc (C140 models) output and 20MHz bandwidth with a 0.1uF ceramic capacitor.
  3. Measured at rated current, Nominal Input and 36Vdc or 24Vdc(C140 models) output.
  4. Acceptable customer modifications.

Example Circuit Connection of MLD4 module for driving 4 LED Luminaries



## Specifications

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

### INPUT SPECIFICATIONS:

Input Voltage ..... see table  
 Input Surge Voltage (1second) ..... 1.4A/Others ..... 50V/65Vdc max.  
 Input Filter ..... Capacitor  
 Under Voltage Lockout .. Power up ... 1.4A/Others ... 8.0Vdc/4.0Vdc typ.  
 Power down .... 1.4A/Others ..... 6.9Vdc/3.7Vdc typ.

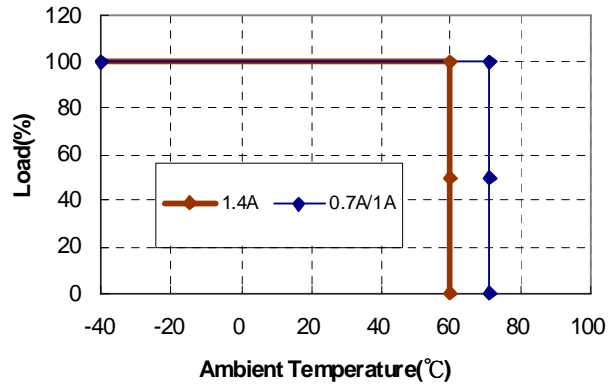
### OUTPUT SPECIFICATIONS:

Constant Current Accuracy .... (note1) ..... ±5% max.  
 Current Line Regulation ..... (note 2) ..... ±5% max.  
 Current Load Regulation ..... (note 3) ..... ±5% max.  
 Auxiliary power ..... (40Vdc>Vin>21Vdc) ..... 18Vdc/300mA  
 Short Circuit Protection ..... Constant Current with Auto Recovery  
 Start up time ..... 1.4A/Others ..... 400ms/10ms max.

### GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Temperature Coefficient ..... ±0.05%/°C  
 Isolation voltage ..... Non-isolation  
 Switching Frequency ..... 1.4A/Others ..... 50-500KHz/300KHz typ.  
 Operating Ambient Temperature ..... -40 ~ 71°C see De-rating Curve  
 Cooling ..... Natural Convection  
 Storage Temperature..... -55 ~ 105°C  
 Operating Humidity ..... 10%~95%RH non-condensing  
 Operating Altitude ..... Sea Level to 3000m  
 Vibration ..... 0~500Hz, 2G 60min./1cycle, period for 3hours, 3 axes  
 Shock ..... 30g peak, half sine, 6 axes  
 MTBF, MIL-HDBK-217F (25°C) ..... TBD  
 Dimensions ..... 5.05x2.30x0.80 Inches(128.3x58.4x20.3 mm)  
 Weight ..... MLD4/MLD6 ..... 145/160g  
 Case Material ..... Aluminum Case

## MLD4/6 Derating Curve



### DALI Control:

Output Current Range ..... 10%-100%

### SAFETY AND EMISSIONS:

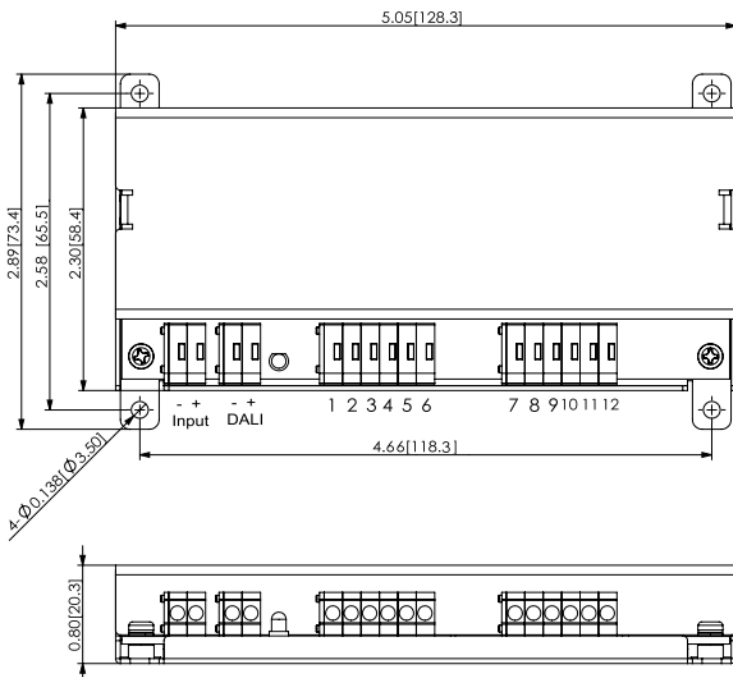
EMI Meet ..... EN55015 Class B  
 EMS Meet ..... EN61547, EN61000-4-2,3,4,6,8

### NOTE:

- 3V < Vin-Vout < 30Vdc. 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 "A" to the model number with Aux. power for MLD4 only.

### Mechanical Specification

All Dimensions are in inches[mm]  
 Tolerances : Inches : x.xx=±0.02,x.xxx=±0.010  
 Millimeters : x.x=±0.5,x.xx=±0.25



PIN CONNECTION			
Pin	MLD4-CXXX	MLD4-CXXXA	MLD6-CXXX
1	V <sub>1-</sub>	V <sub>1-</sub>	V <sub>1-</sub>
2	V <sub>1+</sub>	V <sub>1+</sub>	V <sub>1+</sub>
3	V <sub>2-</sub>	V <sub>2-</sub>	V <sub>2-</sub>
4	V <sub>2+</sub>	V <sub>2+</sub>	V <sub>2+</sub>
5	NC	NC	V <sub>3-</sub>
6	NC	NC	V <sub>3+</sub>
7	NC	AUX.-	V <sub>4-</sub>
8	NC	AUX.+	V <sub>4+</sub>
9	V <sub>3-</sub>	V <sub>3-</sub>	V <sub>5-</sub>
10	V <sub>3+</sub>	V <sub>3+</sub>	V <sub>5+</sub>
11	V <sub>4-</sub>	V <sub>4-</sub>	V <sub>6-</sub>
12	V <sub>4+</sub>	V <sub>4+</sub>	V <sub>6+</sub>