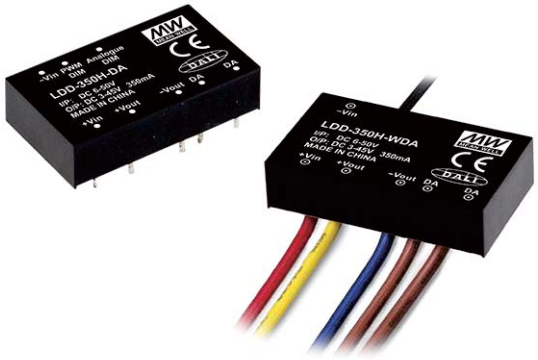
DC-DC Constant Current Step-Down LED driver with DALI LDD-H-DA series



Features :

- DC/DC step-down converter
- Constant current output: 350mA to 1400mA
- Wide input voltage: 6 ~ 50VDC
  Wide output LED string voltage: 3 ~ 45VDC
- High efficiency up to 95%
- Built-in EMI filter, comply with EN55015 without additional input filter and capacitors
- DALI dimming function input under voltage lockout
- Built-in PWM and remote ON/OFF control(pin style only, wire style optional)
- Protections: Short circuit
- Cooling by free air convection
- Fully encapsulated with IP65 level
- Compact size
- Suitable for driving illumination LED
- 3 years warranty

LDD-350H-□ DA Blank : pin style
W : wire style

SPECIFICATION

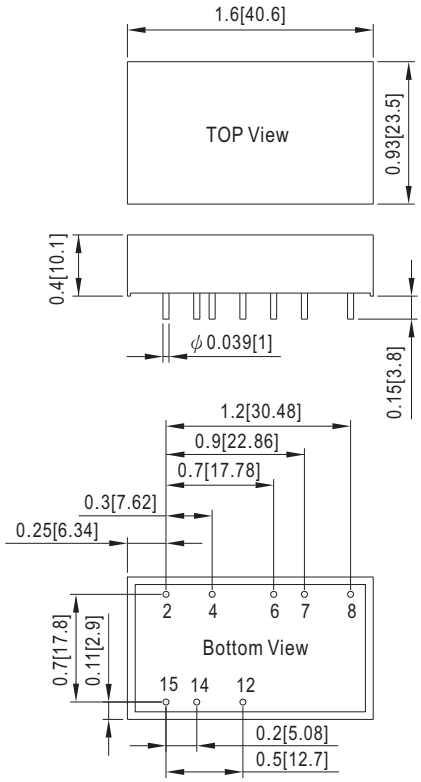
ORDER NO.			LDD-350H-□DA	LDD-700H-□DA	LDD-1050H-□DA	LDD-1400H-□DA
OUTPUT	CURRENT RANGE		350mA	700mA	1050mA	1400mA
	VOLTAGE RANGE Note.4		3 ~ 45VDC			3 ~ 36VDC
	CURRENT ACCURACY (Typ.)		±5% at 48VDC input			±5% at 28VDC input
	RIPPLE & NOISE(max.) Note.2		300mVp-p	500mVp-p	500mVp-p	500mVp-p
	SWITCHING FREQENCY (Typ.)		500KHz			
	EXTERNAL CAPACITANCE LOAD (max.)		1400uF			
INPUT	VOLTAGE RANGE		6 ~ 50VDC			6 ~ 40VDC
	EFFICIENCY (max.)		95% at full load and 48VDC input			
	DC CURRENT	Full load Note.3	275mA	550mA	825mA	1280mA
		No load	5mA			
	FILTER		Capacitor			
PWM DIMMING & ON/OFF CONTROL (PIN STYLE ONLY)	REMOTE ON/OFF		Leave open if not use			
			Power ON with dimming: DIM ~ -Vin >1.2 ~ 5VDC or open circuit, max. operation voltage 5.5VDC			
			Power OFF : DIM ~ -Vin < 0.1VDC or short			
	PWM FREQUENCY		200 ~ 1KHz			
	QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)		1mA at PWM dimming OFF and 24VDC input			
ANALOG DIMMING & ON/OFF CONTROL (PIN STYLE ONLY)	REMOTE ON/OFF		Leave open if not use			
			Power ON with dimming: Analog DIM ~ -Vin >0.1 ~ 2.5VDC or open circuit, max. operation voltage 5.5VDC			
			Power OFF : Analog DIM ~ -Vin <0.1VDC or short			
PROTECTION	SHORT CIRCUIT		Regulated at rated output current			
			Protection type: Can be continued, recovers automatically after fault condition is removed			
	INPUT VOLTAGE LOCKOUT	Start up	4.2VDC			
		Shut-down	3.8VDC			
ENVIRONMENT	WORKING TEMP.		-40 ~ + 85℃ (Refer to derating curve)			
	WORKING HUMIDITY		20% ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY		-55 ~ +125℃, 10 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT		±0.03% / ℃			
	VIBRATION		10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes			
	OPERATING CASE TEMP. (max.)		100℃			
EMC	EMC EMISSION		Compliance to EN55015			
	EMC IMMUNITY		Compliance to EN61547, EN61000-4-2,3,4,6,8, light industry level, criteria A			
OTHERS	MTBF		1.6Mhrs min. MIL-HDBK-217F (25℃)			
	DIMENSION		40.6*23.5*10.1mm or 1.6"*0.93"*0.40" inch (L*W*H)			
	WEIGHT		LDD-H-DA:18g ; LDD-H-WDA:23g			
	POTTING MATERIAL		Expoxy(UL94-V0)			

NOTE

1.All parameters are specified at normal input(48VDC), rated load, 25℃ 70% RH ambient.
2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf capacitor.
3.Test condition: 48VDC input for 350~1050mA, 28VDC input for 1400mA.
4.Output voltage will always step down by 3 volts from input DC voltage.
5.The output of LDD-H should not be connected to the input of the same unit or output from other sources.

■ Mechanical Specification

◎ **Pin style(LDD– 350H~1400H – DA):**

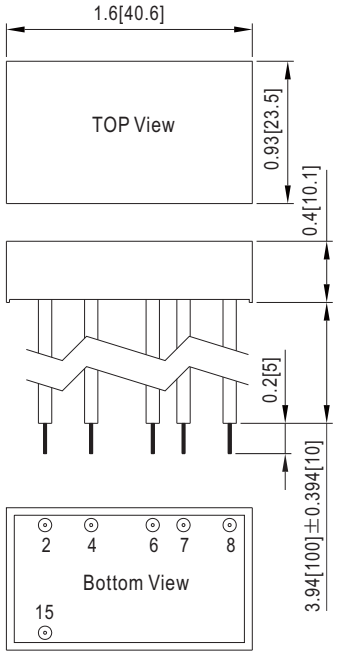


NOTE: Pin tolerance ±0.05mm

■ Pin Configuration

Pin No.		Comment
2	+Vin	DC supply
4	+Vout	LED+ connection
6	-Vout	LED- connection
7	DA	Connect to DALI Controller
8	DA	
12	Analogue DIM	Analogue Dimming
14	PWM DIM	PWM Dimming
15	-Vin	DC supply, Don't connect to -Vout

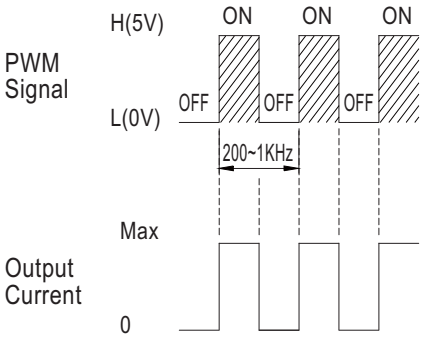
◎**Wire style(LDD – 350H~1400H-WDA):**



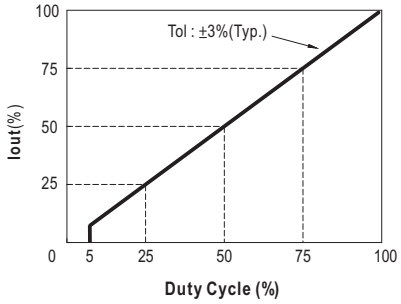
NOTE: Wire range is 16~24AWG

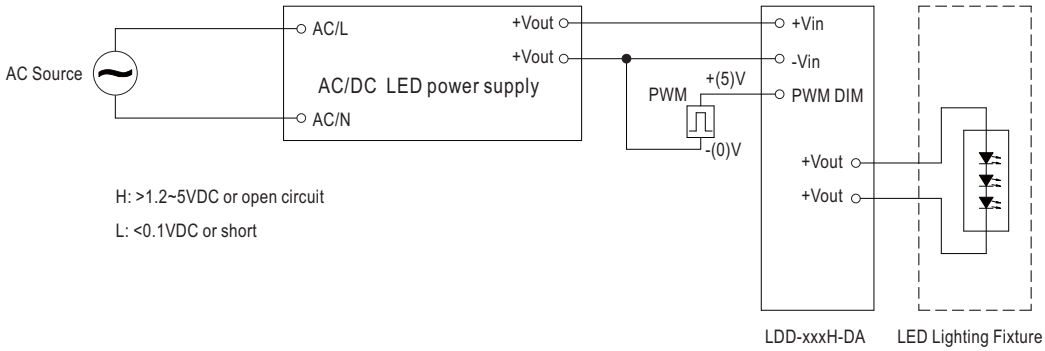
Pin No.		Comment
2	+Vin (Red)	DC supply
4	+Vout (Yellow)	LED+ connection
6	-Vout (Blue)	LED- connection
7	DA (Brown)	Connect to DALI Controller
8	DA (Brown)	
15	-Vin (Black)	DC supply, Don't connect to -Vout

■ PWM Dimming Control & Diagram(pin style only, wire style optional)



◎ During PWM dimming operation, the output current will change to PWM style.

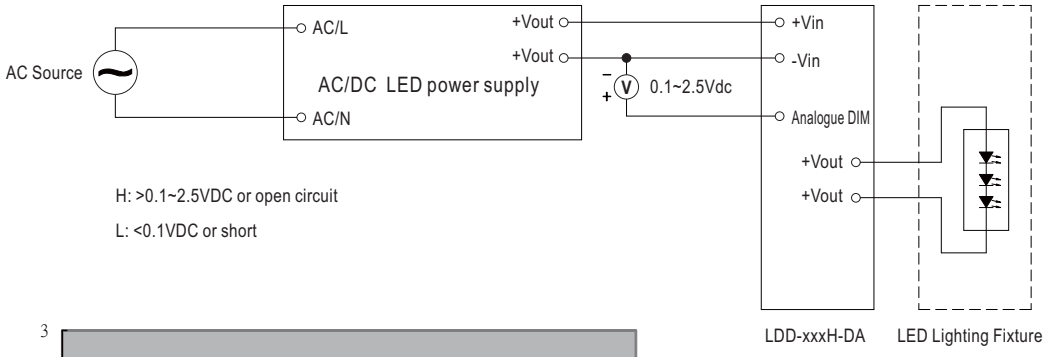




H: >1.2~5VDC or open circuit

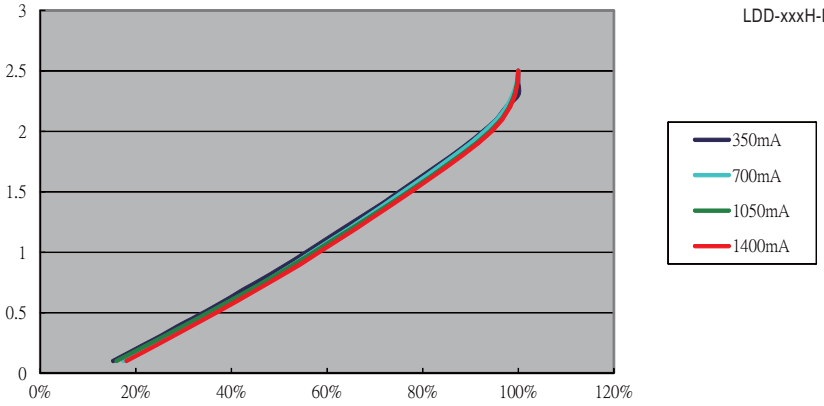
L: <0.1VDC or short

■ Analogue Dimming Control & Diagram(pin style only, wire style optional)



H: >0.1~2.5VDC or open circuit

L: <0.1VDC or short



■ Efficiency VS Output Voltage(Number of LEDs)

Fig-1 12VDC input, 1~3 LEDs(Vf=3V)

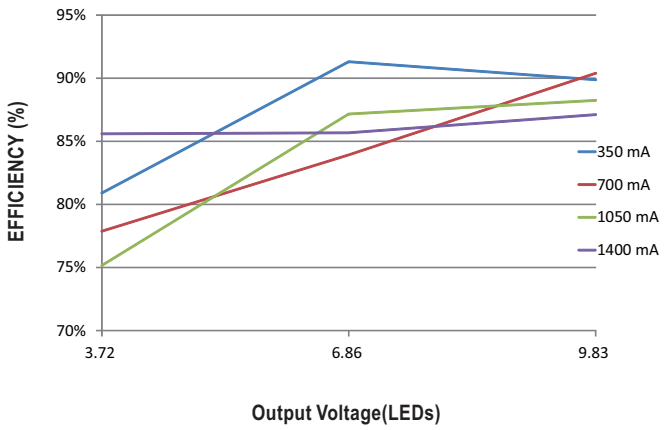


Fig-2 24VDC input, 1~7 LEDs(Vf=3V)

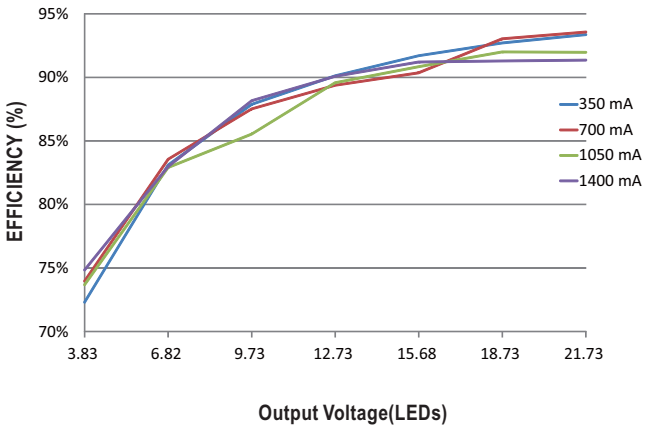


Fig-3 36VDC input, 1~11 LEDs(Vf=3V)

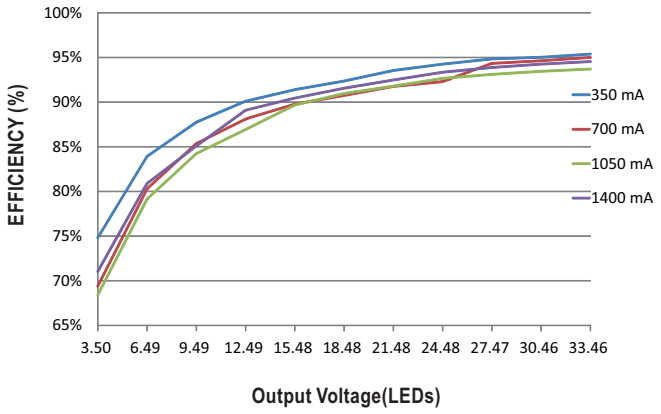
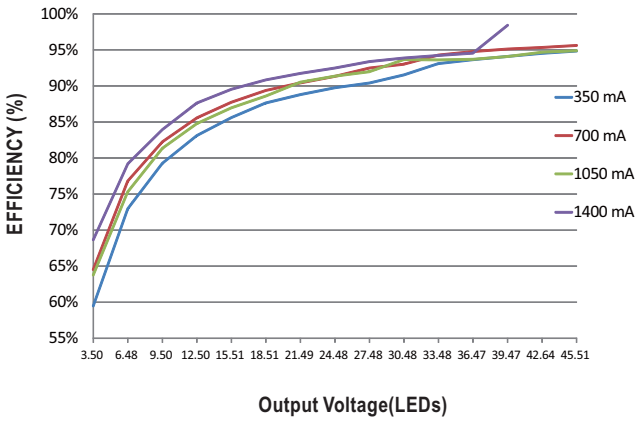


Fig-4 48VDC input, 1~15 LEDs(Vf=3V)



■ Derating Curve

