

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
- 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

EHICE DALL

LDD-350H-W DA Blank: pin style

W: wire style

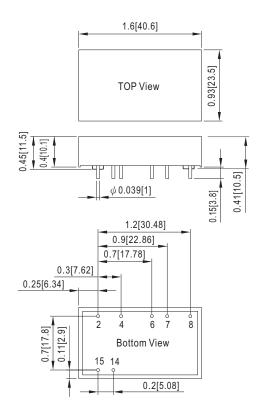
SPECIFICATION

ORDER NO.		LDD-350H- DA	LDD-700H- DA	LDD-1050H - DA	LDD-1400H - DA		
	CURRENT RANGE		350mA	700mA	1050mA	1400mA	
OUTPUT	VOLTAGE RAN	GE 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				
	VOLTAGE RANGE		6 ~ 50VDC 6 ~ 40VDC				
INPUT	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			Leave open if not use				
	REMOTE ON/O	FF	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		200Hz only				
CONTROL (PIN STYLE ONLY)	QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)		1mA at PWM dimming OFF and 24VDC input				
	,		Regulated at rated output current				
	SHORT CIRCUI	I	Protection type: Can be continued, recovers automatically after fault condition is removed				
PROTECTION	INPUT VOLTAGE	Start up	4.2VDC				
	LOCKOUT	Shut-down	3.8VDC				
ENVIRONMENT	WORKING TEMP.		-40 ~ + 85°C (Refer to derating curve)				
	WORKING HUMIDITY		20% ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-55 ∼ +125 $^{\circ}$ C , 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT		±0.03% / °C				
	VIBRATION		10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes				
	OPERATING CASE TEMP. (max.)						
SAFETY STANDAR		DARDS	EAC TP TC 004 approved				
EMC	EMC EMISSION		Compliance to EN55015, EAC TP TC 020				
	EMC IMMUNITY		Compliance to EN61547, EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020				
OTHERS	MTBF		1000Khrs min. MIL-HDBK-217F (25°C)				
	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°C 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. ** Product Liability Disclaimer: For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						
						File Name: I DD-H-DA-SPEC 2020-10-	



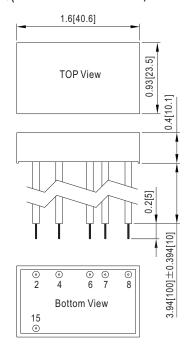
■ Mechanical Specification

Pin style(LDD- 350H~1400H - DA):



NOTE: Pin tolerance ±0.05mm

○Wire style(LDD - 350H~1400H-WDA):



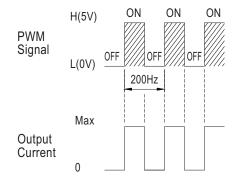
NOTE: Wire range is 16~24AWG

■ Pin Configuration

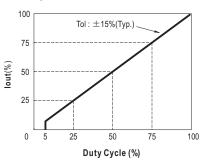
Pi	n No.	Comment	
2	+Vin	DC supply	
4	+Vout	LED+ connection	
6	-Vout	LED- connection	
7	DA	Connect to DALI	
8	DA	Controller	
14	PWM DIM	PWM Dimming	
15	-Vin	DC supply, Don't connect to -Vout	

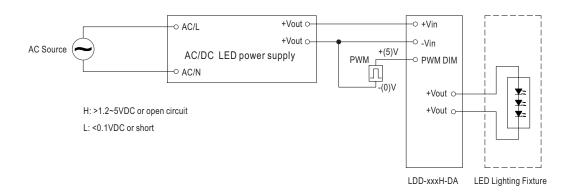
Pi	n No.	Comment	
2	+Vin (Red)	DC supply	
4	+Vout (Yellow)	LED+ connection	
6	-Vout (Blue)	LED- connection	
7	DA (Brown)	Connect to DALI	
8	DA (Brown)	Controller	
15	-Vin (Black)	DC supply, Don't connect to -Vout	

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



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







■ Efficiency VS Output Voltage(Number of LEDs) Fig-1 12VDC input, 1~3 LEDs(Vf=3V) 24VDC input, 1~7 LEDs(Vf=3V) Fig-2 95% 95% 90% 90% -350 mA **EFFICIENCY (%) EFFICIENCY (%)** -700 mA 85% 350 mA _1050 mA —1400 mA —700 mA 80% 80% --1050 mA —1400 mA 75% 70% 70% 3.72 6.86 9.83 6.82 12.73 15.68 18.73 21.73 3.83 Output Voltage(LEDs) Output Voltage(LEDs) Fig-3 36VDC input, 1~11 LEDs(Vf=3V) Fig-4 48VDC input, 1~15 LEDs(Vf=3V) 100% 100% 95% 95% 90% __ -350 mA **EFFICIENCY (%) EFFICIENCY (%)** 90% 85% ____700 mA —700 mA 85% 80% —1050 mA 75% 80% =1400 mA —1400 mA 70% 75% 65% 70% 60% 9.49 12.49 15.48 18.48 21.48 24.48 27.47 30.46 33.46 3.50 6.48 9.50 12.50 15.51 18.51 21.49 24.48 27.48 30.48 33.48 36.47 39.47 42.64 45.51 Output Voltage(LEDs) Output Voltage(LEDs) ■ Derating Curve 100 80°C for 350~700mA LOAD (%) 50 60°C for 1050/1400mA 25 -40 25 50 65 80 100 Ta (°C)