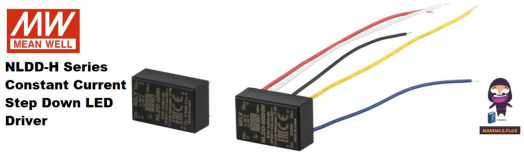
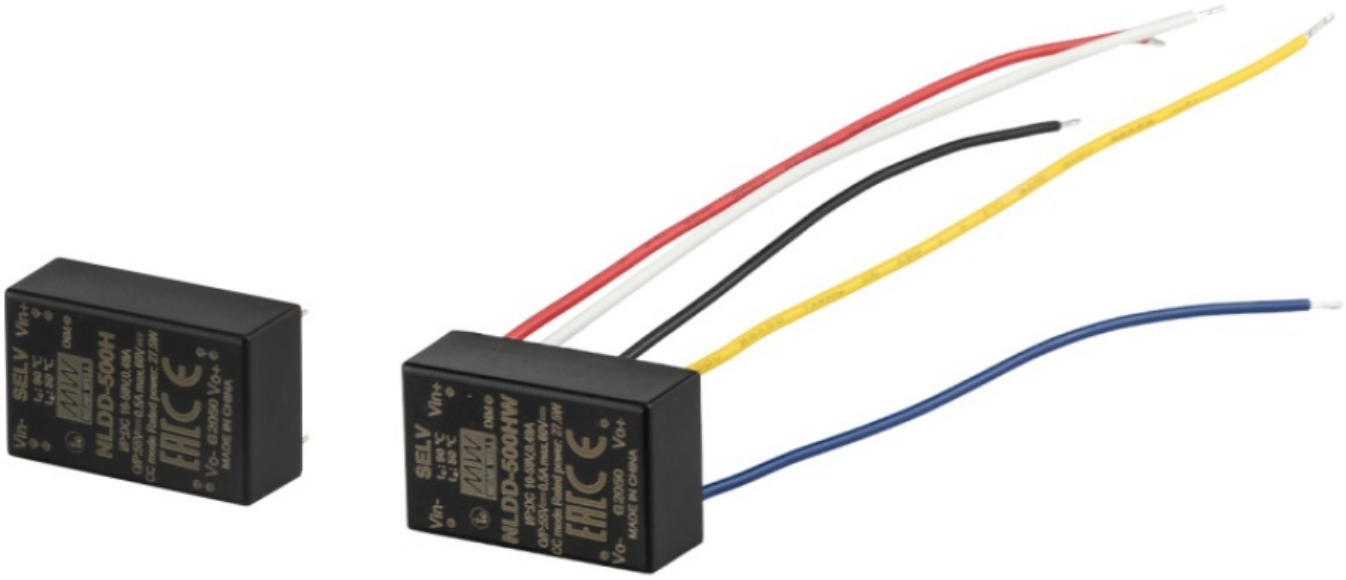


MEAN WELL NLDD-H Series Constant Current Step Down LED Driver Owner's Manual

Contents

MEAN WELL NLDD-H Series Constant Current Step Down LED Driver



Specifications:

- **Model:** NLDD-H series
- **Current Range:** 350mA, 500mA, 700mA, 1050mA, 1200mA, 1400mA
- **Voltage Range:** 6 ~ 52VDC
- **Output Ripple & Noise:** 150mVp-p
- **Switching Frequency:** 200KHz
- **Input Voltage Range:** 10 ~ 56VDC (59VDC Max.)
- **Efficiency:** 96% at full load and 36VDC/48VDC input
- **PWM Dimming & ON/OFF Control:** Yes
- **Quiescent Input Current in Shutdown Mode:** 2mA at PWM dimming OFF at 48VDC input
- **Working Temperature:** -40 ~ +50°C
- **Working Humidity:** 20% ~ 90% RH non-condensing
- **Safety Standards:** LVD BS EN/EN61347-1, BS EN/EN61347-2-13; IEC61347 and EAC TP TC 004 approved
- **EMC Emission:** Compliance to BS EN/EN55015, BS0 EN/EN61547
- **EMC Immunity:** Compliance to BS EN/EN61000-4-2,3,4,6,8, light industry level, EAC TP TC 020
- **DIMENSION WEIGHT:** 32.1*20.5*12.5mm or 1.26*0.8*0.49 inch (L*W*H)
- **POTTING MATERIAL:** Expoxy(UL94-V0)

Product Usage Instructions

Installation:

1. Ensure the input voltage is within the specified range.
2. Connect the LED load to the output terminals of the driver.
3. Securely mount the driver in a well-ventilated area to prevent overheating.

Dimming Control:

To dim the LEDs connected to the driver, apply a PWM signal within the frequency range of 100 ~ 1KHz to the DIM pin according to the provided PWM dimming specifications.

Safety Precautions:

- Avoid short-circuiting the output terminals.
- Do not exceed the maximum temperature and humidity limits during operation.
- Refer to the safety standards for proper compliance and installation.

Frequently Asked Questions (FAQ):

- Q: Can I connect multiple LED loads to a single NLDD-H driver?
  A: It is recommended to avoid connecting multiple LED loads to a single driver to prevent overloading and ensure optimal0 performance.
- Q: How do I troubleshoot if the driver does not power on?
  A: Check the input voltage, and connections, and ensure that the DIM pin is receiving the correct signal for power-on operation. If issues persist, refer to the warranty statement or contact customer support.

Features

- DC/DC step-down converter
- Constant current output: 350mA to 1400mA
- Wide input voltage: 10 ~ 56VDC(59VDC Max.)
- Wide output LED forward voltage: 6 ~ 52VDC
- High efficiency up to 96%
- Comply with BS EN/EN61347 and BS EN/EN55015 regulation
- Built-in PWM and remote ON/OFF control
- Protections: Short circuit / Over temperature
- Cooling by free air convection
- Fully encapsulated and compact site
- Suitable for driving illumination LED
- 3 years warranty

Description

NLDD-H series is a 60W DC/DC LED drive featuring constant current output. NLDD-H operates from 10~56VDC and offers models with different rated currents ranging between 350mA and 1400mA. With the high efficiency up to 96%, The 94V-0 flame retardant plastic case the fully-potted silicone to enhance the heat dissipation allows this series to fit for class III or DC bus lighting applications.

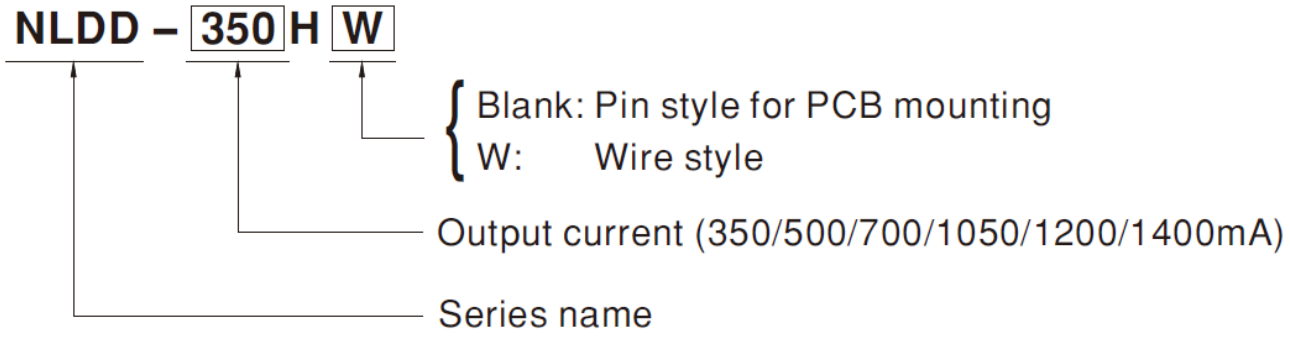
Applications

- DC battery source lighting
- Portable lighting
- Commercial lighting
- DC 48V Track lighting

- DC 24V landscape lighting
- For < I class III application(SELV)

GTIN CODE
MW Search: **https://www.meanwell.com/serviceGTIN.aspx**

Model Encoding



SPECIFICATION

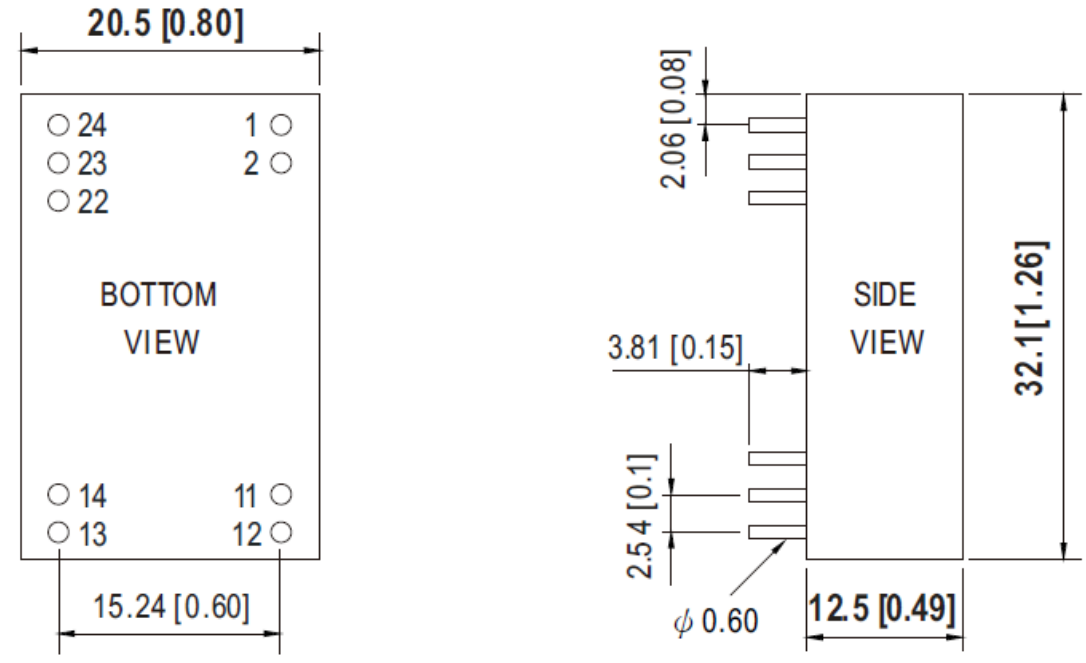
ORDER NO.			NLDD-350H	NLDD-500H	NLDD-700H	NLDD-1050H	NLDD-1200H	NLDD-1400H
OUTPUT	CURRENT RANGE		350mA	500mA	700mA	1050mA	1200mA	1400mA
	VOLTAGE RANGE Note.4		6 ~ 52VDC				6 ~ 46VDC	
	CURRENT ACCURACY (Typ.)		±5% at 48VDC input					
	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	200mVp-p	350mVp-p	350mVp-p	350mVp-p
	SWITCHING FREQENCY		200KHz					
INPUT	VOLTAGE RANGE		10 ~ 56VDC (59VDC Max.)					
	EFFICIENCY (max.)		96% at full load and 36VDC/48VDC input				95% at full load and 36V DC/48VDC input	
	DC CURRENT	Full load Note.3	350mA	490mA	700mA	1100mA	1200mA	1360mA
		No load	5mA					
	REMOTE ON/OF		Leave open if not use					
			Power ON with dimming: DIM ~ -Vin >2.5 ~ 5VDC or open circuit					

PWM DIMMING & ON/OFF CONTROL	**F**	Power OFF : DIM ~ -Vin < 0.8VDC or short
	PWM FREQUENCY	100 ~ 1KHz
	QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(max.)	2mA at PWM dimming OFF at 48VDC input
PROTECTION	**SHORT CIRCUIT**	Regulated at rated current
		Protection type: Can be continued, recovers automatically after fault condition is removed
	OVER TEMPERATURE	Tj 165℃ typically(IC1) detect on main control IC
		Protection type : Shut down, recovers automatically after temperature goes down
ENVIRONMENT	**WORKING TEMP.**	-40 ~ + 50℃(Refer to derating curve)
	WORKING HUMIDITY	20% ~ 90% RH non-condensing
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH
	TEMP. COEFFICIENT	±0.03% / ℃
	VIBRATION	10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes
	OPERATING CASE TEMP. (max.)	90℃
	SOLDERING TEMPERATURE	Wave soldering: 265℃,5s (max.); Manual soldering: 390℃,3s (max.)
EMC	**SAFETY STANDARDS**	LVD BS EN/EN61347-1, BS EN/EN61347-2-13;IEC61347 and EAC TP TC 004 approved
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN61547
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,6,8, light industry level, EAC TP TC 020
OTHERS	**MTBF**	29984.3K hrs min. Telcordia SR-332 (Bellcore) 2881.6Khrs min. MIL-HDBK-217F (25℃)
	DIMENSION	32.1*20.5*12.5mm or 1.26″*0.8″*0.49″ inch (L*W*H)
	WEIGHT	NLDD-H:15.6g ; NLDD-HW:18g (Please refer to Page 6 for packing)
	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 0.1μf capacitor. 3.Test condition: 48VDC input. 4. Output voltage will always step down by 4 volts from input DC voltage. 5. The output of NLDD-H should not be connected to the input of the same unit or output from other so urces. 6. The power supply is regarded as a part of the components in the system, and the final EMI test need s to be tested with the final device. If an additional EMI filter circuit is required to meet the electromagnetic compatibility requirements, please refer to the EMC test report for details. (as available on **https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)** 7. Please refer to the warranty statement on MEAN WELL's website at **http://www.meanwell.com** ※ Product Liability Disclaimer For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**

Mechanical Specification

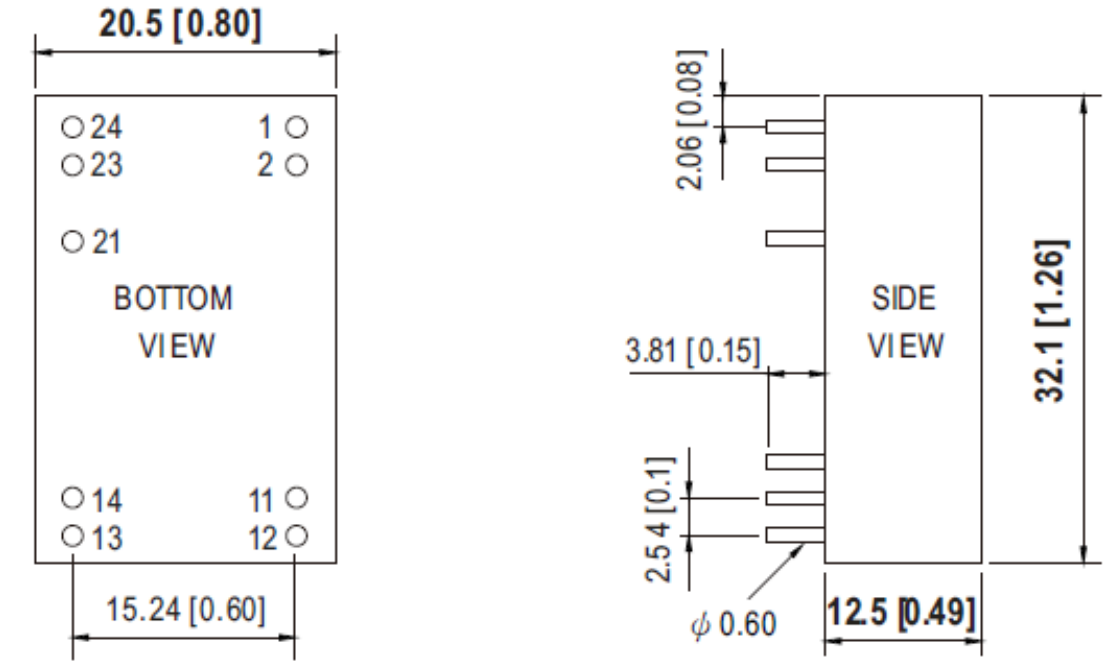
◎ **Blank type(NLDD－350~1050H):** Unit: mm (inch)



NOTE: Pin tolerance ±0.5mm

Pin No.		Comment
1,2	-Vin	Don’t connect to -Vout
11,12	-Vout	LED – Connection
13,14	+Vout	LED + Connection
22	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

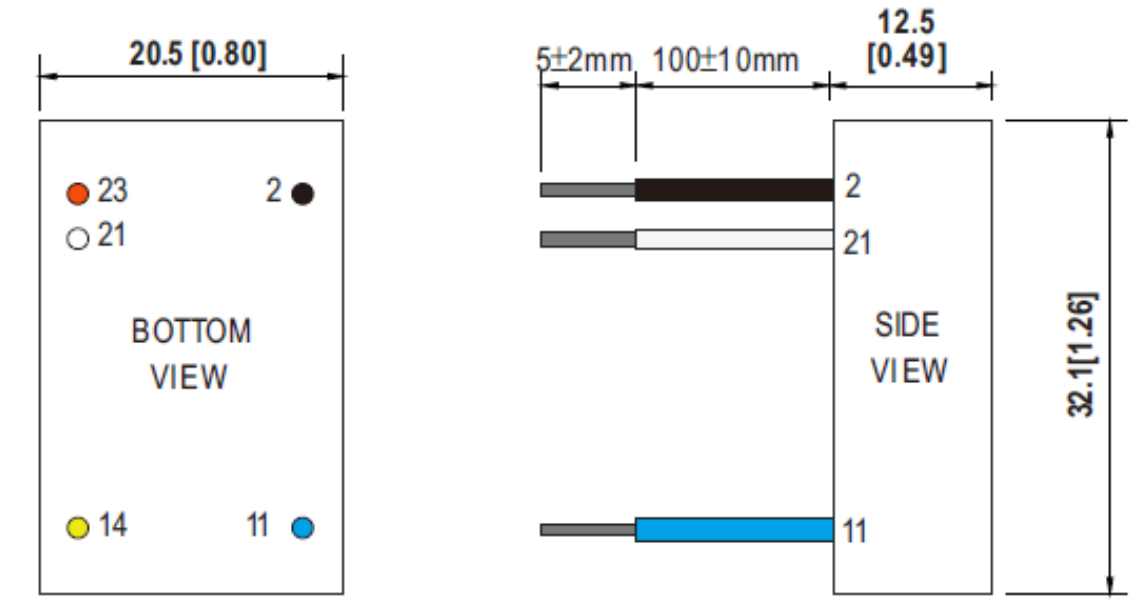
◎ Blank type(NLDD – 1200~1400H):



NOTE: Pin tolerance ±0.5mm

Pin No.		Comment
1,2	-Vin	Don’t connect to -Vout
11,12	-Vout	LED – Connection
13,14	+Vout	LED + Connection
21	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

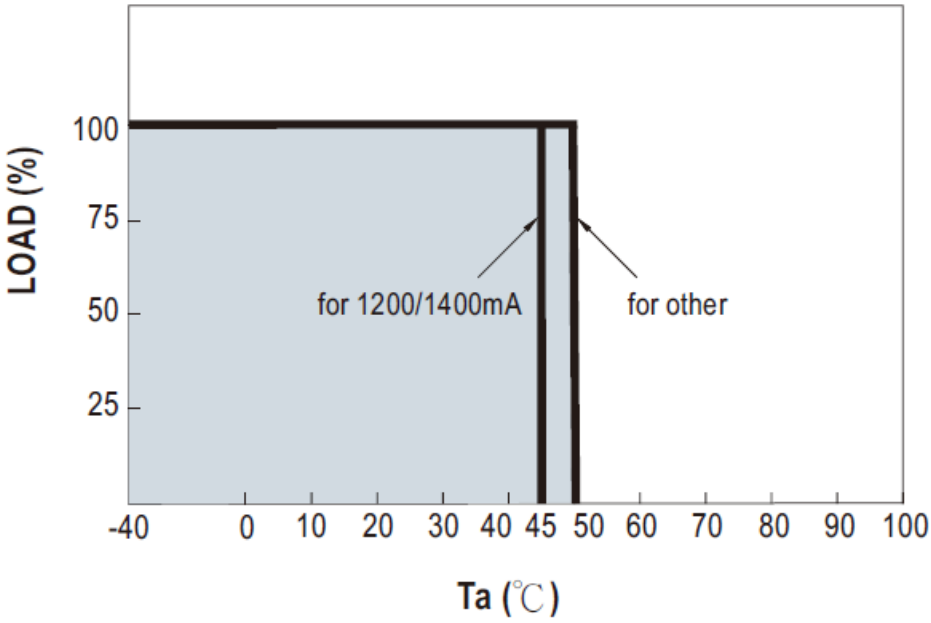
◎W type(NLDD－350~1400HW):



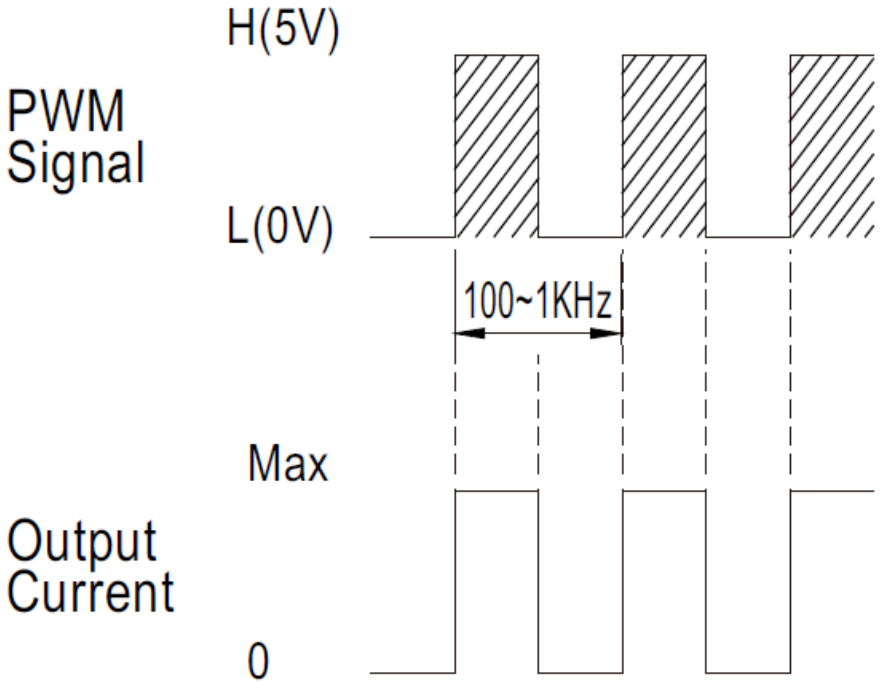
NOTE: All wires UL1569 22AWG

Pin No.		Comment
2	-Vin (Black)	Don’t connect to -Vout
11	-Vout (Blue)	LED – Connection
14	+Vout (Yellow)	LED + Connection
21	PWM DIM (White)	ON/OFF and PWM Dimming (Leave open if not used)
23	+Vin (Red)	DC Supply
others	N.C	No connection

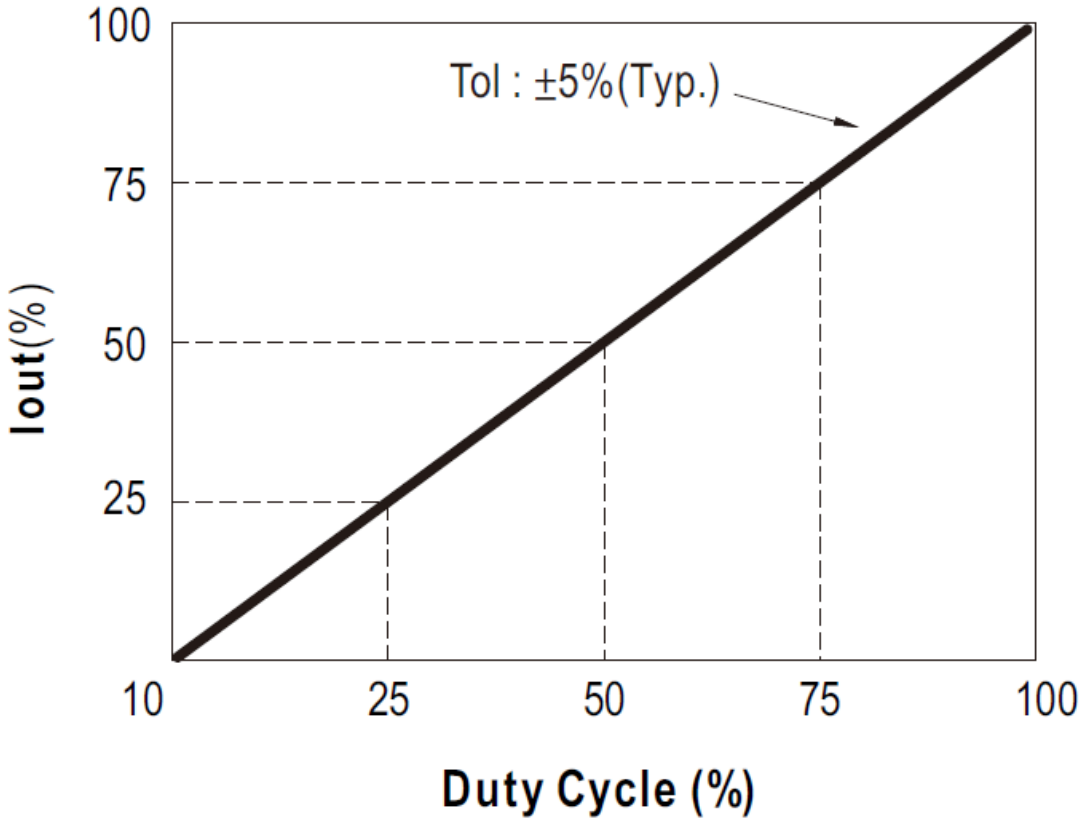
Derating Curve



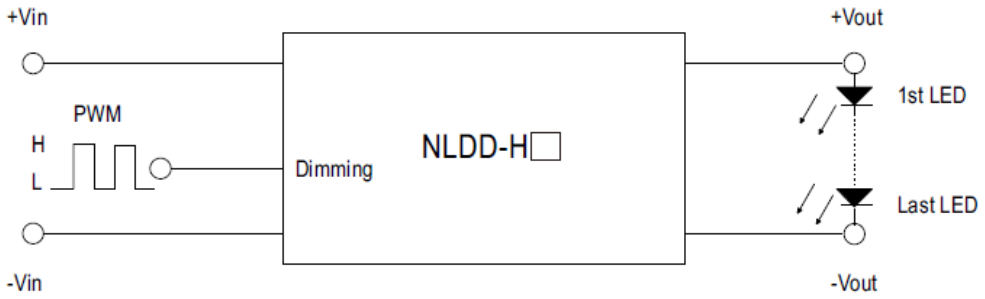
PWM Dimming Control



- Short circuit PWM PIN can realize dimming turn off.
- During PWM dimming operation, the output current will change to PWM style



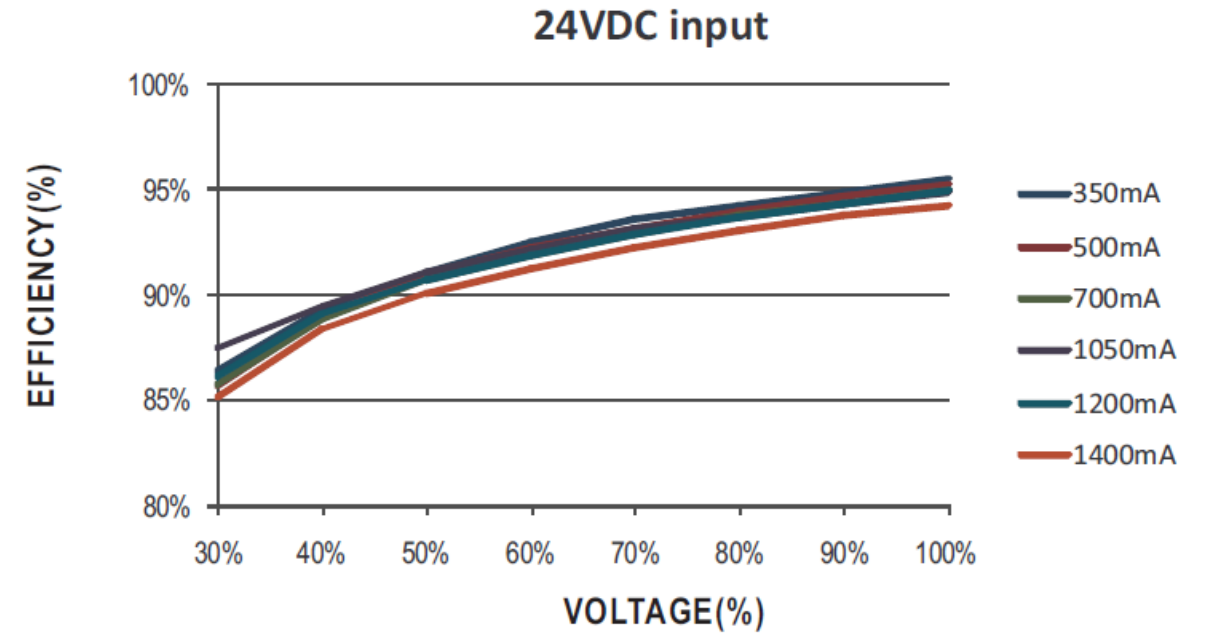
Standard Application

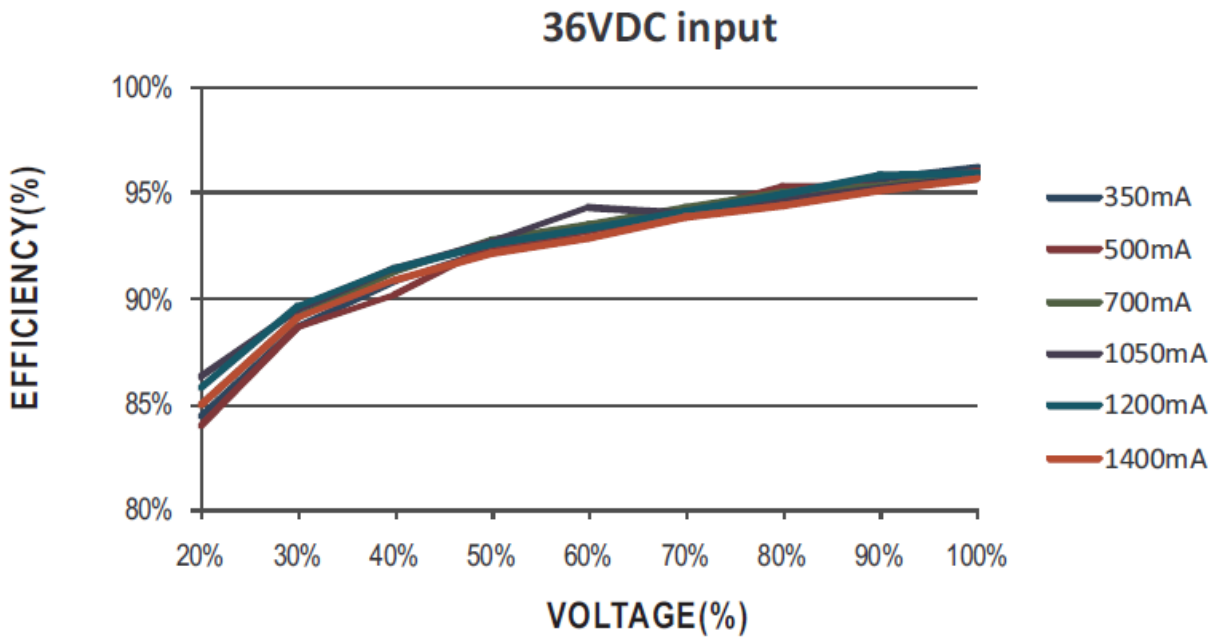


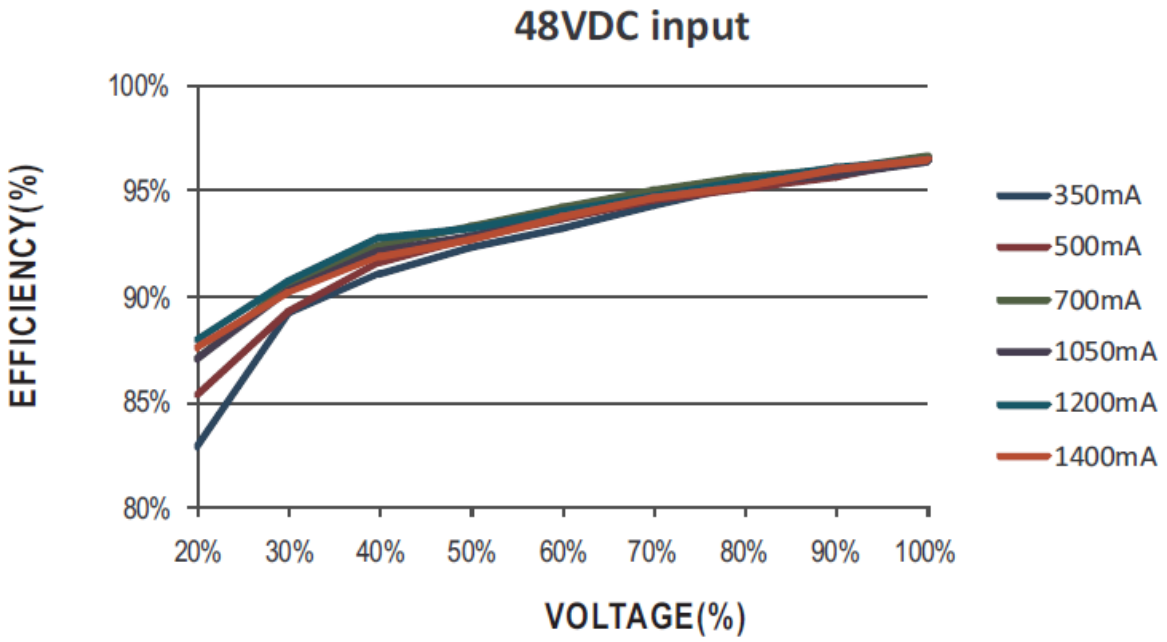
H: >2.5~5VDC or open circuit

L: <0.8VDC or short

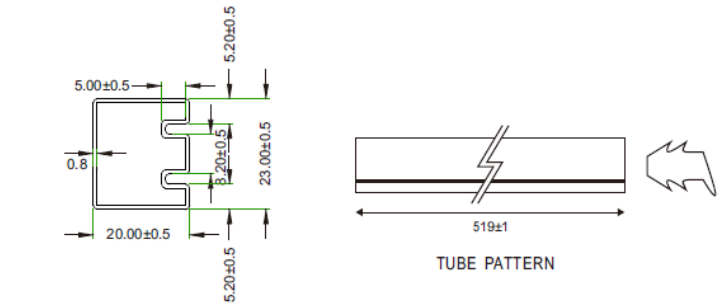
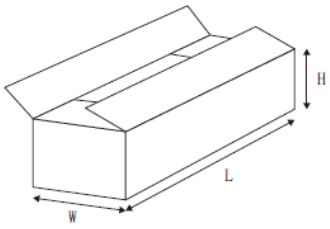
Efficiency VS Output Voltage

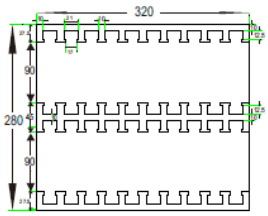
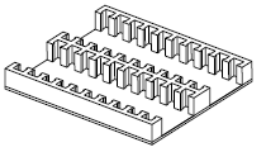
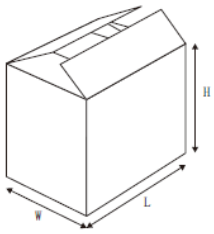




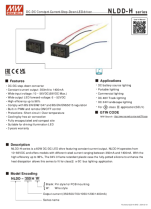


PACKING

Standard Tube Packing	MPQ Per Tube (PCS)	One Box G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Unit : mm   CARTON L540 x W242 x H125	15	0.3Kg	750	15.6Kg
Tray Packing	**MPQ Per Tray (PCS)**	**One Box G.W.**	**Max. Q'TY/ Carton(PCS)**	**One Carton G.W.**

Unit : mm    OUTER CARTON L332*W292*H215	40	1.0Kg	200	5.03Kg

Documents / Resources

	MEAN WELL NLDD-H Series Constant Current Step Down LED Driver [pdf] Owner's Manual NLDD-350H, NLDD-500H, NLDD-700H, NLDD-1050H, NLDD-1200H, NLDD-1400H, NLDD-H Series Constant Current Step Down LED Driver, NLDD-H Series, Constant Current Step Down LED Driver, Step Down LED Driver, LED Driver

References

- User Manual