

## ■ Features

- Constant Current mode output
- For DC 380V Bus lighting application
- Driver on Board (DOB) Solution available
- Plastic housing and Fully encapsolated
- Built-in PWM and Remote ON/OFF control
- Protections: Short circuit/Over temperature
- 5 years warranty

## ■ Applications

- Panel lighting
- Indoor LED lighting
- Recessed lighting
- Linear lighting
- DC house lighting system
- Industrial lighting

## ■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

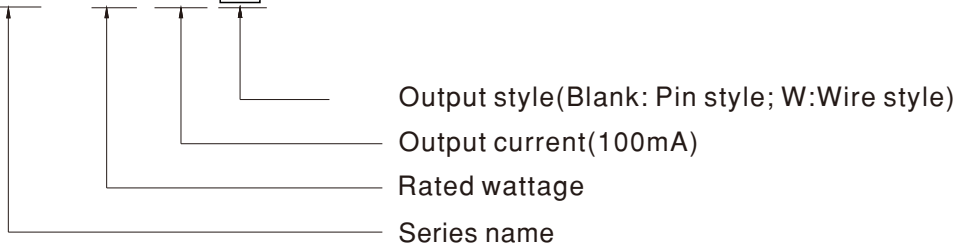
Note: Driver on board (DOB) solution is available, including circuit diagram and key components such as Driver IC or choke, please contact MEANWELL for detail.

## ■ Description

NHDD-40 series is a DC/DC LED driver. It operates from 360 ~ 420VDC and offers constant current output. Thanks to the efficiency up to 94%, with the fanless design, the NHDD-40 is able to operate for -30°C ~ +90°C case temperature under free air convection. In addition, NHDD is a particular design for DC 380V Bus lighting application which can be combination with storage. This coincides with the developing trend that countries around the world have begun to implement of energy saving and carbon neutrality, how to combine renewable energy sources, and effectively integrate DC power grid and energy storage systems. MEAN WELL will continue to provide products corresponding with this goal in order to reduce the loss in the power conversion and create new DC power grid lighting applications.

## ■ Model Encoding

NHDD - 40 - 100 W

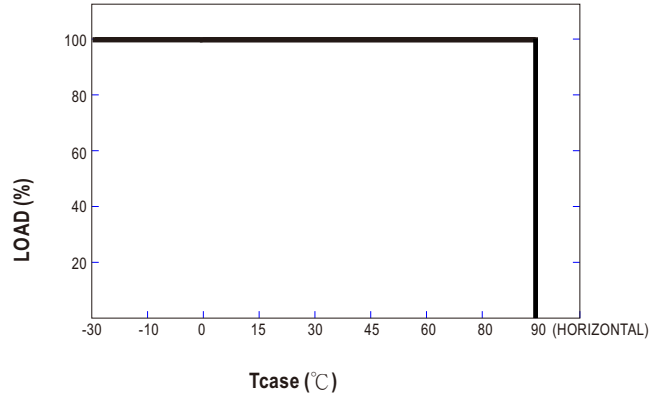
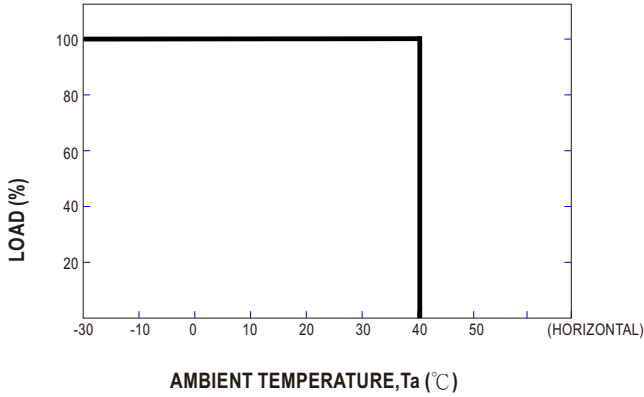




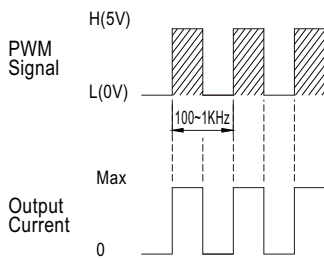
## SPECIFICATION

|                       |   |  |
|-----------------------|---|--|
| MODEL                 | NHDD-40-100 <input type="checkbox"/>  |  |
| OUTPUT                | CURRENT LEVEL   | 100mA  |
|                       | RATED POWER   | 35W (typical)  |
|                       | DC VOLTAGE RANGE <small>Note.7</small>  | 350V (typical)   |
|                       | CURRENT RIPPLE  | 40% max. @rated current  |
|                       | CURRENT TOLERANCE   | ±15%   |
|                       | SETUP TIME <small>Note.3</small>  | 500ms / 380VDC   |
| INPUT                 | VOLTAGE RANGE <small>Note.7</small>   | 360 ~ 420VDC (typical 380VDC)<br>(Please refer to "STATIC CHARACTERISTIC" section)   |
|                       | EFFICIENCY (Typ.) <small>Note.4</small>   | 94%  |
|                       | DC CURRENT (Typ.)   | 0.1A/380VDC  |
| PROTECTION            | SHORT CIRCUIT   | Hiccup mode, recovers automatically after fault condition is removed   |
|                       | OVER TEMPERATURE  | Tj 150°C typically (IC1) detect on main control IC<br>Protection type: Shut down, recovers automatically after temperature goes down |
|                       | REVERSE POLARITY  | No damage  |
|                       | UNDER INPUT VOLTAGE   | The input voltage is less than 359V, the driver will be shut down.   |
| FUNCTION              | PWM DIMMING   | Please refer to "DIMMING OPERATION" section  |
|                       | REMOTE ON/OFF   | Power ON: Leave it open or PWM DIM PIN > 1.5~5VDC, Power OFF: PWM DIM PIN < 0.9VDC or short  |
|                       | POWER FREQUENCY   | 100~1K Hz  |
|                       | QUIESCENT INPUT CURRENT IN SHUTDOWN MODE (MAX.)   | 2mA at PWM dimming off at 380V input.  |
| ENVIRONMENT           | WORKING TEMP.   | Tcase = -30 ~ +40°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)   |
|                       | MAX. CASE TEMP.   | Tcase = +90°C  |
|                       | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing   |
|                       | STORAGE TEMP., HUMIDITY   | -40 ~ +80°C, 10 ~ 95% RH   |
|                       | TEMP. COEFFICIENT   | ±0.03%/°C (0 ~ 50°C)   |
|                       | VIBRATION   | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes  |
| SOLDERING TEMPERATURE | Wave soldering: 265°C, 5s (max.); Manual soldering: 390°C, 3s (max.)  |  |
| SAFETY & EMC          | SAFETY STANDARDS  | LVD BS EN/EN61347 and EAC TP TC004 approved  |
|                       | EMC EMISSION <small>Note.6</small>  | Compliance to BS EN/EN55015, EAC TP TC 020   |
|                       | EMC IMMUNITY  | Compliance to BS EN/EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020   |
| OTHERS                | MTBF  | 15362.0K hrs min. Telcordia SR-332 (Bellcore) 2779.1Khrs min. MIL-HDBK-217F (25°C)   |
|                       | DIMENSION   | 32.1*20.5*12.5mm or 1.26**0.8**0.49" inch (L*W*H)  |
|                       | WEIGHT  | NHDD: 15.6g; NHDD-W: 18g (Please refer to Page 6 for packing)  |
|                       | POTTING MATERIAL  | Epoxy (UL94-V0)  |
| NOTE                  | <ol style="list-style-type: none"><li>All parameters NOT specially mentioned are measured at 380VDC input, rated current and 25°C of ambient temperature.</li><li>De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</li><li>Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.</li><li>Efficiency is measured at 100mA/380VDC.</li><li>The power supply is regarded as a part of the components in the system, and the final EMI test needs 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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</li><li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li><li>Please evaluate this notice carefully to prevent high unexpected output current. Output voltage and total forward voltage of LED must step down at least 40VDC from input voltage. Maximum step down voltage should not exceed 80VDC.</li></ol> ⊗ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |  |

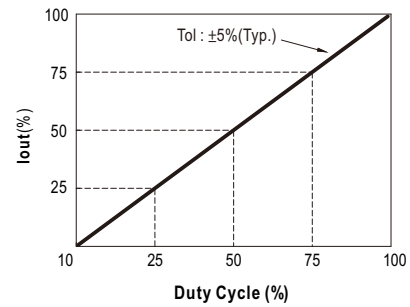
■ **OUTPUT LOAD vs TEMPERATURE**



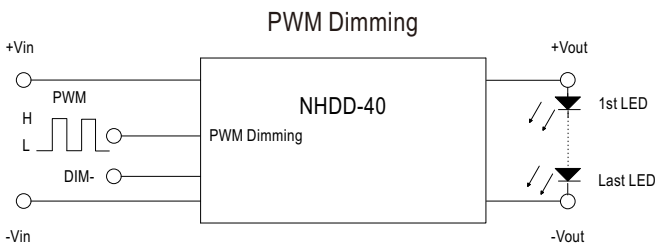
■ **PWM Dimming Control**



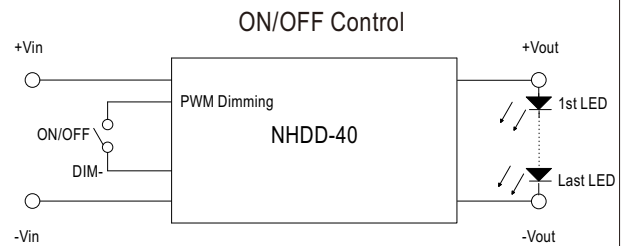
- ⊙ Short circuit PWM PIN can realize dimming turn off.
- ⊙ During PWM dimming operation, the output current will change to PWM style.



⊙ Dimming and ON/OFF control diagram



H: >1.5~5VDC or open circuit  
L: <0.9VDC or short

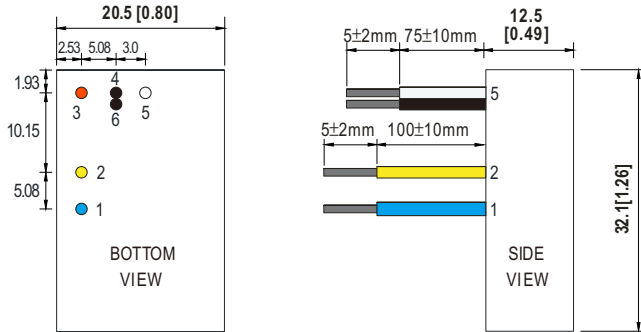


Switch open: DIM ON(100%)  
Switch close: DIM OFF

### Mechanical Specification

Unit: mm [inch] Tolerance: ±1

#### ※ Wire style

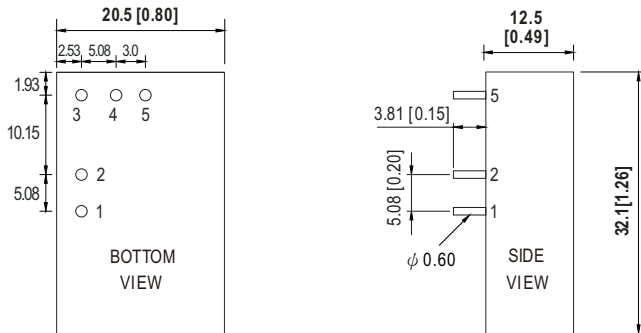


NOTE: All wires UL1569 22AWG

### Pin Configuration

| Pin No. |                  | Comment   |
|---------|------------------|---|
| 1       | -Vout (Blue)     | LED - Connection                                |
| 2       | +Vout (Yellow)   | LED + Connection                                |
| 3       | +Vin (Red)       | DC Supply                                       |
| 4       | -Vin (Black)     | Don't connect to -Vout                          |
| 5       | PWM DIM+ (White) | ON/OFF and PWM Dimming (Leave open if not used) |
| 6       | PWM DIM- (Black) | DIM- connection                                 |
| others  | N.C              | No connection                                   |

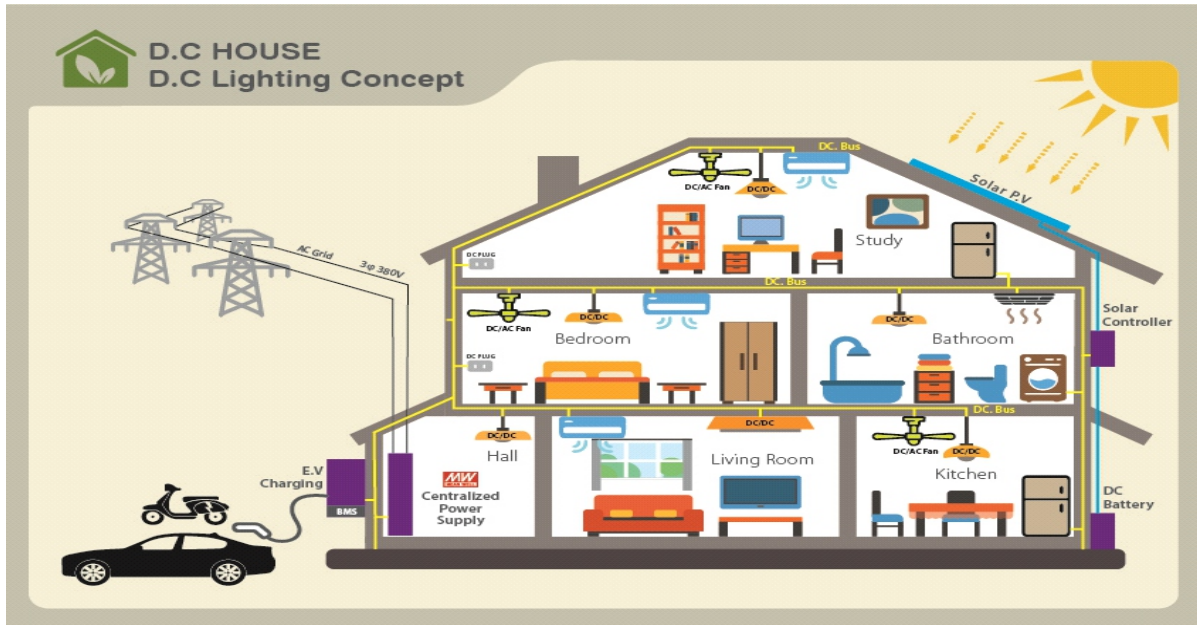
#### ※ PIN style



NOTE: 1. Pin tolerance ±0.5mm  
2. PWM DIM- is better to use with a separating wire from -Vin

| Pin No. |          | Comment   |
|---------|----------|---|
| 1       | -Vout    | LED - Connection                                |
| 2       | +Vout    | LED + Connection                                |
| 3       | +Vin     | DC Supply                                       |
| 4       | -Vin     | Don't connect to -Vout                          |
| 5       | PWM DIM+ | ON/OFF and PWM Dimming (Leave open if not used) |
| others  | N.C      | No connection                                   |

■ DC House -DC lighting concept

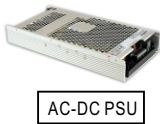
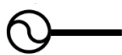


■ Application diagram

Indoor lighting application with DC 380V Bus

AC input

UHP-1500-380E



DC 380V Bus

DALI Bus



PWM



DALI dimmer

DLP-04L

DALI Bus Power supply

NHDD DC-DC driver



Group 1



NHDD DC-DC driver

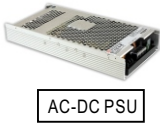
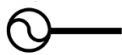


Group 2



AC input

UHP-1500-380E



DC 380V Bus

DALI Bus



PWM



DALI dimmer

DLC-02

DALI-2 Controller

NHDD DC-DC driver



Group 1



NHDD DC-DC driver



Group 2



Note: MEANWELL'S PBM Partner can support with DC 380V LED Luminaires, please contact MEANWELL for detail.

■ **PACKING**

| Standard Tube Packing   | MPQ Per Tube (PCS) | One Box G.W. | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
|---|--------------------|--------------|------------------------|-----------------|
| <p>Unit : mm</p> <p>TUBE PATTERN</p> <p>CARTON<br/>L540 x W242 x H125</p> | 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. |
| <p>Unit : mm</p> <p>OUTER CARTON<br/>L332*W292*H215</p>                   | 40                 | 1.0Kg        | 200                    | 5.03Kg          |

■ **Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>