



■ Features :

- DC/DC step-up converter
- Constant current output : 350mA to 1050mA
- Wide output LED string voltage up to 126VDC
- High efficiency up to 95%
- Built-in EMI filter ,comply with EN55015 without additional input filter and capacitors
- PWM + analog dimming and remote ON/OFF control [(Blank) type or W type]
- DALI dimming [(Blank)DA type or WDA type]
- Protections: Short circuit / Over voltage / Under voltage
- Cooling by free air convection
- Fully encapsulated
- 3 years warranty



LDH-45 □ -350 ○ □ =A or B; A: 9~18VDC input range, B: 18~32VDC input range  
 ○ = (Blank) or W or (Blank)DA or WDA ;  
 (Blank): PIN style, PWM+analog dimming  
 W: Wire style, PWM+analog dimming  
 (Blank)DA: PIN style, DALI dimming  
 WDA: Wire style, DALI dimming

**SPECIFICATION**

| MODEL                           |   | LDH-45A-350○  | LDH-45A-500○ | LDH-45A-700○ | LDH-45A-1050○ | LDH-45B-350○       | LDH-45B-500○ | LDH-45B-700○ | LDH-45B-1050○ |          |
|---------------------------------|---|---|--------------|--------------|---------------|--------------------|--------------|--------------|---------------|----------|
| OUTPUT                          | RATED CURRENT   | 350mA   | 500mA        | 700mA        | 1050mA        | 350mA              | 500mA        | 700mA        | 1050mA        |          |
|                                 | CURRENT ACCURACY(Typ.)  | ±5% at 12VDC input  |              |              |               | ±5% at 24VDC input |              |              |               |          |
|                                 | VOLTAGE RANGE<br>Note.2   | Non-DALI  | 12~86VDC     | 12~86VDC     | 12~64VDC      | 12~43VDC           | 21~126VDC    | 21~86VDC     | 21~64VDC      | 21~43VDC |
|                                 |   | DALI  | 24~86VDC     | 24~86VDC     | 24~64VDC      | 24~43VDC           | 36~126VDC    | 36~86VDC     | 36~64VDC      | 36~43VDC |
|                                 | NO LOAD OUTPUT VOLTAGE(max.)  | 100V  | 100V         | 75V          | 50V           | 146V               | 100V         | 75V          | 50V           |          |
|                                 | RATED POWER   | 30.1W   | 43W          | 44.8W        | 45.15W        | 44.1W              | 43W          | 44.8W        | 45.15W        |          |
| RIPPLE & NOISE (max.) Note.3    | 2.5Vp-p   | 2.5Vp-p   | 1.9Vp-p      | 1.9Vp-p      | 2.5Vp-p       | 1.7Vp-p            | 1.2Vp-p      | 1.2Vp-p      |               |          |
| INPUT                           | RATED VOLTAGE   | 12VDC   |              |              |               | 24VDC              |              |              |               |          |
|                                 | VOLTAGE RANGE Note.2  | 9~18VDC   |              |              |               | 18~32VDC           |              |              |               |          |
|                                 | EFFICIENCY (max.)   | 91%   | 90%          | 90%          | 91%           | 93%                | 94%          | 95%          | 95%           |          |
|                                 | DC CURRENT (Typ.)   | 2.8A  | 4.1A         | 4.2A         | 4.2A          | 2.1A               | 2.1A         | 2A           | 2A            |          |
| PWM DIMMING & ON/OFF CONTROL    | REMOTE ON/OFF   | Leave open if not used<br>Power ON with dimming: PWM signal >2~8VDC or open circuit, between PWM DIM and DIM-<br>Power OFF : PWM signal <0.5VDC or short or PWM duty is equal to 0%, between PWM DIM and DIM- |              |              |               |                    |              |              |               |          |
|                                 | PWM DIMMING FREQUENCY   | 1K~10KHz  |              |              |               |                    |              |              |               |          |
|                                 | QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(Typ.)  | 7mA when PWM dimming OFF  |              |              |               |                    |              |              |               |          |
|                                 |   |   |              |              |               |                    |              |              |               |          |
| ANALOG DIMMING & ON/OFF CONTROL | REMOTE ON/OFF   | Leave open if not used<br>Power on with dimming: DC input >0.25~8VDC or open circuit, between Analog DIM and DIM-<br>Power off : DC input <0.2VDC or short, between Analog DIM and DIM-                       |              |              |               |                    |              |              |               |          |
|                                 | DIM INPUT VOLTAGE RANGE   | 0.25~1.3VDC   |              |              |               |                    |              |              |               |          |
|                                 | MAX OPERATION VOLTAGE   | 8V; The output current remains constant when voltage changes from 1.3V to 8V  |              |              |               |                    |              |              |               |          |
|                                 | QUIESCENT INPUT CURRENT IN SHUTDOWN MODE(Typ.)  | 7mA when Analog dimming OFF   |              |              |               |                    |              |              |               |          |
| PROTECTION                      | SHORT CIRCUIT   | Protection type : Power OFF and fuse open   |              |              |               |                    |              |              |               |          |
|                                 | OVER VOLTAGE (max.)   | 100V  | 100V         | 75V          | 50V           | 146V               | 100V         | 75V          | 50V           |          |
| ENVIRONMENT                     | WORKING TEMP.   | -40 ~ +70°C (Refer to "Derating Curve")   |              |              |               |                    |              |              |               |          |
|                                 | WORKING HUMIDITY  | 20 ~ 90% RH non-condensing  |              |              |               |                    |              |              |               |          |
|                                 | STORAGE TEMP., HUMIDITY   | -40 ~ +85°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   |              |              |               |                    |              |              |               |          |
| SAFETY & EMC                    | SAFETY STANDARDS  | EAC TP TC 004 approved  |              |              |               |                    |              |              |               |          |
|                                 | 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  | 1179.3Khrs min. MIL-HDBK-217F (25□)   |              |              |               |                    |              |              |               |          |
|                                 | DIMENSION   | 75*53*22.7mm (L*W*H)  |              |              |               |                    |              |              |               |          |
|                                 | PACKING   | 138g;100pcs/14.8Kg/0.83CUFT[(Blank) type or (Blank) DA type],1.04CUFT(W type or WDA type)   |              |              |               |                    |              |              |               |          |
| NOTE                            | 1. All parameters are specified at normal input(12VDC,24VDC), rated load, 25°C 70% RH ambient.<br>2. (Blank) type and W type output voltage must step up by 3 Volts from input DC voltage;<br>(Blank)DA type and WDA type output voltage must step up by 12 Volts from input DC voltage.<br>3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf parallel capacitor. |   |              |              |               |                    |              |              |               |          |

■ Mechanical Specification

LDH (PIN Style):

Unit: mm [inch]

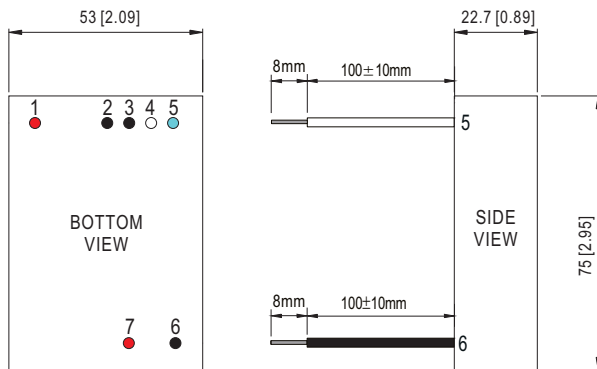


NOTE: PIN size tolerance 1.0  $\phi$   $\pm$ 0.05mm

■ Pin Configuration

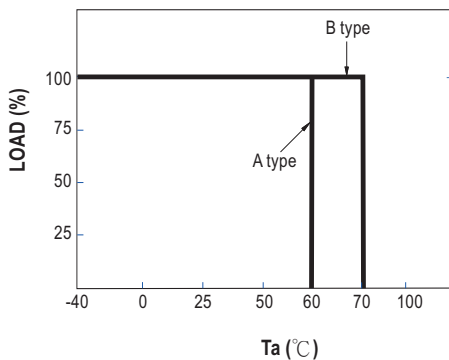
| PIN No. | Output     | Description  |
|---------|------------|--|
| 1       | Vin+       | DC Supply  |
| 2       | Vin-       | Don't connect to Vout-   |
| 3       | DIM-       | ○=(Blank) type: GND of DIM signal<br>Don't connect to Vout- or Vin-              |
|         | DA-        | ○=(Blank)DA type: DALI- signal   |
| 4       | Analog DIM | ○=(Blank) type: ON/OFF and analog dimming (leave open if not used)               |
|         | DA+        | ○=(Blank)DA type: DALI+ signal   |
| 5       | PWM DIM    | ON/OFF and PWM dimming (leave open if not used)<br>[(Blank)DA type: no such PIN] |
| 6       | Vout-      | LED - connection   |
| 7       | Vout+      | LED + connection   |

LDH (Wire Style):



| PIN No. | Output             | Description  |
|---------|--------------------|--|
| 1       | Vin+(red)          | DC Supply  |
| 2       | Vin-(black)        | Don't connect to Vout-   |
| 3       | DIM-(black)        | ○=W type: GND of DIM signal<br>Don't connect to Vout- or Vin-              |
|         | DA-(white)         | ○=WDA type: DALI- signal   |
| 4       | Analog DIM (white) | ○=W type: ON/OFF and analog dimming (leave open if not used)               |
|         | DA+(blue)          | ○=WDA type: DALI+ signal   |
| 5       | PWM DIM (blue)     | ON/OFF and PWM dimming (leave open if not used)<br>[WDA type: no such PIN] |
| 6       | Vout-(black)       | LED - connection   |
| 7       | Vout+(red)         | LED + connection   |

■ Derating Curve



■ Static Characteristics



■ Standard Application

※ Operation without dimming:

I<sub>O</sub> operates at rated current without dimming function when the pins of analog DIM and PWM DIM keep open



※ PWM Dimming Control (non DA type):

I<sub>O</sub> adjustment by PWM Signal



During PWM dimming operation, I<sub>O</sub> will change with the PWM duty (PWM Signal: 1K~10KHz)



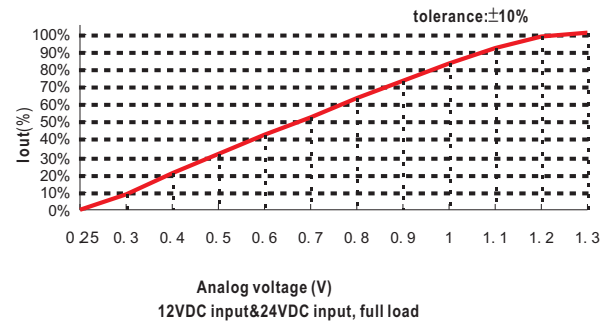
Note: DALI dimming curve refer to 10KHz curve

※ Analog Dimming Control (non DA type):

I<sub>O</sub> adjustment by DC voltage



During analog dimming operation, I<sub>O</sub> will change with DC input voltage



※ DALI Dimming Control (DA type only):

I<sub>O</sub> adjustment by DALI signal



- DALI protocol including 16 groups and 64 addresses.
- Min. dimming level is about 8% of output.

■ Efficiency VS Output Voltage(Number of LEDs)



**Application Notes:**

1. The positive and negative input terminals must be connected correctly and negative voltage can not be input to avoid damage to the power supply.
2. Due to the large input current, please pay attention to the voltage drop of the wiring, to ensure the power supply to work properly.
3. At dim off, LDH output voltage will drop to the same level as input voltage. To get luminaires complete dark, please make luminaires are light off when they are driving by the input voltage.