



# LED-40W HL Series-- Hazardous Location, Fixed Output and Dimmable Switch Mode LED Drivers Constant Current & Constant Voltage with Isolation Black Magic Thermal Advantage™ Plastic Housing

## Electrical Specifications

|                      |  |
|----------------------|--|
| Input Voltage Range: | 100-277 Vac Nom. (90-305 V Min/Max)  |
| Input Over-Voltage:  | Can endure 320Vac for 48 Hrs, 350Vac for 2 Hrs   |
| Frequency:           | 50/60 Hz Nom. (47-63 Hz Min/Max)   |
| Power Factor:        | ≥ 0.90 @ ≥ 60% load 100-230V, ≥ 85% load 277V  |
| Inrush Current:      | <20.0 Amps max @ 230 Vac, cold start 25°C  |
| Input Current:       | 0.40 Amps typical @ 120Vac, 60Hz, Full Load  |
| Maximum Power:       | 40W  |
| Current Regulation:  | ± 3% Over input line variation   |
| Load Regulation:     | ± 4%   |
| THD:                 | ≤ 20% @ ≥ 60% load 100-230V, ≥ 80% load 277V   |
| Leakage Current:     | 400 µA Typical   |
| Hold Up Time:        | Half Cycle   |
| Output Protection:   | Over-Voltage, Over-Current, Short Circuit (Auto Recovery) plus Internal Thermal Protection (Hiccup Mode) |

## Environmental Specifications

|                        |   |
|------------------------|---|
| Minimum Starting Temp: | -30°  |
| Maximum Case Temp.     | 90°C  |
| Storage Temperature:   | -40°C to +85°C                                      |
| Humidity:              | 5% to 95%   |
| Cooling:               | Convection  |
| Vibration Frequency:   | 5 to 55 Hz/2g, 30 minutes                           |
| Sound Rating:          | Class A   |
| Impact Resistant:      | 1g/s  |
| MTBF:                  | 482,000 Hrs @ full load, 40°C per MIL-217F Notice 2 |
| Weight:                | 12.9 oz (364 g)                                     |

-X indicates lead options. B for bottom leads, S for side leads.  
-Y indicates dimming options are available. See options below. Blank = fixed current output

### Ordering Options:

- D: Dimmable model dims 100-10%. Two extra wires on the output side: +Purple/-Gray. It offers 0-10V & Resistance dimming, compatible with most quality 0-10V dimmers. See page 3.
- P: PWM dimmable version dims 100-10%. Two extra wires on the output side: +Purple/-Gray. It is PWM Dimmable via a positive duty cycle, 200Hz to 1KHz, 0-10V Pulse. See page 4.



**Note:**  
LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.

Specifications subject to change without notice.



- Total Power: 40 Watts
- Input Voltage: 100-277 Vac Nom.
- UL Dry & Damp Location Rated
- IP66
- High Power Factor
- UL Type HL, with V5A Case
- Rated for Hazardous Locations

## Constant Current - Product Specifications

| Model Number           | Current Out (mA ±3%) | Voltage Out, Range (Vdc) | Power Out Max (W) | Typical Effic (%) |
|------------------------|----------------------|--------------------------|-------------------|-------------------|
| LED40W-130-C0300-HL-XY | 300                  | 44-130                   | 40                | 87                |
| LED40W-114-C0350-HL-XY | 350                  | 38-114                   | 40                | 86                |
| LED40W-100-C0400-HL-XY | 400                  | 33-100                   | 40                | 86                |
| LED40W-89-C0450-HL-XY  | 450                  | 30-89                    | 40                | 86                |
| LED40W-72-C0550-HL-XY  | 550                  | 24-72                    | 40                | 85                |
| LED40W-54-C0700-HL-XY  | 700                  | 18-54                    | 38                | 85                |
| LED40W-48-C0830-HL-XY  | 830                  | 16-48                    | 40                | 85                |
| LED40W-45-C0900-HL-XY  | 900                  | 16-45                    | 40                | 85                |
| LED40W-40-C1000-HL-XY  | 1000                 | 13-40                    | 40                | 85                |
| LED40W-36-C1100-HL-XY  | 1100                 | 12-36                    | 40                | 85                |
| LED40W-30-C1400-HL-XY  | 1400                 | 10-30                    | 42                | 85                |
| LED40W-24-C1670-HL-XY  | 1670                 | 8-24                     | 40                | 85                |
| LED40W-22-C1820-HL-XY  | 1820                 | 7-22                     | 40                | 85                |
| LED40W-18-C2220-HL-XY  | 2200                 | 6-18                     | 40                | 84                |
| LED40W-15-C2680-HL-XY  | 2680                 | 5-15                     | 40                | 84                |
| LED40W-13-C3080-HL-XY  | 3080                 | 4-13                     | 40                | 84                |
| LED40W-12-C3330-HL-XY  | 3330                 | 4-12                     | 40                | 83                |
| LED40W-10-C4000-HL-XY  | 4000                 | 3-10                     | 40                | 83                |
| LED40W-09-C4450-HL-XY  | 4450                 | 3-9                      | 40                | 82                |

## Constant Voltage - Product Specifications

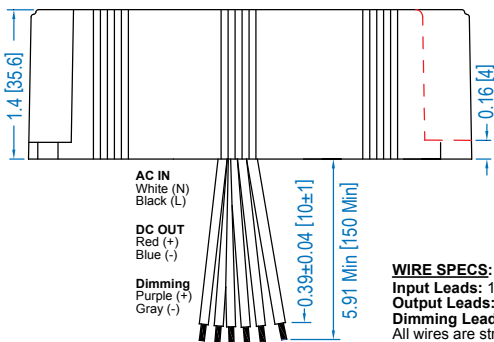
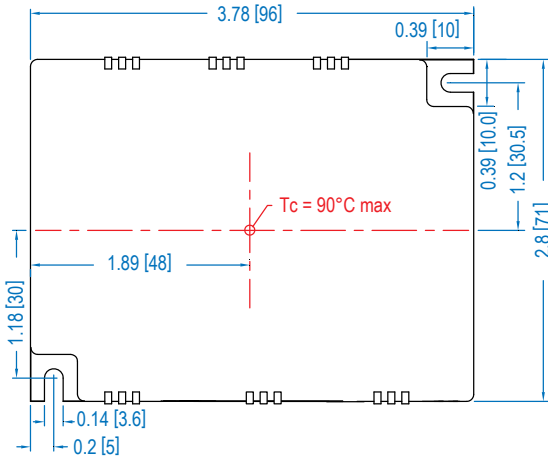
| Model Number    | Voltage Out (Vdc ±5%) | Current Out Range (mA) | Power Out Max (W) | Typical Effic (%) |
|-----------------|-----------------------|------------------------|-------------------|-------------------|
| LED40W-09-HL-X  | 9                     | 1113-4450              | 40                | 87                |
| LED40W-10-HL-X  | 10                    | 1000-4000              | 40                | 86                |
| LED40W-12-HL-X  | 12                    | 825-3330               | 40                | 86                |
| LED40W-13-HL-X  | 13                    | 770-3080               | 40                | 86                |
| LED40W-15-HL-X  | 15                    | 670-2680               | 40                | 85                |
| LED40W-18-HL-X  | 18                    | 550-2200               | 40                | 85                |
| LED40W-22-HL-X  | 22                    | 455-1820               | 40                | 85                |
| LED40W-24-HL-X  | 24                    | 418-1670               | 40                | 85                |
| LED40W-30-HL-X  | 30                    | 350-1400               | 42                | 85                |
| LED40W-36-HL-X  | 36                    | 275-1100               | 40                | 85                |
| LED40W-40-HL-X  | 40                    | 250-1000               | 40                | 85                |
| LED40W-45-HL-X  | 45                    | 225-900                | 40                | 85                |
| LED40W-48-HL-X  | 48                    | 208-830                | 40                | 85                |
| LED40W-54-HL-X  | 54                    | 175-700                | 38                | 84                |
| LED40W-72-HL-X  | 72                    | 138-550                | 40                | 84                |
| LED40W-89-HL-X  | 89                    | 113-450                | 40                | 84                |
| LED40W-100-HL-X | 100                   | 100-400                | 40                | 83                |
| LED40W-114-HL-X | 114                   | 75-350                 | 40                | 83                |
| LED40W-130-HL-X | 130                   | 75-300                 | 40                | 82                |

Class 2: US/Canada US Only

Rev 8-25-15

## Dimensions - Inches (mm)

### Standard "-BY" Bottom Leads Configuration:



AC IN  
White (N)  
Black (L)

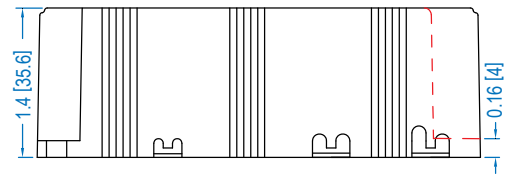
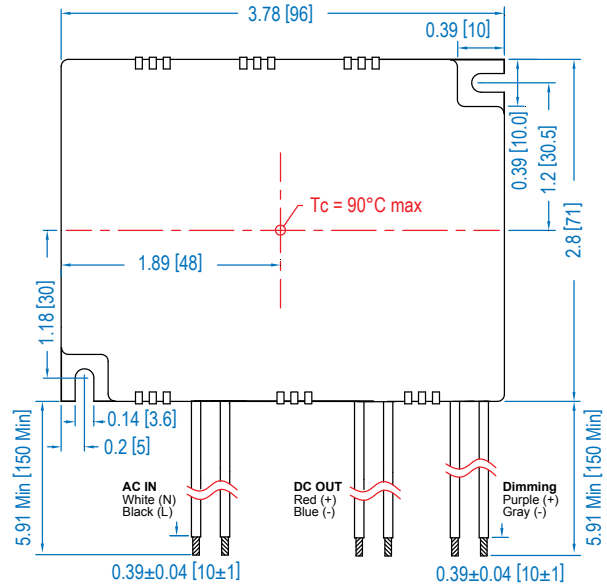
DC OUT  
Red (+)  
Blue (-)

Dimming  
Purple (+)  
Gray (-)

0.39±0.04 [10±1]  
5.91 Min [150 Min]

**WIRE SPECS:**  
Input Leads: 18 AWG, rated 600 V, 105C, min.  
Output Leads: 18 AWG, rated 300 V, 105C, min.  
Dimming Leads: 22 AWG, rated 300 V, 105C.  
All wires are stranded with solder dipped ends.

### "-SY" Optional Side Leads Configuration:

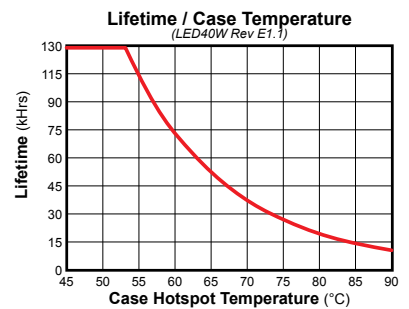
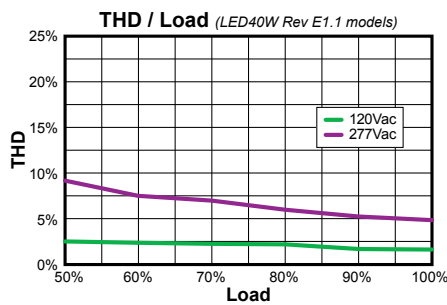
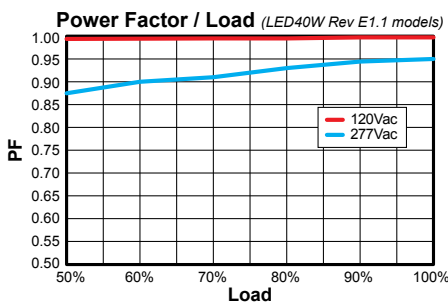


AC IN  
White (N)  
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DC OUT  
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Dimming  
Purple (+)  
Gray (-)

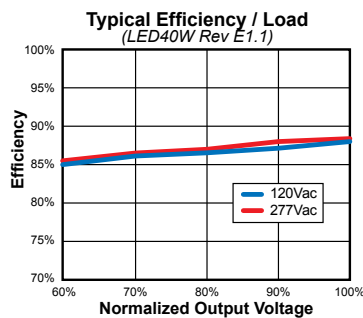
0.39±0.04 [10±1]  
5.91 Min [150 Min]



| Safety and EMC Compliance |                           |
|---------------------------|---------------------------|
| UL/CUL                    | UL8750 Type HL, CSA-C22.2 |
| C E                       | EN61347                   |
| FCC, 47CFR Part 15        | Class B                   |

## UL Conditions of Acceptability

See website for additional information



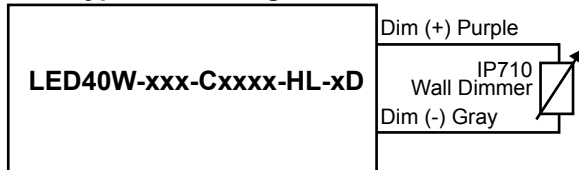
### Note:

Life calculations are based on reliability with confidence using a 90% confidence level and <5% failure rate. At a confidence level of 90% it is expected that <5% of the parts will fail at the rated life provided. (Failure is defined as a driver drifting outside specification, rather than fail to operate)

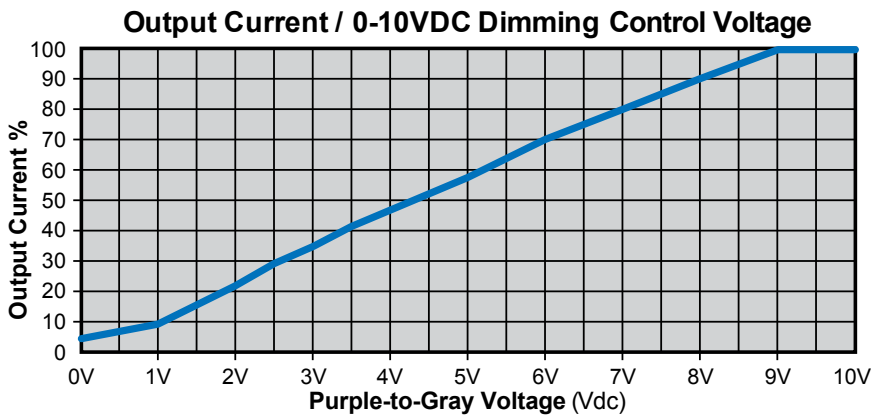
**“-D” Option: 0-10VDC and Resistance Dimming**

| Parameters                                      | Minimum | Typical | Maximum |
|---|---------|---------|---------|
| Source Current out of 0-10V Purple Wire         | 0 mA    | —       | 2 mA    |
| Absolute Voltage Range on 0-10V (+) Purple Wire | -2.0 V  | —       | +15 V   |

**“-D” Typical Dimming Circuit**



(Dimmer must be current-sink type control)



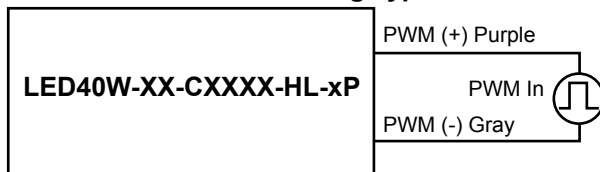
**Notes:**

1. D dimmable version comes with an extra two wires on the output side: +Purple/-Gray.
2. Compatible with most 0-10V dimmers. Recommended dimmer is Leviton IP710 or equivalent.
3. D & D3 dimmable versions are not intended to dim below about 5% @ 0V or 10% @ 1.0V.
4. Output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.

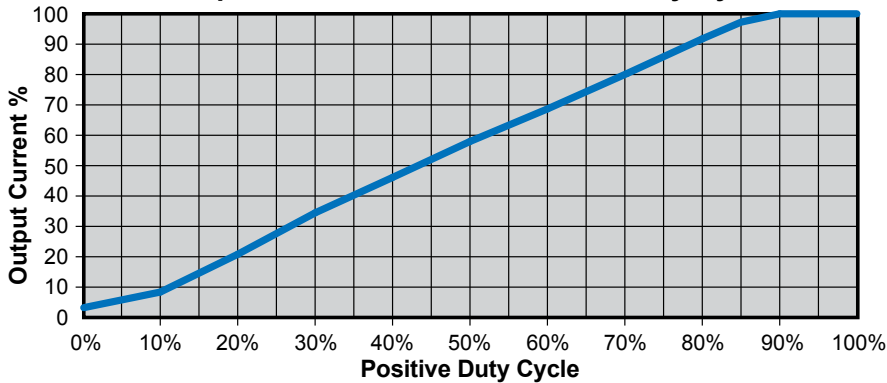
**“-PD” Option: PWM Dimming**

| Parameters  | Minimum | Typical | Maximum |
|---|---------|---------|---------|
| Absolute Maximum Voltage Range on PWM Input (Purple Wire) | -2.0V   | 10V     | +15V    |
| Input LOW Level Voltage Range (Purple Wire)               | -2.0    | 0V      | +5.5V   |
| Input HIGH Level Voltage Range (Purple Wire)              | +9.0    | 10V     | +15V    |
| Sink Current into PWM Input (Purple Wire)                 | 0mA     | —       | 1.2mA   |
| PWM Input Signal Frequency                                | 500Hz   | —       | 1500Hz  |
| PWM Input Signal Positive Duty Cycle                      | 0%      | 10-90%  | 100%    |

**“-P” PWM Positive Dimming Typical Circuit**



**Output Current / 1.0kHz Positive Duty Cycle**



**Notes:**

1. PD dimmable version comes with an extra 2 wires on the output side for PWM type dimming: +Purple/-Gray.
2. Below 10% Duty cycle proper dimming operation is not assured. Unit is not intended to turn off at <10% Duty Cycle.
3. Output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.