



## SERIES-WIRED, CONSTANT CURRENT LED SIGN LIGHTING SYSTEM

Specifications and User Guide For Installation in Channel Letters, Raceway & Remote Applications

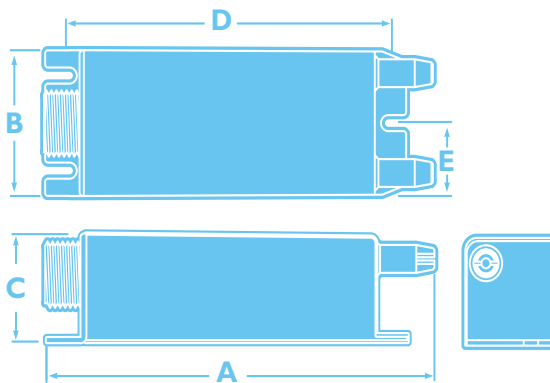
### FEATURES AND BENEFITS:

- Exceptionally bright, single-bin Nichia white chip
- Conservatively powered at less than 65% of the LED's maximum rated current extends useful life and reliability
- Exclusive ability to save up to 30% on neon to LED retrofits
- 8" wide illuminated stroke reduces module count and cost
- Series wired ust like neon with bypass to prevent full string outage
- Constant current driver eliminates resistors, etc, found on other LED modules
- Remote mounts up to 175 feet with 18AWG wire
- Safe, low current design with GFI, open and short-circuit, overload and polarity protection
- Consistently bright modules no matter distance from driver
- Illuminates brighter than 6500 mercury argon
- Single-wire design simplifies factory installation
- Brightest, most energy efficient LED available
- UL Sign Components Manual (SAM) listed
- UL Classified for Rapid Retrofit neon to led conversion

### SPECIFICATIONS:

Venbrite LED Driver	VLP100D-U
Input Voltage, (50/60Hz)	100-277VAC (+/-10%)
Input Current @ Max Load	0.54A (@120VAC in)
Power Factor	0.99 (120V) / 0.97 (277V)
Output Voltage	0-400 VDC (+/- 200VDC max to Gnd)
Output Current (Line-Load Regulated)	125mA (Factory Set)
Operating Temperature*	-30°F to 122°F (-34°C to 50°C)
Input Surge Protection	Varistor Type

\*When Operating at Ambient Temperatures Higher than Above Limit, Reduce Load by 10% for each 9°F (5°C) Ambient Rise



### DIMENSIONS:

Length (A)	4.85 in. (12.4 cm)
Width (B)	2.0 in. (5.0 cm)
Height (C)	1.45 in. (3.7 cm)
Mounting (D)	4.50 in. (11.43 cm)
Mounting (E)	1.38 in. (3.5 cm)
Weight	12.0 oz. (350 gr)
Input Leads	18 AWG 18" (0.46M) UL1015
Output Leads	18 AWG 18" (0.46M) VA-W02 (+red) VA-W00 (-Blk)

### VENBRITE ACCESSORIES:

VA-W09/100	VA-W09/500	Venbrite Low Voltage LED Wire
	VA-WN01	Venbrite Standard Wire Nut
	VA-WN02	Venbrite GTO Retrofit Wire Nut





## **SERIES-WIRED, CONSTANT CURRENT LED SIGN LIGHTING SYSTEM**

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Thank you for purchasing the VenBrite™ LED SYSTEM. For proper installation and operation please read the following directions and tips carefully. It is the user's responsibility to ensure installation complies with national and local electrical codes.

### **INSTALLATION INSTRUCTIONS**

**(CAUTION: Output NOT Class 2. Make sure input power is off prior to installation.)**

1. This LED System is suitable for dry or damp locations. Do not mount where it can stand in water.
2. Primary wiring must be connected by a licensed electrician and comply with National Electrical Code, NFPA 70 including the use of disconnect switches and enclosures.
3. The LED driver can be direct mounted in enclosure or non-enclosure rated self contained channel letter, raceway/wireway or remote applications.
4. DO NOT ground output wiring.
5. Input Grounding wire of LED driver must be connected to ground.
6. If using multiple LED drivers, maintain at least 6 inches of distance between them. This will minimize the effects of "electronic crosstalk."
7. Mount LED driver using proper size hardware (# 8 sheet metal screws or pop rivets). Optional UL approved mounting methods may also be used. LED modules can be mounted using the attached peel & stick VHB tape, # 6 screws, 1/8in pop-rivets or an approved UL recognized adhesive may also optionally be used.
8. If LED driver is mounted on a metallic surface, make sure it is grounded to metal frame via ground foot provided on the LED driver, using UL approved mounting methods. Typically a straight run of LED modules would be fastened using a screw or rivet in each end module while the middle modules are held down using VHB tape (attached to bottom of each module).
9. Observe output polarity. Although LED Driver & LED modules will not be damaged by reverse polarity, there will be no light produced.
10. DO NOT connect LED Strings in parallel as they will try to share the output current from the LED driver and run dimmer than normal.
11. DO NOT use a dimmer on input of the LED driver. The driver maintains a constant output current regardless of load or primary voltage.
12. DO NOT connect VenBrite™ LED Modules to a Class 2 supply.
13. DO NOT over load. The driver has overload protection. If the Maximum number of LED's per driver is exceeded the unit will Latch OFF.
14. When connecting LED driver to LED Module String use the following:
  - A. For Enclosure Rated Sign; Any application approved UL wire connector and #18AWG, 600V wire, can be used.
  - B. For Non-Enclosure Rated Sign; use Ventex Wire Nut P/N: VA-WN01 or Ideal Industries Wire Connector cat no. #30-x61 (where 'x' = package style); for return/jumper wire, Use LED wire, Ventex P/N: VA-W09 (#18 AWG, 600V, White, VW-I). This LED wire, sold separately, is unique & integral to the LED system. No substitutes allowed unless otherwise specified in this manual. Typically a single stroke LED string will need a return wire from the end farthest away from the driver. (See examples next page). This same wire can also be used to jumper between led string ends as required.
15. Mounting on Suitable Sign face material: A temperature test was conducted with LED modules in a box with an overall density of 1 module/6in3 (98cc) & LED driver in a box with an overall density of 1 driver/31in3 (500cc). The maximum case temperature measured was 83 deg C for both driver & LED case. The suitability of any condition that would result in a more severe wattage density shall be determined. The temperature rating of any UYMR2 material the LED module or driver may be mounted to shall be considered in the end product.

### **TROUBLE-SHOOTING TIPS**

There is a protection circuit in the LED driver that will latch off (trip) the power whenever an open circuit, GFI or overload condition occurs. If your LED sign is off, and the AC input power is on, the LED driver has probably tripped due to fault conditions. If so, remove power to the driver. This action will reset the protection circuit. Clear the fault and wait at least 5 seconds before reapplying power. If tripping continues, remove power and check the following:

1. Is output wiring properly connected? Turn off power and check wiring.
  2. Does LED driver have correct input AC voltage? Measure volts AC into driver. Check the breaker. Check the wiring.
  3. Is there a break in the output series connected circuit? Jumper the cut wire.
  4. Is there a short circuit at the LED driver output? Look for damaged wire.
  5. Is output wired reverse polarity? Make sure driver + output is connected to + of 1st LED Module. Make sure each successive LED module is connected + to -.
  6. Have the maximum modules per LED driver been exceeded? Count the modules and confirm number is within maximum listed under "specifications"
- Note: Do not attempt to disassemble LED driver or LED module for repairs. This action will void any warranty offers made by Ventex.

