

## Product Specification Sheet

---

**Part Type** : **LED driver**

**Description:** **46W-1000mA Constant Current**  
**0-10V Dimmable**

**Part Number:** **VEL46100MVHDA-MD-99**

---

### 1. Input Requirement

**1.1 Input Voltage**

The nominal input voltage is 120-277VAC

Operating Range: 108-305VAC

**1.2 Frequency**

The nominal input frequency is 50Hz/60Hz

**1.3 Current**

The maximum input current is 0.6 Amp at 120Vac at max output load of 900mA.

**1.4 Efficiency**

The typical efficiency (watts out / watts in) is 85% @120V  
and 85% @277V with rated load.(Full Load)

**1.5 Power Factor**

@ 277VAC, >0.90(@80%Load)

@ 120VAC, >0.90(@80%Load)

**1.6 Inrush Current**

120VAC @ 25 DEG C: <40Amp peak

**1.7 THD**

THD: < 20% @ 25°C 120-277VAC, full load (w/o Dimmer)

---

## 2. Output Requirements

### 2.1 Output Current Setting

Set nominal current at this voltage.

Output	Voltage	Current	Tolerance
1	Max 35VDC	1000mA	+/- 5%
2	Max 35VDC	900mA	+/- 5%
3	Max 35VDC	750mA	+/- 5%

### 2.2 Output Voltage Range

Driver must work at these voltages.

Output	Voltage	Current	Tolerance
1	25-35VDC	1000mA	+/- 5%
2	25-35VDC	900mA	+/- 5%
3	25-35VDC	750mA	+/- 5%

### 2.3 Output Line Regulation

With output clamped to below set points, vary input from 120-277VAC.

Output	Voltage Set Point	Current range
1	28VDC	950-1050mA
2	28VDC	855-945mA
3	28VDC	712-788mA

### 2.4 Current Stability

+/- 5% maximum after 8 hours

### 2.5 Max Rated Output Load

Output	Voltage	Current range
1	35VDC	1000mA

---

## **2.6 Ripple Factor**

Measured at max rated load and LED load connecting to the output is see as below :  $V_F=35V$

Ripple factor < 5% ( $I_{pk-pk}/2/I_{mean}$ ).

## **2.7 No Load Voltage**

Not to exceed 55VDC.

## **2.8 Turn on Delay**

Measured @ 120-277VAC max rated load: < 0.75 seconds.

## **2.9 Flicker < 5%**

# **3. Protection Requirement**

## **3.1 Short circuit protection:**

When operating under any line condition into a short circuit condition for an indefinite period of time, the power supply shall be self recovering when fault condition is removed.

## **3.2 Over-current protection:**

When operating under any line condition into any over load condition for an indefinite period of time, the power supply shall be self recovering when fault condition is removed.

# **4. Environmental Conditions**

## **4.1 Operating**

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions:

### **4.11 Ambient Temperature:**

-20 to 50 Deg C. 100% rated power at 50 Deg C.

### **4.12 Class P**

Tc.:90 °C

---

**4.13 Relative Humidity:**  
5 to 95%, non-condensing

**4.14 Cooling:**  
Convection

**4.2 Non-Operating**

The power supply shall be capable of standing the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies.

**4.2.1 Ambient Temperature:**  
-40 to 85 Deg C.

**4.3 Shock & Vibration:**

MIL-STD-810G Shock Method 516.6 procedure IV and Vibration Method 514.6 Procedure I, Category 4

## **5. Reliability**

**5.1 MTBF**

>300,000hrs calculated to MIL-HDBK217F @ 25 DEG C. rated load.  
Ground Benign.

**5.2 Product Life**

>50000hours @ Tc=75 Deg C, rated load.

## **6. EMC**

**6.1 Conducted&Radiate**  
FCC Part 15 Class B

**6.2 Audible Noise:**

Class A sound rating not to exceed 24dBA (audible) when installed in fixture and such fixture is installed in its normal use. The measurement is to be made from a distance not less than 3 feet.

---

**6.3 ESD:**  
IEC 61000-4-2 Level 2: 4KV Air and Contact.

**6.4 Input Transient Protection**  
Power supply shall comply with IEEE C.62.41-1991, Class A operation.  
The line transient shall consist of seven strikes of a 100 kHz ring wave,  
2.5 kV level for both common mode and differential mode.

## **7. Safety**

**7.1 Agency Approvals**  
UL 8750-LED equipment for use in lighting product  
UL1310-CLASS 2 Power units  
CSA C22.2 No. 250.13-12-LED equipment for lighting applications

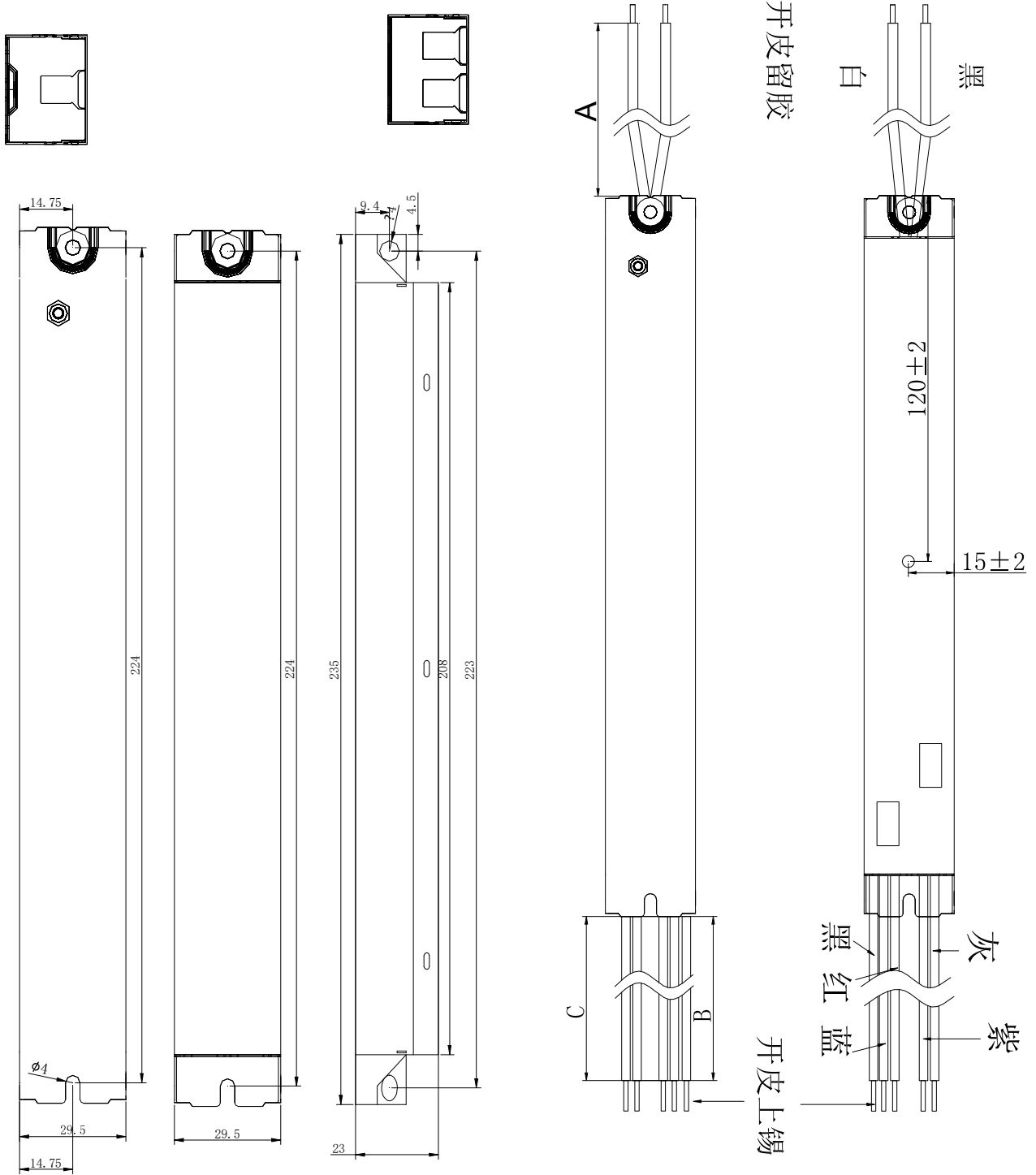
## **8. Dimmable**

**8.1 0-10V Dimming**  
0-10V Input Signal: 0-10V  
Dimming Range: 10-100%

## **9. Mechanical**

**9.1 Materials**  
Metal case  
All material to be ROHs compliant to Directive 2002/95/EC  
Wires to be Stranded with UL approval  
Input: Black & White : 300mm , 18AWG 105°C 600V Solid Line  
Output: Red & Blue & Black: 500mm , 20AWG 105°C 600V Solid Line  
Dimming: Purple & Gray: 500mm , 18AWG 105°C 600V Solid Line

9.2 Size and shape: 未标注公差: ±1.5 单位: mm



204mm

Santa Fe Springs, CA  
www.espentech.com  
Toll Free: 1-866-933-7736

**CONSTANT CURRENT Dimmable LED Driver** 120-277V 50/60Hz

Class 2 Power Supply | Dry or Damp Location Only  
For Connections Use Wire Rated for at Least 90°C (194°F)

I <sub>out</sub>	V <sub>out</sub> Range
750mA	25-35V
900mA	25-35V
1000mA	25-35V

Input: 55W/600mA @ Vin=120V  
PF: >0.9 @full load, Class P

**CAUTION**  
DISCONNECT LINE VOLTAGE BEFORE INSTALLING OR REPLACING.  
CASE MUST BE GROUNDED.

0  
15, 2-0, 2 镂空

0-0, 2

1000mA 500mA 750mA

Black 100% Black/Blue 100% Blue 50%/50% Blue 100%

26.5mm 镂空

L Black  
N White

GRAY (DIM-) 0-10V Dimmer  
VIOLET (DIM+) 0-10V Dimmer

LED DRIVER

BLACK (WV-) BLUE (WV-) RED (V)

UL US LISTED E336538

RoHS

YYWW-HW

0-10V Dimmer

15, 2-0, 2

0-0, 2

1000mA 500mA 750mA

Black 100% Black/Blue 100% Blue 50%/50% Blue 100%