

## 2800mA Programmable LED Driver

- Class 2, 95W Constant Current Output with 0-10V dimming
- Full featured programmability
- Low standby power (<0.5W) in dim-to-off state



Performance	
Input Voltage	120Vac - 277 Vac
Input Current Max	0.92@120V - 0.41@277V
Input Power Max	110W
Input Frequency	50 - 60 (Hz)
Power Factor*	> 0.95 @ Max Load
THD max*	< 15% @ Max Load
Output Voltage (Refer to Power Curve Chart)	16V to 34V @ 2.80 Amps 16V to 56V @ 1.70 Amps
Max. Output Current	2800mA
Min. Dimming Current	10mA
Output Power	95W
Standby Power	< 0.5W @ 120Vac - 277Vac
Line Regulation	± 3 %
Load Regulation	± 5 %
Output Ripple @ max lout	High Freq <15% (Pk-Pk/avg) Low Freq (≤ 120Hz) <5% (Pk-avg/avg)
Inrush Current Peak @ >10% Duration	120Vac: 9.35A / 313uS 277Vac: 22.85A / 782uS

- \* Refer to charts for additional information
- Harmonic Emissions comply with ANSI C82.77
  - Inrush current complies with NEMA 410

### Ordering Information

Order Number	Description	Qty/Carton
D28CC95UNVPW-F010C	Standard Product	10

Protection:

Over Voltage, Under Voltage, Short Circuit, Over Temp

Safety:

UL 8750 & CSA 250.13  
Class P

Physical	
Length	9.50 in
Width	2.38 in
Height	1.58 in
Mounting Length	8.90 in
Weight (lbs)	2.6
Lead Lengths (+/- 1 in)	
Blk, Wht, Violet, Pink	11.5 in
Red(+), Blue(-)	11.5 in

Lead-wires are 18 AWG 105°C /600V solid copper.

Environmental	
EMI and RFI	Meets FCC part 15 (Class A) Non-Consumer Limits
Operating	-40°C to 55°C
Storage Temperature	-40°C to 85°C
Warranty tc	85°C max for warranty
Location Rating	UL Dry & Damp, Type HL
IP Rating	IP66
Transient Protection	IEEE C62.41 6kV**

\*\*Driver uses MOVs for transient protection.

Refer to application note EVD07 at

[www.universaldouglas.com](http://www.universaldouglas.com) for additional information on Hi-Pot Testing.



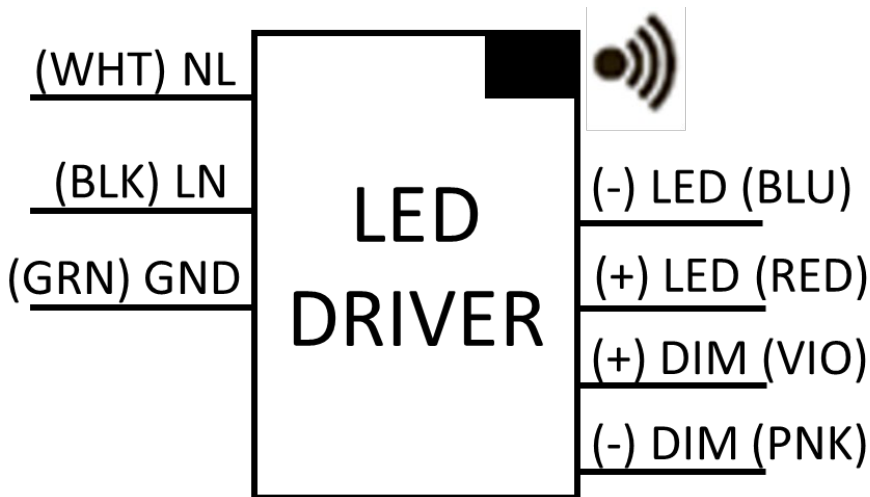
Application and operation performance specification information subject to change without notification.

Programmable Features
Output Current
Minimum Dimming Level
Dim-to-Off
Dimming Curve (Linear, Linear Soft Start, Logarithmic)
Lumen Maintenance
Thermal Overload

Programming System	
Software	EVERset Programming Software
Hardware	LDPC000A Configuration Tool
Driver Interface	Wireless via RFID

\*Refer to application notes EVD10 and EVD11 at [www.universaldouglas.com](http://www.universaldouglas.com) for additional information on programmable features.

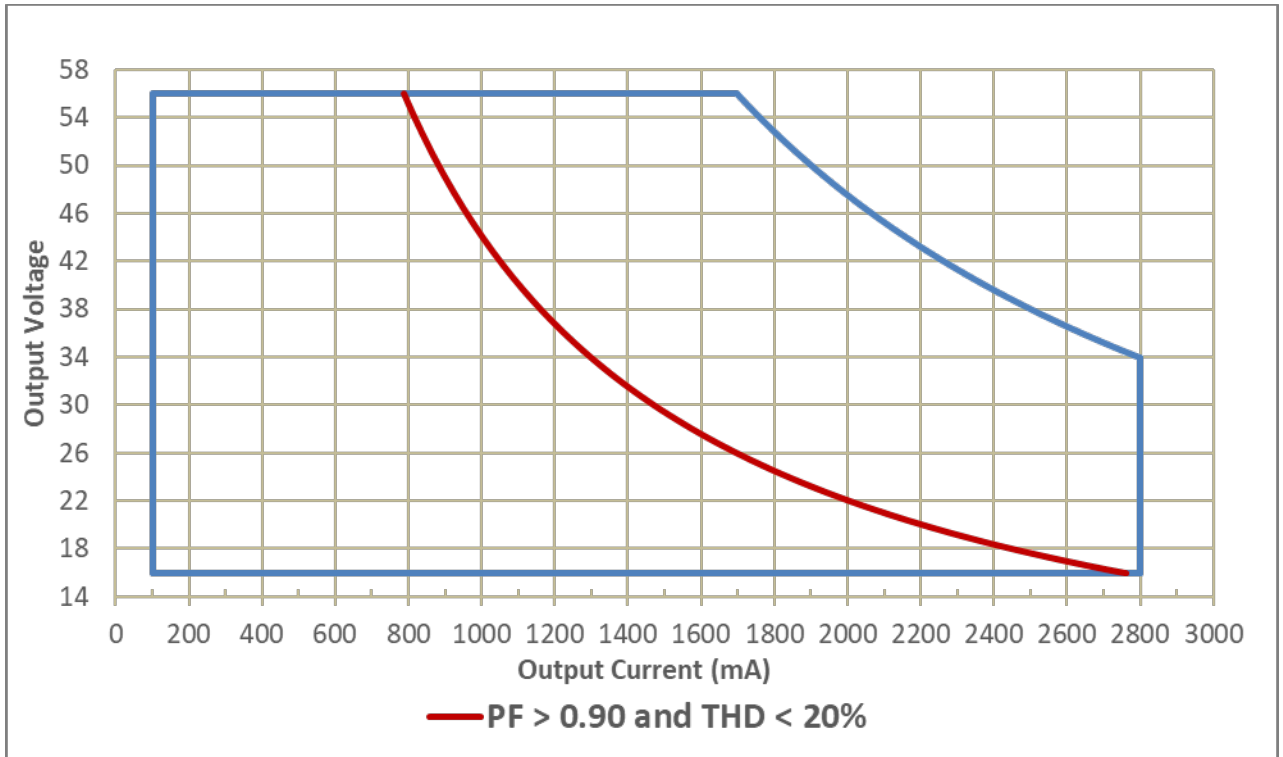
## Wiring Diagram



- **NOTE:** Unused Orange and Yellow/Black leads must be individually capped off when auxiliary output power is not used.

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## Driver Operating Range:

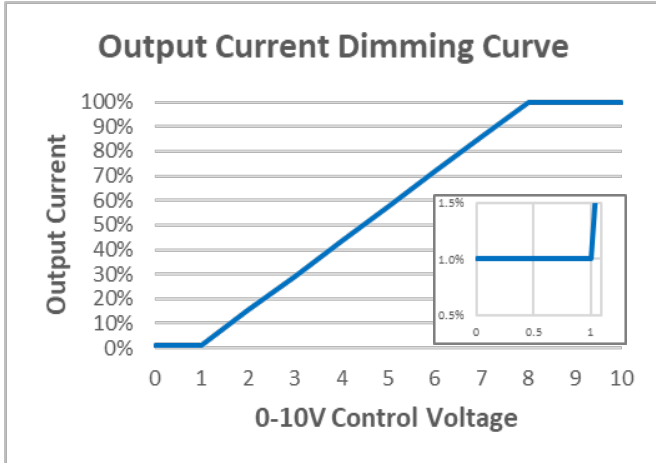


The operating area to the right of the red line will have PF > 0.90 and THD < 20%

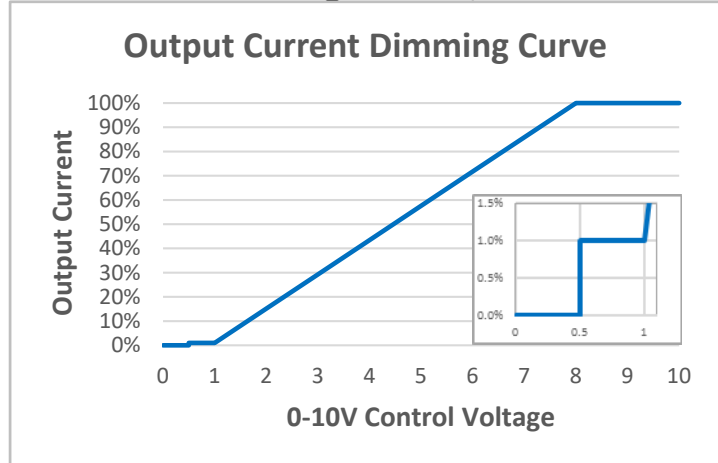
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## 0-10V Dimming

Linear Dimming to 1%



Linear Dimming to 1% w/ Dim-to-Off\*



### 0-10V Analog Dimming Interface

- Analog 0 to 10 VDC Voltage Control
- Use Violet (+) & Pink (-) for connection to 0-10VDC.
- Wiring Violet & Pink together provides min. light output.
- Capping Violet & Pink separately provides 100% light output.
- 0-10V interface can be wired as Class 1 or Class 2 Circuit.
- Driver will source a maximum of 165uA for control needs.
- Controller must sink current from the 0-10V control leads.
- To get 1% minimum dimming level, maximum output current should be set to  $\geq 1000\text{mA}$ .

\* Driver ships with Dim-to-Off disabled. Dim-to-Off can be changed through the EVERset programming software.

### Programmable Dimming Features

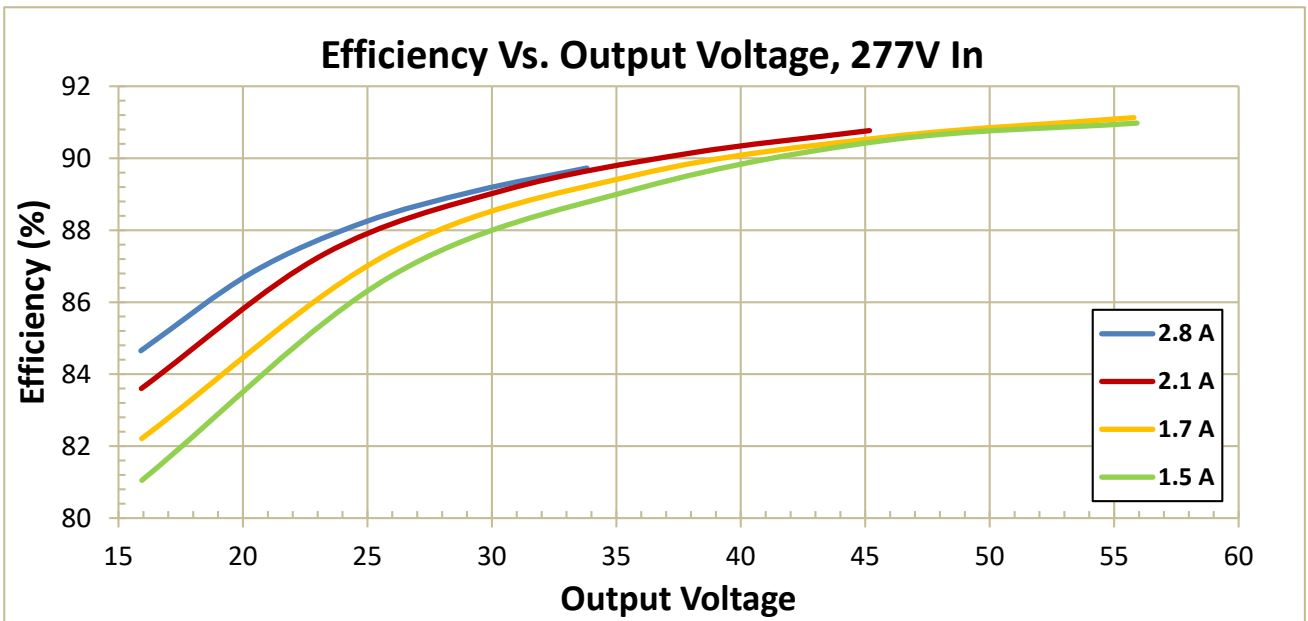
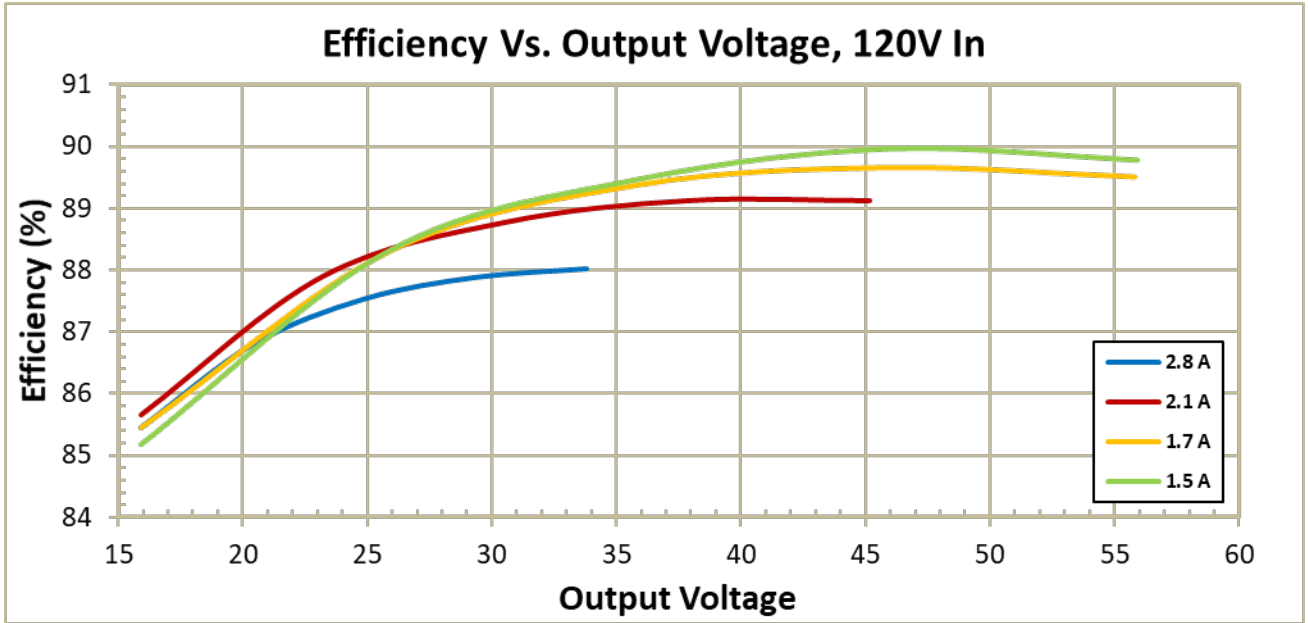
Feature	Range	Factory Default
Maximum Output Current	100 - 2800mA	default = 2800mA
Minimum Dimming Level	10 - 1400mA	default = 28mA
Dimming Curve	(Linear, Linear Soft Start, Logarithmic w/ factor 1 to 7)	default = Linear
Dimming Control Voltage Range		
Max Bright Control Voltage	7 - 9Vdc	default = 8Vdc
Min Dim Level Control Voltage	1 - 3Vdc	default = 1Vdc
Dim-to-Off	0.1 - 1.7Vdc	default = 0.5Vdc

\* Refer to application note EVD10 at [www.universaldouglas.com](http://www.universaldouglas.com) for additional information on programmable dimming features.

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## Performance: Efficiency

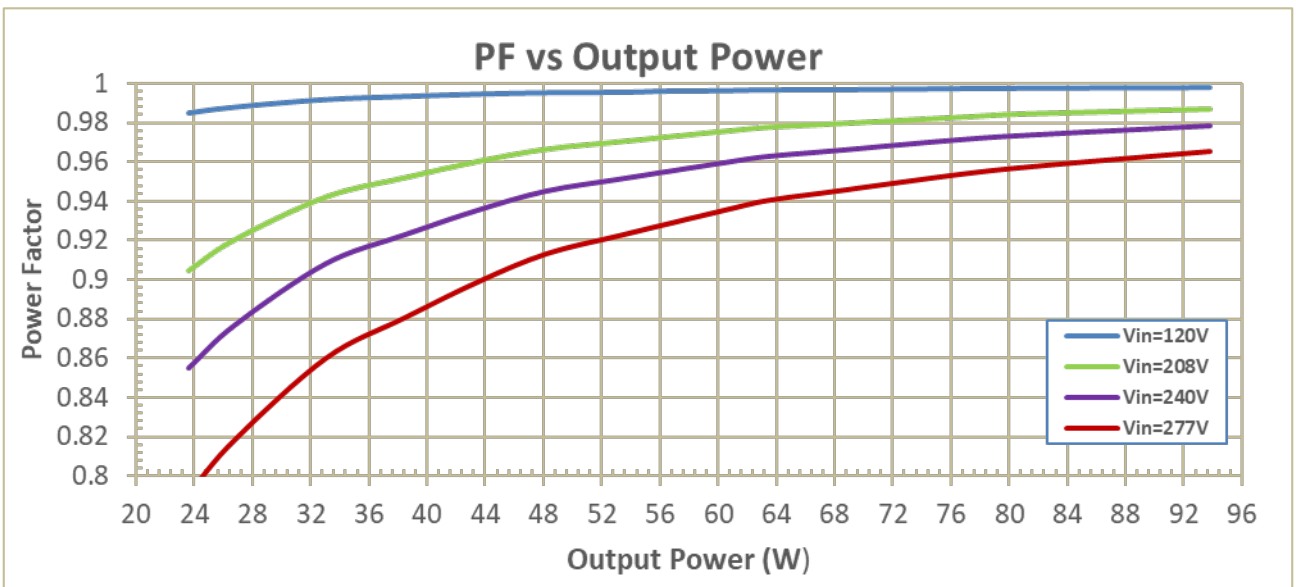
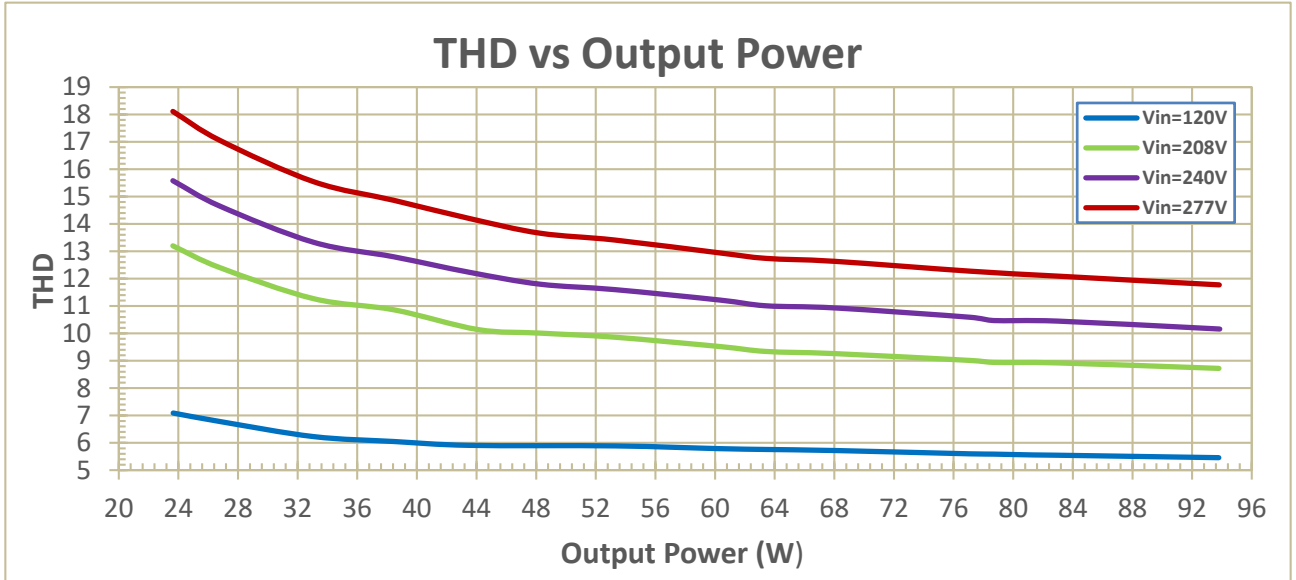
Typical performance measurements are shown. The charts are to be used as a guideline and not for specification use.



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## Performance: Total Harmonic Distortion, & Power Factor

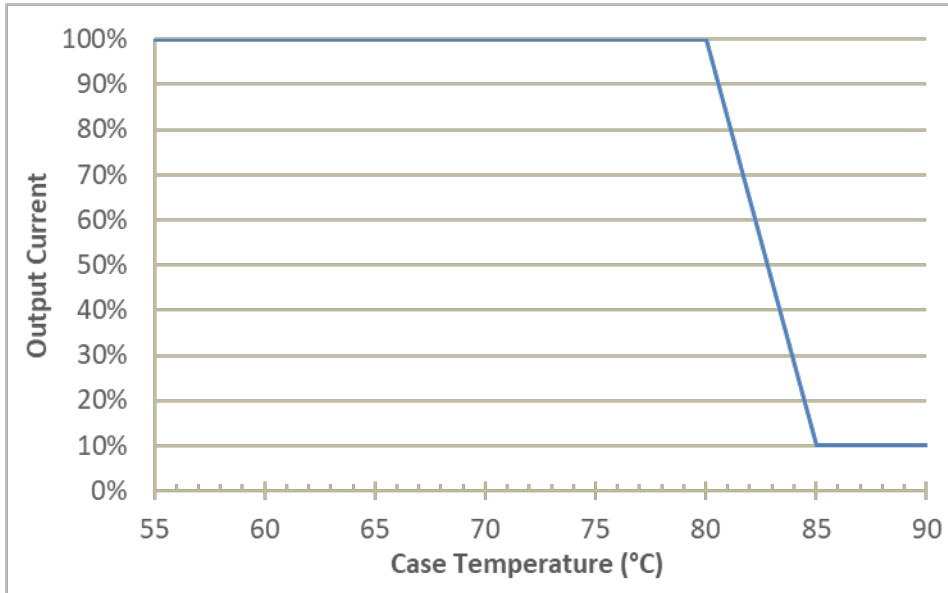
Typical performance measurements are shown. The charts are to be used as a guideline and not for specification use.



Output power based on maximum rated output current and varying load voltages.

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## Programmable Driver Thermal Overload Foldback



Example with the Output Current set to 2800mA, Starting Temperature set to 80°C, Ending Temperature set to 85°C and Ending Output Current set to 280mA (10%). These settings can be changed using the EVERset programming software.

Programmable Thermal Overload		
Feature	Range	Factory Default
Starting Temperature	25 - 85°C	Disabled
Ending Temperature	26 - 86°C	Disabled
Ending Output Current	10 - 2800mA	Disabled

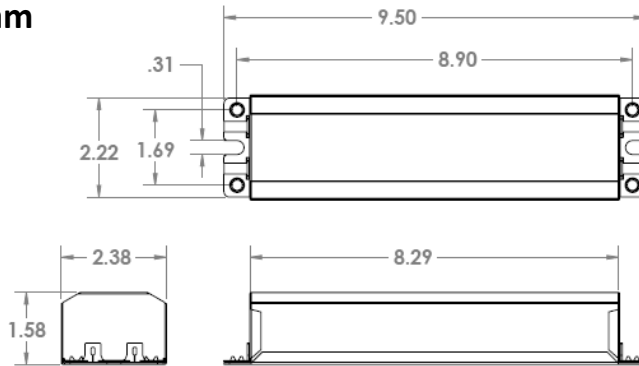
\*Refer to application note EVD15 at [www.universaldouglas.com](http://www.universaldouglas.com) for additional information on Programmable Thermal Overload.

### Note:

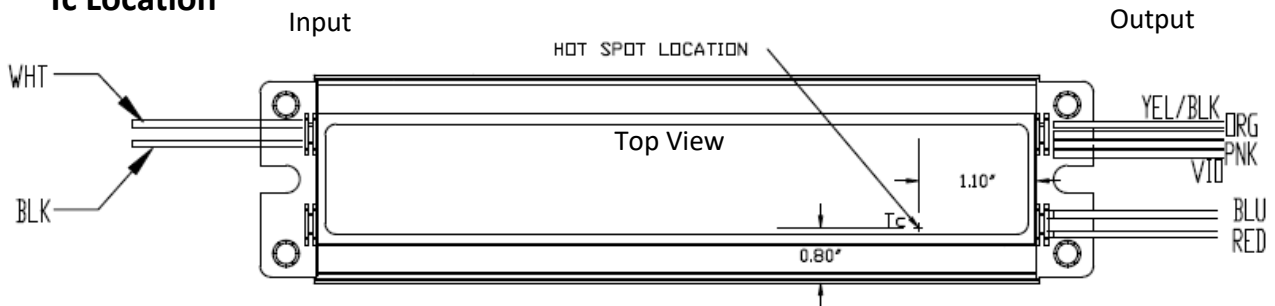
When the Programmable Thermal Overload Foldback is disabled, the driver will reduce its output current to 50% if an internal temperature is reached that corresponds with the max case temperature plus margin. The driver will reduce its output current to 10% if the measured temperature continues to rise, and will return to full current if the measured temperature drops below the max case temperature.

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## Dimensional Diagram



## Tc Location



FCC Statement: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Warranty:

Universal Lighting Technologies warrants to the purchaser that each power supply will be free from defects in material or workmanship for a period of 5 years from the date of manufacture when properly installed per instructions and under normal operating conditions of use. Call 1-800-225-5278 for technical assistance.

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Transient Protection		
Transient	Differential Mode (L-N)	Common Mode (L-G, N-G, L&N-G)
IEEE C62.41 1.2/50µs Combination Wave (w/t 2Ω)	> 6kV**	> 6kV**

\*\*Driver uses MOVs for transient protection.

Refer to application note EVD07 at [www.universaldouglas.com](http://www.universaldouglas.com) for additional information on Hi-Pot Testing.

Isolation				
Isolation	Input	Output	0-10V	Enclosure
Input	-	2xU + 1kV	2.5kV	410V
Output	2xU + 1kV	-	2.5kV	2xU + 1kV
0-10V	2.5kV	2.5kV	-	2.5kV
Enclosure	410V	2xU + 1kV	2.5kV	-

U = Max Input Voltage

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