

#### Features

TROPO switch mode power supply technology is designed to generate one constant current output from an AC input, and work with industry standard lighting controls in dimming applications.

- 120VAC and 230VAC Inputs Available
- Output current availability 0.35A-1.5A. Consult Factory for customized programming
- Operates with Industry Standard Dimmers
- Compact Encapsulated Assembly
- Active Power Factor Correction
- Output Over-Voltage, Over-Current and Short-Circuit Protection and Auto Recovery
- High Temperature Operation (up to 90°C case)
- UL Approved, ENEC Approved, CE Mark
- Long Life >50,000 hrs
- ROHS Compliant



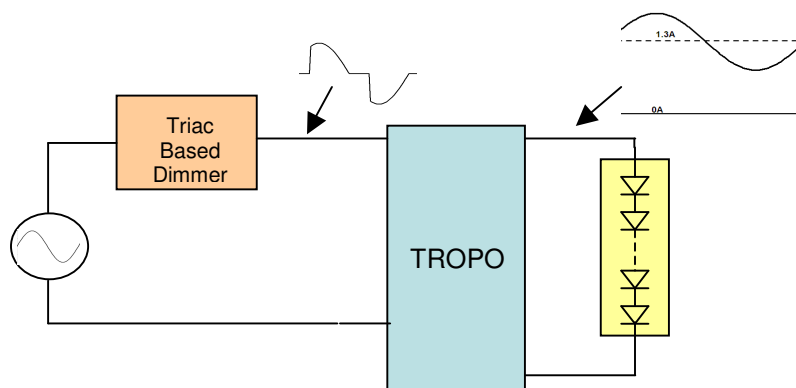
TROPO is designed for powering LED luminaries with standard lighting controls. The modules operate with:

- Standard Light Switches
- Triac based Incandescent Dimmers (Standard phase – leading edge)
- Electronic Low Voltage Dimmers (Reverse Phase – trailing edge)

TROPO is ideal for installations requiring dimmable Class 2 outputs such as:

- Commercial Lighting
- Residential Lighting

The following diagram depicts a typical installation utilizing the TROPO:



- Dimming range down to less than 10% nominal output current
- Output current does not terminate during off time of dimmer
- Output Current factory settable up to 1.5A
- Multiple Drivers / LED Assemblies may be connected to a single dimmer
- Facilitates compliance with Energy Star ratings for LED luminaires



## Input and Output Specification

Input Voltage: 120/ 230 VAC Options:  
Model 1: 90 - 135 VAC  
Model 2: 176 - 265 VAC  
47-63 Hz Frequency Range

Input Current: < 0.3A

Efficiency: 80% Typical @ >120VAC, Full load

Isolation: Meets the UL60950-1  
Reinforced / double  
Insulation  
NEC (Class 2)  
EN60598-1 Class II

Input Power Factor: >90%

Input Harmonics: Meets EN61000-3-2, 3

Output Voltage: 8 – 48 VDC (See model table for details)

Output Current: 0.35 to 1.5A (See model table for details)

Ripple Current: <40% (P-P) of maximum Output Current  
with no dimming

Dimming: Output dimming is possible via industry standard  
dimmers \*. (leading and trailing edge)

Output Accuracy: +/- 5% of set point

Output Regulation: +/- 5% of max rating

Output Over-Voltage, Over-Current and Short-Circuit  
Protection (hiccup), Over-Temperature and Auto Recovery

Output Control: Output Dims without any flicker. Total  
dimming range is as follows:

Conduction Angle / output: 180 degrees/ 100% max  
30 degrees / 10% min

\* Refer to Roal Application Note 21, Line Voltage Dimming of Tropo drivers, for further information.

**Performance Requirements:** Meets the requirements of IEC 62384: control gear for LED modules

### EMI and EMC:

Conducted and Radiated EMI: EN55015 Class B, FCC Class 47 CFR Part 15 Class B

Susceptibility: EN61000-4-2, -3, -4, -5, -6 and -11

ANSI c62.41-1991 Category A1, 2.5kV Ringwave

**Life Expectancy:** 50,000 hrs minimum @ 90C case temp.

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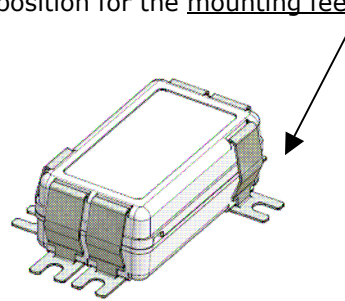
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## Mechanical Details

Packaging Options:	Encapsulated with ABS plastic body enclosure
I/O Connections:	Flying leads, 18AWG, 152mm long, 105C Rated, Stranded, Stripped by approximately 9.5mm and tinned
Mounting Details:	Universal Mounting Clips and 6 mounting locations per package allow installer to choose the most suitable position for the <u>mounting feet</u>
Ingress Protection:	IP20 Rated

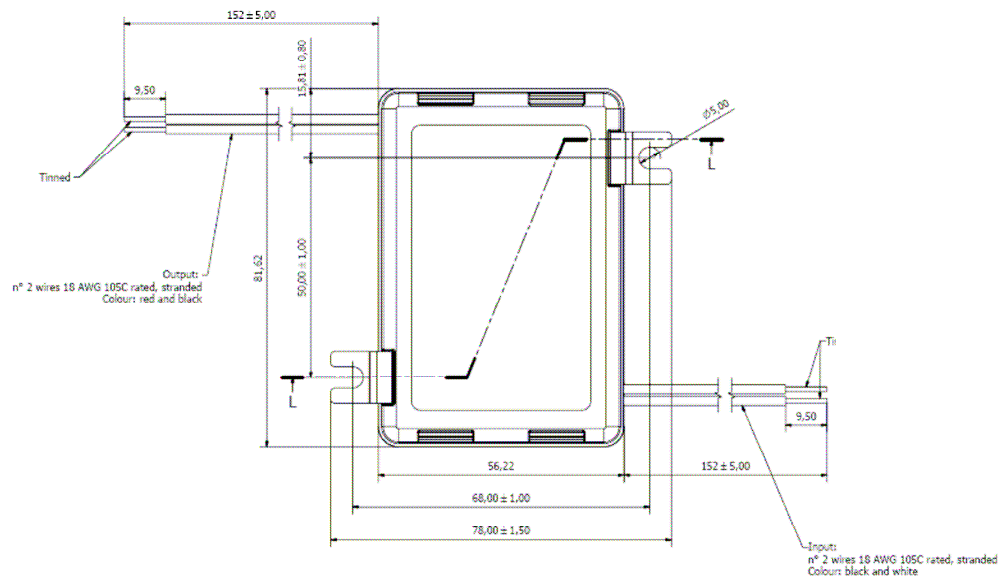
*Universal Mount  
A Patent Pending Design*



## Outline Drawing

Max Dimensions: 82mm x 56mm x 29mm, 3.21" x 2.21" x 1.13"  
Mass: 145 grams, 5.1 Oz.

Volume: 133 cm<sup>3</sup>, 8.0 in<sup>3</sup>



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### Environmental

Operating Temperature:	-30°C to +90°C case temp without derating
Operating Relative Humidity:	5% to 95%, non condensing
Storage Temperature:	-40°C to +85°C
Surface Temperature:	Exposed surfaces <90°C under all operating conditions
Cooling:	Convection cooled

### Safety Agency Approvals

UL60950-1 Recognized. LPS Output	UL8750 compliant
EN61347-2-13 electronic control gear for LED Modules	ENEC Mark and CE Mark for EU

Notes Regarding European (ENEC) approvals:

1. All models with  $V_{out} < 25VDC$  are SELV equivalent per EN61347-2-13.
2. All models with  $V_{out} > 25VDC$  are considered "Isolated Control Gear" per EN61347-2-13

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## Model Table

Model Number	Pout Max (watts)	Vin Range (vac)	Vout Min* (vdc)	Vout Max* (vdc)	Iout Set (mA)
RLDD015L-350	16.8	90 – 135	24	48	350
RLDD015L-350H	7.4	90 – 135	12	21	350
RLDD015L-350J	11.2	90 – 135	18	32	350
RLDD015L-480	6.5	90 – 135	10	13.5	480
RLDD015L-600	7.2	90 – 135	8	12	600
RLDD015L-700	16.8	90 – 135	16	24	700
RLDD015L-800	9.6	90 – 135	8	12	800
RLDD015L-900	14.4	90 – 135	10	16	900
RLDD015L-900L	10.8	90 – 135	8	12	900
RLDD015L-1000	16	90 – 135	10	16	1000
RLDD015L-1200	16.92	90 – 135	10	14.1	1200
RLDD015L-1250	15	90 – 135	8	12	1250
RLDD015L-1400**	16.1	90 – 135	8	11.5	1400
RLDD015L-1500	15	90 – 135	5	10	1500
RLDD015H-350	16.8	176 – 265	24	48	350
RLDD015H-350H	7.4	176 – 265	12	21	350
RLDD015H-350J	11.2	176 – 265	18	32	350
RLDD015H-480	6.5	176 – 265	10	13.5	480
RLDD015H-600	7.2	176 – 265	8	12	600
RLDD015H-700	16.8	176 – 265	16	24	700
RLDD015H-800	9.6	176 – 265	8	12	800
RLDD015H-900	14.4	176 – 265	10	16	900
RLDD015H-900L	10.8	176 – 265	8	12	900
RLDD015H-1000	16	176 – 265	10	16	1000
RLDD015H-1200	16.92	176 – 265	10	14.1	1200
RLDD015H-1250	15	176 – 265	8	12	1250
RLDD015H-1400**	16.1	176 – 265	8	11.5	1400
RLDD015H-1500	15	176 – 265	5	10	1500

**Some models are built to order. Please call the factory to check availability.**

\* Total LED forward voltage must be within these ratings under all conditions including dimming. Roal Application Note 23 provides additional technical information.

\*\* 80°C maximum case rating

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