

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
- ROHS Compliant



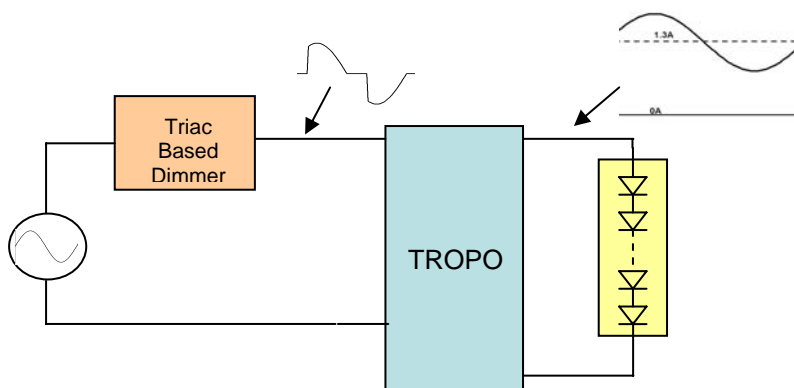
TROPO is designed for powering LED luminaries with standard lighting controls. The modules operate with:

- 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: >0.9
(PF is >0.8 for 230VAC Models
with output power <10W)

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 Trope Application Note #1, Line Voltage Dimming of Trope 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

Eu and RoW

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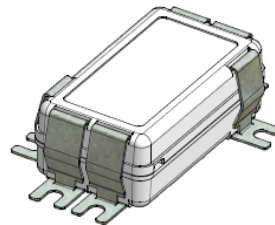
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Mechanical Details

| | |
|---------------------|---|
| Packaging Options: | Partially 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 |

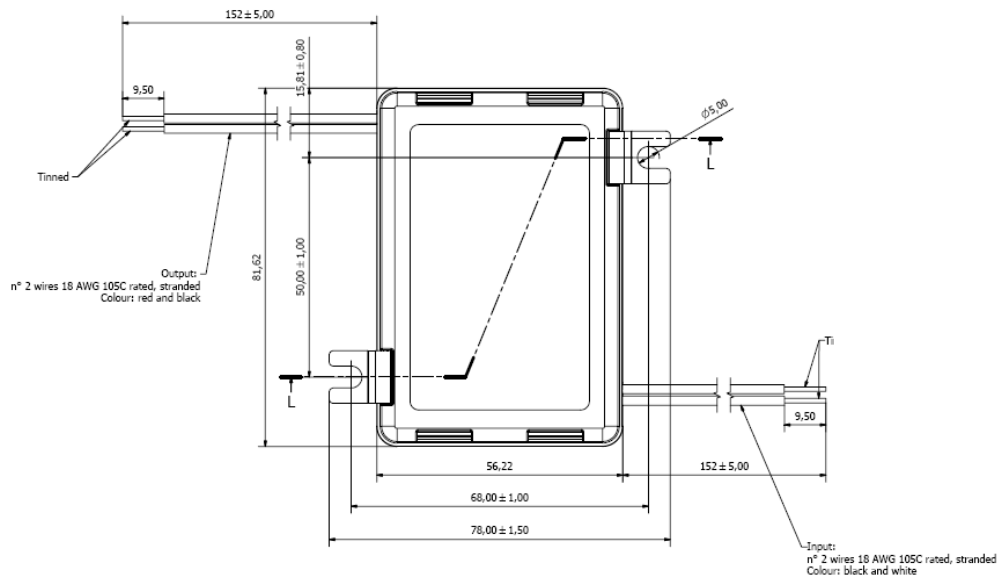
Universal Mount
A Patent Pending Design



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 cm³, 8.0 in³



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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 | 15.84 | 90 – 135 | 10 | 13.2 | 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 | 15.84 | 176 - 265 | 10 | 13.2 | 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 consult the factory to check availability.

* Total LED forward voltage must be within these ratings under all conditions including dimming. Roal Tropro Application Note 2 provides additional technical information.

** 80°C maximum case rating

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