

Features

TROPO (Ballast Replacement) 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 and packaged in an industry standard metal enclosure.

- 120VAC Inputs
- 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 Recognized
- Long Life
- ROHS Compliant



Applications and Benefits

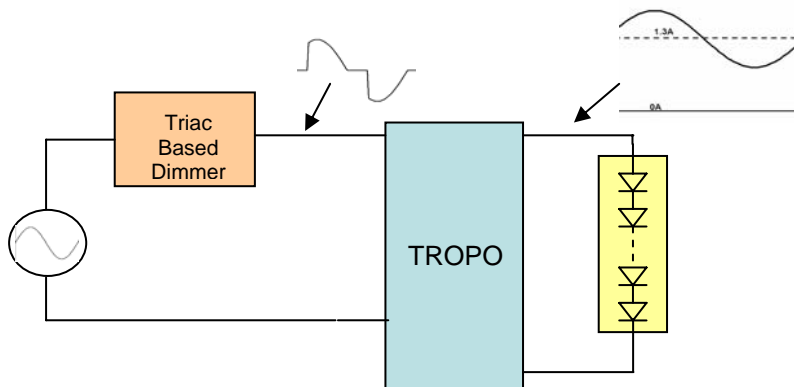
TROPO is designed for powering LED luminaries with standard lighting controls. The modules operate with:

- 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 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: 120VAC: 90 – 135VAC
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 Application Note 21, Line Voltage Dimming of Tropro 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 Class47CFR 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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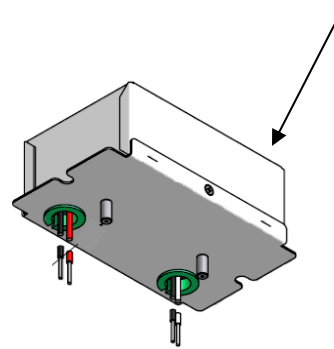
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Mechanical Details

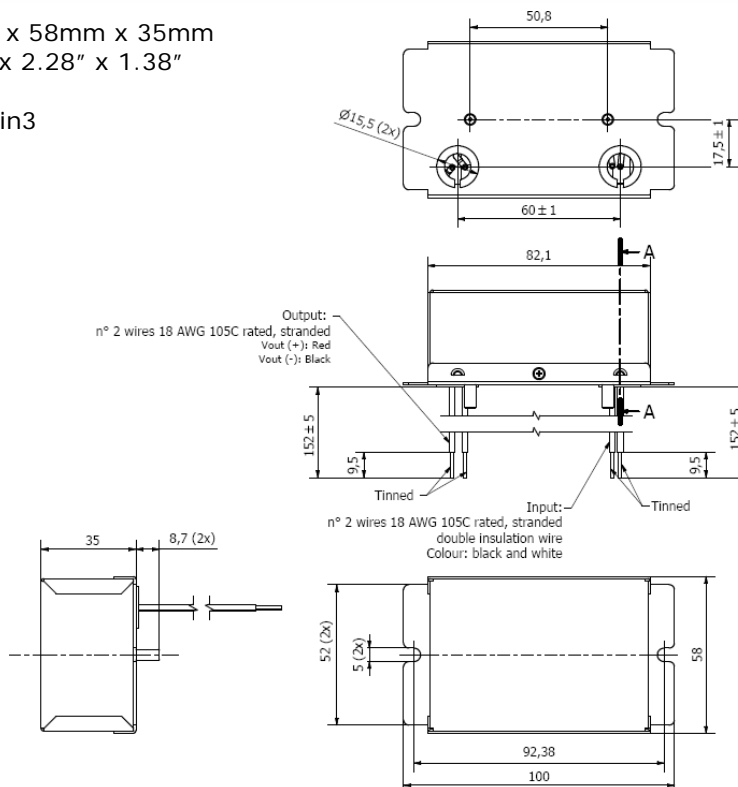
| | |
|---------------------|---------------------------------------------------------------------------------------------------|
| Packaging Options: | Partially encapsulated with steel enclosure – can be mounted external to the fixture |
| I/O Connections: | Flying leads, 18AWG, 152mm long, 105C Rated, Stranded, Stripped by approximately 9.5mm and tinned |
| Mounting Details: | Universal Mounting with industry standard studs or flange mounting |
| Ingress Protection: | IP20 Rated |



Outline Drawing

Max Dimensions: 82mm x 58mm x 35mm
3.23" x 2.28" x 1.38"

Volume: 167 cm³, 10.2 in³
Mass: 312 grams, 11 oz



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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, UL8750 Recognized, LPS and Class 2 Output

Model Table

| Model Number | Pout Max (watts) | Vin Range (vac) | Vout Min* (vdc) | Vout Max* (vdc) | Iout Set (mA) |
|------------------|------------------|-----------------|-----------------|-----------------|---------------|
| RCDD015L-350 | 16.8 | 90 - 135 | 24 | 48 | 350 |
| RCDD015L-350H | 7.4 | 90 - 135 | 12 | 21 | 350 |
| RCDD015L-350J | 11.2 | 90 - 135 | 18 | 32 | 350 |
| RCDD015L-480 | 6.5 | 90 - 135 | 10 | 13.5 | 480 |
| RCDD015L-600 | 7.2 | 90 - 135 | 8 | 12 | 600 |
| RCDD015L-700 | 16.8 | 90 - 135 | 16 | 24 | 700 |
| RCDD015L-800 | 9.6 | 90 - 135 | 8 | 12 | 800 |
| RCDD015L-900 | 14.4 | 90 - 135 | 10 | 16 | 900 |
| RCDD015L-1000 | 16 | 90 - 135 | 10 | 16 | 1000 |
| RCDD015L-1200 | 15.84 | 90 - 135 | 10 | 13.2 | 1200 |
| RCDD015L-1250 | 15 | 90 - 135 | 8 | 12 | 1250 |
| RCDD015L-1400 ** | 16.1 | 90 - 135 | 8 | 11.5 | 1400 |
| RCDD015L-1500 | 15 | 90 - 135 | 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 Application Note 23 provides additional technical information.

** 80°C maximum case rating

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