

## DESCRIPTION

STRATO switch mode driver technology is designed to generate one constant current output from a wide range AC input. The size and performance of these products make them the ideal choice for LED lighting applications.

## MAIN FEATURES

- Wide Input Range: 120/220-240/277 V<sub>AC</sub>
- Constant Current Output
- High Efficiency up to 90 %
- Compact Design
- Trimmable Output Current Settings
- Dimmable with 0-10 V / 1-10 V Dimmers
- Over-Temperature Protection for LEDs (NTC)
- Convection Cooled
- Wide Operating Temperature Range
- SELV<sup>1</sup>
- Long Life
- RoHS Compliant

<sup>1</sup> only RSLD070-14 and RSLD070-25 versions



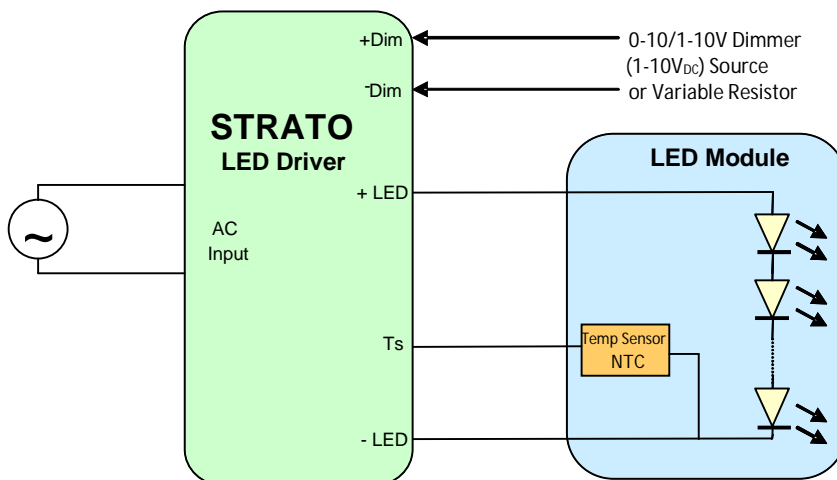
## APPLICATIONS AND BENEFITS

STRATO is designed for directly powering LEDs in commercial & industrial lighting applications.

The product's extremely **small form factor** and **high efficiency** makes it suitable for integration into most light fixtures and standard electrical junction boxes.

A host of integrated **control features**:

- Simplify Light Fixture Design
- Ease Safety Approval Cycles
- Lower Fixture Complexity and Cost



### STRATO's versatile control features:

- A Temperature sensor (NTC thermistor) protects the LED from over-temperature.
- A 2 wire Dimming input provides both output trimming, and 10-100 % I<sub>out</sub> Dimming function.

## MODEL CODING AND OUTPUT RATINGS

Model number	I <sub>OUT</sub> Max [mA]	P <sub>OUT</sub> Max [W]	Absolute Minimum V <sub>OUT</sub> <sup>2</sup> [V <sub>DC</sub> ]	Output Operative Voltage Range <sup>2</sup> [V <sub>DC</sub> ]	No Load V <sub>OUT</sub> [V <sub>DC</sub> ]
RSLD070-45	350	55	113	116.4 ÷ 158	190
RSLD070-25	700	61	63	64.9 ÷ 88	100
RSLD070-14	1400	65.8	33	34.0 ÷ 47	60

**Table 1:** Driver Ratings

<sup>2</sup> The Output Operative Ranges have been specified in order to avoid possible hiccup phenomena at lower limits determined by certain working conditions (maximum LED temperature, minimum output current). However, the drivers can operate between the Absolute Minimum V<sub>OUT</sub> and V<sub>OUT</sub> (max) limits.

## CONTROLS

**Output Controls:** Two dedicated inputs provide control and safety features.

**Dim:** A dimming input can be used to adjust the output setting via a standard commercial wall dimmer, an external control voltage source (1 to 10 V<sub>DC</sub>), or a variable resistor when using the recommended number of LEDs. The input permits 100 % to 80 % trimming and 100 % to 10 % dimming. This permits active control of the driver and may be used for trimming and dimming purposes. See STRATO **Application Note #1** for details on functionality and compatibility with standard industry practices.

**Is:** The Temperature input may be connected to a 100k NTC thermistor. The thermistor should be located on the LED assembly to monitor its temperature. If the temperature exceeds a predetermined set point, the output current of the module is automatically reduced to regulate the temperature of the LED at a safe level. See STRATO **Application Note #1** for details.

## INPUT AND OUTPUT SPECIFICATION

Specification	Test Conditions / Notes	Min	Nom	Max	Units
<b>AC Input Voltage</b>	120/220-240/277 V <sub>AC</sub> Device starts and operates at 90 V <sub>AC</sub> at all load conditions	90	120/220-240/277	305	V <sub>AC</sub>
<b>Input Frequency</b>		47	50/60	63	Hz
<b>Input Current</b>	120 V <sub>AC</sub> Rated Load	-	-	0.65	A
	230 V <sub>AC</sub> Rated Load	-	-	0.34	
	277 V <sub>AC</sub> Rated Load	-	-	0.30	
<b>Power Factor</b>	120 V <sub>AC</sub>	0.9	-	-	
	230 V <sub>AC</sub> at Nominal Load	0.9	-	-	
	277 V <sub>AC</sub> at 80-100 % rated current	0.9	-	-	
<b>THD<sup>3</sup></b>	120/220-240/277 V <sub>AC</sub>	-	-	20	%
<b>Inrush Current (peak)</b>	120 V <sub>AC</sub> Half Value time: 150 μs	-	-	13.4	A
	230 V <sub>AC</sub> Half Value time: 190 μs	-	-	27.9	
	277 V <sub>AC</sub> Half Value time: 130 μs	-	-	31.0	
<b>Efficiency</b>	120 V <sub>AC</sub> Rated Load	-	91	-	%
	230 V <sub>AC</sub> Rated Load	-	92	-	
	277 V <sub>AC</sub> Rated Load	-	92	-	
<b>Harmonic Current</b>	Complies with EN-61000-3-2, Class C load >25 W with output voltage between 93 % and 100 %				

<sup>3</sup> Total Harmonic Distortion (THD) <20 % with output voltage between 93 % and 100 % and 100 % rated output current

## OUTPUT SPECIFICATIONS

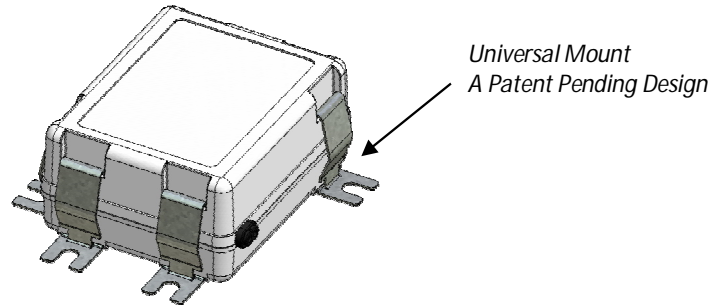
Specification	Test Conditions / Notes	Min	Nom	Max	Units
<b>Output Power Rating</b>	check Model Coding and Output Ratings table	55	-	65.8	W
<b>Output Voltage</b>	check Model Coding and Output Ratings table	33	-	158	V
<b>Output Current</b>	check Model Coding and Output Ratings table	350	-	1400	mA
<b>Ripple Current</b>	All models measured (I <sub>OUT-PK-PK</sub> /RMS)	-	-	45	%
<b>Output Regulation</b>		-	-	±3	%I <sub>OUT</sub>
<b>Start-up time</b>	With no dimmer connected	-	-	500	ms

## PROTECTION FEATURES

Specification	Test Conditions / Notes	Min	Nom	Max	Units
<b>Output Over Voltage</b>		110	-	130	%V <sub>MAX</sub>
<b>Output Short-Circuit</b>	Hiccup, auto Recovery	-	-	-	-
<b>Over-Temperature Tc</b>	Hiccup, auto Recovery if the PSU exceeds the rated Tc temperature		90		°C
<b>No Load</b>	Check No Load Voltage in <b>Table 1</b>	60		250	V
<b>Isolation Primary-to-Secondary</b>	Reinforced/double Insulation meets IEC/EN61347-2-13 Class II				

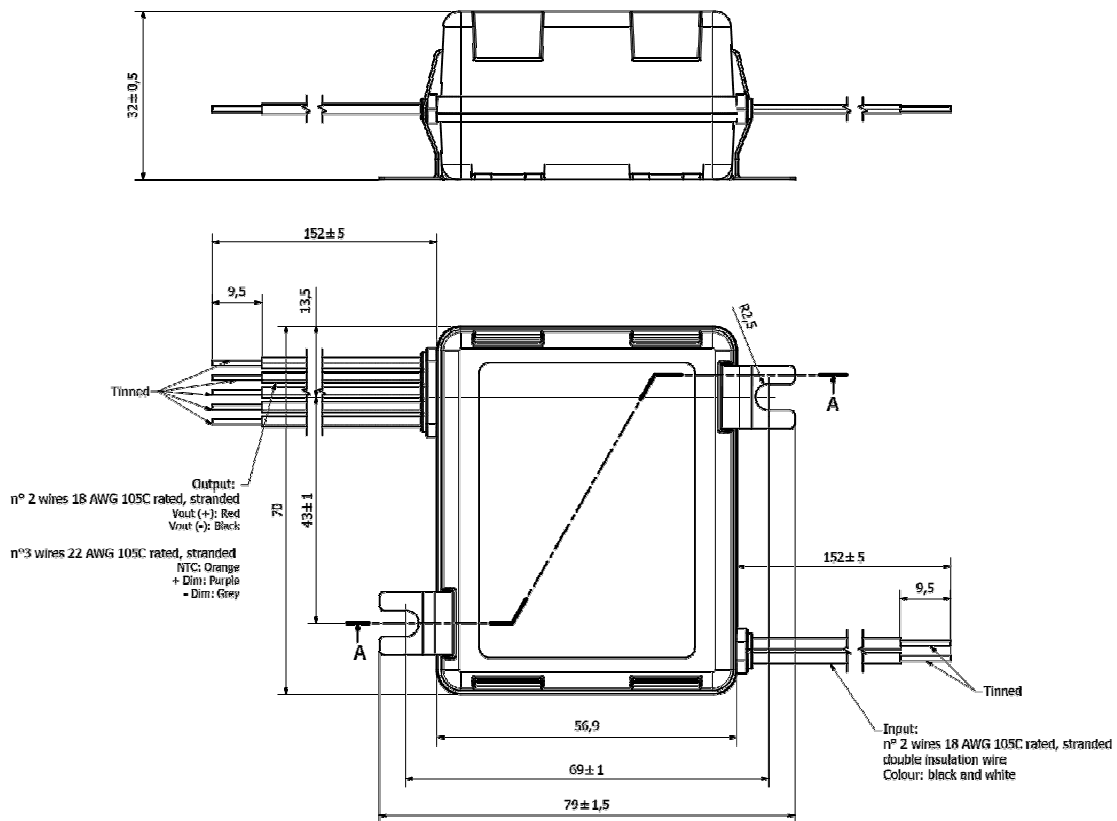
## MECHANICAL DETAILS

- Packaging Options:** Partially Encapsulated with ABS plastic body enclosure
- I/O Connections:** Flying leads, 18AWG on power leads, 20AWG on control leads, 152 mm long, 105 °C Rated, Stranded, Stripped by approximately 9.5mm and tinned. Double insulation input wires.
- Ingress Protection:** IP20, UL damp rated
- Mounting Details:** Universal Mounting Clips, and 6 mounting locations per package allow installer to choose the most suitable position for the mounting feet. 2x clips RHML000686-xx included (additional clips upon request).



## OUTLINE DRAWINGS

- Package:** RSLD070
- Dimensions:** 70 x 57 x 32 mm (2.76 x 2.24 x 1.26 in)
- Volume:** 128 cm<sup>3</sup> (7.54 in<sup>3</sup>)
- Mass:** 170g (6 oz)



## ENVIRONMENTAL SPECIFICATIONS

Specification	Test Conditions / Notes	Min	Nom	Max	Units
<b>Top Case Temperature Range</b>	Top case temperature without derating	-30	-	90	°C
<b>Ambient Temperature Range</b>	As long as Tc temperature is within the limits	-30	-	50	°C
<b>Storage Temperature</b>		-40	-	85	°C
<b>Operating Relative Humidity</b>	Non-condensing	5	-	95	%
<b>Surface Temperature</b>	Exposed surfaces temperature under all operating conditions	-	-	90	°C
<b>Cooling</b>	Convection cooled				
<b>Shock EN 60068-2-27</b>	Operating: Half sine, 30g, 18ms, 3 axes, 6x each (3 positive and 3 negative). Non-Operating: Half sine, 50g, 11ms, 3 axes, 6x each (3 positive and 3 negative).				
<b>Vibration EN 60068-2-64</b>	Operating: 5 – 500Hz, 1gRMS (0.02g <sup>2</sup> /Hz), 3 axes, 30 min. Non-Operating: 5 – 500Hz, 2.46gRMS (0.0122g <sup>2</sup> /Hz), 3 axes, 30 min.				
<b>Vibration EN 60068-2-6</b>	Operating Sine, 10 – 500Hz, 1g, 3 axes, 1 oct/min., 60 min.				
<b>MTBF</b>	Typical Load, 70 °C Tc, MIL.HDBK-217E	-	250.000	-	Hours
<b>Useful Life</b>	Nominal V <sub>AC</sub> , 70 °C Tc Nominal Load	-	50.000	-	Hours


## ELECTROMAGNETIC COMPATIBILITY (EMC) – EMISSIONS

Phenomenon	Conditions / Notes	Standard	Performance Class
<b>Conducted Emission</b>	Test at 120 V <sub>AC</sub>	EN55022; FCC Part 15	Class B
	Test at 230 V <sub>AC</sub>	EN55015	-
	Test at 277 V <sub>AC</sub>	EN55022; FCC Part 15	Class A
<b>Radiated Emission</b>	Test at 120 V <sub>AC</sub>	FCC CFR47-part15	Class B
	Test at 230 V <sub>AC</sub>	EN55015	-
	Test at 277 V <sub>AC</sub>	FCC CFR47- part 15	Class A
<b>Harmonic Current Emissions</b>		EN61000-3-2	Class C
<b>Voltage Changes, Fluctuation and Flicker</b>		EN61000-3-3	

## ELECTROMAGNETIC COMPATIBILITY (EMC) – IMMUNITY

Phenomenon	Conditions / Notes	Standard	Note
<b>Equipment for general lighting purposes -EMC Immunity Req.</b>		EN 61547	
<b>ESD (Electrostatic Discharge)</b>		EN 61000-4-2	
<b>Radiated Radio-Frequency electromagnetic field</b>		EN 61000-4-3	
<b>Electric Fast Transient / Burst</b>	Level ±1.0 kV L-L	EN 61000-4-4	
<b>Surge</b>	Level ±1.0 kV L-L	EN 61000-4-5	
<b>Conducted disturbances induced by Radio-Frequency fields</b>		EN 61000-4-6	
<b>Voltage Dips, short interruptions and Voltage Variations</b>		EN 61000-4-11	
<b>Non-repetitive damped oscillatory transient, Ring wave</b>	2.5 kV	ANSI C.62.41	Category A

## SAFETY AGENCY APPROVALS

Certification Body	Safety Standards
	UL Recognized ANSI / UL8750, CSA C22.2 No.250.13 Models with output voltages <math><60 V_{DC}</math> include UL and CSA approval (cULRus) as Class 2 output LED Driver suitable for dry and damp location
	IEC/EN 62384 Electronic control gear for LED modules – Performance Requirements IEC/EN, 61347-1, IEC/EN 61347-2-13 Electronic control gear for LED Modules – Safety
	To obtain the “CE Declaration of Conformity” please contact <a href="mailto:info@enedopower.com">info@enedopower.com</a>
	IECEE CB Certified, IEC/EN, 61347-1, IEC/EN 61347-2-13 electronic control gear for LED Modules All models are isolated control gears, SELV equivalent, with internal reinforced insulation as per IEC/EN 61347-2-13 Drivers to be incorporated in the luminaire
	Reinforced/double Insulation meets IEC/EN61347-2-13 Class II

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