



## 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.



## KEY FEATURES

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



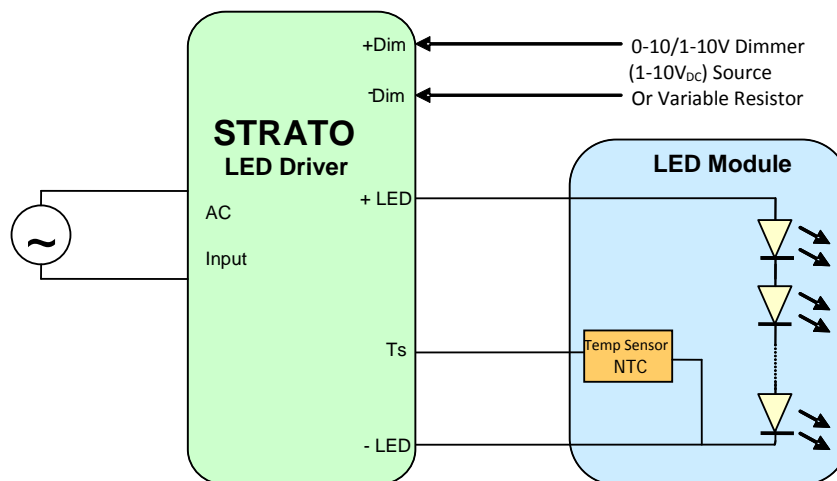
## APPLICATIONS AND BENEFITS

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% lout Dimming function.



## MODEL CODING AND OUTPUT RATINGS

Model number	I <sub>out</sub> Max	P <sub>out</sub> max	V <sub>out</sub> (min)	V <sub>out</sub> (max)	V <sub>out</sub> (No Load)
	<i>mA</i>	<i>W</i>	<i>V<sub>DC</sub></i>	<i>V<sub>DC</sub></i>	<i>V<sub>DC</sub></i>
RSLD070-60	350	74	150	210	250
RSLD070-55	350	67	138	193	231
RSLD070-50	350	61	125	175	210
RSLD070-45	350	55	113	158	190
RSLD070-40	500	70	100	140	160
RSLD070-35	500	61	88	123	147
RSLD070-30	700	74	75	105	120
RSLD070-25	700	61	63	88	100
RSLD070-20	1000	70	50	70	84
RSLD070-14	1400	65.8	33	47	60

**Table 1: Absolute Maximum Driver Ratings**

Refer to Strato Application Note #3, Output Voltage Range for proper device selection.



## 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 10V<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>	120/220-240/277V <sub>AC</sub> Device starts and operates at 90V <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>	120V <sub>AC</sub> Rated Load	-	-	0.65	A
	230V <sub>AC</sub> Rated Load	-	-	0.34	
	277V <sub>AC</sub> Rated Load	-	-	0.30	
<b>Power Factor</b>	120V <sub>AC</sub>	0.9	-	-	
	230V <sub>AC</sub> at Nominal Load	0.9	-	-	
	277V <sub>AC</sub> at 80-100% rated current	0.9	-	-	
<b>THD<sup>1</sup></b>	120/220-240/277V <sub>AC</sub>	-	--	20	%
<b>Inrush Current</b>	120V <sub>AC</sub> Half Value time: 150μs	-	-	13.4	Apk
	230V <sub>AC</sub> Half Value time: 190μs	-	-	27.9	
	277V <sub>AC</sub> Half value time: 130μs	-	-	31.0	
<b>Efficiency</b>	120V <sub>AC</sub> Rated Load	-	91	-	%
	230V <sub>AC</sub> Rated Load	-	92	-	
	277V <sub>AC</sub> Rated Load	-	92	-	
<b>Harmonic Current</b>	Complies with EN-61000-3-2, Class C load >25W with output voltage between 93% and 100%				

Note 1 Total Harmonic Distortion <20% with output voltage between 93% and 100% and 100% rated output current


**OUTPUT SPECIFICATIONS**

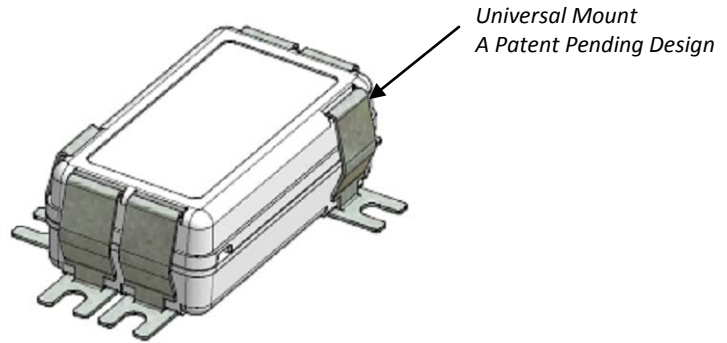
Specification	Test Conditions / Notes	Min	Nom	Max	Units
<b>Output Power Rating</b>	check Model Coding and Output Ratings table	61	-	74	W
<b>Output Voltage</b>	check Model Coding and Output Ratings table	33		210	V
<b>Output Current</b>	check Model Coding and Output Ratings table	350		1400	mA
<b>Ripple 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 Table 1	60		250	V
<b>Isolation Primary-to-Secondary</b>	Reinforced/double Insulation meets IEC/EN61347-2-13 Class II				


**MECHANICAL DETAILS**

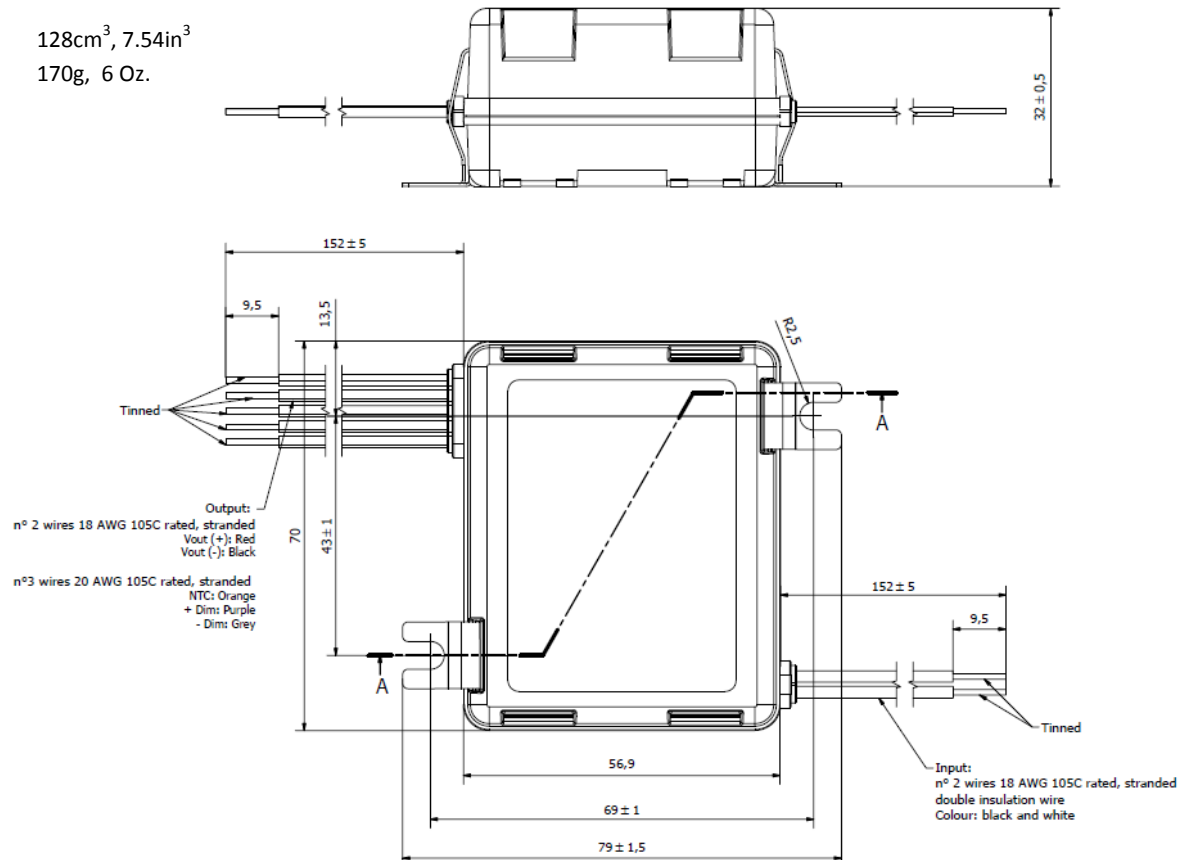
**Packaging Options:** Partially Encapsulated with ABS plastic body enclosure  
**I/O Connections:** Flying leads, 18AWG on power leads, 20AWG on control leads, 152mm long, 105°C Rated, Stranded, Stripped by approximately 9.5mm and tinned  
**Mounting Details:** Universal Mounting Clips, and 6 mounting locations per package allow installer to choose the most suitable position for the mounting feet.


**OUTLINE DRAWINGS**
**Package: RSLD070**

**Dimensions:** 70 x 57 x 32mm  
 2.76 x 2.24 x 1.06in

**Volume:** 128cm<sup>3</sup>, 7.54in<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, 30 g, 18 ms, 3 axes, 6x each (3 positive and 3 negative). Non-Operating: Half sine, 50 g, 11 ms, 3 axes, 6x each (3 positive and 3 negative).				
<b>Vibration EN 60068-2-64</b>	Operating: 5 – 500Hz, 1gRMS (0.02 g <sup>2</sup> /Hz), 3 axes, 30 min. Non-Operating: 5 – 500Hz, 2.46gRMS (0.0122 g <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	-	250k	-	Hours
<b>Useful Life</b>	Nominal V <sub>AC</sub> , 70°C Tc Nominal Load	-	50k	-	Hours







**ELECTROMAGNETIC COMPATIBILITY (EMC) – EMISSIONS**

Phenomenon	Conditions / Notes	Standard	Performance Class
<b>Conducted Emission</b>	Test at 120Vac	EN55022; FCC Part 15	Class B
	Test at 230V <sub>AC</sub>	EN55015	-
	Test at 277V <sub>AC</sub>	EN55022; FCC Part 15	Class A
<b>Radiated Emission</b>	Test at 120Vac	FCC CFR47-part15	Class B
	Test at 230V <sub>AC</sub>	EN55015	-
	Test at 277V <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 ±1.0kV L-L	EN 61000-4-4	
<b>Surge</b>	Level ±1.0kV 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>	2.5kV	ANSI C.62.41	Category A


**SAFETY AGENCY APPROVALS**

Certification Body	Safety Standards
	UL Recognized ANSI / UL8750, 1 <sup>st</sup> Ed., CSA C22.2 No.250-13, 7 <sup>th</sup> Ed. Models with output voltages <60 V <sub>DC</sub> include UL and CSA approval (cURus) 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@efore.com">info@efore.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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