

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_{AC}
- 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



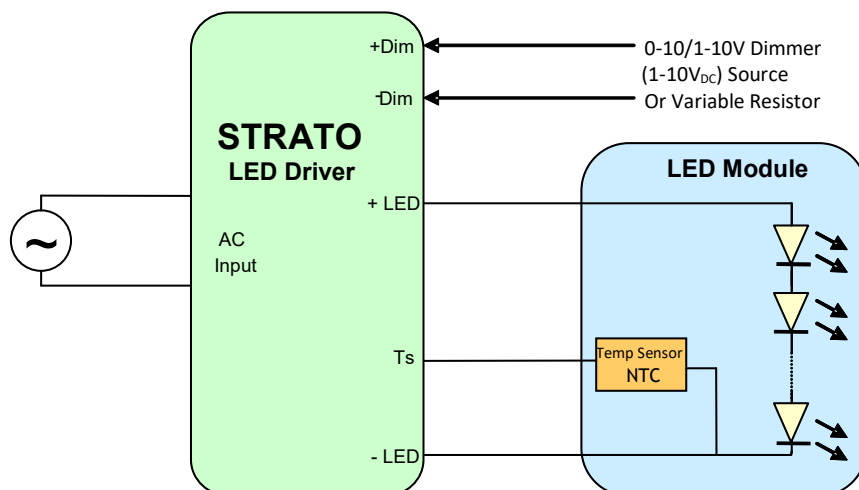
APPLICATIONS AND BENEFITS

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 _{out} Max <i>mA</i>	P _{out} max <i>W</i>	V _{out} (min) <i>V_{DC}</i>	V _{out} (max) <i>V_{DC}</i>	V _{out} (No Load) <i>V_{DC}</i>
RSLD070-60	350	74	150	210	250
RSLD070-50	350	61	125	175	210
RSLD070-45	350	55	113	158	190
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_{DC}), 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.

Ts: 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
AC Input Voltage	120/220-240/277V _{AC} Device starts and operates at 90V _{AC} at all load conditions	90	120/220-240/277	305	V _{AC}
Input Frequency		47	50/60	63	Hz
Input Current	120V _{AC} Rated Load	-	-	0.65	A
	230V _{AC} Rated Load	-	-	0.34	
	277V _{AC} Rated Load	-	-	0.30	
Power Factor	120V _{AC}	0.9	-	-	
	230V _{AC} at Nominal Load	0.9	-	-	
	277V _{AC} at 80-100% rated current	0.9	-	-	
THD¹	120/220-240/277V _{AC}	-	-	20	%
Inrush Current	120V _{AC}	-	-	13.4	Apk
	230V _{AC}	-	-	27.9	
	277V _{AC}	-	-	31.0	
Efficiency	120V _{AC} Rated Load	-	91	-	%
	230V _{AC} Rated Load	-	92	-	
	277V _{AC} Rated Load	-	92	-	
Harmonic Current	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
Output Power Rating	check Model Coding and Output Ratings table	61	-	74	W
Output Voltage	check Model Coding and Output Ratings table	33	-	210	V
Output Current	check Model Coding and Output Ratings table	350	-	1400	mA
Ripple Current	All models measured (I _{out_pk-pk} /RMS)	-	-	45	%
Output Regulation		-	-	±3	%I _{out}
Start-up time	With no dimmer connected	-	-	500	ms



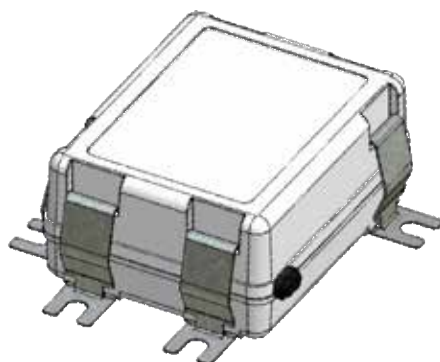
PROTECTION FEATURES

Specification	Test Conditions / Notes	Min	Nom	Max	Units
Output Over Voltage		110	-	130	%V _{MAX}
Output Short-Circuit	Hiccup, auto Recovery	-	-	-	-
Over-Temperature Tc	Hiccup, auto Recovery if the PSU exceeds the rated Tc temperature		90		°C
No Load	Check No Load Voltage in Table 1	60		250	V
Isolation Primary-to-Secondary	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. 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.

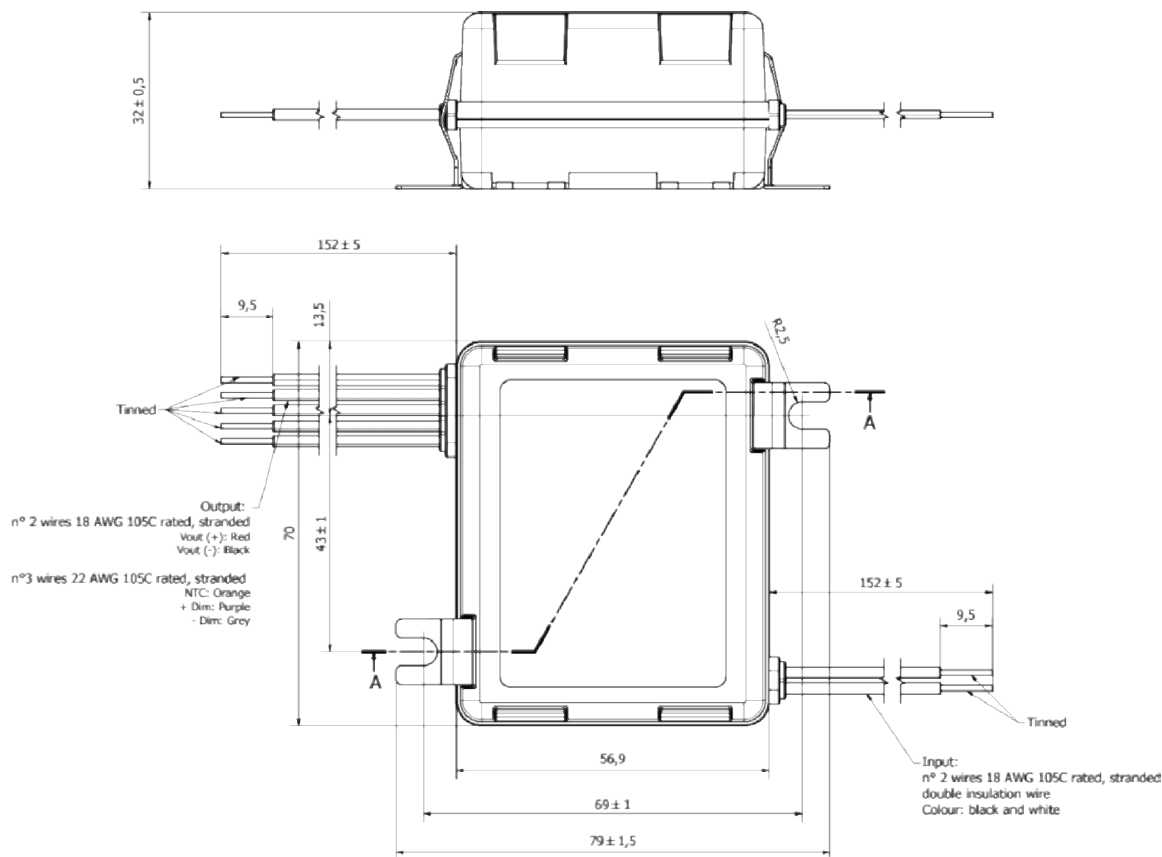


Universal Mount
A Patent Pending Design



OUTLINE DRAWINGS

- Package:** RSLD070
- Dimensions:** 70 x 57 x 32mm
2.76 x 2.24 x 1.06in
- Volume:** 128cm³, 7.54in³
- Mass:** 170g, 6 Oz.





ENVIRONMENTAL SPECIFICATIONS

Specification	Test Conditions / Notes	Min	Nom	Max	Units
Top Case Temperature Range	Top case temperature without derating	-30	-	90	°C
Ambient Temperature Range	As long as Tc temperature is within the limits	-30	-	50	°C
Storage Temperature		-40	-	85	°C
Operating Relative Humidity	Non-condensing	5	-	95	%
Surface Temperature	Exposed surfaces temperature under all operating conditions	-	-	90	°C
Cooling	Convection cooled				
Shock EN 60068-2-27	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).				
Vibration EN 60068-2-64	Operating: 5 – 500Hz, 1gRMS (0.02 g ² /Hz), 3 axes, 30 min. Non-Operating: 5 – 500Hz, 2.46gRMS (0.0122 g ² /Hz), 3 axes, 30 min.				
Vibration EN 60068-2-6	Operating Sine, 10 – 500Hz, 1g, 3 axes, 1 oct/min., 60 min.				
MTBF	Typical Load, 70°C Tc, MIL.HDBK-217E	-	250k	-	Hours
Useful Life	Nominal V _{AC} , 70°C Tc Nominal Load	-	50k	-	Hours



ELECTROMAGNETIC COMPATIBILITY (EMC) – EMISSIONS

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








ELECTROMAGNETIC COMPATIBILITY (EMC) – IMMUNITY

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



SAFETY AGENCY APPROVALS

Certification Body	Safety Standards
	UL Recognized ANSI / UL8750, 1 st Ed., CSA C22.2 No.250-13, 7 th Ed. Models with output voltages <60 V _{DC} 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”
	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