

Electrical Specifications

Input Voltage Range:	120-277 Vac Nom. (108-305 V Min/Max)
Frequency:	50/60 Hz Nom. (47-63 Hz Min/Max)
Power Factor:	≥ 0.90 @ > 50% load, 120/230Vac; 65% load, 277Vac
Inrush Current:	< 30.0 Amps max @ 277 Vac
Input Current (Max):	0.56 Amps @ 120 Vac, 60Hz 0.25 Amps @ 277 Vac, 60Hz
Maximum Power:	55W
Line Regulation:	±3%
Load Regulation:	±4%
THD:	< 20% @ > 50% load, 120/230Vac; 65% load, 277Vac
Ripple Current:	4% (Max)
Start-up Time:	500mS typical

Protections

Over-voltage	Output
Over-current	Output
Short Circuit	Auto Recovery

Environmental Specifications

Max Case Life Temp: (5 year warranty)	68°C
Maximum Case Temp (UL):	80°C
Type TL Rating:	90°C/ 68°C
Minimum Starting Temp:	-30°C
Storage Temperature:	-40°C to +85°C
Humidity:	Up to 90% RH
Cooling:	Convection
Vibration Frequency:	5 to 55 Hz/2g, 30 minutes
Sound Rating:	Class A
Lifetime:	50,000 Hours, 68°C @ Tc point (see graph for details)
MTBF:	352,000 hours @ Full Load per MIL-217F Notice 2
EMC:	FCC 47CFR Part 15 Class A compliant

- Narrow cross-section fits T5-style ballast channels
- Built-in step-dimming feature eliminates need for separate control (100%/40% output current)
- 2-stage power supply design for better performance over wide range of outputs
- Simple programming with Rset resistor
- Linear dimming curve
- NTC option allows for thermal protection of LED engine
- Flicker free output for comfort and critical applications
- Adjustable Output Current: 100-1500mA
- UL Dry & Damp Location Rated, Class 2, Type TL
- Dim to zero with 0-10V dimming
- Metal housing

Note:

LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.



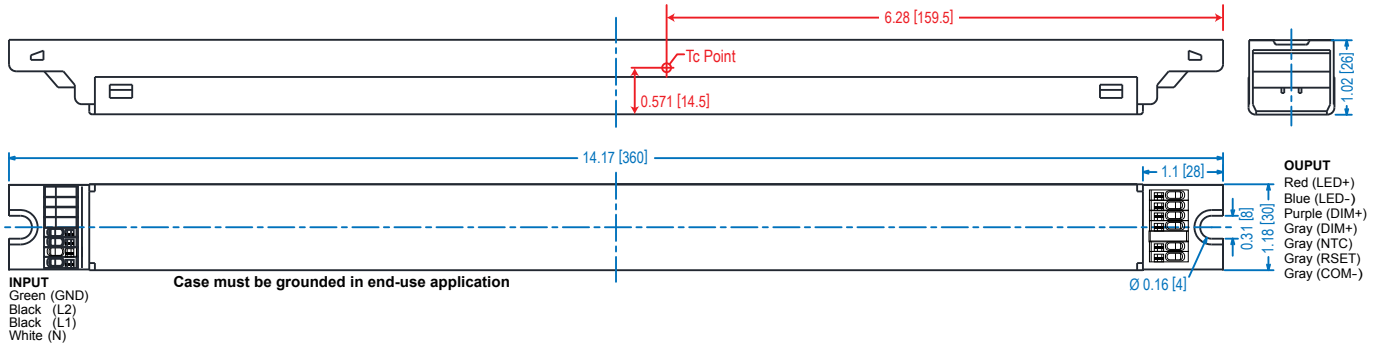
Model	Output Current (mA ±5%)	Output Voltage (Vdc)	Max Output Power (W)	Type TL Rating	Typical Efficiency
LED55WPRT5-055-C1500-D5	100-1500	12-55	55	90/68°C	88%

Class 2: US/Canada

Safety Certification	Standard
UL/CUL	UL8750, UL1310 for UL Class 2 & CAN/CSA C22.2 No. 250.13, UL Type TL 90/68°C
CE	EN61347-1, EN61347-2-13
EMC Standard	Notes
FCC, 47CFR Part 15	Class A
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
EN 61000-3-2	Part 3-2: Limits for harmonic current emissions Class C, ≥80% Rated Power
EN 61000-3-3	Part 3-3: Limitation of voltage changes, voltage fluctuations and flicker.
EN 61000-4-5	Part 4-5: Surge Immunity test, 2 kV L-N, 4 kV L-FG & N-FG
Energy Star	Energy Star transient protection: Ballast or driver shall comply with ANSI/IEEE C62.41.1-2002 and ANSI/IEEE C62.41.2-2002, Category A operation. The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both common mode and differential mode.

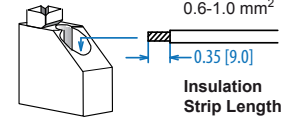


Dimensions

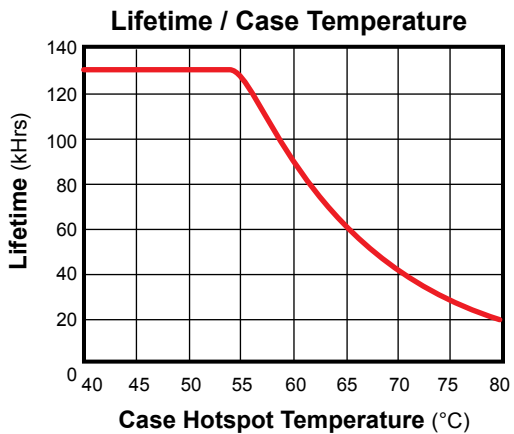
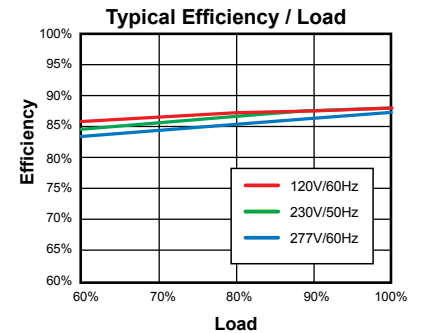
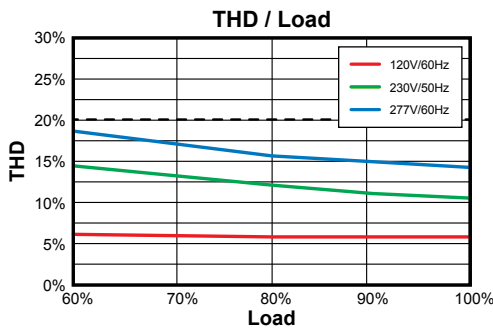
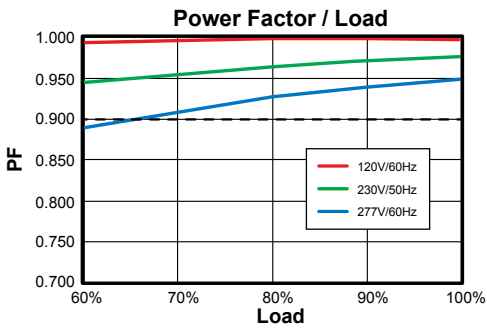


PUSH IN CONNECTORS

Wire Gauge:
AWG 22-18
0.6-1.0 mm²



Power Characteristics

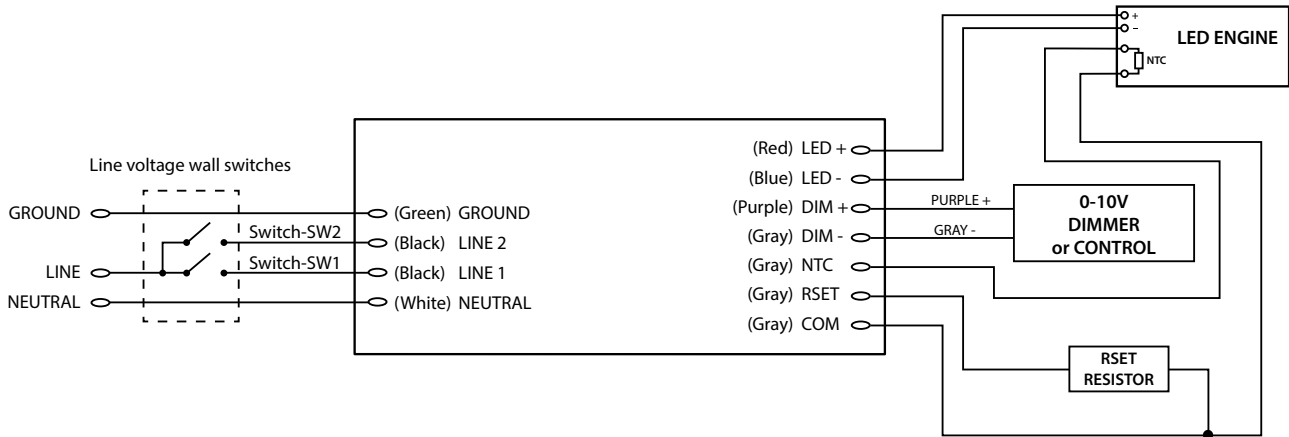


Note: The area under the life-temperature curve represents where the driver has highly reliable operation within specification. Driver performance may drift out of published specifications as the hours of operation exceed the curve at a given temperature. Higher operating temperatures increase the chances of a failure to function. Other electrical, mechanical and environmental factors affect driver lifetime but are not represented in this calculation.

UL Conditions of Acceptability

See website for additional information

Wiring



Step Dimming Logic

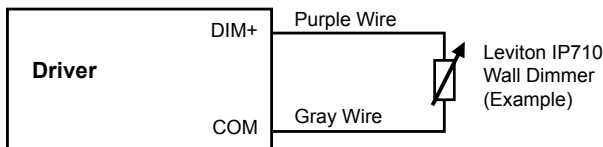
SW1	SW2	I _{out}	Pin
Open	Open	0%	0% (OFF)
Open	Closed	40%	<50%
Closed	Open	40%	<50%
Closed	Closed	100%	100%

Step Dimming Notes:

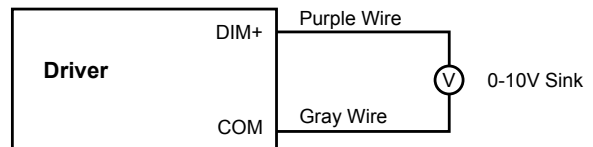
- Bi-level output is controlled with standard wall switches.
- Programmable output current must be set to a minimum of $\geq 700\text{mA}$ for step-dimming to function.

0-10Vdc Dimming

Typical Dimming Circuit: 2-Wire Resistance



Typical Dimming Circuit: 2-Wire 0-10V Analog



0-10V Dimming Notes:

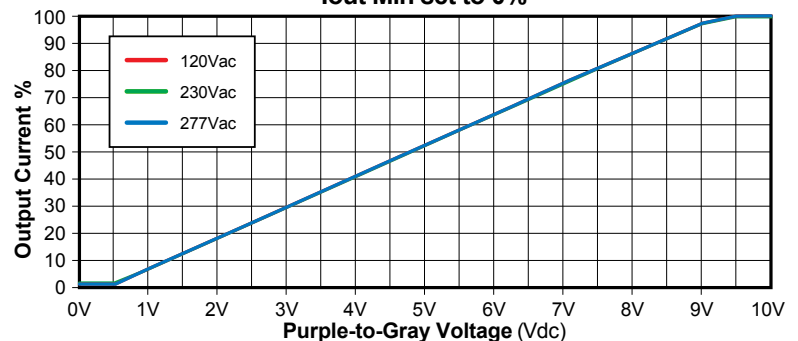
- Part comes with two dimming input connectors +Purple/-Gray on the output side.
- Part is compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal.
- Output current will be 0% when $V_{dim} \leq 0.60V$. This is dim to zero operation.
- Output will be 100% with Purple/Gray open and 0% with Purple/Gray Shorted.
- Dimming leads are isolated from input leads. Dimming leads are not isolated from output leads. Always shut off power at circuit breaker when working on electrical connections.

Labeling Programmable Drivers:

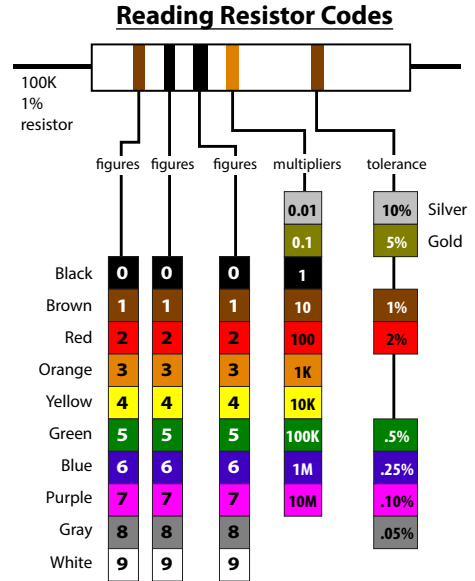
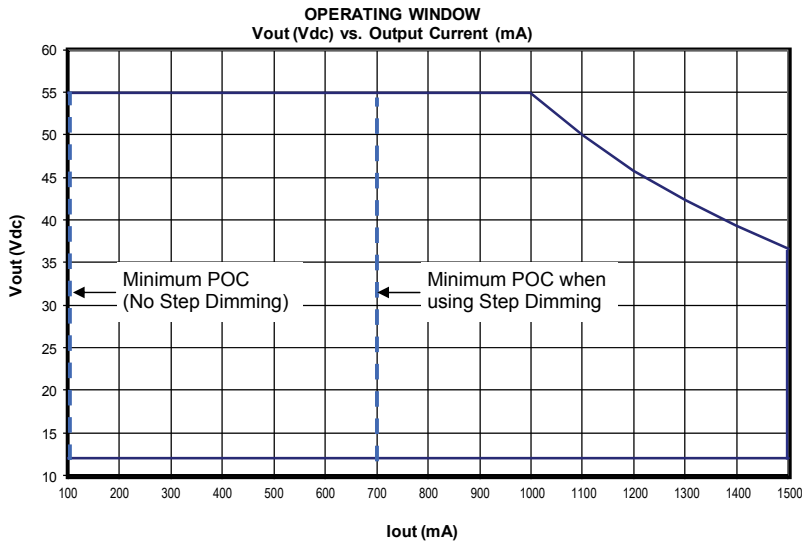
It is highly recommended that the drivers be labeled with information traceable to the programming profile. It can include the programmed output current, dimming curve type, minimum dimming level and name of the file storing the profile. **This information is critical to answering any field questions from the contractor or end user.**

Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0 mA	---	1.5 mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	---	+15 V

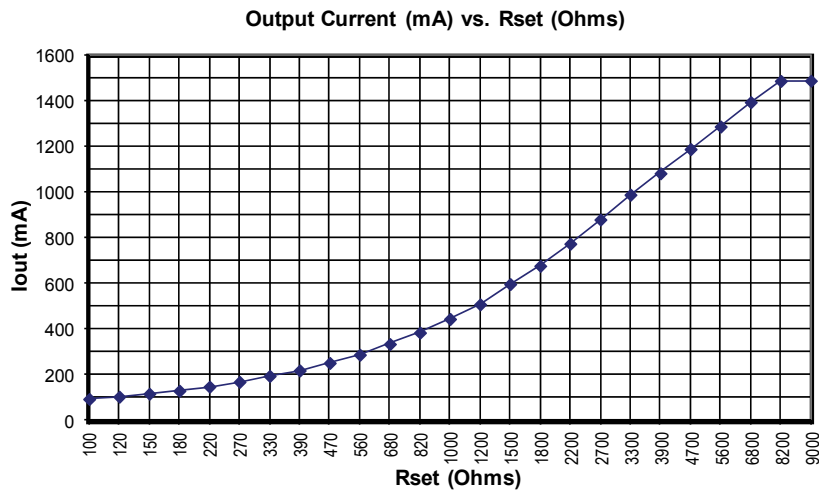
Output Current / 0-10VDC Dimming Control Voltage
I_{out} Min set to 0%



Power Operating Window



POC (Programmable Output Current)



Rset Resistor Rating: $\geq 1/4W$, $\pm 1\%$ tolerance, $\geq 20V$ rating

Rset Table

(nominal output currents)

Rset (Ω)	Iout (mA)
100	100
162	130
230	160
270	180
320	200
395	230
442	250
569	300
698	350
845	400
996	450
1150	500
1490	600
1870	700
2300	800
2800	900
3320	1000
3660	1050
5230	1250
5700	1300
6220	1350
6800	1400
7460	1450
8200	1500
9000	1500

NTC

Module Temperature Protection using External NTC (Negative Temperature Coefficient) NTC

Select a Negative Thermal Coefficient (NTC) resistor with a resistance range that allows the full output current to flow at safe LED operating temperatures.

NTC resistance should drop sufficiently to allow reduced output current at elevated or harmful LED temperature levels.

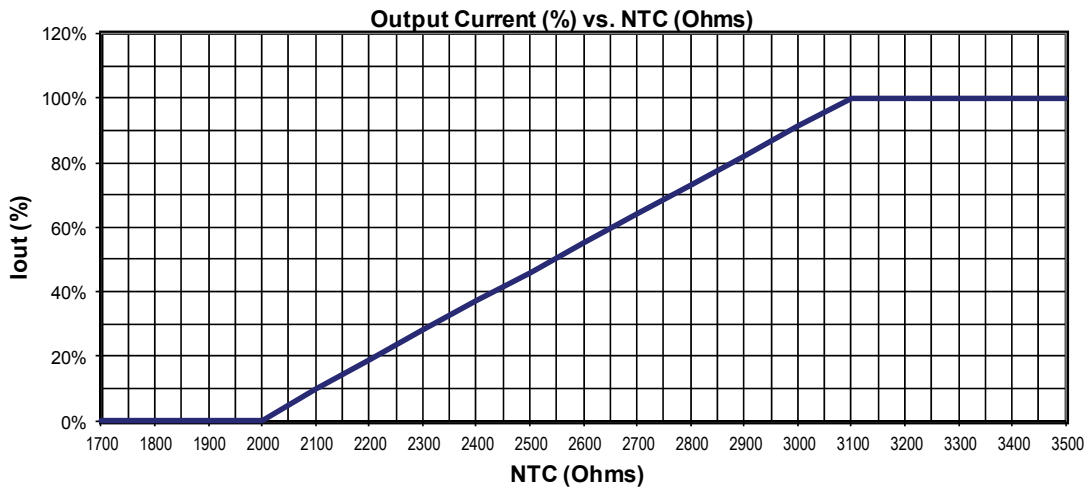
NTC operation should be thoroughly tested to ensure proper operation over all the full temperature range of the Driver and the LED Engine.

Factory settings:

NTC Minimum Ohms = 2.0K

NTC Minimum Level (%) \approx 0% I_{out} ,

NTC Maximum Ohms = 3.2K, 100% I_{out}



Module Temperature Protection Example

NTC = 805SMD, $R_{25C} = 15K \text{ Ohm} \pm 2\%$, $R_{64C} = 3700$, Vishay Part #: NTCS0805E3153GMT

Default Settings: NTC Max = 3.0K, NTC MIN = 2.0K, I_{out} Min = 10%

