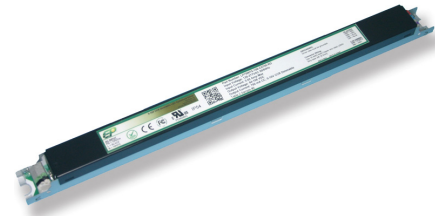


75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING



DIMMING
LP75WT5 Series
75W

Model: LP75WT5 Series

- Drive Mode: Flicker Free Constant Current or CV
- Technology: PFC Corrected 2-Stage Switch Mode
- Output Power: 75W Max.
- Input Voltage: 120 to 277VAC, 50/60Hz
- Output Voltage: 19 - 214VDC
- Output Currents: 350-2000mA
- Optional 0-10V or PWM Positive Dimming 10% - 100%

Environmental

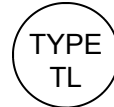
1. Operating temperature: Tc 90C Maximum. Reference -30 to +60°C ambient
2. Storage temperature range: -40 to +85°C
3. Humidity (non-condensing): 5% - 90%RH
4. Cooling: Convection
5. Vibration Frequency: 5-55Hz/2g, 30 minutes
6. Impact resistance: 1g/s
7. MTBF@ 25°C: 232,000 hours @ Full Load per MIL-217F Notice 2.

Safety and Compliance

1. UL8750, EN61347, CSA 22.2, UL Type TL recognized.
2. FCC, 47CFR Part 15 Class A certified
3. Damp & Dust resistant design IP20 NEMA1, for Dry & Damp Locations.
4. T5 Ballast style metal case..
5. Safety Isolation between Primary and Secondary
6. Meets EN61000-3-2 & EN61000-3-3 Class C
7. Protection: output over-voltage, output over-current, output short circuit, auto-recovery.
8. EN614000-4-5: 4kV/6kV 8/20 usec transient protection.

Electrical Specifications at 25°C

- Input voltage full range: 108 to 305VAC
- Frequency: 47 - 63HZ
- Power Factor: ≥ 0.90 at $\geq 50\%$ Load, 120Vac/230Vac/277Vac 50/60Hz
- THD%: $\leq 20\%$ at $\geq 50\%$ Load, 120Vac/230Vac/277Vac 50/60Hz
- Inrush current: $<60A$ at 25C, 277Vac, cold start, Max. Load
- Input current: 0.82A Maximum
- Efficiency: 88% typical at 230Vac Full Load
- Constant Current regulation: $\pm 3\%$ Over Input Line Variation
- Load regulation accuracy: $\pm 4\%$
- Leakage current: 700uA typical; Hold up time: half cycle



IP20



Constant Current Versions

Part Number ⁽²⁾	US Class 2	CN Class 2	UL Types	Output Voltage Range	Output Constant Current	Current Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LP75WT5-214-C0350	NO	NO	TL 90/79 °C	107 - 214 VDC	350 mA	$\pm 5\%$	75W	90%
LP75WT5-108-C0700	NO	NO	TL 90/66 °C	54 - 108 VDC	700 mA	$\pm 5\%$	75W	89%
LP75WT5-54-C1400	YES	YES	TL 90/69 °C	27 - 54 VDC	1400 mA	$\pm 5\%$	75W	88%
LP75WT5-38-C2000	YES	YES	TL 90/70 °C	19 - 38 VDC	2000 mA	$\pm 5\%$	76W	87%

Constant Voltage Versions

Part Number ⁽²⁾	US Class 2	CN Class 2	UL Types	Output Voltage	Output Current Range	Current Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LP75WT5-214	NO	NO	TL 90/79 °C	214 VDC	88 - 350 mA	$\pm 5\%$	75W	90%
LP75WT5-108	NO	NO	TL 90/66 °C	108 VDC	175 - 700 mA	$\pm 5\%$	75W	89%
LP75WT5-54	YES	YES	TL 90/69 °C	54 VDC	350 - 1400 mA	$\pm 5\%$	75W	88%
LP75WT5-38	YES	YES	TL 90/70 °C	38 VDC	500 - 2000 mA	$\pm 5\%$	76W	87%

Notes

1. Typical efficiency measured at 230VAC input, full load
2. For dimmable versions add appropriate designator to the end of the part number: For Example: LP75WT5-38-C2000-RD is 0-10V or resistance dimmable version, LP75WT5-38-C2000-PD is PWM dimmable version.
-RD 0-10V & Resistance dimmable version comes with an extra two connectors +Purple/-Grey on the output side.
-PD PWM Dimmable version comes with an extra two connectors +Purple/-Grey on the output side.
3. -RD 0-10V Dimming is compatible with most quality 0-10V wall dimmers and direct 0-10V analog signal. See page 3 for details.
4. -PD PWM version is PWM Dimmable via a positive 10% to 100% Duty Cycle, 500Hz to 1.5KHz, 0-10V Pulse. See page 4 for details.

75W

LP75WT5 Series

DIMMING



LED Optimized Drivers

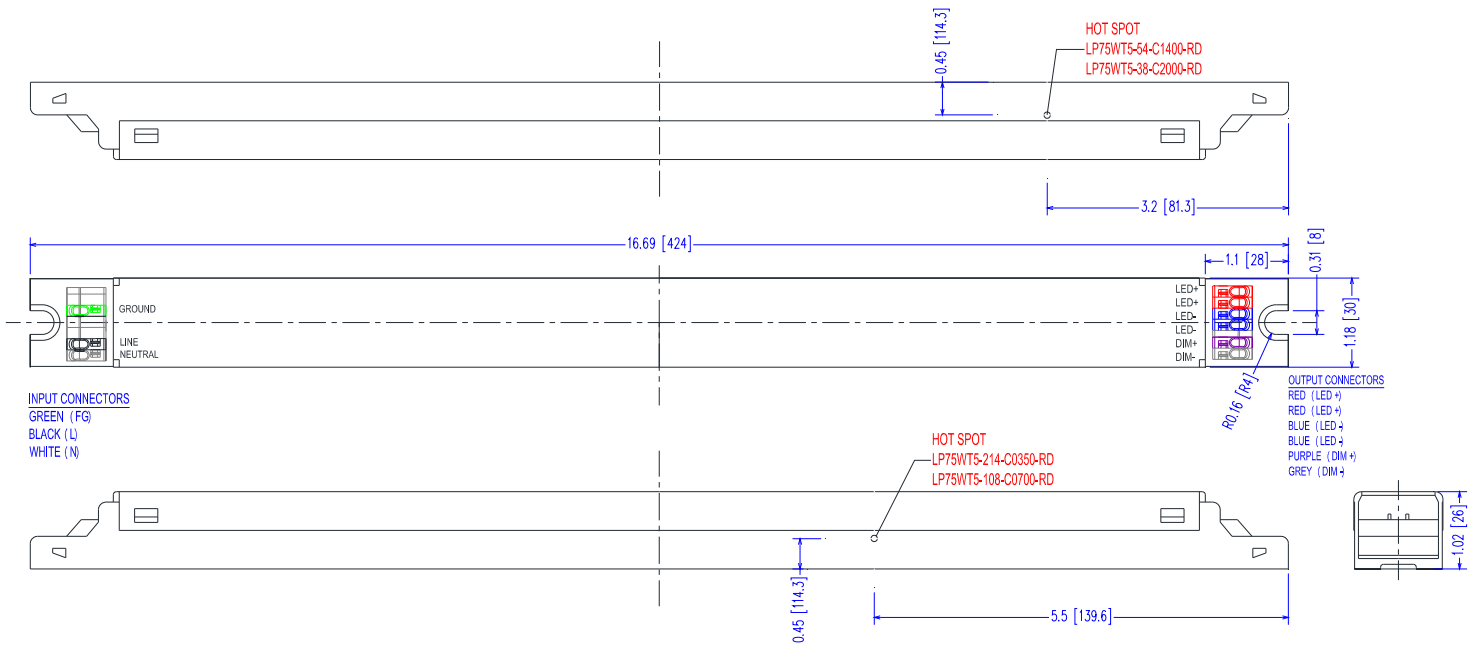
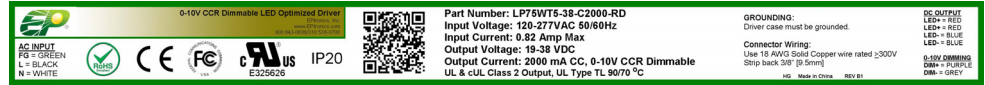
75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

Mechanical Dimensions: Inches [mm]

Material: Metal Housing
 Weight: 14 oz (400 grams) Typical
 Case must be grounded in end use application

Labeling Example



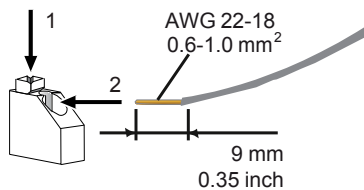
Case Parameter	Inches [mm]
Length	16.6 [424]
Width	1.2 [30.0]
Height	1.02 [26.0]
Mounting Length	16.3 [415]
Connectors	UL, KF250-3.5, WAGO 250-402 Push Pin or equivalent.

LED wiring distance

Recommended maximum wiring distance at full load.

AWG	#22	#21	#20	#19	#18
Distance (m)	10	12	14	18	22
Distance (ft)	32.8	39.4	45.9	59	72.2

KF250-3.5 CONNECTORS



75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

75W
 LP75WT5 Series
 DIMMING

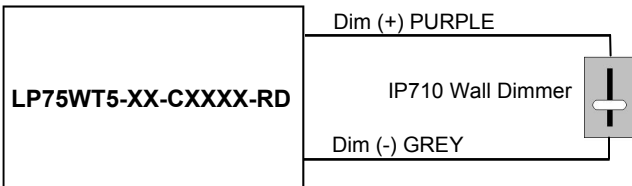
-RD 0-10V CCR Dimming Scheme

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

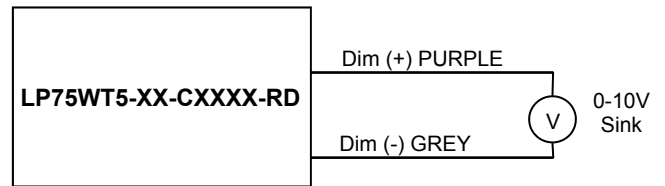
Notes

1. -RD 0-10V dimmable version comes with an extra two connectors +Purple/-Grey on the input side.
2. -RD version is compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal.
Recommended wall slide dimmer is Leviton IP710 or equivalent
3. -RD 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V
4. -RD 0-10V dimmable version output will be 100% with Purple/Grey open and minimum with Purple/Grey Shorted.

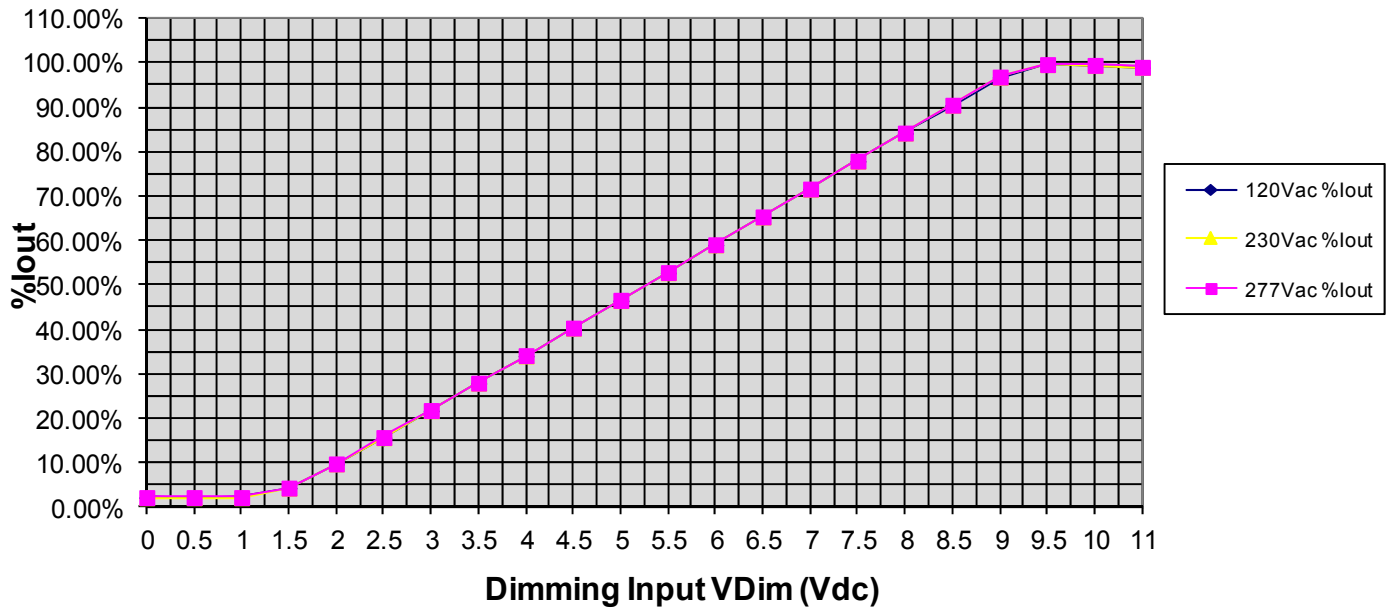
-RD 2-Wire Resistance Dimming Scheme



-RD 2-Wire 0-10V Analog Dimming Scheme



%Output Current vs. 0-10VDC Dimming Input



75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

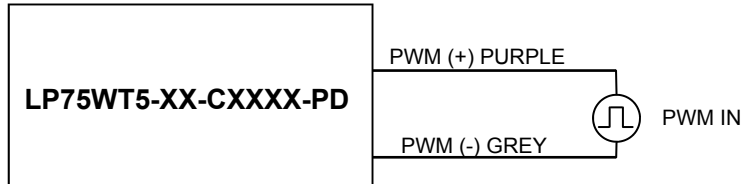
-PD 2-Wire CCR PWM Positive Dimming Scheme

Parameters	Minimum	Typical	Maximum
Absolute Maximum Voltage Range on PWM Input (Purple Wire)	-2.0V	10V	+15V
Input LOW Level Voltage Range (Purple Wire)	-2.0V	0V	+2.0V
Input HIGH Level Voltage Range (Purple Wire)	+3.5V	4.5V	+15V
PWM Input Signal Frequency	500Hz	1000Hz	1500Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

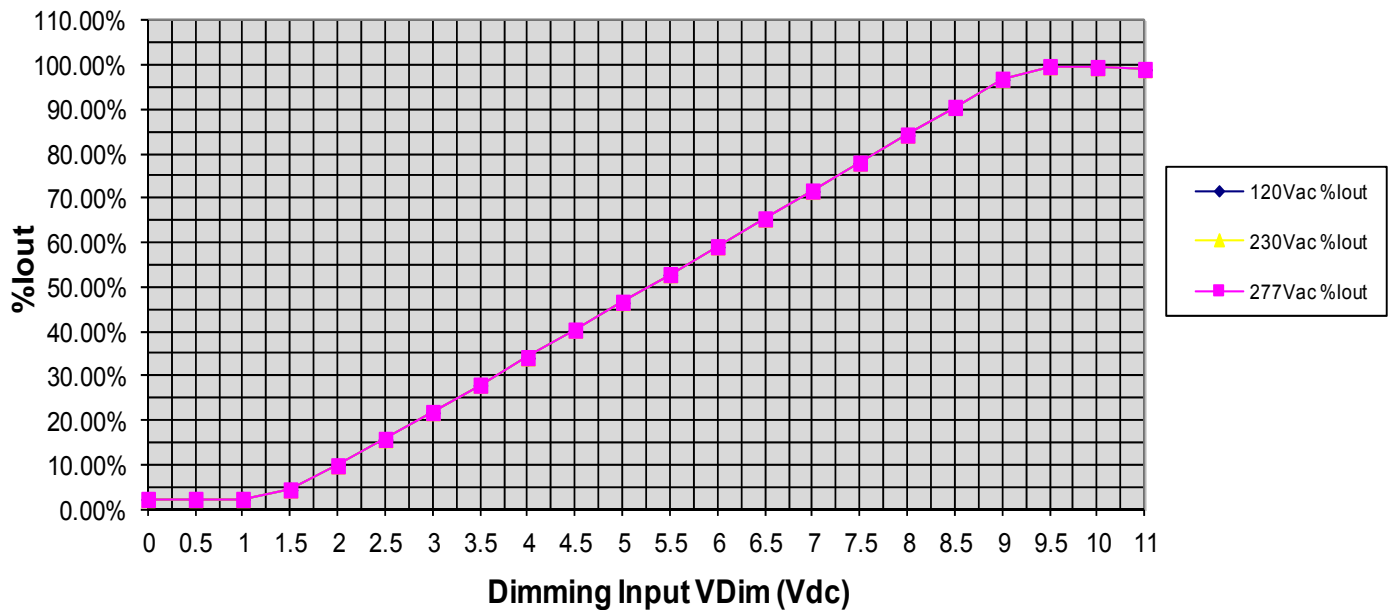
Notes

1. -PD PWM Dimmable version comes with an extra 2 connectors +Purple/-Grey on the output side.
2. -PD PWM Dimmable version is not intended to dim below about 5% @ 0% Duty Cycle or 10% @ 10% Duty Cycle
3. -PD PWM dimmable version output will be 100% with Purple/Grey open and minimum with Purple/Grey Shorted.

-PD 2-Wire PWM Positive Dimming Scheme



%Output Current vs. 0-10VDC Dimming Input



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FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

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Input Specifications

Parameter	Min.	Typ.	Max.	Notes/Conditions
Input Voltage full range	108 Vac	—	305 Vac	120, 230, 240, 277 Vac Nominal Values
Input Frequency	47 Hz	—	63 Hz	50/60Hz Nominal
Input AC Current	—	—	0.72 A	Measured at 120Vac/60Hz Input, Output Full load
	—	—	0.39 A	Measured at 230Vac/50Hz Input, Output Full load
	—	—	0.32 A	Measured at 277Vac/60Hz Input, Output Full load
Inrush Current (Peak)	—	52A	60A	Measured at 277Vac/60Hz Input, Output Full Load, Ta 25°C, Cold Start 50% Ipeak duration \approx 750 μ sec ($1/2 \cdot I_p^2 \cdot t$)
Inrush Current (I^2t)	—	—	1.35 A ² s	
Leakage Current	—	0.36mA	—	Measured at 120Vac/60Hz Input
	—	0.58mA	—	Measured at 277Vac/60Hz Input
THD	—	—	20%	Measured at 120, 230, 277Vac Input, Output \geq 50% Load
Power Factor (PF)	0.90	—	—	Measured at 120, 230, 277Vac Input, Output \geq 50% Load

Output Specifications

Parameter	Min.	Typ.	Max.	Notes/Conditions
DC Output Voltage	Per Table	—	Per Table	Per Tables on Page 1
DC Output Constant Current	-5%	Per Table	+5%	Per Tables on Page 1
Output Power	—	—	Per Table	Per Tables on Page 1
Ripple & Noise (Vpk-pk)	—	—	4% Vo	20 MHz BW, Full load output in parallel with 0.1 μ F ceramic & 10 μ F Electrolytic.
Ripple (Ipk-pk)	—	—	5% Io	20 MHz BW, Full load output in parallel with 0.1 μ F ceramic & 10 μ F Electrolytic. 120 Hz component (Flicker Free)
Start-up Time	—	200 mS	1000 mS	Measured at 120Vac/60Hz Input, Output Full load.
Hold-up Time	—	30 mS	—	Typical @ 277Vac Input, Output Full load.

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes/Conditions
Case Temperature (Tc)	-30 °C	—	+90 °C	Measured at location specified on case.
Operating Temperature (Ta)	-30 °C	—	+70 °C	This is a reference range. Tc controls temperature range.
Storage Temperature (Ts)	-40 °C	—	+85 °C	Non operating temperature range.
Operating Humidity	—	—	90% RH	Relative Humidity, non-condensing.
Vibration	5 Hz	—	55 Hz	2G, 10 minutes/1 cycle, period 30 minutes, each along X, Y, Z axis.
MTBF	232,000 Hours	—	—	MIL-HDBK-217F Notice 2, Ta = 25C, Output Full Load.

Protection Specifications

Parameter	Min.	Typ.	Max.	Notes/Conditions
Output Short Circuit (SCP)	—	—	—	No Damage, Auto recovery after short is removed.
Output Over Current (OCP)	—	—	+8% Io	Constant Current Limiting circuit.
Output Over Voltage (OVP)	—	—	120% Vo	No Damage, Auto recovery after fault is removed.

75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

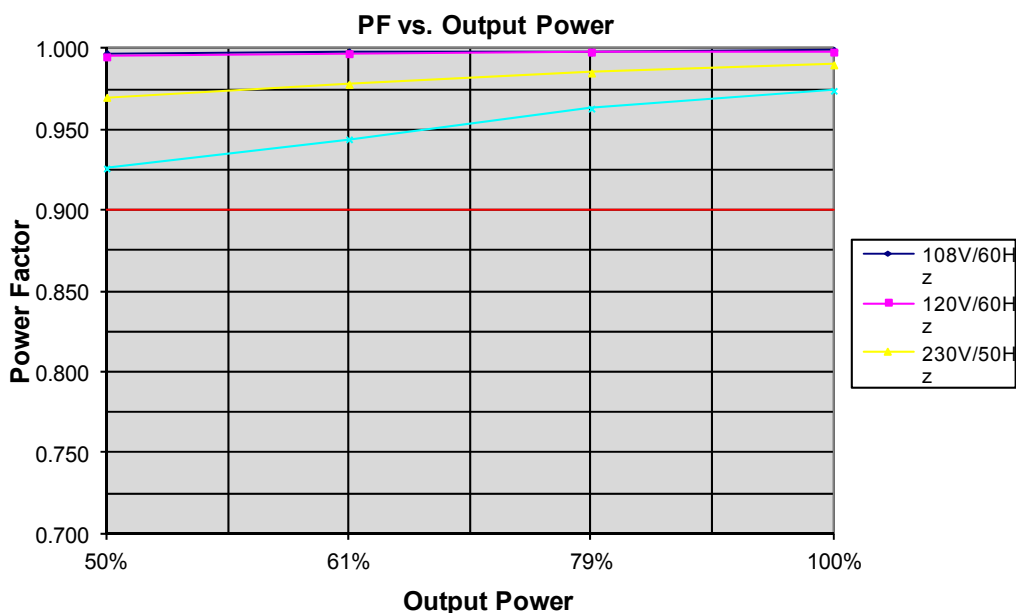
Safety Certification

Safety	Notes/Standards
UL/CUL	UL8750, UL1310 for UL Class 2 & CAN/CSA C22.2 No. 250.13, UL Type TL
CE	EN61347-1, EN61347-2-13
Withstand Voltage	Input to Output: 3750 Vac
Isolation Resistance	Input to Output: >100 M Ω , 500VDC @ 25 °C, 70 % RH
Dimming Circuit	+Purple/-Gray are considered part of the secondary circuit.
FG	The metal case of the driver must be connected to earth ground (FG) in the end-use application.

EMC Certification

Standard	Notes/Conditions
FCC, 47CFR Part 15	Class A
EN 61000-3-2	Part 3-2: Limits for harmonic current emissions Class C, $\geq 80\%$ 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, 4 kV L-N, 6 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.

Power Factor Curves (Typical)



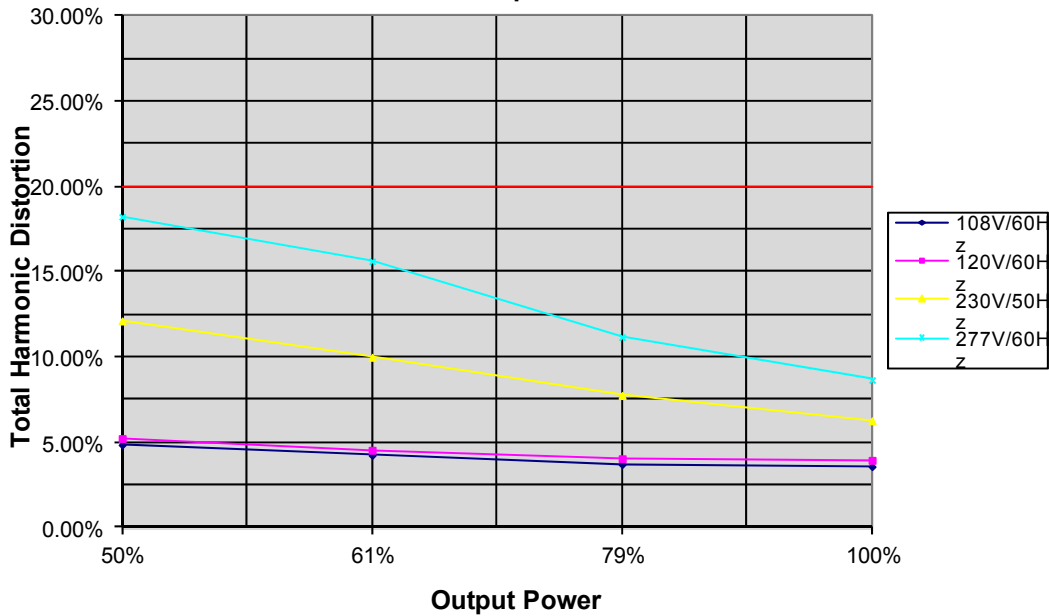
75 Watt - LP75WT5 Series

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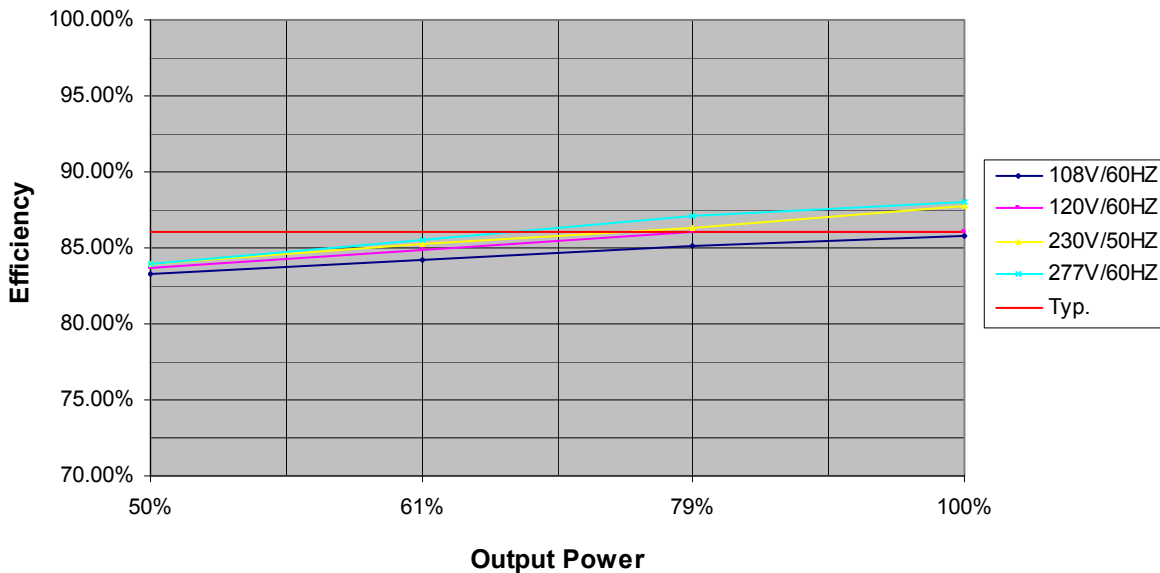
THD Curves (Typical)

THD vs. Output Power



Efficiency Curves (Typical)

Efficiency vs. Output Power

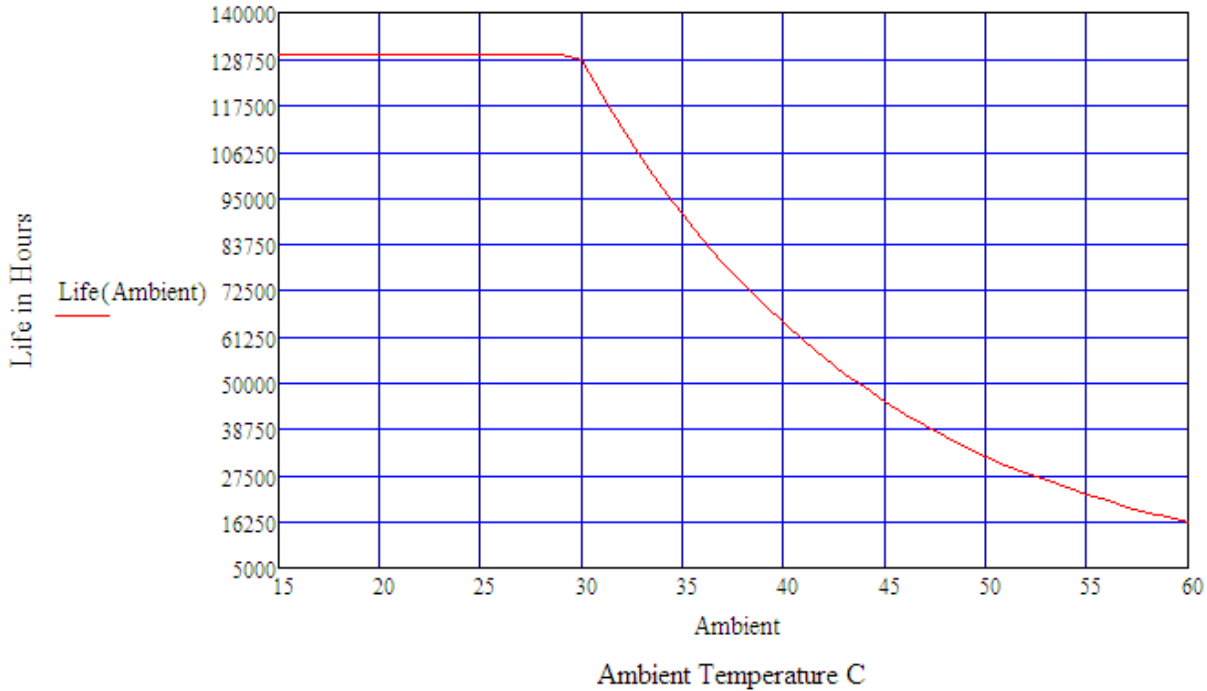


75 Watt - LP75WT5 Series

FLICKER FREE CONSTANT CURRENT LED DRIVER WITH DIMMING

Life vs. Ambient Temperature

LP75WT5 Estimated Life Full Load @ 120Vac



Life vs. Case (Tc) Temperature

LP75WT5 Estimated Life Full Load @ 120Vac

