

60 Watt - LD60W Series

CONSTANT VOLTAGE OR CONSTANT CURRENT LED DRIVER WITH DIMMING



DIMMING
LD60W Series
60W

Model: LD60W Series

- Drive Mode: Constant Current or Constant Voltage
- Technology: PFC Off-Line Switch Mode
- Output Power: 60W Max.
- Input Voltage: 90 to 305Vac, 47- 63Hz
- Number of Outputs: One
- Output Voltages: 4VDC - 170VDC
- Output Currents: 350mA - 5000mA
- Optional 0-10V or PWM Positive Dimming 10% - 100%

Environmental

1. Operating temperature: Tc 90C Maximum. Reference -30 to +65°C ambient
2. Storage temperature range: -40 to +85°C
3. Humidity (non-condensing): 5% - 95%RH
4. Cooling: Convection
5. Vibration Frequency: 5-55Hz/2g, 30 minutes
6. Impact resistance: 1g/s
7. MTBF@ 40°C: 418,000 hours @ Full Load per MIL-217F Notice 2.

Safety and Compliance

1. UL8750, EN61347, CSA C22.2 No. 250.13 safety compliant
2. FCC, 47CFR Part 15 Class B compliant
3. Water resistant and Dust Proof Design: IP66, NEMA6, for Dry, Damp, Wet Locations.
4. Compact Miniature, Lightweight Design.
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. EN61000-4-5: 2kV/4kV 8/20 µsec surge protection.

Electrical Specifications at 25°C

- Input voltage range: 90 to 305VAC
- Frequency: 47- 63HZ
- Power Factor: ≥ 0.90 at $> 85\%$ Load, 120Vac/230Vac/277Vac 50/60Hz
- THD%: $\leq 20\%$ at $> 85\%$ Load, 120Vac/230Vac/277Vac 50/60Hz
- Inrush current: $<30A$ at 25C, 230Vac, cold start, Max. Load
- Input current: 0.90A Maximum
- Efficiency: 90% typical at 230Vac Full Load
- Constant Current regulation: $\pm 2\%$ Over Input Line Variation
- Load regulation accuracy: $\pm 4\%$
- Leakage current: 400uA typical; Hold up time: half cycle



IP66



Constant Current Versions

Part Number ⁽²⁾	US Class 2	CN Class 2	Output Voltage Range	Output Constant Current	Current Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LD60W-170-C0350	NO	NO	56 - 170 VDC	350 mA	$\pm 3\%$	60W	90%
LD60W-134-C0450	NO	NO	44 - 134 VDC	450 mA	$\pm 3\%$	60W	90%
LD60W-86-C0700	NO	NO	28 - 86 VDC	700 mA	$\pm 3\%$	60W	90%
LD60W-58-C1050 ⁽⁵⁾	YES	NO	19 - 58 VDC	1050 mA	$\pm 3\%$	60W	89%
LD60W-48-C1250 ⁽⁵⁾	YES	NO	16 - 48 VDC	1250 mA	$\pm 3\%$	60W	89%
LD60W-43-C1400 ⁽⁵⁾	YES	NO	14 - 43 VDC	1400 mA	$\pm 3\%$	60W	88%
LD60W-36-C1670 ⁽⁵⁾	YES	YES	12 - 36 VDC	1670 mA	$\pm 3\%$	60W	88%
LD60W-27-C2300 ⁽⁵⁾	YES	YES	9 - 27 VDC	2300 mA	$\pm 3\%$	60W	86%
LD60W-24-C2500 ⁽⁵⁾	YES	YES	8 - 24 VDC	2500 mA	$\pm 3\%$	60W	86%
LD60W-22-C2720 ⁽⁵⁾	YES	YES	7 - 22 VDC	2720 mA	$\pm 3\%$	60W	86%
LD60W-20-C3000 ⁽⁵⁾	YES	YES	7 - 20 VDC	3000 mA	$\pm 3\%$	60W	85%
LD60W-18-C3330 ⁽⁵⁾	YES	YES	6 - 18 VDC	3330 mA	$\pm 3\%$	60W	85%
LD60W-15-C4000 ⁽⁵⁾	YES	YES	5 - 15 VDC	4000 mA	$\pm 3\%$	60W	84%
LD60W-12-C5000 ⁽⁵⁾	YES	YES	4 - 12 VDC	5000 mA	$\pm 3\%$	60W	84%

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: LD60W-18-C3330-RD is 0-10V or resistance dimmable version, LD60W-18-C3330-PD is PWM dimmable version.
-RD 0-10V & Resistance dimmable version comes with an extra two wires +Purple/-Grey on the output side.
-PD PWM Dimmable version comes with an extra two wires +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.
5. SELV Equivalent.

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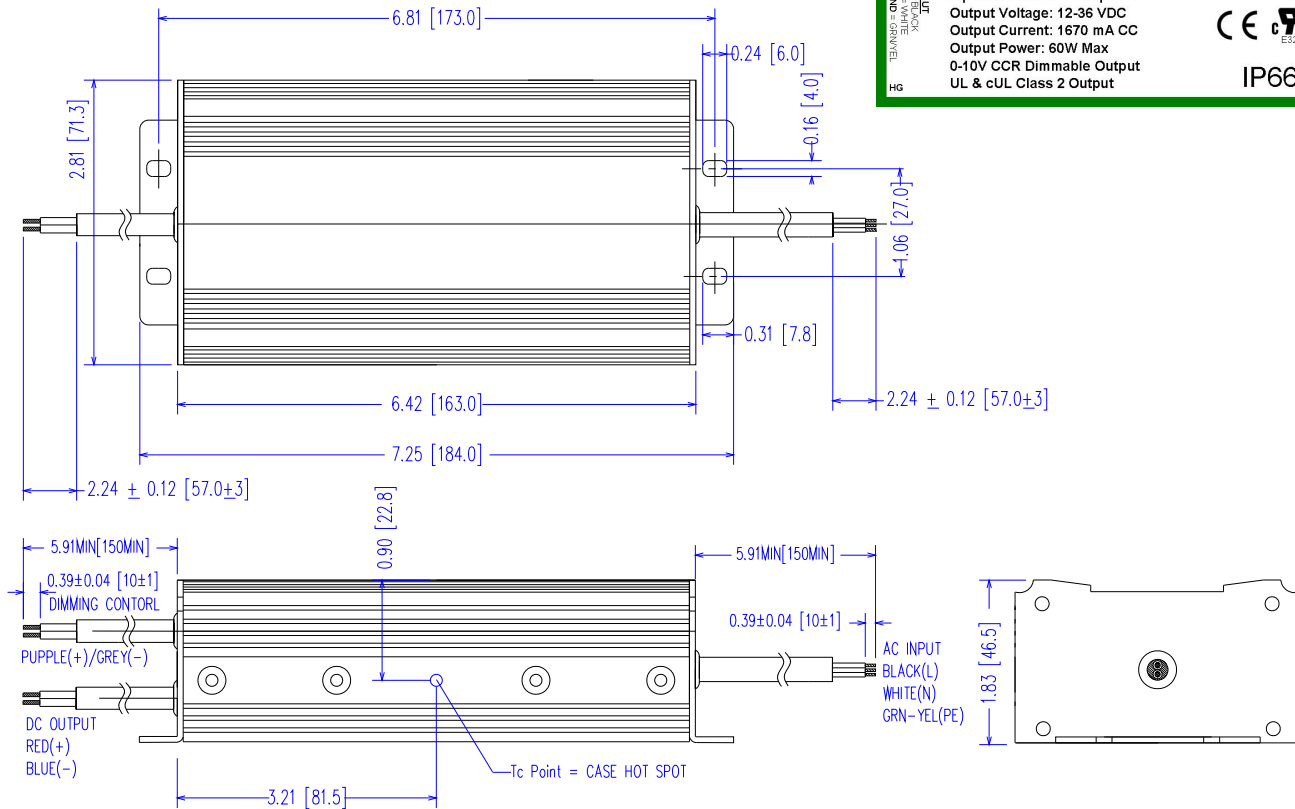
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Constant Voltage Versions

Part Number	US Class 2	CN Class 2	Output Voltage	Output Current Range	Voltage Accuracy	Output Power Maximum	Typical Efficiency ⁽¹⁾
LD60W-170	NO	NO	170 VDC	88 - 350 mA	± 5%	60W	90%
LD60W-134	NO	NO	134 VDC	113 - 450 mA	± 5%	60W	90%
LD60W-86	NO	NO	86 VDC	175 - 700 mA	± 5%	60W	90%
LD60W-58 ⁽⁵⁾	YES	NO	58 VDC	263 - 1050 mA	± 5%	60W	89%
LD60W-48 ⁽⁵⁾	YES	NO	48 VDC	313 - 1250 mA	± 5%	60W	89%
LD60W-43 ⁽⁵⁾	YES	NO	43 VDC	350 - 1400 mA	± 5%	60W	88%
LD60W-36 ⁽⁵⁾	YES	YES	36 VDC	418 - 1670 mA	± 5%	60W	88%
LD60W-27 ⁽⁵⁾	YES	YES	27 VDC	575 - 2300 mA	± 5%	60W	86%
LD60W-24 ⁽⁵⁾	YES	YES	24 VDC	625 - 2500 mA	± 5%	60W	86%
LD60W-22 ⁽⁵⁾	YES	YES	22 VDC	680 - 2720 mA	± 5%	60W	86%
LD60W-20 ⁽⁵⁾	YES	YES	20 VDC	750 - 3000 mA	± 5%	60W	85%
LD60W-18 ⁽⁵⁾	YES	YES	18 VDC	833 - 3330 mA	± 5%	60W	85%
LD60W-15 ⁽⁵⁾	YES	YES	15 VDC	1000 - 4000 mA	± 5%	60W	84%
LD60W-12 ⁽⁵⁾	YES	YES	12 VDC	1250 - 5000 mA	± 5%	60W	84%

Mechanical Dimensions: Inches [mm]

Material: Black Aluminum Housing



Labeling Example



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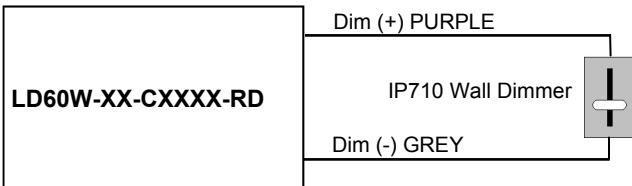
-RD 2-Wire 0-10V CCR Dimming Scheme

Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0mA	—	2mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0V	—	+15V
Sink Current into 0-10V Purple Wire	0mA	—	1.2mA

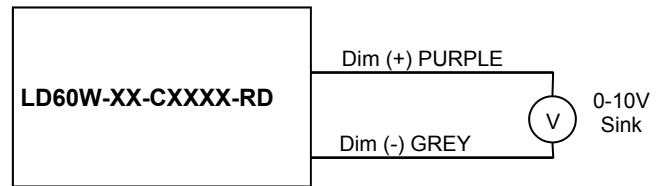
Notes

- RD 0-10V dimmable version comes with an extra two wires +Purple/-Grey on the output side.
- 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
- RD 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V
- RD 0-10V dimmable version output will be 100% with Purple/Grey open and minimum with Purple/Grey Shorted.

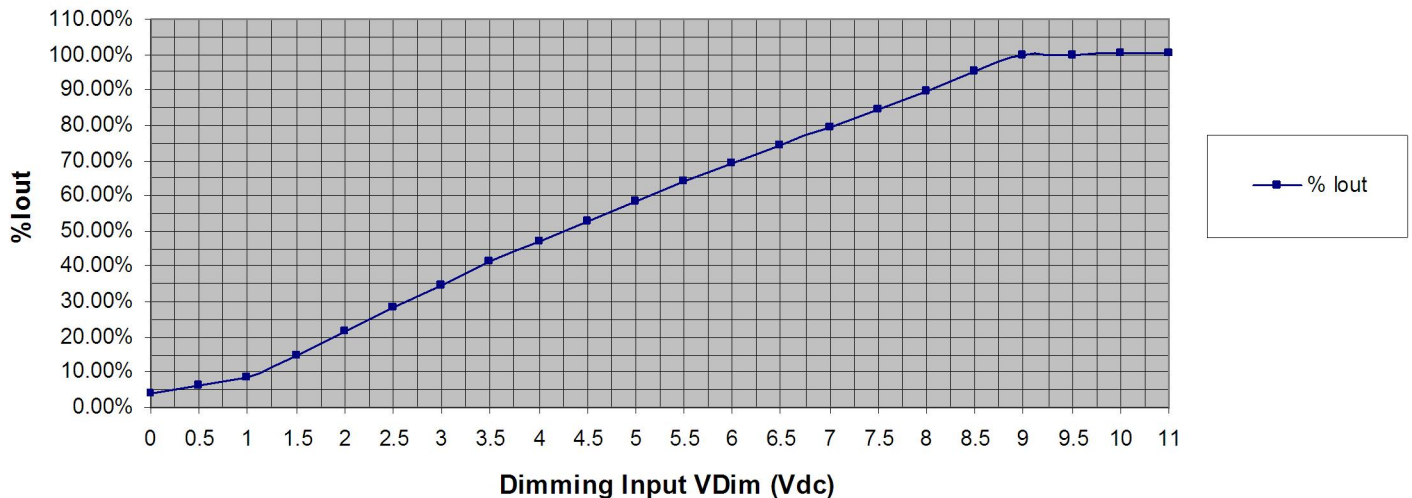
-RD 2-Wire Resistance Dimming Scheme



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



% Output Current vs. 0-10VDC Dimming Input



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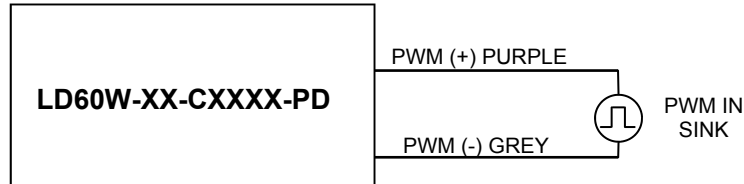
-PD 2-Wire CCR PWM Positive Dimming Scheme

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	+5.5V
Input HIGH Level Voltage Range (Purple Wire)	+9.0V	10V	+15V
Current into PWM Input (Purple Wire)	0mA	—	1.2mA
Source Current out of PWM Input (Purple Wire)	0mA	—	2mA
PWM Input Signal Frequency	500Hz	—	1500Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

Notes

1. -PD PWM Dimmable version comes with an extra 2 wires +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. 1.0 kHz, Positive Duty Cycle Dimming Input

