

120W Constant Current LED Driver LEDWC120 series

FEATURES

- Ultra High Efficiency (Up to 91%)
- Active Power Factor Correction (Up to 0.99)
- Waterproof (IP67)
- Dimming Function
- Lightning Protection
- Over Voltage, Over Temp. & Short Circuit Protection
- Comply with UL8750 & EN61347 Safety Regulations
- Very High MTBF & Life Time

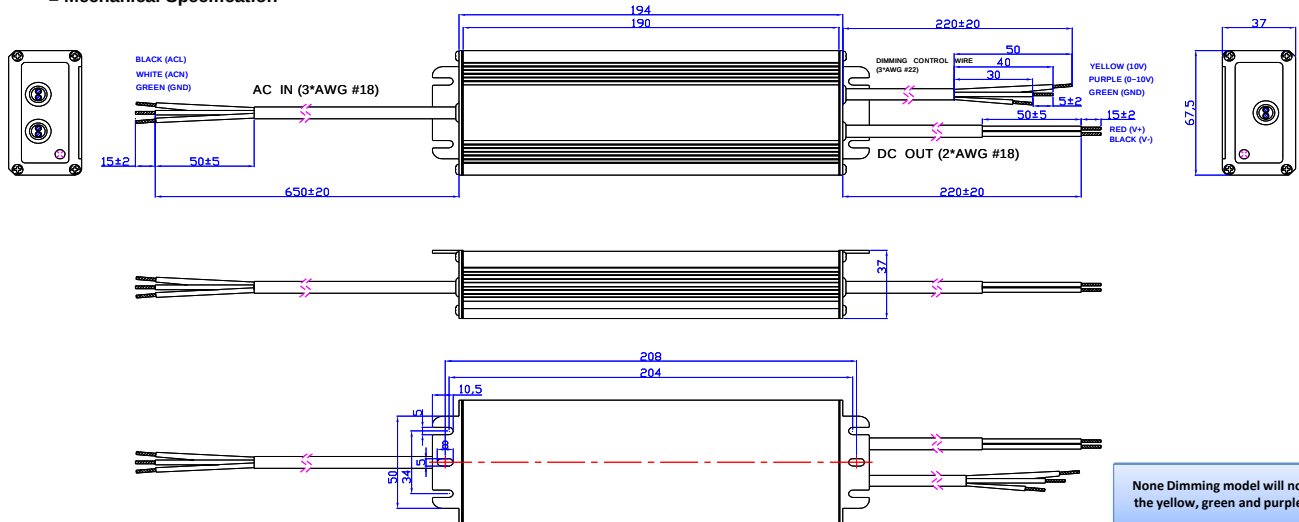


SPECIFICATION

Model		LEDWC()120S035ST	LEDWC()120S045ST	LEDWC()120S070ST	LEDWC()120S105ST	LEDWC()120S140ST	LEDWC()120S175ST	LEDWC()120S210ST
Output	Rated Current (1)	350mA	450mA	700mA	1050mA	1400mA	1750 mA	2100 mA
	Current Range (Min - Max) mA	332 - 368	427 - 473	665 - 735	997 - 1102	1330 - 1470	1662 -1837	1995 - 2205
	Rated Power	120W	120W	120W	120W	120W	120W	120W
	Ripple & Noise (max.) (2)	3% V _o Pk -Pk						
	Max. Voltage	343 Vdc	266 Vdc	171 Vdc	114 Vdc	86 Vdc	68 Vdc	57 Vdc
	Voltage Range (Min - Max)	206V - 343V	160V - 266V	103V - 171V	68V - 114V	52V - 86V	41V - 68V	34V - 57V
	Line Regulation	1%						
	Load Regulation	3%						
	Setup, Rise Time	0.6 S						
Input	Voltage Range	90V ~ 305VAC						
	Frequency Range	47Hz / 63Hz						
	Power Factor Correction	0.99 @ 100VAC and 0.96 @ 220 VAC						
	Efficiency (Typ.) at 230Vac	91%	91%	91%	90.5%	90.5%	90.5%	90.5%
	Inrush Current	65A @ 230VAC Input and 25°C						
	Leakage Current	1 mA max. at 277 Vac 50Hz input						
	AC Current (Typ.)	1.5 A / 100VAC 0.75A / 220VAC						
	Protections	Short Circuit Protection	Protection type : Hiccup mode, recovers automatically after fault condition is removed					
Over Temperature Protection		110°C Latch mode. The power supply shall return to normal operation only after the power is turn-on again.						
Over Voltage (Typ.)		446V	346V	222V	148V	112V	88V	74V
		Protection type : latch-off mode, Power supply must turn off and on again						
Environmental	Temperature Range	Operational	- 35°C ~ 65°C					
		Storage	- 40 ~ +85°C					
	Humidity	Operational	10 ~ 100% RH					
		Storage	5 ~100% R.H					
Safety & EMC	Safety Standards	UL8750 compliance to UL1310 Class 2 UL1012 UL935, CSA-C22.2 (No. 0, No 107.1, No. 250.0)						
	Withstand Voltage	I/P - O/P: 3KVAC (4242 DC) I/P - FG: 1.5KVAC (2121 DC) O/P-FG: 0.5KVAC (707 DC), 1 minute						
	EMI Conduction & Radiation	EN55015 with 6db margin						
	Harmonic Current	EN61000-3-2 , EN61000-3-3						
	EMS Immunity	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN 61547						
Others	MTBF (3)	320K HRS Compliance: MIL-HDBK-217F @ 25°C ambient temp.						
	Life Time (3)	80,000 hours @ 45°C ambient temp.						
	Dimension (L*W*H)	194*67.5*37.0 (mm) -7.64*2.66*1.46 (inch)						
	Weight	1000 g						

Model		LEDWC()120S245ST	LEDWC()120S280ST	LEDWC()120S315ST	LEDWC()120S350ST	LEDWC()120S420ST	LEDWC()120S490ST
Output	Rated Current (1)	2450mA	2800mA	3150mA	3500mA	4200mA	4900mA
	Current Range (Min - Max) mA	2327 - 2572	2660 - 2940	2992 - 3307	3325 - 3675	3990 - 4410	4655 - 5145
	Rated Power	120W	120W	120W	120W	120W	120W
	Ripple & Noise (max.) (2)	3% Vo Pk -Pk					
	Max. Voltage	49 Vdc	43 Vdc	38 Vdc	34 Vdc	28 Vdc	24 Vdc
	Voltage Range (Min - Max)	29V - 49V	26V - 43V	23V - 38V	20V - 34V	17V - 28V	14V - 24V
	Line Regulation	1%					
	Load Regulation	3%					
	Setup, Rise Time	3 S					
	Output Overshoot / Undershoot	10% When Power On or Off					
Input	Voltage Range	90V ~ 305VAC					
	Frequency Range	47Hz / 63Hz					
	Power Factor Correction	0.99 @ 100VAC and 0.96 @ 220 VAC					
	Efficiency (Typ.) at 230Vac	90.5%	90.5%	90.5%	90%	90%	89%
	Inrush Current	65A @ 230VAC Input and 25°C					
	Leakage Current	1 mA max. at 277 Vac 50Hz input					
	AC Current (Typ.)	1.5 A / 100VAC 0.75A / 220VAC					
	Protections	Short Circuit Protection	Protection type : Hiccup mode, recovers automatically after fault condition is removed				
Over Temperature Protection		110°C Latch mode. The power supply shall return to normal operation only after the power is turn-on again.					
Over Voltage (Typ.)		64V	56V	49V	44V	36V	31V
		Protection type : latch-off mode, Power supply must turn off and on again					
Environmental	Temperature Range	Operational	- 35°C ~ 65°C				
		Storage	- 40 ~ +85°C				
	Humidity	Operational	10 ~ 100% RH				
		Storage	5 ~100% R.H				
Safety & EMC	Safety Standards	UL8750 compliance to UL1310 Class 2 UL1012 UL935, CSA-C22.2 (No. 0, No 107.1, No. 250.0)					
	Withstand Voltage	I/P - O/P: 3KVAC (4242 DC) I/P - FG: 1.5KVAC (2121 DC) O/P-FG: 0.5KVAC (707 DC), 1 minute					
	EMI Conduction & Radiation	EN55015 with 6db margin					
	Harmonic Current	EN61000-3-2 , EN61000-3-3					
	EMS Immunity	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN 61547					
Others	MTBF (3)	320K HRS Compliance: MIL-HDBK-217F @ 25°C ambient temp.					
	Life Time (4+B148)	80,000 hours @ 45°C ambient temp.					
	Dimension (L*W*H)	194*67.5*37.0 (mm) -7.64*2.66*1.46 (inch)					
	Weight	1000 g					

■ Mechanical Specification



Model	LEDWC()120S035ST	LEDWC()120S045ST	LEDWC()120S070ST	LEDWC()120S105ST	LEDWC()120S140ST	LEDWC()120S175ST	LEDWC()120S210ST
Efficiency @ Full Load and 115VAC (min)	88.0%	88.0%	88.0%	87.5%	87.5%	87.5%	87.5%
Efficiency @ Full Load and 115VAC (typ)	89.0%	89.0%	89.0%	88.5%	88.5%	88.5%	88.5%
Efficiency @ Full Load and 230VAC (min)	90.0%	90.0%	90.0%	89.5%	89.5%	89.5%	89.5%
Efficiency @ Full Load and 230VAC (typ)	91.0%	91.0%	91.0%	90.5%	90.5%	90.5%	90.5%

Model	LEDWC()120S245ST	LEDWC()120S280ST	LEDWC()120S315ST	LEDWC()120S350ST	LEDWC()120S420ST	LEDWC()120S490ST
Efficiency @ Full Load and 115VAC (min)	87.5%	87.5%	87.0%	87.0%	87.0%	87.0%
Efficiency @ Full Load and 115VAC (typ)	88.5%	88.5%	88.0%	88.0%	88.0%	88.0%
Efficiency @ Full Load and 230VAC (min)	89.5%	89.5%	90.0%	90.0%	90.0%	90.0%
Efficiency @ Full Load and 230VAC (typ)	90.5%	90.5%	91.0%	91.0%	91.0%	91.0%

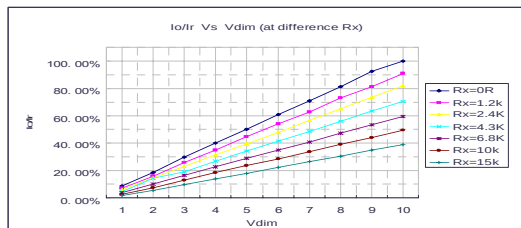
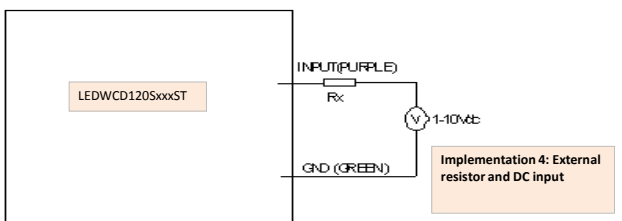
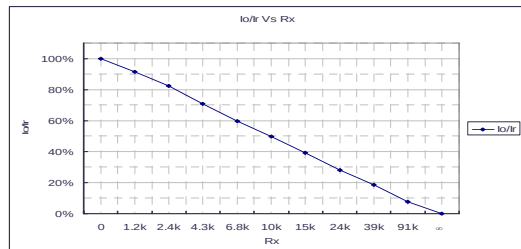
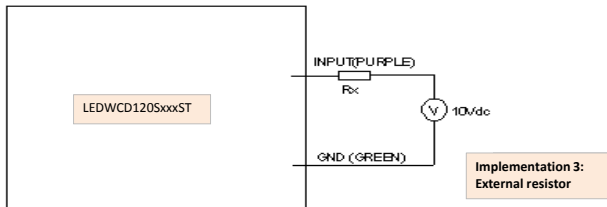
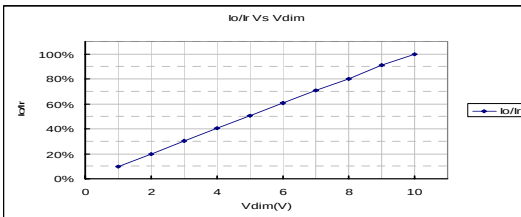
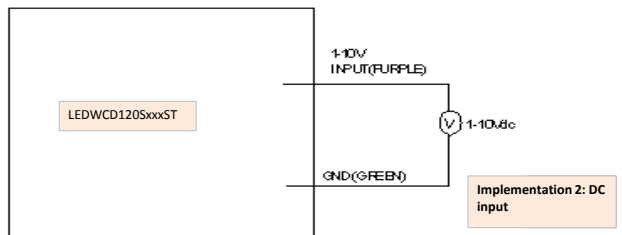
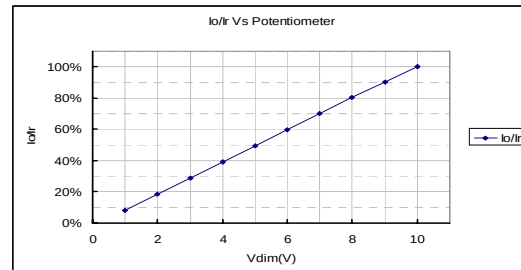
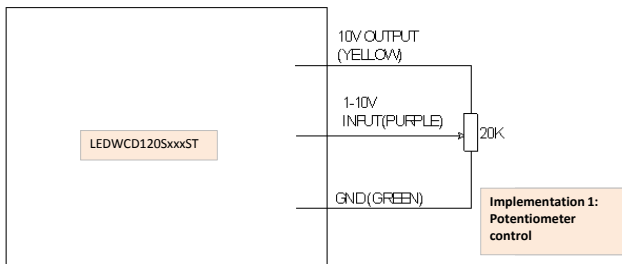
NOTES:

1. Measured at full load, 220VAC input and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth oscilloscope and the output paralleled a 0.1uf ceramic capacitor & 10 uf electrolytic capacitor.
3. For 2800mA output model, measured at 110VAC input, 80%load and 25°C of ambient temperature.
4. For 2800mA output model, measured at 220VAC input, 80%load and 45°C of ambient temperature.
5. All parameters NOT specially mentioned are measured at 220VAC input, rated load and 25°C of ambient temperature.
6. Specifications are subject to change without notice. AUTECH cannot be held liable for errors or omissions or the consequences thereof.
7. A suffix -XXXX may be added to denote variation or modifications to the base product, where X can be any alphanumeric character or blank

Dimming Control (On secondary side)

Parameter	Min.	Typ.	Max.
10V output voltage	9.8V	10V	10.2V
10V output source current	-10 mA	-	10 mA
Absolute maximum voltage on the 1-10V input pin	0V	-	12V
Source current on 1-10V input pin	0 mA	-	1 mA

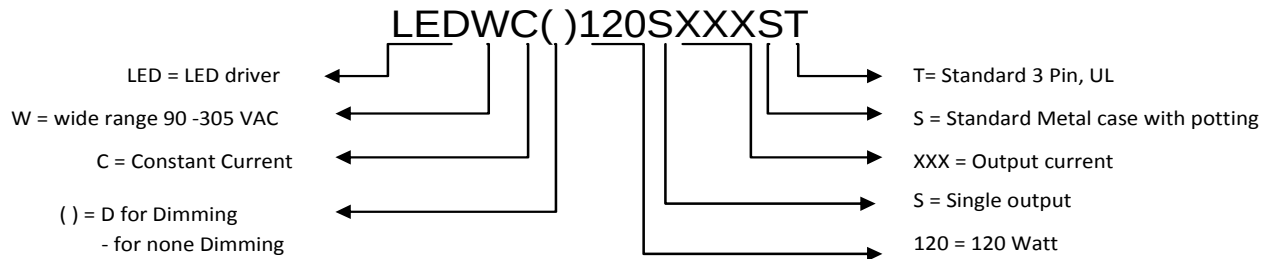
The dimmer control may be operated from either a potentiometer or from an input signal of 1 - 10 Vdc. Four recommended implementations are provided below.



Dimming notes:

1. If the dimming function is not used, please short 10V output pin (yellow) and 1-10 input pin (purple).
2. I_o is actual output current and I_r is rated current without dimming control.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
4. If the output voltage is maintained above 50% of the maximum output voltage, the dimming control may be operated over the entire 1-10V range with output current varying from 100% down to practically 10%.
5. The dimming signal is allowed to be less than 1V, however, when it for 0-1V, the output current cannot guarantee a good linearity.
6. The R_p , which stands for the potentiometer in the Implementation 1, is recommended between 10K~100K.
7. Do not connect the GND of dimming to the output; otherwise, the LED driver can not work normally.

Part Number Scheme



Derating Curve

