

**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

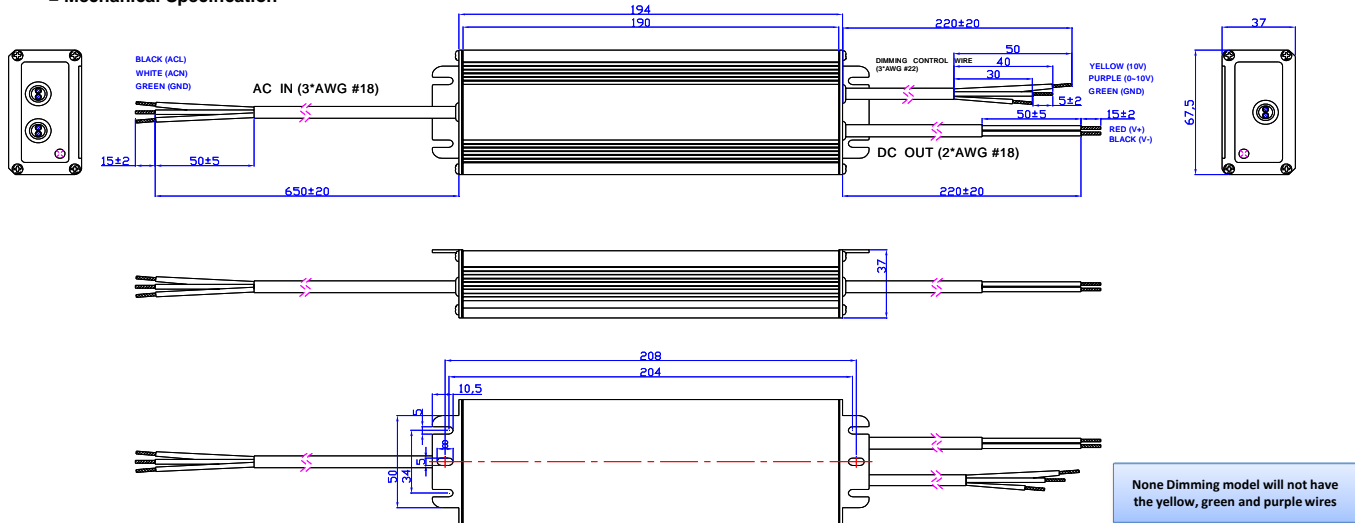


**SPECIFICATION**

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 <sub>o</sub> 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% V <sub>o</sub> 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
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



None Dimming model will not have the yellow, green and purple wires

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%

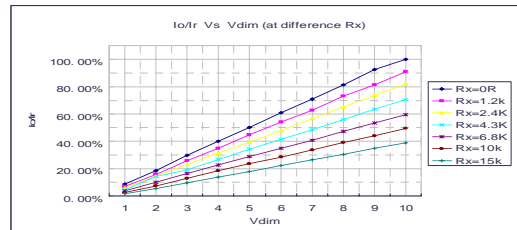
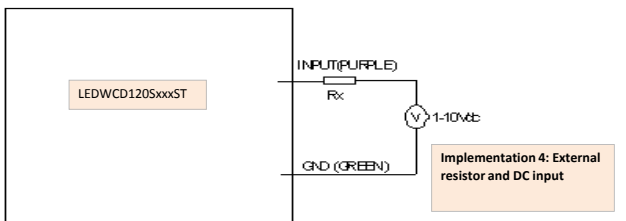
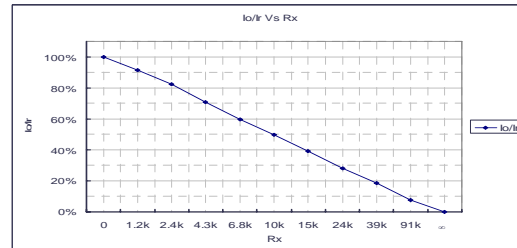
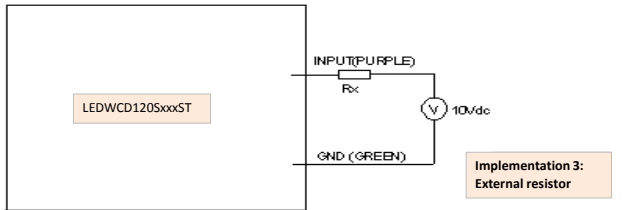
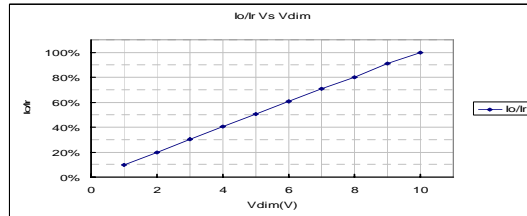
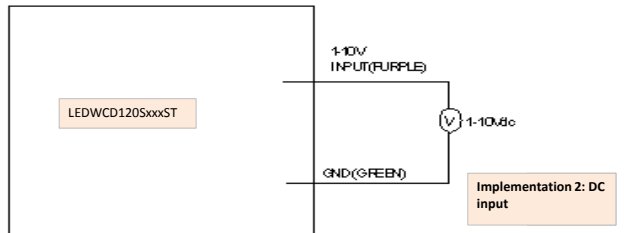
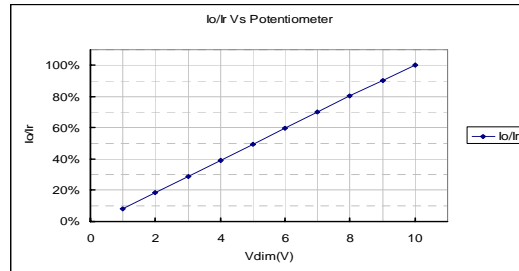
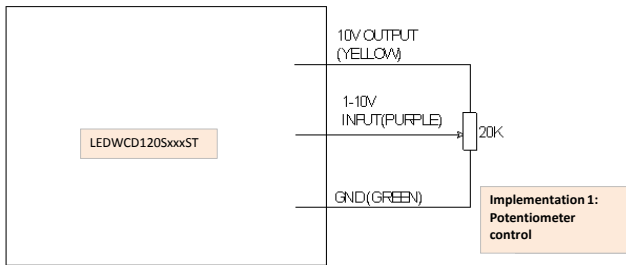
NOTES:

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, were 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

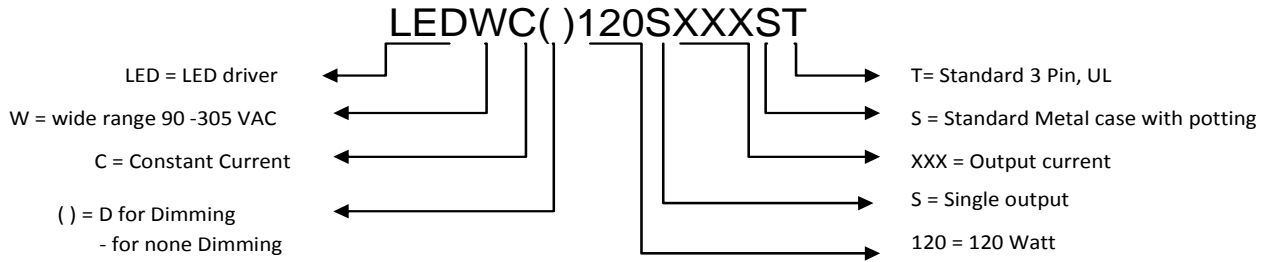
The dimmer control may be operated from either a potentiometer or from an input signal of 1 - 10 Vdc. Four recommended implementations are provided below.



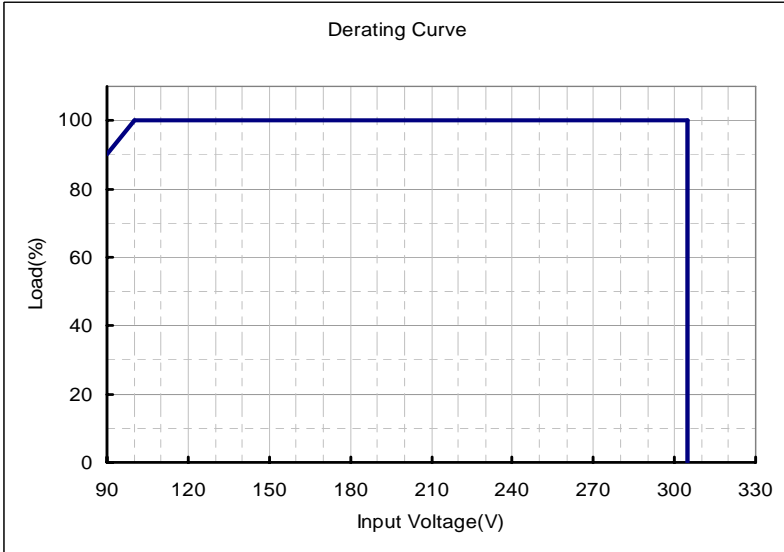
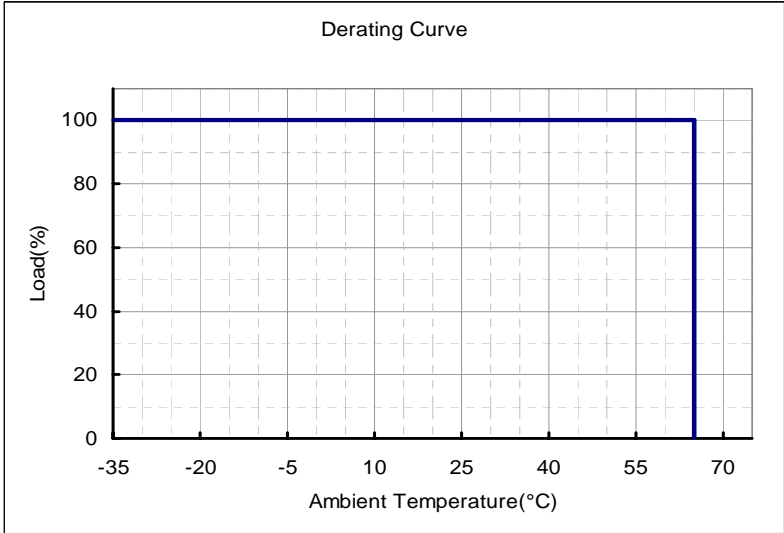
Dimming notes:

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**



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