

100W Constant Current LED Driver with Dimming LEDWCD100 series

FEATURES

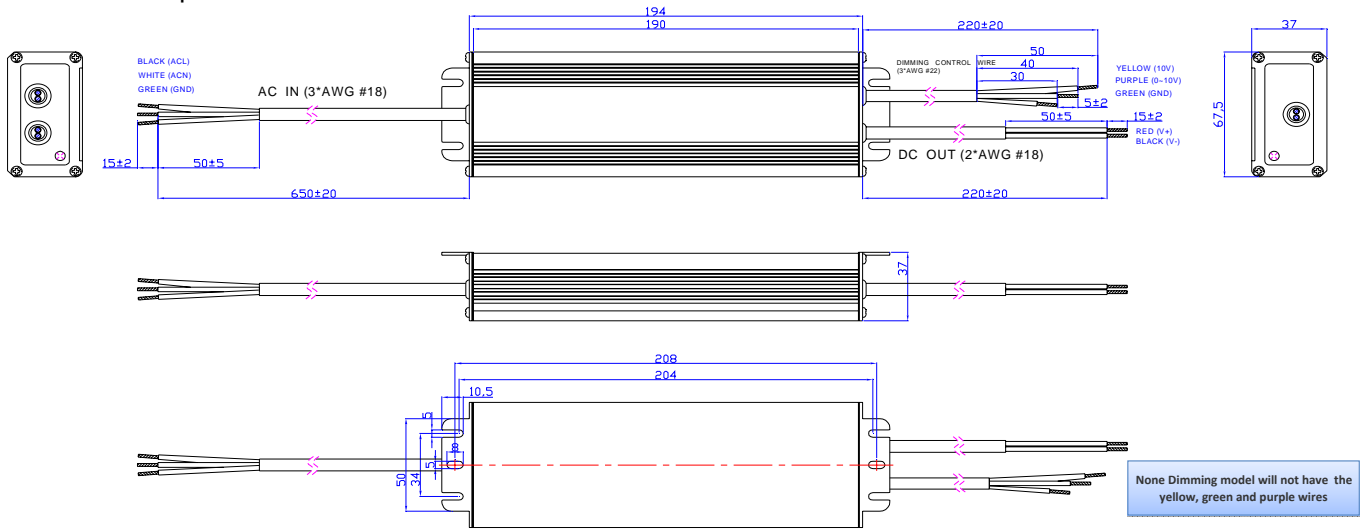
- High Efficiency (Up to 92%)
- Active Power Factor Correction (Up to 0.99)
- Waterproof (IP67)
- Lightning Protection
- Over Voltage, Over Temp. & Short Circuit Protection
- UL, cUL 8750 & EN61347 Safety Regulations
- Very High MTBF & Life Time
- Dimming Option

SPECIFICATION



Model		LEDWC () 100S035ST	LEDWC () 100S045ST	LEDWC () 100S070ST	LEDWC () 100S105ST	LEDWC () 100S140ST	LEDWC () 100S175ST	LEDWC () 100S210ST	LEDWC () 100S245ST	LEDWC () 100S280ST	LEDWC () 100S315ST	LEDWC () 100S357ST	LEDWC () 100S420ST
Output	Rated Current (1)	350mA	450mA	700mA	1050mA	1400mA	1750mA	2100mA	2450mA	2800mA	3150mA	3570mA	4200mA
	Current Range (Min - Max) mA	332 - 368	428 - 472	665 - 735	1000 - 1100	1330 - 1470	1995 - 2205	2660 - 2940	3565 - 3935	4750 - 5250	2660 - 2940	3565 - 3935	3990 - 4410
	Rated Power	100W	100W	100W	100W	100W	100W	100W	100W	100W	100W	100W	100W
	Ripple & Noise (max.) (2)	3% Pk -Pk											
	Max. Voltage	286 Vdc	222 Vdc	143 Vdc	95 Vdc	72 Vdc	57 Vdc	48 Vdc	41 Vdc	36 Vdc	32 Vdc	28 Vdc	24 Vdc
	Voltage Range (Min - Max)	172V-286V	132V - 222V	86V - 143V	57V - 95V	43V - 71V	34V - 57V	29V - 48V	25V - 41V	22V - 36V	19V - 32V	17V - 28V	14V - 24V
	Line Regulation	1%											
	Load Regulation	5%											
	Setup, Rise Time	3 S											
	Output Overshoot / Undershoot	10% When Power On or Off											
Input	Voltage Range	90V ~ 305VAC											
	Frequency Range	47Hz / 63Hz											
	Efficiency (Typ.) at 230Vac	91%	91%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90%	90%	90%	90%
	Inrush Current	65A @ 230VAC Input and 25°C											
	Leakage Current	1 mA max. at 277 Vac 50Hz input											
Protections	AC Current (Typ.)	1.3 A / 100VAC 0.6A / 220VAC											
	Short Circuit Protection	Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	Over Voltage (Typ.)	372V	289V	186V	124V	94V	74V	63V	53V	47V	42V	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 Class2 UL1012 UL935, CAN/CSA-C22.2 (No. 0, No 107.1, No. 250.0)											
	No load Power Dissipation	≤1.0W @ 230 VAC input											
	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											
	Isolation Resistance	I/P - O/P, I/P - FG, O/P - FG: 100M Ohms / 500VDC											
	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, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN 61547											
Others	MTBF (3)	350K HRS Compliance: MIL-HDBK-217F @ 25°C ambient temp.											
	Life Time (3)	100,000 hours @ 45°C ambient temp.											
	Dimension (L*W*H)	194*67.5*37.0 (mm) or 7.64*2.66*1.46 (inch)											
	Weight	1000 g											

■ Mechanical Specification



PIN ASSIGNMENT			
CONNECTION	AC	DC	Dimming
	Input	Output	Output
PIN 1	LINE (Black)	+V (Red)	10V (Yellow)
PIN 2	NEUTRAL (White)	-V (Black)	(0-10V) Purple
PIN 3	GROUND (Green)		GROUND (Green)
Connector	Flying lead (stripped and tinned)		

SHIPPING SPECIFICATIONS				
Series	UNITS PER CARTON	CARTON WEIGHT		
LEDWC-100	20.0	24Kg	52.8 Lbs	
OUTER CARTON DIEMENSION		WIDTH	LENGTH	HEIGHT
Series	inch	24.80	22.05	6.69
LEDWC-100	mm	630.0	560.0	170.0

Model	LEDWCD100 S035ST	LEDWCD100 S045ST	LEDWCD100 S070ST	LEDWCD100 S105ST	LEDWCD100 S140ST	LEDWCD100 S175ST	LEDWCD100 S210ST	LEDWCD100 S245ST	LEDWCD100 S280ST	LEDWCD100 S315ST	LEDWCD100 S357ST	LEDWCD100 S420ST
Efficiency @ 115VAC (min) (7)	88.0%	88.0%	87.5%	87.5%	87.5%	87.5%	87.5%	87.5%	87.0%	87.0%	87.0%	87.0%
Efficiency @ 115VAC (typ) (7)	89.0%	89.0%	88.5%	88.5%	88.5%	88.5%	88.5%	88.5%	88.0%	88.0%	88.0%	88.0%
Efficiency @ 230VAC (min) (8)	90.0%	90.0%	89.5%	89.5%	89.5%	89.5%	89.5%	89.5%	89.0%	89.0%	89.0%	89.0%
Efficiency @ 230VAC (typ) (8)	91.0%	91.0%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90.0%	90.0%	90.0%	90.0%

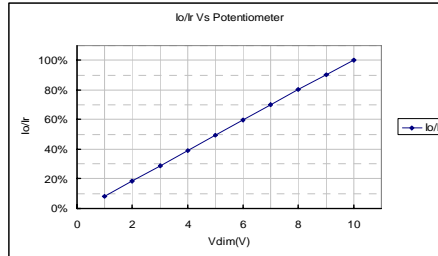
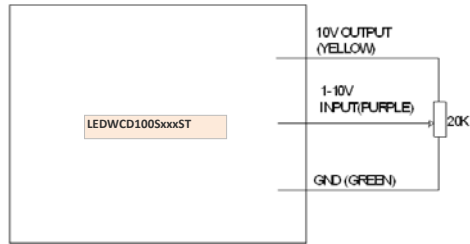
NOTES:

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 1050mA output model, measured at 110VAC input, 80%load and 25°C of ambient temperature.
4. All parameters NOT specially mentioned are measured at 220VAC input, rated load and 25°C of ambient temperature.
5. Specifications are subject to change without notice. AUTEK cannot be held liable for errors or omissions or the consequences thereof.
6. A suffix -XXXX may be added to denote variation or modifications to the base product, were X can be any alphanumeric character or blank.
7. Measured at full load, 110vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower by about 1%, if it is measured immediately after start up.
8. Measured at full load, 220Vac input, 25°C ambient temperature, after the unit is thermally stabilized. It will be lower by about 1%, if it is measured immediately after start up.

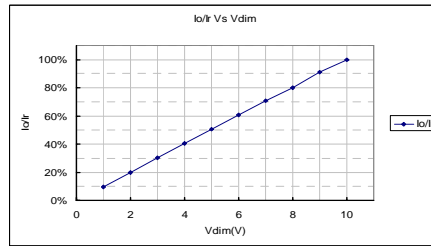
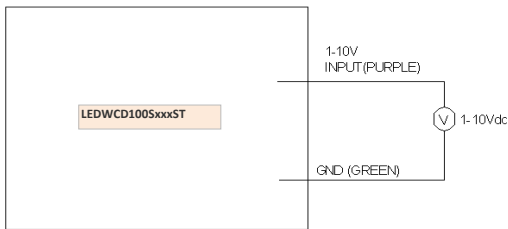
Dimming Control (On secondary side)

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

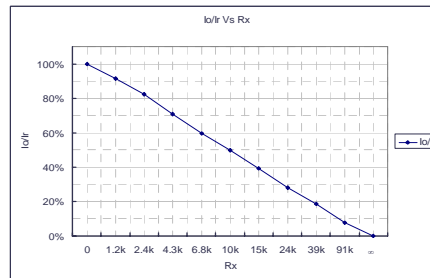
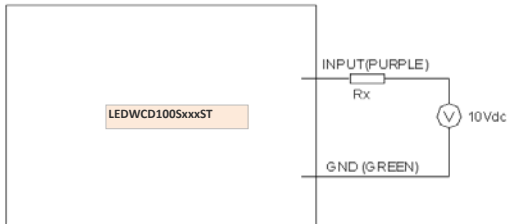
The dimmer control may be operated from either a potentiometer or from an input signal of 1 - 10 Vdc. Four recommended implementations are provided below.



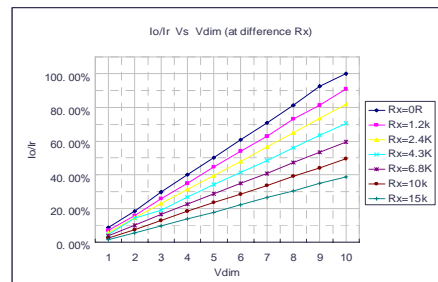
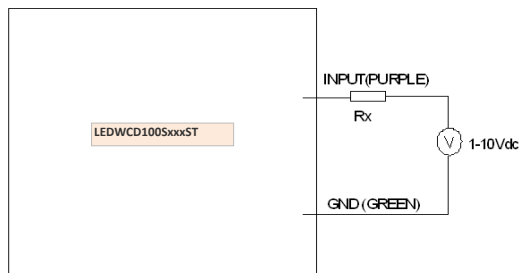
Implementation 1: Potentiometer control



Implementation 2: DC input



Implementation 3: External resistor

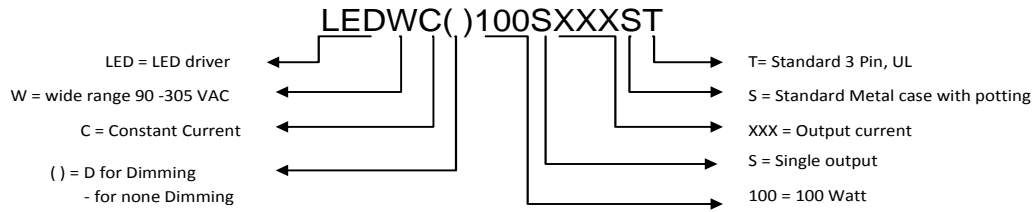


Implementation 4: External resistor and DC input

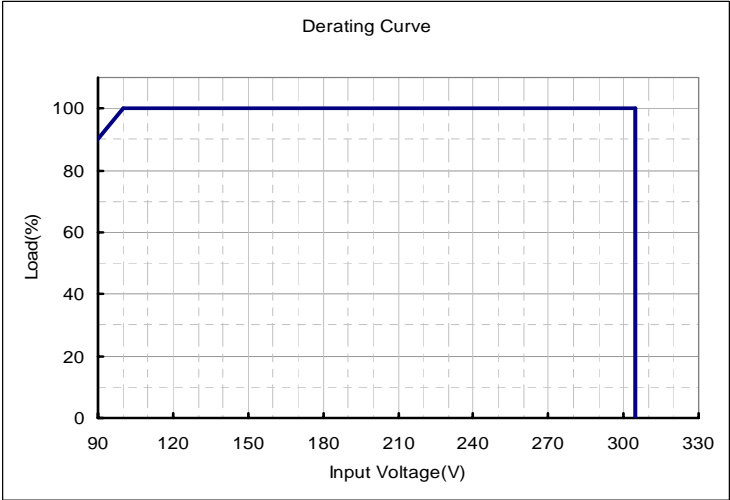
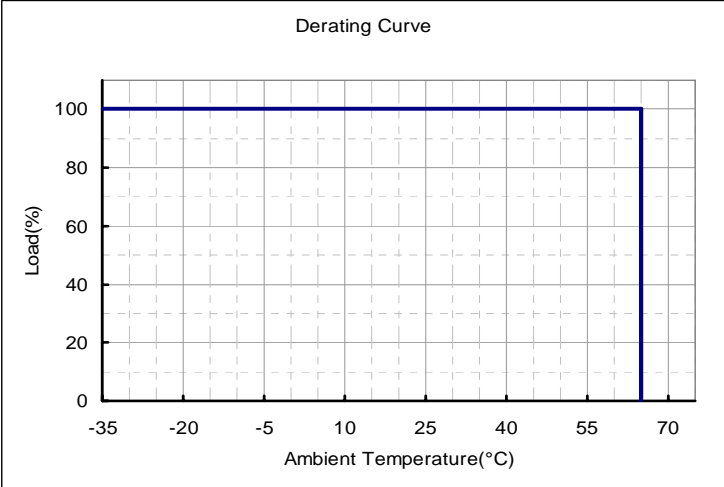
Notes:

1. If the dimming function is not used, please short 10V output pin (yellow) and 1-10 input pin (purple).
2. Io is actual output current and Ir 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. 60% of the max. output voltage for any given model).
4. If the output voltage is maintained above 60% 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 is 0-1V, the output current can not guarantee that a good linearity.
6. The Rp, 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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