AUTEC POWER SYSTEMS

50W Constant Current LED Driver LEDWC-050 series

FEATURES

- High Efficiency (Up to 89%)
- Active Power Factor Correction (Typical 0.92)
- Constant Output Current
- Lightning Protection
- Waterproof (IP67)
- Dimming Control
- All-Round Protection: OVP, SCP, OLP
- UL8750 & EN61347 Safety Regulations

SPECIFICATION

	Model	LEDWC( ) 050S420ST (7)	LEDWC( ) 050S333ST (7)	LEDWC( ) 050S280ST (7)	LEDWC( ) 050S210ST (7)	LEDWC( ) 050S175ST (7)	LEDWC( ) 050S140ST (7)	LEDWC( ) 050S110ST (8)	LEDWC( ) 050S070ST (9)	LEDWC( ) 050S045ST (9)	LEDWC( ) 050S035ST (9)
Output	Rated Current	4200 mA	3300 mA	2800 mA	2100 mA	1750 mA	1400 mA	1100 mA	700 mA	450 mA	350 mA
	Current Range (Min - Max) mA	3990 - 4410	3164 - 3497	2660 - 2940	1995 - 2205	1663 - 1838	1330 - 1470	998 - 1155	665 - 735	428 - 473	333 - 368
	Rated Power	50W	50W	50W	50W	50W	50W	50W	50W	50W	50W
	Ripple & Noise (max.) (2)	5V	5V	5V	5V	5V	5V	5V	7V	11V	14V
	Max. Voltage	12 Vdc	15 Vdc	18 Vdc	24 Vdc	29 Vdc	36 Vdc	48 Vdc	72 Vdc	110 Vdc	142 Vdc
	Voltage Range (Min - Max)	4V -12V	5V - 15V	6V - 18V	8V - 24V	9V - 29V	12V - 36V	16V - 48V	24V - 72V	36V - 110V	47V - 142V
	No Load Output Voltage	17 V	20 V	24 V	30 V	35 V	41 V	53 V	77 V	122 V	154 V
	Line Regulation	2%									
	Load Regulation	5%									
	Setup, Rise Time (Typ.)	2.5S (110 VAC) and 1.5S (220 VAC)									
Input	Voltage Range	90V ~ 305VAC									
	Frequency Range	47Hz / 63Hz									
	Power Factor Correction	98% @ 110 VAC 92% @ 220 VAC									
	Efficiency (Typ.) (1)	83%	83%	84%	85%	86%	87%	87%	88%	88%	88%
	Inrush Current	60A @ 230VAC Input and 25°C									
	Leakage current	Max. 0.5 mA At 277Vac 50Hz input									
	AC Current (Typ.)	0.7 A / 100VAC 0.35A / 220VAC									
Protections	Short Circuit Protection	Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	Over Load Protection	1.25 V max Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	Over Voltage (Typ.)	16V	20V	24V	32V	38V	47V	63V	94V	143V	185V
		Protection type : Hiccup mode, recovers automatically after fault condition is removed									
Environmental	Temperature Range	Operational	- 35°C ~ 55°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, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0									
	No load Power Dissipation	≤6.0W									
	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, EN 61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN 61547									
Others	MTBF (3)	487K HRS Compliance: MIL-HDBK-217F @ 25°C ambient temp.									
	Life Time (4)	66,000 hours @ 25°C ambient temp.									
	Dimension (L*W*H)	172*34.5*42.5 (mm) - 6.77*1.36*1.67 (inch)									
	Weight	480 g - 1.06Lb									

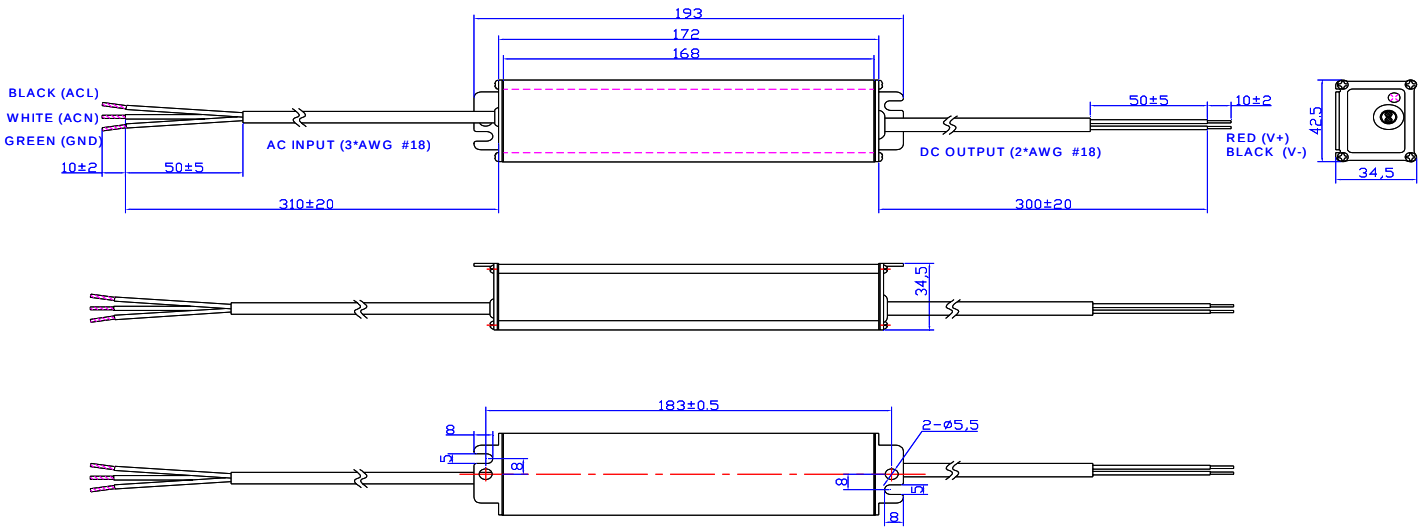
Autec Power Systems
667 E Cochran St, Simi Valley, CA93065

www.autec.com

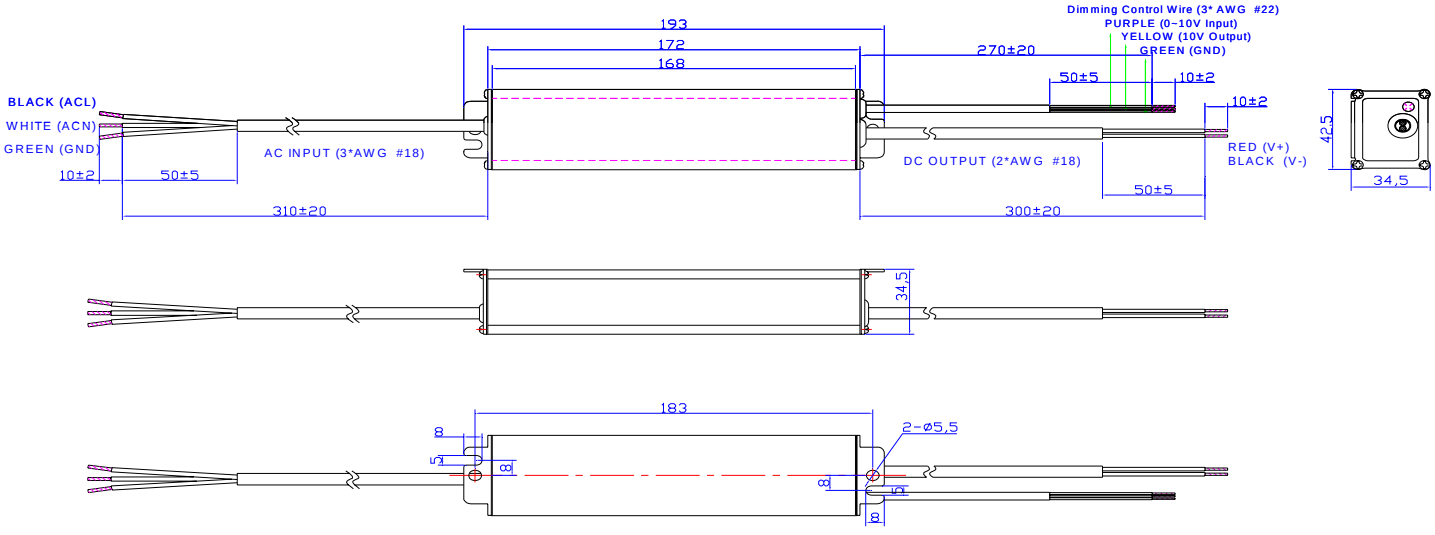
Tel: (805)522-0888
Fax: (805)522-8777

Mechanical Specification

LEDWC-050SXXXST



LEDWCD050SXXXST



Autec Power Systems
667 E Cochran St, Simi Valley, CA93065

www.autec.com

Tel: (805)522-0888
Fax: (805)522-8777

Efficiency

Model	LEDWC( ) 050S420ST	LEDWC( ) 050S333ST	LEDWC( ) 050S280ST	LEDWC( ) 050S210ST	LEDWC( ) 050S175ST	LEDWC( ) 050S140ST	LEDWC( ) 050S110ST	LEDWC( ) 050S070ST	LEDWC( ) 050S045ST	LEDWC( ) 050S035ST
Efficiency @ Full Load and 115VAC (min)	79.0%	80.0%	81.0%	83.0%	84.0%	85.0%	85.0%	85.0%	86.0%	87.0%
Efficiency @ Full Load and 115VAC (typ)	80.0%	81.0%	82.0%	84.0%	85.0%	86.0%	86.0%	86.0%	87.0%	88.0%
Efficiency @ Full Load and 230VAC (min)	82.0%	83.0%	83.0%	85.0%	86.0%	86.0%	86.0%	86.0%	87.0%	88.0%
Efficiency @ Full Load and 230VAC (typ)	83.0%	84.0%	84.0%	86.0%	87.0%	87.0%	87.0%	87.0%	88.0%	89.0%

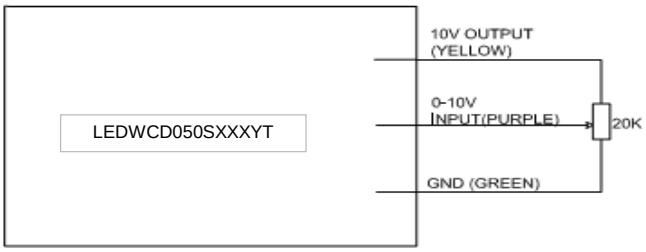
NOTES:

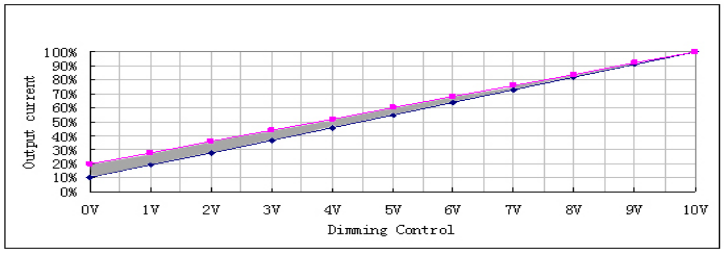
1. Measured at full load, 220VAC input.
2. Ripple & noise are measured at 20MHz of bandwidth oscilloscope and the output paralleled a 0.1uf ceramic capacitor & 10 uf electrolytic capacitor.
3. For 4200mA output model, measured at 110VAC input, 80%load and 25℃ of ambient temperature.
4. For 4200mA output model, measured at 110VAC input, 80%load and 45℃ of ambient temperature.
5. All parameters NOT specially mentioned are measured at 220VAC input, rated load and 25℃ of ambient temperature.
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. Class 2 output (USR & CNR).
8. Class 2 output (USR), Non-Class 2 output (CNR).
9. None Class 2 output (USR & CNR).
10. Specifications are subject to change without notice. AUTEC can't be held liable for errors or omissions or the consequences thereof.

Dimming Control (On secondary side)

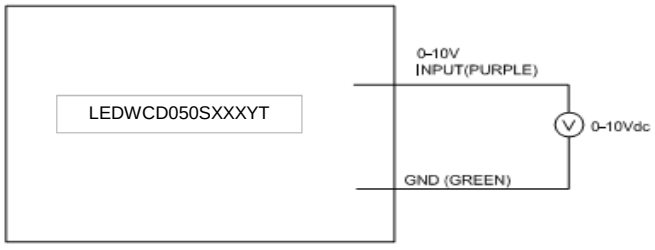
Parameter	Min.	Typ.	Max.
10V output voltage	9.8V	10V	10.2V
10V output source current	-10 mA	-	2 mA
Absolute maximum voltage on the 0~10V	-2V	-	15V
Source current on 0~10V input pin	0 mA	-	1 mA

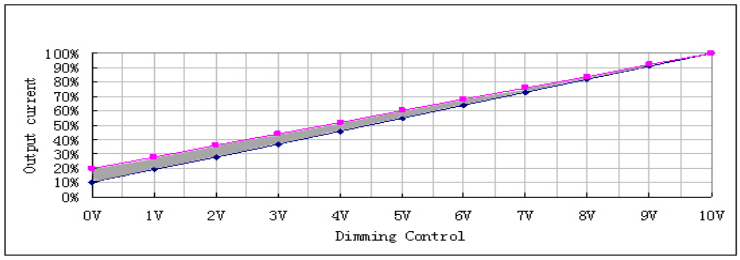
The dimmer control may be operated from either a potentiometer or from an input signal of 0 – 10 Vdc. Two recommended implementations are provided below.





Implementation 1: Potentiometer control





Implementation 2: DC input

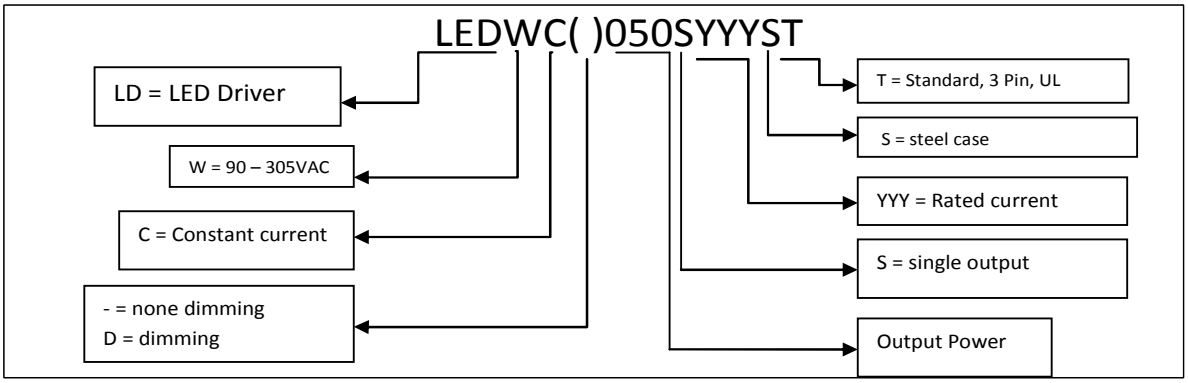
Notes:
For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 33% of the max. output voltage for any given model).
If the Dimming voltage is varied from 10V down to 0V, the output current can be varied from 100%Io down to 10%~20%Io.

Autec Power Systems
667 E Cochran St, Simi Valley, CA93065

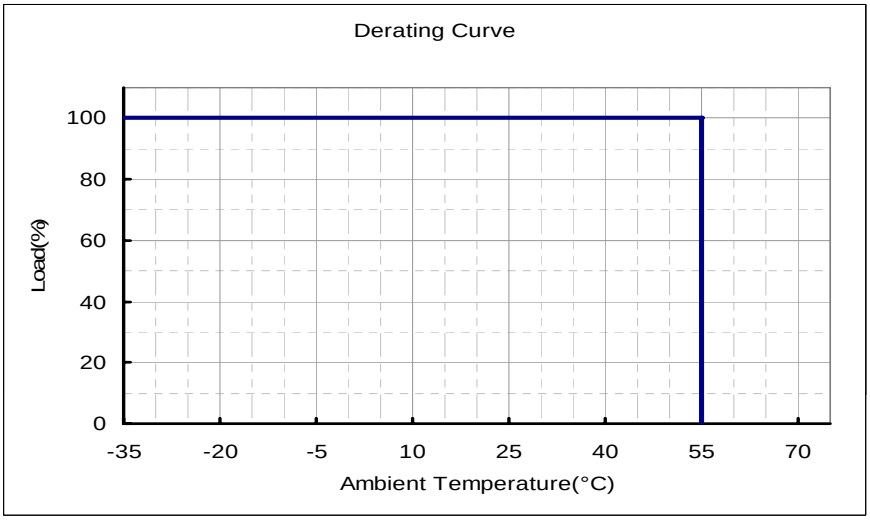
www.autec.com

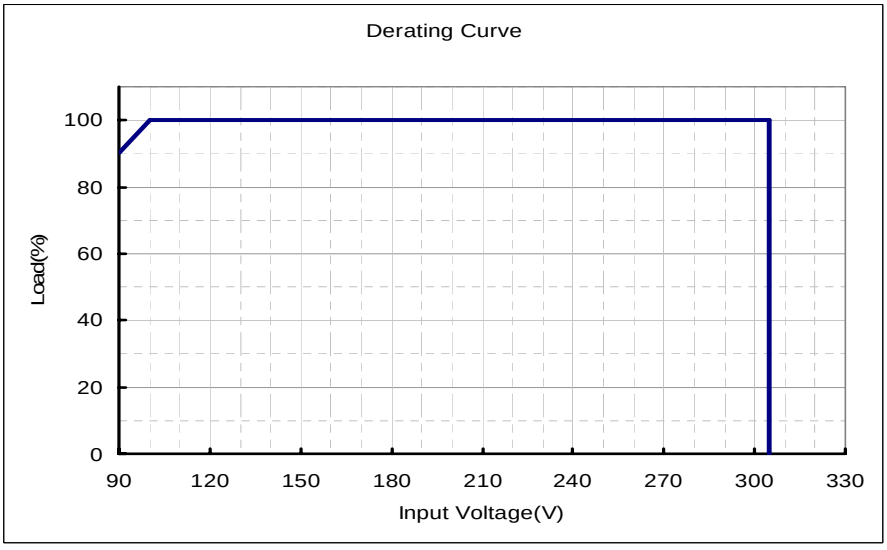
Tel: (805)522-0888
Fax: (805)522-8777

Part Number Scheme



Derating Curve





Autec Power Systems
667 E Cochran St, Simi Valley, CA93065

www.autec.com

Tel: (805)522-0888
Fax: (805)522-8777