

LED Driver 1200GTH56CV

V1.0

2024/10/23

Powerland Signatures					Customer Approval Signature
Prepared	Checked		Approved	Marketing	
	ME	研发经理			

Please return us one copy of the document with your approval signature.

请客户确认签字后回传我司此规格承认书。

Powerland Technology Inc.
南京博兰得电子科技有限公司

Building 9, No. 1 Zidan Road., Qinhuai District., Nanjing 210014, China.

江苏省南京市秦淮区紫丹路 1 号 9 栋

Email: sales@powerlandtech.com Phone: +86-25-85582306

Features

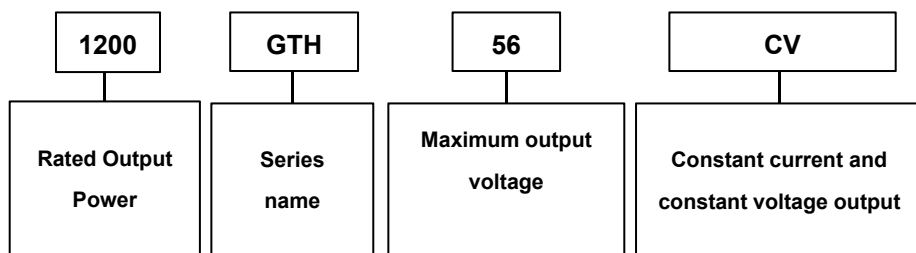
- Dimming port programming without driver power on
- 187-528Vac wide range high line input
- CC/CV hybrid output
- High efficiency (typical 96%), active power factor correction
- Ultra low THD at light load
- Isolated 0~10V/ PWM/Rset dimming, Dim to off option
- 12V/200mA AUX Output

Description

1200W LED Drivers offers digital programmable drivers with wide-range adjustable output current, together with 12V/200mA auxiliary output (optional) for smart lighting.

The output current of this series are programmable, and designed for 0-10V/PWM/Rset dimming applications.

Model Name Definition



Specifications

Part Number	Max. Output Power	Programmable Current Region@CC	Output Voltage Range	Programmable Voltage Region@CV	Efficiency @400Vac
1200GTH56CV	1200W	10.00-25.00A	28-56V	48-56V	96%

Note: Efficiency value is typical value.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Rated Input AC Voltage	208Vac	-	480 Vac	
Limit Input AC Voltage	187Vac	-	528 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75mA	At 480Vac / 60Hz input , grounding effectively
Input AC Current	-	-	6.6A	Measured at full load and 208 Vac input.
Inrush Current	-	-	35A	At 347Vac input, 25°C cold start.
PF	0.90	-	-	At 208-480Vac, full load
THD	-	-	20%	At 208-480Vac, full load

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5% Io set	-	5% Io set	At 25°C and full load condition
Total Output Current Ripple (pk-pk)	-	-	10% Io max	At 25°C and full load condition, 200Hz BW.
Startup Overshoot Current	-	-	20% Io max	At 25°C and full load condition
No Load Output Voltage	-	58V	-	
Line Regulation	-	-	±1%	Measured at full load
Load Regulation	-	-	±1%	
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 277Vac input.
Temperature Coefficient of Io set	-0.03%/°C	-	0.03%/°C	Case temperature = 0°C ~Tc max
12V Auxiliary Output Voltage	11V	12 V	15 V	
12V Auxiliary Output Source Current	0 mA	-	200 mA	Return terminal is "Dim-"
OTP Tc(Note1)	85°C	90°C	100°C	Output current will drop to 50% lowest, or shut down.
SCP				Auxiliary source: Hiccup mode, Auto recover Main output: Locked or Auto recover

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	2W	Measured at 277Vac/50Hz; Dimming off
MTBF	-	234,000 Hours	-	Measured at 277Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK- 217F)
Lifetime	-	50,000 Hours	-	Measured at 400Vac input, 80%Load and 75°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature Tc(Note1)	-40°C	-	90°C	
Operating Ambient Temperature Ta	-40°C	-	50°C	
Storage Temperature	-40°C	-	85°C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	16.93 × 3.54 × 2.02 430 × 90 × 51.2			
Net Weight	-	TBD	-	

Note1: There are three points could be maximum Tc point, depending on different Vac input and Vdc output. These three points (Tc, Tc1, Tc2) position are shown in below mechanical drawing.

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-1 V	-	15 V	
Source Current on Vdim (+)Pin	90 uA	100 uA	110 uA	
Dimming Output Range(Note2)	-	10% Io set	Io set	80%Io max ≤ Io set ≤ 100%Io max
	-	8% Io max	Io set	Io set < 80% Io max
Recommended Dimming Input Range	0 V	-	10 V	Default 0-10V dimming mode.
Dim off Voltage	0.6V	0.8V	1.0V	
Dim on Voltage	0.8V	1.0V	1.2V	
Dim off Resistance	5kΩ	8kΩ	10kΩ	
Dim on Resistance	7kΩ	10kΩ	12kΩ	
Hysteresis	-	0.2 V	-	
PWM_in High Level	9.8 V	10V	10.2 V	
PWM_in Low Level	-0.3 V	-	0.6 V	
PWM_in Frequency Range	500 Hz	-	3 KHz	
PWM_in Duty Cycle	1%	-	100%	
PWM Dimming off	6%	8%	10%	
PWM Dimming on	8%	10%	12%	

Note2: The dimming depth is related to the voltage of the LED lamp, and the lamp voltage of more than 50 V is required to meet the requirements.

Safety & EMC Compliance

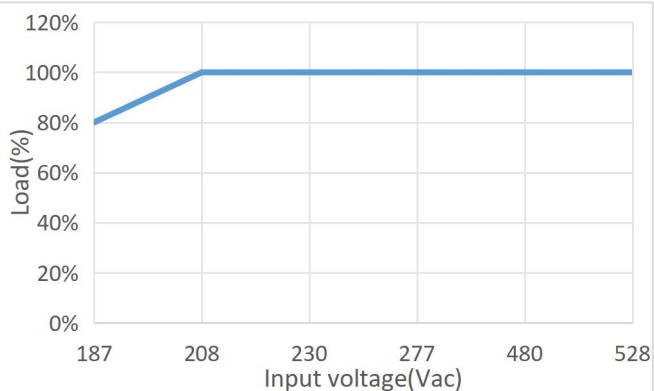
Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
CE	EN61347-1
Dielectric Strength(Hi-pot)	Primary to Secondary: 3920Vac 10mA max
	Primary to Earth: 1960Vac 10mA max.
	Secondary to Earth: 500Vac 10mA max.
	Dimming to Secondary: 500Vac 10mA max.
Insulation Resistance	50Mohm min.@ primary to secondary add 500Vdc test voltage
Grounded Resistance	0.1Ω max. @ 25A, 1 minute
EMI Standards	Notes
EN55015	ANSI C63.4:2009 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired Operation.
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge, criteria A
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS, criteria A
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria B

EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV, criteria B
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS, criteria A
EN 61000-4-8	Power Frequency Magnetic Field Test, criteria A
EN 61000-4-11	Voltage Dips, criteria B
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

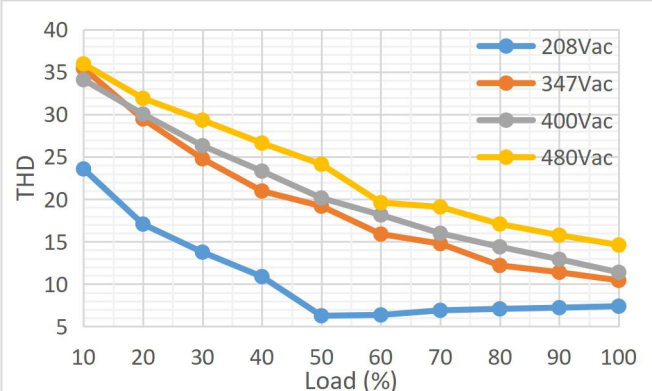
Note3: This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Performance Curve

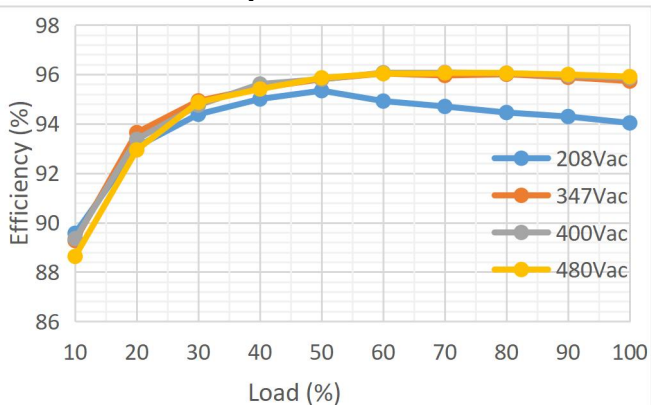
Input Voltage Derating Curve



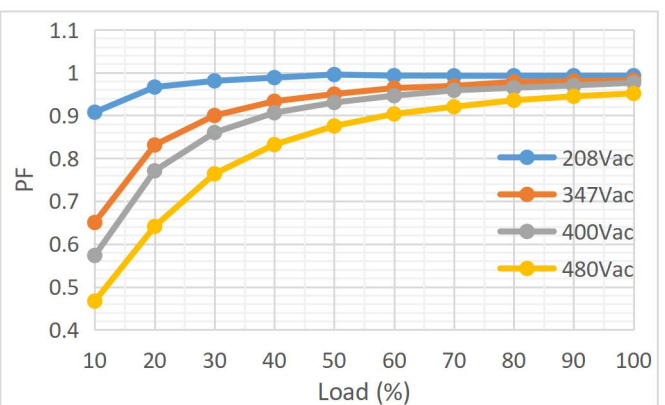
Total Harmonics Vs Different Loads



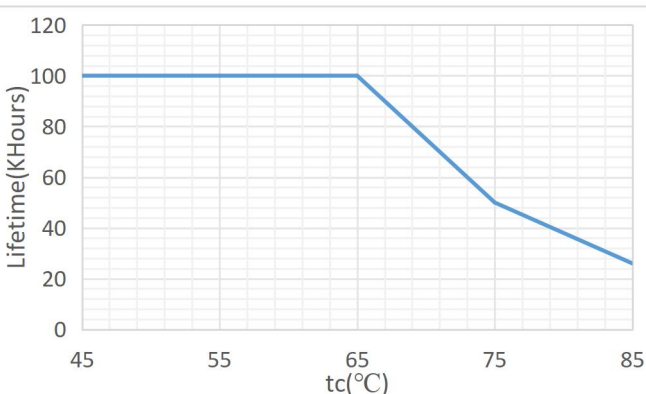
Efficiency Vs Different Loads



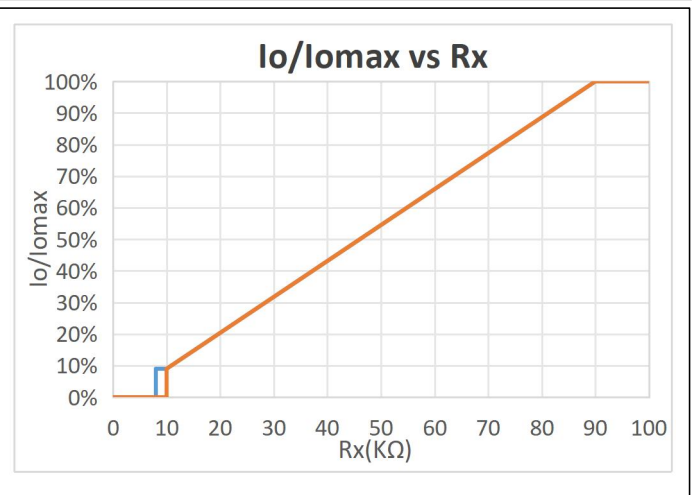
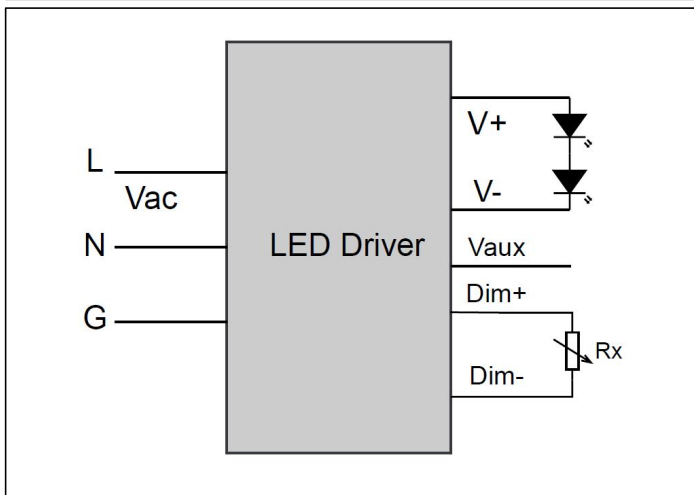
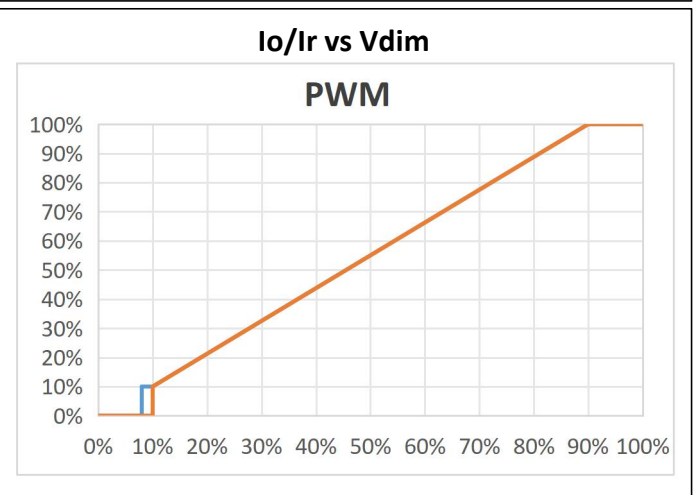
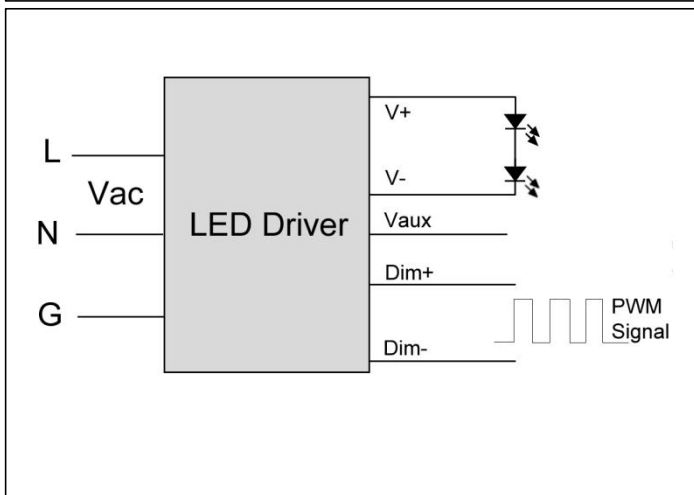
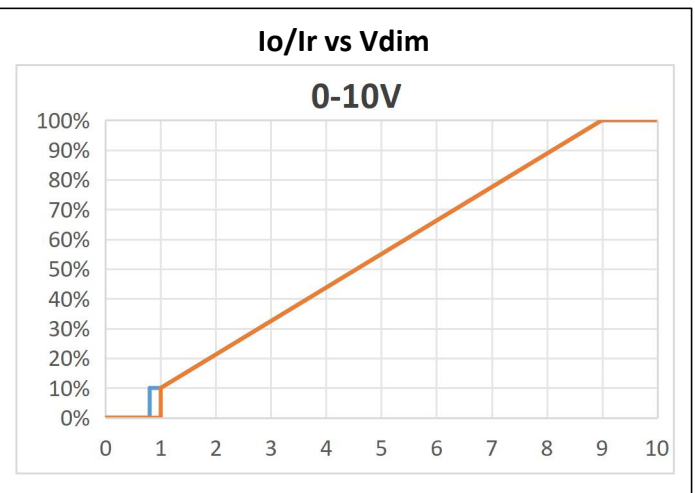
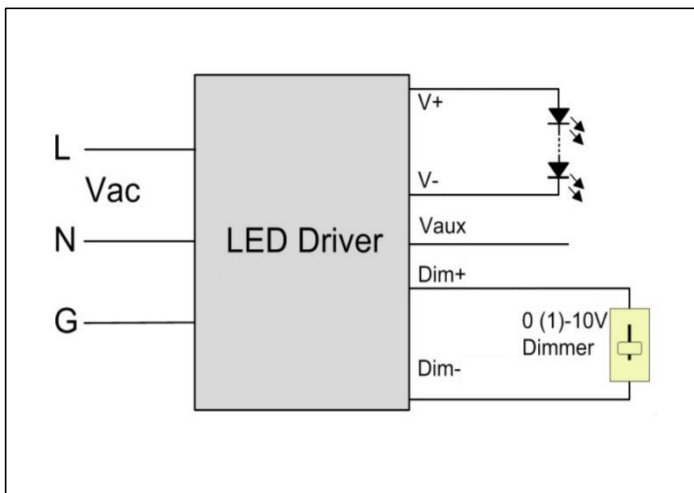
Power Factor Vs Different Loads



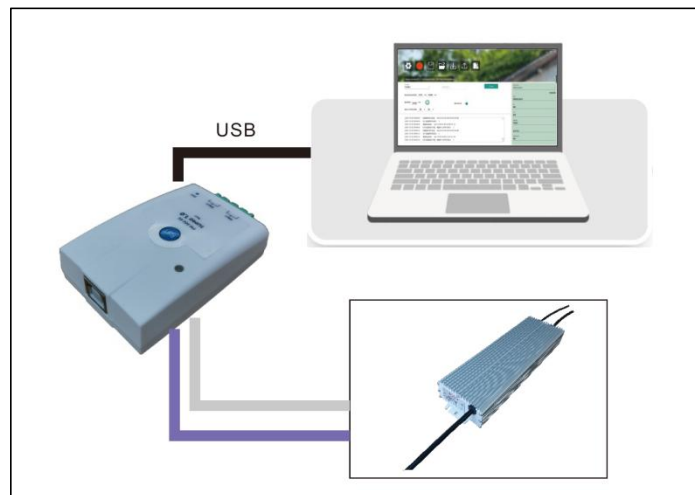
Lifetime Vs Case Temperature



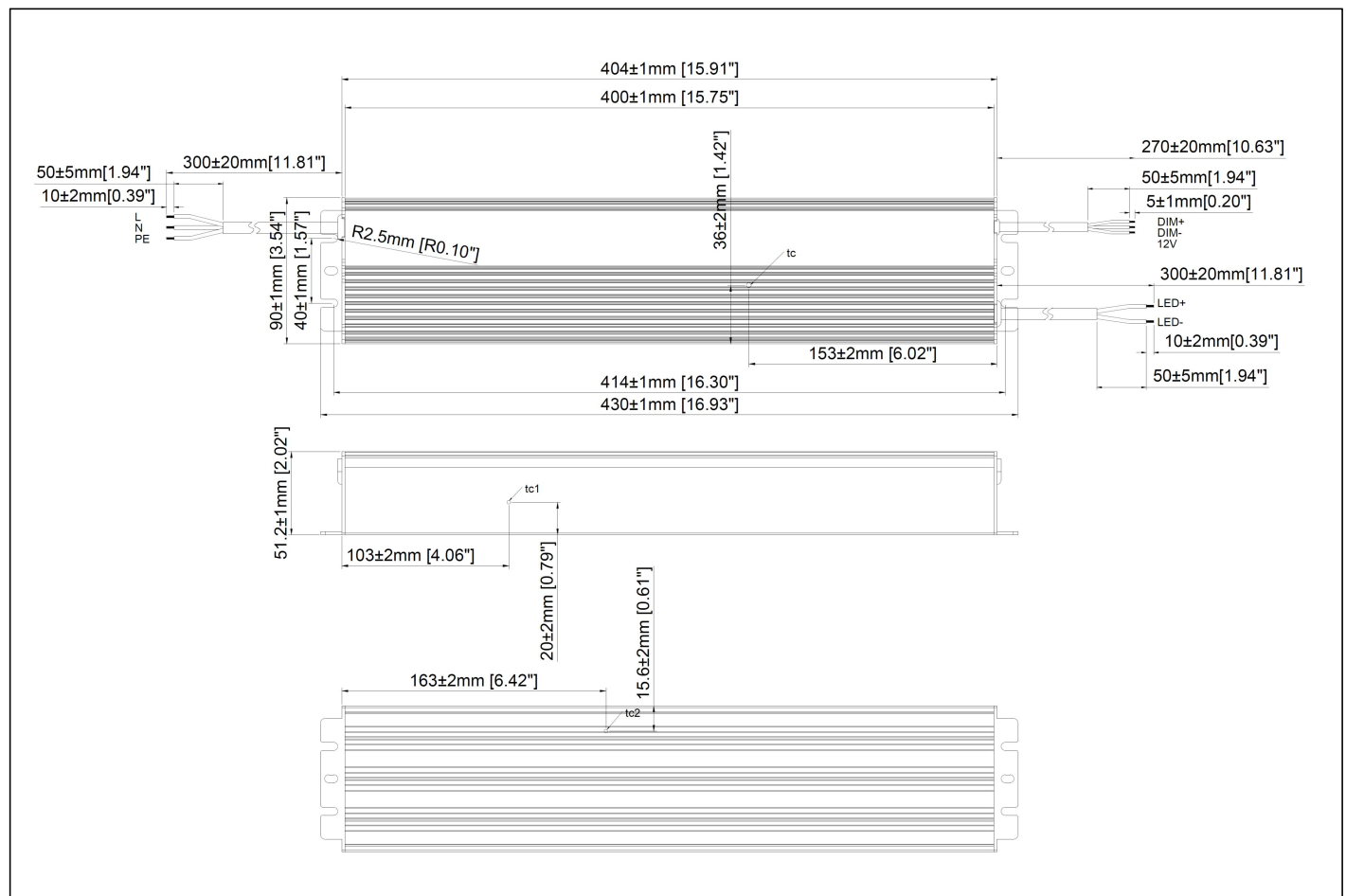
0-10V Analog Dimming & PWM Dimming



Programming wiring diagram



Mechanical Specification



Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2024.10.23	V1.0			