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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## Class II 63W LED Controlgear : PA-1600-31 Series

### Product Features

- Universal AC Input
- High Power Factor
- Low Total Harmonic Distortion
- Short Circuit / Open Circuit / Over Voltage / Over Temperature Protections
- Suitable for Dry & Damp Location
- Adjustable Output Current by Dimming Input
- RoHS Compliant

### AC Input / DC Output

• AC Input Voltage	100 ~ 305Vac (110 ~ 277Vac)
• AC Input Frequency	47 ~ 63Hz (50-60Hz)
• Max. Input Current @ 110Vac (60Hz)	1.0A
• Min. PF @ 230Vac (50Hz) / 90V Output	0.95
• Min. PF @ 230Vac (50Hz) / 63V Output (70% load)	0.92
• Min. PF @ 277Vac (60Hz) / Output > 27W	0.9
• Max. THD @ 110-277Vac / Output > 27W	20%
• Min. Eff. @ 220Vac (50Hz) / 90V Output	90%
• Turn On Delay Time	<1 second
• DC Output Current	700mA
• Line Regulation	±3%
• Load Regulation	±5%
• DC Output Voltage Range	35 ~ 90V
• Ripple Current	±20%
• DC Output Isolation	yes

### EMC

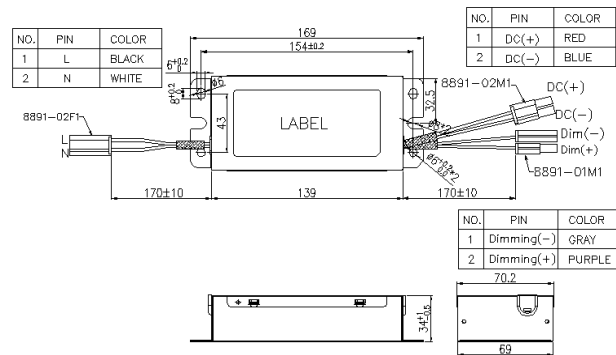
• EMI	FCC Class A
• Harmonic Current Emissions	EN61000-3-2
• Voltage Fluctuations & Flicker	EN61000-3-3
• Electrostatic Discharge (ESD)	EN61000-4-2 ±4KV (Contact), ±8KV (Air)
• RS Immunity Test	EN61000-4-3 80MHz ~ 1GHz, 3V/m, 80% AM (1KHz)
• Electrical Fast Transient	EN61000-4-4 ±1KV for AC power line, ±0.5KV for DC / signal line
• Lighting Surge	EN61000-4-5 ±4KV (Com.), ±4KV (DiF)
• CS Immunity Test	EN61000-4-6 0.15MHz ~ 80MHz, 3V, 80% AM (1KHz)
• Voltage Dips & Short Interruptions	EN61000-4-11 30%, 25 cycles voltage reduction 100%, 0.5 cycles voltage reduction

### Operating Environments / Reliability

• Operating Temperature / Humidity	-40 ~ 60°C / 10 ~ 95% RH
• Storage Temperature / Humidity	-40 ~ 80°C / 10 ~ 95% RH
• Vibration (with shipping container)	1.146Grms / 5~200Hz / six sides 30 minutes / side
• Vibration (operation)	6Grms / 10~1000Hz / X/Y/Z axis 15 minutes / axis
• MTBF (Note 3)	50,000 Hrs while Tc ≤ 75°C 100,000 Hrs while Tc ≤ 65°C 85°C
• Tc	free air convection
• Cooling	meet Class A sound rating
• Sound Level	

### Mechanical

• AC Input Terminal	170mm / black(L) & white(N) color / UL1316
• DC Output Terminal	170mm / red(DC +) & blue(DC -) color / UL1316
• Dimming Input Terminal	170mm / purple(dim +) & gray(dim -) color / UL1316
• Weight (typ.)	700g
• Outline Dimension	169mm(L) * 70.2mm(W) * 34mm(H)



### Protections

• OVP or Open Circuit	auto recovery, 125V max.
• SCP	auto recovery
• OTP	Output power decrease

### Safety / Certifications

• Hi Pot (AC I/P to Case)	3750Vac / 10mA / 60Sec.
• Hi Pot (AC I/P to O/P)	3750Vac / 10mA / 60Sec.
• Insulation (AC I/P to O/P)	>20MΩ, 500Vdc
• Complied with UL8750, 1st Edition	
• Complied with UL60950-1, 2nd Edition	
• Complied with CSA C22.2	
• Complied with IEC 61347-2-13:2006	
• Complied with IEC 61347-1(Second Edition):2007+A1:2010	
• Complied with IEC 62384:2006(1 Edition)	



### Dimming Input

- Support 2 in 1 Dimming Function
- Resistor Dimming Range (10-100K)
- Voltage Dimming Range (1-10V)
- Resistor Dimming Reference Table

Resistor Dimming	75KΩ ±1%	43KΩ ±1%
Output Current	530mA	330mA
Tolerance	±10%	±10%

- Voltage Dimming Reference Table

Voltage Dimming	7.5V	5V
Output Current	530mA	350mA
Tolerance	±10%	±10%

### Notes :

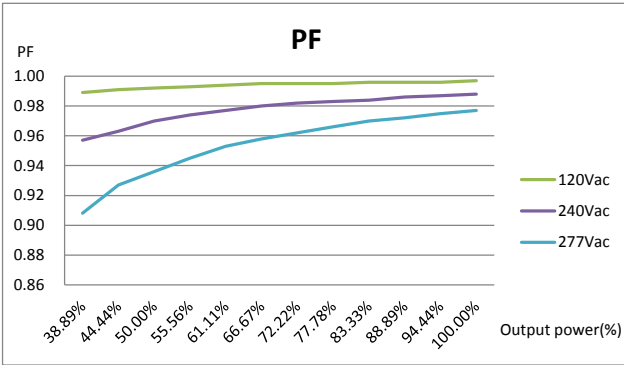
- (1) above definition is based on 25°C ambient if not specified
- (2) this LED driver is designed and intended for operating with LED load only
- (3) MTBF evaluation is based on SR-332 method, 115Vac/60Hz, max load
- (4) to measure efficiency after burn-in 30 minutes with full output load
- (5) recommend to install the controlgear inside the enclosure



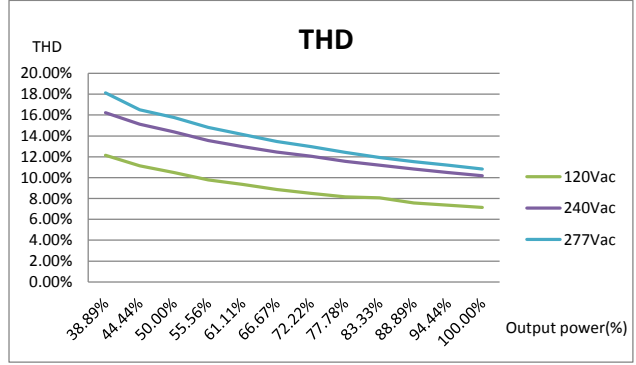
# ClassII 63W LED Controlgear : PA-1600-31 Series

## Performance Curves

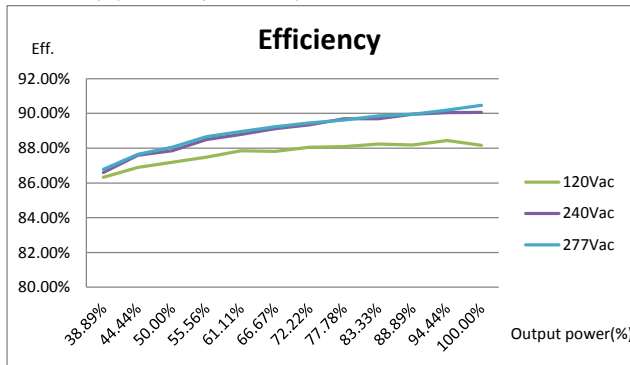
• Power Factor (PF / Output Power)



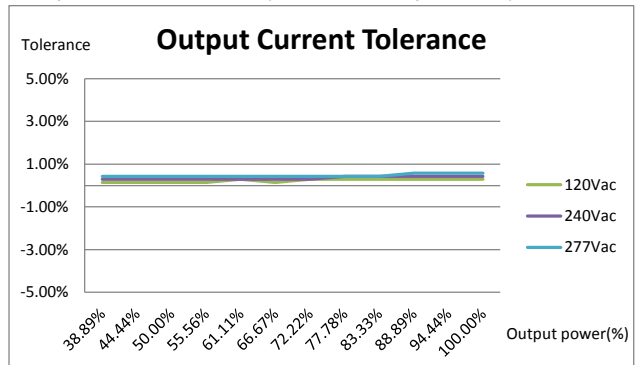
• THD (THD / Output Power)



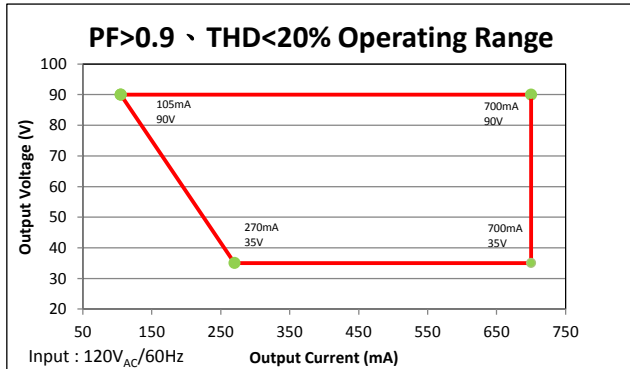
• Efficiency (Eff. / Output Power)



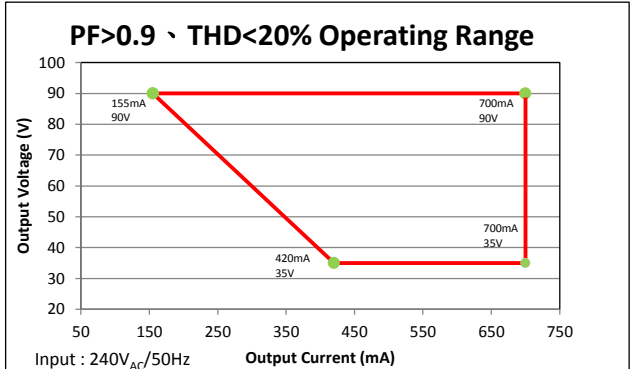
• Output Current Tolerance (Tolerance / Output Power)



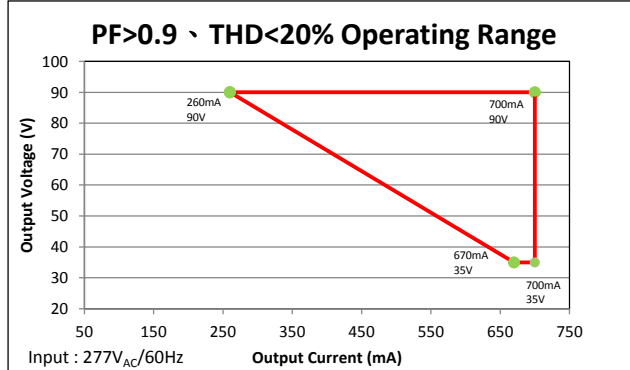
• PF>0.9 & THD<20% Operating Range (120Vac/60Hz Input)



• PF>0.9 & THD<20% Operating Range (240Vac/50Hz Input)



• PF>0.9 & THD<20% Operating Range (277Vac/60Hz Input)



### Notes :

- (1) experimental instruments :  
AC Source : Chroma 61604 / Power Analyzer : Chroma 6630 / Electrical LED Load : Prodigit 3312F / Oscilloscope : Tektronix TDS3014C / Multimeter : Fluke 287
- (2) all above curves are measured under 25°C ambient
- (3) all above curves are only for design reference