

## Class II 42W LED Controlgear : PA-1400-47 Series

### Product Features

- Universal AC Input
- High Power Factor
- Low Total Harmonic Distortion
- High Efficiency
- Short Circuit / Open Circuit / Over Voltage / Over Temperature Protections
- Suitable for Dry & Damp Location
- IP66 Waterproof Grade
- 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)              | 0.6A                        |
| • Min. PF @ 230Vac (50Hz) / 60V Output            | 0.95                        |
| • Min. PF @ 230Vac (50Hz) / 42V Output (70% load) | 0.92                        |
| • Min. PF @ 240Vac (50Hz) / Output > 25W          | 0.9                         |
| • Max. THD @ 110~277Vac / Output > 25W            | 20%                         |
| • Min. Eff. @ 220Vac / 60V Output                 | 86%                         |
| • Turn On Delay Time                              | <1.5 seconds                |
| • DC Output Current                               | 700mA                       |
| • Line Regulation                                 | ±3%                         |
| • Load Regulation                                 | ±5%                         |
| • DC Output Voltage Range                         | 28 ~ 60V                    |
| • Ripple Current                                  | ±20%                        |
| • DC Output Isolation                             | Yes                         |

### EMC

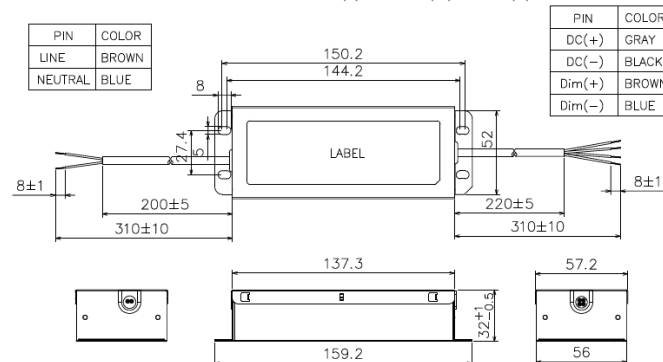
|                                      |                                                                                        |
|--------------------------------------|----------------------------------------------------------------------------------------|
| • EMI                                | EN55015                                                                                |
| • Harmonic Current Emissions         | EN61000-3-2                                                                            |
| • Voltage Fluctuations & Flicker     | EN61000-3-3                                                                            |
| • Electrostatic Discharge (ESD)      | EN61000-4-2<br>±4KV (Contact), ±8KV (Air)                                              |
| • RS Immunity Test                   | EN61000-4-3<br>80MHz ~ 1GHz, 3V/m, 80% AM (1KHz)                                       |
| • Electrical Fast Transient          | EN61000-4-4<br>±1KV for AC power line, ±0.5KV for DC / signal line                     |
| • Lighting Surge                     | EN61000-4-5<br>±4KV (Com.), ±4KV (Dif.), test time interval : 35s                      |
| • CS Immunity Test                   | EN61000-4-6<br>0.15MHz ~ 80MHz, 3V, 80% AM (1KHz)                                      |
| • Voltage Dips & Short Interruptions | EN61000-4-11<br>30%, 25 cycles voltage reduction<br>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<br>30 minutes / side      |
| • Vibration (operation)               | 6Grms / 10~1000Hz / X/Y/Z axis<br>15 minutes / axis       |
| • Life Time (Note 3)                  | 43,800 Hrs                                                |
| • MTBF Life (Note 4)                  | 50,000 Hrs while Tc ≤ 75°C<br>100,000 Hrs while Tc ≤ 65°C |
| • Tc                                  | 85°C                                                      |
| • Cooling                             | Free Air Convection                                       |
| • Waterproof Grade                    | IP66                                                      |

### Mechanical

|                          |                                                                       |
|--------------------------|-----------------------------------------------------------------------|
| • AC Input Terminal      | 310mm / brown(L) & blue(N) color / H05BB-F 1.5mm <sup>2</sup>         |
| • DC Output Terminal     | 310mm / gray(DC +) & black(DC -) color / H05BB-F 1.0mm <sup>2</sup>   |
| • Dimming Input Terminal | 310mm / brown(dim +) & blue(dim -) color / H05BB-F 1.0mm <sup>2</sup> |
| • Weight (typ.)          | 550g                                                                  |
| • Outline Dimension      | 159.2mm(L) * 57.2mm(W) * 32mm(H)                                      |



### Protections

|                       |                        |
|-----------------------|------------------------|
| • OVP or Open Circuit | constant voltage, <79V |
| • 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 IEC 61347-2-13:2006                      |                         |
| • Complied with IEC 61347-1(Second Edition):2007+A1:2010 |                         |
| • Complied with IEC 62384:2006(1 Edition)                |                         |
| • Complied with CE                                       |                         |

IP66



### 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% | 48.7KΩ ±1% |
| Output Current   | 540mA    | 350mA      |
| Tolerance        | ±10%     | ±10%       |

- Voltage Dimming Reference Table

|                 |       |       |
|-----------------|-------|-------|
| Voltage Dimming | 7.7V  | 5V    |
| Output Current  | 540mA | 355mA |
| Tolerance       | ±10%  | ±10%  |

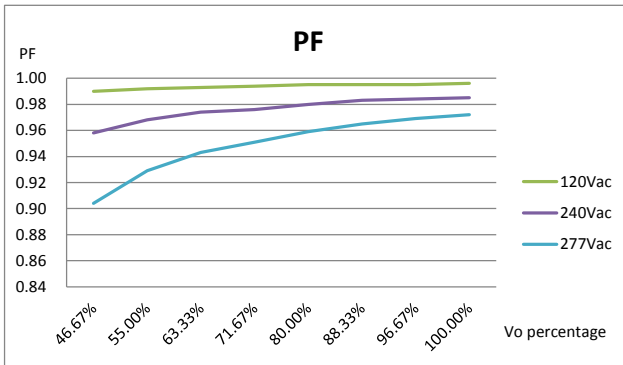
### Notes :

- (1) above definition is based on 25°C ambient if not specified
- (2) this LED driver is designed and intended to be operated with LED load only
- (3) the condition of E-cap life evaluation are 110Vac/60Hz or 230Vac/50Hz @ max. load & 50°C ambient
- (4) MTBF evaluation is based on SR-332 method, 115Vac/60Hz, max. load
- (5) to measure efficiency after burn-in 30 minutes with full load output load

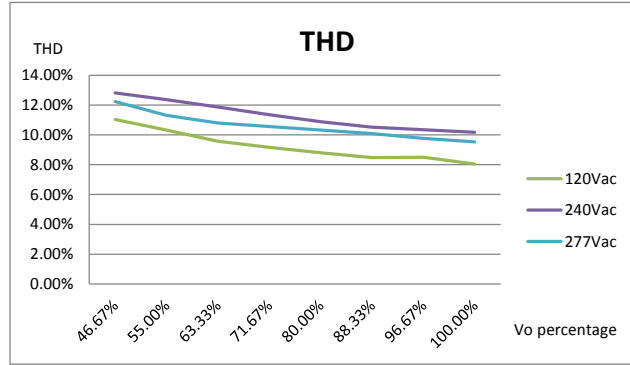
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### Performance Curves

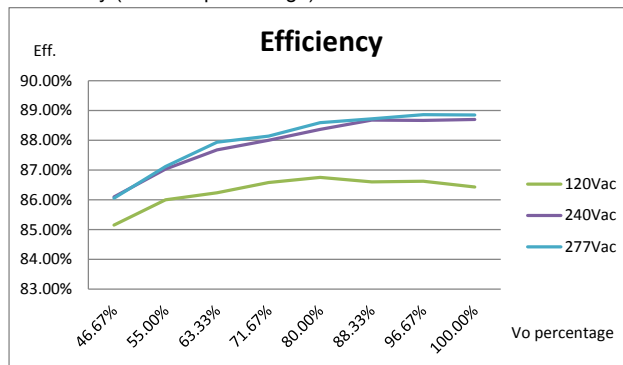
#### • Power Factor (PF / Output Voltage)



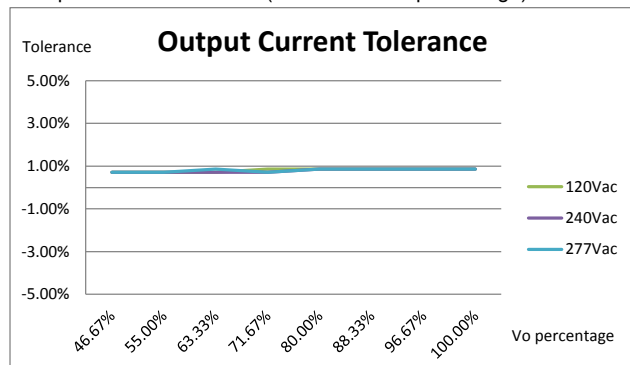
#### • THD (THD / Output Voltage)



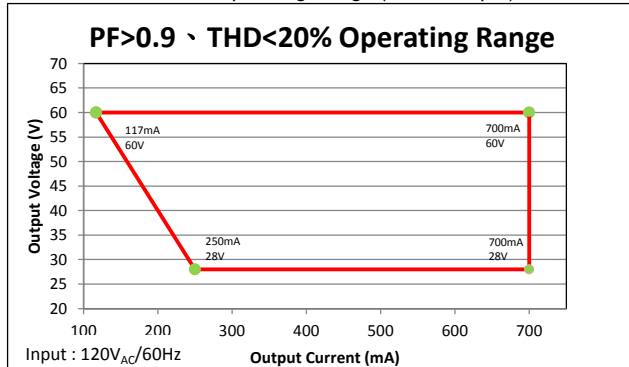
#### • Efficiency (Eff. / Output Voltage)



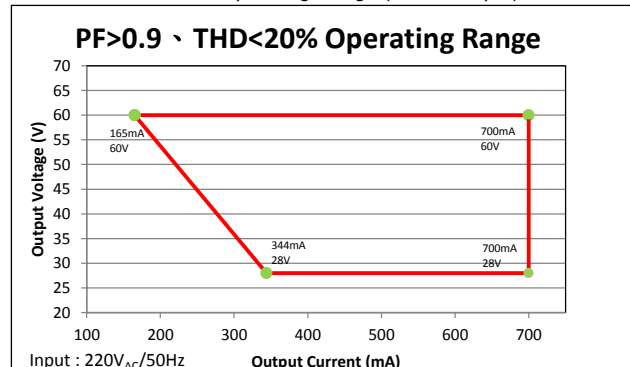
#### • Output Current Tolerance (Tolerance / Output Voltage)



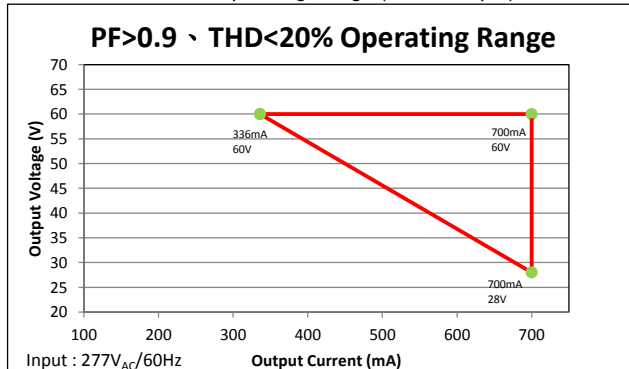
#### • PF>0.9 & THD<20% Operating Range (120Vac Input)



#### • PF>0.9 & THD<20% Operating Range (220Vac Input)



#### • PF>0.9 & THD<20% Operating Range (277Vac 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