Flickerless / Power supply

■ Features:
- Flickerless
- Full-protection provided: OCP/OVP/OTP/SCP/OLP
- Low Power Dissipation (Stand-by mode : <0.5Wh)
- Wide Vout : 25 ~ 50Vdc
- Compliant with CB, CE, KC safety requirements for LED lighting
- Constant Current Type
- IP 67
- Non Dimming

<table>
<thead>
<tr>
<th>Model Name</th>
<th>OLU400P701N1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Code</td>
<td>PSOV400701A(N)</td>
</tr>
<tr>
<td></td>
<td>PSOV400701B(N)</td>
</tr>
</tbody>
</table>

SOLM CO., LTD
150, Maeyoung-Ro, Youngtong-Gu, Suwon-Si, Gyeonggi-Do, Republic of Korea 443-743
TEL: +82-1588-0502, www.solu-m.com
### Electrical specification

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nominal Input Voltage</td>
<td>120</td>
<td>220</td>
<td>277</td>
<td>Vac</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Variable Input Voltage</td>
<td>108</td>
<td>-</td>
<td>300</td>
<td>Vac</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Maximum Input Current</td>
<td>-</td>
<td>-</td>
<td>0.4</td>
<td>Arms</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Nominal Input Frequency</td>
<td>47</td>
<td>50/60</td>
<td>63</td>
<td>Hz</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Power Factor (PF)</td>
<td>90</td>
<td>-</td>
<td>-</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Total Harmonic Distortion (THD)</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Inrush Current</td>
<td>-</td>
<td>-</td>
<td>60</td>
<td>Arms</td>
<td>Duration 500μs, 9) Meets NEMA 410</td>
</tr>
<tr>
<td>8</td>
<td>Electrical Efficiency</td>
<td>84</td>
<td>87</td>
<td>-</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Turn-on Delay</td>
<td>-</td>
<td>-</td>
<td>0.5</td>
<td>s</td>
<td>@Cold Start, 3)</td>
</tr>
<tr>
<td>10</td>
<td>LED Output Current</td>
<td>665</td>
<td>700</td>
<td>735</td>
<td>mA</td>
<td>@50Vdc Load 2)</td>
</tr>
<tr>
<td>11</td>
<td>LED Output Current Ripple</td>
<td>-</td>
<td>-</td>
<td>70</td>
<td>mA</td>
<td>20㎒ Bandwidth, 2)</td>
</tr>
<tr>
<td>12</td>
<td>LED Output Voltage</td>
<td>25</td>
<td>-</td>
<td>50</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>LED Off_Remote Low Voltage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Vdc</td>
<td>@Vpeak</td>
</tr>
<tr>
<td>14</td>
<td>Output Short Circuit Protection</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>No Damage</td>
</tr>
<tr>
<td>15</td>
<td>Operating Temperature</td>
<td>-40</td>
<td>25</td>
<td>80</td>
<td>℃</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Case Temperature (Tc)</td>
<td>-</td>
<td>50</td>
<td>85</td>
<td>℃</td>
<td>Ta = 60℃</td>
</tr>
<tr>
<td>17</td>
<td>Humidity</td>
<td>20</td>
<td>-</td>
<td>85</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Insulation Resistance</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>M0</td>
<td>500Vdc between Input &amp; Output</td>
</tr>
<tr>
<td>19</td>
<td>Dielectric Withstand Voltage Input</td>
<td>3.75</td>
<td>-</td>
<td>-</td>
<td>kV</td>
<td>Apply for 1 minute 6)</td>
</tr>
<tr>
<td>20</td>
<td>Dielectric Withstand Voltage Case</td>
<td>3.75</td>
<td>-</td>
<td>-</td>
<td>kV</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Surge Output to Case</td>
<td>0.5</td>
<td>-</td>
<td>-</td>
<td>kV</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Surge Line to Line</td>
<td>6</td>
<td>7</td>
<td>-</td>
<td>kV</td>
<td>4)</td>
</tr>
<tr>
<td>23</td>
<td>Surge Line to Ground</td>
<td>8</td>
<td>9</td>
<td>-</td>
<td>kV</td>
<td>4)</td>
</tr>
<tr>
<td>24</td>
<td>Surge Contact Discharge</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>kV</td>
<td>5)</td>
</tr>
<tr>
<td>25</td>
<td>Surge Air Discharge</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>kV</td>
<td>5)</td>
</tr>
</tbody>
</table>

---

SOLUM CO., LTD

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TEL: +82-1588-0502, www.solu-m.com
**Application Notes**

1) Test Condition: 120/277 Vac 50/60 Hz Input, Typical LED Load, Ambient Temperature 25°C, Measure at the cable-end

2) Test Condition: 220 Vac 60 Hz Input, LED Max. Load, 30 min Aging, Ambient Temperature 25°C

3) The interval of turn on/off should be over 1 sec.

4) Surge Specification above is higher than IEC/EN 61000-4-5 Level 4 (Differential 2 kV, Common 4 kV)

5) The metal case of the LED driver must be connected with F.G

6) ESD Specification above meets IEC/EN 61000-4-2 Requirements (Contact Level 2, Air Level 3)

7) The metal case of the driver should be grounded.

8) Determined by Paragraph 34.1.2, UL1310 or Paragraph 8.4.2, UL8750, EN61347-1, EN61347-2-13

9) NEMA 410 peak current requirement

Complied $I^2t(A^2 \text{sec}) @ \text{peak} \leq 2 \text{ms}$

### Table 2

<table>
<thead>
<tr>
<th>Steady State Current (A)</th>
<th>Peak Current (A) @ 120 Vac</th>
<th>Pulse Width (μs) @ 120 Vac</th>
<th>$I^2t (A^2 \text{sec}) @ 120 Vac$</th>
<th>Peak Current (A) @ 277 Vac</th>
<th>Pulse Width (μs) @ 277 Vac</th>
<th>$I^2t (A^2 \text{sec}) @ 277 Vac$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>75</td>
<td>0.34</td>
<td>11</td>
<td>77</td>
<td>0.07</td>
<td>11</td>
</tr>
<tr>
<td>1</td>
<td>107</td>
<td>0.48</td>
<td>24</td>
<td>131</td>
<td>0.71</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>144</td>
<td>0.70</td>
<td>41</td>
<td>205</td>
<td>0.85</td>
<td>76</td>
</tr>
<tr>
<td>3</td>
<td>168</td>
<td>0.89</td>
<td>51</td>
<td>268</td>
<td>0.98</td>
<td>111</td>
</tr>
<tr>
<td>5</td>
<td>192</td>
<td>1.20</td>
<td>74</td>
<td>320</td>
<td>1.20</td>
<td>205</td>
</tr>
<tr>
<td>8</td>
<td>221</td>
<td>1.25</td>
<td>98</td>
<td>370</td>
<td>1.25</td>
<td>274</td>
</tr>
<tr>
<td>10</td>
<td>230</td>
<td>1.50</td>
<td>106</td>
<td>430</td>
<td>1.50</td>
<td>370</td>
</tr>
</tbody>
</table>

**Safety Standards**

Including safety requirements above, the LED driver complies with the following safety standards:

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IEC/EN 61347-1, IEC/EN 61347-2-13</td>
<td>IEC/EN Safety Standards</td>
</tr>
<tr>
<td>2</td>
<td>IEC/EN 55015</td>
<td>Conducted and Radiated Emission Test</td>
</tr>
<tr>
<td>3</td>
<td>IEC/EN 61000-3-2</td>
<td>Harmonic current emissions: Class C</td>
</tr>
<tr>
<td>4</td>
<td>IEC/EN 61000-3-3</td>
<td>Voltage Fluctuations and Flicker</td>
</tr>
<tr>
<td>5</td>
<td>IEC/EN 61000-4-2</td>
<td>Electrostatic Discharge (ESD): Contact Level 2, Air Level 3</td>
</tr>
<tr>
<td>6</td>
<td>IEC/EN 61000-4-3</td>
<td>Radio-frequency Electromagnetic Fields</td>
</tr>
<tr>
<td>7</td>
<td>IEC/EN 61000-4-4</td>
<td>Electrical Fast Transients (EFT)</td>
</tr>
<tr>
<td>8</td>
<td>IEC/EN 61000-4-5</td>
<td>Surges: Level 4</td>
</tr>
<tr>
<td>9</td>
<td>IEC/EN 61000-4-6</td>
<td>Injected Currents</td>
</tr>
<tr>
<td>10</td>
<td>IEC/EN 61000-4-8</td>
<td>Power Frequency Magnetic Fields</td>
</tr>
<tr>
<td>11</td>
<td>IEC/EN 61000-4-11</td>
<td>Voltage Dips and Short Interruptions</td>
</tr>
</tbody>
</table>

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Flickerless / Power supply

■ Operating window

![Operating Window Graph]

■ Life Time vs Tcase

![Life Time vs Tcase Graph]

Remark) LED Driver has a rated lifetime of 50,000 hours @ Tc≤70℃

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Currently Measurement Data

- Power Factor (%)
- THD (%)
- Efficiency (%)

**Graphs**

- **Power Factor (%)**
  - Input Voltage (Vac): 120, 220, 277
  - Graphs for 9LED-500mA, 9LED-700mA, 12LED-500mA, 12LED-700mA, 16LED-500mA, 16LED-700mA

- **THD (%)**
  - Input Voltage (Vac): 120, 220, 277
  - Graphs for 9LED-500mA, 9LED-700mA, 12LED-500mA, 12LED-700mA, 16LED-500mA, 16LED-700mA

- **Efficiency (%)**
  - Input Voltage (Vac): 120, 220, 277
  - Graphs for 9LED-500mA, 9LED-700mA, 12LED-500mA, 12LED-700mA, 16LED-500mA, 16LED-700mA

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Flickerless / Power supply

**Mechanical Specification**

- **Enclosure Size**
  - **Case Material**: Aluminium

<table>
<thead>
<tr>
<th>Unit</th>
<th>Width</th>
<th>Length</th>
<th>Height</th>
<th>Mount Length</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>53.6</td>
<td>177.6</td>
<td>33.9</td>
<td>185.4</td>
<td>192.6</td>
</tr>
<tr>
<td>inch</td>
<td>2.11</td>
<td>6.99</td>
<td>1.33</td>
<td>7.30</td>
<td>7.58</td>
</tr>
</tbody>
</table>

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■ Wiring Diagram

![Wiring Diagram]

LED Control gear

- LIVE : Black
- Neutral : White
- LED – : Blue
- LED + : Red

■ Out connector description

<table>
<thead>
<tr>
<th>Code</th>
<th>Logo</th>
<th>Connector (Cable end)</th>
<th>Connector (opposite side)</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSOV400701A(N)</td>
<td>SOLUM</td>
<td>N.A</td>
<td>N.A</td>
<td>MG610320(KET)</td>
</tr>
<tr>
<td>PSOV400701B(N)</td>
<td></td>
<td>MG610320(KET)</td>
<td>MG640322(KET)</td>
<td></td>
</tr>
</tbody>
</table>

※ Caution

1) Before installing LED driver, AC power should be turned off.

   After installing LED driver, AC power should be turned on.

2) When this LED driver are installed as an independent lamp controlgear,
   end-customer should protect connecting leads of pri/sec. cable with a certified element.

3) Waterproof connector or Junction box can be assembled with output cables for operating
   in dry/wet/damp or outdoor environment.

4) Wires should be less than 1m when installed in final equipment

5) Do not detach input and output wires after complete installation.

6) The metal enclosure should be grounded in purpose of EMC performance.

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Flickerless / Power supply

■ Rating Label Drawing

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Flickerless / Power supply

Barcode Label

Date
Barcode
Lot No
Development Rev
MP Rev
6 Serial No
Model Code
4 Production Date
3 Production Month
2 Production Year
1 Production Country

Mean
1. Plant
2. Year
3. Month
4. Date
5. Code
6. Serial
7. Revision No

Digit
2
2
1
2
3
4

EX.
C1 : DGSM
C2 : Solytech
K1 : Korea
H1 : SOLUM VINA
00-99
1...9,A,B
01-31

PSOV400701A(N) : 391
PSOV400701B(N) : 392
0001...9999
X01-99 : Development
A01-99 : MP

Material
Code

OLER400P701N1A

Item

PSOV400701*(N)

Rev. A**

Lot No

*******

Maker

SOLUM

Quantity

24

SOLUM

Exp. Date

20**.**.** ~ 20**.**.**

*********** **** ***********

User Model Code

SOLUM Model Code

SOLUM Lot No & Quantity of Products

Product Date ~ After 5 Years

User Barcode

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### Packing Drawing

#### 1. Out Box

<table>
<thead>
<tr>
<th>Dimmension</th>
<th>540(L) 355(W) 170(H) [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>&lt; 14Kg</td>
</tr>
<tr>
<td>Quantity</td>
<td>24EA / 1Box</td>
</tr>
</tbody>
</table>

#### 2. Pallet

<table>
<thead>
<tr>
<th>Weight</th>
<th>&lt; 420Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>30BOX / 1Pallet</td>
</tr>
</tbody>
</table>