

DONE

MPC SERIES LED DRIVERS

DL-50W-MPC SPEC V1.0

Features

- Class I structure
- Input voltage: 100-277 V ~ 50/60 Hz
- Efficiency :89%(Typ.)
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV
- Can pass the double 85 test (15 days) @ 230Vac full load
- The LED drives I/P-O/P to withstand voltage up to 1500Vac for 60s
- Lifetime design: 3 years



Applications

Outdoor lighting lamps such as street lamps, spotlights, wall washing lamps, etc.

Model list

| Model NO. | Input voltage | Output power | Output voltage | The default current | Eff. | T.H.D | PF |
|------------------|-----------------------|--------------|----------------|---------------------|------|-------|-------|
| DL-50W-C600-MPC | 100-277Vac 50/60Hz | 51.6W | 40-86Vdc | 600mA | >90% | <10% | >0.95 |
| DL-50W-C750-MPC | | 42W | 25-56Vdc | 750mA | | | |
| DL-50W-C900-MPC | | 50.4W | 25-56Vdc | 900mA | | | |
| DL-50W-C1050-MPC | | 52.5W | 25-50Vdc | 1050mA | | | |
| DL-50W-C1200-MPC | | 45.6W | 20-38Vdc | 1200mA | | | |
| DL-50W-C1350-MPC | | 51.3W | 20-38Vdc | 1350mA | | | |
| DL-50W-C1400-MPC | | 50.4W | 20-36Vdc | 1400mA | | | |
| DL-50W-C1500-MPC | | 54W | 20-36Vdc | 1500mA | | | |

Note :

1. Test conditions of the above parameters: Ta=25 °C, 230Vac input, working at full load for 30 minutes.
2. Input undervoltage protection range: 85-95Vac. Input less than 90Vac ±5Vac, drive into hiccup mode, and the lamp flashes regularly.

Input characteristics

| Parameter | Min | Typ. | Max | Note |
|---------------------|--------|---------|--------|---------------------------|
| Rated input voltage | 100Vac | 230Vac | 277Vac | |
| Input voltage range | 90Vac | 230Vac | 305Vac | |
| Rated frequency | 47Hz | 50/60Hz | 63Hz | |
| Power factor | - | 0.95 | - | @230Vac full load |
| T.H.D. | - | - | 10% | @230Vac full load |
| Input current | - | - | 0.65A | @100Vac full load |
| Inrush current | - | - | 70A | 230Vac, cold start (25°C) |

Output characteristic

| Parameter | Min | Typ. | Max | Note |
|----------------------|--------|-------|--------|------|
| Rated current | | | | |
| DL-50W-C600-MPC | 0.558A | 0.6A | 0.642A | |
| DL-50W-C750-MPC | 0.697A | 0.75A | 0.803A | |
| DL-50W-C900-MPC | 0.837A | 0.9A | 0.963A | |
| DL-50W-C1050-MPC | 0.976A | 1.05A | 1.124A | |
| DL-50W-C1200-MPC | 1.116A | 1.2A | 1.284A | |
| DL-50W-C1350-MPC | 1.255A | 1.35A | 1.445A | |
| DL-50W-C1400-MPC | 1.302A | 1.4A | 1.498A | |
| DL-50W-C1500-MPC | 1.395A | 1.5A | 1.605A | |
| Output current range | | | | |
| DL-50W-C600-MPC | 40V | - | 86V | |
| DL-50W-C750-MPC | 25V | - | 56V | |
| DL-50W-C900-MPC | 25V | - | 56V | |
| DL-50W-C1050-MPC | 25V | - | 50V | |
| DL-50W-C1200-MPC | 20V | - | 38V | |
| DL-50W-C1350-MPC | 20V | - | 38V | |
| DL-50W-C1400-MPC | 20V | - | 36V | |
| DL-50W-C1500-MPC | 20V | - | 36V | |

Output characteristic

| Parameter | Min | Typ. | Max | Note |
|----------------------------|--------|-------|--------|--------------------------|
| Rated power(100-277Vac) | | | | |
| DL-50W-C600-MPC | 24W | - | 51.6W | |
| DL-50W-C750-MPC | 18.75W | - | 42W | |
| DL-50W-C900-MPC | 22.5W | - | 50.4W | |
| DL-50W-C1050-MPC | 26.25W | - | 52.5W | |
| DL-50W-C1200-MPC | 24W | - | 45.6W | |
| DL-50W-C1350-MPC | 27W | - | 51.3W | |
| DL-50W-C1400-MPC | 28W | - | 50.4W | |
| DL-50W-C1500-MPC | 30W | - | 54W | |
| No-load voltage | | | | |
| DL-50W-C600-MPC | - | - | 98V | |
| DL-50W-C750-MPC | - | - | 68V | |
| DL-50W-C900-MPC | - | - | 68V | |
| DL-50W-C1050-MPC | - | - | 68V | |
| DL-50W-C1200-MPC | - | - | 55V | |
| DL-50W-C1350-MPC | - | - | 55V | |
| DL-50W-C1400-MPC | - | - | 55V | |
| DL-50W-C1500-MPC | - | - | 55V | |
| Efficiency@230Vac | | | | |
| DL-50W-C600-MPC | 89% | 91% | | |
| DL-50W-C750-MPC | 89% | 90% | | |
| DL-50W-C900-MPC | 89% | 90.5% | | |
| DL-50W-C1050-MPC | 89% | 90% | - | full load |
| DL-50W-C1200-MPC | 89% | 90% | | |
| DL-50W-C1350-MPC | 89% | 89% | | |
| DL-50W-C1400-MPC | 89% | 89% | | |
| DL-50W-C1500-MPC | 89% | 89% | | |
| Accuracy of output current | -7% | - | +7% | |
| Line regulation | -5% | - | +5% | |
| Load regulation | -5% | - | +5% | |
| Starting time | 500ms | - | 1000ms | Full load @100-277Vac |

Protection

| Function | Function instructions |
|---------------------------------|---|
| Input under-voltage protection | Enter the undervoltage protection range: 85-95Vac. Input less than 90Vac \pm 5Vac, drive into hiccup mode, the lamp flashes regularly. |
| Output overload protection | Protection mode:hiccup mode,recovers automatically after fault condition is removed. |
| Output short circuit protection | Hiccup mode:recovers automatically after fault condition is removed. |
| Output over-voltage protection | Protection mode: Hiccup mode or clamped in output highest voltage , the product is not damaged, LED driver works normally after fault condition is removed. |

Note:

1. Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 230Vac (50Hz), rated load and 25°C of ambient temperature;
2. Including setting error, line regulation and load regulation.

Environmental

| Environmental categories | Parameter |
|-------------------------------|---|
| Working temperature | -40 ~ +60°C @100-277Vac (refer to "Life Curve ") |
| Working humidity | 20 ~ 95% RH, non condensing |
| Storage temperature, humidity | -30~+85°C, 10 ~ 90% RH |
| Resistant to vibration | 10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each |
| MTBF | 100Khrs min. MIL-HDBK-217F (Ta=25°C) |

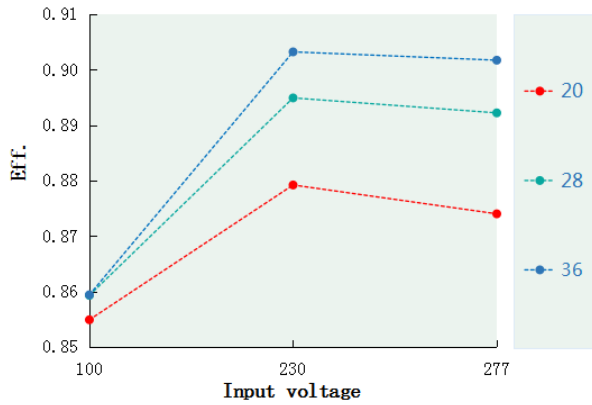
Safety and EMC

| Safety categories | Standard |
|----------------------|---|
| Safety | / |
| EMC | / |
| Surge protection | Differential mode L-N $\pm 6\text{KV}$ (2 ohm) ; Refer to IEC61000-4-5 2014 Criterion B |
| High-pot test | I/P-O/P:1.5KVac |
| Insulation impedance | I/P-O/P:100M Ω / 500VDC / 25 $^{\circ}\text{C}$ / 70% RH |
| Leakage current | <0.7mA@230Vac |

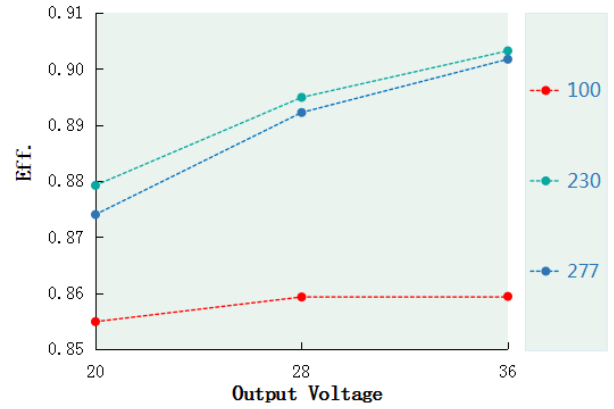
Note:

- The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

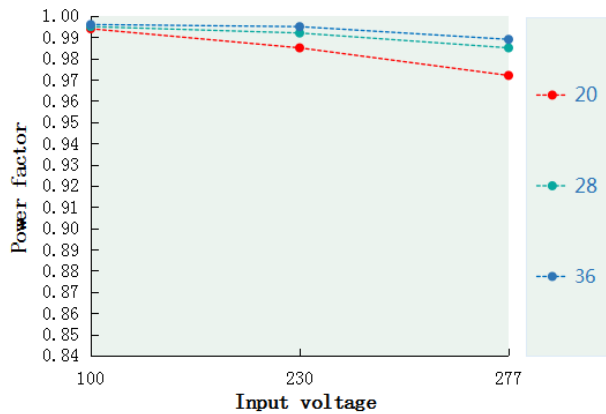
Eff. VS Input voltage(DL-50W-C1500-MPC)



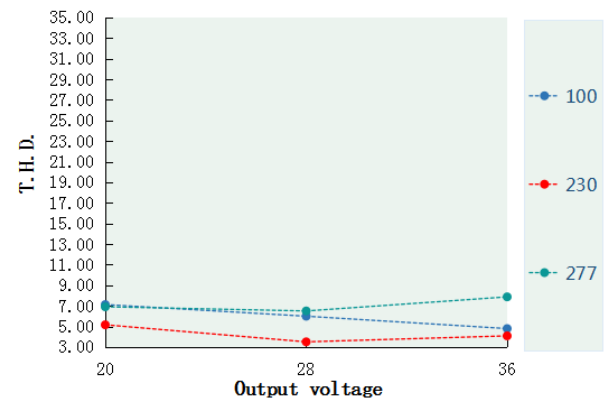
Eff. VS Output voltage(DL-50W-C1500-MPC)



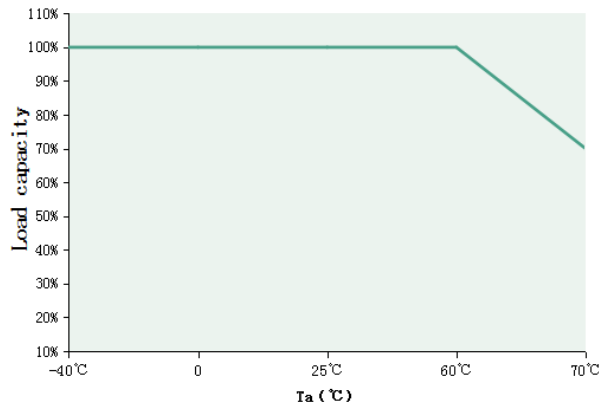
Power factor VS Input voltage(DL-50W-C1500-MPC)



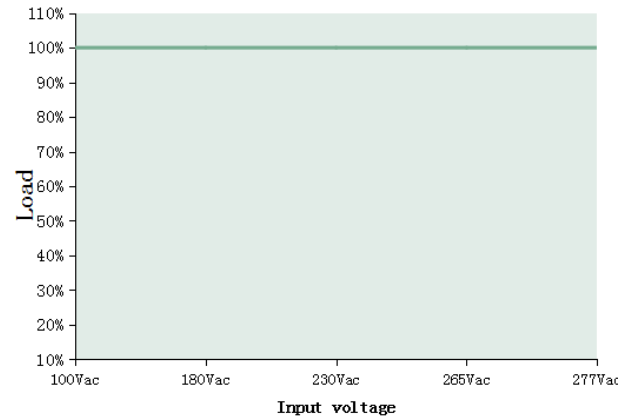
T.H.D. VS Output voltage(DL-50W-C1500-MPC)



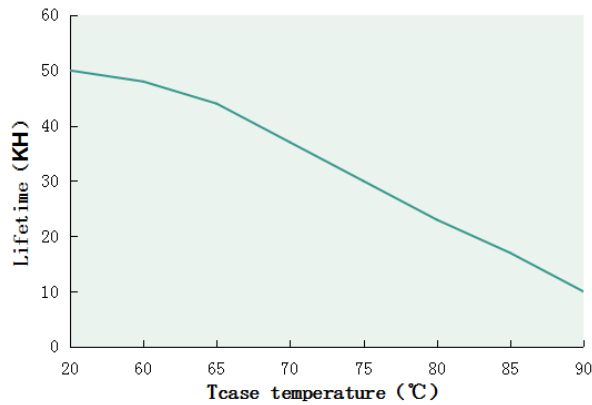
Load reduction curve



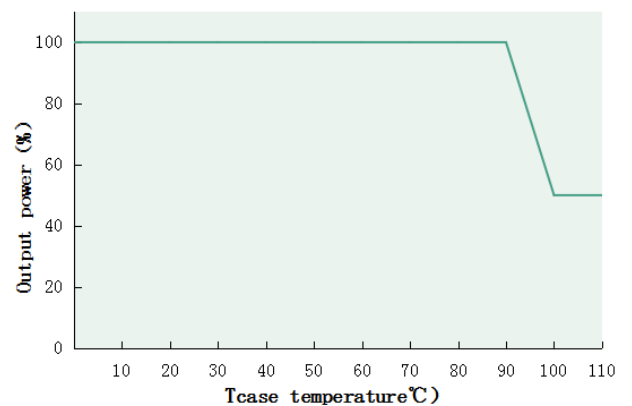
Input voltage VS Load



Tcase temperature VS Lifetime



Output power VS Tcase temperature

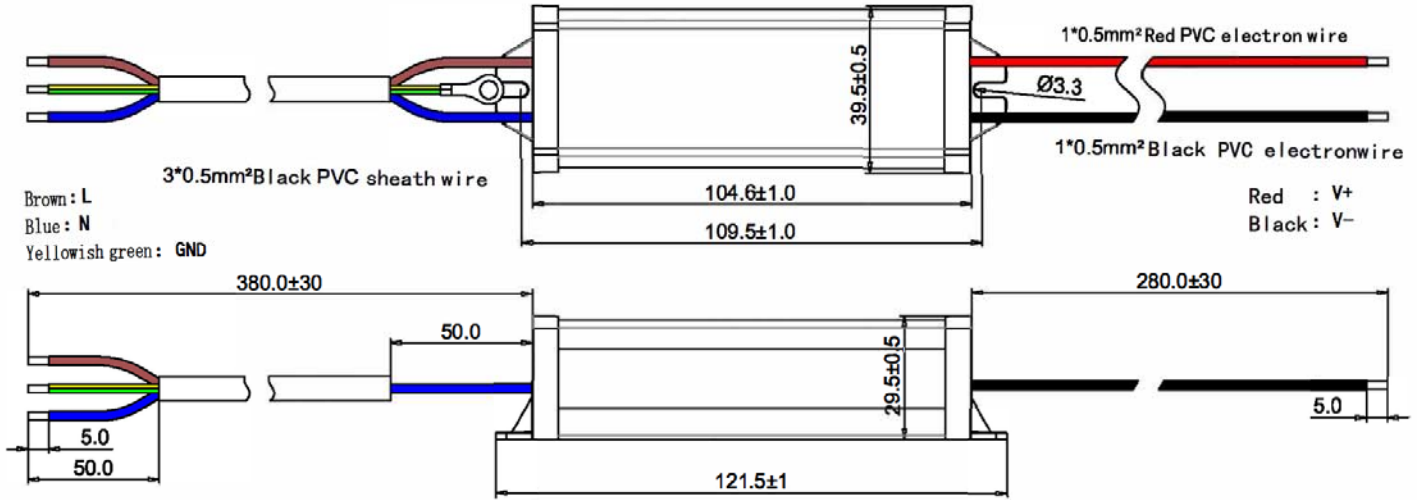


Mechanical specification

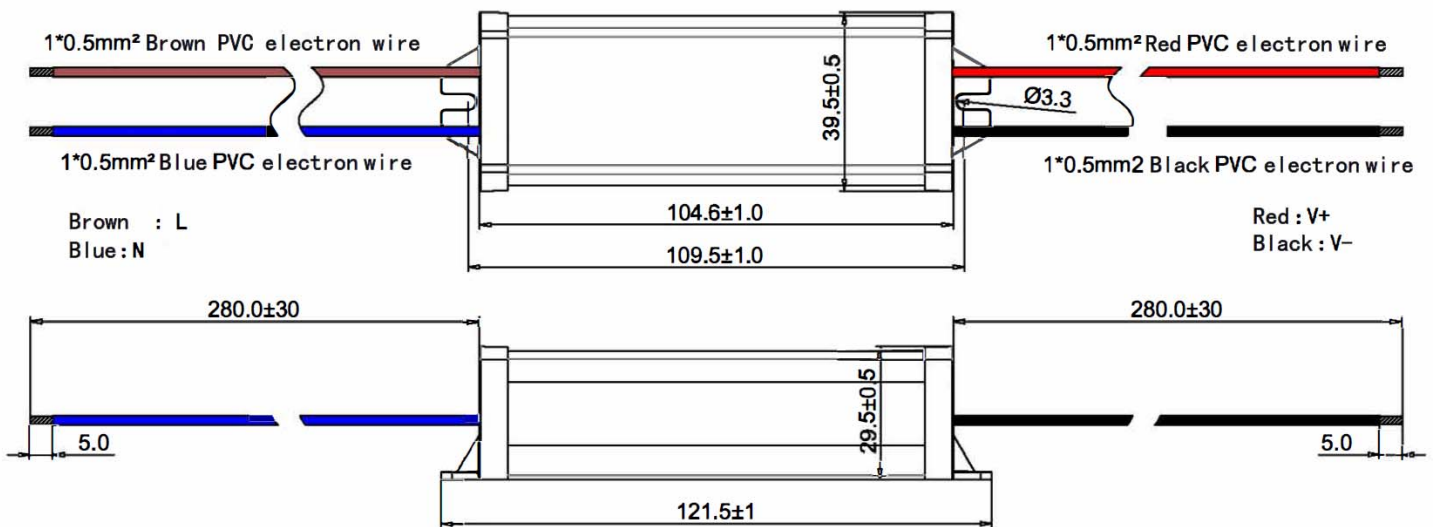
| | |
|-----------|--------------------|
| Size (mm) | L121.5*W39.5*H29.5 |
|-----------|--------------------|

Housing model: 2M11A (unit: mm)

Standard wire rod 1:



Standard wire rod 2:



Weight

| | |
|--------|-------|
| Weight | 217 g |
|--------|-------|

Version

| DATE | DESCRIPTION | REV. | CHECK |
|----------|------------------|------|-------|
| 2021.4.7 | Initial version. | V1.0 | |

| MANUFACTURER | | |
|--------------|-------|---------|
| EDIT | CHECK | APPROVE |
| | | |