

## 产品特性 Product Characteristics

- 效率高达 : 95%  
Efficiency up to 95%
- 调光隔离 : 0/1-10V,调光可关断  
Isolated dimming:0/1-10V, Dim-to-Off
- 功能配置 : 调光/不调光/12V/输出电流可调  
，满足客人不同产品需求可选  
Functional: Dim/Non-Dim/Aux 12V / The output current is adjustable meet different customer requirement is optional.
- 防水等级 IP Rating : IP67
- 雷击浪涌 Surge : CM(L/N):6KV,DM (L/N-PE) :6KV
- 质保 Warranty : 5Years



## 产品概述 Product Description

F3系列为长条形双极无频闪非隔离恒流驱动电源，此系列专为路灯，隧道灯，泛光灯，壁灯，平板工矿灯等而设计开发，外观设计美观大体，产品多功能配置满足客户不同的功能设计需求，超高的效率，良好的散热，极大提高了产品的可靠性，保证寿命，同时全方位的保护功能确保产品无障碍运作。

F3 Series is a long bipolar stroboscopic No strobe non-isolated constant current drive power supply, This series is designed and developed for street lamps, tunnel lights, floodlights, wall lamps, flat plate and mining lamps, The overall appearance design is aesthetically pleasing, and the multifunctional configuration of the product meets the different functional design needs of customers. With ultra-high efficiency and good heat dissipation, it greatly improves the reliability of the product and ensures its lifespan. At the same time, comprehensive protection functions ensure that the product operates without obstacles.

## 型号清单 Model List

| 电源型号<br>Model List | 输出功率<br>Pout | 输入电压<br>Vin | 输出电压<br>Vout | 推荐工作电<br>压 Vout | 输出电流<br>Iout | 效率 Eff.<br>277Vac | 0-10V<br>Aux12V |
|--------------------|--------------|-------------|--------------|-----------------|--------------|-------------------|-----------------|
| BQ-80F3 -260-Z     | 80           | 100-240/277 | 180-260      | 200-250         | 200-400      | 95%               | SELV            |
| 产品功能<br>Function   | N            |             |              | V               |              | A                 |                 |
| "Z"                | □            |             |              | □               |              | □                 |                 |

N : 不调光/No Dimming,

V : 0-10V 调光/ 0-10V Dimming;

A : 0-10V 调光+12V/0-10V Dimming and Aux12V

- \*. 温馨提示 Warm prompt : 当使用电流可调功能时，输出电压 × 输出电流不能超最大的输出功率；  
The output voltage \* output current must not exceed the maximum output power when using the current adjustable function;
- \* 输入 AC(100-120V)最大输出功率 64W ;Output Power Max.64W(when input: (100-120V)

**输入特性**
**Input Characteristics**

| 参数 Parameters                       | 最小值 Min. | 典型值 Typical | 最大值 Max. | 单位 Unit | 测试条件/备注 Testing Conditions/Remark                         |
|-------------------------------------|----------|-------------|----------|---------|-----------------------------------------------------------|
| 额定输入电压<br>Rated Input Voltage Range | 100      | /           | 277      | Vac     | /                                                         |
| 输入电压范围<br>Input voltage range       | 90       | /           | 305      | Vac     | /                                                         |
| 输入频率 Input frequency                | 47       | 50/60       | 63       | Hz      | /                                                         |
| 输入电流 Input current                  | /        | /           | 950      | mA      | @100-277Vac                                               |
| 浪涌电流 Inrush Current                 | /        | /           | 100      | A       | @240Vac 100%负载冷机启动<br>100%load at 240Vac input cold start |
| 功率因素 PF                             | 0.9      | /           | /        | N/A     | @100-240Vac 60%full load                                  |
| 谐波 THD                              | /        | /           | 20       | %       | @100-240Vac 60%full load                                  |
| 频闪 Flicker                          | /        | /           | 5        | %       | @100-277Vac                                               |
| 启动时间 Turn-on Delay Time             | /        | /           | 500      | mS      | @230Vac                                                   |
| 待机功耗 Stand-by Power                 | /        | /           | 0.5      | W       | @100-240Vac                                               |
| 短路功耗 Short circuit power            | /        | /           | 10       | W       | @100-277Vac(进入打嗝模式)                                       |

**输出特性**
**Output Characteristics**

| 参数 Parameters                        | 最小值 Min. | 典型值 Typical | 最大值 Max. | 单位 Unit | 测试条件/备注 Testing Conditions/Remark                       |
|--------------------------------------|----------|-------------|----------|---------|---------------------------------------------------------|
| 额定输出电压<br>Rated Output Voltage       | 180      | /           | 260      | Vdc     | /                                                       |
| 额定输出电流(可调)<br>Rate lout (adjustable) | 200      | /           | 400      | mA      | ±5% 额定输出电压*输出电流≤额定功率<br>Rated Vout*Rate lout≤Rated Pout |
| 额定输出功率 Rated Pout                    | /        | /           | 80       | W       | @100% Load at120-277Vac                                 |
| 空载电压 No-Load Voltage                 | /        | /           | 300      | Vdc     | @100-277Vac                                             |
| 效率 Efficiency@120V ac                | 90       | 93          | /        | %       | @Full Load Output: 260v/0.30A                           |
| 效率 Efficiency@230V ac                | 93       | 95          | /        | %       | @Full Load Output: 260v/0.30A                           |
| 效率 Efficiency@277V ac                | 93       | 95          | /        | %       | @Full Load Output: 260v/0.30A                           |
| 线性调整率 Line Regulation                | -5%      | /           | +5%      | %       | @ Full Load                                             |
| 负载调整率 Load Regulation                | -5%      | /           | +5%      | %       |                                                         |
| 电流纹波 Ripple Current                  | /        | 5%          | 10%      | %       |                                                         |

## 调光特性 Dimming Characteristics

| 功能<br>Function                   | 参数<br>Parameters                                                                 | 最小值<br>Min. | 典型值<br>Typical | 最大值<br>Max. | 单位<br>Unit | 备注<br>Remark                         |
|----------------------------------|----------------------------------------------------------------------------------|-------------|----------------|-------------|------------|--------------------------------------|
| 0-10V<br>Class 2                 | 外加最大电压<br>Applied maximum voltage                                                | 0           | /              | 12          | V          |                                      |
|                                  | 调光输出电流范围<br>Dimming output current range                                         | 0           | /              | 100         | %          | 调光器兼容性强<br>High compatibility        |
|                                  | 调光电压 Dimming Voltage                                                             | 0           | /              | 10          | V          |                                      |
|                                  | 调光电流 Dimming Current                                                             | 90          | 100            | 110         | uA         |                                      |
| 关断电压<br>Dim to Off<br>(Optional) | 0-10V 关断电压<br>Turn-off voltage                                                   | 0.6         | 0.8            | 1.0         | V          | 调光线短路关灯<br>Dim short circuit- Off    |
|                                  | 0-10V 开启电压<br>Cut-in voltage                                                     | 0.7         | 0.95           | 1.2         | V          |                                      |
|                                  | 1-10V                                                                            | /           | /              | /           |            | 调光短路不灭灯<br>Dim short circuit-Not Off |
| Noted                            | 当调光线不使用时，请将调光线做好绝缘措施<br>Please take isolation if the dimming cable is not in use |             |                |             |            |                                      |

## 辅助特性 Auxiliary Characteristics

| 功能<br>Function                         | 参数<br>Parameters                                                                                                                                         | 最小值<br>Min. | 典型值<br>Typical | 最大值<br>Max. | 单位<br>Unit | 备注<br>Remark |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|-------------|------------|--------------|
| Aux12V<br>辅助源<br>(Optional)<br>Class 2 | 输出电压 Output Voltage                                                                                                                                      | 11          | 12             | 13          | V          |              |
|                                        | 输出电流 Output Current                                                                                                                                      | 0           | /              | 200         | mA         |              |
|                                        | 纹波电压 Ripple Voltage                                                                                                                                      | /           | /              | 500         | mV         |              |
|                                        | 动态负载<br>Performance Load                                                                                                                                 |             |                |             |            |              |
| Noted                                  | ◆ 请在使用 12V 辅助源或其它感应器时注意与电源相互匹配性验证 ;<br>Please pay attention to the compatibility verification with the LED Driver when using the Aux12V or other sensor. |             |                |             |            |              |

## 保护功能 Protection Function

| 功能<br>Function     | 参数<br>Parameters                                                       | 最小值<br>Min. | 典型值<br>Typical | 最大值<br>Max. | 单位<br>Unit | 备注<br>Remark                   |
|--------------------|------------------------------------------------------------------------|-------------|----------------|-------------|------------|--------------------------------|
| 过温保护<br>OTP ( TC ) | 降电流模式<br>Current drop mode                                             | 90          | 95             | 105         | ℃          | 过温解除时，电流自动恢复。<br>Auto recovery |
| 短路保护<br>SCP        | 长时间短路不损坏，打嗝模式<br>Not damaged with long time short circuit, hiccup mode |             |                |             |            | 短路解除后可自动恢复<br>It Auto recovery |
| 输出开路保护<br>OVP      | 输出电压会限制在规定范围<br>The output voltage will limit the scope                |             |                |             |            | 自动恢复模式<br>Auto recovery        |
| 其它 Others          |                                                                        |             |                |             |            |                                |

**环境要求**
**Environmental Characteristics**

| 参数 Parameters                                | 最小值 Min. | 典型值 Typical | 最大值 Max. | 单位 Unit | 备注 Remark                            |
|----------------------------------------------|----------|-------------|----------|---------|--------------------------------------|
| 工作温度 Operating Temp.                         | -40      | /           | 90       | °C      | Tc                                   |
| 储存温度/湿度 Storage Temp.                        | -40      | /           | 90       | °C      | RH:5%~95%                            |
| Tc 温度/Tc Temp.                               | /        | /           | 90       | °C      |                                      |
| 寿命 Life Time<br>50000H/ @Tc80°C at full load | /        | 80          | /        | °C      | 参考寿命曲线图<br>Refer to the life curves. |
| MTBF200000 H/@ 25°C                          | /        | 25          | /        | °C      | 80%负载MIL-HDBK-217F                   |

**安全与电磁兼容**
**Safety and EMI Standards**

| 认证状况 Status                         | 认证 Certification | 国家地区 Country            | 标准 Safety Standard                          | 备注 Remark |
|-------------------------------------|------------------|-------------------------|---------------------------------------------|-----------|
| <input type="checkbox"/>            | UL/Cul           | 美国/加拿大<br>USA/Canada    | UL 8750                                     |           |
| <input type="checkbox"/>            | CCC              | 中国<br>China             | GB19510.1;GB19510.14<br>GB17625.1;GB/T17743 |           |
| <input checked="" type="checkbox"/> | CE-LVD<br>ENEC   | 欧洲<br>European          | EN61347-2-13; EN61347-1<br>EN62384          |           |
| <input checked="" type="checkbox"/> | CB               | CB 成员国<br>Member states | IEC61347-2-13<br>IEC61347-1                 |           |
| <input type="checkbox"/>            | SAA              | Australia               | AS/NZS61347.1+AS/NZS61347.2.13              |           |

| EMI/EMS                    | 地区 Area        | 标准 Standard                                            | Requirement                                    |
|----------------------------|----------------|--------------------------------------------------------|------------------------------------------------|
| EMI                        | 欧洲<br>European | EN55015:2013+A1:2015                                   | Class B                                        |
| Harmonic Current Emissions | 欧洲<br>European | EN/IEC55015; EN61547<br>EN/IEC61000-3-2<br>EN61000-3-3 | Class C                                        |
| 雷击浪涌<br>Surge              | 欧洲<br>European | IEC/EN61000-4-5                                        | 差模 DM:6KV<br>共模 CM:6KV                         |
| 振铃波<br>Ring wave           | USA            | IEC/EN 61000-4-12; ANSI/C82.77-5                       | 2.5KV                                          |
| ESD                        | 欧洲<br>European | EN 61000-4-2                                           | 8 KV air discharge ;<br>4 KV contact discharge |

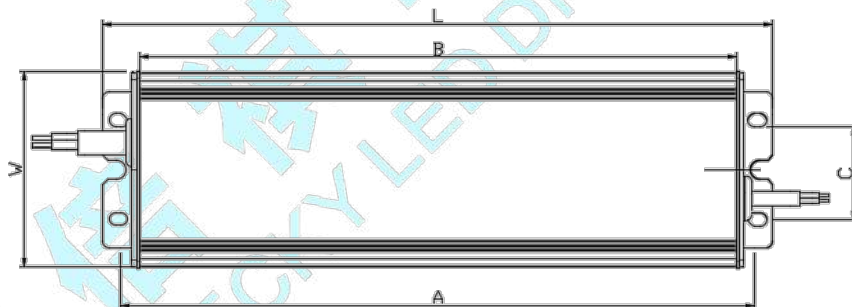
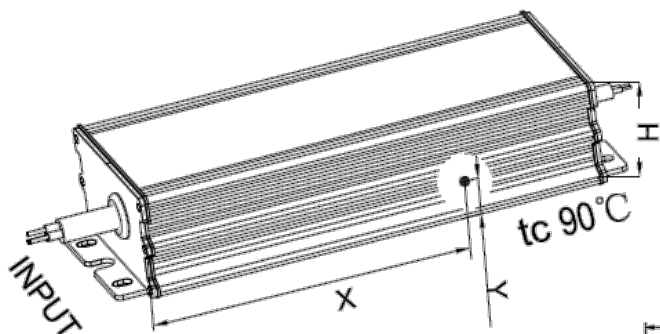
驱动电源本身是满足 EMI 标准,但驱动电源作为灯具零部件的一部分,需结合成品灯具进行 EMI 相关确认。

Remark: The LED Driver itself complies with EMC standard. However, the LED Driver's EMC should be re-checked with lamp when integrated into lighting systems.

| 绝缘要求<br>Insulation Requirements | UL | TUV     | CCC | 单位<br>Unit | 备注<br>Remark                |
|---------------------------------|----|---------|-----|------------|-----------------------------|
| 输入对外壳 Input-Case                | /  | 2U+1000 | /   | Vac        | /                           |
| 输入对调光 Input-Dim                 | /  | 3000    | /   | Vac        | Reinforced insulation 3000V |
| 调光对外壳 Dim-Case                  | /  | 500     | /   | Vac        | Basic insulation            |
| 绝缘阻抗 Insulation Resistance      | /  | > 10    | /   | MΩ         | Input-Dim@500Vdc/25°C       |
| 接地电阻 Ground Resistance          | /  | < 0.1   | /   | Ω          | 地线对外壳,PE-Case,25A/1min      |
| 漏电流 Leakage Current             | /  | ≤0.75   | /   | mA         | @277Vac                     |

## 结构尺寸 Mechanical Characteristics

| 外壳材质<br>Material of case | 外壳尺寸 mm<br>Dimension for case |     |    |       |    |      | Tc 位置<br>Tc position |    | 公差<br>Tolerance | 重量<br>weight   | 公差<br>Tolerance | 工艺<br>Process |
|--------------------------|-------------------------------|-----|----|-------|----|------|----------------------|----|-----------------|----------------|-----------------|---------------|
|                          | A                             | B   | C  | L     | W  | H    | X                    | Y  |                 |                |                 |               |
| 铝壳<br>Aluminum           | 137                           | 124 | 31 | 146.5 | 61 | 35.5 | 84                   | 14 | ±2mm            | 0.6kg<br>(含灌胶) | ±50g            | 灌胶<br>Glue    |



| 类别 Item |      | 颜色 Color         | 线规 AWG  | 线号 AWG                             | 出线方式                                  | 备注                                                 |
|---------|------|------------------|---------|------------------------------------|---------------------------------------|----------------------------------------------------|
| 输入线     | ACL  | 棕色：Brown         | H05RN-F | 3G1.0mm²<br>300/500V               | 开皮上锡 10mm                             | ■仅供客户选型的时候参考，详细的线材规格和线材长度以及线材的颜色以承认样品后的规格书第 2 页为准; |
|         | ACN  | 蓝色：Blue          |         |                                    |                                       |                                                    |
|         | GND  | 绿/黄：Green/Yellow |         |                                    |                                       |                                                    |
| 输出线     | LED+ | 棕色：Brown         | H05RN-F | 2G1.0mm²<br>300/500V               |                                       |                                                    |
|         | LED- | 蓝色：Blue          |         |                                    |                                       |                                                    |
| 调光线     | Dim+ | 紫色：Purple        | UL21996 | AWG22/300V/105℃<br>AWG24/300V/105℃ | Z=V (开皮上锡 10mm)<br>Z=A(PH2.0-2PIN 端子) |                                                    |
|         | Dim- | 粉色：Pink          |         |                                    |                                       |                                                    |
| Aux 12v | 12v+ | 黑/白：Black/ White |         |                                    |                                       |                                                    |

- 产品符合欧盟RoHS2.0指令(2011/65/EU)和REACH(No.1907/2006)要求  
The Products comply with RoHS Directive (2011/65/EU) and REACH(No.1907/2006).
- 非隔离电源灯板设计注意事项 : Notes for design of non-isolated driver light board:**
  - 灯珠排列方式建议先并后串 ;  
The arrangement of lamp beads is recommended to design parallel first then series;
  - 铝基板耐压满足>3KV以上;  
Withstand voltage of dielectric layers between aluminum PCB and LED>3KV.
  - 所有走线到板边铜箔建议距离>4.7mm以上;  
Safety space between aluminum base and LED coppers coil than 4.7mm
  - 铝基板上LED+与LED-爬电距离>2.5mm;  
The creepage distance than 2.5mm between LED+ and LED- on the aluminum substrate
  - 铝基板上不覆多余的散热铜箔 ;  
Aluminum substrate is not covered with excess heat dissipation copper foil