

# PRODUCT DATASHEET

## LVED FP 200/1.05-1.50/IP67 VS10

### FULL PROGRAMMABLE OUTDOOR DRIVER



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#### AREAS OF APPLICATION

- Street and urban lighting
- Industry
- Suitable for outdoor applications in luminaires
- Suitable for use in outdoor luminaires of protection

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#### PRODUCT FAMILY FEATURES

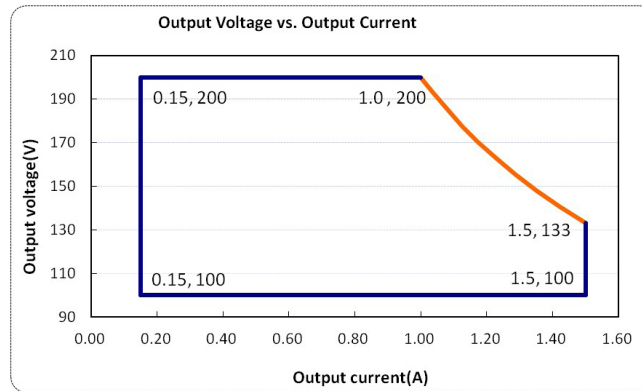
- Rated input voltage range 220~240Vac
- Constant power design, output current programming adjustable
- Offline programmable
- 3-in-1 dimmable: 1~10Vdc, PWM, Timer dimming
- Output and Dimming Signal Isolating
- Surge protection: DM 5KV, CM 10KV
- Protections: SCP, OVP, OTP
- IP67 design for indoor and outdoor applications
- Suitable for dry / damp / wet locations
- 5 years warranty

## TECHNICAL DATA

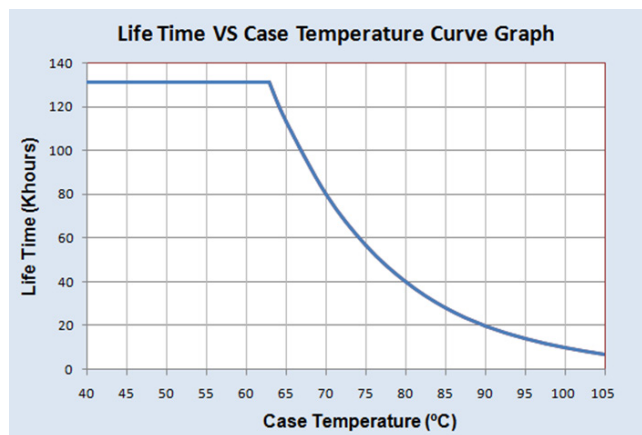
### Electrical data

Max Output Power (W)	200W
Output Voltage Range (Vdc)	100-200V
Full Power Voltage Range (V)	133-200V
Output Current Adjustable Range (A)	0.15-1.50A
Default Output Current Setting(A)	100-133V/1.50A
Typical Efficiency [2]	92%
Power Factor	0.97
Output P <sub>ST_LM</sub> (at full load)	<1
Output SVM (at full load)	<0.4
Rated Input Voltage	220...240 Vac
Input Voltage	Min : 90Vac , Max : 305Vac (Full load output at 175-305VAC input condition, less than 175Vac driver can work properly, the output current will be reduced)
Input Frequency	Min : 47Hz, Max:63Hz, Type :50/60Hz
Leakage Current	0.70mA (240Vac/60Hz)
Input AC Current	1.4A (220-240Vac & full load)
Inrush Current	Max: 75A (230Vac & full load)
Power Factor	Min : 0.95 , Type :0.97 (230Vac, 50-60Hz, 100% load)
THD	Type : 5%, 10% (230Vac, 50-60Hz, 70%-100% load)
Output Current Tolerance	Min : 5%, Max : 5%
Total Output Current Ripple(pk-pk)	Type :10%, Max :10% (20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.)
Startup Overshoot Current	Max : 10% ( 220~240Vac &100% Load, load is LED)
No Load Output Voltage	Max : 240V
Line Regulation	Min : -5% , Max : 5% (25°C± 10°C ambient temperature, input voltage changes from 100Vac to 277Vac)
Load Regulation	Min :-5%, Max: 5% (25°C± 10°C ambient temperature, Input Voltage 230Vac, load changes from 60% to 100%)
Surge Protection	DM 5KV, CM 10KV
Grounding Resistance	Max : 0.1Ω (25A/60S, under 25°C± 10°C ambient temperature)
Insulation Resistance	Min : 10MΩ (Input-Output, 500Vdc/60S/25°C/70%RH)
MTBF	Type : 200000Hrs (25°C± 10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F))
Lifetime	50000Hrs (230Vac&100% load, 75°C case temperature, refer to lifetime curve for details)
Operating Case Temperature for Safety Tc <sub>s</sub>	Min : -40°C, Max : +90°C
Operating Case Temperature for Warranty Tc <sub>s</sub>	Min : -40°C, Max : +75°C (5 years warranty case temperature Humidity: 10% to 95% RH)
Storage Temperature	Min : -40°C, Max : +85°C (Humidity: 5% to 100% RH)
1~10V Absolute Maximum Voltage on the Vdim (+) Pin	Type : 10V
1~10V Source Current on Vdim(+Pin)	Type : 200uA, Max : 400uA
Dimming Output Range	Min : 10%Imax, Max: 100%Iset
Recommended Dimming Range for 1-10V	Min : 1V , Max : 10V (Default 0-10V/ PWM Dimming)
PWM <sub>in</sub> High Level	Min :9.7V,Max :10.3V (Default 0-10V/ PWM Dimming)
PWM <sub>in</sub> Low Level	Min : 0V, Max:0.3V (Default 0-10V/ PWM Dimming)
PWM <sub>in</sub> Frequency Range	Min:300Hz,Max: 2KHz (Default 0-10V/ PWM Dimming)
PWM <sub>in</sub> Duty Cycle	Min:1%, Max:99% (Default 0-10V/ PWM Dimming)

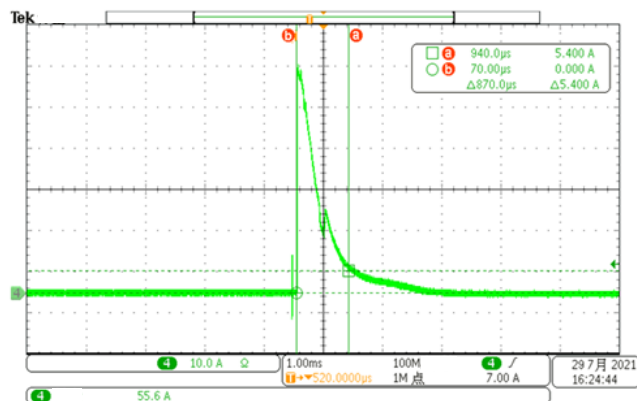
Operating Window



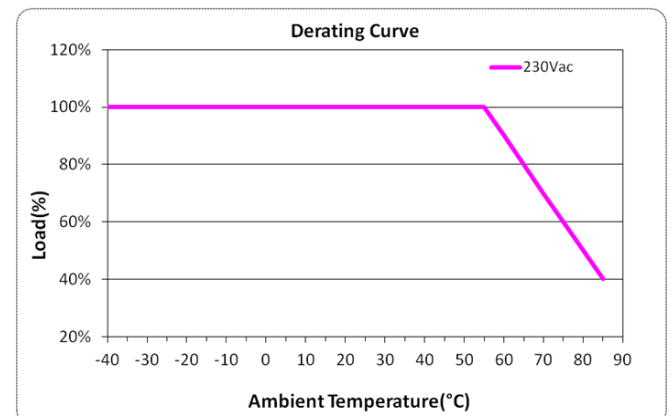
Lifetime vs Case Temperature



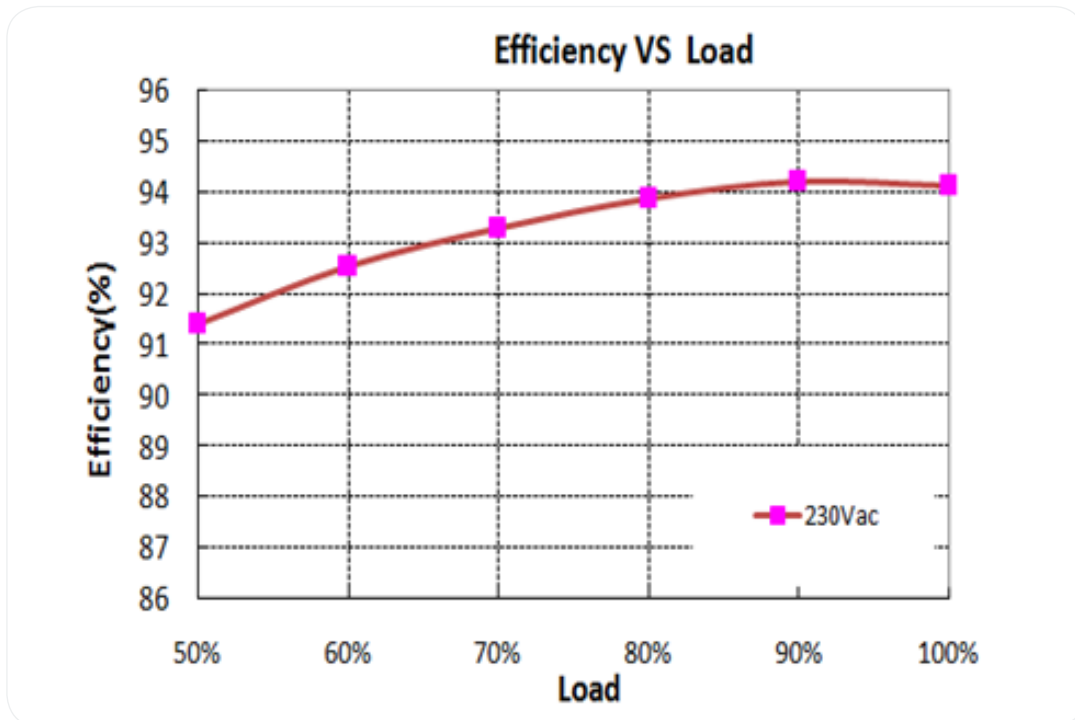
Inrush Current waveform



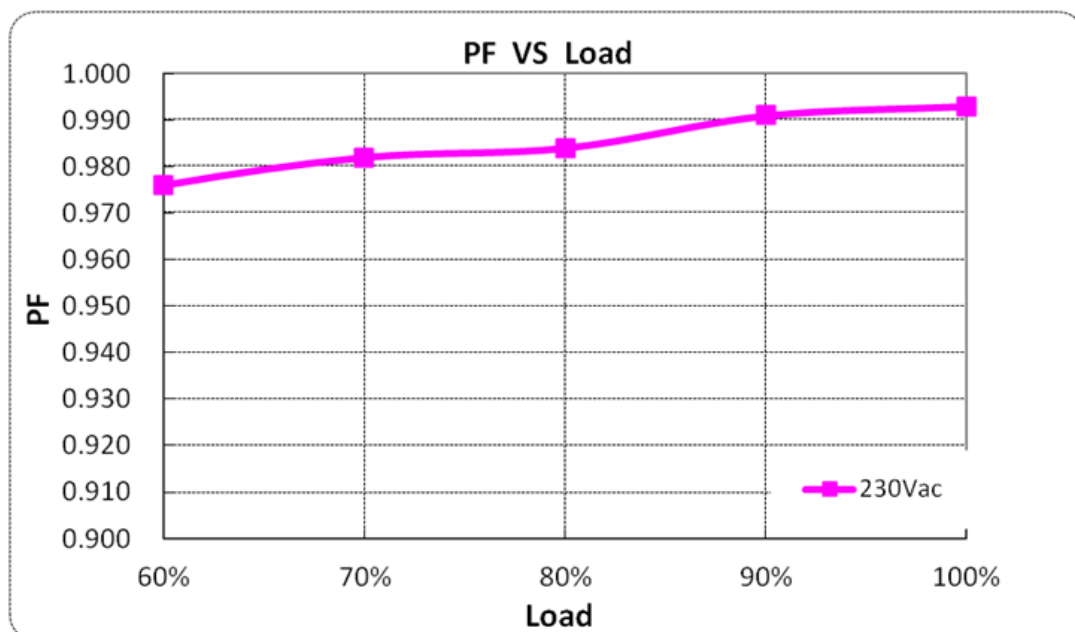
Derating Curve



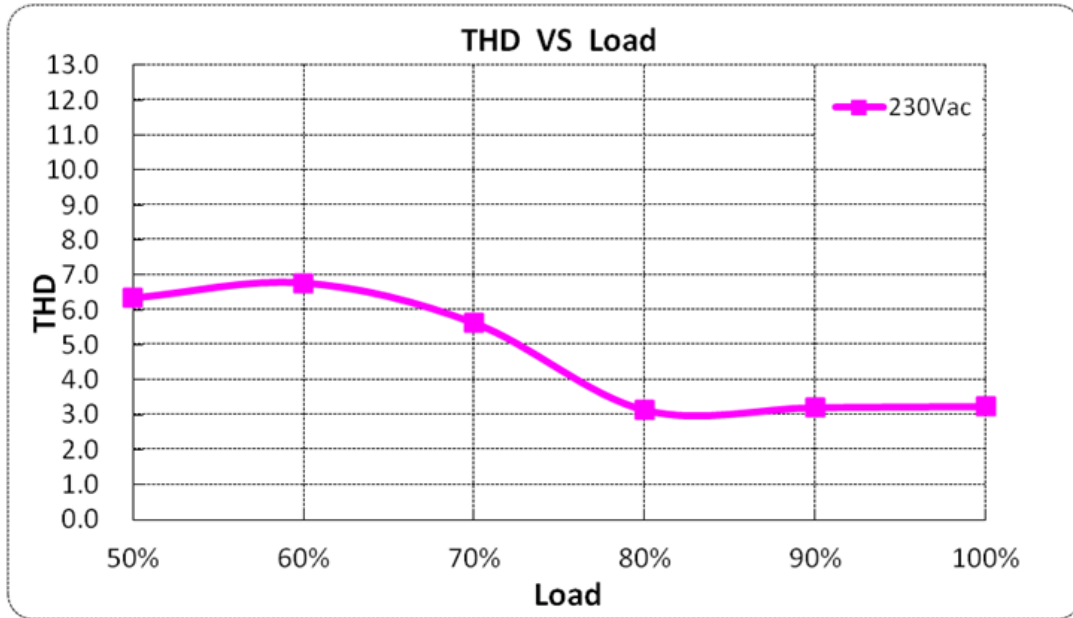
Efficiency vs Load



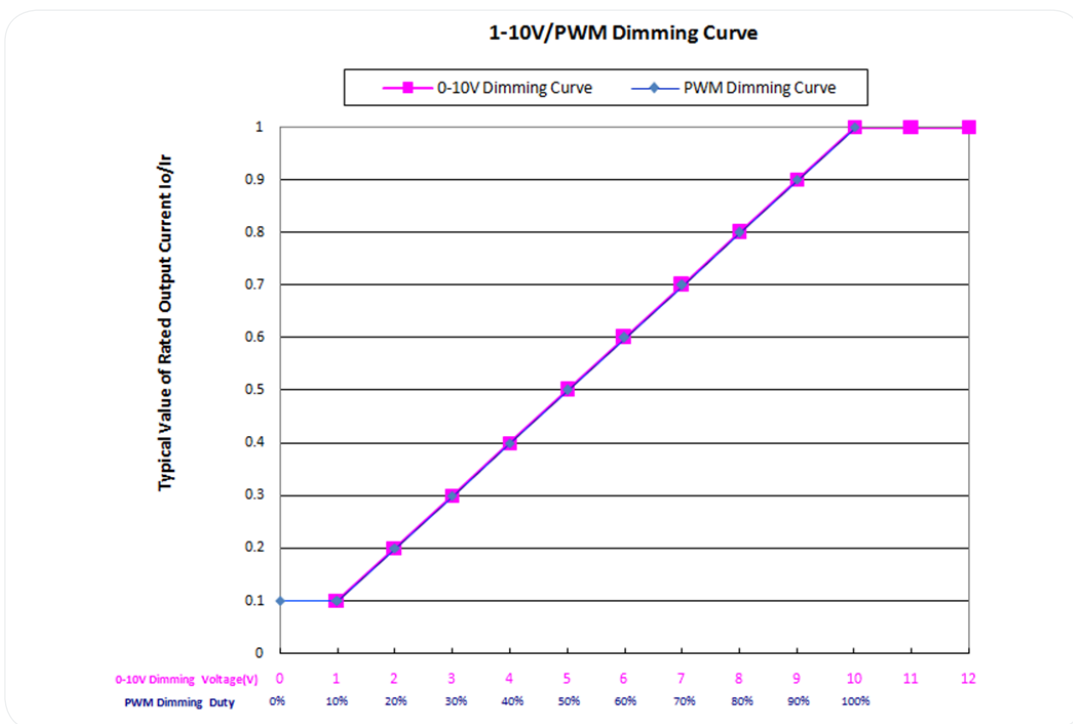
Power Factor vs Load



THD vs Load



1-10V/PWM Dimming



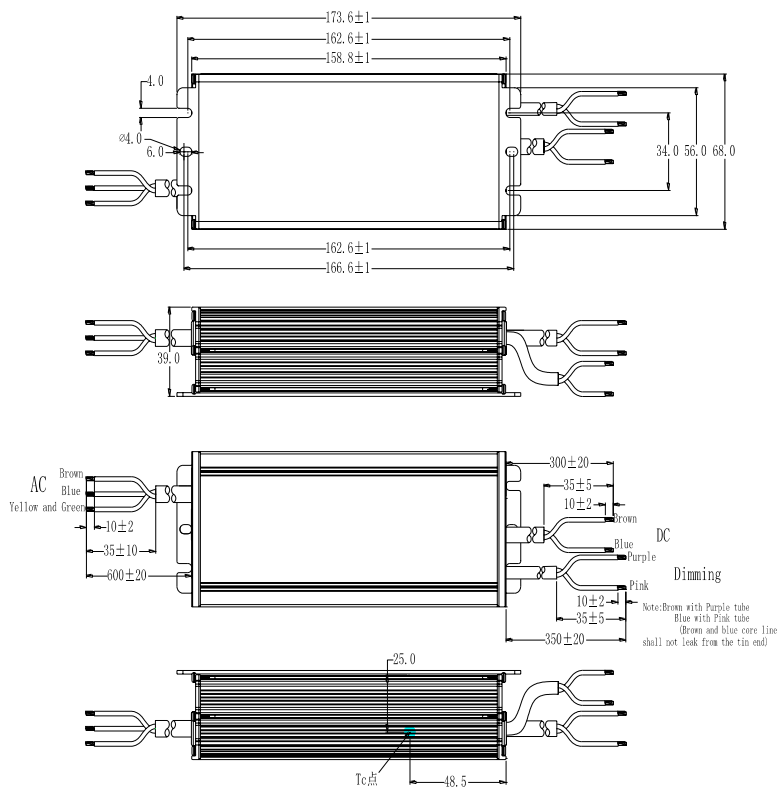
**ADDITIONAL PRODUCT INFORMATION**

The FP series is outdoor offline programmable LED driver that operates in constant current with high PF value and rated input voltage range 220~240Vac model. Offline Monitored by dimming cable connected withan USB kit programming device, the fully programmed drivers offer all dimming, dim-to-off, constant lumen output options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. FP provides built-in timer dimming schedules further increasing the energy savings and CO2 reductions achieved with LED lighting. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightening surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

**Certificates & Standards**

<b>Type of protection</b>	
<b>Standards</b>	EN61347-1, EN61347-2-13, EN62493, EN62384, EN55015, EN61000-3-2, EN61000-3-3, EN61000-4-2, 3, 4, 5, 6, 11, EN61547
<b>Approval marks – approval</b>	CE / ENEC

**Dimensions & Weight**



<b>Length</b>	173 mm
<b>Width</b>	68 mm
<b>Height</b>	39 mm
<b>Cable length (AC)</b>	600 mm
<b>Cable length (DC)</b>	300 ± 20 mm
<b>Cable length (DIM)</b>	350 ± 20 mm

Product Code	Packaging unit (Pieces/ Unit)	Dimensions (length x width x height)	Gross weight	Volume
AC35848	Unpacked 1	173x68x39 mm		
***	Shipping carton box 10	500x310x160 mm	9.8 kg	.....dm <sup>3</sup>

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

**Disclaimer**

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.