



100W Constant Power Mode LED Driver

FDLC-100 series

User's Manual



■ Features

- Constant Power mode output
- Metal housing design
- Full Power at 70~100% max. current
- Built-in active PFC function
- No load power consumption <0.5W
- IP67 rating for indoor or outdoor installations
- Output current adjustable via potentiometer
- 3 years warranty

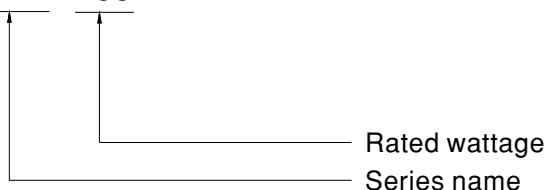
■ Applications

- LED flood lighting
- LED decorative lighting
- LED architectural lighting

■ Description

FDLC-100 series is a 100W LED AC/DC LED power supply featuring the constant power mode output, FDLC-100 operates from 180~295VAC and output current can be adjust between 1300mA to 3000mA. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -30°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67 ingress protection level allows this series to fit both indoor and outdoor applications. FDLC-100 is equipped with output current adjustable function so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding

FDLC - 100

SPECIFICATION

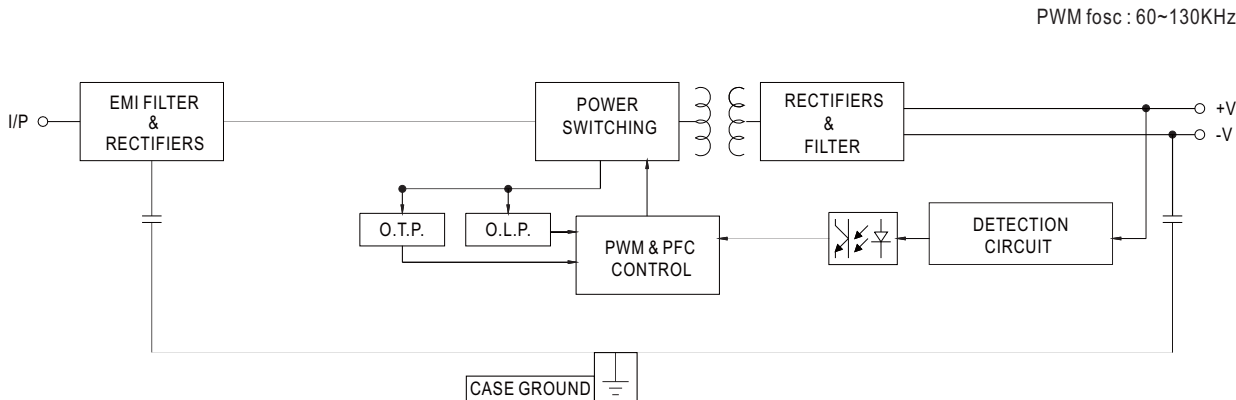
MODEL		FDLC-100
OUTPUT	OUTPUT CURRENT REGION	1300~ 3000mA(1850mA default)
	RATED POWER <small>Note.2</small>	100W
	CONSTANT CURRENT REGION <small>Note.2</small>	30 ~ 54V
	FULL POWER CURRENT RANGE	1850 ~ 3000mA
	OPEN CIRCUIT VOLTAGE _(max.)	59V
	CURRENT TOLERANCE	±5.0%
	SET UP TIME <small>Note.3</small>	500ms/230VAC
INPUT	VOLTAGE RANGE	180 ~ 295VAC (Please refer to "STATIC CHARACTERISTIC" section)
	FREQUENCY RANGE	47 ~ 63Hz
	POWER FACTOR <small>(Typ.)</small>	PF ≥ 0.9(@load≥70%/230VAC; @load≥75%/277VAC) (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)
	TOTAL HARMONIC DISTORTION	THD < 20%(@load≥70%/230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)
	EFFICIENCY <small>(Typ.)</small>	90%
	AC CURRENT <small>(Typ.)</small>	0.7A / 230VAC 0.5A/277VAC
	INRUSH CURRENT _(Typ.)	COLD START 50A(twidth=270μs measured at 50% Ipeak)/230VAC; Per NEMA 410
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC
	LEAKAGE CURRENT	<0.75mA / 277VAC
	NO LOAD POWER CONSUMPTION	<0.5W
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed
	OVER TEMPERATURE	Shut down output voltage, recovers automatically after fault condition is removed
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)
	MAX. CASE TEMP.	Tcase=+90°C
	WORKING HUMIDITY	20 ~ 95% RH non-condensing
	STORAGE TEMP., HUMIDITY	-30 ~ +80°C, 10 ~ 95% RH
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes
SAFETY & EMC	SAFETY STANDARDS	EN61347-1,EN61347-2-13 Independent, EN62384,GB19510.1,GB19510.14,EAC TP TC 004,IP67 approved
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (load≥70%) ; EN61000-3-3,GB17743,GB17625.1,EAC TP TC 020
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge immunity:Line-Earth:4KV, Line-Line:2KV),EAC TP TC 020
OTHERS	MTBF	1229.7K hrs min. Telcordia SR-332 (Bellcore) 459.8Khrs min. MIL-HDBK-217F (25°C)
	DIMENSION	180*53*33mm (L*W*H)
	PACKING	0.625Kg;24pcs /16Kg / 0.8CUFT
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</p> <p>2. Please refer to " OUTPUT CURRENT SETTING ".</p> <p>3. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</p> <p>4. The driver is considered as a component that will be operated in combination with 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.</p> <p>5. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com</p> <p>6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>7. For any application note and IP water proof function installation caution, please refer our user manual before using.</p> <p>https://www.meanwell.com/Upload/PDF/LED_EN.pdf</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>	



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■ BLOCK DIAGRAM

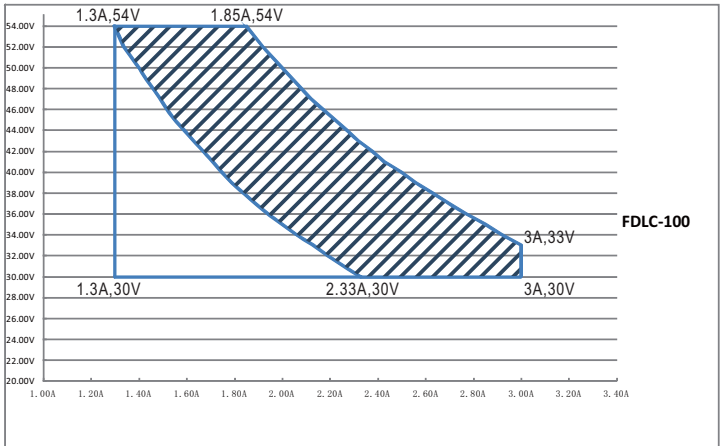


■ OUTPUT CURRENT SETTING

◎I-V Operating Area.

Output rated current level can be adjusted through built-in potentiometer

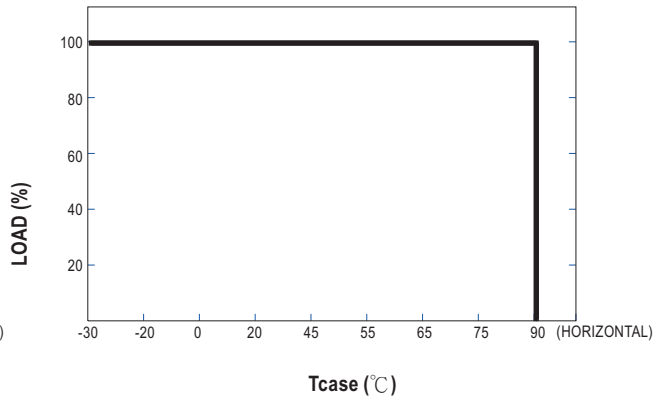
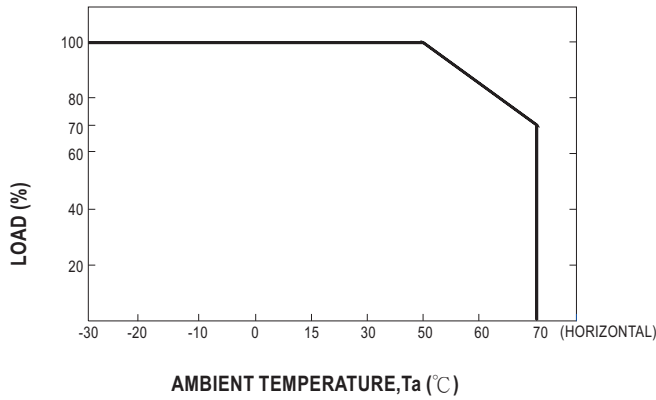
FDLC-100



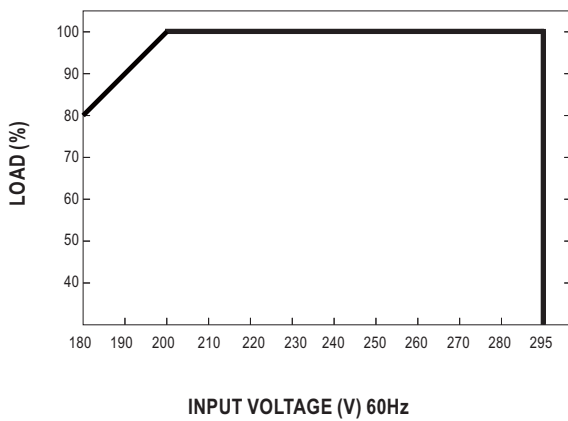
High Performance Region Operational Region

Note: output power \leq 100W

■ OUTPUT LOAD vs TEMPERATURE

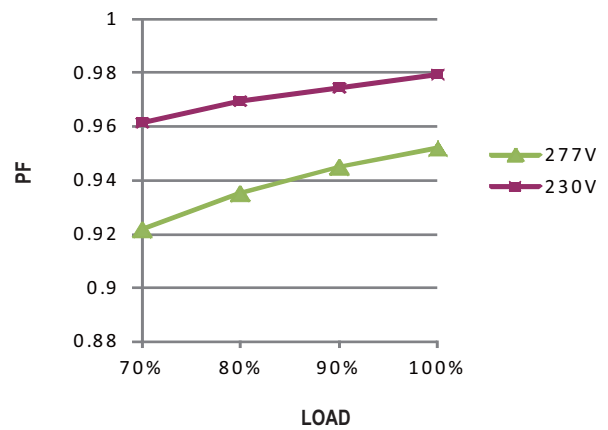


■ STATIC CHARACTERISTIC



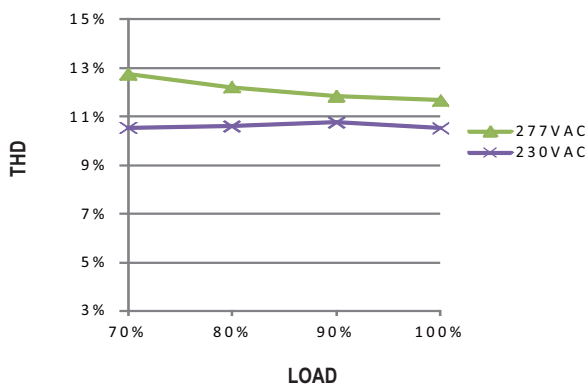
■ POWER FACTOR (PF) CHARACTERISTIC

※ T_{case} at 80°C



■ TOTAL HARMONIC DISTORTION (THD)

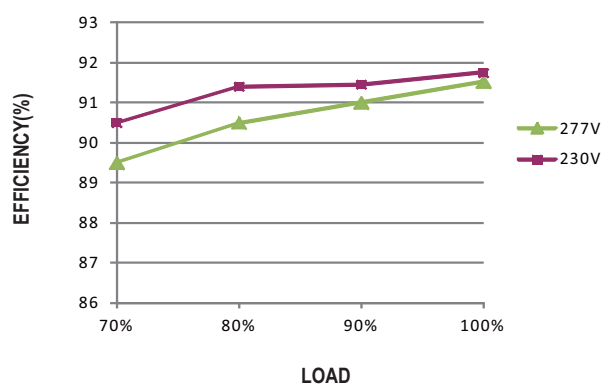
※ T_{case} at 80°C



■ EFFICIENCY vs LOAD

FDLC-100 series possess superior working efficiency that up to 90% can be reached in field applications.

※ T_{case} at 80°C





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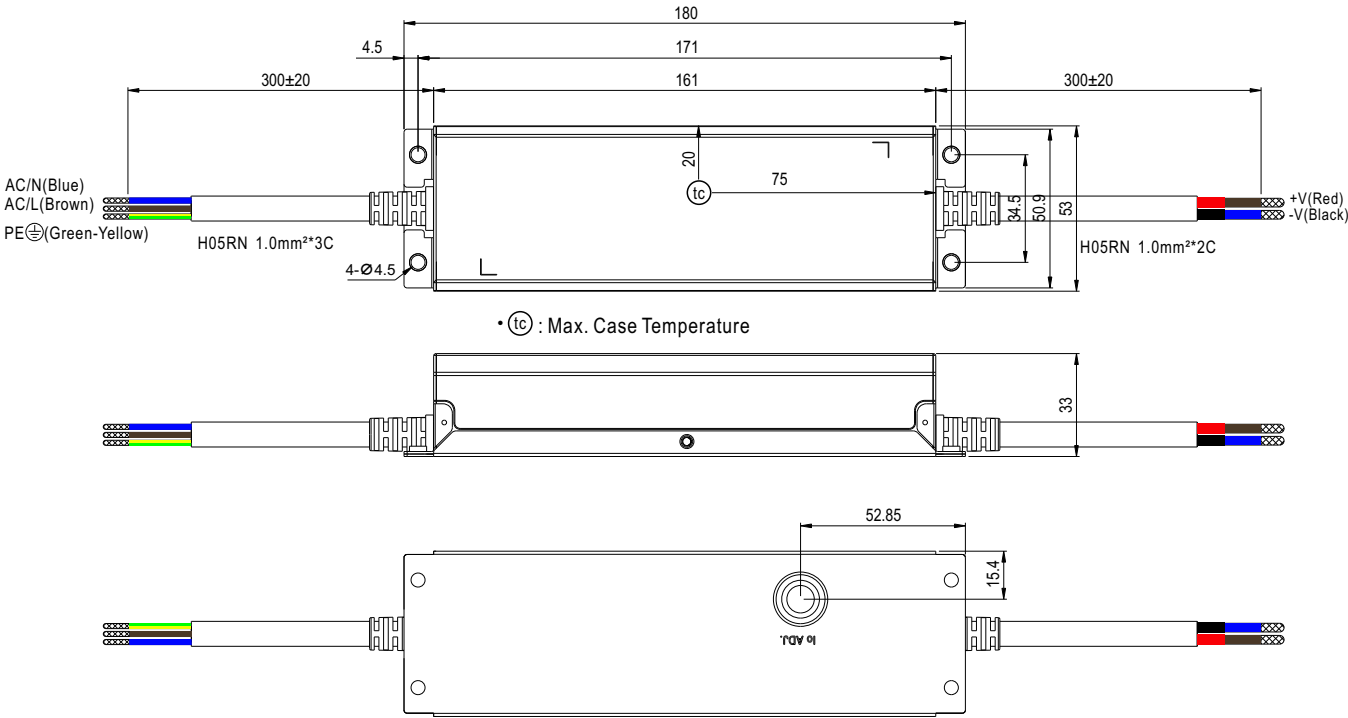
■ AC input voltage drop vs. output current characteristics

AC input drop	10%	8%	5%	3%
Io drop	<13%	<11%	<6%	<3%

NOTE: Output current will return to the rated value within 90ms

■ MECHANICAL SPECIFICATION

CASE NO.: 261A Unit:mm



◎ Note: Please connect the case to FG for the complete EMC deliverance.

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>