



MEAN WELL FDHC-100 AC-DC LED driver Constant Power Mode Instruction Manual

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FDHC – 100 series
100W Constant Power Mode LED Driver
Instruction Manual



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Features

- Constant Power mode output
- Metal housing design
- Built-in Input OVP (Over Voltage Protection)
- Built-in active PFC function, PF>0.9, THD<10%
- Full Power at 70-100% max. current
- No load power consumption <0.6W
- IP67 rating for indoor or outdoor installations
- Output current adjustable via potentiometer
- 3 years warranty

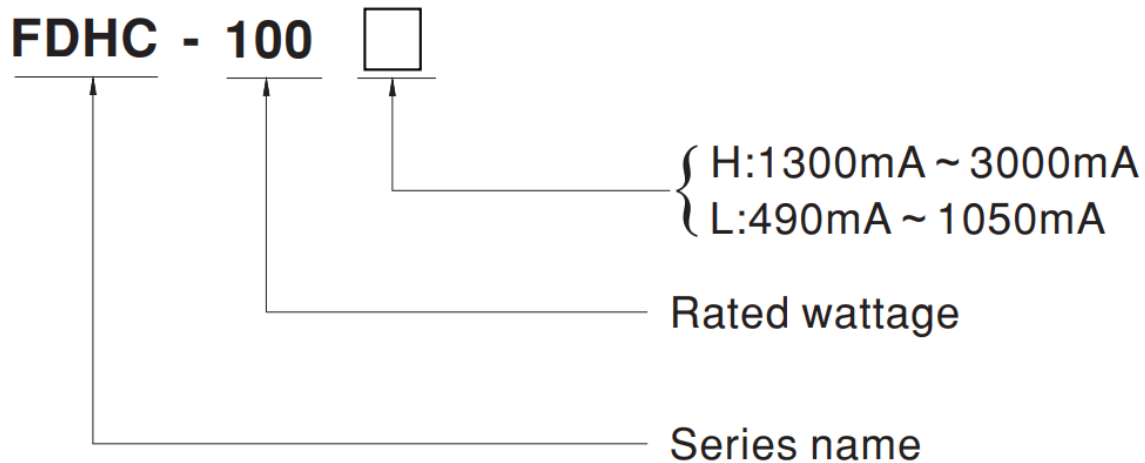
Applications

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

Description

FDHC-100 series is a 100W AC/DC LED power supply featuring the constant power output mode, FDHC-100 operates from 180 295VAC, and output current can be adjusted between 490mA to 1050mA & 1300mA 3000mA. Thanks to the high efficiency of 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. FDHC-100 is equipped with an output current adjustable function so as to provide optimal design flexibility for the LED lighting system.

Model Encoding



SPECIFICATION

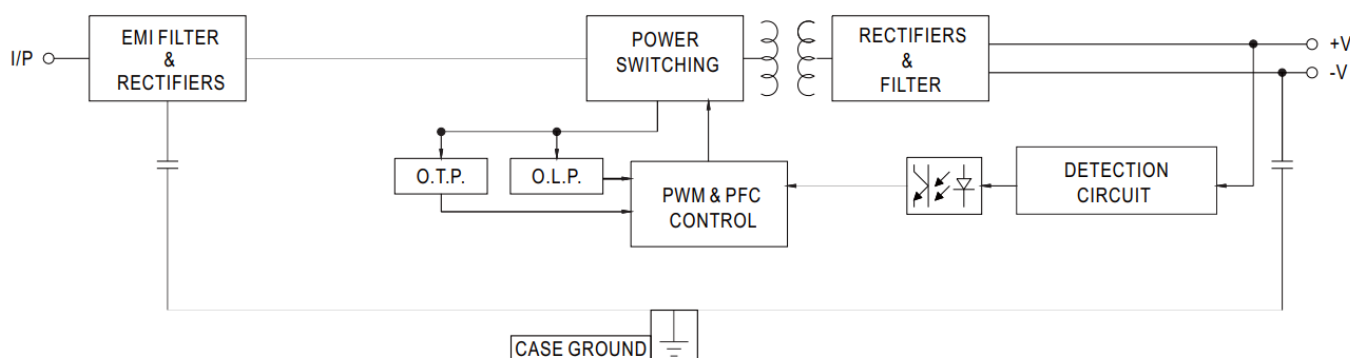
MODEL		FDHC-100L	FDHC-100H
OUTPUT	OUTPUT CURRENT REGION	490~ 1050mA(700mA default)	1300~ 3000mA(1850mA default)
	CONSTANT POWER Note.2	100W	
	CONSTANT CURRENT REGION Note.2	96 ~ 142V	30 ~ 54V
	FULL POWER CURRENT RANGE	700~ 1050mA	1850~ 3000mA
	OPEN CIRCUIT VOLTAGE(max.)	154V max.	59V max.
	CURRENT TOLERANCE	±5.0%	
	SET UP TIME Note.3	1000ms/230VAC	
	VOLTAGE RANGE Note.5	180 ~ 295VAC (Please refer to the “STATIC CHARACTERISTIC” section)	

INPUT	FREQUENCY RANGE	47 ~ 63Hz
	POWER FACTOR (Typ.)	PF \geq 0.9(@load \geq 70%/230VAC; @load \geq 75%/277VAC) (Please refer to the "POWER FACTOR (PF) CHARACTERISTIC" section)
	TOTAL HARMONIC DISTORTION	THD< 10%(@full load/220VAC 50Hz) (Please refer to the "TOTAL HARMONIC DISTORTION(THD)" section)
	EFFICIENCY (Typ.)	90%
	AC CURRENT (Typ.)	0.7A / 230VAC 0.5A/277VAC
	INRUSH CURRENT(Typ.)	COLD START 50A(twidth=270 μ s measured at 50% Speak)/230VAC; Per NEMA 4 10
	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	<0.6W
PROTECTION	SHORT CIRCUIT	Hiccup mode recovers automatically after the fault condition is removed
	OVER TEMPERATURE	Shut down output voltage, recovers automatically after fault condition is removed
		305 ~ 315VAC (Shut down output voltage when the input voltage exceeds protection voltage)

	INPUT OVP	295 ~ 305VAC (Auto recovery)
		can survive input voltage stress of 440V for 48 hours
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./1 cycle, the period for 72min. each along X, Y, and Z axes
SAFETY & EMC	SAFETY STANDARDS	EN61347-1,EN61347-2-13 independent, EN62384,IS15885(part 2/ sec.13),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
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge immunity: Line-Earth:6KV,Line-Line:3KV)

OTHERS	MTBF	1225.4K hrs min. Telcordia SR-332 (Bellcore) 430.9Khrs 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 an increase in the setup time.</p> <p>4. The driver is considered 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.</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 altitudes higher than 2000m(6500ft).</p> <p>7. For any application note and IP waterproof function installation caution, please refer to our user manual before using. 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>	

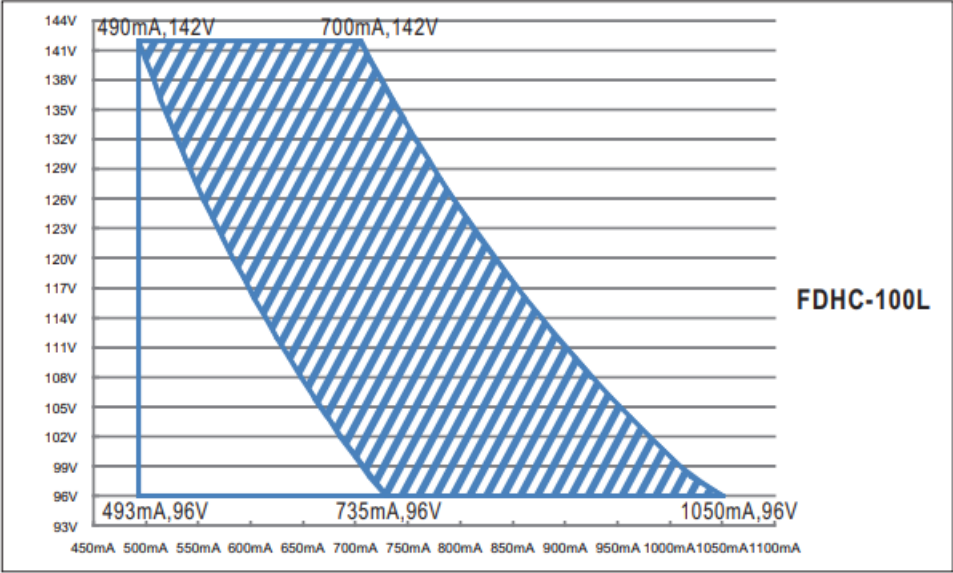
BLOCK DIAGRAM





OUTPUT CURRENT SETTING

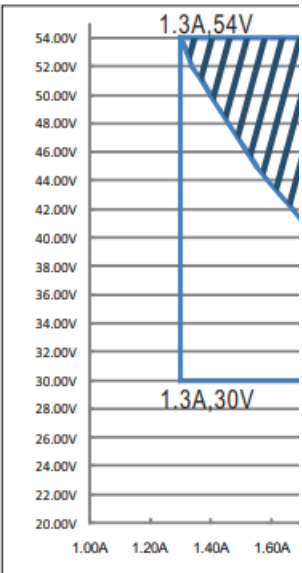
※ -I V Operating Area


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



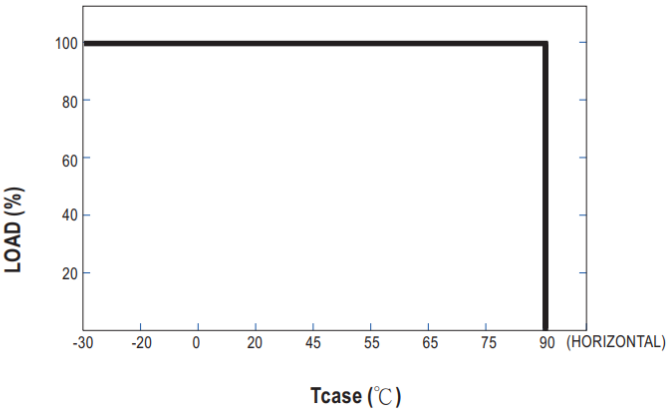
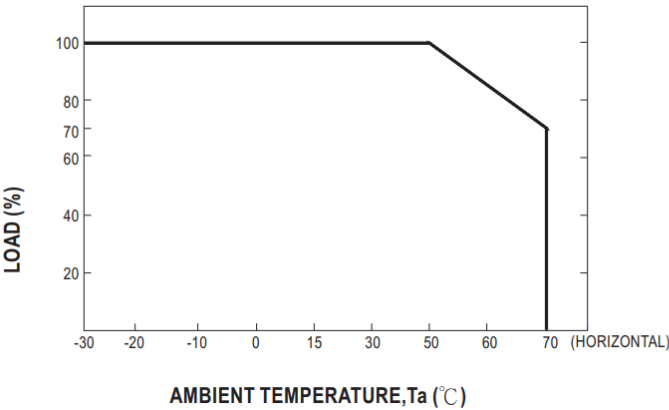
 High Performance Region

 Operational Region

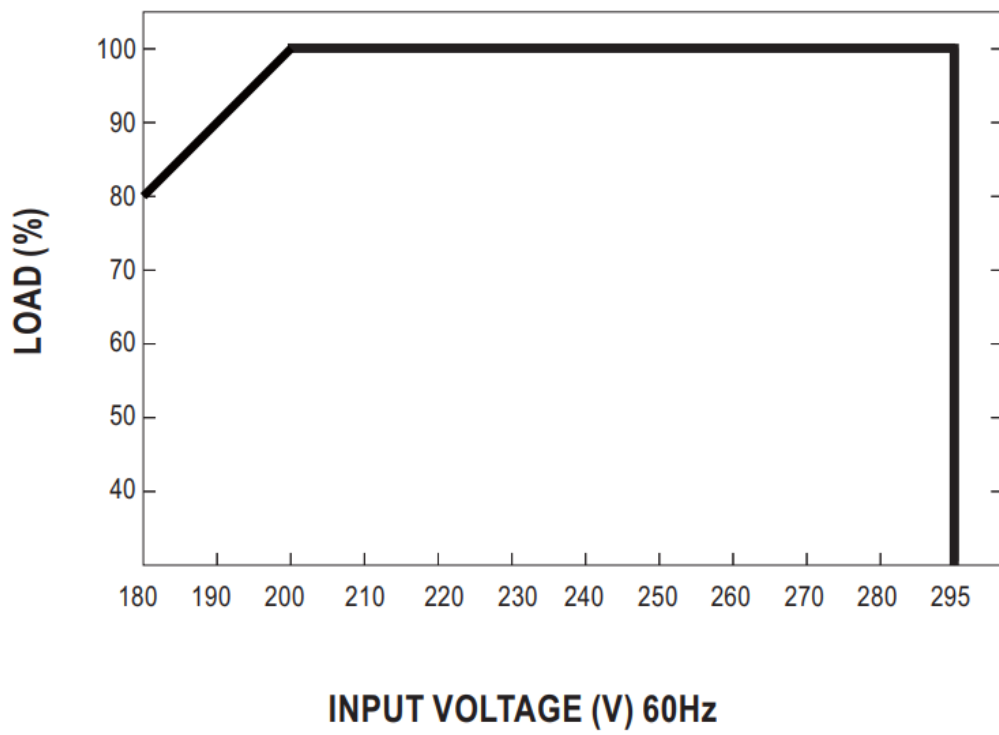


 High Perf

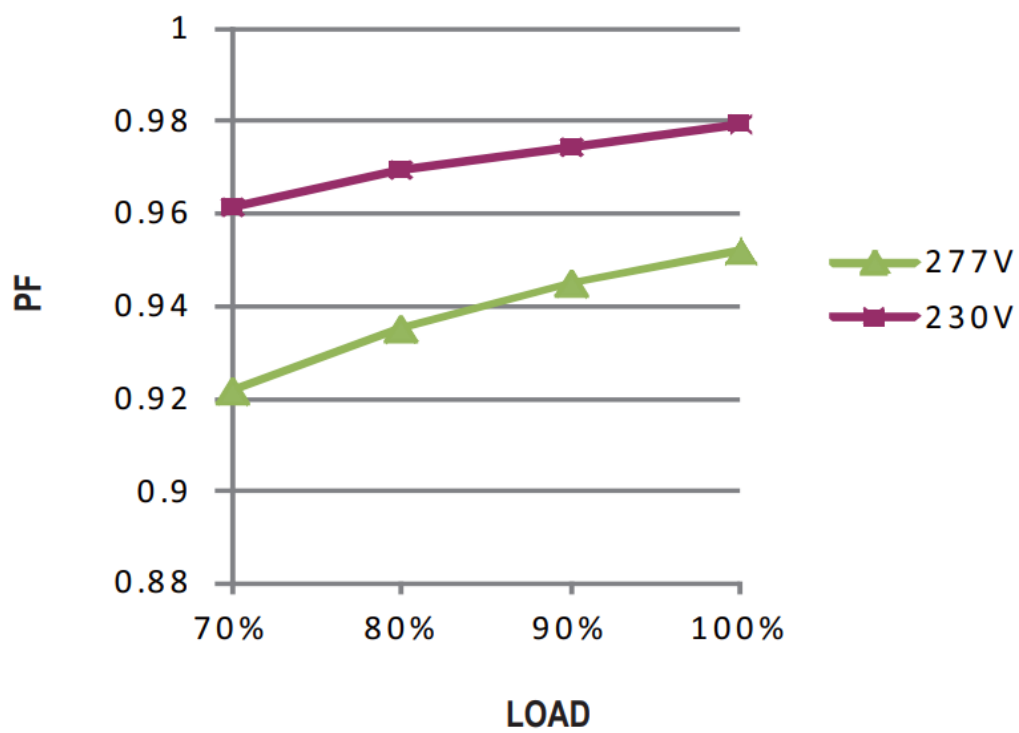
OUTPUT LOAD vs TEMPERATURE



STATIC CHARACTERISTIC

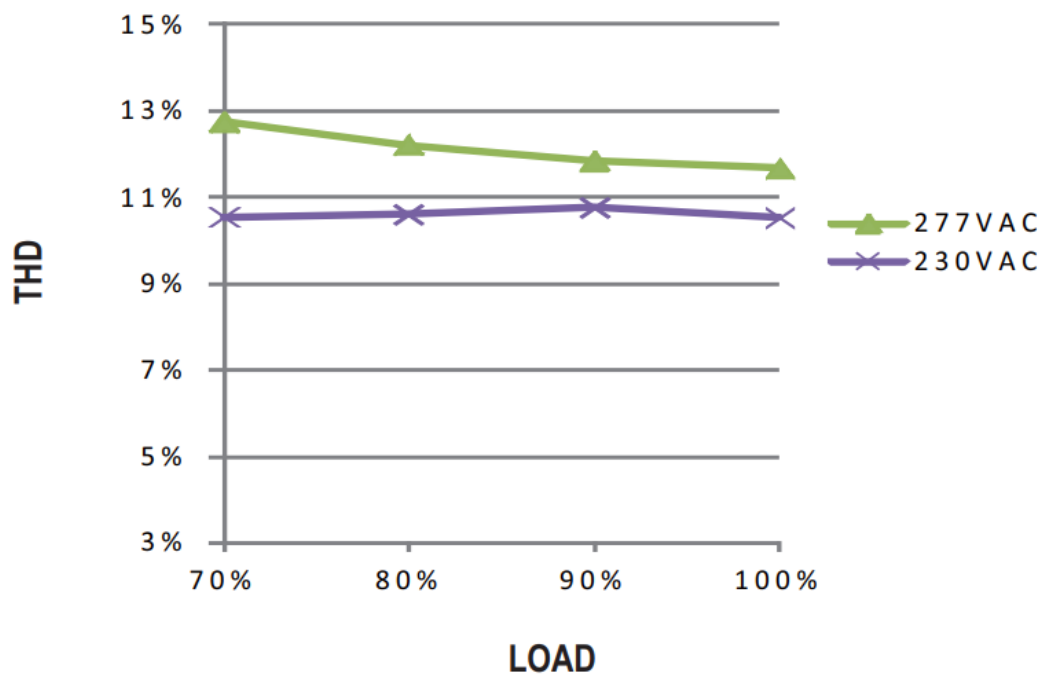


POWER FACTOR (PF) CHARACTERISTIC



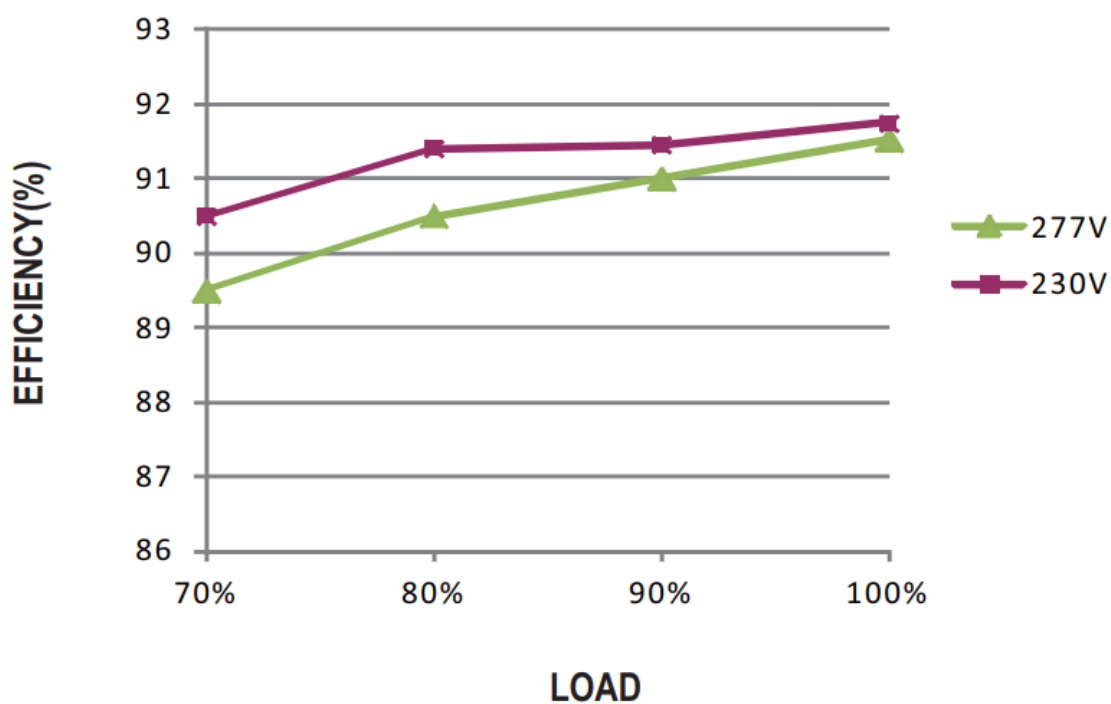
TOTAL HARMONIC DISTORTION (THD)

※ case at 80°C



EFFICIENCY vs LOAD

FDHC-100 series possess superior working efficiency that up to 90% can be reached in field applications. Tcase at 80°C



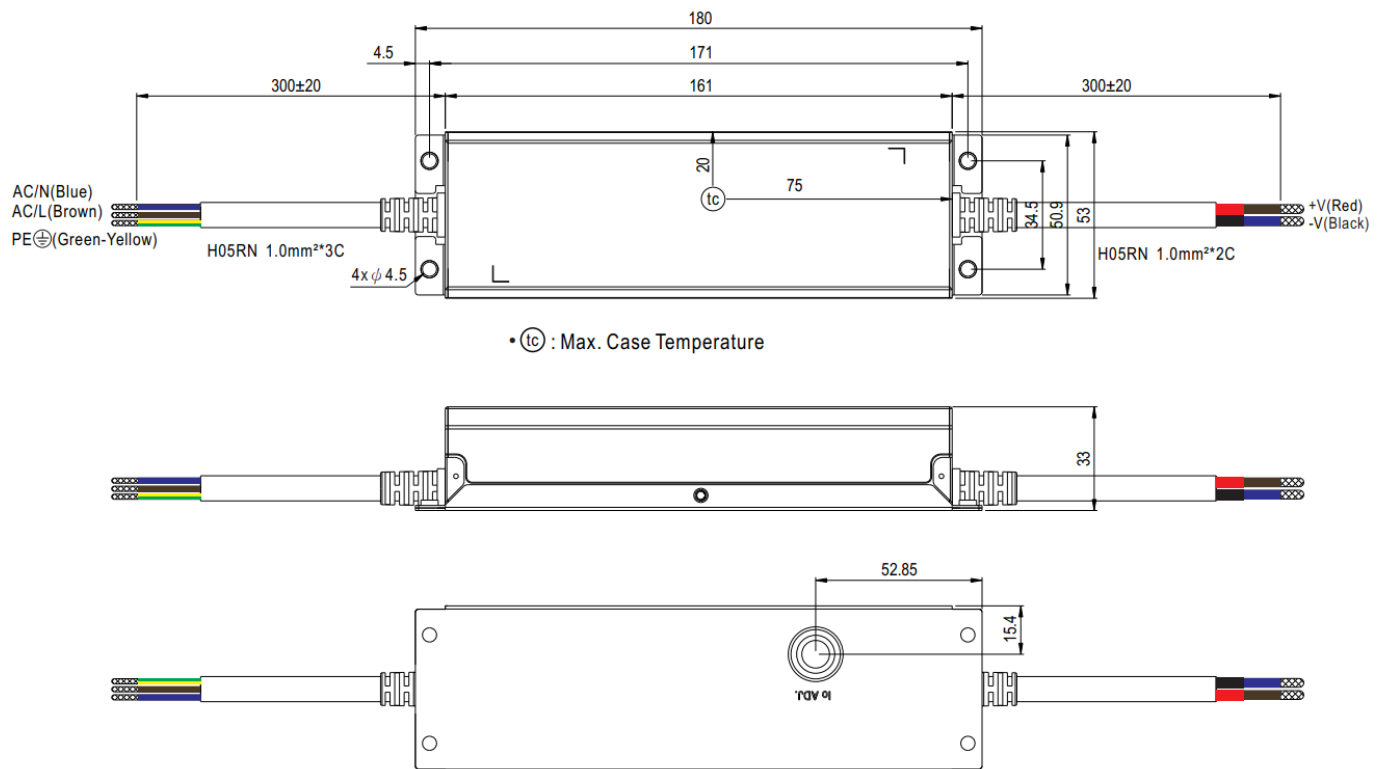
AC input voltage drop vs. output current characteristics

AC input voltage 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>

User's Manual



http://www.meanwell.com.cn/Upload/PDF/LED_EN.pdf

SELV
(for FDHC-100H only)



IP67




IS 15885(Part 2/Sec13)



R-41027766

Documents / Resources

	<p>MEAN WELL FDHC-100 AC-DC LED driver Constant Power Mode [pdf] Instruction Manual FDHC-100, AC-DC LED driver Constant Power Mode, FDHC-100 AC-DC LED driver Constant Power Mode, LED driver Constant Power Mode, driver Constant Power Mode, Constant Power Mode, Power Mode</p>
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References

-  [Installation Manual-MEAN WELL Switching Power Supply Manufacturer](#)
-  [Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)

Manuals+.