



Features :

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP64 design for indoor or outdoor installations
- Class 2 power unit
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp locations or outdoor application
- 3 years warranty



HLN-80H-12 **A** : IP64 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B : IP64 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

SPECIFICATION

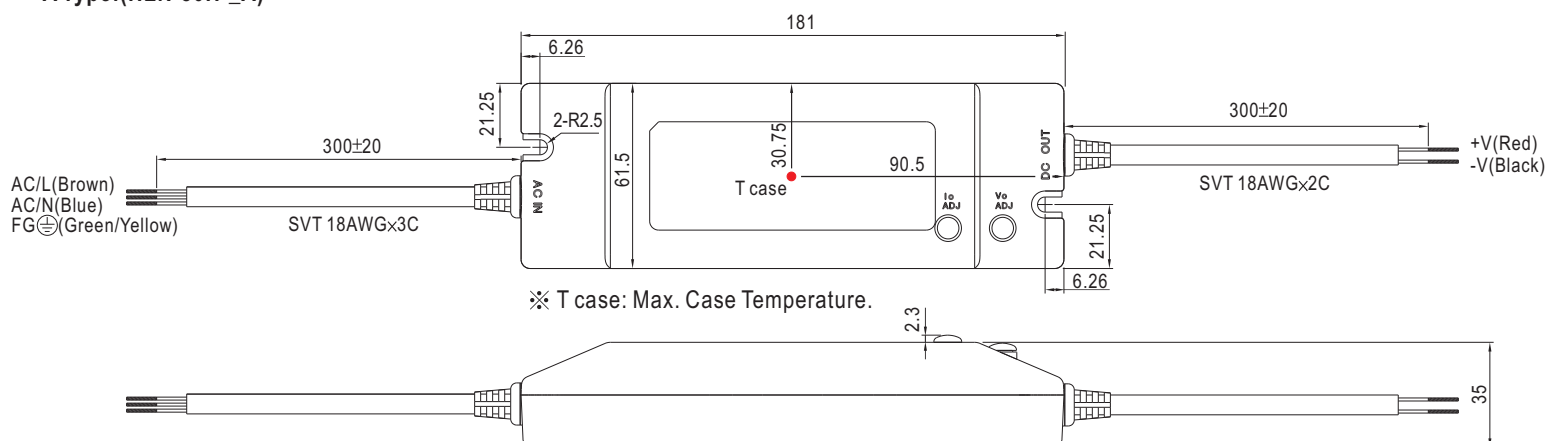
MODEL		HLN-80H-12	HLN-80H-15	HLN-80H-20	HLN-80H-24	HLN-80H-30	HLN-80H-36	HLN-80H-42	HLN-80H-48	HLN-80H-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	7.2 ~ 12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	5A	5A	4A	3.4A	2.7A	2.3A	1.95A	1.7A	1.5A
	RATED POWER	60W	75W	80W	81.6W	81W	82.8W	81.9W	81.6W	81W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE Note.6	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only								
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
INPUT	SETUP, RISE TIME Note.8	2000ms, 80ms / 115VAC at full load 1000ms, 80ms / 230VAC at full load ; B type 2000ms, 200ms at 95% load 230VAC / 115VAC								
	HOLD UP TIME (Typ.)	16ms at full load 230VAC / 115VAC								
	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF>0.96/115VAC, PF>0.96/230VAC, PF>0.94/277VAC at full load (Please refer to "Power Factor Characteristic" curve)								
	EFFICIENCY (Typ.)	88%	89%	90%	90.5%	91%	91%	91%	91%	91%
	AC CURRENT (Typ.)	0.85A / 115VAC 0.425A / 230VAC 0.4A / 277VAC								
PROTECTION	INRUSH CURRENT (Typ.)	COLD START 70A (twidth=485μs measured at 50% Ipeak) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
	OVER CURRENT Note.4	95 ~ 108%								
	SHORT CIRCUIT	Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 17V	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V
ENVIRONMENT	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover								
	WORKING TEMP.	100°C ±10°C (RTH2)								
	WORKING HUMIDITY	Protection type : Shut down o/p voltage, re-power on to recover								
	STORAGE TEMP., HUMIDITY	-40 ~ +50°C (Refer to "Derating Curve")								
	TEMP. COEFFICIENT	20 ~ 95% RH non-condensing								
SAFETY & EMC	VIBRATION	-40 ~ +80°C, 10 ~ 95% RH								
	SAFETY STANDARDS Note.7	±0.03%/°C (0 ~ 40°C)								
	WITHSTAND VOLTAGE	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes								
	ISOLATION RESISTANCE	UL8750, CSA C22.2 No. 250.0-08(except for 48V, 54V), EN61347-1, EN61347-2-13 independent, IP64, J61347-1, J61347-2-13 approved ; design refer to UL60950-1, TUV EN60950-1								
	EMC EMISSION	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC								
OTHERS	EMC IMMUNITY	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH								
	MTBF	Compliance to EN55015, EN61000-3-2 Class C (≥60% load, 12V model ≥65% load) ; EN61000-3-3								
	DIMENSION	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 4KV), criteria A								
NOTE	PACKING	356.4K hrs min. MIL-HDBK-217F (25°C)								
		181*61.5*35mm (L*W*H)								
		0.5Kg; 24pcs/13Kg/0.75CUFT								

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Constant current operation region is within 60% ~ 100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
6. A type only.
7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.
8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
9. The power supply 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.

Mechanical Specification

Case No. HLN-80A Unit: mm

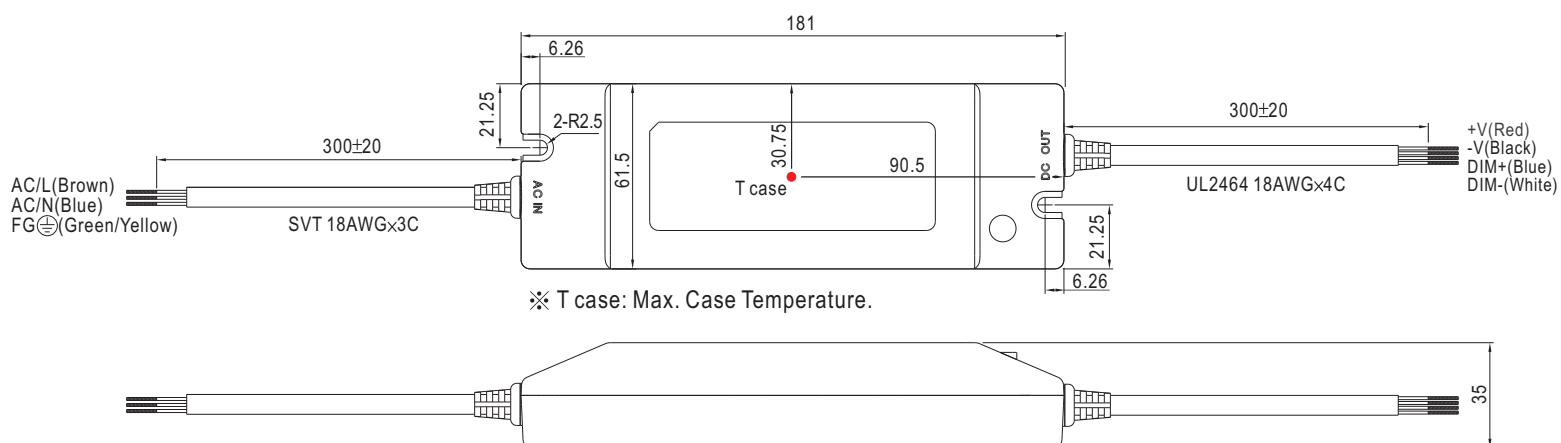
A Type: (HLN-80H-_A)



⌘ IP64 rated. Output voltage and constant current level can be adjusted through internal potentiometer. (can access by removing the rubber stopper on the case).

B Type: (HLN-80H-_B)

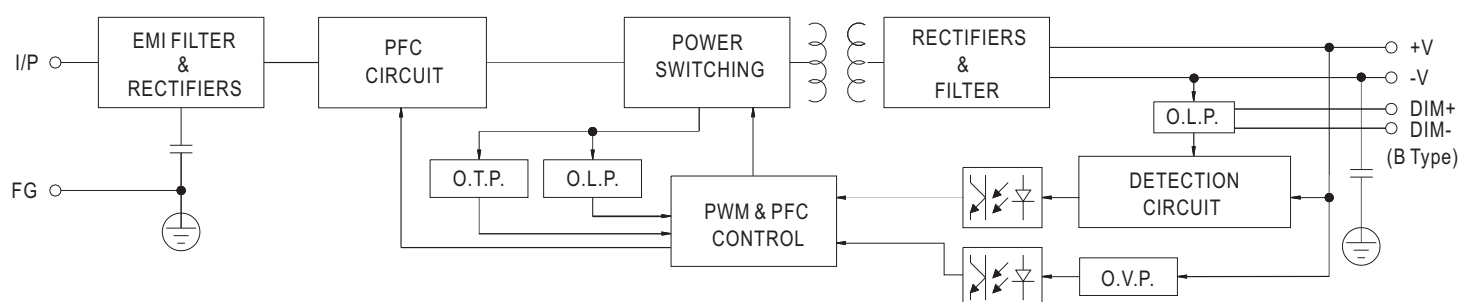
Case No. HLN-80B Unit: mm



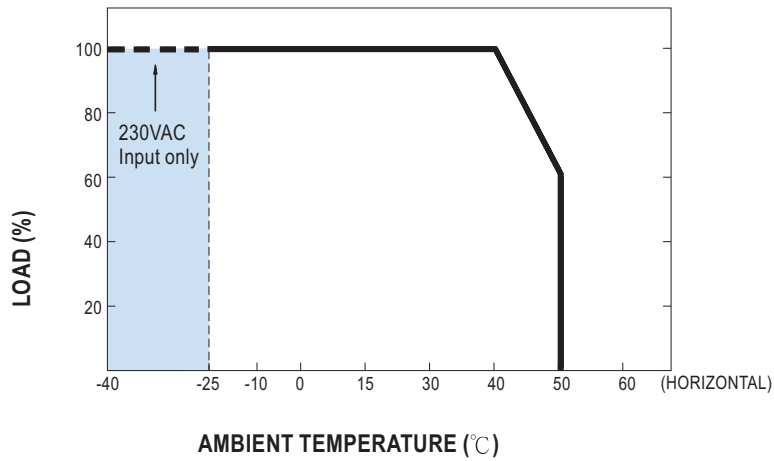
DIM+ / DIM- : Commercial wall dimmer 1 ~ 10V & PWM control function

Block Diagram

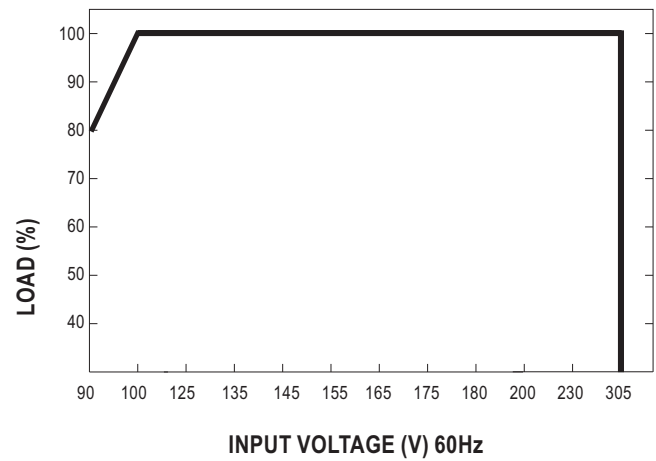
fosc : 100KHz



Derating Curve

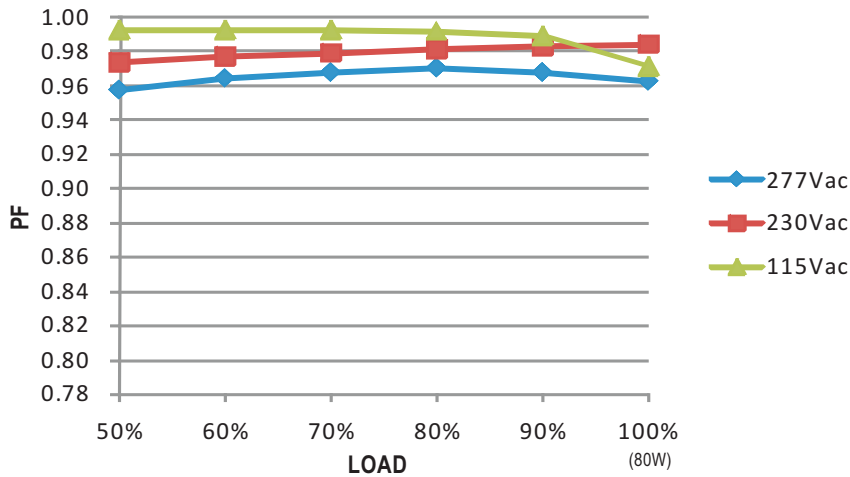


Static Characteristics



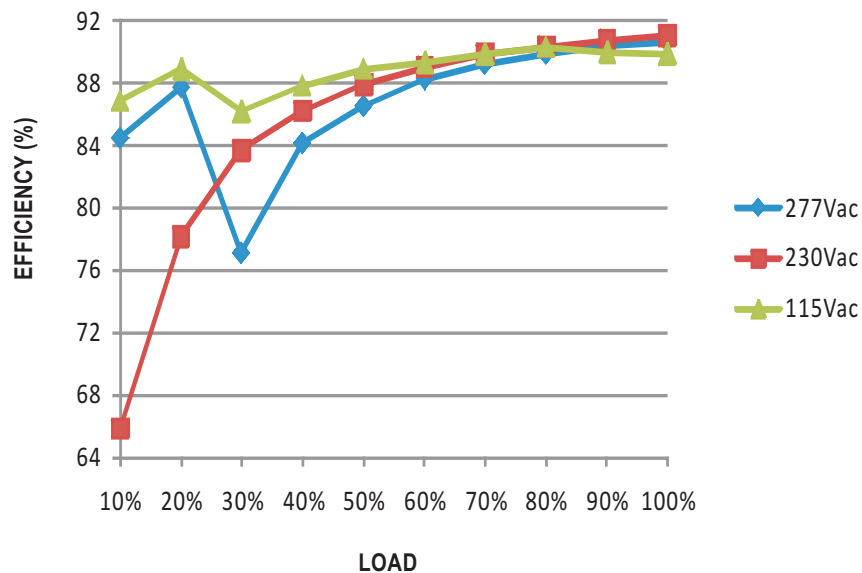
Power Factor Characteristic

Constant Current Mode



EFFICIENCY vs LOAD (48V Model)

HLN-80H series possess superior working efficiency that up to 91% can be reached in field applications.

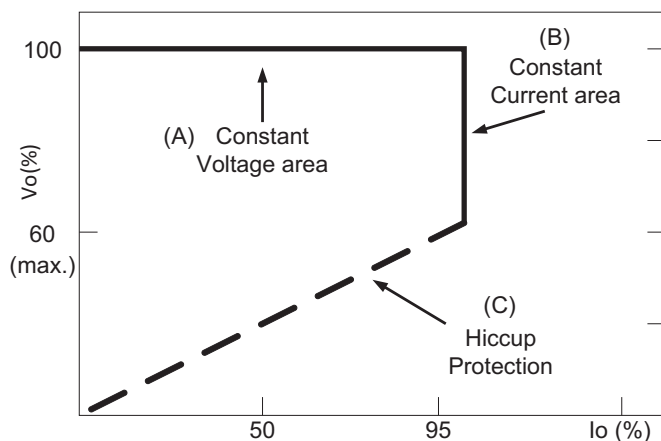


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

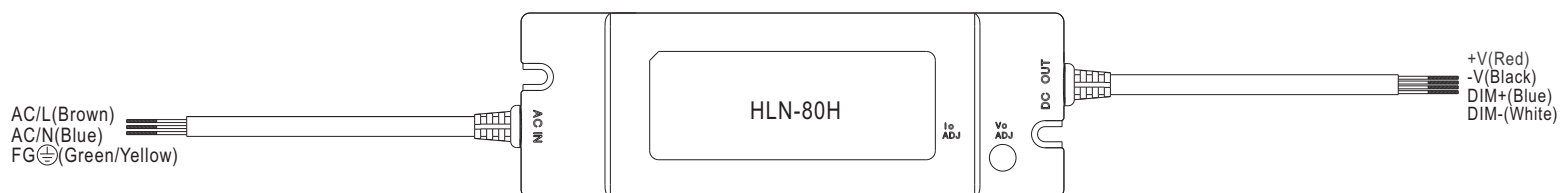
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B)).



Typical LED power supply I-V curve

DIMMING OPERATION(for B-type only)



※ Built-in 3 in 1 dimming function, IP64 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	10K Ω /N	20K Ω /N	30K Ω /N	40K Ω /N	50K Ω /N	60K Ω /N	70K Ω /N	80K Ω /N	90K Ω /N	100K Ω /N	-----
Percentage of rated current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 1 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

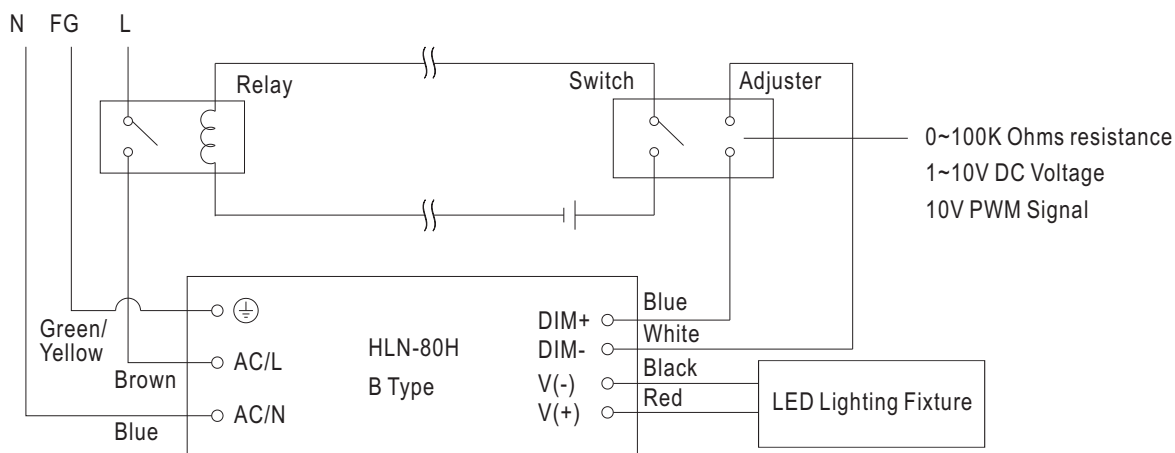
※ 10V PWM signal for output current adjustment (Typical): Frequency range:100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

※Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF :



Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.