

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



HLN-80H-12 **A** A : IP64 rated. Output voltage and constant current level can be adjusted through internal potential meter.
B : IP64 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistor.

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
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 potential meter or through output cable								
	3 ~ 5A	3 ~ 5A	2.4 ~ 4A	2.04 ~ 3.4A	1.62 ~ 2.7A	1.38 ~ 2.3A	1.17 ~ 1.95A	1.02 ~ 1.7A	0.96 ~ 1.5A
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%
SETUP, RISE TIME Note.8	2000ms, 80ms / 115VAC at full load 1 000ms, 80ms / 230VAC at full load								
HOLD UP TIME (Typ.)	16ms at full load 230VAC / 115VAC								
VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC								
FREQUENCY RANGE	47 ~ 63Hz								
POWER FACTOR	PF ≥ 0.96 / 230VAC ≥ PF 0.96 / 115VAC at full load and rated output voltage at 60 ~ 100% load								
EFFICIENCY (Typ.)	88%	89%	90.5%	91%	91%	91%	91%	91%	91%
AC CURRENT	0.85A / 115VAC 0.425A / 230VAC 0.4A / 277VAC								
INRUSH CURRENT (Typ.)	COLD START 70A / 230VAC								
LEAKAGE CURRENT	0.75mA / 277VAC								
OVER CURRENT Note.4	95 ~ 108% Protection type : Constant current limiting, recovers automatically when fault condition is removed								
OVER VOLTAGE	14 ~ 17V 18 ~ 21V 23 ~ 27V 28 ~ 34V 34 ~ 38V 41 ~ 46V 47 ~ 53V 54 ~ 60V 59 ~ 65V Protection type : Shut down o/p voltage, re-power on to recover								
OVER TEMPERATURE	100°C ± 1°C (RTH2) Protection type : Shut down o/p voltage, re-power on to recover								
WORKING TEMP.	-40 ~ 60°C full load 70 °C 60% load (Refer to derating curve)								
WORKING HUMIDITY	20 ~ 95% RH non-condensing								
STORAGE TEMP., HUMIDITY	-40 ~ 80°C, 10 ~ 95% RH								
TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50 °C)								
VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along , , axes								
SAFETY STANDARDS Note.7	UL8750, EN61347-1, EN61347-2-13 independent approved by Design Group, EN60950-1, TUV EN60950-1								
WITHSTAND VOLTAGE	I/P-O/P: 3.75VAC I/P-FG: 1.88VAC O/P-FG: 0.5VAC								
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25 / 70% RH								
EMI CONDUCTION & RADIATION	Compliance to EN55015 Class B								
HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (60% load) EN61000-3-3								
EMS IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11 ENV50204, EN60247, EN60079-1, EN60079-2, EN60079-3, EN60079-4, EN60079-5, EN60079-6, EN60079-7, EN60079-8, EN60079-9, EN60079-10, EN60079-11, EN60079-12, EN60079-13, EN60079-14, EN60079-15, EN60079-16, EN60079-17, EN60079-18, EN60079-19, EN60079-20, EN60079-21, EN60079-22, EN60079-23, EN60079-24, EN60079-25, EN60079-26, EN60079-27, EN60079-28, EN60079-29, EN60079-30, EN60079-31, EN60079-32, EN60079-33, EN60079-34, EN60079-35, EN60079-36, EN60079-37, EN60079-38, EN60079-39, EN60079-40, EN60079-41, EN60079-42, EN60079-43, EN60079-44, EN60079-45, EN60079-46, EN60079-47, EN60079-48, EN60079-49, EN60079-50, EN60079-51, EN60079-52, EN60079-53, EN60079-54, EN60079-55, EN60079-56, EN60079-57, EN60079-58, EN60079-59, EN60079-60, EN60079-61, EN60079-62, EN60079-63, EN60079-64, EN60079-65, EN60079-66, EN60079-67, EN60079-68, EN60079-69, EN60079-70, EN60079-71, EN60079-72, EN60079-73, EN60079-74, EN60079-75, EN60079-76, EN60079-77, EN60079-78, EN60079-79, EN60079-80, EN60079-81, EN60079-82, EN60079-83, EN60079-84, EN60079-85, EN60079-86, EN60079-87, EN60079-88, EN60079-89, EN60079-90, EN60079-91, EN60079-92, EN60079-93, EN60079-94, EN60079-95, EN60079-96, EN60079-97, EN60079-98, EN60079-99, EN60079-100								
MTBF	hrs min. MIL-HDB-217F (25 °C)								
DIMENSION	18161.535mm (LWH)								
PACKING	g								

NOTE

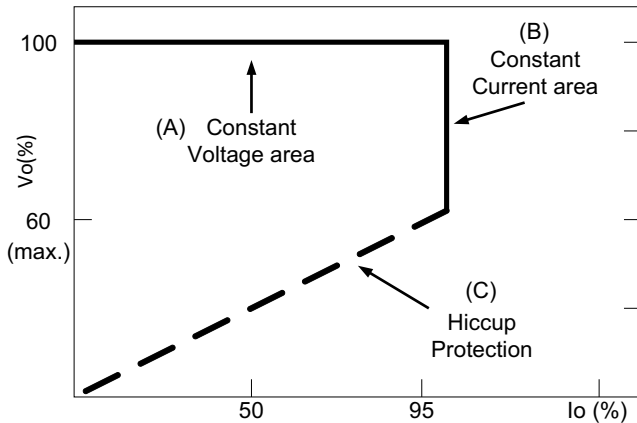
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Constant current operation region is within 50% ~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. Type A 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.

DRIVING METHODS OF LED MODULE

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

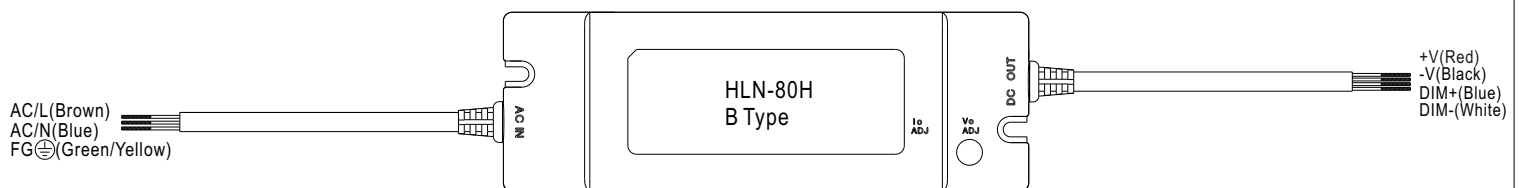
A typical LED power supply may either work in "constant voltage mode (CV)" or constant current mode (CC)" to drive the LEDs.

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)



※ V_o and I_o can not be adjusted (B type)

※ 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%	102%~108%

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

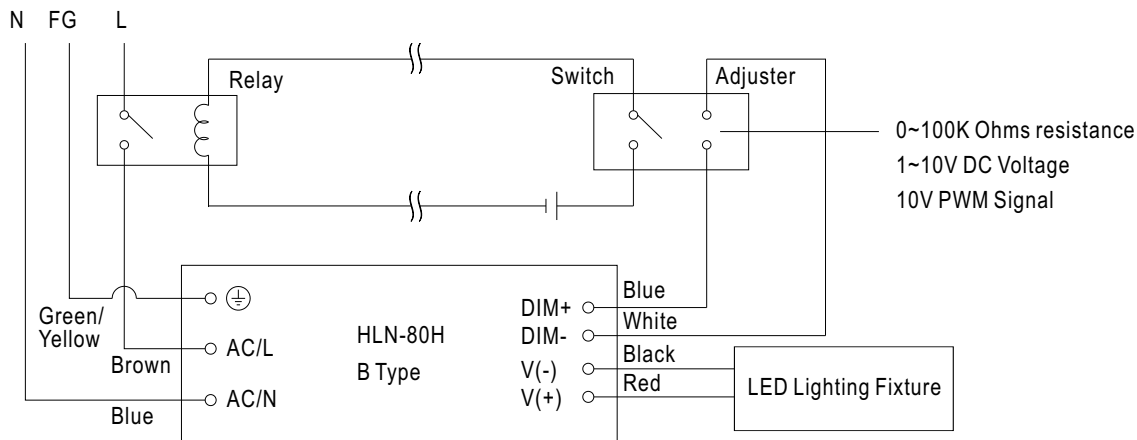
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

※ 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%	102%~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.

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.