



- **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 potentiometer
- IP67 / IP65 design for indoor or outdoor installations
- "UL8750 listed" safety approved for HLG-80H-□BL
- 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 / wet locations
- 5 years warranty (Note.10)

HLG-80H-12 A Blank : IP67 rated. Cable for I/O connection.

A : IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.

B : IP67 rated. Constant current level adjustable through output cable with 1~10Vdc or 10V PWM signal or resistance.

BL (option) : Contact MEAN WELL for details.

D (option) : IP67 rated. Timer dimming function, contact MEAN WELL for details.

## SPECIFICATION

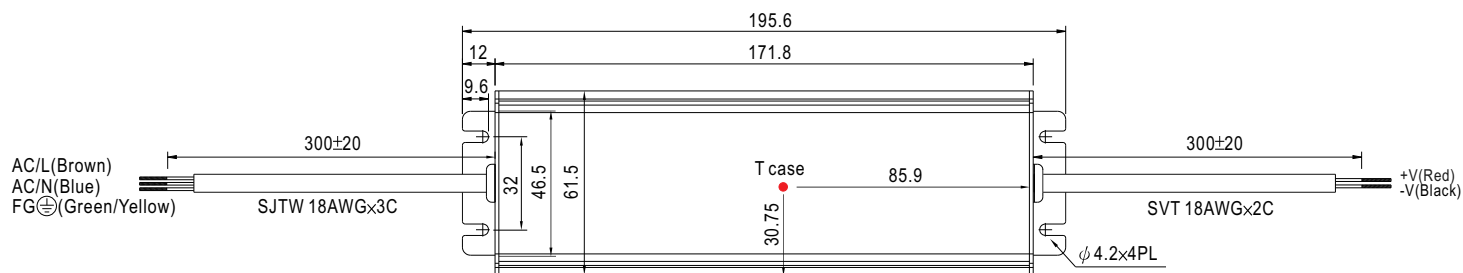
| MODEL                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | HLG-80H-12                                                                                                                                                                                                           | HLG-80H-15 | HLG-80H-20      | HLG-80H-24  | HLG-80H-30    | HLG-80H-36  | HLG-80H-42   | HLG-80H-48  | HLG-80H-54 |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------|-------------|---------------|-------------|--------------|-------------|------------|
| OUTPUT                                 | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12V                                                                                                                                                                                                                  | 15V        | 20V             | 24V         | 30V           | 36V         | 42V          | 48V         | 54V        |
|                                        | CONSTANT CURRENT REGION <small>Note.4</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 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.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 150mVp-p                                                                                                                                                                                                             | 150mVp-p   | 150mVp-p        | 150mVp-p    | 200mVp-p      | 200mVp-p    | 200mVp-p     | 200mVp-p    | 200mVp-p   |
|                                        | VOLTAGE ADJ. RANGE <small>Note.6</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 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 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 | 0.9 ~ 1.5A |
|                                        | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±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 <small>Note.8</small> | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                      |            |                 |             |               |             |              |             |            |
| INPUT                                  | VOLTAGE RANGE <small>Note.5</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 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 |             |              |             |            |
|                                        | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COLD START 70A/230VAC                                                                                                                                                                                                |            |                 |             |               |             |              |             |            |
| LEAKAGE CURRENT                        | <0.75mA / 277VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                      |            |                 |             |               |             |              |             |            |
| PROTECTION                             | OVER CURRENT <small>Note.4</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 95 ~ 108%<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed                                                                                                    |            |                 |             |               |             |              |             |            |
|                                        | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 14 ~ 17V                                                                                                                                                                                                             | 18 ~ 21V   | 23 ~ 27V        | 28 ~ 34V    | 34 ~ 38V      | 41 ~ 46V    | 47 ~ 53V     | 54 ~ 60V    | 59 ~ 65V   |
|                                        | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 85℃ ±10℃ (RTH2)<br>Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                   |            |                 |             |               |             |              |             |            |
| ENVIRONMENT                            | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -40 ~ +70℃ (Refer to "Derating Curve")                                                                                                                                                                               |            |                 |             |               |             |              |             |            |
|                                        | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20 ~ 95% RH non-condensing                                                                                                                                                                                           |            |                 |             |               |             |              |             |            |
|                                        | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -40 ~ +80℃, 10 ~ 95% RH                                                                                                                                                                                              |            |                 |             |               |             |              |             |            |
|                                        | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ±0.03%/℃ (0 ~ 60℃)                                                                                                                                                                                                   |            |                 |             |               |             |              |             |            |
|                                        | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes                                                                                                                                              |            |                 |             |               |             |              |             |            |
| SAFETY & EMC                           | SAFETY STANDARDS <small>Note.7</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | UL8750, CSA C22.2 No. 250.0-08(except for HLG-80H-48/54V & HLG-80H-48/54BL), UL8750 listed for HLG-80H-□BL<br>EN61347-1, EN61347-2-13 independent ; IP65 or IP67 approved ; Design refer to UL60950-1, TUV EN60950-1 |            |                 |             |               |             |              |             |            |
|                                        | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I/P-O/P:3.75KVAC    I/P-FG:1.88KVAC    O/P-FG:0.5KVAC                                                                                                                                                                |            |                 |             |               |             |              |             |            |
|                                        | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                                                                                                                                            |            |                 |             |               |             |              |             |            |
|                                        | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance to EN55015, EN61000-3-2 Class C (≥ 60% load) ; EN61000-3-3                                                                                                                                                |            |                 |             |               |             |              |             |            |
|                                        | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, heavy industry level (surge 4KV), criteria A                                                                                                               |            |                 |             |               |             |              |             |            |
| OTHERS                                 | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 357.8Khrs min.      MIL-HDBK-217F (25℃)                                                                                                                                                                              |            |                 |             |               |             |              |             |            |
|                                        | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 195.6*61.5*38.8mm (L*W*H)                                                                                                                                                                                            |            |                 |             |               |             |              |             |            |
|                                        | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.84Kg; 16pcs/14.4Kg/0.54CUFT                                                                                                                                                                                        |            |                 |             |               |             |              |             |            |
| NOTE                                   | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>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.<br>5. Derating may be needed under low input voltages. Please check the static characteristics for more details.<br>6. Type A only.<br>7. Safety and EMC design refer to EN60598-1, CNS15233, GB7000.1, FCC part18.<br>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.<br>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.<br>10. Refer to warranty statement. |                                                                                                                                                                                                                      |            |                 |             |               |             |              |             |            |

# Mechanical Specification

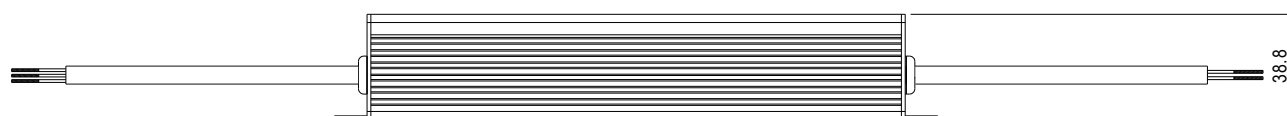
Case No.997A

Unit:mm

## Blank:(HLG-80H)

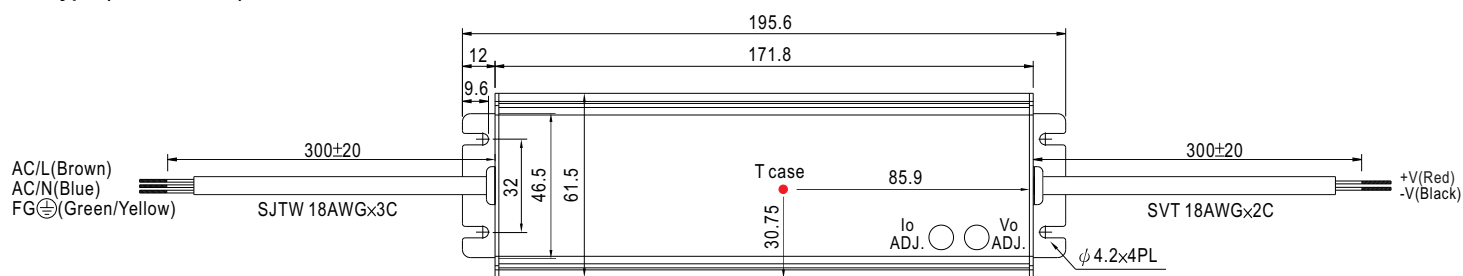


※ T case: Max. Case Temperature.



※ IP67 rated. Cable for I/O connection.

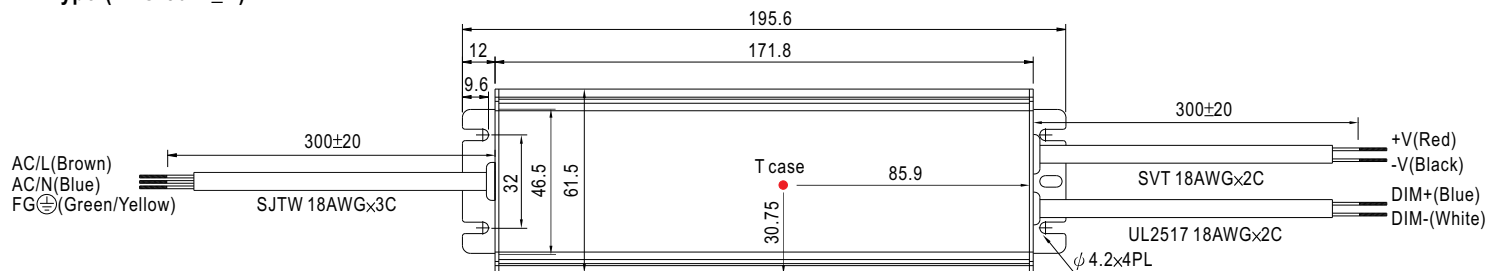
## A Type:(HLG-80H- \_A)



※ T case: Max. Case Temperature.


※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.  
(Can access by removing the rubber stopper on the case.)

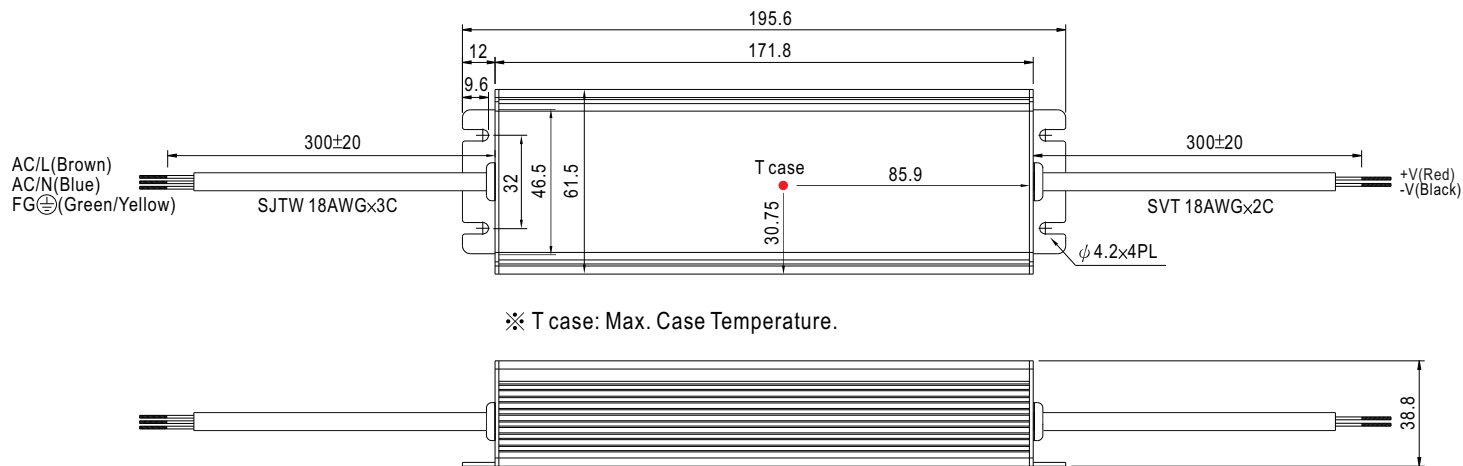
## B Type:(HLG-80H- \_B)



※ T case: Max. Case Temperature.

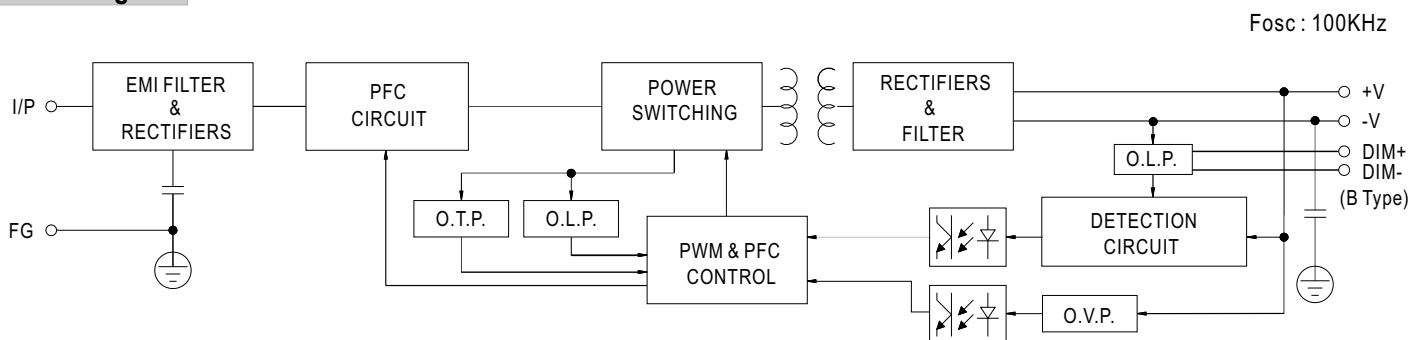


## D Type(option):(HLG-80H-\_D)

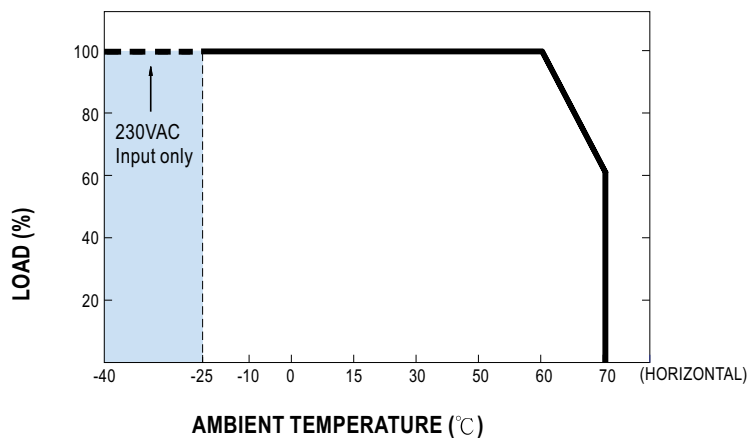


※ IP67 rated. Timer dimming function, contact MEAN WELL for details.

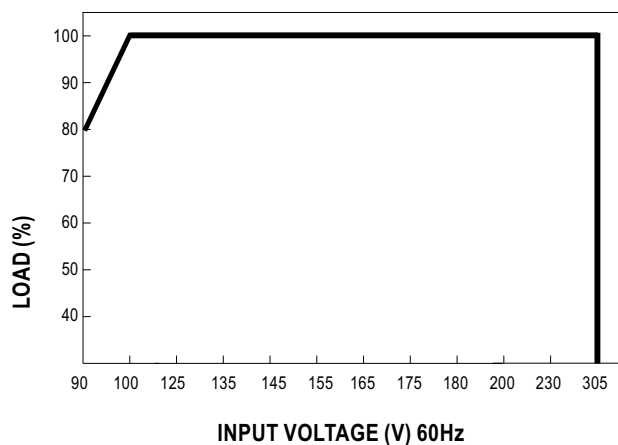
## Block Diagram



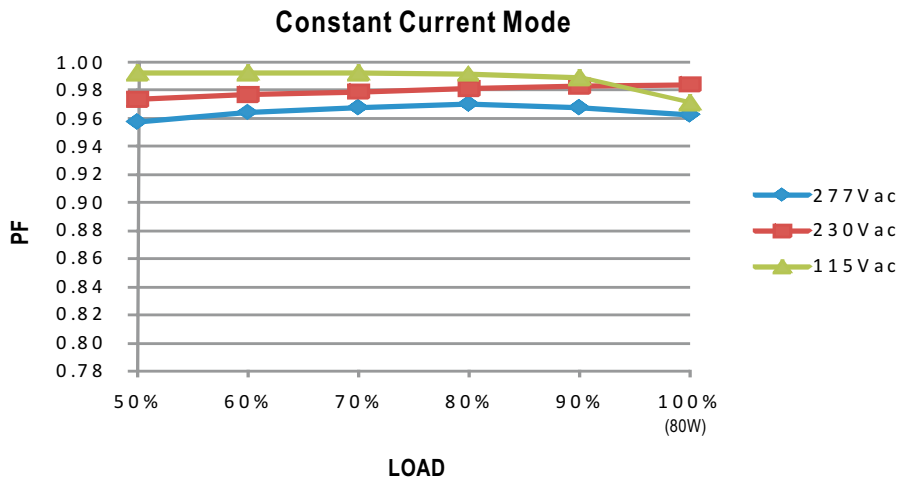
## Derating Curve



## Static Characteristics

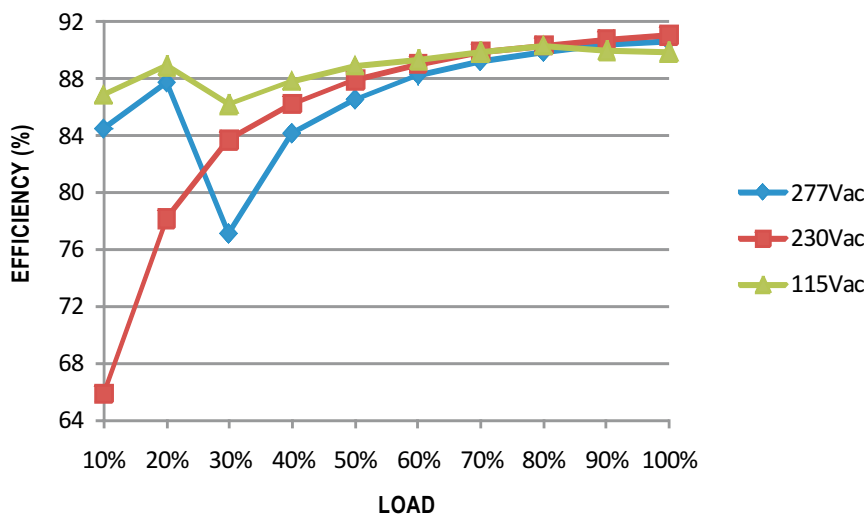


## Power Factor Characteristic



## EFFICIENCY vs LOAD (48V Model)

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

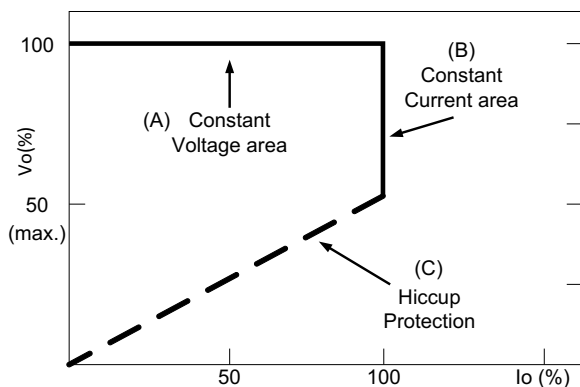


## DRIVING METHODS OF LED MODULE

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

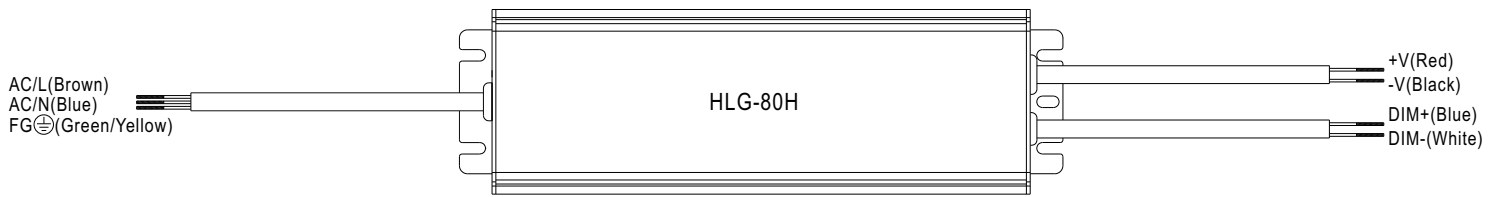
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

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



※ Built-in 3 in 1 dimming function, IP67 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 $\Omega$    | 20K $\Omega$    | 30K $\Omega$    | 40K $\Omega$    | 50K $\Omega$    | 60K $\Omega$    | 70K $\Omega$    | 80K $\Omega$    | 90K $\Omega$    | 100K $\Omega$    | OPEN      |
|-----------------------------|----------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------|
|                             | Multiple drivers<br>(N=driver quantity for synchronized dimming operation) | 10K $\Omega$ /N | 20K $\Omega$ /N | 30K $\Omega$ /N | 40K $\Omega$ /N | 50K $\Omega$ /N | 60K $\Omega$ /N | 70K $\Omega$ /N | 80K $\Omega$ /N | 90K $\Omega$ /N | 100K $\Omega$ /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)

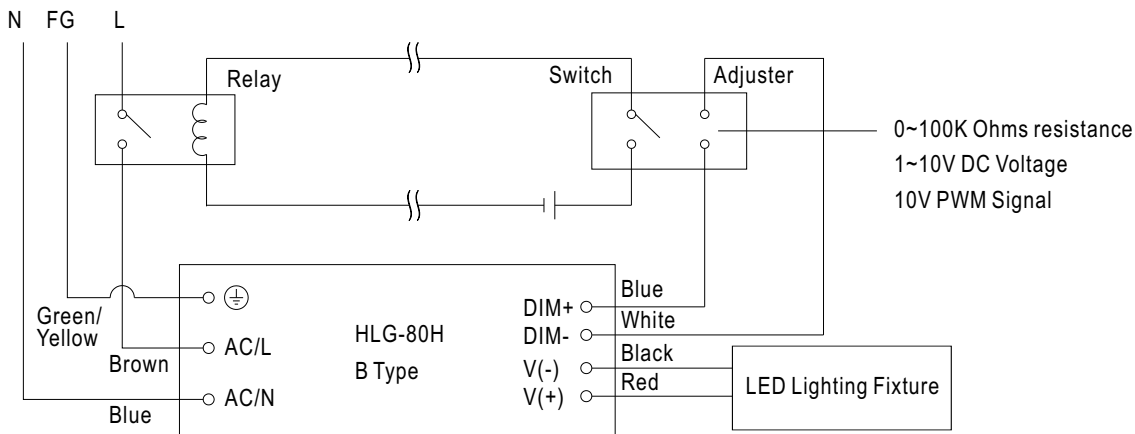
| Dimming value               | 1V  | 2V  | 3V  | 4V  | 5V  | 6V  | 7V  | 8V  | 9V  | 10V  | OPEN      |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----------|
| Percentage of rated current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100%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



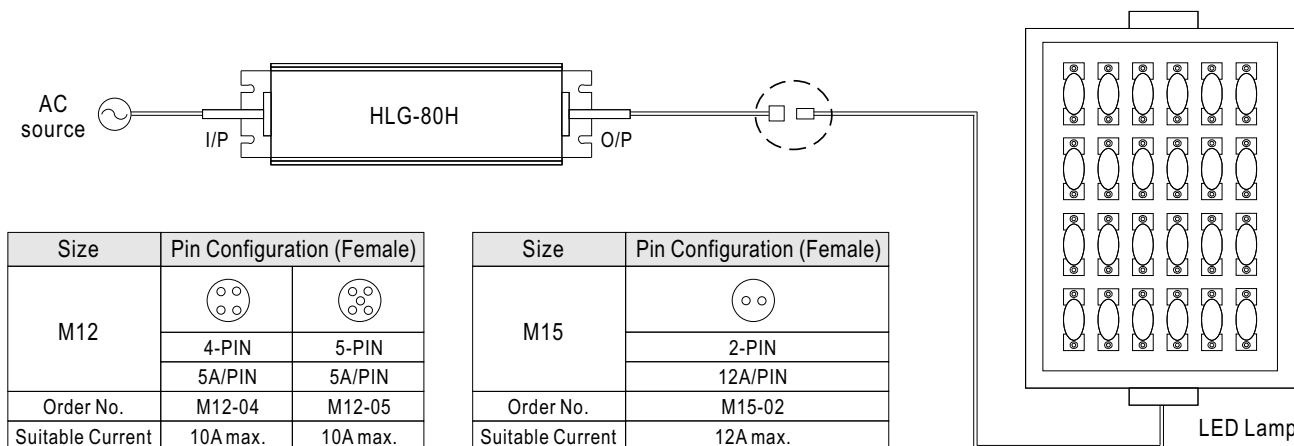
Using a switch and relay can turn ON/OFF the lighting fixture.

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

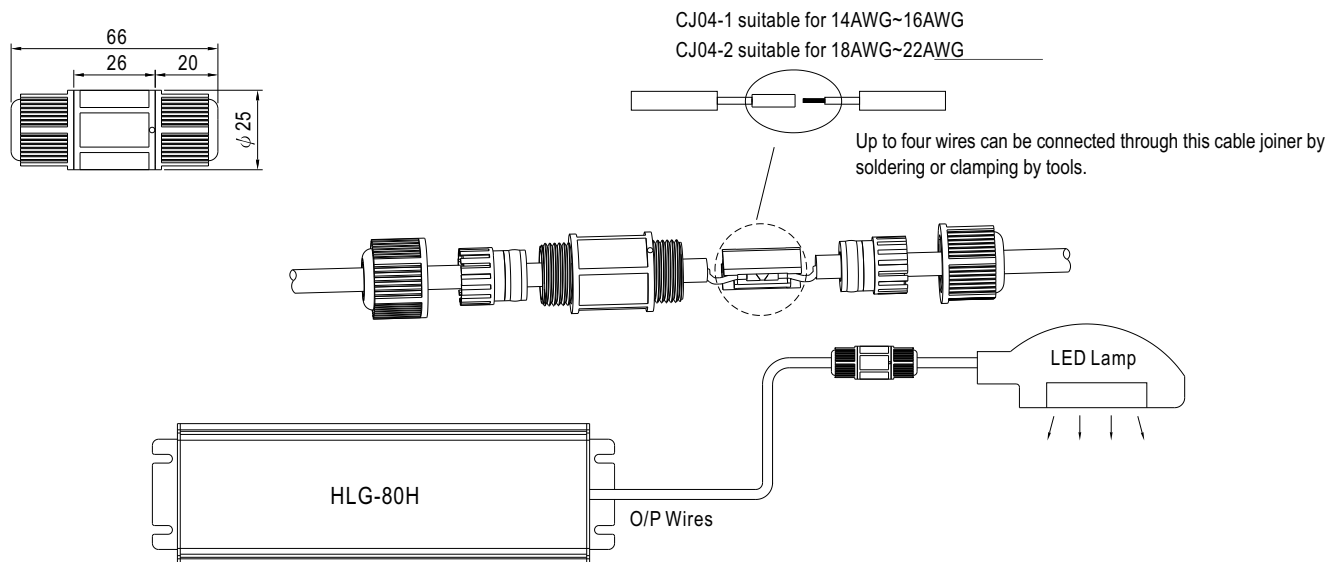
## WATERPROOF CONNECTION

### Waterproof connector

Waterproof connector can be assembled on the output cable of HLG-80H to operate in dry/wet/damp or outdoor environment.



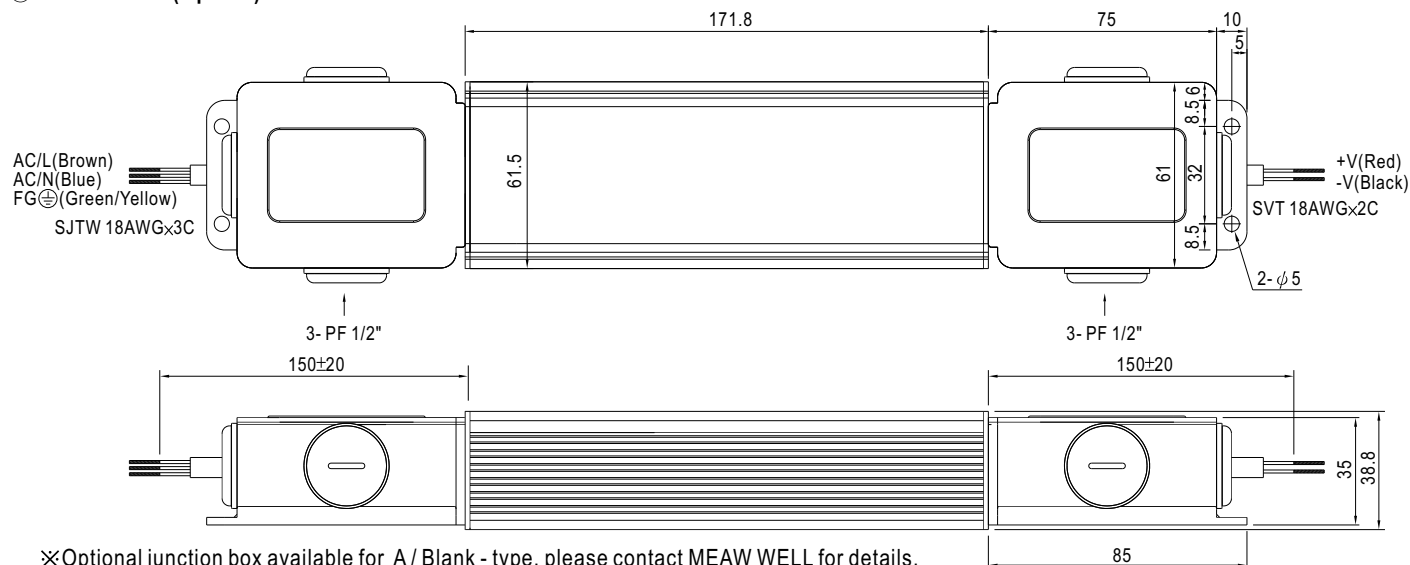
### Cable Joiner



※CJ04 cable joiner can be purchased independently for user's own assembly.

MEAN WELL order No. : CJ04-1, CJ04-2.

### Junction Box(Optional)



※Optional junction box available for A / Blank - type, please contact MEAW WELL for details.

※HLG-80H-□BL models with junction box at both input and output side are listed.