



## 40W Single Output LED Driver

## NPF-40D series

User's Manual



### ■ Features

- Plastic housing with class II design
- Built-in active PFC function
- Class 2 power unit
- Standby power consumption <0.5W
- IP67 rating for indoor or outdoor installations
- Function: 3 in 1 dimming (dim-to-off)
- Typical lifetime >50000hours
- 5 years warranty

### ■ Applications

- LED panel lighting
- LED downlight
- LED decorative lighting
- LED tunnel lighting
- Moving sign
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location

### ■ GTIN CODE

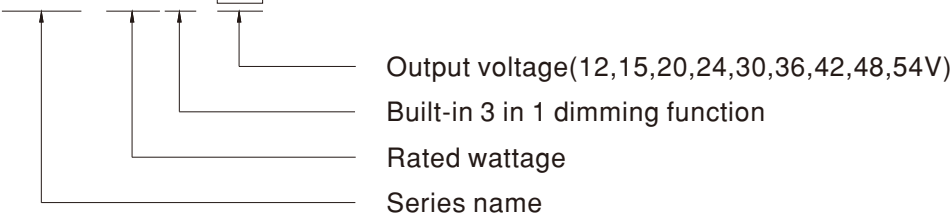
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

### ■ Description

NPF-40D series is a 40W AC/DC LED driver featuring the constant current mode output. NPF-40D operates from 90~305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -40°C~+85°C case temperature under free air convection. The entire series is rated with IP67 ingress protection level and is suitable to work for a variety of applications at dry, damp or wet locations. NPF-40D is equipped with the 3 in 1 dimming function so as to provide the design flexibility for LED lighting system.

### ■ Model Encoding

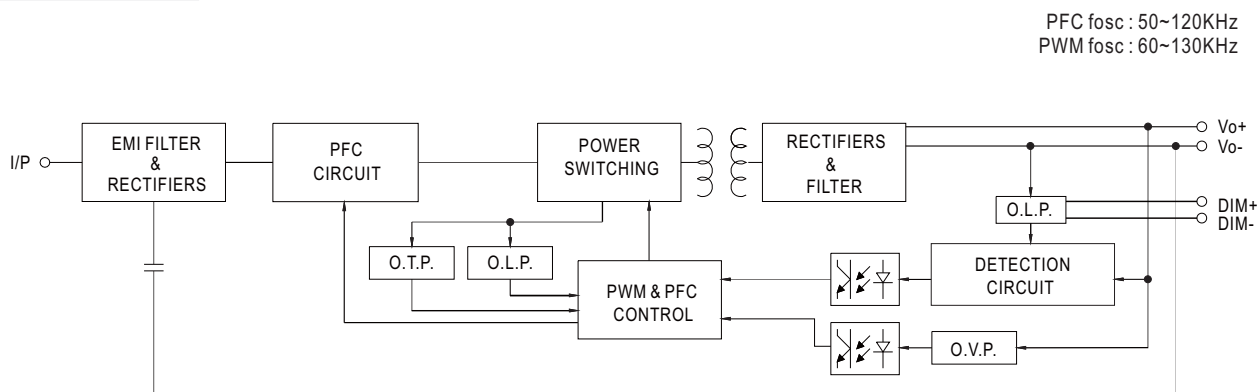
NPF - 40 D - 24



**SPECIFICATION**

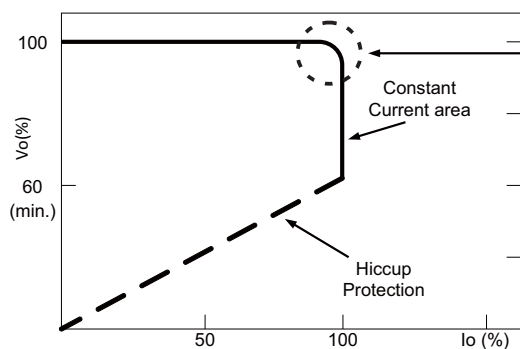
| MODEL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | NPF-40D-12 <input type="checkbox"/>                                                                                                                                                                                           | NPF-40D-15 <input type="checkbox"/> | NPF-40D-20 <input type="checkbox"/> | NPF-40D-24 <input type="checkbox"/> | NPF-40D-30 <input type="checkbox"/> | NPF-40D-36 <input type="checkbox"/> | NPF-40D-42 <input type="checkbox"/> | NPF-40D-48 <input type="checkbox"/> | NPF-40D-54 <input type="checkbox"/> |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OUTPUT       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.34A                                                                                                                                                                                                                         | 2.67A                               | 2A                                  | 1.67A                               | 1.34A                               | 1.12A                               | 0.96A                               | 0.84A                               | 0.76A                               |
|              | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 40.08W                                                                                                                                                                                                                        | 40.08W                              | 40W                                 | 40.08W                              | 40.2W                               | 40.32W                              | 40.32W                              | 40.32W                              | 41.04W                              |
|              | CONSTANT CURRENT REGION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 7.2 ~ 12V                                                                                                                                                                                                                     | 9 ~ 15V                             | 12 ~ 20V                            | 14.4 ~ 24V                          | 18 ~ 30V                            | 21.6 ~ 36V                          | 25.2 ~ 42V                          | 28.8 ~ 48V                          | 32.4 ~ 54V                          |
|              | CURRENT RIPPLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5.0% max. @rated current                                                                                                                                                                                                      |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | CURRENT TOLERANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±5.0%                                                                                                                                                                                                                         |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | SET UP TIME <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 500ms/115VAC, 230VAC                                                                                                                                                                                                          |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| INPUT        | VOLTAGE RANGE <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 90 ~ 305VAC      127 ~ 431VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)                                                                                                                                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 47 ~ 63Hz                                                                                                                                                                                                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PF ≥ 0.97/115VAC, PF ≥ 0.95/230VAC, PF ≥ 0.92/277VAC@full load<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)                                                                                                |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | TOTAL HARMONIC DISTORTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | THD< 20% (@load≥60%/115VC, 230VAC; @load≥75%/277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)                                                                                                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | EFFICIENCY(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 86%                                                                                                                                                                                                                           | 87%                                 | 88%                                 | 89%                                 | 89%                                 | 90%                                 | 90%                                 | 90%                                 | 90%                                 |
|              | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.6A / 115VAC      0.3A / 230VAC      0.25A / 277VAC                                                                                                                                                                          |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | INRUSH CURRENT(Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COLD START 50A(twidth=270μs measured at 50% Ipeak) at 230VAC; Per NEMA 410                                                                                                                                                    |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | MAX. NO. of PSUs on 16A CIRCUIT BREAKER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC                                                                                                                                          |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <0.25mA / 277VAC                                                                                                                                                                                                              |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | STANDBY POWER CONSUMPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <0.5W                                                                                                                                                                                                                         |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| PROTECTION   | OVER CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 95 ~ 108%<br>Constant current limiting, recovers automatically after fault condition is removed                                                                                                                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                          |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 15 ~ 17V                                                                                                                                                                                                                      | 17.5 ~ 21V                          | 23 ~ 27V                            | 28 ~ 34V                            | 34 ~ 40V                            | 41 ~ 46V                            | 46 ~ 54V                            | 54 ~ 60V                            | 59 ~ 66V                            |
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Shut down o/p voltage, re-power on to recover                                                                                                                                                                                 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Shut down o/p voltage, re-power on to recover                                                                                                                                                                                 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| ENVIRONMENT  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tcase=-40 ~ +85℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)                                                                                                                                                      |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | MAX. CASE TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Tcase=+85℃                                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20 ~ 95% RH non-condensing                                                                                                                                                                                                    |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -40 ~ +80℃, 10 ~ 95% RH                                                                                                                                                                                                       |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ±0.03%/℃ (0 ~ 50℃)                                                                                                                                                                                                            |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes                                                                                                                                                       |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| SAFETY & EMC | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | UL8750(type"HL"), UL879(for 12V,24V only), CSA C22.2 No. 250.13-12, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent, EAC TP TC 004, GB19510.1,GB19510.14, IP67 approved ; Design refer to BS EN/EN60335-1 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | I/P-O/P:3.75KVAC                                                                                                                                                                                                              |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH                                                                                                                                                                                      |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load ≥ 60%) ; BS EN/EN61000-3-3; GB/T 17743, GB17625.1,EAC TP TC 020                                                                                                |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level(surge immunity Line-Line 2KV);EAC TP TC 020                                                                                                 |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| OTHERS       | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3084.3K hrs min.    Telcordia SR-332 (Bellcore) ; 288.2K hrs min.    MIL-HDBK-217F (25℃)                                                                                                                                      |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 150*53*35mm (L*W*H)                                                                                                                                                                                                           |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|              | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.49Kg;30pcs/15.7Kg/1.0CUFT                                                                                                                                                                                                   |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| NOTE         | <div>1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.</div> <div>2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</div> <div>3. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.</div> <div>4. The standby power consumption is specified for 230VAC.</div> <div>5. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.<br/>(as available on <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a>)</div> <div>6. This series meets the typical life expectancy of &gt;50,000 hours of operation when Tcase, particularly (Tc) point (or TMP, per DLC), is about 75℃ or less.</div> <div>7. Please refer to the warranty statement on MEAN WELL's website at <a href="http://www.meanwell.com">http://www.meanwell.com</a></div> <div>8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).</div> <div>9. For any application note and IP water proof function installation caution, please refer our user manual before using.<br/><a href="https://www.meanwell.com/Upload/PDF/LED_EN.pdf">https://www.meanwell.com/Upload/PDF/LED_EN.pdf</a></div> <div>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></div> |                                                                                                                                                                                                                               |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |

## BLOCK DIAGRAM



## DRIVING METHODS OF LED MODULE

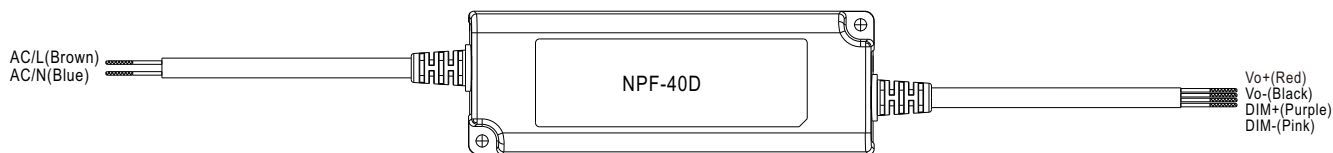
※ This series works in constant current mode to directly drive the LEDs.



Typical LED power supply I-V curve

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.  
Should there be any compatibility issues, please contact MEAN WELL.

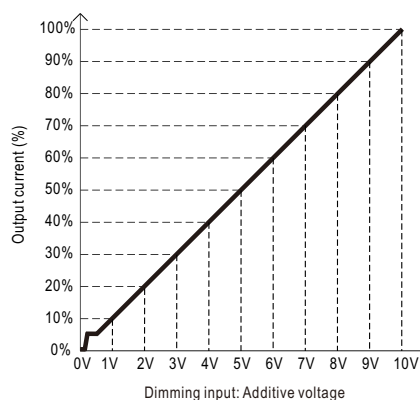
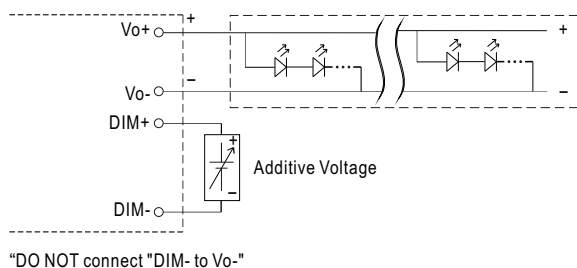
## DIMMING OPERATION



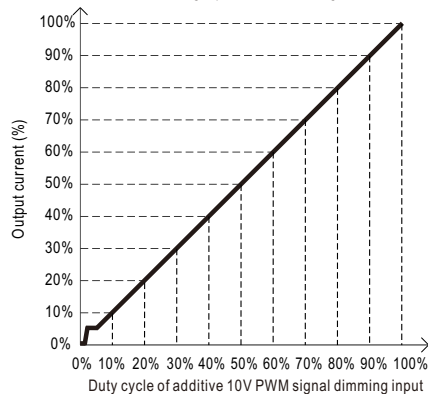
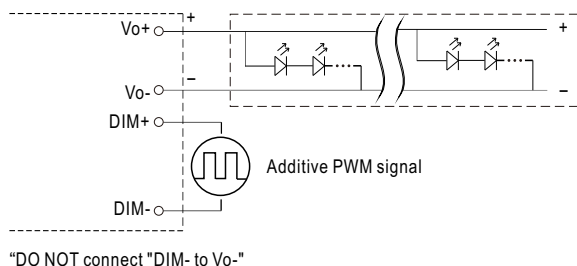
### ※ 3 in 1 dimming function

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:  
0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 $\mu$ A (typ.)

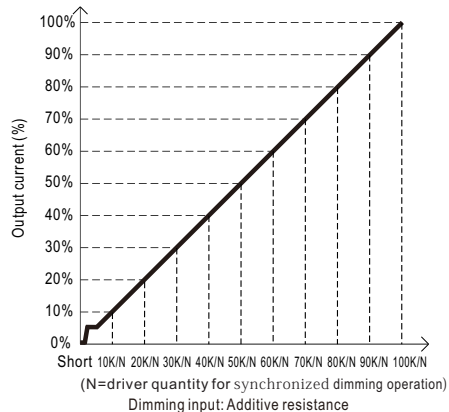
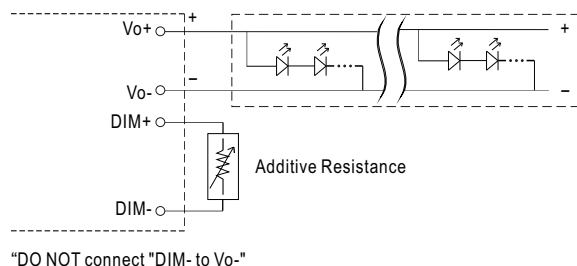
#### ◎ Applying additive 0 ~ 10VDC



#### ◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



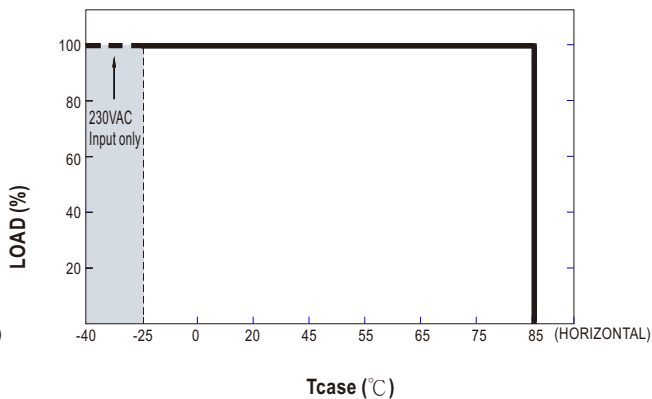
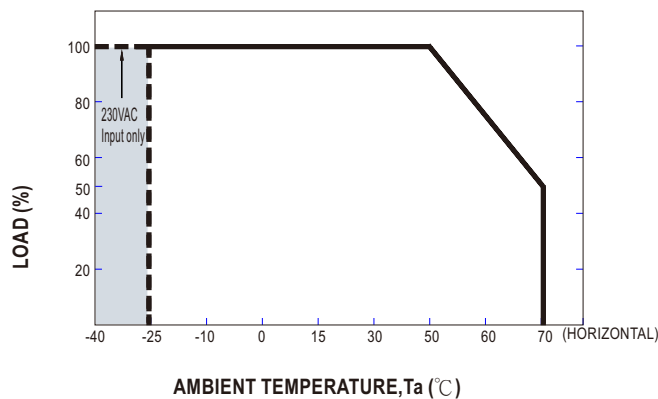
#### ◎ Applying additive resistance:



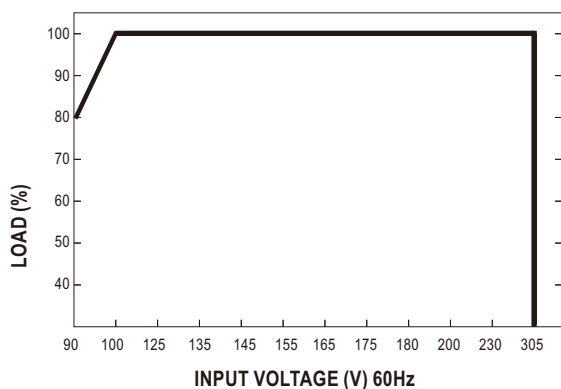
Note : 1. Min. dimming level is about 6% and the output current is not defined when 0% < I<sub>out</sub> < 6%.

2. The output current could drop down to 0% when dimming input is about 0k $\Omega$  or 0Vdc, or 10V PWM signal with 0% duty cycle.

## OUTPUT LOAD vs TEMPERATURE



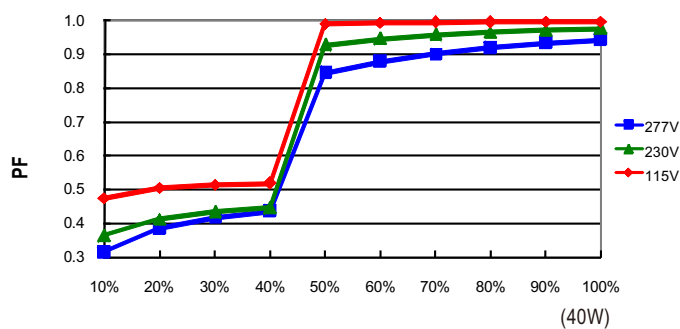
## STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

## POWER FACTOR (PF) CHARACTERISTIC

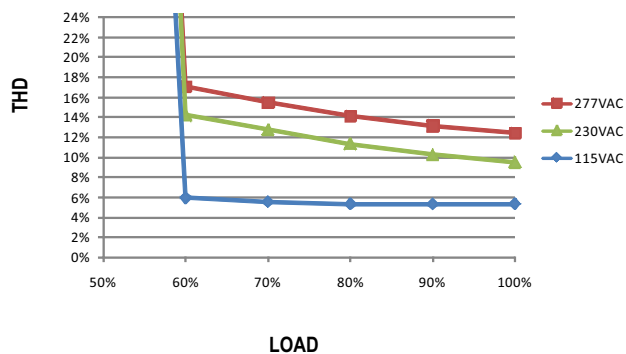
※  $T_{case}$  at 75°C



LOAD

## TOTAL HARMONIC DISTORTION (THD)

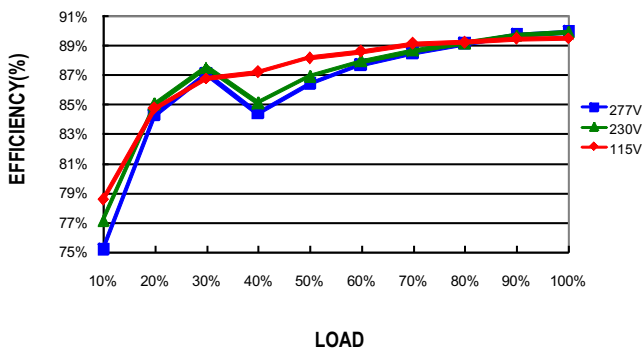
※ 48V Model,  $T_{case}$  at 75°C



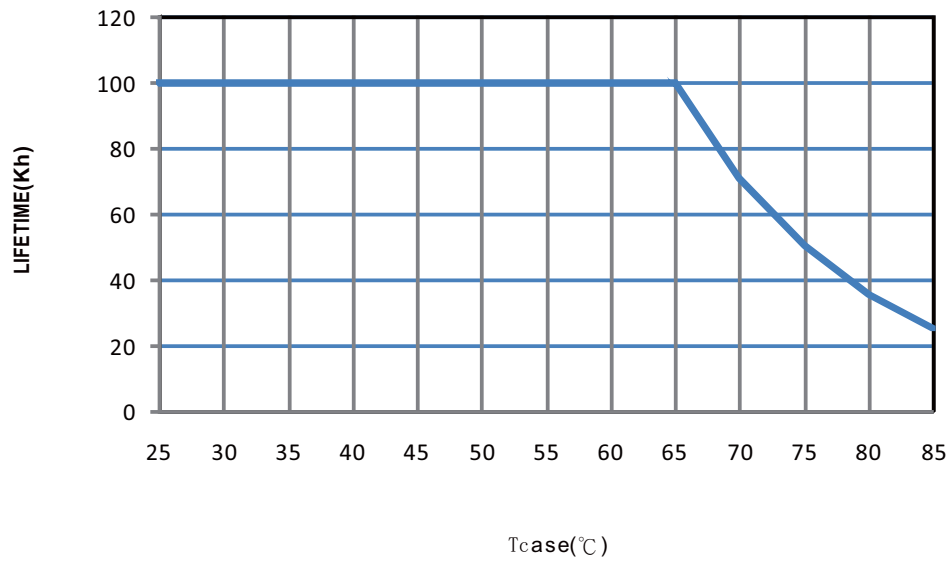
## EFFICIENCY vs LOAD

NPF-40D series possess superior working efficiency that up to 90% can be reached in field applications.

※ 48V Model,  $T_{case}$  at 75°C



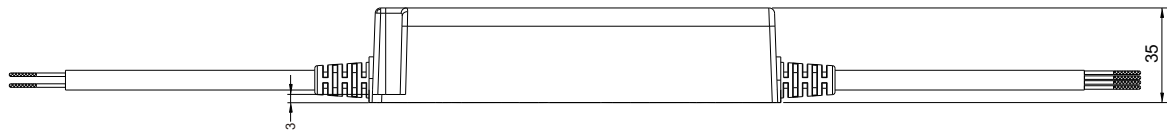
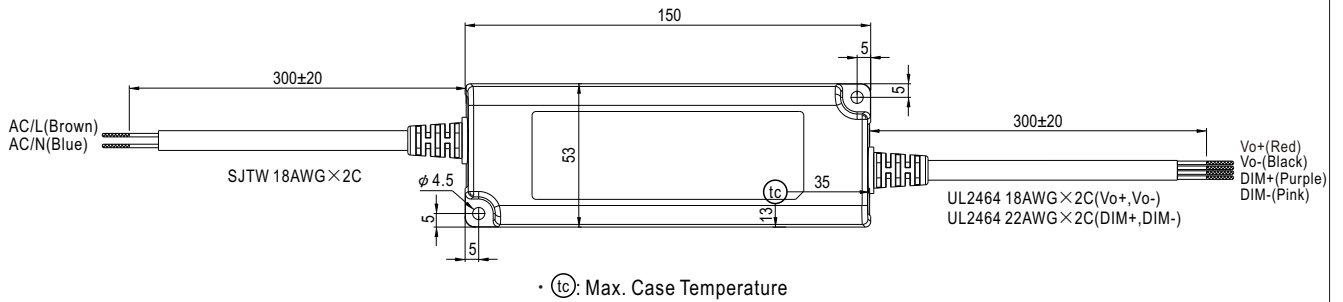
■ LIFE TIME



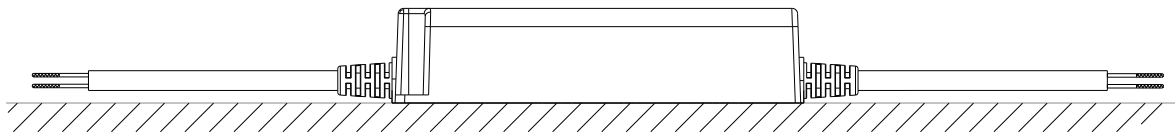
## MECHANICAL SPECIFICATION

Case No. NPF-60A

Unit:mm



## Recommend Mounting Direction



## INSTALLATION MANUAL

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