



## ■ Features

- Constant Power mode output
- Metal housing design
- Full Power at 70~100% max. current
- Built-in active PFC function
- No load power consumption <0.5W
- IP67 rating for indoor or outdoor installations
- Output current adjustable via potentiometer
- 3 years warranty

## ■ Applications

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

## ■ Description

FDLC-100 series is a 100W LED AC/DC LED power supply featuring the constant power mode output, FDLC-100 operates from 180~295VAC and output current can be adjust between 1300mA to 3000mA. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -30°C ~ +90°C case temperature under free air convection. The design of metal housing and IP67 ingress protection level allows this series to fit both indoor and outdoor applications. FDLC-100 is equipped with output current adjustable function so as to provide the optimal design flexibility for LED lighting system.

## ■ Model Encoding

**FDLC - 100**

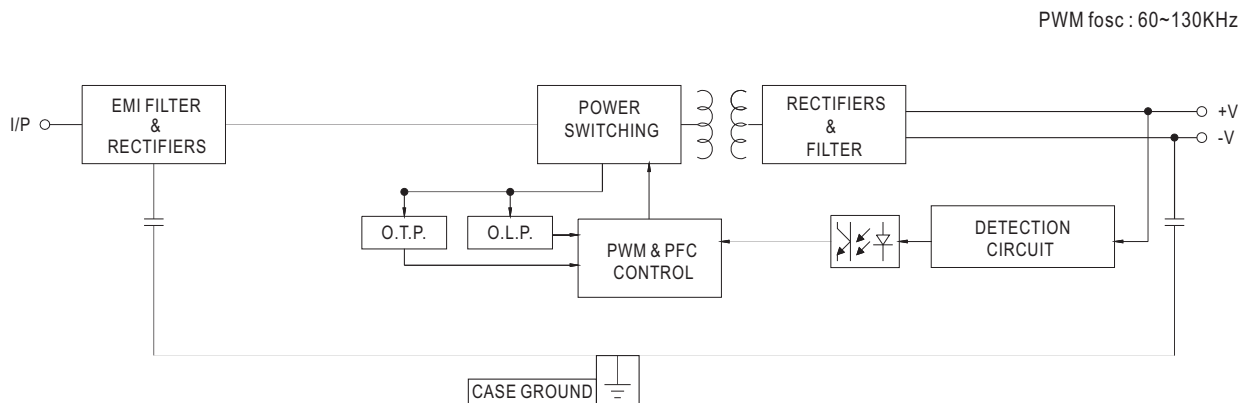




## SPECIFICATION

| MODEL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FDLC-100                                                                                                                                     |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| OUTPUT       | OUTPUT CURRENT REGION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1300~ 3000mA(1850mA default)                                                                                                                 |
|              | RATED POWER <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 100W                                                                                                                                         |
|              | CONSTANT CURRENT REGION <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30 ~ 54V                                                                                                                                     |
|              | FULL POWER CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1850 ~ 3000mA                                                                                                                                |
|              | OPEN CIRCUIT VOLTAGE <sub>(max.)</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 59V                                                                                                                                          |
|              | CURRENT TOLERANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±5.0%                                                                                                                                        |
|              | SET UP TIME <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 500ms/230VAC                                                                                                                                 |
| INPUT        | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 180 ~ 295VAC      254 ~ 417VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)                                                          |
|              | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 47 ~ 63Hz                                                                                                                                    |
|              | POWER FACTOR <small>(Typ.)</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PF ≥ 0.9(@load ≥ 70%/230VAC; @load ≥ 75%/277VAC)<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)                             |
|              | TOTAL HARMONIC DISTORTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | THD < 20%(@load ≥ 70%/230VAC; @load ≥ 75%/277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)                              |
|              | EFFICIENCY <small>(Typ.)</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 90%                                                                                                                                          |
|              | AC CURRENT <small>(Typ.)</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.7A / 230VAC    0.5A/277VAC                                                                                                                 |
|              | INRUSH CURRENT <sub>(Typ.)</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | COLD START 50A(twidth=270μs measured at 50% I <sub>peak</sub> )/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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <0.75mA / 277VAC                                                                                                                             |
|              | NO LOAD POWER CONSUMPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <0.5W                                                                                                                                        |
| PROTECTION   | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Hiccup mode, recovers automatically after fault condition is removed                                                                         |
|              | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Shut down output voltage, recovers automatically after fault condition is removed                                                            |
| ENVIRONMENT  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | T <sub>case</sub> = -30 ~ +90°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)                                                       |
|              | MAX. CASE TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | T <sub>case</sub> = +90°C                                                                                                                    |
|              | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20 ~ 95% RH non-condensing                                                                                                                   |
|              | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -30 ~ +80°C, 10 ~ 95% RH                                                                                                                     |
|              | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ± 0.03%/°C (0 ~ 50°C)                                                                                                                        |
|              | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes                                                                      |
| SAFETY & EMC | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EN61347-1, EN61347-2-13 Independent, EN62384, GB19510.1, GB19510.14, EAC TP TC 004, IP67 approved                                            |
|              | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | I/P-O/P: 3.75KVAC    I/P-FG: 2KVAC    O/P-FG: 1.5KVAC                                                                                        |
|              | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I/P-O/P: 100M Ohms / 500VDC / 25°C / 70% RH                                                                                                  |
|              | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance to EN55015, EN61000-3-2 Class C (load ≥ 70%); EN61000-3-3, GB17743, GB17625.1, EAC TP TC 020                                      |
|              | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547, light industry level (surge immunity: Line-Earth: 4KV, Line-Line: 2KV), EAC TP TC 020 |
| OTHERS       | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1229.7K hrs min. Telcordia SR-332 (Bellcore)    459.8Khrs min. MIL-HDBK-217F (25°C)                                                          |
|              | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 180*53*33mm (L*W*H)                                                                                                                          |
|              | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.625Kg; 24pcs / 16Kg / 0.8CUFT                                                                                                              |
| NOTE         | <ol style="list-style-type: none"><li>All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</li><li>Please refer to "OUTPUT CURRENT SETTING".</li><li>Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.</li><li>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.</li><li>Please refer to the warranty statement on MEAN WELL's website at <a href="http://www.meanwell.com">http://www.meanwell.com</a></li><li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li><li>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></li></ol> |                                                                                                                                              |

## ■ BLOCK DIAGRAM

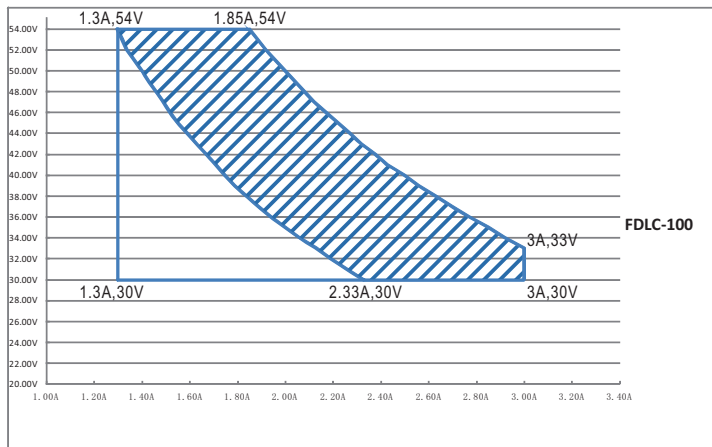


## ■ OUTPUT CURRENT SETTING

⊙I-V Operating Area.

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

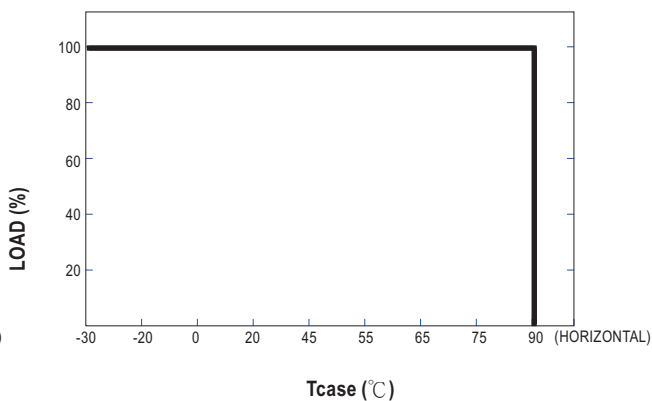
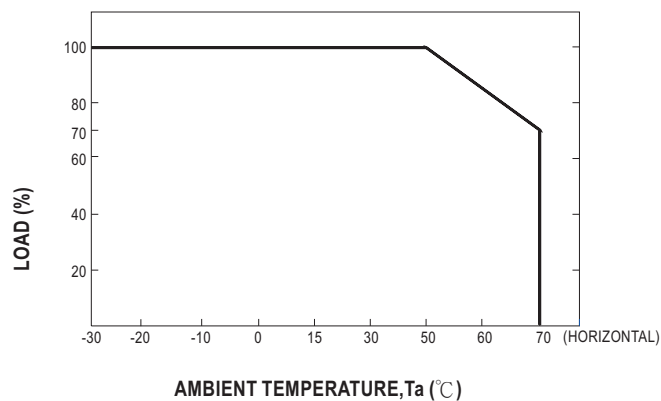
**FDLC-100**



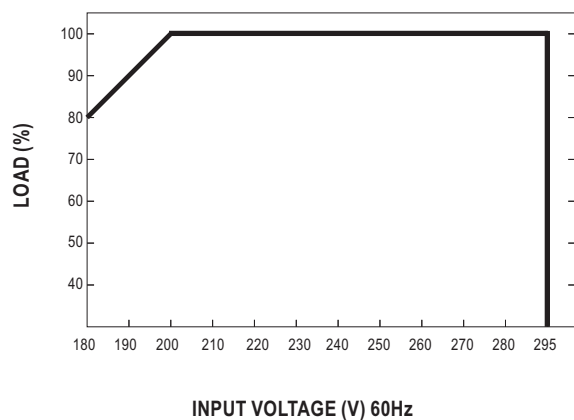
 High Performance Region
  Operational Region

Note: output power  $\leq$  100W

### ■ OUTPUT LOAD vs TEMPERATURE

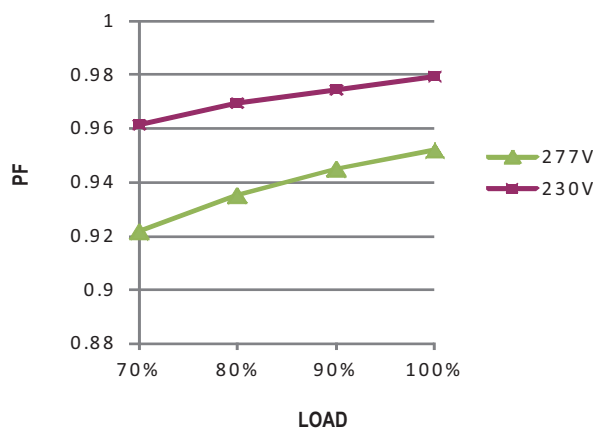


### ■ STATIC CHARACTERISTIC



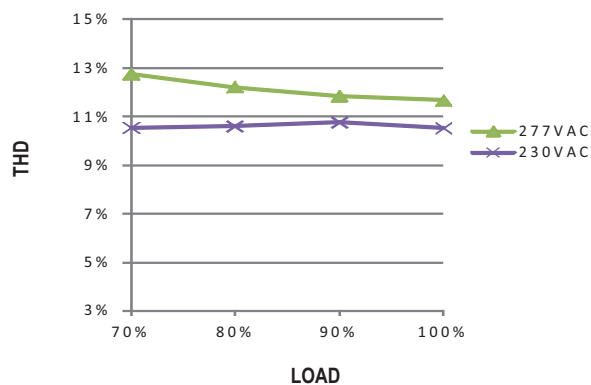
### ■ POWER FACTOR (PF) CHARACTERISTIC

※  $T_{case}$  at 80°C



### ■ TOTAL HARMONIC DISTORTION (THD)

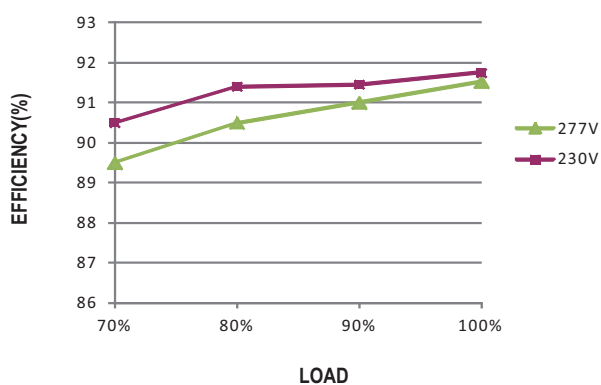
※  $T_{case}$  at 80°C



### ■ EFFICIENCY vs LOAD

FDLC-100 series possess superior working efficiency that up to 90% can be reached in field applications.

※  $T_{case}$  at 80°C



### ■ AC input voltage drop vs. output current characteristics

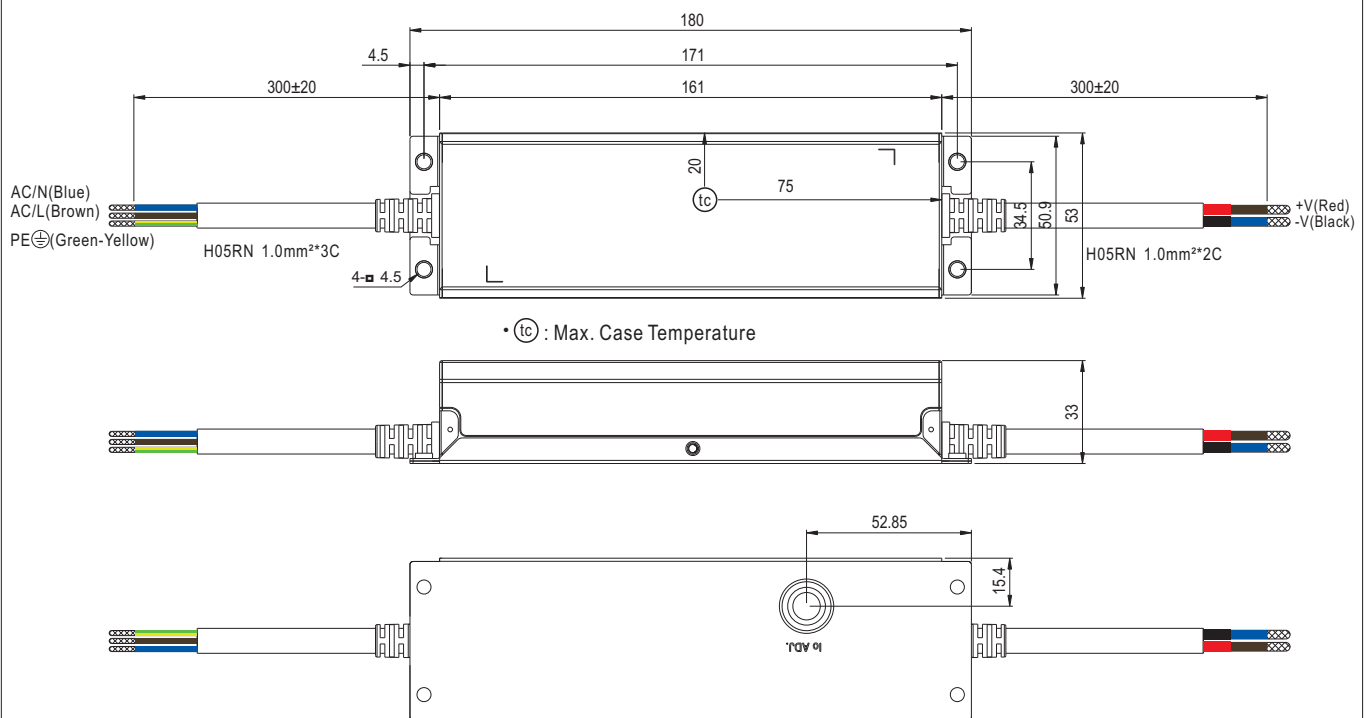
| AC input drop       | 10%  | 8%   | 5%  | 3%  |
|---------------------|------|------|-----|-----|
| I <sub>o</sub> drop | <13% | <11% | <6% | <3% |

NOTE: Output current will return to the rated value within 90ms

### ■ MECHANICAL SPECIFICATION

CASE NO.: 261A

Unit:mm



◎ Note: Please connect the case to FG for the complete EMC deliverance.

### ■ INSTALLATION MANUAL

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