



### ■ Features :

- Universal AC input / Full range (up to 295VAC)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Output voltage and constant current level adjustable
- Built-in active PFC function
- IP66 design for indoor or outdoor installations
- Cooling by free air convection
- 100% full load burn-in test
- High reliability
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 3 years warranty

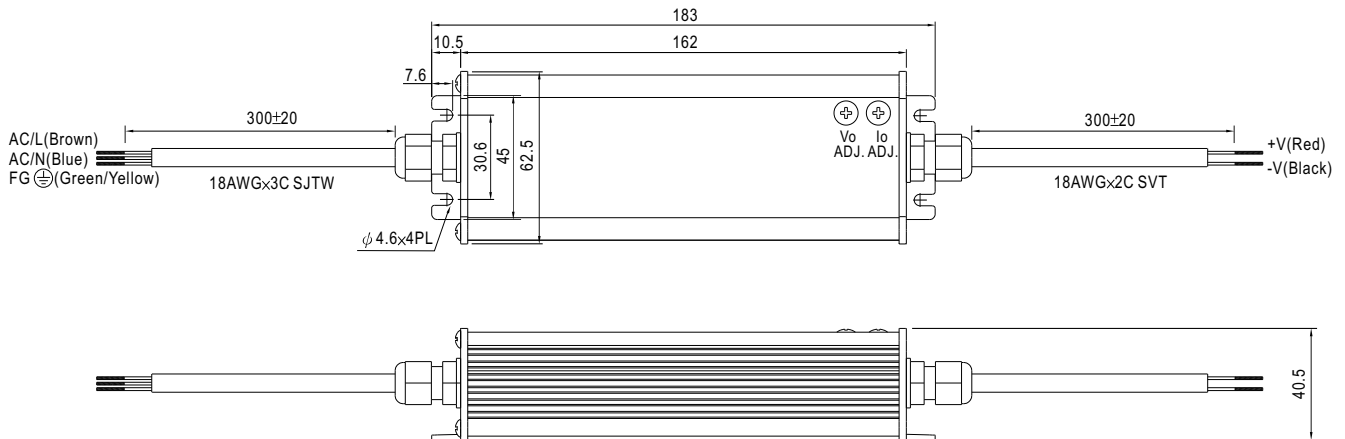
### SPECIFICATION



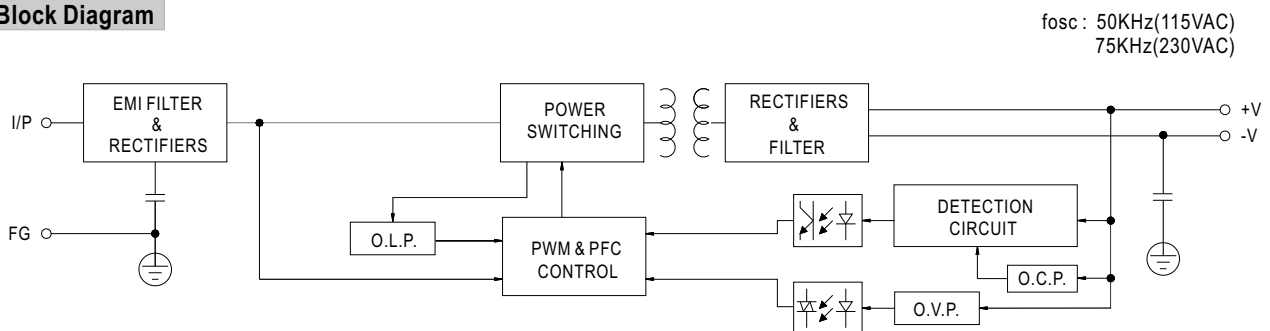
| MODEL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CEN-75-15                                                                                                         | CEN-75-20    | CEN-75-24    | CEN-75-30   | CEN-75-36   | CEN-75-42   | CEN-75-48    | CEN-75-54   |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|
| OUTPUT       | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15V                                                                                                               | 20V          | 24V          | 30V         | 36V         | 42V         | 48V          | 54V         |
|              | CONSTANT CURRENT OPERATION VOLTAGE <small>Note.5</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 11.25 ~ 15V                                                                                                       | 15 ~ 20V     | 18 ~ 24V     | 22.5 ~ 30V  | 27 ~ 36V    | 31.5 ~ 42V  | 36 ~ 48V     | 40.5 ~ 54V  |
|              | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5A                                                                                                                | 3.75A        | 3.15A        | 2.5A        | 2.1A        | 1.8A        | 1.57A        | 1.4A        |
|              | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 ~ 5A                                                                                                            | 0 ~ 3.75A    | 0 ~ 3.15A    | 0 ~ 2.5A    | 0 ~ 2.1A    | 0 ~ 1.8A    | 0 ~ 1.57A    | 0 ~ 1.4A    |
|              | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 75W                                                                                                               | 75W          | 75.6W        | 75W         | 75.6W       | 75.6W       | 75.36W       | 75.6W       |
|              | RIPPLE & NOISE (max.) <small>Note.2</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2.7Vp-p                                                                                                           | 2Vp-p        | 2.7Vp-p      | 3Vp-p       | 3.6Vp-p     | 4Vp-p       | 4.6Vp-p      | 5Vp-p       |
|              | VOLTAGE ADJ. RANGE (SVR1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.5 ~ 17V                                                                                                        | 17 ~ 22V     | 22 ~ 27V     | 27 ~ 33V    | 33 ~ 40V    | 37 ~ 46V    | 43 ~ 53V     | 49 ~ 58V    |
|              | CURRENT ADJ. RANGE (SVR2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3.75 ~ 5A                                                                                                         | 2.81 ~ 3.75A | 2.36 ~ 3.15A | 1.88 ~ 2.5A | 1.58 ~ 2.1A | 1.35 ~ 1.8A | 1.18 ~ 1.57A | 1.05 ~ 1.4A |
|              | VOLTAGE TOLERANCE <small>Note.3</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±10%                                                                                                              |              |              |             |             |             |              |             |
|              | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±3.0%                                                                                                             |              |              |             |             |             |              |             |
|              | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±5.0%                                                                                                             |              |              |             |             |             |              |             |
|              | SETUP TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1400ms / 230VAC    2800ms / 115VAC at full load                                                                   |              |              |             |             |             |              |             |
| INPUT        | VOLTAGE RANGE <small>Note.4</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 90 ~ 295VAC    127 ~ 417VDC                                                                                       |              |              |             |             |             |              |             |
|              | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 47 ~ 63Hz                                                                                                         |              |              |             |             |             |              |             |
|              | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PF ≥ 0.9 at 75 ~ 100% load, 115VAC / 230VAC ; PF>0.97 / 115VAC    PF>0.95 / 230VAC at full load                   |              |              |             |             |             |              |             |
|              | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 87%                                                                                                               | 88%          | 89%          | 90%         | 90%         | 90%         | 91%          | 91%         |
|              | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.1A/115VAC    0.55A/230VAC                                                                                       |              |              |             |             |             |              |             |
|              | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 45A/230VAC                                                                                                        |              |              |             |             |             |              |             |
|              | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <0.75mA / 240VAC                                                                                                  |              |              |             |             |             |              |             |
| PROTECTION   | OVER CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 95 ~ 110%<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed |              |              |             |             |             |              |             |
|              | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Hiccup mode, recovers automatically after fault condition is removed                                              |              |              |             |             |             |              |             |
|              | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 17.5 ~ 21V                                                                                                        | 22.8 ~ 26V   | 28 ~ 34V     | 34 ~ 38V    | 41 ~ 46V    | 47 ~ 52V    | 54 ~ 60V     | 59 ~ 65V    |
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Protection type : Shut down o/p voltage, re-power on to recover                                                   |              |              |             |             |             |              |             |
|              | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 85℃ ±10℃ (RTH1)<br>Protection type : Shut down o/p voltage, re-power on to recover                                |              |              |             |             |             |              |             |
| ENVIRONMENT  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -30 ~ +70℃ (Refer to output load derating curve)                                                                  |              |              |             |             |             |              |             |
|              | 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, TUV EN61347-1, EN61347-2-13, IP66 approved                                                                |              |              |             |             |             |              |             |
|              | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P-O/P:3.75KVAC    I/P-FG:1.88KVAC    O/P-FG:0.5KVAC                                                             |              |              |             |             |             |              |             |
|              | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                                         |              |              |             |             |             |              |             |
|              | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance to EN55015                                                                                             |              |              |             |             |             |              |             |
|              | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN61000-3-2 Class C ( ≥ 75% load) ; EN61000-3-3                                                     |              |              |             |             |             |              |             |
|              | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547, light industry level (surge 4KV), criteria A  |              |              |             |             |             |              |             |
|              | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 522.2Khrs min.    MIL-HDBK-217F (25℃)                                                                             |              |              |             |             |             |              |             |
| OTHERS       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 183*62.5*40.5mm (L*W*H)                                                                                           |              |              |             |             |             |              |             |
|              | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.56Kg/24pcs/14.4Kg/1.11CUFT                                                                                      |              |              |             |             |             |              |             |
| NOTE         | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>Direct connecting to LEDs is not suggested for models with "RIPPLE & NOISE" >±10% and using additional drivers is highly recommended.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Derating may be needed under low input voltage. Please check the static characteristics for more details.<br>5. Constant current operation region is within 75% ~ 100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.<br>6. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. |                                                                                                                   |              |              |             |             |             |              |             |

### Mechanical Specification

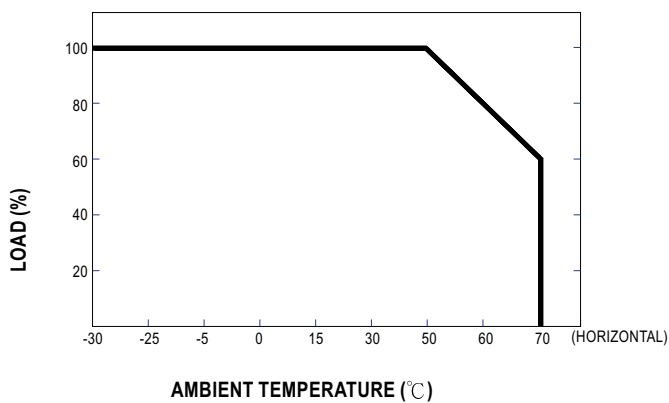
Case No.993B Unit:mm



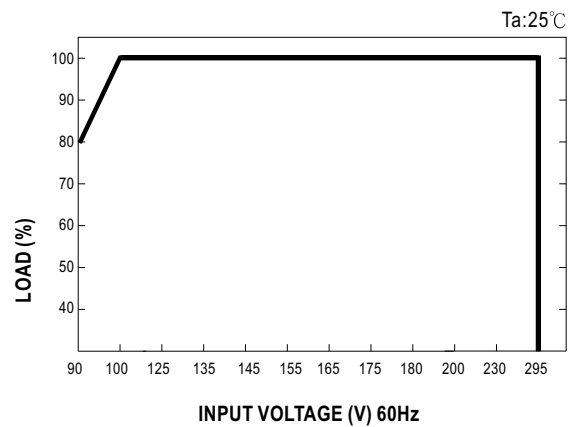
### Block Diagram



### Derating Curve



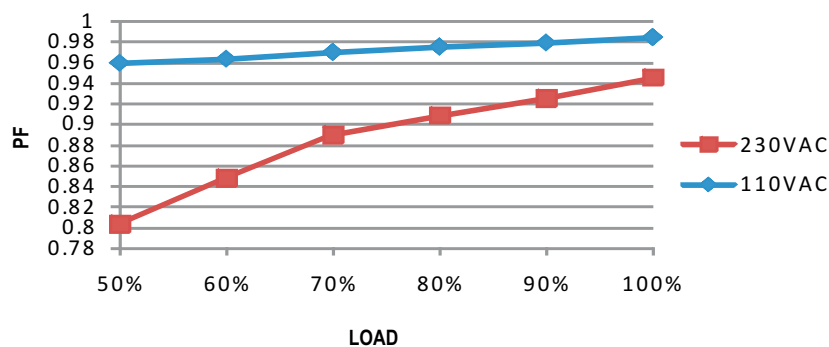
### Static Characteristics



### Power Factor Characteristic

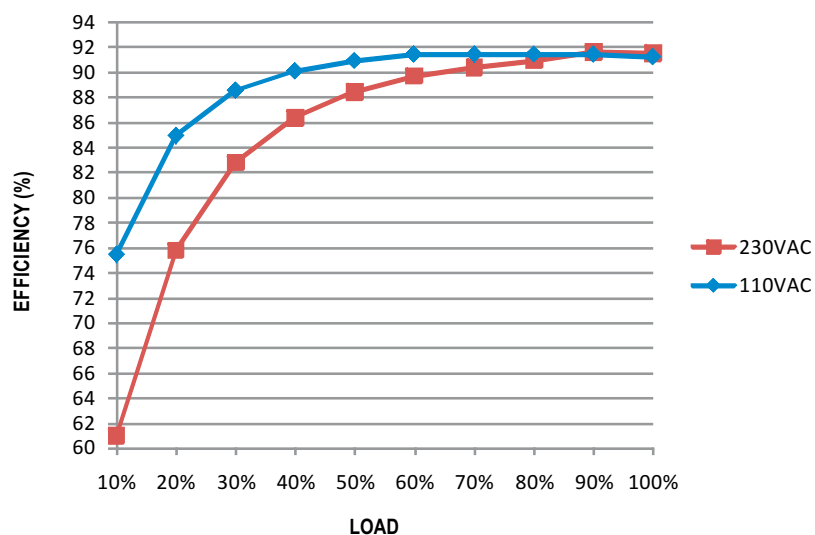
Power factor will be higher than 0.9 when output loading is 75% or higher.

#### Constant Current Mode



### EFFICIENCY vs LOAD (48V Model)

CEN-75 series possess superior working efficiency that up to 91% can be reached in field applications.

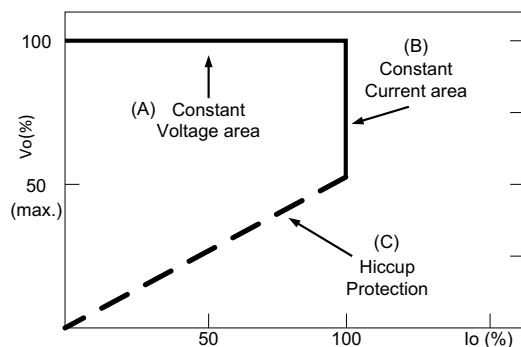


### DRIVING METHODS OF LED MODULE

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

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

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



Typical LED power supply I-V curve