



25W Multiple-Stage Constant Current Mode LED Driver

**LCM-25** series

User's Manual



IS 15885 (Part 2/Sec13)  
R-41027766



## ■ Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Standby power consumption <0.5W
- Functions: 3 in 1 dimming (dim-to-off); synchronization up to 10 units
- 3 years warranty

## ■ Applications

- LED indoor lighting
- LED office lighting
- LED architectural lighting
- LED panel lighting

## ■ GTIN CODE

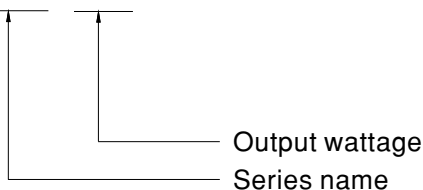
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## ■ Description

LCM-25 series is a 25W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch. LCM-25 operates from 180~277VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 86%, with the fanless design, the entire series is able to operate for -30°C~+85°C case temperature under free air convection. LCM-25 is equipped with various functions, such as the dimming function and synchronization, so as to provide the optimal design flexibility for LED lighting system.

## ■ Model Encoding

**LCM - 25**





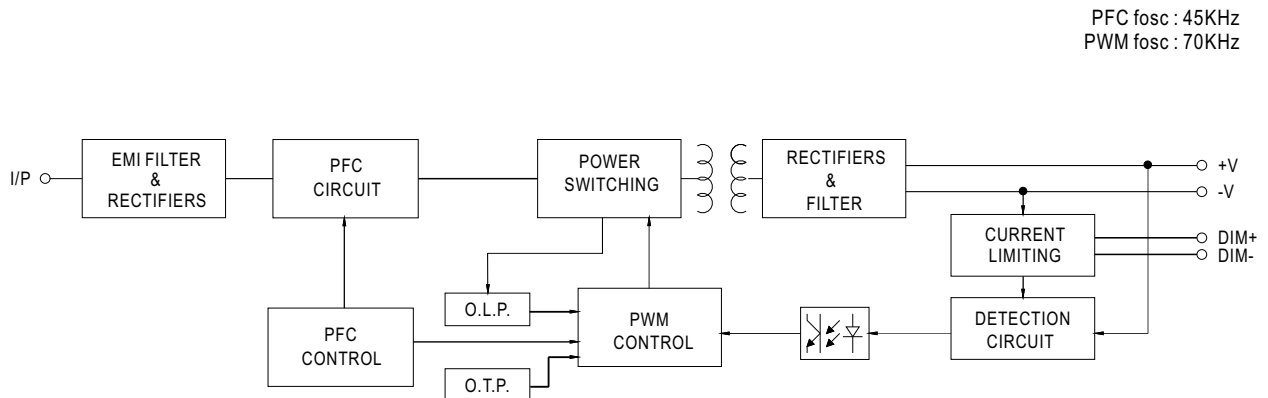
## 25W Multiple-Stage Constant Current Mode LED Driver

## LCM-25 series

## SPECIFICATION

| MODEL        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LCM-25                                                                              |                                                                                                                                                                |         |                |         |         |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|---------|---------|
| OUTPUT       | CURRENT LEVEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Current level selectable via DIP switch, please refer to "DIP SWITCH TABLE" section |                                                                                                                                                                |         |                |         |         |
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 350mA                                                                               | 500mA                                                                                                                                                          | 600mA   | 700mA(default) | 900mA   | 1050mA  |
|              | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 18.9W                                                                               | 25.2W                                                                                                                                                          |         |                |         |         |
|              | DC VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6 ~ 54V                                                                             | 6 ~ 50V                                                                                                                                                        | 6 ~ 42V | 6 ~ 36V        | 6 ~ 28V | 6 ~ 24V |
|              | OPEN CIRCUIT VOLTAGE (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 59V                                                                                 |                                                                                                                                                                |         | 41V            |         |         |
|              | CURRENT RIPPLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5.0% max. @rated current                                                            |                                                                                                                                                                |         |                |         |         |
|              | CURRENT TOLERANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±5%                                                                                 |                                                                                                                                                                |         |                |         |         |
|              | SETUP TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Note.3                                                                              | 500ms / 230VAC                                                                                                                                                 |         |                |         |         |
| INPUT        | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Note.2                                                                              | 180 ~ 277VAC      254 ~ 392VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)                                                                            |         |                |         |         |
|              | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     | 47 ~ 63Hz                                                                                                                                                      |         |                |         |         |
|              | POWER FACTOR (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     | PF≥0.94/230VAC, PF≥0.91/277VAC @full load<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)                                                      |         |                |         |         |
|              | TOTAL HARMONIC DISTORTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     | THD< 20%(@load≥50%/230VAC; @load≥75%/277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)                                                     |         |                |         |         |
|              | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Note.4                                                                              | 86%                                                                                                                                                            |         |                |         |         |
|              | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     | 0.17A/230VAC      0.15A/277VAC                                                                                                                                 |         |                |         |         |
|              | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     | COLD START 20A(twidth=260μs measured at 50% Ipeak) at 230VAC; Per NEMA 410                                                                                     |         |                |         |         |
|              | MAX. No. of PSUs on 16A CIRCUIT BREAKER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                     | 26 units (circuit breaker of type B) / 44 units (circuit breaker of type C) at 230VAC                                                                          |         |                |         |         |
|              | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     | <0.5mA / 240VAC                                                                                                                                                |         |                |         |         |
|              | STANDBY POWER CONSUMPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Note.5                                                                              | <0.5W                                                                                                                                                          |         |                |         |         |
| PROTECTION   | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     | Constant current limiting, recovers automatically after fault condition is removed                                                                             |         |                |         |         |
|              | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     | Shut down o/p voltage, recovers automatically after temperature goes down                                                                                      |         |                |         |         |
| FUNCTION     | DIMMING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                     | Please refer to "DIMMING OPERATION" section                                                                                                                    |         |                |         |         |
|              | SYNCHRONIZATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     | Please refer to "SYNCHRONIZATION OPERATION" section                                                                                                            |         |                |         |         |
| ENVIRONMENT  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                     | Tcase=-30 ~ +85℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)                                                                                        |         |                |         |         |
|              | MAX. CASE TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     | Tcase=+85℃                                                                                                                                                     |         |                |         |         |
|              | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     | 20 ~ 90% RH non-condensing                                                                                                                                     |         |                |         |         |
|              | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                     | -40 ~ +80℃, 10 ~ 95% RH                                                                                                                                        |         |                |         |         |
|              | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     | ±0.03%/℃ (0 ~ 50℃)                                                                                                                                             |         |                |         |         |
|              | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes                                                                                        |         |                |         |         |
| SAFETY & EMC | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     | UL8750, CSA C22.2 No.250.13-12, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent, GB19510.14,GB19510.1, BIS IS15885, EAC TP TC 004 approved |         |                |         |         |
|              | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     | I/P-O/P:3.75KVAC                                                                                                                                               |         |                |         |         |
|              | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                     | I/P-O/P:>100M Ohms / 500VDC / 25℃ / 70% RH                                                                                                                     |         |                |         |         |
|              | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     | Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≥ 50%) ; BS EN/EN61000-3-3; GB/T 17743, GB17625.1, EAC TP TC 020                                   |         |                |         |         |
|              | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, light industry level(surge immunity Line-Line 2KV), EAC TP TC 020                                 |         |                |         |         |
| OTHERS       | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                     | 3298.3K hrs min.      Telcordia SR-332 (Bellcore) ; 298.7K hrs min.      MIL-HDBK-217F (25℃)                                                                   |         |                |         |         |
|              | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     | 105*68*23mm (L*W*H)                                                                                                                                            |         |                |         |         |
|              | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                     | 0.16Kg ; 72pcs/12.5Kg/1.04CUFT                                                                                                                                 |         |                |         |         |
| NOTE         | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.<br>2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.<br>3. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.<br>4. Efficiency is measured at 500mA/50V output set by DIP switch.<br>5. Standby power consumption is measured at 230VAC.<br>6. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.<br>(as available on <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )<br>7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).<br>8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.<br>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |                                                                                     |                                                                                                                                                                |         |                |         |         |

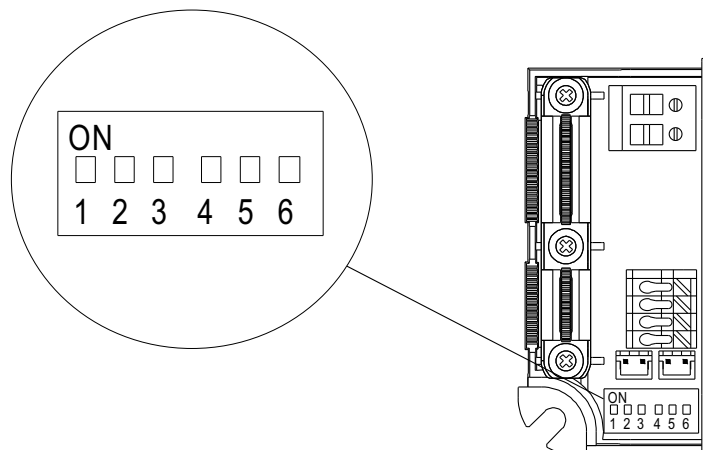
## ■ BLOCK DIAGRAM



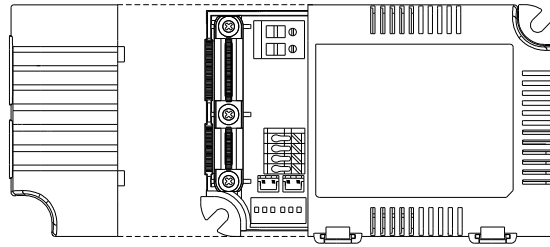
## ■ DIP SWITCH TABLE

LCM-25 is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

| I <sub>o</sub> \ DIP S.W. | 1    | 2    | 3    | 4    | 5    | 6    |
|---------------------------|------|------|------|------|------|------|
| 350mA                     | ---- | ---- | ---- | ---- | ---- | ---- |
| 500mA                     | ON   | ---- | ---- | ---- | ---- | ---- |
| 600mA                     | ON   | ON   | ---- | ---- | ---- | ---- |
| 700mA(factory default)    | ON   | ON   | ON   | ---- | ---- | ON   |
| 900mA                     | ON   | ON   | ON   | ON   | ---- | ON   |
| 1050mA                    | ON   | ON   | ON   | ON   | ON   | ON   |



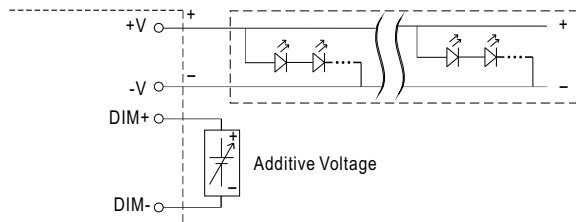
## DIMMING OPERATION



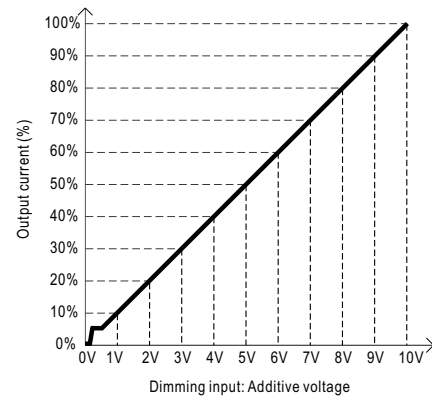
### ※ 3 in 1 dimming function

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

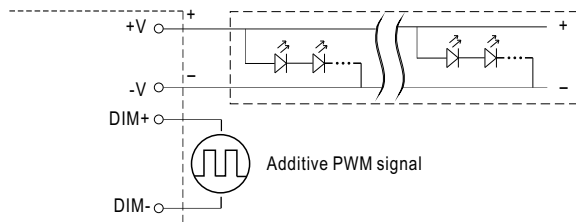
#### ◎ Applying additive 0 ~ 10VDC



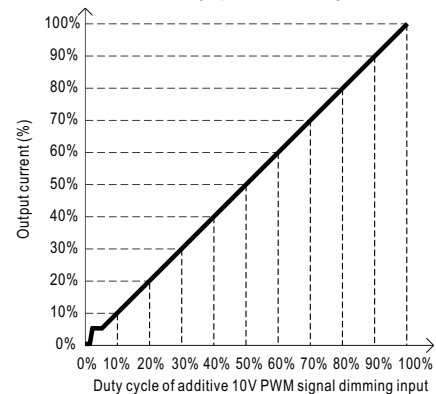
"DO NOT connect "DIM- to -V"



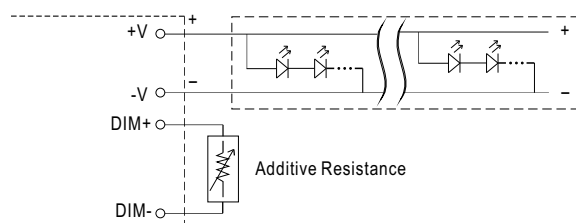
#### ◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



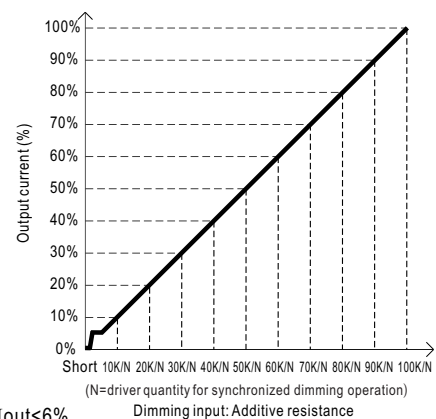
"DO NOT connect "DIM- to -V"



#### ◎ Applying additive resistance:



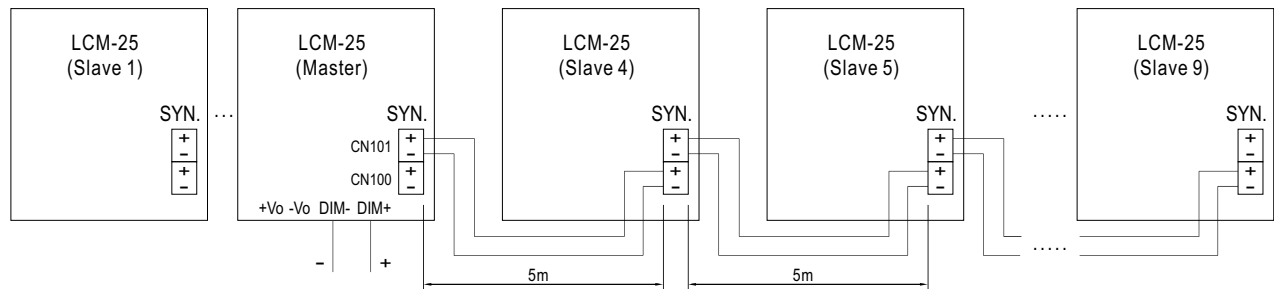
"DO NOT connect "DIM- to -V"



- Note : 1. Min. dimming level is about 6% and the output current is not defined when 0% < I<sub>out</sub> < 6%.
2. The output current could drop down to 0% when dimming input is about 0k $\Omega$  or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate "temperature compensation" when performing dimming operation.

## ■ SYNCHRONIZATION OPERATION

- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm<sup>2</sup>)

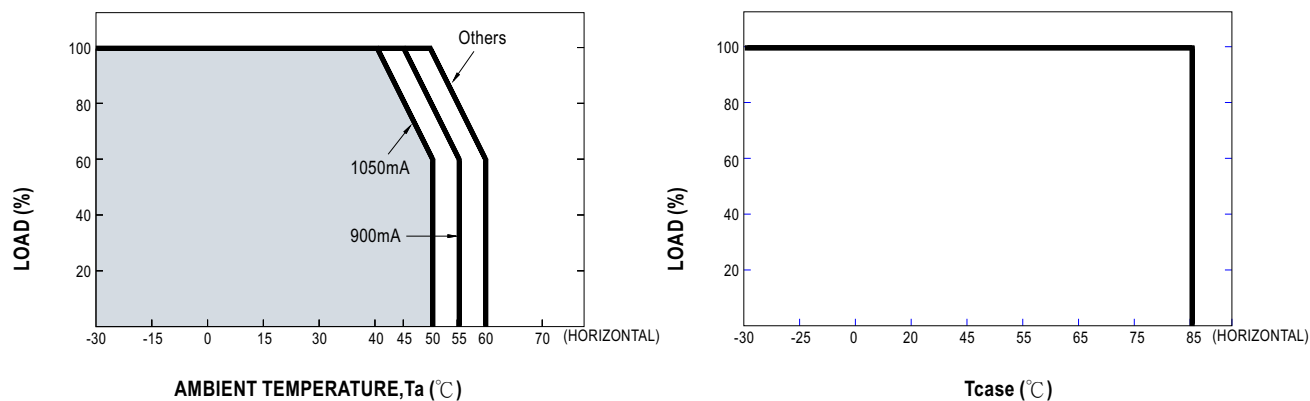


- CN100, CN101 : used to synchronously control the LCM units in parallel.

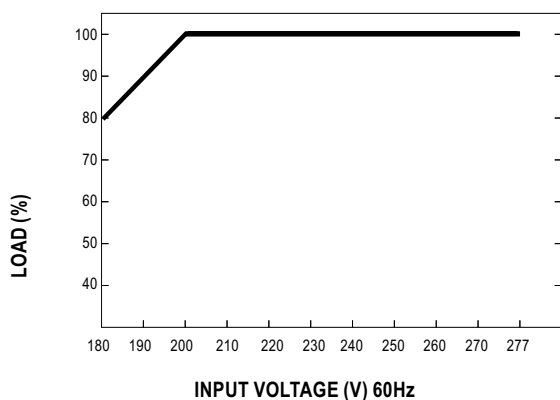
NOTE: 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.

2. Min. Dimming operating range depends on dimmer setting.

## ■ OUTPUT LOAD vs TEMPERATURE



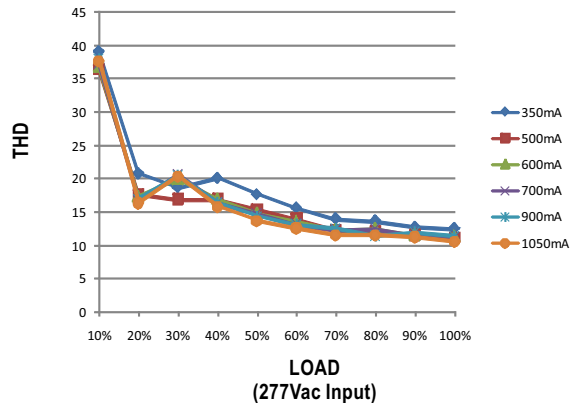
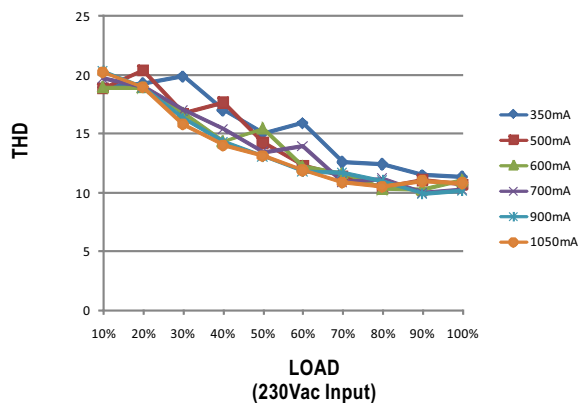
## ■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

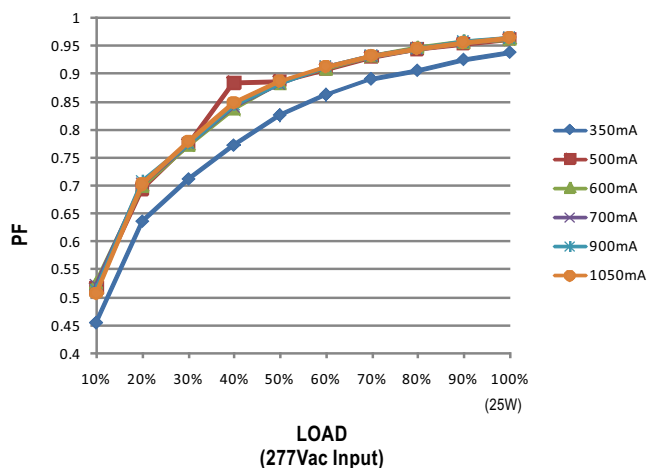
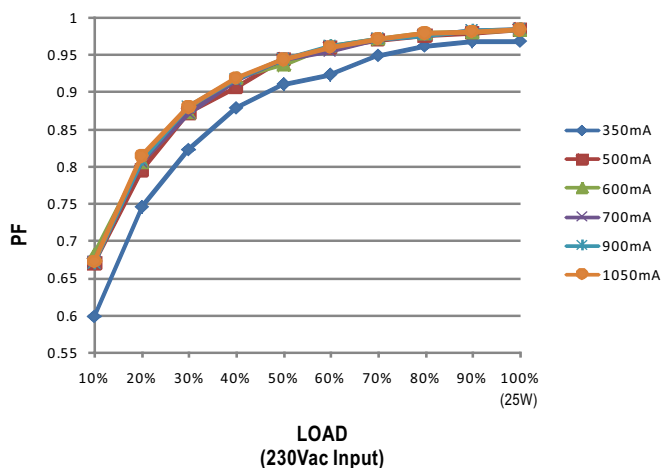
## TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 75℃



## POWER FACTOR (PF) CHARACTERISTIC

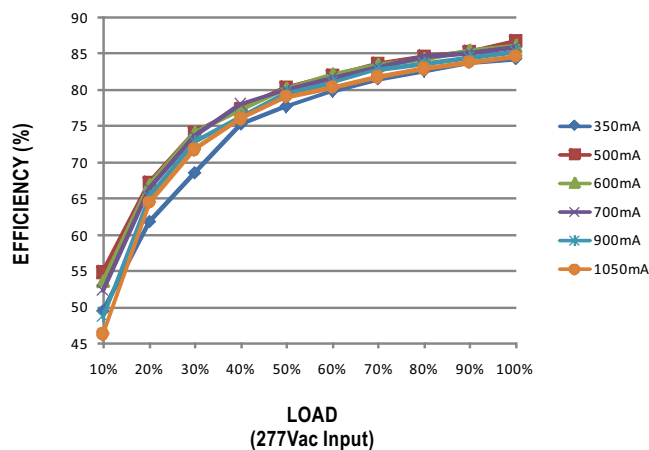
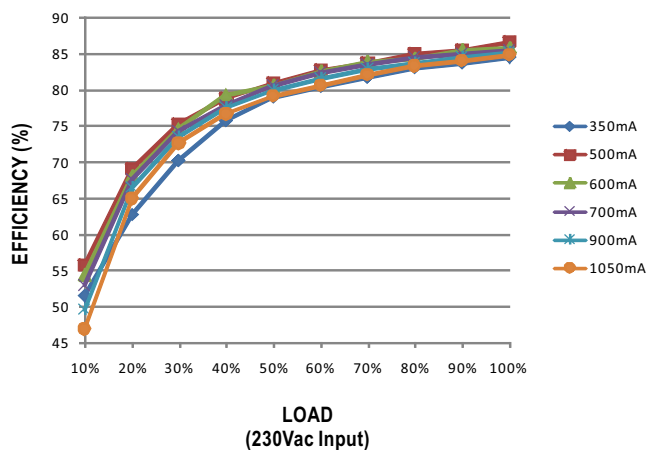
※ Tcase at 75℃



## EFFICIENCY vs LOAD

LCM-25 series possess superior working efficiency that up to 86% can be reached in field applications.

※ Tcase at 75℃

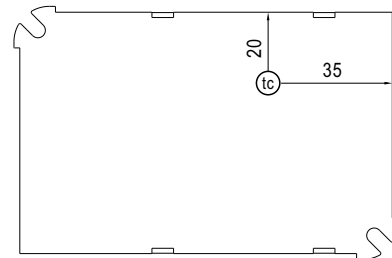
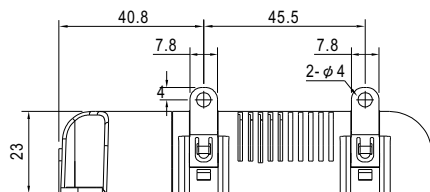
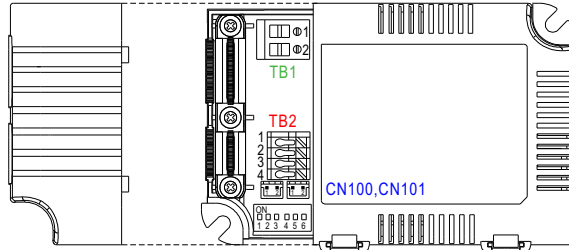
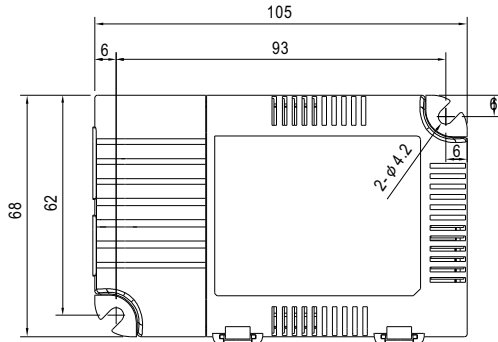


## MECHANICAL SPECIFICATION

Case No. LCM-25

Unit: mm

Tolerance: ±1



Bottom View

• (tc) : Max. Case Temperature

### ※ Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment |
|---------|------------|
| 1       | AC/L       |
| 2       | AC/N       |

### ※ Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1       | +V         | 3       | DIM-       |
| 2       | -V         | 4       | DIM+       |

### ※ SYN. Connector(CN100/CN101): JST B2B-PH-KL or equivalent

| Pin No. | Assignment | Mating Housing             | Terminal                            |
|---------|------------|----------------------------|-------------------------------------|
| 1       | -          | JST PHR-2<br>or equivalent | JST SPH-002T-P0.5S<br>or equivalent |
| 2       | +          |                            |                                     |

Note: Please use wires with a cross section of 0.5~2.5mm<sup>2</sup> (14~20AWG) for TB1 and wires with a cross section of 0.5~1.5 mm<sup>2</sup> (16~20AWG) for TB2. Please use wires with a cross section of 0.126~0.205mm<sup>2</sup> (24~26AWG) for CN100/CN101

## INSTALLATION MANUAL

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



 [www.simpex.ch](http://www.simpex.ch)

Besuchen Sie unseren Simpex E-Shop  
mit über 12'000 Produkten.

Er bietet Ihnen eine breite Funktionsvielfalt, sowie intelligente  
Suchfunktionen. Ob Sie den Shop als Einkaufsplattform oder als  
Produktfinder nutzen – im Simpex E-Shop haben Sie alle Infor-  
mationen schnell und tagesaktuell zur Hand.

24h und das 365 Tage im Jahr.



## Hauptsitz

### **Simpex Electronic AG**

Binzackerstrasse 33

CH-8620 Wetzikon

Telefon +41 44 931 10 10

E-Mail [contact@simpex.ch](mailto:contact@simpex.ch)

Internet [www.simpex.ch](http://www.simpex.ch)

## Manufaktur

### **Simpex Electronic SA**

En Bas-le-Port 1

CH-2088 Cressier

E-Mail [contact@simpex.ch](mailto:contact@simpex.ch)

Internet [www.simpex.ch](http://www.simpex.ch)