



### ■ Features

- Constant Current mode output with multiple levels selectable by dip switch
- KNX/EIB protocol
- Flicker free design
- Support emergency lighting(EL)
- Integrated constant light output
- Integrated KNX push button interface
- Synchronization up to 10units
- Functions: Manual dim, operation hours, power consumption feedback, log/linear curve selection...etc
- 3 years warranty

### ■ Applications

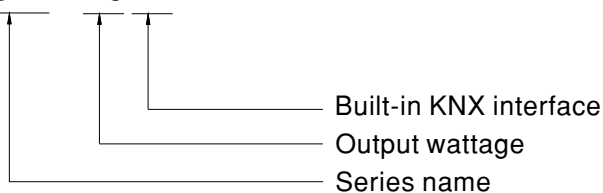
- LED indoor lighting
- LED office lighting
- LED architectural lighting
- LED panel lighting

### ■ Description

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

### ■ Model Encoding

**LCM - 25KN**

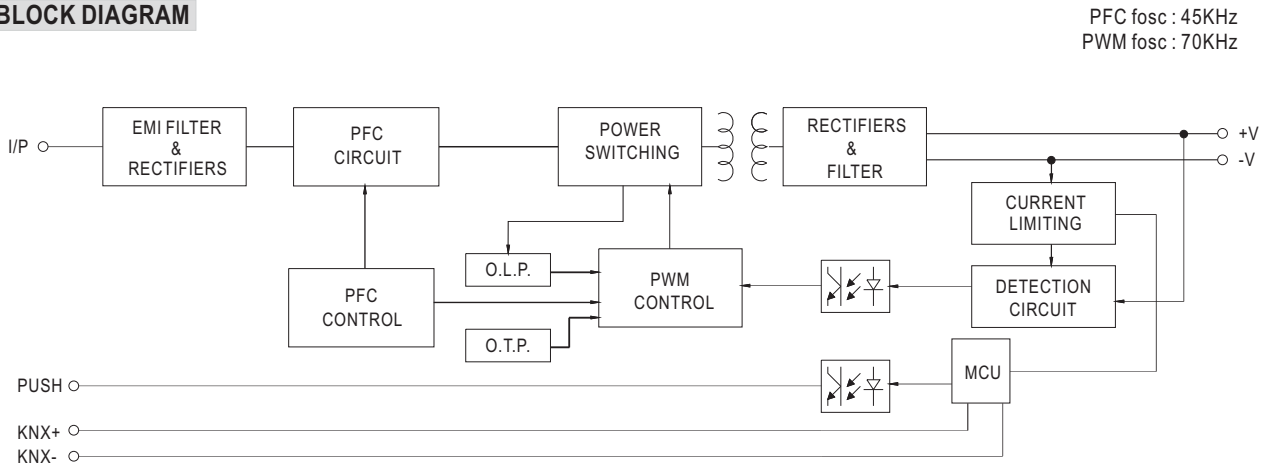




**SPECIFICATION**

|   |   |   |         |              |                |         |         |
|---|---|---|---------|--------------|----------------|---------|---------|
| <b>MODEL</b>                            |   | <b>LCM-25KN</b>   |         |              |                |         |         |
| <b>OUTPUT</b>                           | <b>CURRENT LEVEL</b>  | Current level selectable via DIP switch, please refer to "DIP SWITCH TABLE" section                                       |         |              |                |         |         |
|   |   | 350mA   | 500mA   | 600mA        | 700mA(default) | 900mA   | 1050mA  |
|   | <b>RATED POWER</b>  | 18.9W   | 25.2W   |              |                |         |         |
|   | <b>DC VOLTAGE RANGE</b>   | 6 ~ 54V   | 6 ~ 50V | 6 ~ 42V      | 6 ~ 36V        | 6 ~ 28V | 6 ~ 24V |
|   | <b>OPEN CIRCUIT VOLTAGE (max.)</b>  | 59V   |         |              | 41V            |         |         |
|   | <b>CURRENT RIPPLE</b>   | 5.0% max. @rated current  |         |              |                |         |         |
|   | <b>CURRENT TOLERANCE</b>  | ±5%   |         |              |                |         |         |
|   | <b>SETUP TIME</b> Note.3  | 500ms / 230VAC  |         |              |                |         |         |
| <b>INPUT</b>                            | <b>VOLTAGE RANGE</b> Note.2   | 180 ~ 277VAC 220 ~ 392VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)  |         |              |                |         |         |
|   | <b>FREQUENCY RANGE</b>  | 47 ~ 63Hz   |         |              |                |         |         |
|   | <b>POWER FACTOR (Typ.)</b>  | PF ≥ 0.94/230VAC, PF ≥ 0.91/277VAC@full load<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)              |         |              |                |         |         |
|   | <b>TOTAL HARMONIC DISTORTION</b>  | THD < 20% (@load ≥ 50%/230VAC; @load ≥ 75%/277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)          |         |              |                |         |         |
|   | <b>EFFICIENCY (Typ.)</b> Note.4   | 85%   |         |              |                |         |         |
|   | <b>AC CURRENT (Typ.)</b>  | 0.17A/230VAC  |         | 0.15A/277VAC |                |         |         |
|   | <b>INRUSH CURRENT (Typ.)</b>  | COLD START 20A(t <sub>width</sub> =260μs measured at 50% I <sub>peak</sub> ) at 230VAC; Per NEMA 410                      |         |              |                |         |         |
|   | <b>MAX. No. of PSUs on 16A CIRCUIT BREAKER</b>  | 26 units (circuit breaker of type B) / 44 units (circuit breaker of type C) at 230VAC                                     |         |              |                |         |         |
| <b>LEAKAGE CURRENT</b>                  | <0.5mA / 240VAC   |   |         |              |                |         |         |
| <b>STANDBY POWER CONSUMPTION</b> Note.5 | <0.5W   |   |         |              |                |         |         |
| <b>PROTECTION</b>                       | <b>SHORT CIRCUIT</b>  | Constant current limiting, recovers automatically after fault condition is removed  |         |              |                |         |         |
|   | <b>OVER TEMPERATURE</b>   | Shut down o/p voltage, recovers automatically after temperature goes down   |         |              |                |         |         |
| <b>FUNCTION</b>                         | <b>DIMMING</b>  | Please refer to "DIMMING OPERATION" section   |         |              |                |         |         |
|   | <b>SYNCHRONIZATION</b>  | Please refer to "SYNCHRONIZATION OPERATION" section   |         |              |                |         |         |
| <b>ENVIRONMENT</b>                      | <b>WORKING TEMP.</b>  | T <sub>case</sub> = -30 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)                                    |         |              |                |         |         |
|   | <b>MAX. CASE TEMP.</b>  | T <sub>case</sub> = +85°C   |         |              |                |         |         |
|   | <b>WORKING HUMIDITY</b>   | 20 ~ 90% RH non-condensing  |         |              |                |         |         |
|   | <b>STORAGE TEMP., HUMIDITY</b>  | -40 ~ +80°C, 10 ~ 95% RH  |         |              |                |         |         |
|   | <b>TEMP. COEFFICIENT</b>  | ±0.03%/°C (0 ~ 50°C)  |         |              |                |         |         |
|   | <b>VIBRATION</b>  | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes   |         |              |                |         |         |
| <b>SAFETY &amp; EMC</b>                 | <b>SAFETY STANDARDS</b>   | CSA C22.2 No.250.13-12, ENEC EN61347-1, EN61347-2-13, EN62384 independent, GB19510.14, GB19510.1, EAC TP TC 004 approved  |         |              |                |         |         |
|   | <b>KNX STANDARDS</b>  | certification   |         |              |                |         |         |
|   | <b>WITHSTAND VOLTAGE</b>  | I/P-O/P: 3.75KVAC ; O/P-KN ±: 500VDC  |         |              |                |         |         |
|   | <b>ISOLATION RESISTANCE</b>   | I/P-O/P: >100M Ohms / 500VDC / 25°C / 70% RH  |         |              |                |         |         |
|   | <b>EMC EMISSION</b> Note.6  | Compliance to EN55015, EN61000-3-2 Class C (@load ≥ 50%) ; EN61000-3-3; GB17625.1, GB17743, EAC TP TC 020                 |         |              |                |         |         |
|   | <b>EMC IMMUNITY</b>   | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, light industry level (surge immunity Line-Line 2KV), EAC TP TC 020 |         |              |                |         |         |
| <b>OTHERS</b>                           | <b>MTBF</b>   | 213.3K hrs min. MIL-HDBK-217F (25°C)  |         |              |                |         |         |
|   | <b>DIMENSION</b>  | 105*68*23mm (L*W*H)   |         |              |                |         |         |
|   | <b>PACKING</b>  | 0.173Kg ; 72pcs/13.5Kg/1.04CUFT   |         |              |                |         |         |
| <b>NOTE</b>                             | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</li> <li>De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</li> <li>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.</li> <li>Efficiency is measured at 500mA/50V output set by DIP switch.</li> <li>Standby power consumption is measured at 230VAC.</li> <li>The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> |   |         |              |                |         |         |

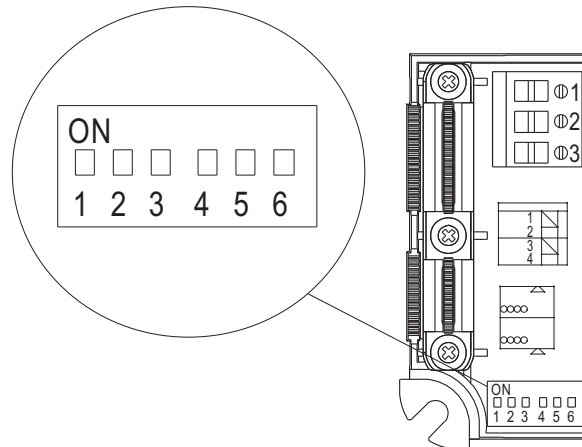
**■ BLOCK DIAGRAM**



**■ DIP SWITCH TABLE**

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

| Io                     | DIP S.W. | 1    | 2    | 3    | 4    | 5    | 6    | Max.LED voltage |
|------------------------|----------|------|------|------|------|------|------|-----------------|
| 350mA                  |          | ---- | ---- | ---- | ---- | ---- | ---- | 54V             |
| 500mA                  |          | ON   | ---- | ---- | ---- | ---- | ---- | 50V             |
| 600mA                  |          | ON   | ON   | ---- | ---- | ---- | ---- | 42V             |
| 700mA(factory default) |          | ON   | ON   | ON   | ---- | ---- | ON   | 36V             |
| 900mA                  |          | ON   | ON   | ON   | ON   | ---- | ON   | 28V             |
| 1050mA                 |          | ON   | ON   | ON   | ON   | ON   | ON   | 24V             |



More current options through DIP switch are listed below.

| Io    | DIP S.W. | 1    | 2    | 3    | 4    | 5    | 6    | Max.LED voltage |
|-------|----------|------|------|------|------|------|------|-----------------|
| 450mA |          | ---- | ON   | ---- | ---- | ---- | ---- | 54V             |
| 550mA |          | ---- | ---- | ---- | ON   | ---- | ---- | 46V             |
| 800mA |          | ON   | ON   | ---- | ON   | ---- | ---- | 31V             |

Note : The Max. LED voltage connected at the output should be always less than the table above.

**■ DIMMING OPERATION**

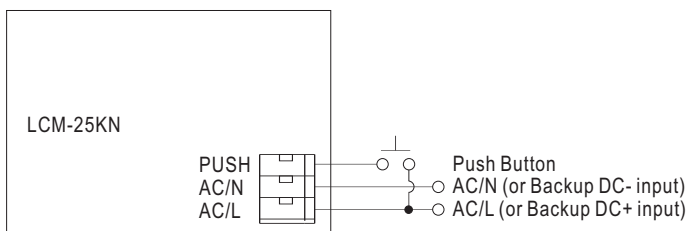
✧ **KNX interface**

- Apply KNX Bus cable between KNX+ and KNX-
- The application program(database) can be downloaded via Online Catalogs from ETS or via <http://www.meanwell.com/productCatalog.aspx>

| Parametrization options    | Description  |
|----------------------------|--|
| Switch functions           | <ul style="list-style-type: none"> <li>• Turn on brightness</li> <li>• Dimming speed for turn on/off</li> <li>• Switch telegram and status</li> <li>• Switch on/off delay</li> </ul>   |
| Dimming                    | <ul style="list-style-type: none"> <li>• Dimming speed for 0~100%</li> <li>• Allow switch on via relative dimming</li> <li>• Push dimming with AC inut port</li> <li>• Block object for push dimming</li> </ul>  |
| Brightness value           | <ul style="list-style-type: none"> <li>• Dimming speed for transition brightness values</li> <li>• Permit set switch on and off brightness via value</li> <li>• Brightness value and status</li> </ul>   |
| Fault message              | <ul style="list-style-type: none"> <li>• Lamp fault</li> <li>• AC/DC input monitor fault messages</li> </ul>   |
| Other functions            | <ul style="list-style-type: none"> <li>• Reaction on KNX voltage failure/recovery</li> <li>• Power-On level</li> <li>• Dimming curve select(linear/log)</li> <li>• Synchronous dimming output</li> <li>• Block function(Block1&amp;Block2)</li> <li>• Staircase lighting function(multi-stage switch-off)</li> </ul> |
| General function           | <ul style="list-style-type: none"> <li>• Cyclic monitoring telegram(In operation)</li> </ul>   |
| 8 Scenes                   | <ul style="list-style-type: none"> <li>• Recall and save via KNX with 8-bit telegram</li> </ul>  |
| Operating hours & CLO      | <ul style="list-style-type: none"> <li>• Operating hours counter</li> <li>• Constant light out(5 scheduled divisions)</li> </ul>   |
| Power consumption feedback | <ul style="list-style-type: none"> <li>• Power consumption report</li> </ul>   |

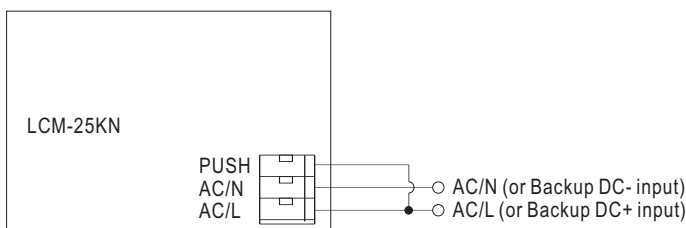
✧ **PUSH dimming or AC/DC input monitor(Primary side)**

◎ **PUSH dimming**



- The detail function of PUSH dimming, please refer to the database.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the push button to the last driver is 20 meters.
- The additive push button can be connected only between the PUSH terminal, as displayed in the diagram, and AC/L (in brown or black); it will lead to short circuit if it is connected to AC/N.
- In case the PUSH dimming is set locally, up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- In case the PUSH dimming is set independently via ETS, the number of drivers is done through group address and determined by the ETS project designer.

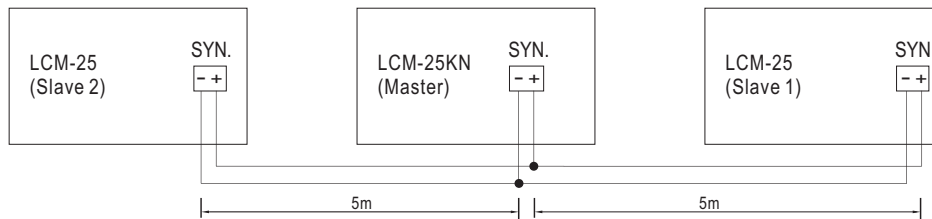
◎ **AC/DC input monitor**



- KNX Bus need to connected when using AC/DC input monitor
- The detail function of AC/DC input monitor, please refer to the database.

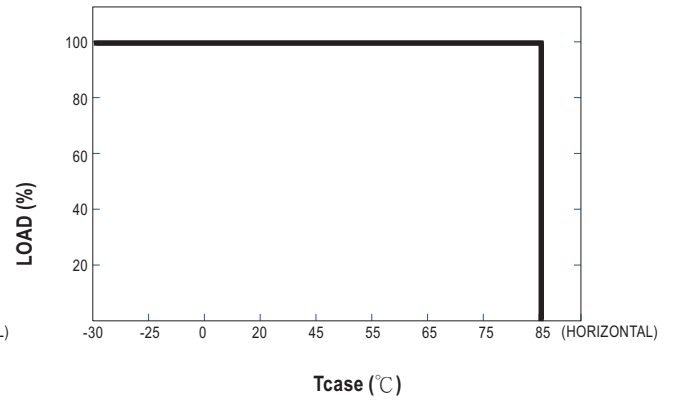
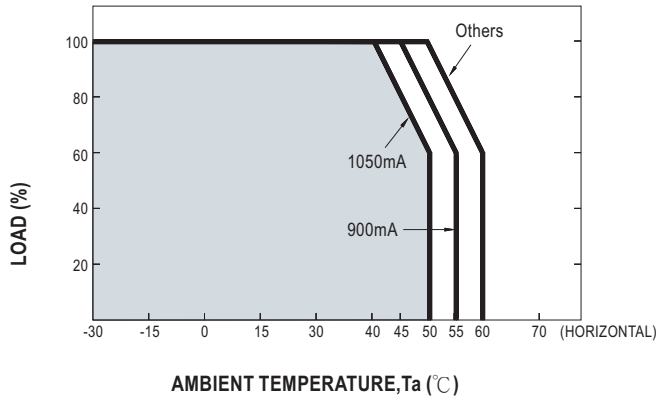
■ **SYNCHRONIZATION OPERATION**

- 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>)

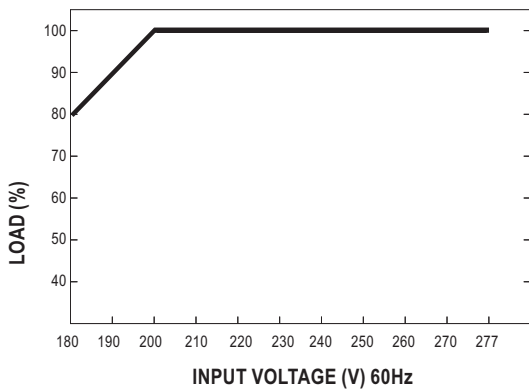


- NOTE: 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.  
 2. Min. Dimming operating range depends on database setting.

■ **OUTPUT LOAD vs TEMPERATURE**



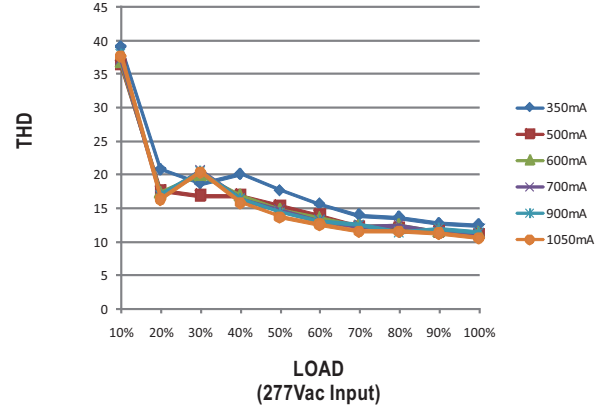
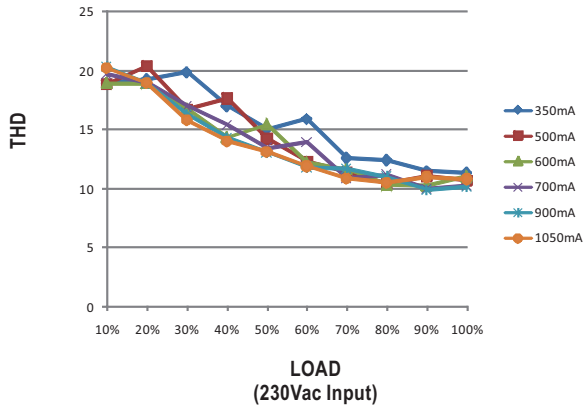
■ **STATIC CHARACTERISTIC**



※ De-rating is needed under low input voltage.

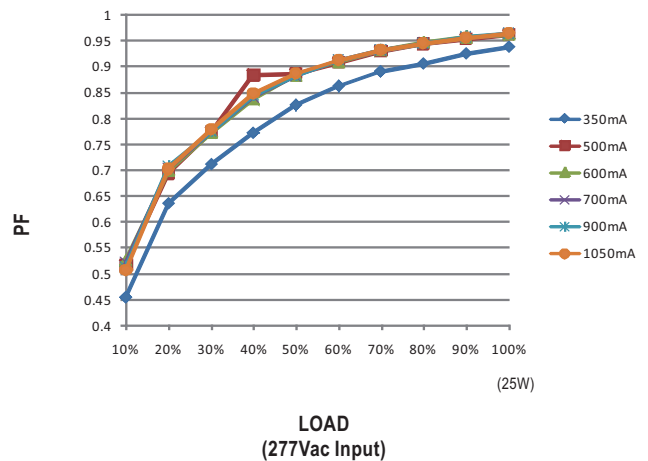
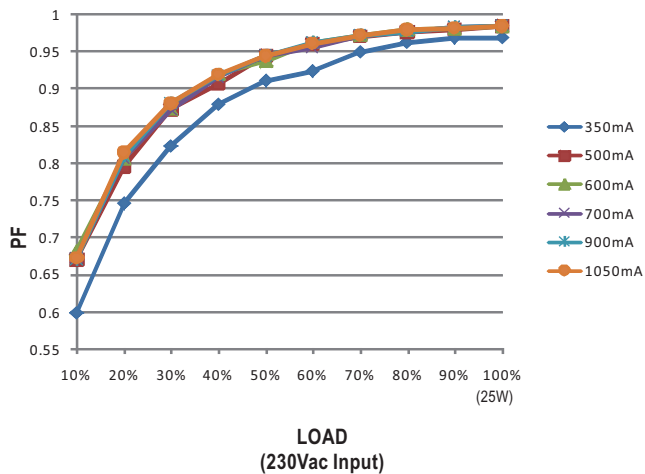
**TOTAL HARMONIC DISTORTION (THD)**

※ Tcase at 75°C



**POWER FACTOR (PF) CHARACTERISTIC**

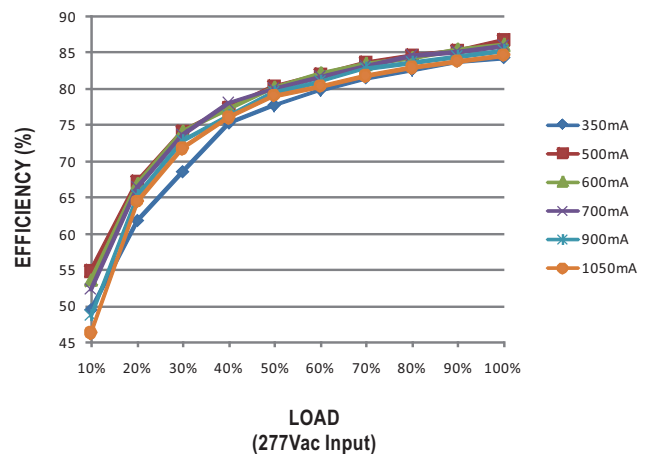
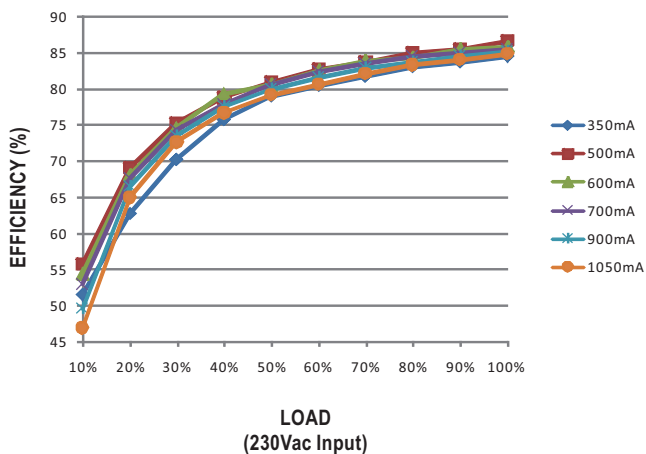
※ Tcase at 75°C



**EFFICIENCY vs LOAD**

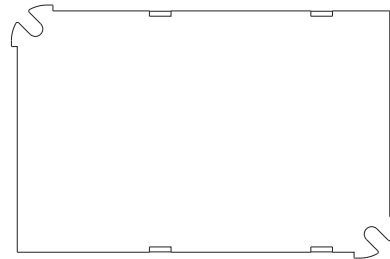
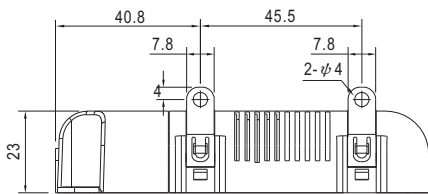
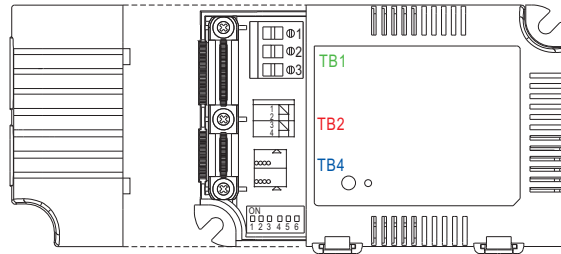
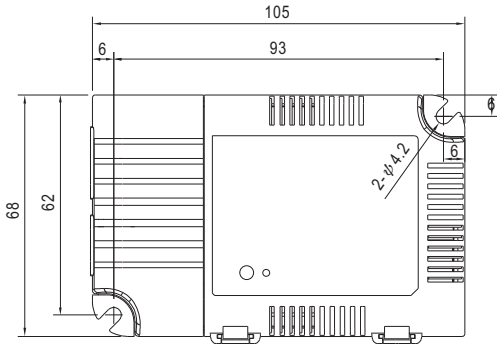
LCM-25KN series possess superior working efficiency that up to 86% can be reached in field applications.

※ Tcase at 75°C



**MECHANICAL SPECIFICATION**

Case No.LCM-25 Unit:mm



Bottom View

※ Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment |
|---------|------------|
| 1       | AC/L       |
| 2       | AC/N       |
| 3       | PUSH       |

※ Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1       | +Vo        | 3       | -SYN.      |
| 2       | -Vo        | 4       | +SYN.      |

※ Terminal Pin No. Assignment(TB4)

| Pin No. | Assignment |
|---------|------------|
| 1       | KNX-       |
| 2       | KNX+       |

**INSTALLATION MANUAL**

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