110 M M □ SELV PFC KNX 18 EHC CB CE CCC

■ 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
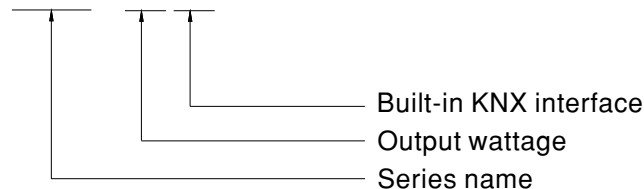· 3 years warranty

■ 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℃～+85℃
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

Built-in KNX interface
Output wattage
Series name

SPECIFICATION

| MODEL		LCM-25KN					
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 220 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.94/230VAC, PF≧0.91/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧50%/230VAC; @load≧75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	85%					
	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**	CSA C22.2 No.250.13-12, ENEC EN61347-1, EN61347-2-13, EN62384 independent, GB19510.14,GB19510.1, EAC TP TC 004 approved					
	KNX STANDARDS	certification					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC ; I/P-DA±:1.875KVAC ; O/P-DA±:1.875KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃ / 70% RH					
	EMC EMISSION Note.6	Compliance to EN55015, EN61000-3-2 Class C(@load≧50%) ; EN61000-3-3; GB17625.1,GB17743, EAC TP TC 020					
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level(surge immunity Line-Line 2KV), EAC TP TC 020					
OTHERS	**MTBF**	213.3K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	105*68*23mm (L*W*H)					
	PACKING	0.173Kg ; 72pcs/13.5Kg/1.04CUFT					
NOTE		1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature. 2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 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. 4. Efficiency is measured at 500mA/50V output set by DIP switch. 5. Standby power consumption is measured at 230VAC. 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. 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).					

■ BLOCK DIAGRAM

PFC fosc : 45KHz
PWM fosc : 70KHz
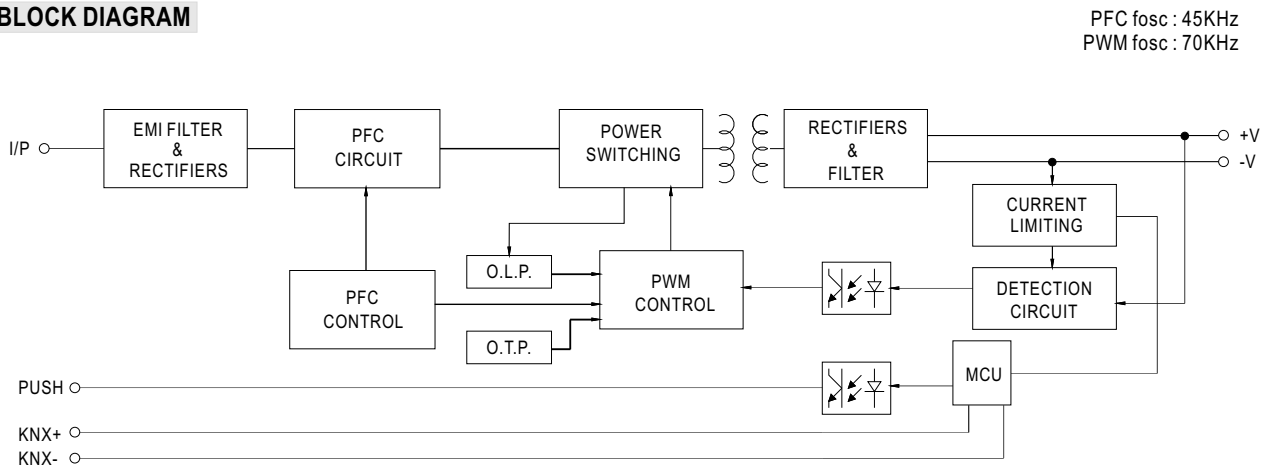
■ DIP SWITCH TABLE

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
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
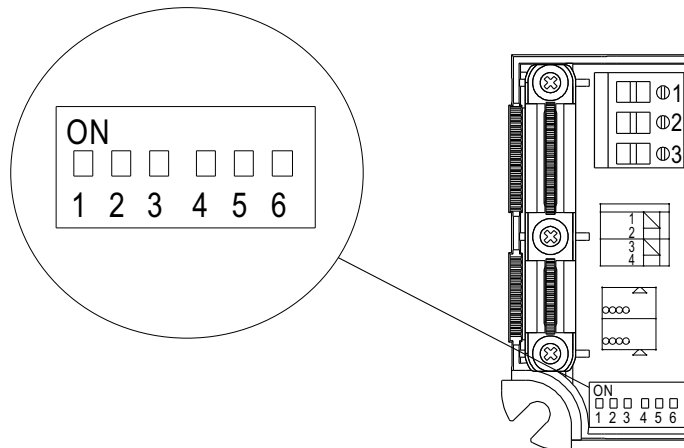
■ DIMMING OPERATION

※ 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	・ Turn on brightness ・ Dimming speed for turn on/off ・ Switch telegram and status ・ Switch on/off delay
Dimming	・ Dimming speed for 0~100% ・ Allow switch on via relative dimming ・ Push dimming with AC inut port ・ Block object for push dimming
Brightness value	・ Dimming speed for transition brightness values ・ Permit set switch on and off brightness via value ・ Brightness value and status
Fault message	・ Lamp fault ・ AC/DC input monitor fault messages
Other functions	・ Reaction on KNX voltage failure/recovery ・ Power-On level ・ Dimming curve select(linear/log) ・ Synchronous dimming output ・ Block function(Block1&Block2) ・ Staircase lighting function(multi-stage switch-off)
General function	・ Cyclic monitoring telegram(In operation)
8 Scenes	・ Recall and save via KNX with 8-bit telegram
Operating hours & CLO	・ Operating hours counter ・ Constant light out(5 scheduled divisions)
Power consumption feedback	・ Power consumption report

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

◎ PUSH dimming
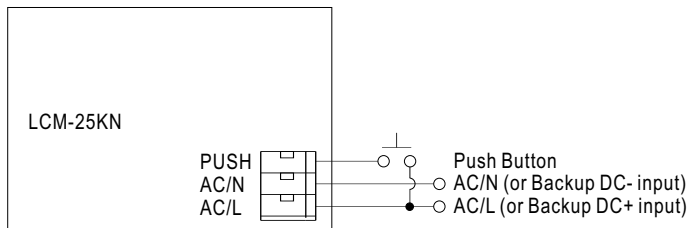
・ The detail function of PUSH dimming, please refer to the database.

・ 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.
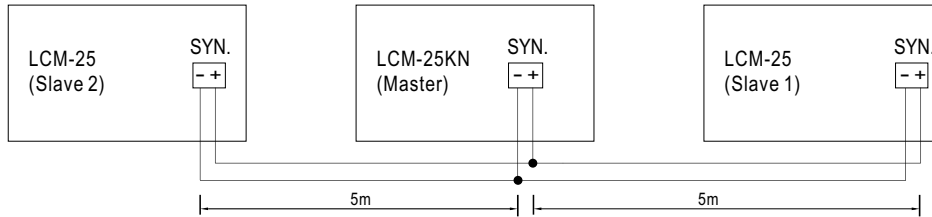
◎ AC/DC input monitor
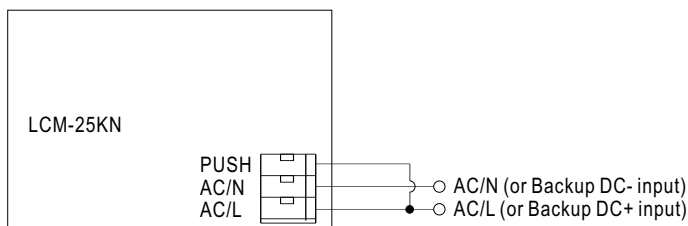
・ KNX Bus need to connected when using AC/DC input monitor

・ 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
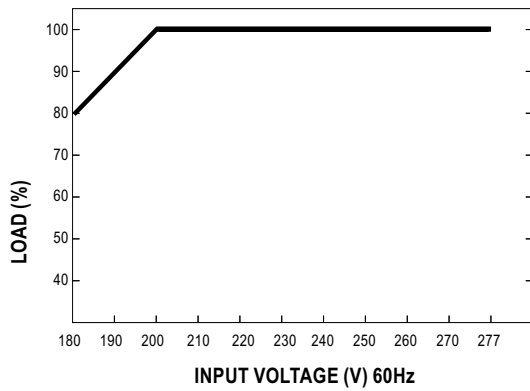・Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)

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.
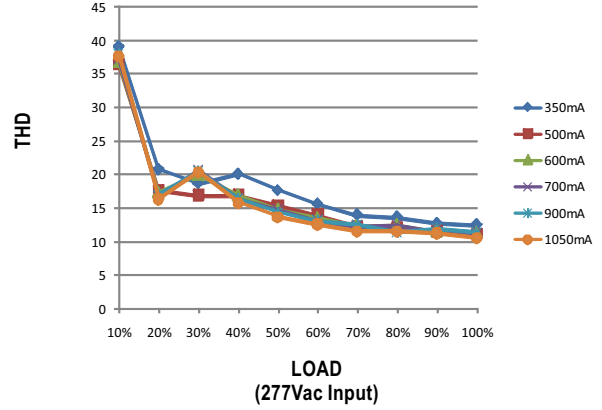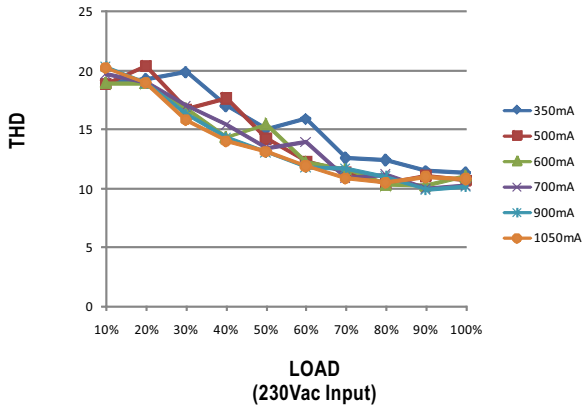
■ **OUTPUT LOAD vs TEMPERATURE**

AMBIENT TEMPERATURE,Ta (℃)

Tcase (℃)

■ **STATIC CHARACTERISTIC**
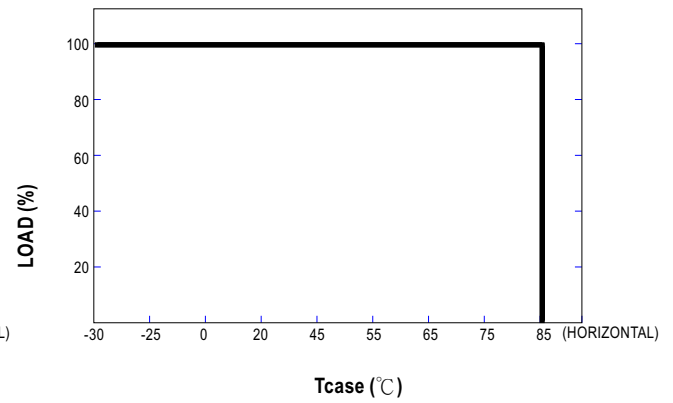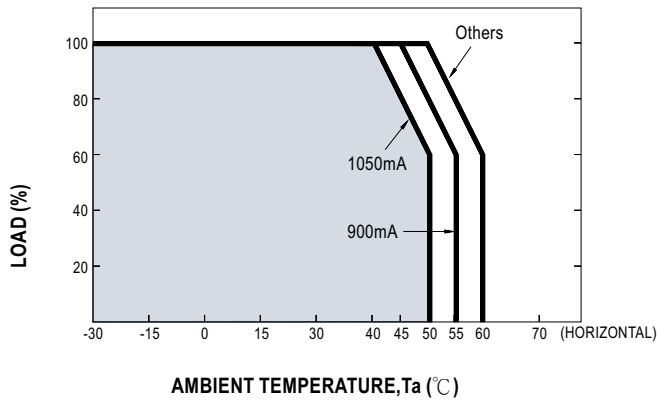
INPUT VOLTAGE (V) 60Hz

※ De-rating is needed under low input voltage.

■ **TOTAL HARMONIC DISTORTION (THD)**

※ Tcase at 75℃

LOAD
(230Vac Input)

LOAD
(277Vac Input)

■ **POWER FACTOR (PF) CHARACTERISTIC**

※ Tcase at 75℃

LOAD
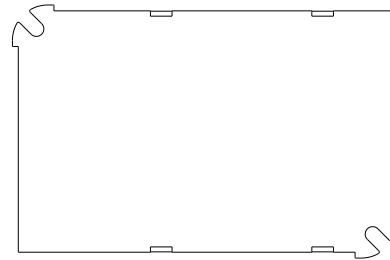(230Vac Input)
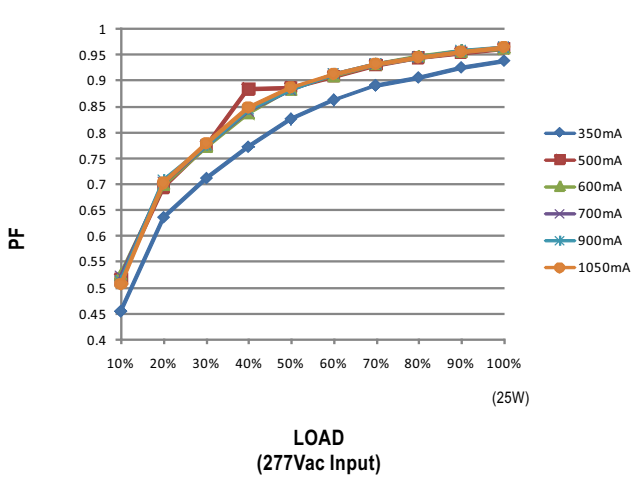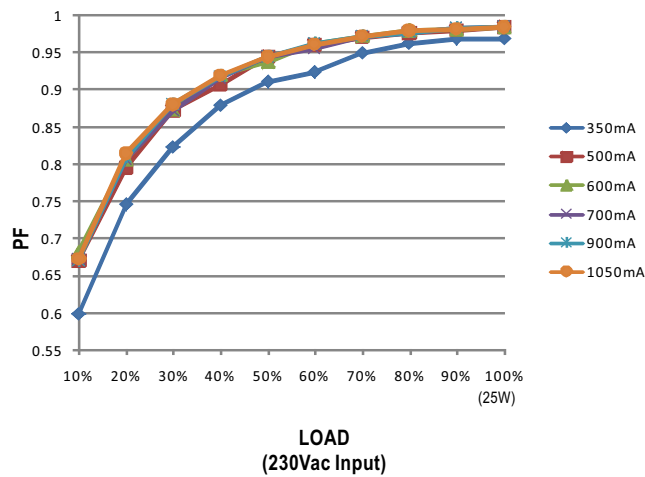
LOAD
(277Vac Input)

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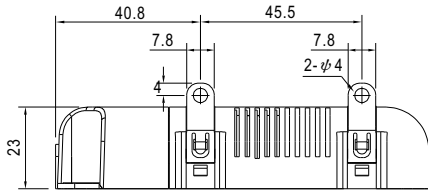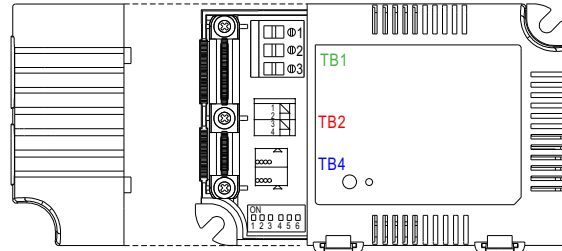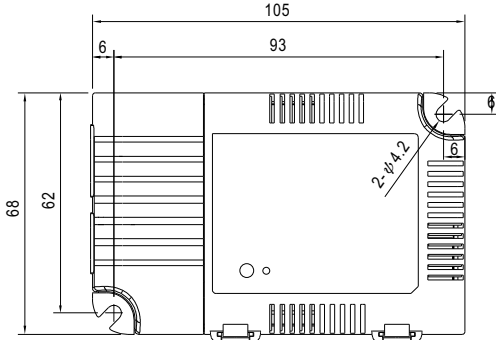
LCM-25KN series possess superior working efficiency that up to 86% can be reached in field applications.

※ Tcase at 75℃

LOAD
(230Vac Input)

LOAD
(277Vac Input)
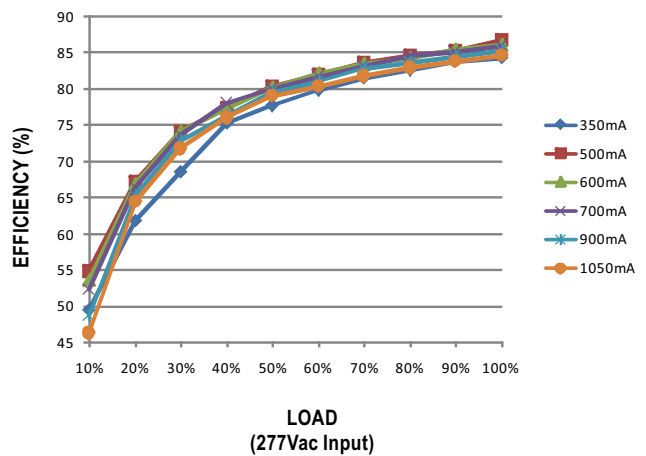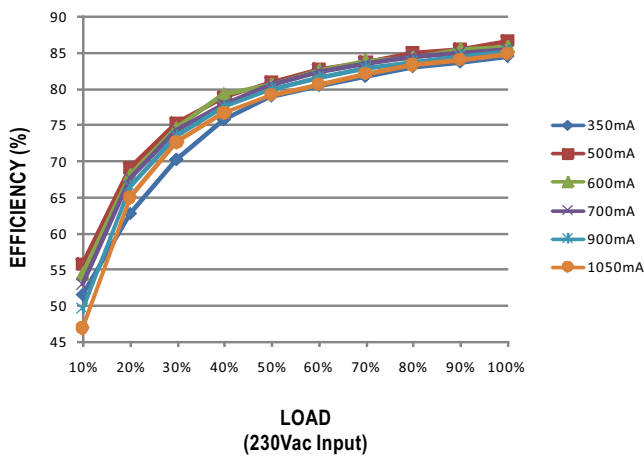
■ **MECHANICAL SPECIFICATION**

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