25W Multiple-Stage Constant Current Mode LED Driver LCM-25 series

User's Manual

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℃~+85℃ 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

- 25 → Output wattage
- LCM → Series name

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 (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	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					

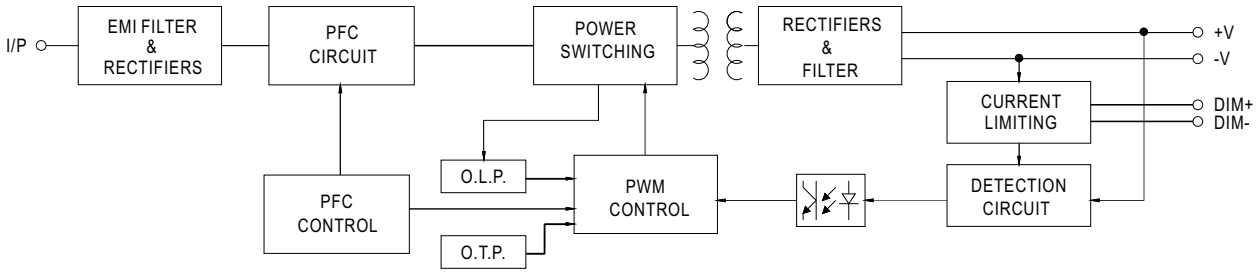
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
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).
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.

※ Product Liability Disclaimer：For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

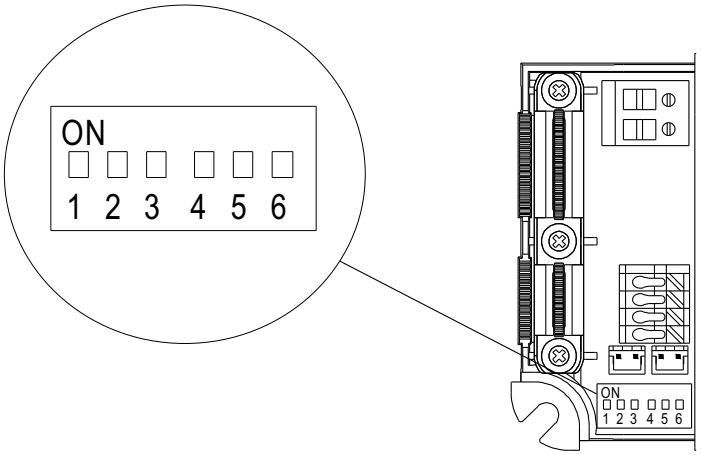
PFC fosc : 45KHz
PWM fosc : 70KHz



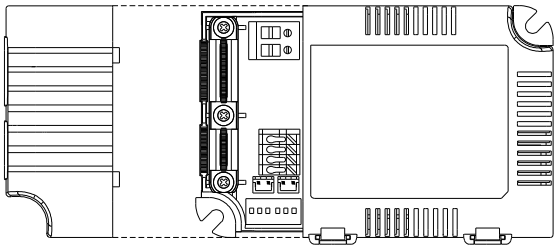
■ DIP SWITCH TABLE

LCM-25 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



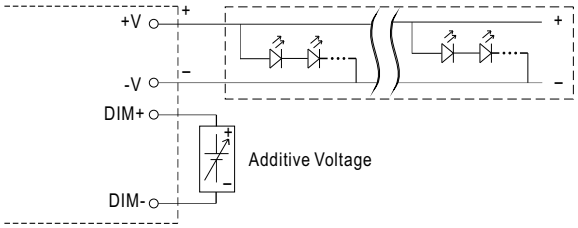
■ DIMMING OPERATION



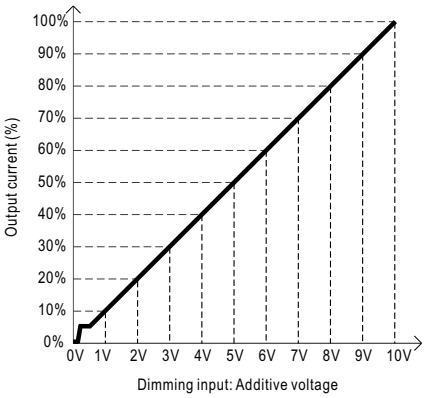
※ 3 in 1 dimming function

- 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: 100μA (typ.)

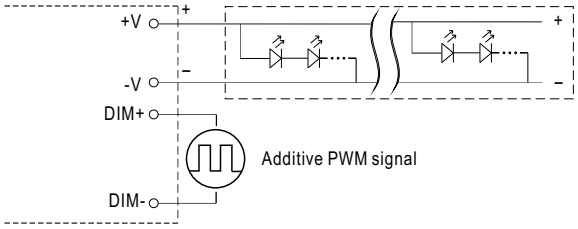
◎ Applying additive 0 ~ 10VDC



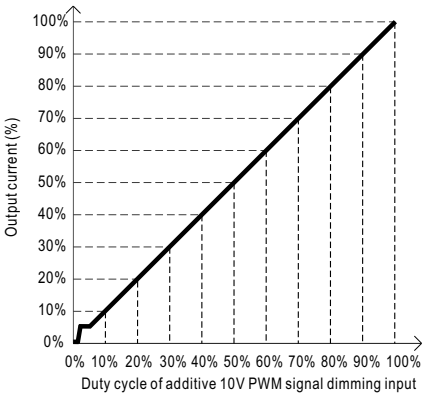
"DO NOT connect "DIM- to -V"



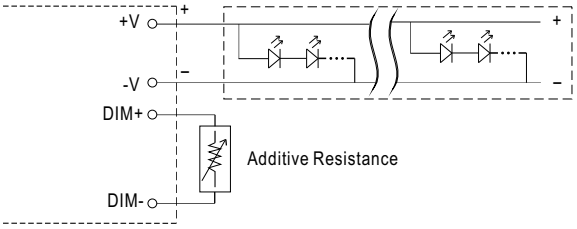
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



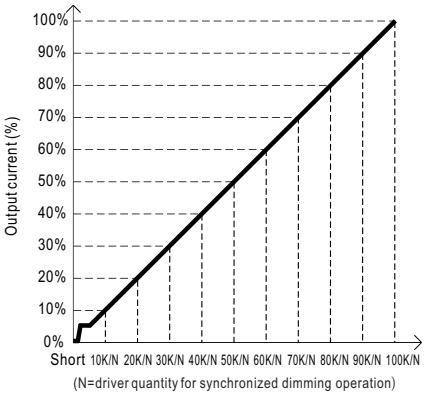
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



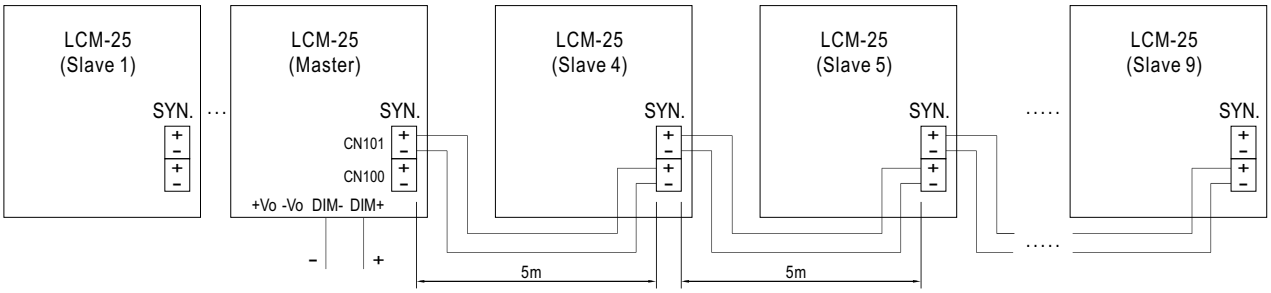
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate"temperature compensation" when performing dimming operation.

■ SYNCHRONIZATION OPERATION

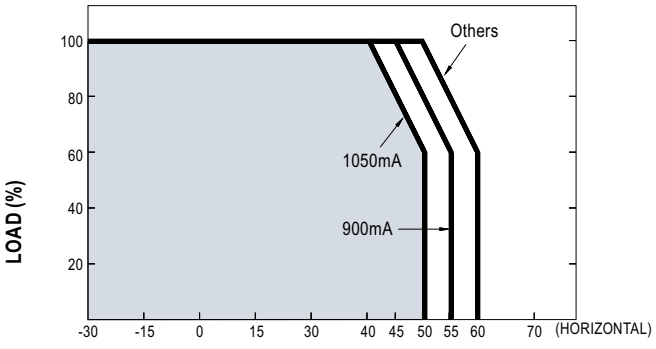
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



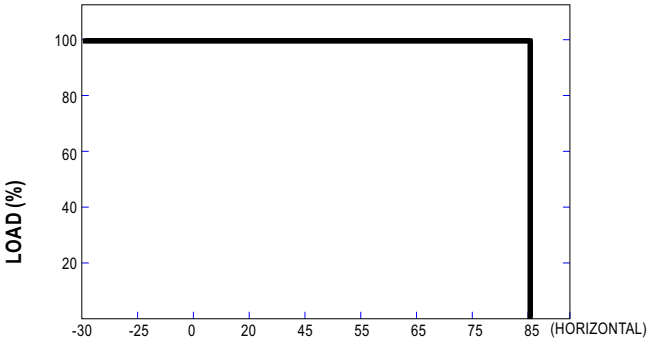
- CN100, CN101 : used to synchronously control the LCM units in parallel.

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

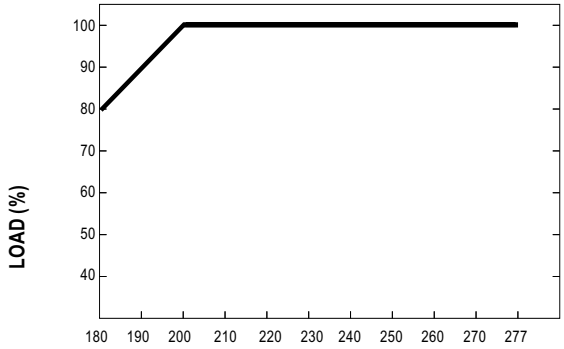


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

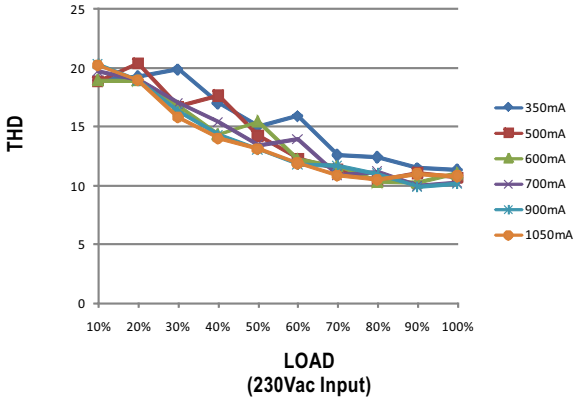


INPUT VOLTAGE (V) 60Hz

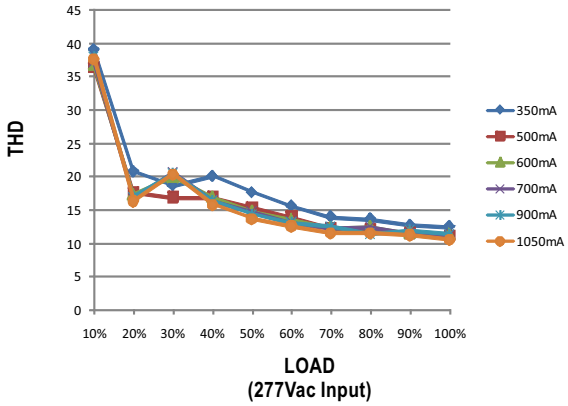
※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 75℃



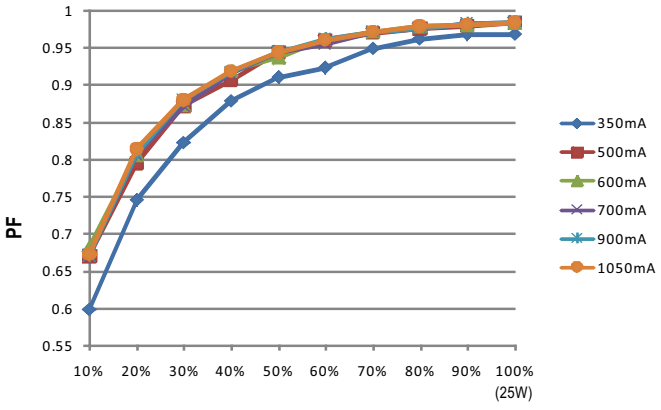
LOAD
(230Vac Input)



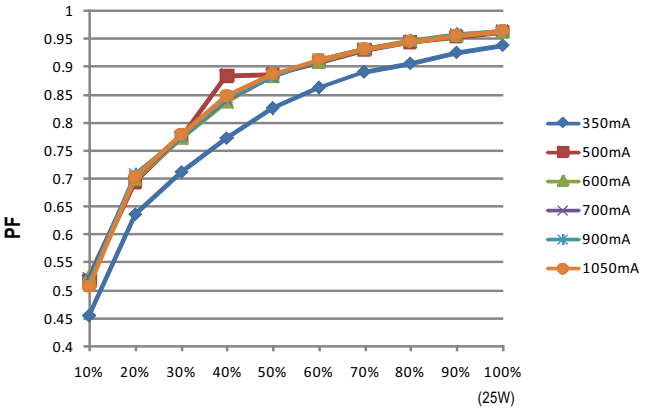
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75℃



LOAD
(230Vac Input)

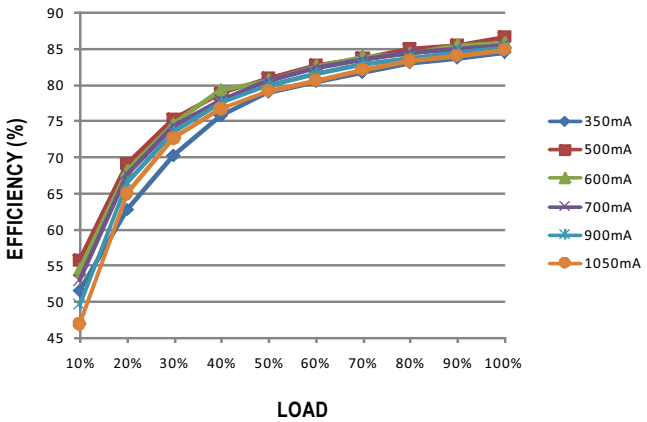


LOAD
(277Vac Input)

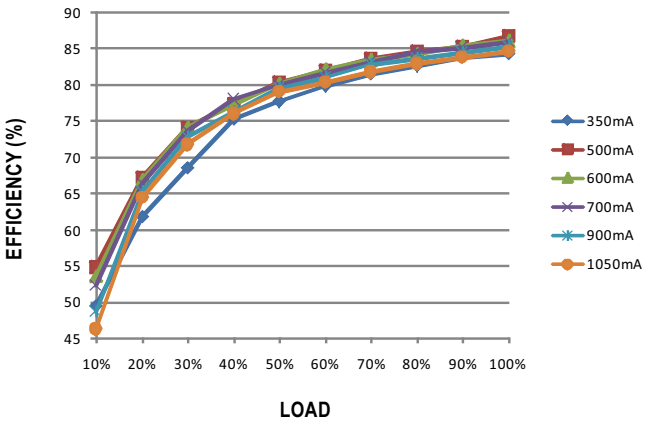
■ EFFICIENCY vs LOAD

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

※ Tcase at 75℃



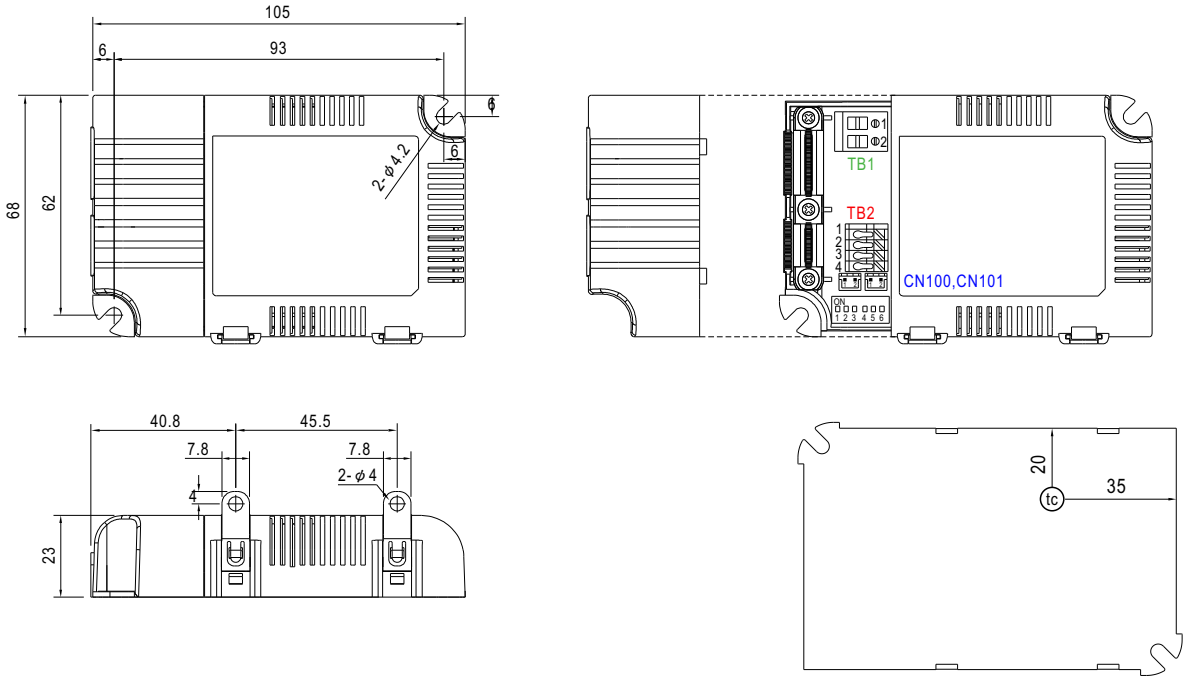
LOAD
(230Vac Input)



LOAD
(277Vac Input)

■ MECHANICAL SPECIFICATION

Case No.LCM-25 Unit:mm 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 or equivalent	JST SPH-002T-P0.5S or equivalent
2	+		

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

■ INSTALLATION MANUAL

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

25W Multiple-Stage Constant Current Mode LED Driver LCM-25DA series

User's Manual

(for DA2-Type only) (for DA-Type only)

AC Input: 200-240Vac (for DA2-Type only)

(except for DA2-Type) (except for DA2-Type)

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Emergency lighting application is available according to IEC61347-2-13
- Built-in active PFC function and class II design
- Standby power consumption <0.5W
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming synchronization up to 10units
- 3 years warranty

Applications

- LED indoor lighting
- LED office lighting
- LED commercial lighting
- LED panel lighting
- Industrial lighting

GTIN CODE

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

Description

LCM-25DA series is a 25W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386. LCM-25DA 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℃~+85℃ case temperature under free air convection. In addition, LCM-25DA is equipped with push dimming and synchronization functions, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 25DA

- DA: Built-in DALI interface and push dimming
- DA2: Built-in DALI-2 interface and push dimming

Output wattage

Series name

25W Multiple-Stage Constant Current Mode LED Driver LCM-25DA 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 Note.8	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 277VAC 254 ~ 380VDC(254~375VDC for DA2-Type) (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	86%					
	AC CURRENT (Typ.)	0.17A/230VAC 0.15A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(t_{width}=260μs measured at 50% I_{peak}) 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(except for DA2-Type), CSA C22.2 NO.250.0-08, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent,GB19510.14,GB19510.1,BIS IS15885(except for DA2-Type), EAC TP TC 004 approved; According to BS EN/EN61347-2-13 appendix J suitable for emergency installations(EL)(AC Input: 200-240Vac)(for DA2-Type only)					
	DALI STANDARDS	IEC62386-101, 102, 207,251					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC ; I/P-DA:1.5KVAC ; O/P-DA:1.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION Note.6	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	2661.8K hrs min. Telcordia SR-332 (Bellcore) ; 213.3K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	105*68*23mm (L*W*H)					
	PACKING	0.17Kg ; 72pcs/13.2Kg/1.04CUFT					

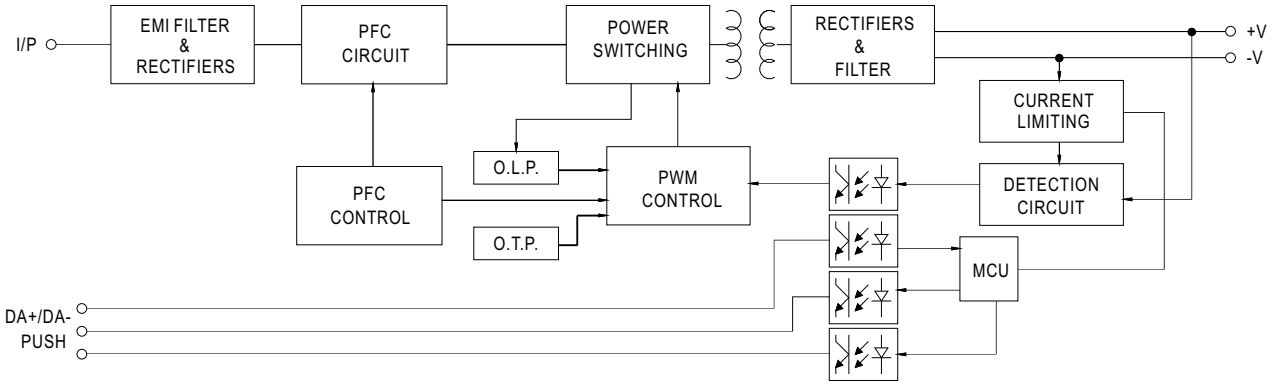
NOTE

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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
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).
8. Based on IEC 62386-101/102 DALI power on timing and interruption regulations, the set up time needs to test with a DALI controller which can support for DALI power on function, otherwise the set up time will be higher than 0.5 second for DA2-type.
9. 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.

※ Product Liability Disclaimer：For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 45KHz
PWM fosc : 70KHz

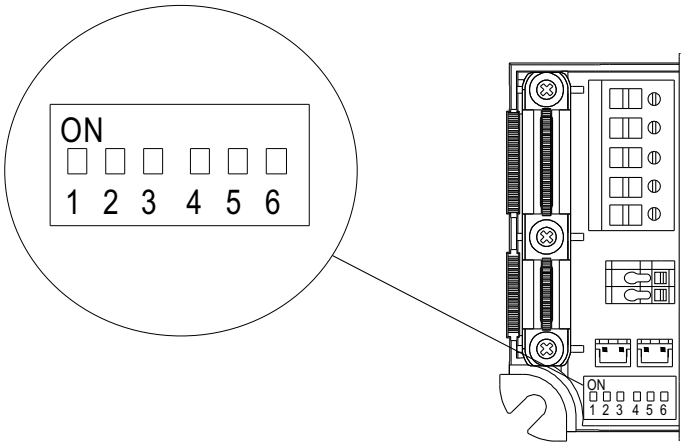


■ DIP SWITCH TABLE

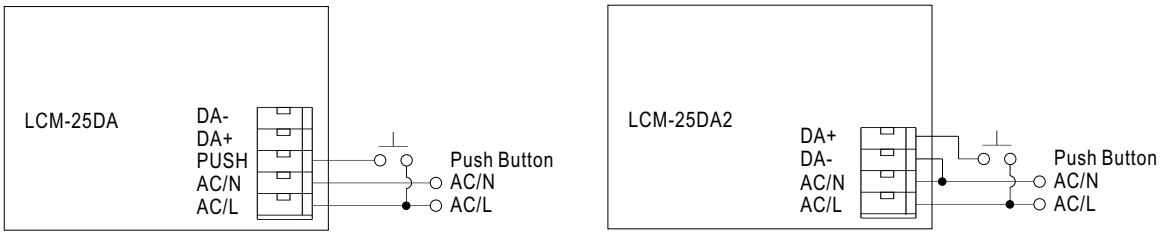
LCM-25DA/DA2 is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

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

Note: For more current setting,please contact MW's sales.



■ DIMMING OPERATION



※PUSH dimming(primary side)

Action	Action duration	Function
Short push	0.1~1 sec.	Turn ON-OFF the driver
Long push	1.5~10 sec.	Every Long Push changes the dimming direction, dimming up or down
Reset	>11 sec.	Set up the dimming level to 100%

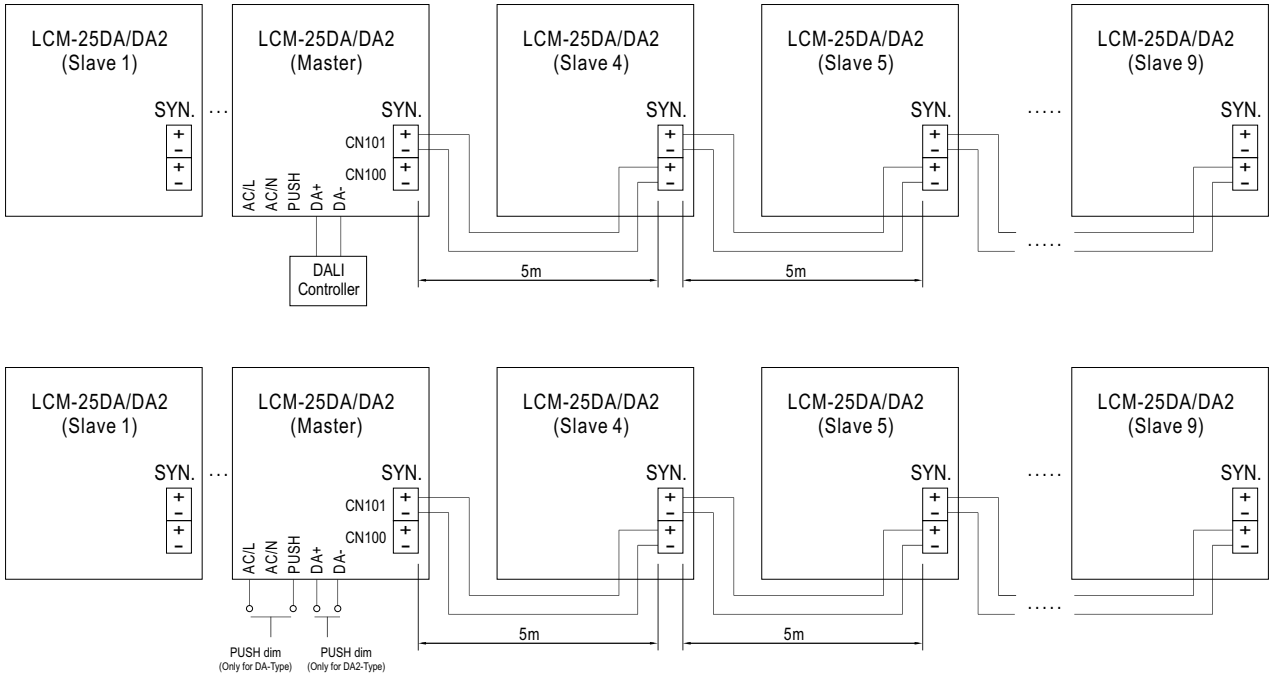
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the 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.

※DALI interface(primary side; for DA/DA2-Type)

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ SYNCHRONIZATION OPERATION

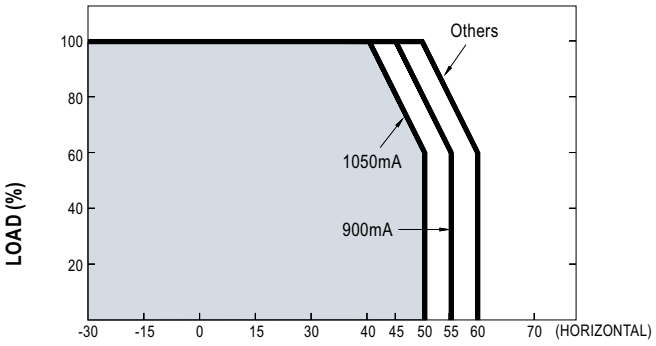
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



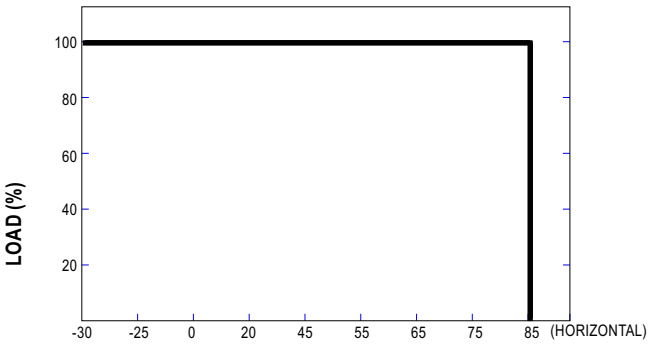
- CN100, CN101 : used to synchronously control the LCM units in parallel.

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

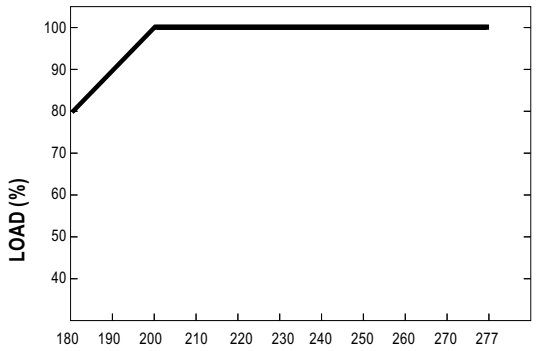


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

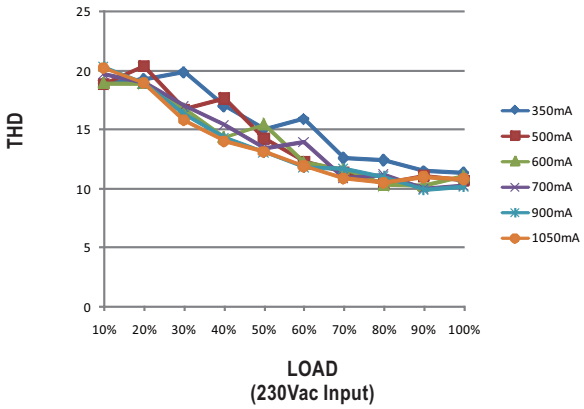


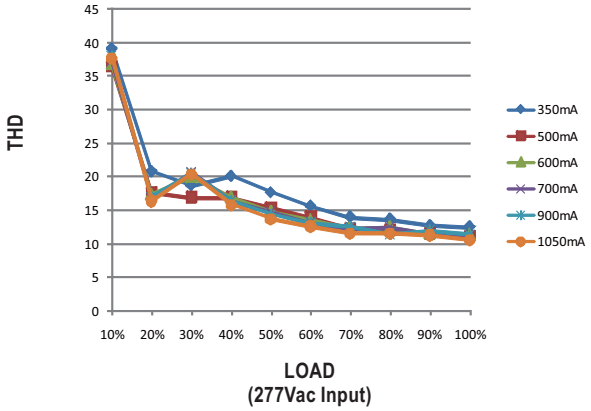
INPUT VOLTAGE (V) 60Hz

※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

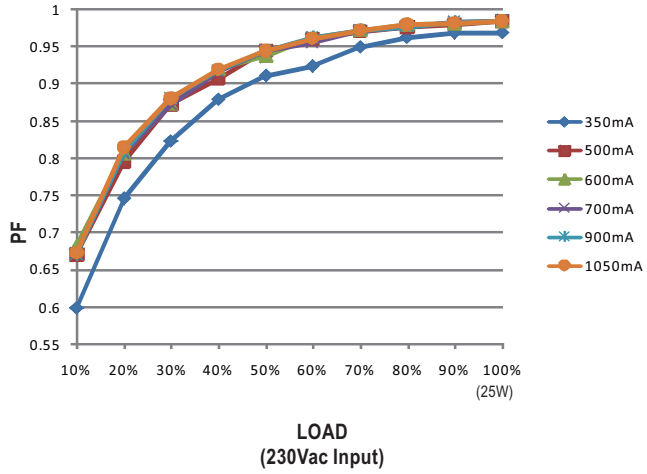
※ Tcase at 75℃

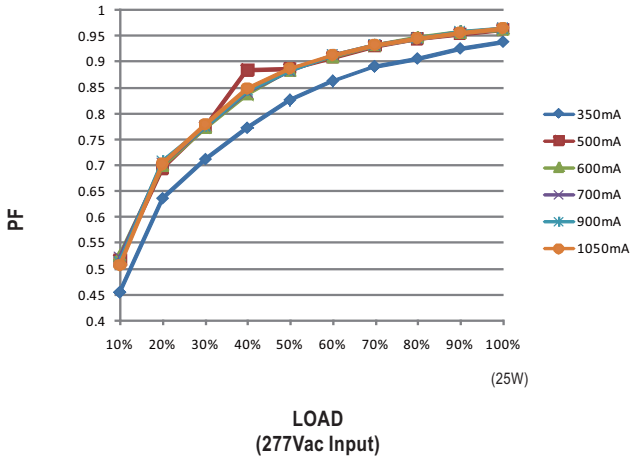




■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75℃

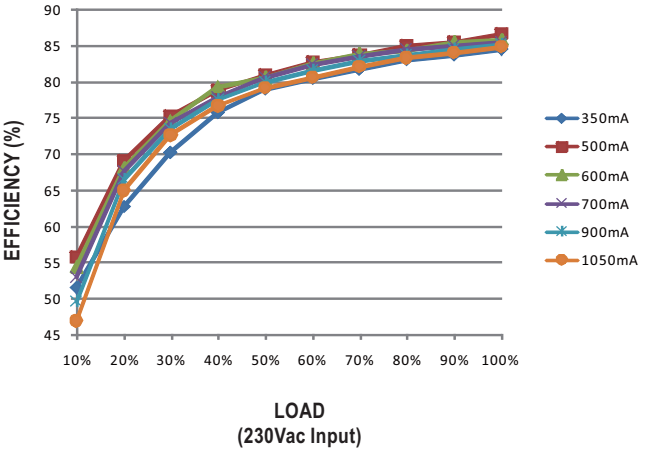


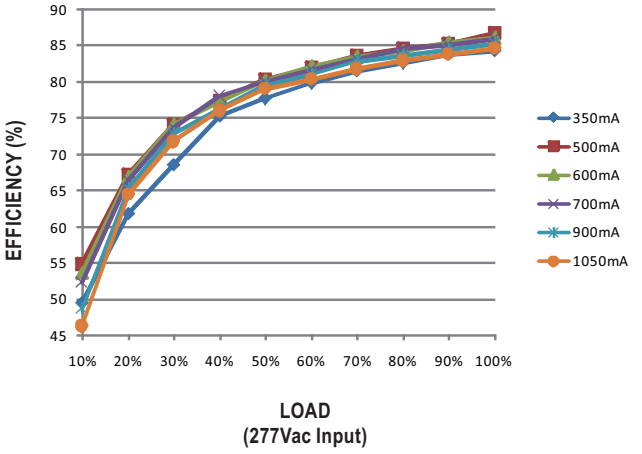


■ EFFICIENCY vs LOAD

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

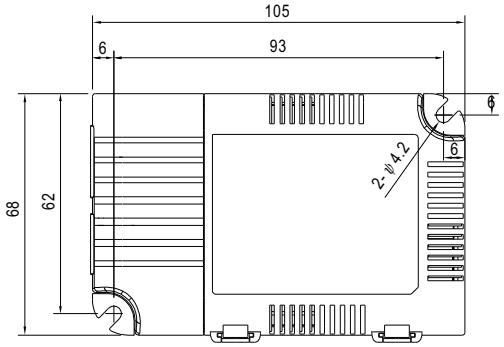
※ Tcase at 75℃

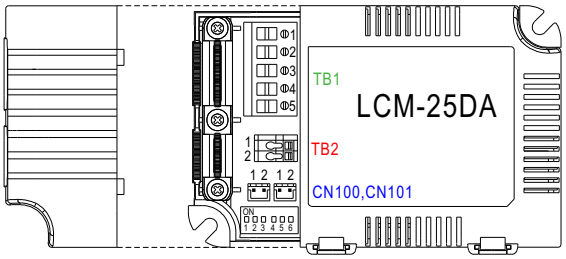


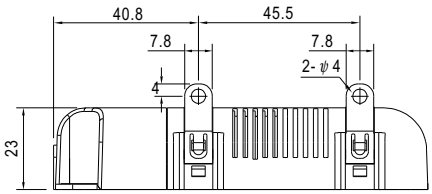


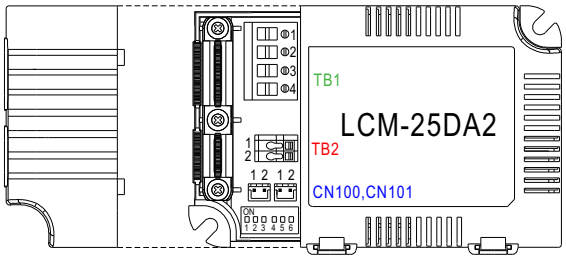
■ MECHANICAL SPECIFICATION

Case No.LCM-25 Unit:mm Tolerance:±1









※Terminal Pin No. Assignment(TB1)(LCM-25DA)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N	5	DA-
3	PUSH		

※Terminal Pin No. Assignment(TB1)(LCM-25DA2)

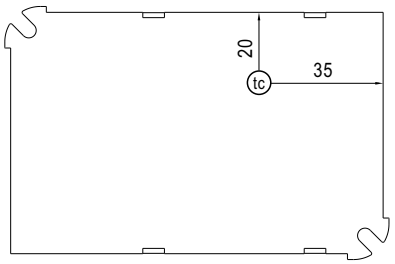
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N		
3	DA-		

※Terminal Pin No. Assignment(TB2)

Pin No.	Assignment
1	+V
2	-V

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

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



Bottom View

• ⓣc : Max. Case Temperature

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

■ INSTALLATION MANUAL

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

25W Multiple-Stage Constant Current Mode LED Driver LCM-25KN series

User's Manual

Video

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
- Industrial lighting

GTIN CODE

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

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

25W Multiple-Stage Constant Current Mode LED Driver LCM-25KN series

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 ~ 380VDC (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(t_{width}=260μs measured at 50% I_{peak}) 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 BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent, GB19510.14, GB19510.1, BIS IS15885(Part2/Sec13), EAC TP TC 004 approved					
	KNX STANDARDS	certification					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC ; O/P-KN±:500VDC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION Note.6	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	1994.5K hrs min. Telcordia SR-332 (Bellcore) ; 201.1K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	105*68*23mm (L*W*H)					
	PACKING	0.173Kg ; 72pcs/13.5Kg/1.04CUFT					

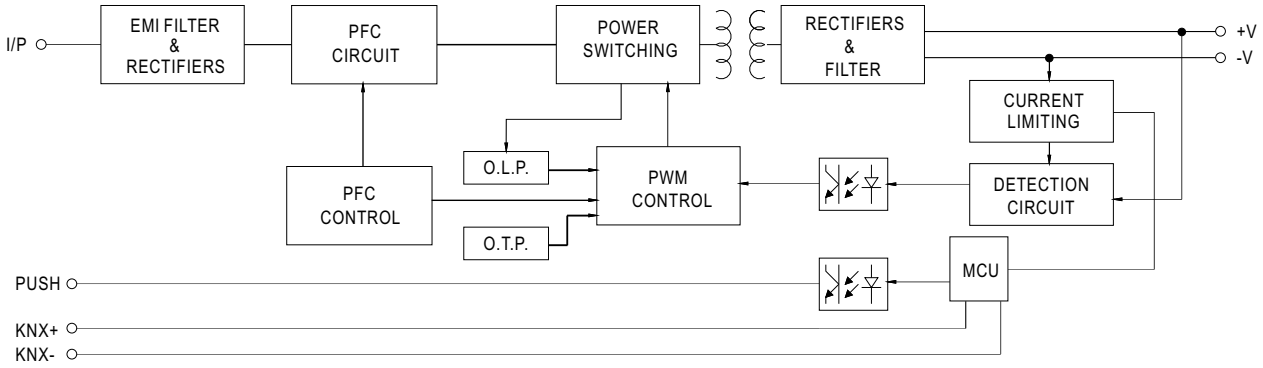
NOTE

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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
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).
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.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

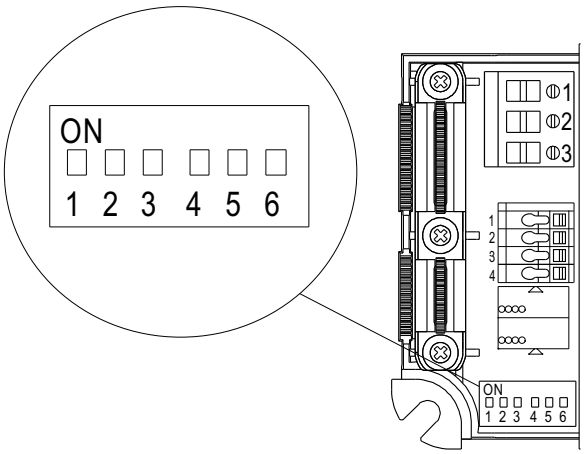
PFC fosc : 45KHz
PWM fosc : 70KHz



■ 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	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

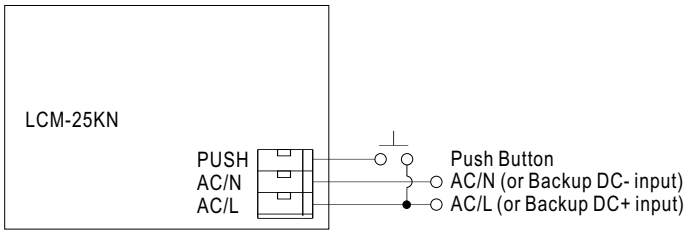
※ KNX interface

- 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	• 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

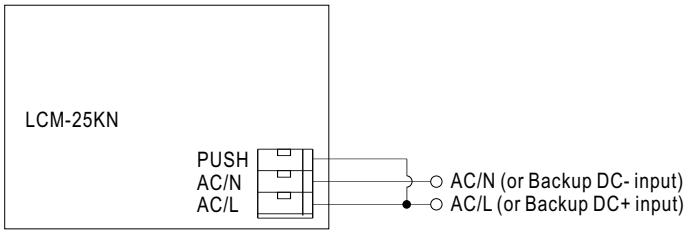
※PUSH dimming or AC/DC input monitor(Primary side)

◎ **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.

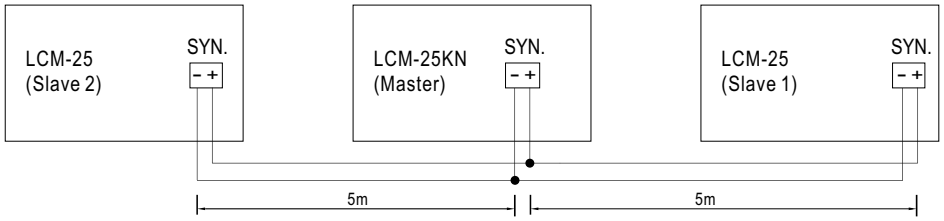
◎ **AC/DC input monitor**



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

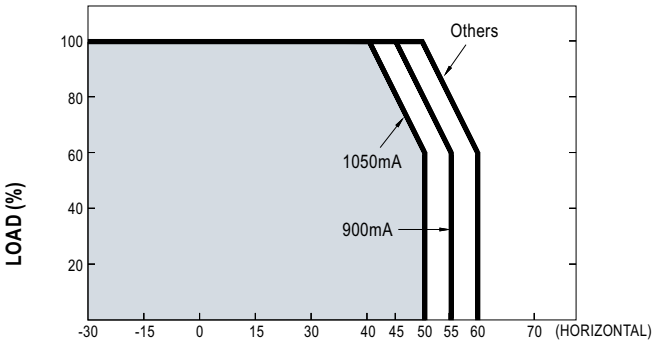
■ SYNCHRONIZATION OPERATION

- 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)

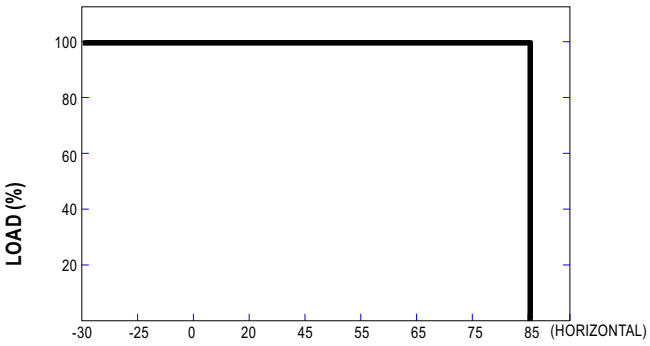


NOTE: 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.
2. Min. Dimming operating range depends on database setting.

■ OUTPUT LOAD vs TEMPERATURE

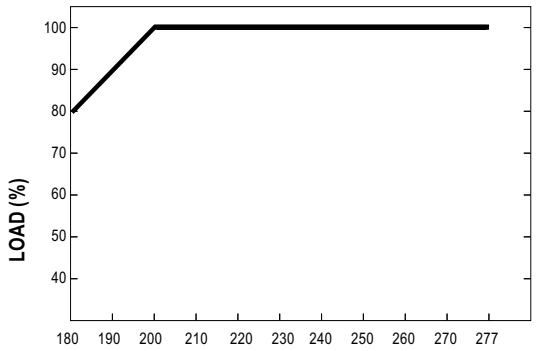


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

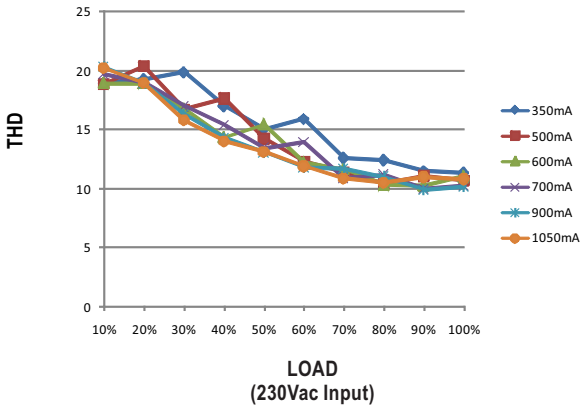


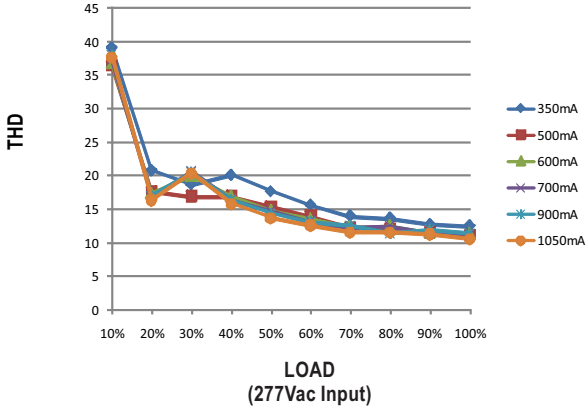
INPUT VOLTAGE (V) 60Hz

※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

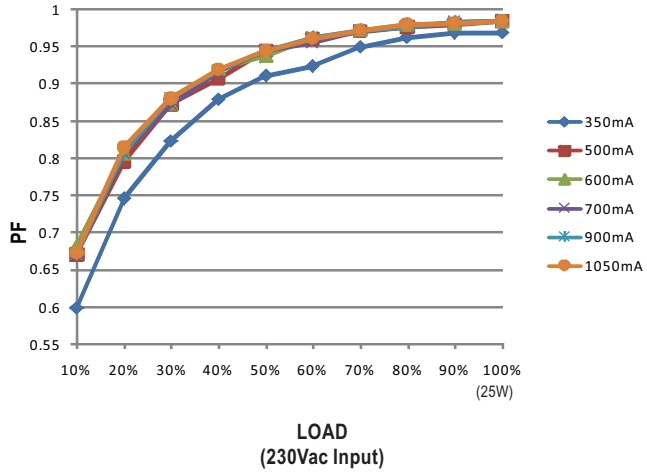
※ Tcase at 75℃

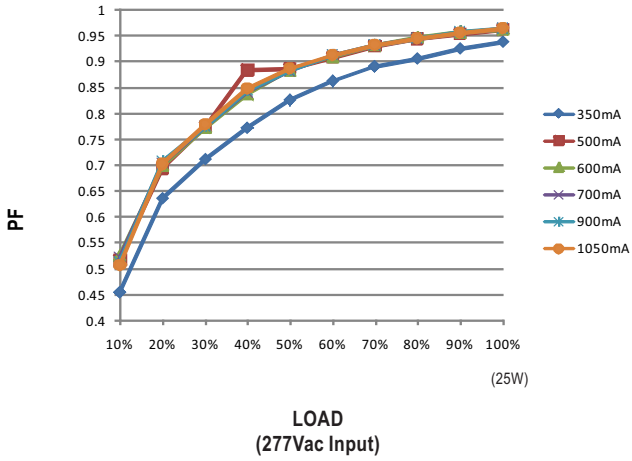




■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75℃

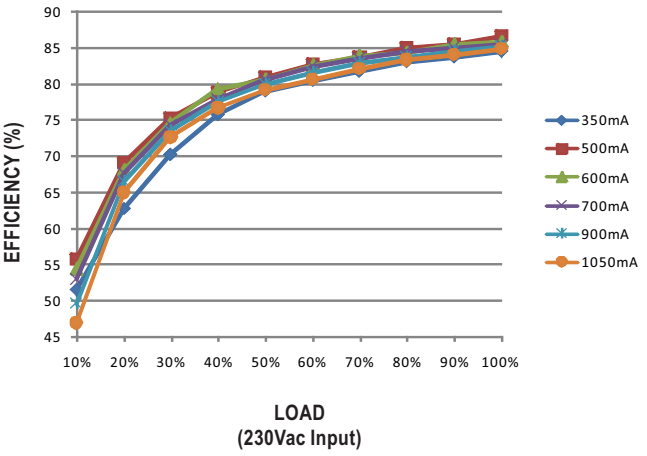


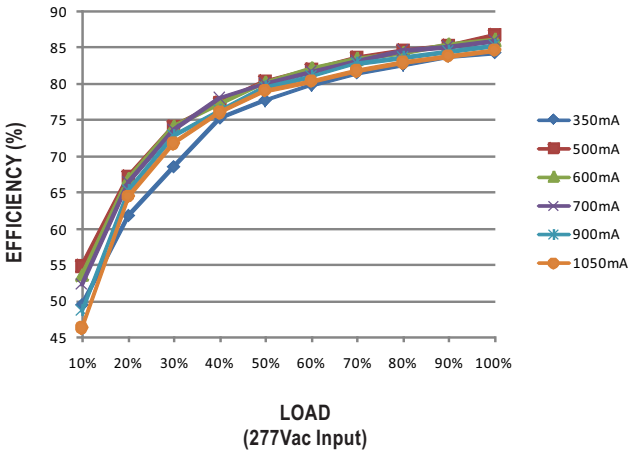


■ EFFICIENCY vs LOAD

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

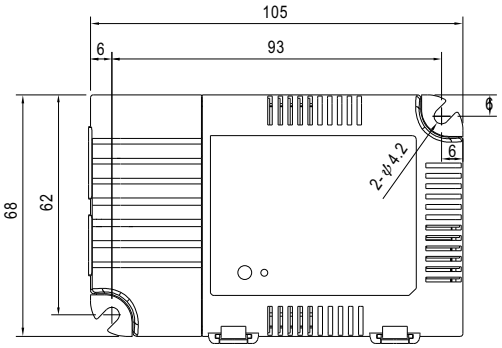
※ Tcase at 75℃

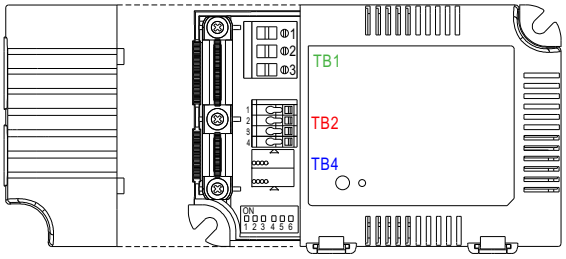


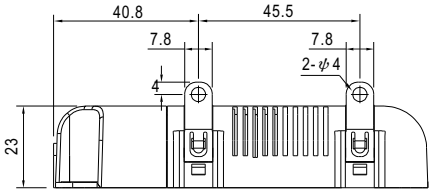


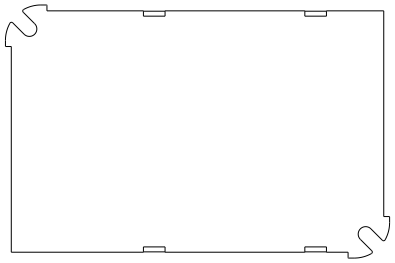
■ MECHANICAL SPECIFICATION

Case No.LCM-25 Unit:mm Tolerance:±1









Bottom View

※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+

Note:Please use wires with a cross section of 0.5~2.5mm^2(14~20AWG) for TB1 and wires with a cross section of 0.5~1.5 mm^2(16~20AWG) for TB2.

■ INSTALLATION MANUAL

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

40W Multiple-Stage Constant Current Mode LED Driver LCM-40 series

User's Manual

Video

Standard

Optional

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 <1W
- Functions: 3 in 1 dimming (dim-to-off); Auxiliary DC output; synchronization up to 10 units
- Optional: Wireless LED driver with integrated EnOcean module
- 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-40 series is a 40W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch. LCM-40 operates from 180～295VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 92%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. LCM-40 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 - 40 ☐

- EO: Optional wireless EnOcean module
- Output wattage
- Series name

Type	Function	Note
Blank	3 in 1 dimming (dim-to-off)	In Stock
EO	Wireless driver with integrated EnOcean module	By request

40W Multiple-Stage Constant Current Mode LED Driver LCM-40 series

SPECIFICATION

MODEL		LCM-40					
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	42W					
	DC VOLTAGE RANGE	2 ~ 100V	2 ~ 80V	2 ~ 67V	2 ~ 57V	2 ~ 45V	2 ~ 40V
	OPEN CIRCUIT VOLTAGE (max.)	110V			65V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA					
	SETUP TIME Note.3	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 254 ~ 417VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.96/277VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	91%					
	AC CURRENT (Typ.)	0.23A/230VAC 0.2A/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.6	<1W					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	110 ~ 130V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	WIRELESS PROTOCOL(Optional)	EnOcean standard 868 MHz; Max. device(switch) saved into the memory : 33					
	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 40℃)					
	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 Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	2397.0K hrs min. Telcordia SR-332 (Bellcore) ; 260.6K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

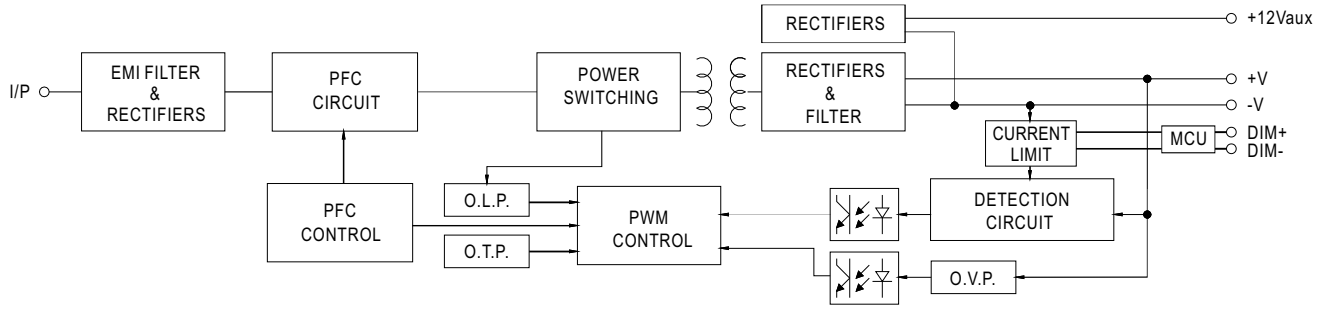
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C 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/80V output set by DIP switch.
5. Current ripple is measured 60%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. 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).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

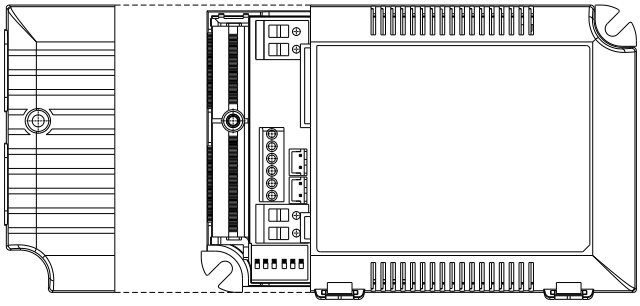


■ DIP SWITCH TABLE

LCM-40 is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	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

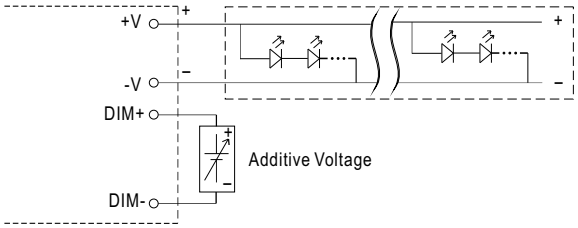
■ DIMMING OPERATION



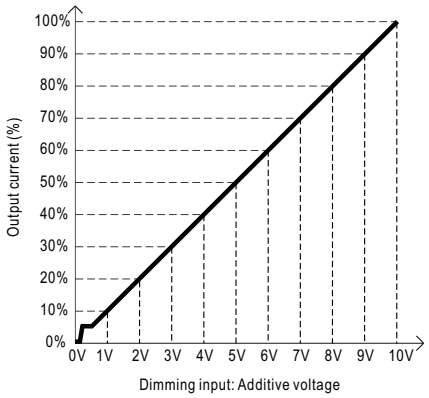
※ 3 in 1 dimming function

- 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. For optional EO model, the 3 in 1 dimming is via SYNC+ and SYNC-(CN100 or CN101 connector).
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

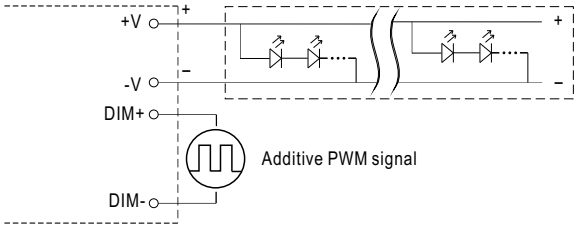
◎ Applying additive 0 ~ 10VDC



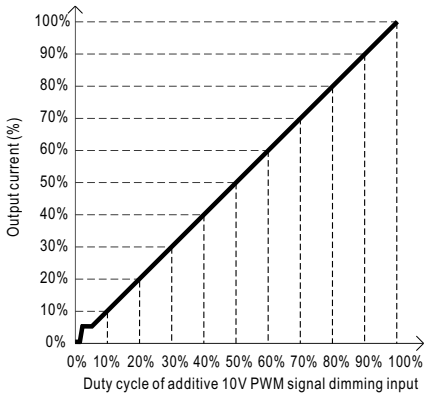
"DO NOT connect "DIM- to -V"



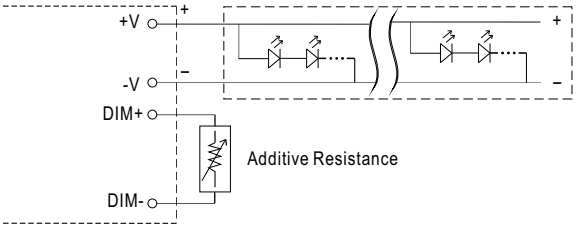
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



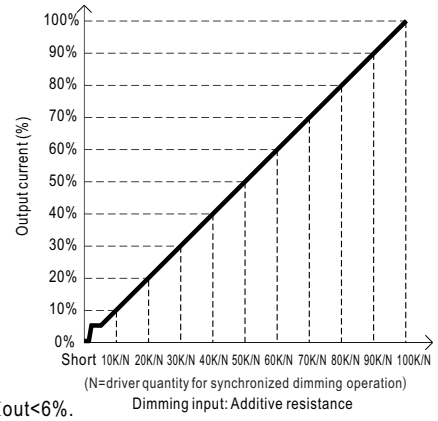
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



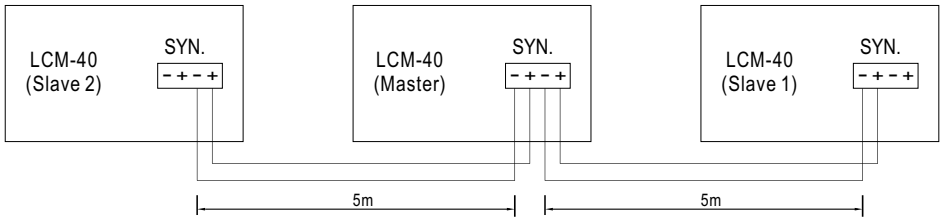
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate"temperature compensation" when performing dimming operation.

■ SYNCHRONIZATION OPERATION

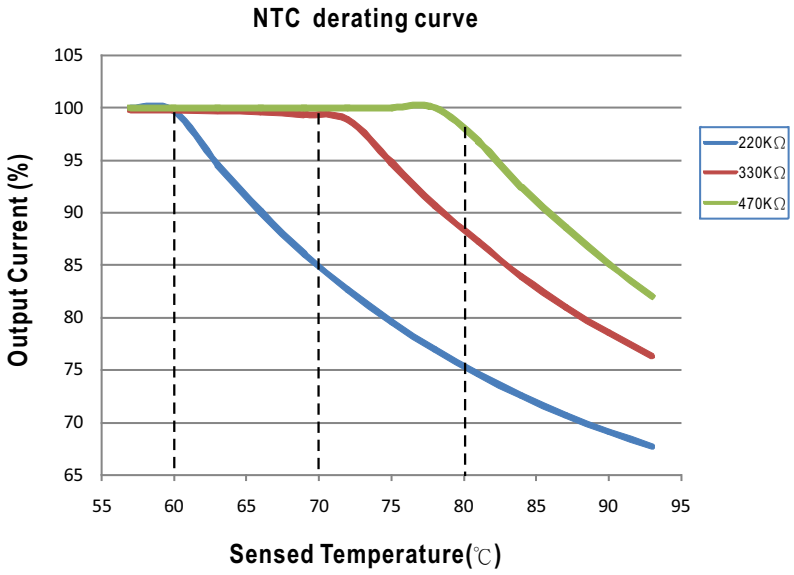
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



NOTE : 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.
2. For optional EO model: the master is EO and the salve could be standard model for economic arrangement.
3. Min. Dimming operating range depends on dimmer setting.

■ TEMPERATURE COMPENSATION OPERATION

LCM-40 have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-40 and the detecting point on the lighting system or the surrounding environment, output current of LCM-40 could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-40 can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

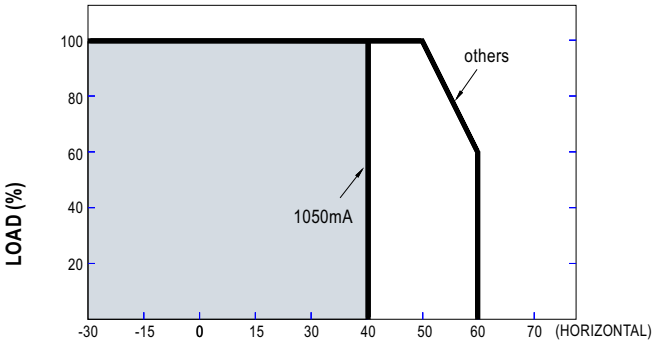
◎ NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

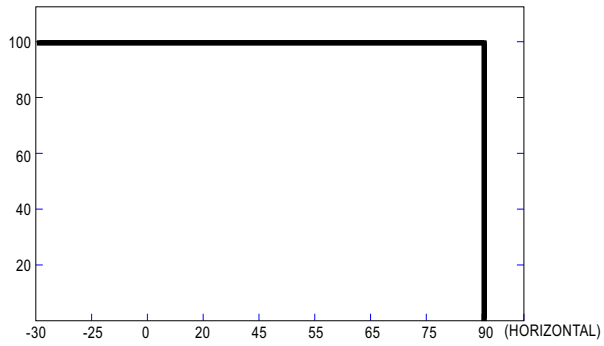
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

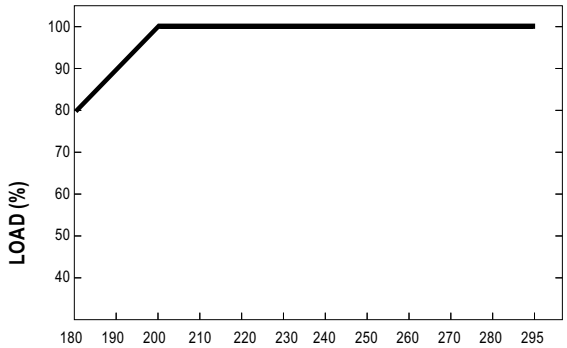


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

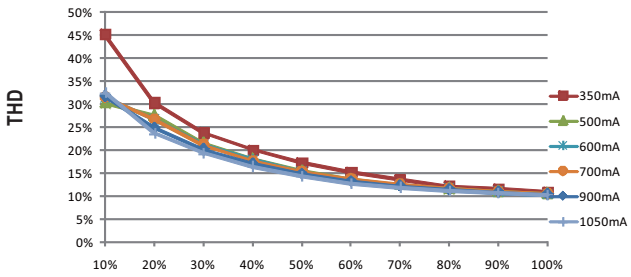


INPUT VOLTAGE (V) 60Hz

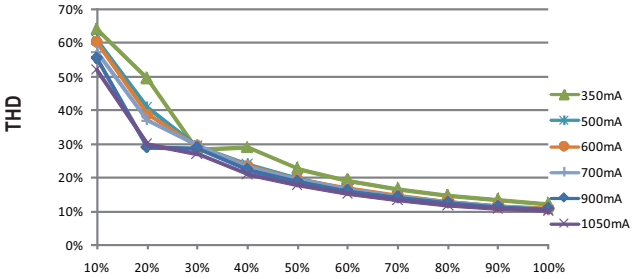
※ De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



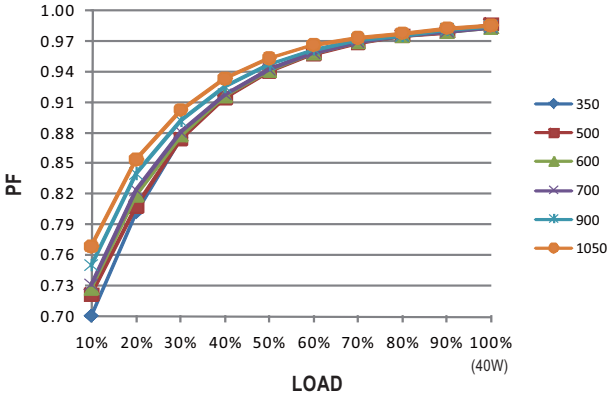
LOAD
(230Vac Input)



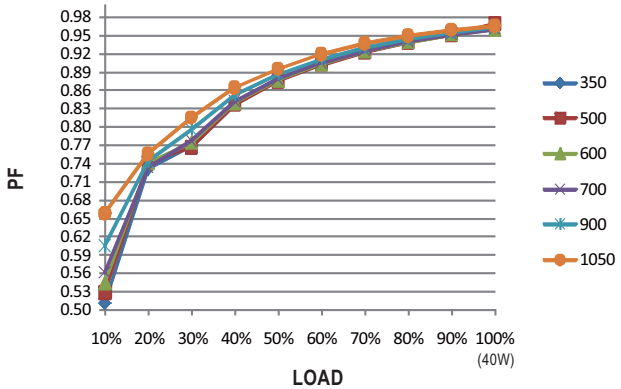
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

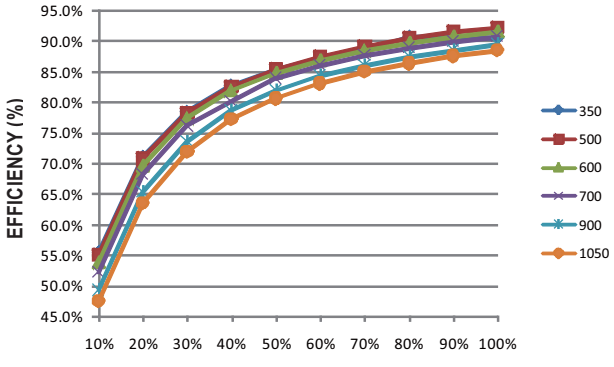


LOAD
(277Vac Input)

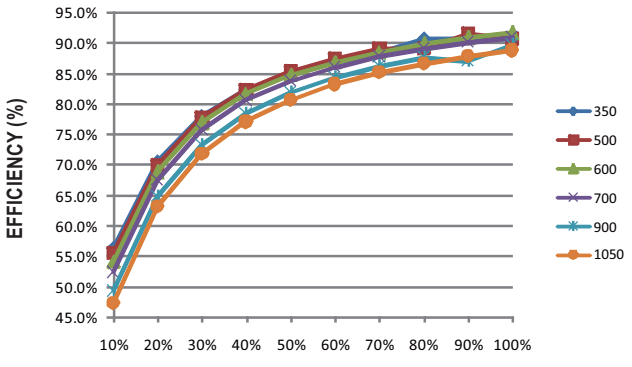
■ EFFICIENCY vs LOAD

LCM-40 series possess superior working efficiency that up to 91% can be reached in field applications.

※ Tcase at 80℃



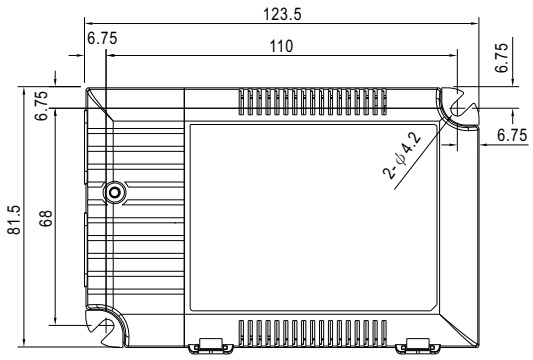
LOAD
(230Vac Input)

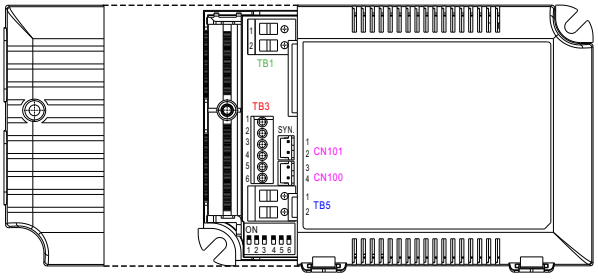


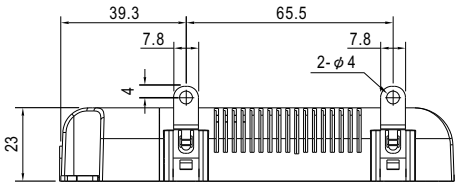
LOAD
(277Vac Input)

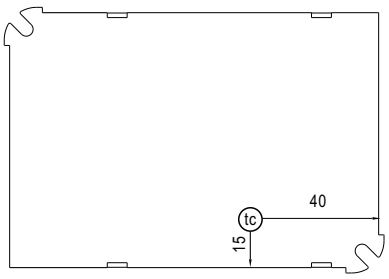
■ MECHANICAL SPECIFICATION

Case No.LCM-60A 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(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN	3	+NTC	5	DIM+
2	-FAN	4	-NTC	6	DIM-

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output;it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Installation Manual

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

※The following is only for Optional EO model:

■ LRN button description

LRN (Learn) Button:
Shortly press (around 2 second) the button to enter linking (pairing) / unlinking mode.
The LED lamp connected at the output of LCM starts toggling between 10% and 90% indicating that linking mode is active. Once activated, this mode stays active to provide time to link or unlink multiple switches. The mode will stop and back to normal mode after 30 seconds if no wireless telegram from switch is received.

For the switch to be linked, click the “I” button (top button marked on the switch plastic or “I” symbol on the back of the switch 4 times quickly, In case the output is continuous 100% 4 seconds, it mean the switch is linked successfully.

The LED driver is now ready to accept new links on another switch.
In case a linked switch to be unlinked, please use the same action as described from the linking method above.
To exit linking / unlinking mode and return to normal operation, wait 30 seconds without doing anything or shortly press the button again.
In order to clear all linked switches and reset the LED driver to factory settings, please press and hold the button for 10 seconds.

■ Installation & Pairing

Hareware connection:
1.Connect the LED lamp to the driver.
2.Connect the driver to the AC mains.

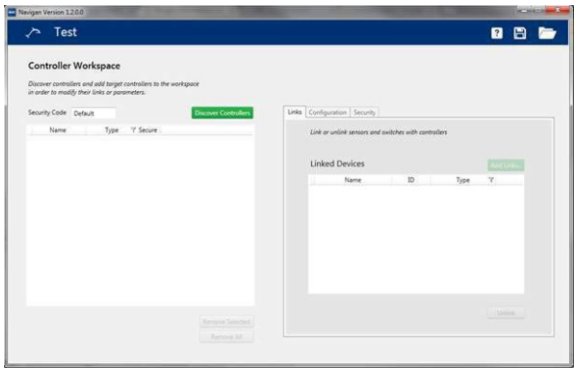
There are two approaches for linking(pairing):
1.Using the LRN button on the driver
The instruction is in the LRN button description.

2.Using the NAVIGAN wireless software
Benefit to use NAVIGAN is more dimming parameters can be configured .

The software can be download in the website link below.
http://www.navigan.com/
After the software installation, insert the NWC300 into one of USB port from the computer.

For more details, please check the manual.

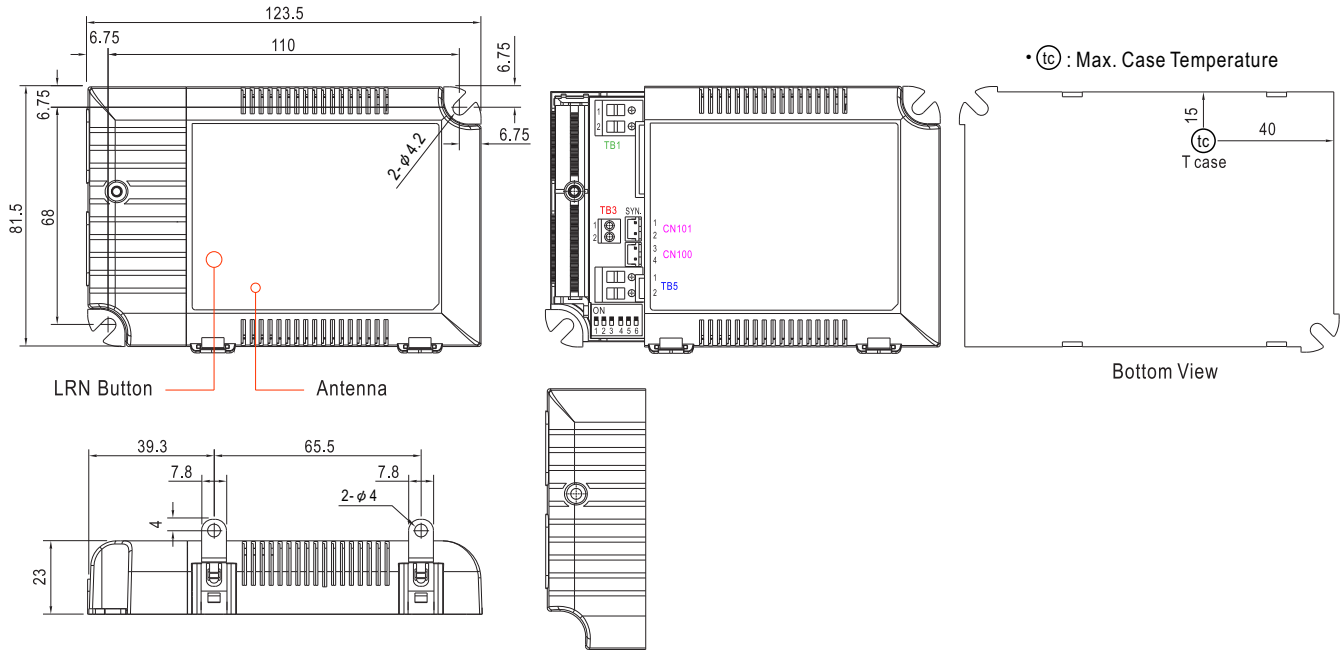
NWC300



※The following is only for Optional EO model

Case No.LCM-60A Unit:mm Tolerance:±1

■ MECHANICAL SPECIFICATION



※ Terminal Pin No. Assignment(TB1)

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

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment
1	+NTC
2	-NTC

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+Vo
2	-Vo

※ SYN. or DC 0-10V Dimming

Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Interoperable products / EnOcean Equipment Profile(EEP)

Support Equipment	Telegram
Rocker Pad Switch	F6-02-02
Occupancy Sensor	F5-07-01
Occupancy Sensor	A5-07-02
Occupancy Sensor	A5-07-03
Light Level Sensor	A5-06-02
Light Level Sensor	A5-06-03
Central Controller	A5-38-08
Demand Response	A5-37-01

■ Batteryless wireless switch supplier

MW order code:WPD-06SWT. There are many other switch supplier listed in the below.

Manufacturer	Model*
Legrand	0 784 42
Siemens	5WG4222-3AB10
Berker	24121009
Jung	ENO A 595
Busch-jaeger	EASYSENS/ENOCEAN
Gira	2422 03
Peha	D 455/61.022 FU-BLS N
Eltako	F4T65
VIMAR	20505+20506.B+21507.B

*: The model list is rovided for reference. For more information please contact original supplier

■ World Coverage Map

COUNTRY/REGION	STANDARD	FREQUENCY
Aruba	Possibly R & TTE Directive	868 MHz-Confirm with test house
Australia / New Zealand	N.A.	
Barbados	N.A.	Note1
Bermuda	N.A.	Note1
Bolivia	N.A.	Note1
Brazil	ANATEL	868 MHz
British Virgin Islands	N.A.	Note1
Cayman Islands	Possibly R & TTE Directive	868 MHz
CEPT(European regional)*	BS EN/EN 300 220	868 MHz
Chile	Possibly R & TTE Directive	868 MHz
China	CNAS/MITT BS EN/EN 300 220	868 MHz
Colombia	Possibly ANATEL	868 MHz
Ecuador	N.A.	Note1
El Salvador	Possibly R & TTE Directive	868 MHz
French Guiana	ETSI BS EN/EN 300 220	868 MHz
Guatemala	N.A.	Note1
Hong Kong	Possibly 315MHz	Note1
India	Possibly 315MHz	Note1
Israel	Possibly 315MHz	Note1
Jamaica	N.A.	Note1
Japan 920**	ARIB STD-T108	928 MHz
Malaysia	SKMM WTS SRD / BS EN/EN 300 220	868 MHz
Mexico	We believe Mexico does not accept FCC	868 MHz
Nicaragua	N.A.	Note1
Peru	N.A.	Note1
Panama	FCC CFR47 Part 15.249	902 MHz
Russia	N.A.	
Singapore	TS SRD / BS EN/EN 300 220	868 MHz
South Africa	CASA / BS EN/EN 300 220	868 MHz
South Korea	N.A.	
Suriname	N.A.	Note1
Taiwan	Possibly 315 MHz	Note1
Trinidad & Tabago	N.A.	Note1
Turks & Caicos Islands	Possibly R & TTE Directive	868 MHz
UAE	BS EN/EN 300 220	868 MHz
Uruguay	N.A.	Note1
USA / Canada	FCC CFR47 Part 15.249	315 MHz, 902 MHz

Note1: It is suggested to check with local accredited certification angency.

*CEPT is the European regional organization dealing with postal and telecommunications issues and presently has 45 Members: Albania, Andorra, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom, and Vatican.

**In February 2012, Japanese regulatory body ARIB(Association of Radio Industries and Businesses) released new 920 MHZ frequency band for radio equipment, due to LTE rollout, The 950 MHz frequency band will be obsolete by end of 2015.

40W Multiple-Stage Constant Current Mode LED Driver LCM-40DA series

User's Manual

(for DA2-Type only)(for DA-Type only)

AC Input: 200-240Vac
(for DA2-Type only)

(except for DA2-Type)(except for DA2-Type)

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Emergency lighting application is available according to IEC61347-2-13
- Built-in active PFC function and class II design
- Standby power consumption <0.5W
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming synchronization up to 10units
- 3 years warranty

Applications

- LED indoor lighting
- LED office lighting
- LED commercial lighting
- LED panel lighting
- Industrial lighting

GTIN CODE

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

Description

LCM-40DA series is a 40W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386. LCM-40DA operates from 180～295VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the high efficiency up to 91%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. In addition, LCM-40DA is equipped with push dimming and synchronization functions, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 40DA - AUX

- AUX: Function mode option: Blank or AUX type
- DA / DA2: DA: Built-in DALI interface and push dimming; DA2: Built-in DALI-2 interface and push dimming
- 40: Output wattage
- LCM: Series name

Type	Function	Note
Blank	standby power consumption <0.5W	In Stock
AUX	standby power consumption <1.2W and Auxiliary DC output(12V/50mA)	By request

SPECIFICATION

MODEL		LCM-40□-□					
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	42W					
	DC VOLTAGE RANGE	2 ~ 100V	2 ~ 80V	2 ~ 67V	2 ~ 57V	2 ~ 45V	2 ~ 40V
	OPEN CIRCUIT VOLTAGE (max.)	110V			65V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3 Note.9	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 254 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.95/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	91%					
	AC CURRENT (Typ.)	0.23A/230VAC 0.2A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(t_{width}=260μs measured at 50% I_{peak}) 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.6	<0.5W for Blank-Type, <1.2W for AUX-Type					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	110 ~ 130V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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(except for DA2-Type), 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(except for DA2-Type), EAC TP TC 004 approved; According to BS EN/EN61347-2-13 appendix J suitable for emergency installations(EL)(AC Input: 200-240Vac)(for DA2-Type only)					
	DALI STANDARDS	IEC62386-101, 102, 207,251					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC;I/P-DA:1.5KVAC; O/P-DA:1.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	2271.4K hrs min. Telcordia SR-332 (Bellcore) ; 193.7K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

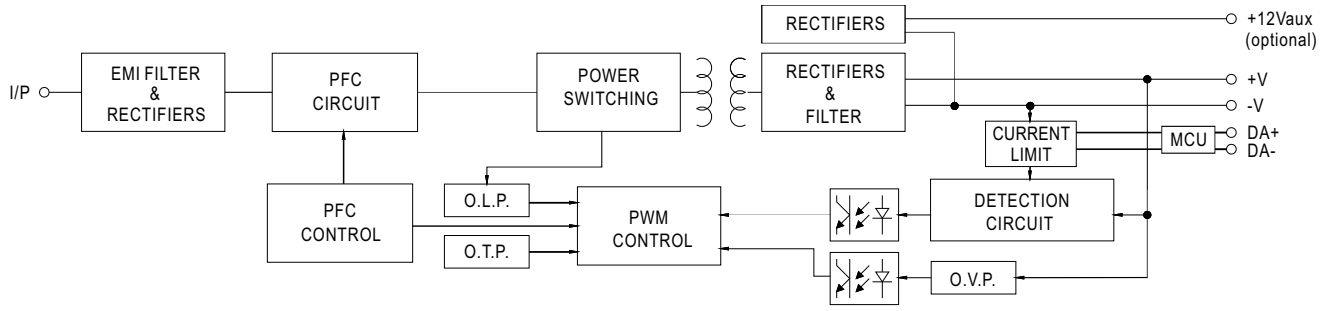
NOTE

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/80V output set by DIP switch.
5. Current ripple is measured 50%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. 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).
9. Based on IEC 62386-101/102 DALI power on timing and interruption regulations, the set up time needs to test with a DALI controller which can support for DALI power on function, otherwise the set up time will be higher than 0.5 second for DA2-type.
10. 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.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz



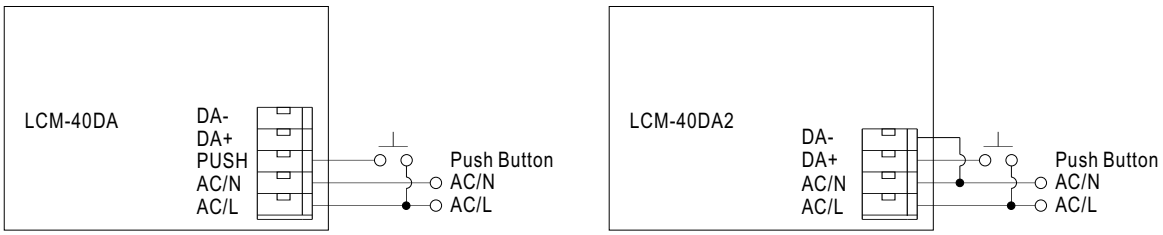
■ DIP SWITCH TABLE

LCM-40DA/DA2 is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	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

Note: For more current setting,please contact MW's sales.

■ DIMMING OPERATION



※PUSH dimming(primary side)

Action	Action duration	Function
Short push	0.1~1 sec.	Turn ON-OFF the driver
Long push	1.5~10 sec.	Every Long Push changes the dimming direction, dimming up or down
Reset	>11 sec.	Set up the dimming level to 100%

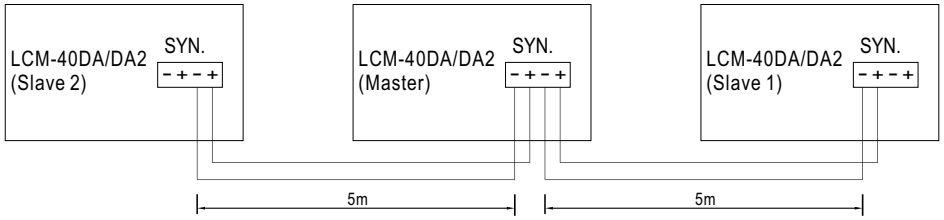
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the 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.

※DALI interface(primary side; for DA/DA2-Type)

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ SYNCHRONIZATION OPERATION

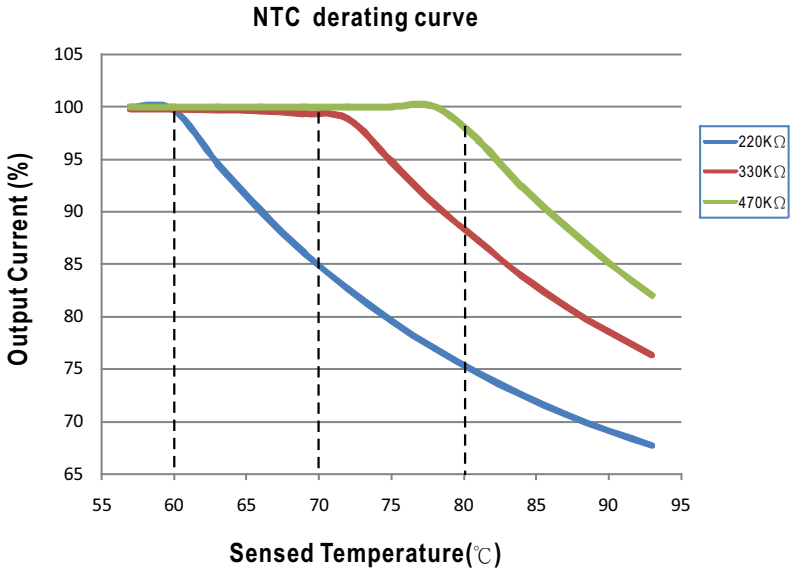
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-40DA/DA2 have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-40DA/DA2 and the detecting point on the lighting system or the surrounding environment, output current of LCM-40DA/DA2 could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



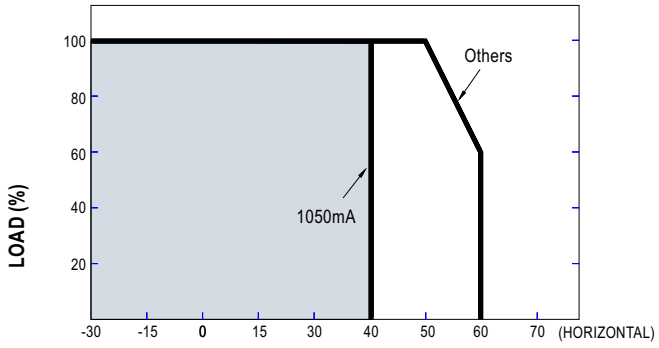
◎ LCM-40DA/DA2 can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.
NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

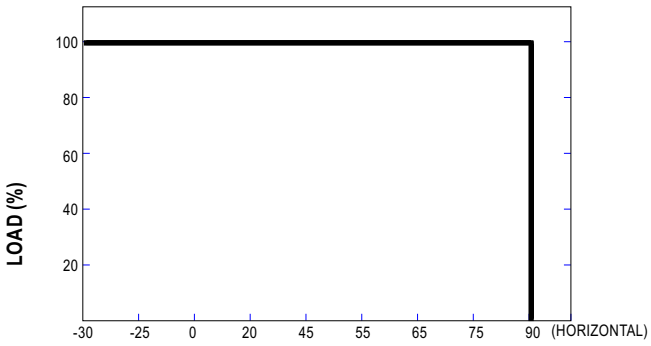
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

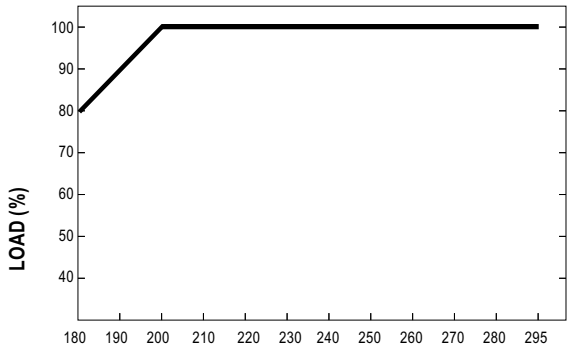


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

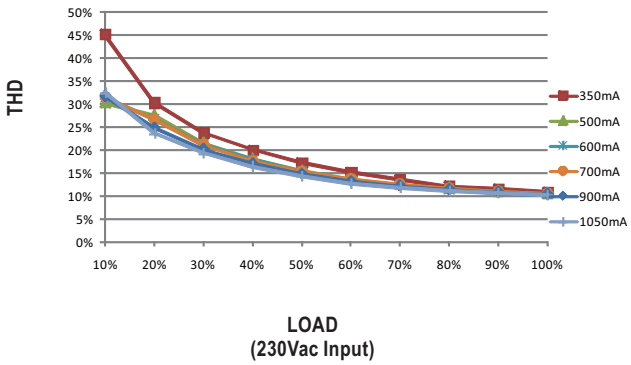


INPUT VOLTAGE (V) 60Hz

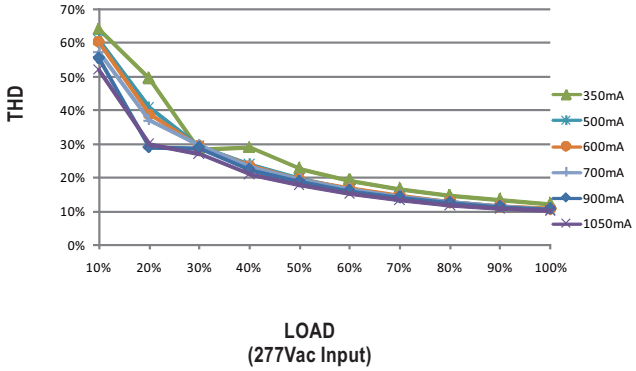
※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



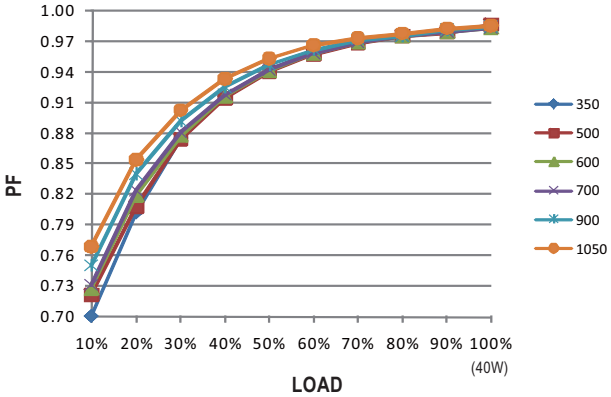
LOAD
(230Vac Input)



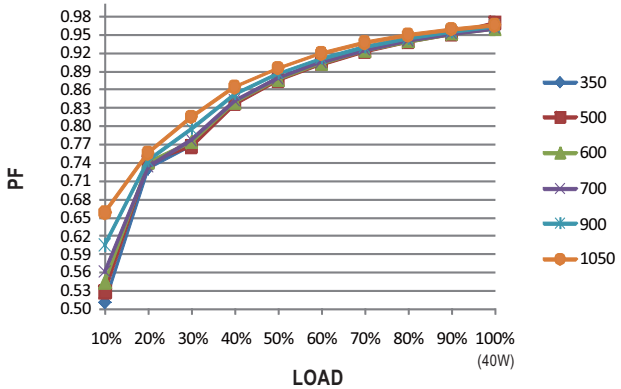
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

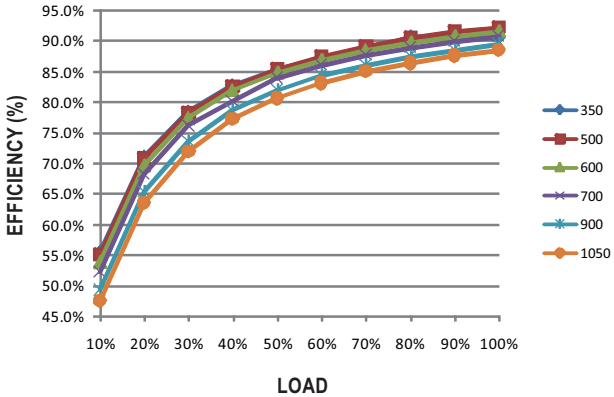


LOAD
(277Vac Input)

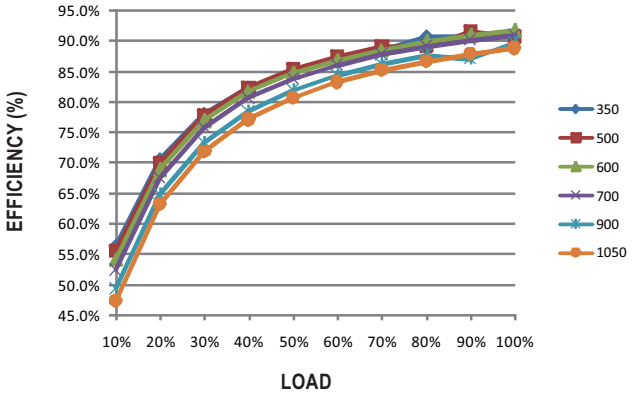
■ EFFICIENCY vs LOAD

LCM-40DA series possess superior working efficiency that up to 91% can be reached in field applications.

※ Tcase at 80℃



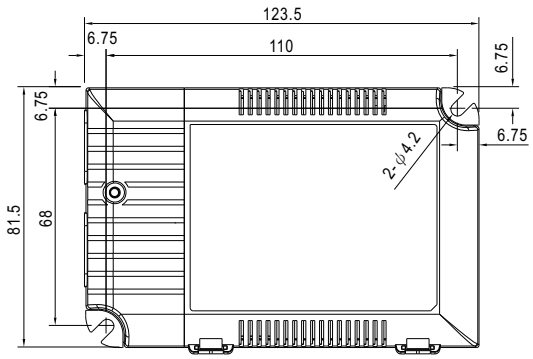
LOAD
(230Vac Input)

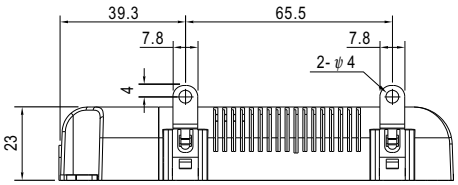


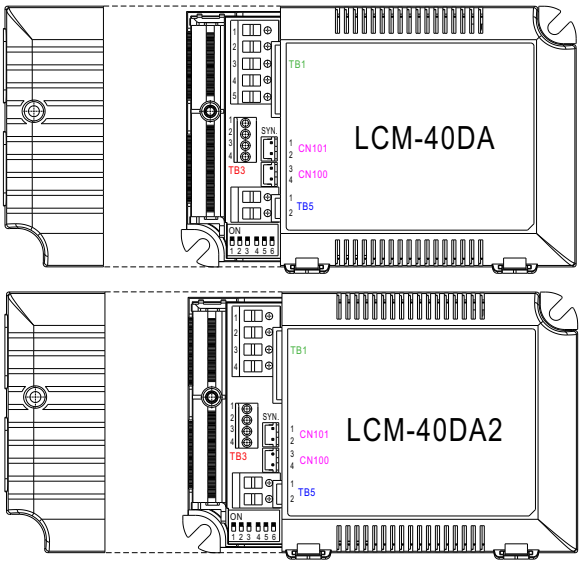
LOAD
(277Vac Input)

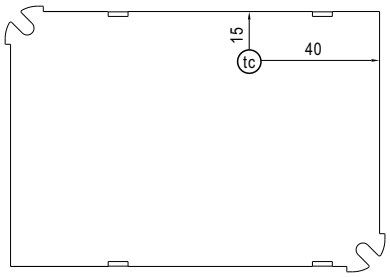
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









Bottom View

• ⓣⓒ : Max. Case Temperature

※Terminal Pin No. Assignment(TB1)(LCM-40DA)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N	5	DA-
3	PUSH		

※Terminal Pin No. Assignment(TB1)(LCM-40DA2)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA-
2	AC/N		
3	DA+		

※Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment
1	+FAN(+AUX)	3	+NTC
2	-FAN(-AUX)	4	-NTC

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-40DA-AUX; it can be used to drive fan.

※Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Installation Manual

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

40W Multiple-Stage Constant Current Mode LED Driver LCM-40KN series

User's Manual

Video

AC Input: 200-240Vac

By request

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

GTIN CODE

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

Description

LCM-40KN series is a 40W 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-40KN operates from 180～295VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -30℃～+90℃ case temperature under free air convection. In addition, LCM-40KN is equipped with push dimming and synchronization so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 40KN - AUX

- AUX: Function mode option
- 40KN: Built-in KNX interface
- 40: Output wattage
- LCM: Series name

Type	Function	Note
Blank	KNX and push dimming ,with standby power consumption <0.5W	In Stock
AUX	KNX and push dimming, with standby power consumption <1.2W and Auxiliary DC output	By request

40W Multiple-Stage Constant Current Mode LED Driver LCM-40KN series

SPECIFICATION

MODEL		LCM-40KN-□					
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	42W					
	DC VOLTAGE RANGE	2 ~ 100V	2 ~ 80V	2 ~ 67V	2 ~ 57V	2 ~ 45V	2 ~ 40V
	OPEN CIRCUIT VOLTAGE (max.)	110V			65V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 220 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.95/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	90%					
	AC CURRENT (Typ.)	0.23A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(t_{width}=310μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	21 units (circuit breaker of type B) / 35 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	<0.5mA / 240VAC					
	STANDBY POWER CONSUMPTION Note.6	<0.5W for Blank-Type, <1.2W for AUX-Type					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	110 ~ 130V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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	ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent, BIS IS15885(Part2/Sec13), EAC TP TC 004 approved, GB19510.14 and GB19510.1(by request) ; According to BS EN/EN50172, BS EN/EN 60598-2-22, BS EN/EN61347-2-13 appendix J suitable for emergency installations(EL)(AC Input: 200-240Vac)					
	KNX STANDARDS	Certified protocol					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃ / 70% RH					
	EMC EMISSION Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	1764.6K hrs min. Telcordia SR-332 (Bellcore) ; 190.4K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

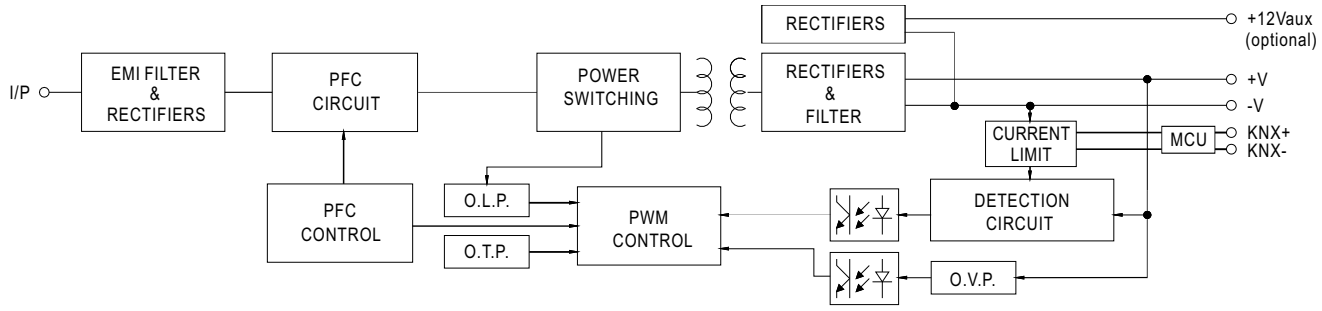
NOTE

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/80V output set by DIP switch.
5. Current ripple is measured 50%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. 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).
9. 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.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz



■ DIP SWITCH TABLE

LCM-40KN is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	1	2	3	4	5	6	Max. LED voltage
350mA	----	----	----	----	----	----	100V
500mA	ON	----	----	----	----	----	80V
600mA	ON	ON	----	----	----	----	67V
700mA(factory default)	ON	ON	ON	----	----	ON	57V
900mA	ON	ON	ON	ON	----	ON	45V
1050mA	ON	ON	ON	ON	ON	ON	40V

More current options through DIP switch are exhibited below.

DIP S.W. / Io	1	2	3	4	5	6	Max. LED voltage
450mA	----	ON	----	----	----	----	78V
550mA	----	----	----	ON	----	----	73V
650mA	ON	----	----	----	ON	----	62V
750mA	ON	ON	----	----	ON	ON	53V
800mA	ON	ON	----	ON	----	ON	50V
850mA	ON	ON	ON	----	ON	ON	47V
950mA	ON	ON	----	ON	ON	ON	42V

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

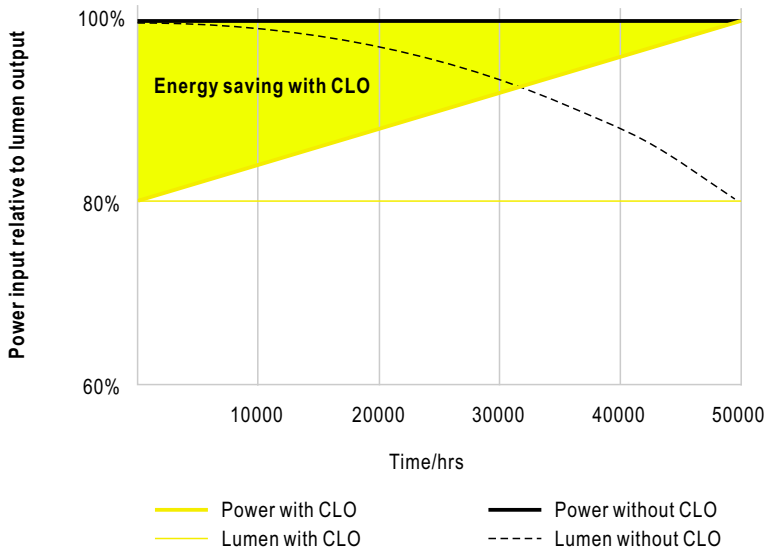
■ DIMMING OPERATION

※ 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

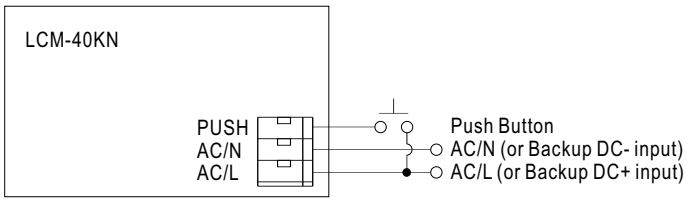
Parametrization options	Description
Switch functions	• Turn on brightness • Dimming speed for turn on/off • Switch telegram and status • Switch on/off delay
Dimming	• Dimming speed for 0~100% • Allow switch on via relative dimming • Push dimming with AC inut port • Block object for push dimming
Brightness 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

※ CONSTANT LIGHT OUTPUT



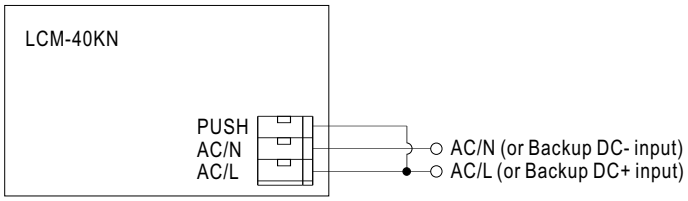
※PUSH dimming or AC/DC input monitor(Primary side)

◎ PUSH dimming



- KNX bus need to be connected when using PUSH Dimming
- The detailed function of PUSH dimming, please refer to the database.
- The maximum length of the cable between the push button and driver is 20 meters.
- The mechanical 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.

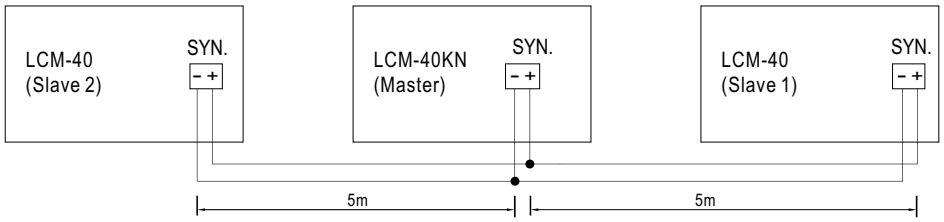
◎ AC/DC input monitor



- KNX bus need to be connected when using AC/DC input monitor
- The detailed function of AC/DC input monitor(emergency lighting), please refer to the database and instruction manual.

■ SYNCHRONIZATION OPERATION

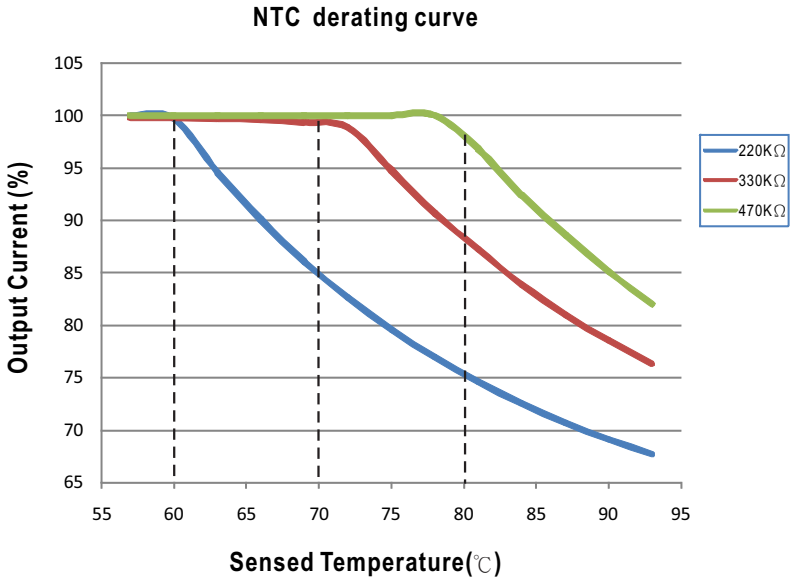
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 6%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



NOTE: Min. Dimming operating range depends on database setting.

■ TEMPERATURE COMPENSATION OPERATION

LCM-40KN have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-40KN and the detecting point on the lighting system or the surrounding environment, output current of LCM-40KN could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-40KN can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

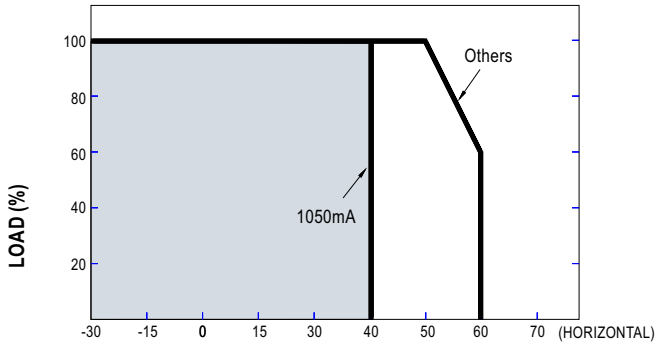
◎ NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

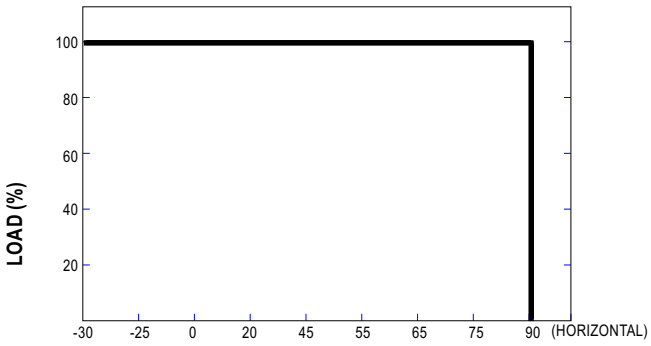
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ KNX control, dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

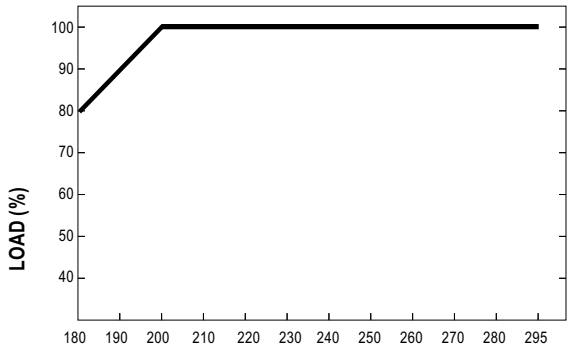


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

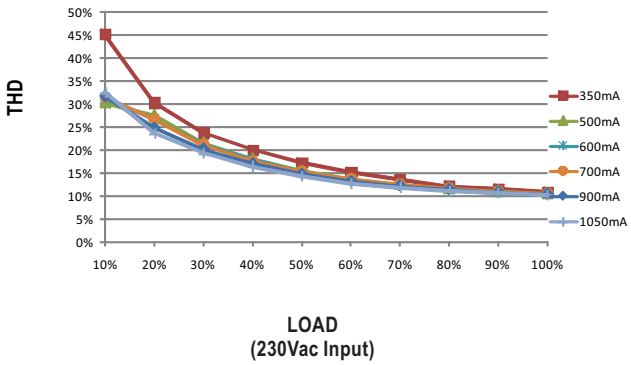


INPUT VOLTAGE (V) 60Hz

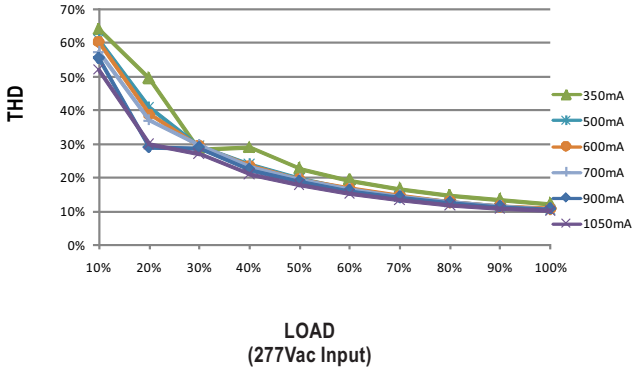
※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



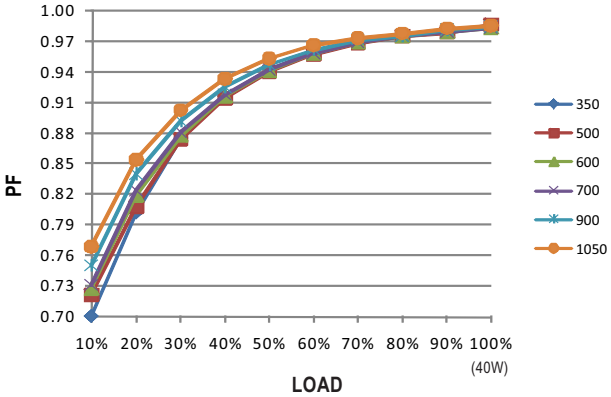
LOAD
(230Vac Input)



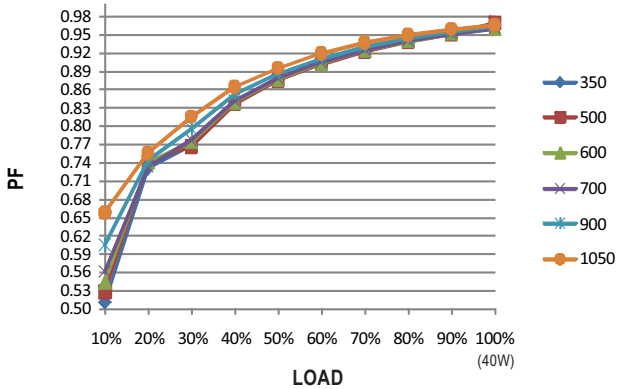
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

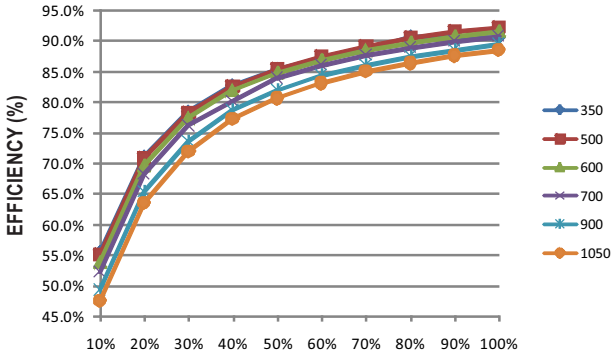


LOAD
(277Vac Input)

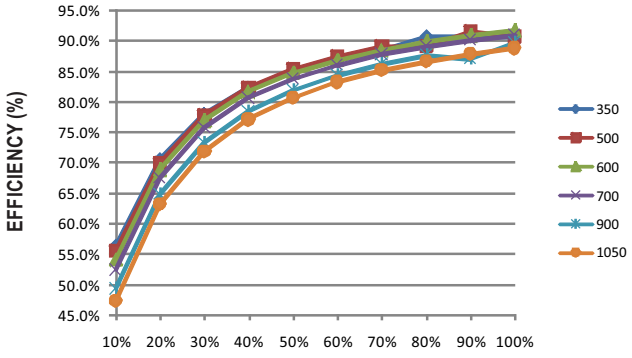
■ EFFICIENCY vs LOAD

LCM-40KN series possess superior working efficiency that up to 90% can be reached in field applications.

※ Tcase at 80℃



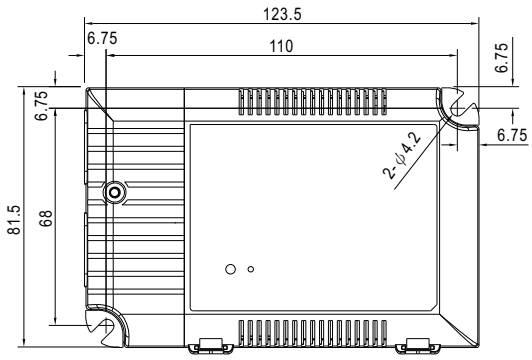
LOAD
(230Vac Input)

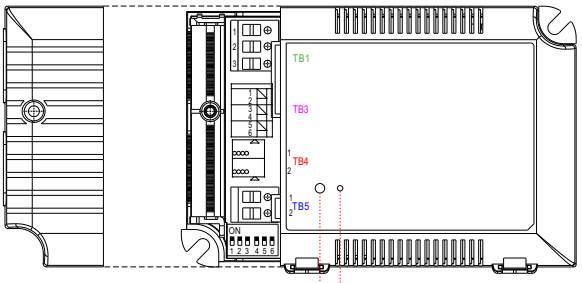


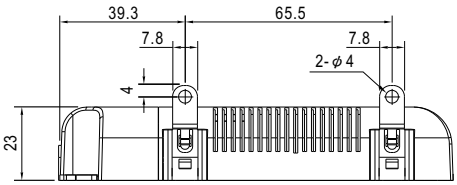
LOAD
(277Vac Input)

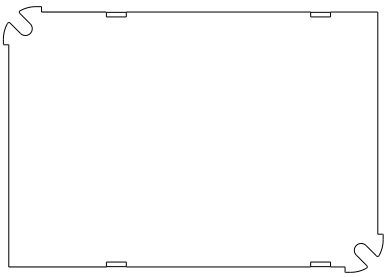
■ MECHANICAL SPECIFICATION

Case No.LCM-60B Unit:mm Tolerance:±1









Bottom View

※Terminal Pin No. Assignment(TB1)

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

※Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN(optional)	3	+NTC	5	+SYN
2	-FAN(optional)	4	-NTC	6	-SYN

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-40KN-AUX; it can be used to drive fan.

※Terminal Pin No. Assignment(TB4)

Pin No.	Assignment
1	KNX-
2	KNX+

※Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

■ Installation Manual

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

LCM-40TW series

40W Constant Power Mode With Tunable White LED Driver

User's Manual

DC Input: 180-260Vdc
AC Input: 200-240Vac

Note.10

Features

- DALI device type 6(DT6) and device type 8(DT8) available
- Constant power mode output with 2 channels
- Plastic housing with class II and PFC design
- Flick free, complying with IEEE1789
- Standby power consumption <0.5W
- Minimum dimming level 0.2%
- Cooling by free air convection
- Emergency lighting (EL) available
- 5 years warranty

Applications

- Tunable White Lighting
- Human Centric Lighting(HCL)
- Downlight
- Panel Light
- Decorative Light
- Commercial Lighting
- DALI digital Lighting

GTIN CODE

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

Description

LCM-40TW Series is a 40W constant power output LED driver with two channels output for Tunable white function. It can operate from 180~277V AC and output current ranging between 500 mA to 1050 mA selectable by dip switch. Thanks to high efficiency up to 87%, it is able to operate for -30℃~85℃ case temperature under free air convection. LCM-40TW is designed based on DALI-2 DT8 Tunable white and is also usable as two independent output channels with DT6 function. LCM-40TW can be adjusted for light intensity and color temperature by a push button as a simple way dimming, so it provides the design flexibility for LED Lighting application.

Model Encoding

LCM - 40 TW

- TW: Function options(DALI-2 Tunable White DT8)
- 40: Rated wattage
- LCM: Series name

40W Constant Power Mode With Tunable White LED Driver LCM-40TW series

SPECIFICATION

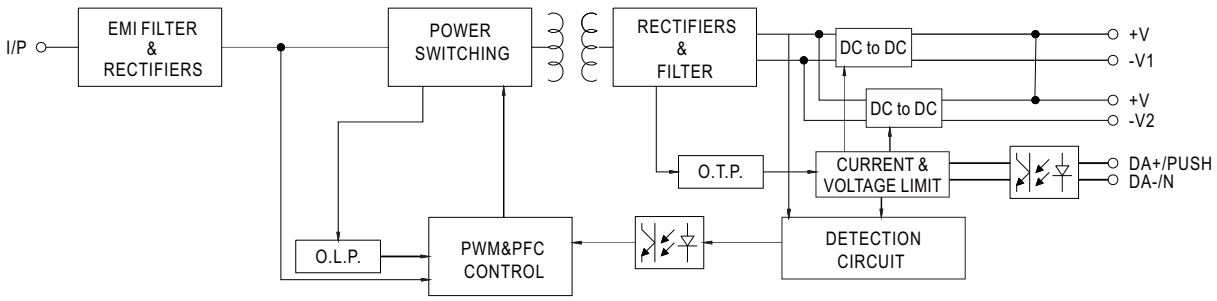
MODEL		LCM-40TW	
OUTPUT	OUTPUT CHANNEL	CH1	CH2
	DC VOLTAGE RANGE	20~50V	20~50V
	NO LOAD VOLTAGE	53V	53V
	DEFAULT CURRENT	700mA	700mA
	CURRENT ADJ. RANGE (BY DIP SWITCH)	500~1050mA	500~1050mA
	RATED POWER	40W Max. total	
	CURRENT RIPPLE Note5	<2%	
	DIMMING RANGE	0~100%	
	START UP TIME Note9	500ms/230VAC	
INPUT	VOLTAGE RANGE	180~277VAC 260~390VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR	PF≥0.98/230VAC,PF≥0.95/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)	
	TOTAL HARMONIC DISTORTION	THD< 10%(@load 50%/230VAC; @load 75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)	
	EFFICIENCY(Typ.) Note4	87%	
	AC CURRENT	0.23A/230VAC	
	INRUSH CURRENT	COLD START 20A(twidth=310μs measured at 50% Ipeak) at 230VAC; Per NEMA 410	
	LEAKAGE CURRENT	<0.75mA / 277VAC	
	STANDBY POWER CONSUMPTION Note6	standby power consumption<0.5W (Dimming off)	
PROTECTION	OVERLOAD	105~135% rated output power	
		Protection type: Hiccup mode, recovers automatically after fault condition is removed.	
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed	
	OVER TEMPERATURE	Stage 1: Derating to 70% loading; stage2: Shut down.Recovers automatically after fault condition is removed	
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	
	OPERATING ALTITUDE	2000 meters	
SAFETY&EMC	SAFETY STANDARDS	ENEC BS EN/EN61347-1, BS EN/EN61347-2-13(EL) appendix J suitable for emergency installations(DC Input: 180-260Vdc,AC Input: 200-240Vac); BS EN/EN62384 independent, GB19510.14, GB19510.1, EAC TP TC 004, BIS IS 15885(Part2/Sec13) approved	
	DALI STANDARDS	Comply with IEC62386-101, 102, 207(DT6),209(DT8),251	
	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	2111.7K hrs min. Telcordia SR-332 (Bellcore) 177.4Khrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	123.5*81.5*23mm (L*W*H)	
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT	

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 800mA/50V output set by DIP switch.
5. Current ripple is measured 50%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. 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).
9. Based on IEC 62386-101/102 DALI power on timing and interruption regulations, the set up time needs to test with a DALI controller which can support for DALI power on function, otherwise the start up time will be higher than 0.5 second.
10. For more information, please contact with MEAN WELL sales.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

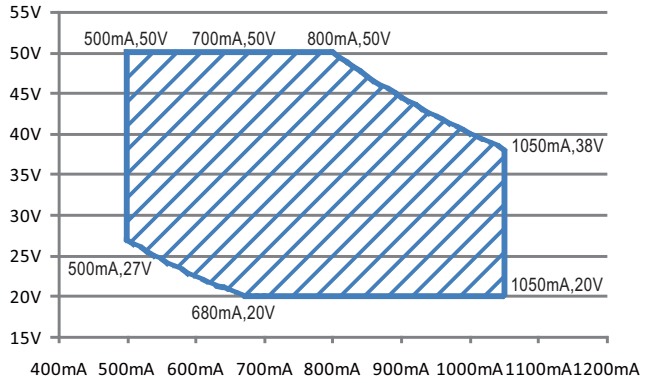


■ DRIVING METHODS OF LED MODULE

※ I-V Operating Area

◎ **LCM-40TW**

For 40W application



■ DIP SWITCH TABLE

LCM-40TW is a multiple-stage constant power driver, selection of output current through DIP switch is exhibited below.

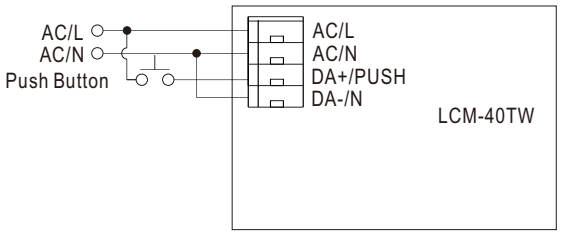
Vo	Io \ DIP S.W	1	2	3
27~50V	500mA	----	ON	ON
		ON	ON	ON
25~50V	600mA	----	----	ON
		ON	----	ON
20~50V	700mA(factory default)	ON	ON	----
20~50V	800mA	----	ON	----
20~44V	900mA	ON	----	----
20~38V	1050mA	----	----	----

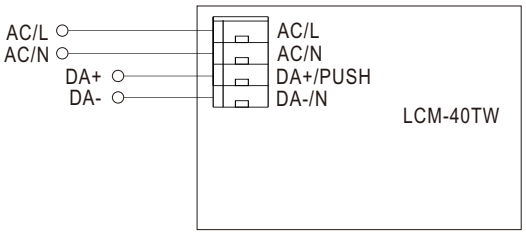
Status \ DIP S.W	4	5	Activatied Channel
Single-address DT6	----	ON	CH1
Dual-address DT6	ON	ON	CH1,CH2
Single-address DT8 (factory default)	----	----	CH1,CH2
	ON	----	

Note: 1.For more current setting,please contact MW's sales.
2.The operating voltage range which show on this table is recommend to use.

■ DIMMING OPERATION

※ **Output wiring diagram**





※**PUSH dimming (primary side)**

- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- 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.

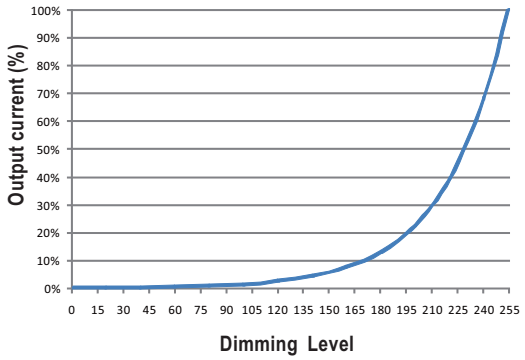
Action	Action duration
Short Push	0.1~1s
Double Click	Click twice in 1.5s
Long Push	1.5~10s

PUSH dimming functions table

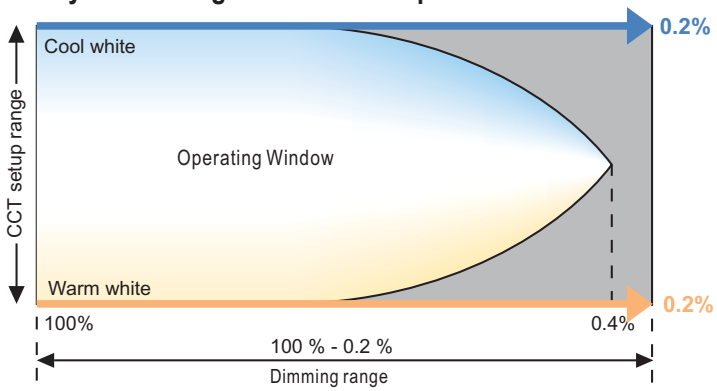
Status	Output	Push button function
DT6 (Single Address)	CH1	Short Push : ON/OFF Double Click : go to maximum. Long Push: Dim up/down. - dim up stop at maximum; dim down stop at min dim (not dim off) - with next push, direction change (up/down) - dim up possible even if when unit is in standby mode (dim off mode)
DT6 (Dual Address)	CH1,CH2	Short Push: ON/OFF Double Click : go to maximum. Long Push : Dim up+CCT cooler/Dim down+CCT warmer - dim up stop at maximum; dim down stop at min dim (not dim off) - with next push, direction change (up/down) - dim up possible even if when unit is in standby mode (dim off mode)
DT8 (Single Address)	CH1(C.W.) , CH2(W.W.)	Short Push : ON/OFF Double Click : Switch between Dim control or CCT control mode Long Push : Dim up/down or CCT control - dim up stop at maximum; dim down stop at min dim (not dim off) - with next push, direction change (up/down, warm/cold) - dim up possible even if when unit is in standby mode (dim off mode)

■ DIMMING CURVE

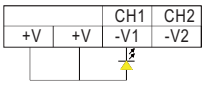
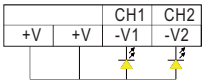
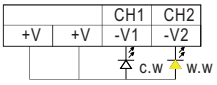
Dimming characteristics



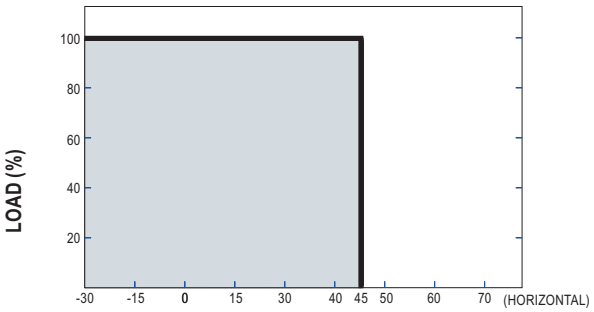
Dynamic range in colour temperature control



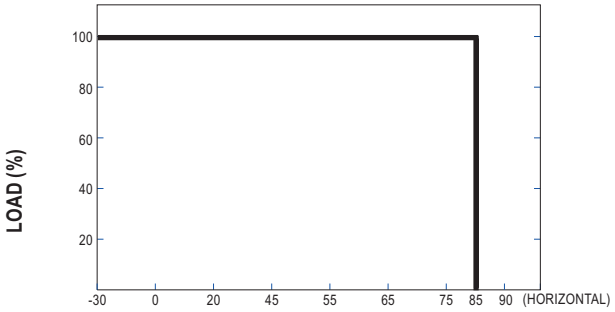
■ OUTPUT CONNECTIONS

Application	Output channels	Output connections schematic diagram
One channel output control(DT6)	Single address	
Two channels output control(DT6)	Dual address	
Tunable white control(DT8)	Single address	

■ OUTPUT LOAD vs TEMPERATURE

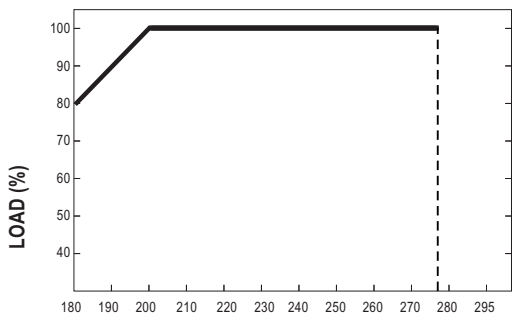


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

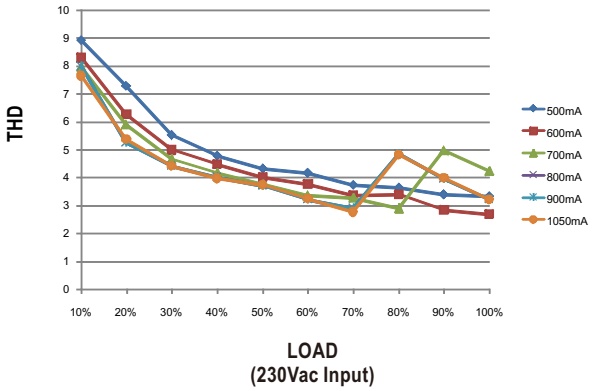


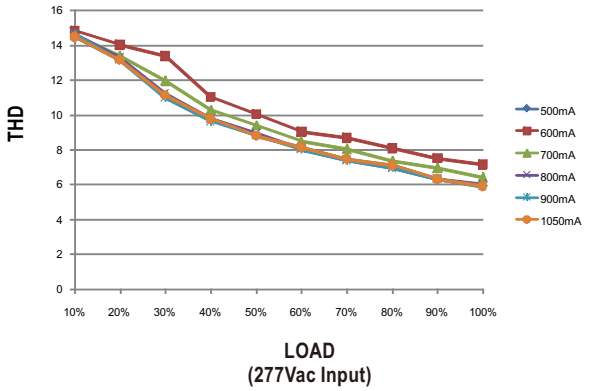
INPUT VOLTAGE (V) 60Hz

※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

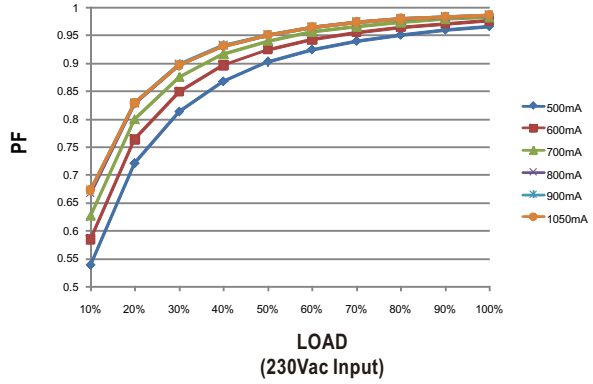
※ Tcase at 85℃

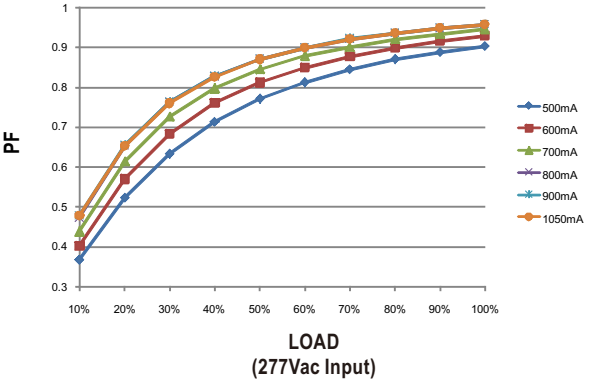




■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 85℃

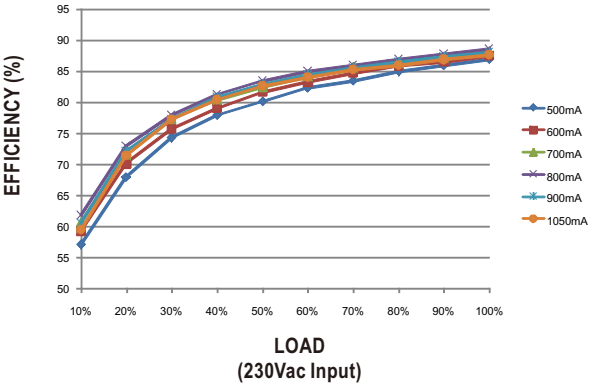


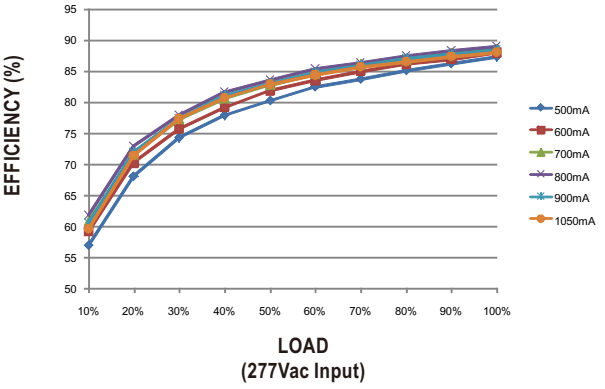


■ EFFICIENCY vs LOAD

LCM-40TW series possess superior working efficiency that up to 87% can be reached in field applications.

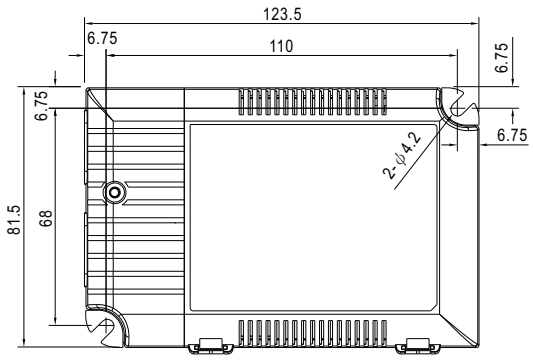
※ Tcase at 85℃

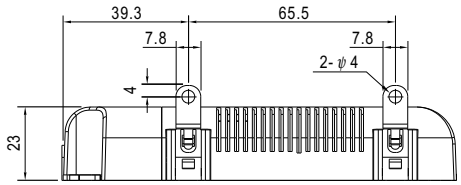


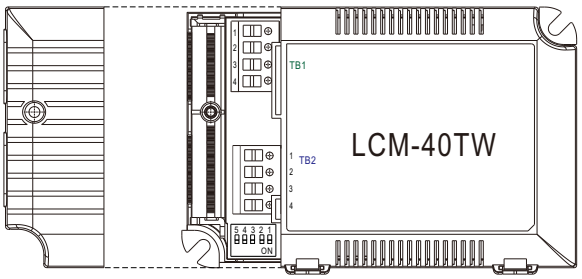


■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1





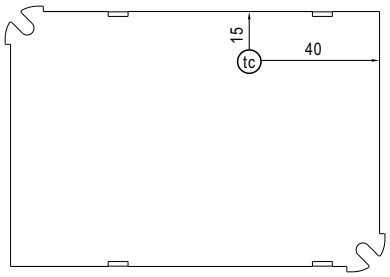


※Terminal Pin No. Assignment(TB1)

Pin No.	Assignment
1	AC/L
2	AC/N
3	DA+/PUSH
4	DA-/N

※Terminal Pin No. Assignment(TB2)

Pin No.	Assignment
1	+V
2	+V
3	-V1(C.W.)
4	-V2(W.W.)



Bottom View

• tc : Max. Case Temperature

■ Installation Manual

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

35W Multiple-Stage Constant Current Mode LED Driver LCM-40U series

User's Manual

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Functions: 3 in 1 dimming (dim-to-off); Auxiliary DC output; 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-40U series is a 35W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch. LCM-40U operates from 90～132VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 87.5%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. LCM-40U 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 - 40U

- 40U: Output wattage
- LCM: Series name

35W Multiple-Stage Constant Current Mode LED Driver LCM-40U series

SPECIFICATION

MODEL		LCM-40U					
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	35W					
	DC VOLTAGE RANGE	2 ~ 100V	2 ~ 70V	2 ~ 59V	2 ~ 50V	2 ~ 39V	2 ~ 34V
	OPEN CIRCUIT VOLTAGE (max.)	110V			65V		
	CURRENT RIPPLE Note.6	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA					
	SETUP TIME Note.3	1000ms / 115VAC					
INPUT	VOLTAGE RANGE Note.2	90 ~ 132VAC 127 ~ 186VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.98/115VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧50%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	87.5%					
	AC CURRENT (Typ.)	0.43A/115VAC					
	INRUSH CURRENT (Typ.)	COLD START 15A(t_{width}=270μs measured at 50% I_{peak}) at 115VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	22 units (circuit breaker of type B) / 38 units (circuit breaker of type C) at 115VAC					
	LEAKAGE CURRENT	<0.5mA / 120VAC					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	110 ~ 130V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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 approved					
	DALI STANDARDS	Comply with IEC62386-101, 102, 207					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	Compliance to FCC part 15 Subpart B					
OTHERS	MTBF	2649.1K hrs min. Telcordia SR-332 (Bellcore) ; 273.7K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.28Kg ; 54pcs/16Kg/1.12CUFT					

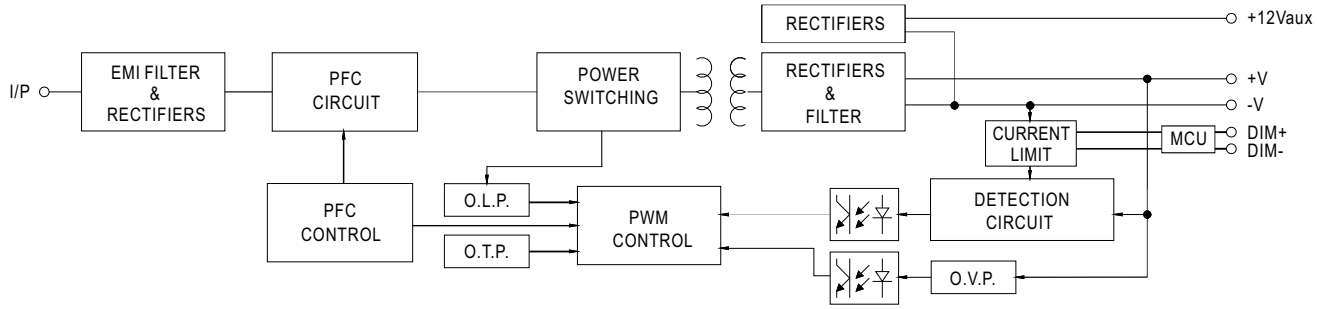
NOTE

1. All parameters NOT specially mentioned are measured at 115VAC 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/70V output set by DIP switch.
5. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. It is measured 50%~100% of maximum voltage under rated power delivery.
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).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

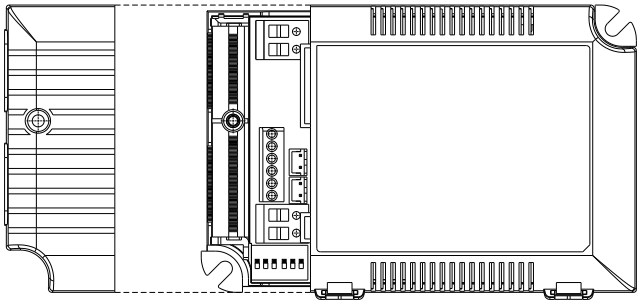


■ DIP SWITCH TABLE

LCM-40U is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	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

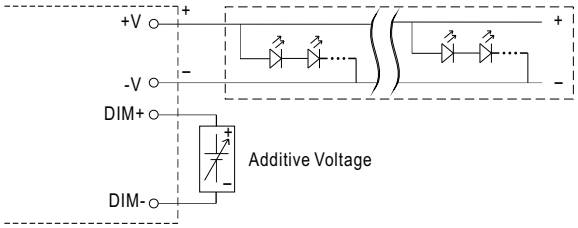
■ DIMMING OPERATION



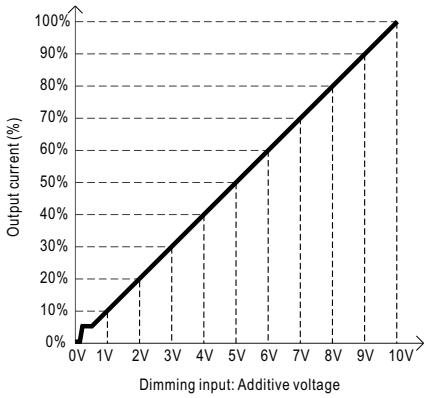
※ 3 in 1 dimming function

- 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: 100μA (typ.)

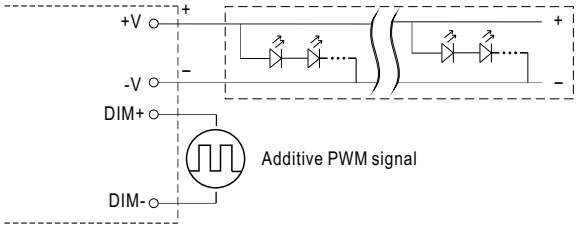
◎ Applying additive 0 ~ 10VDC



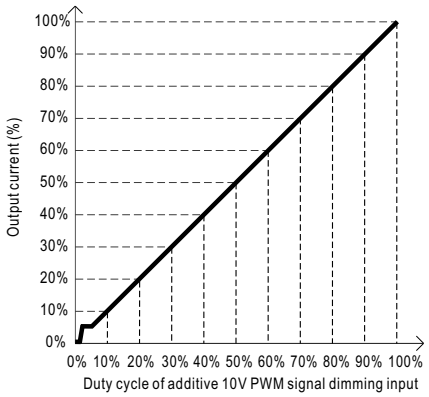
"DO NOT connect "DIM- to -V"



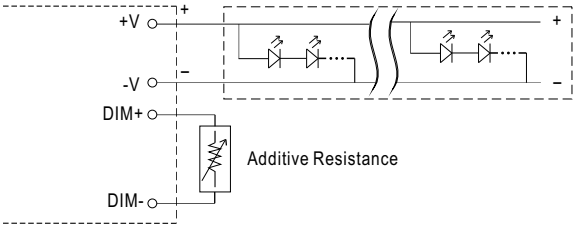
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



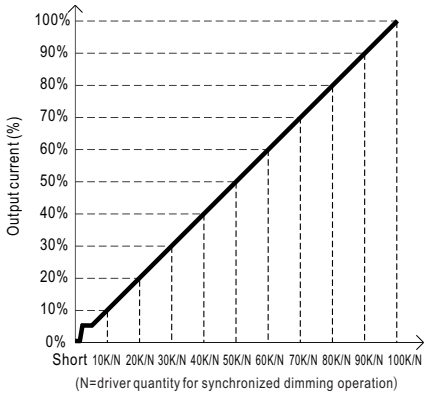
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



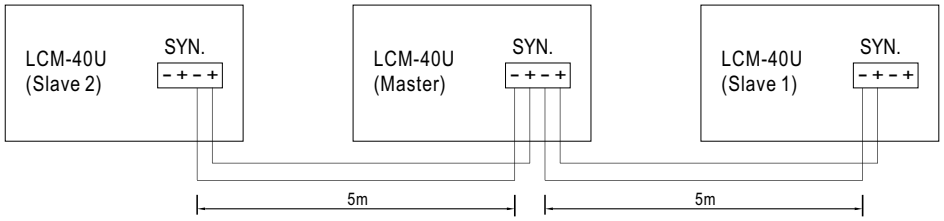
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate"temperature compensation" when performing dimming operation.

■ SYNCHRONIZATION OPERATION

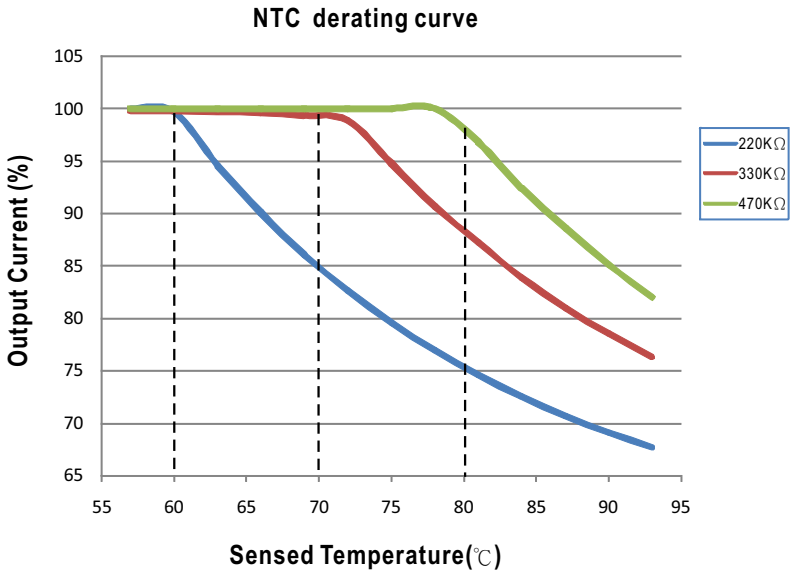
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-40U have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-40U and the detecting point on the lighting system or the surrounding environment, output current of LCM-40U could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-40U can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

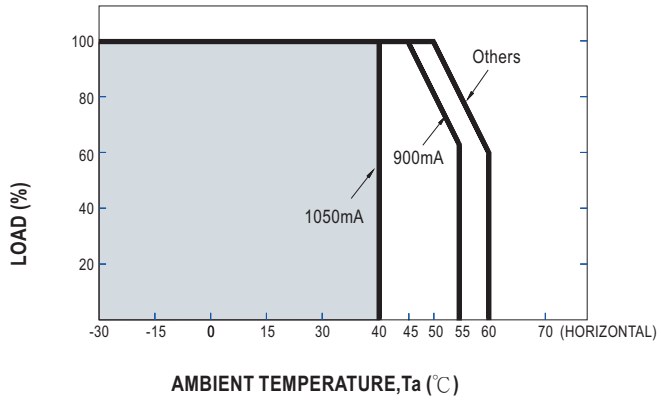
◎ NTC reference:

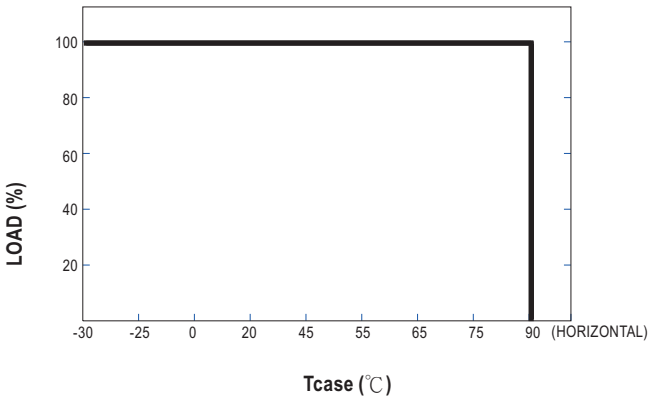
NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

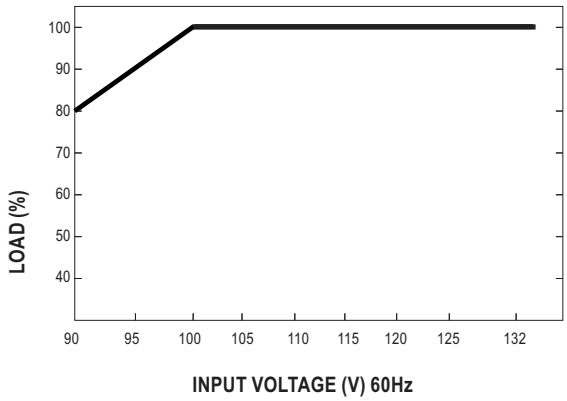
◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE





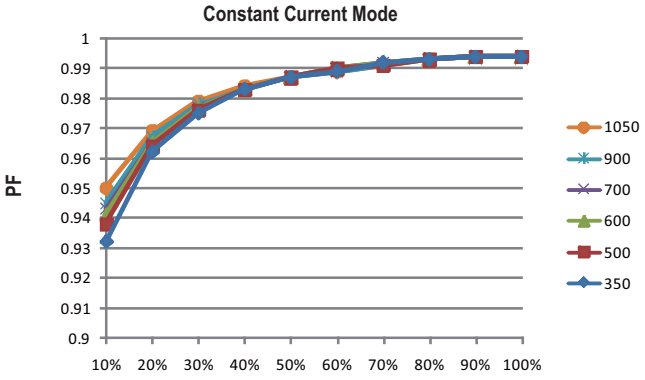
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

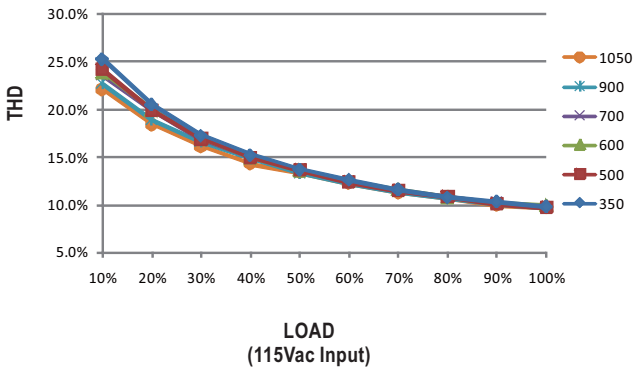
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

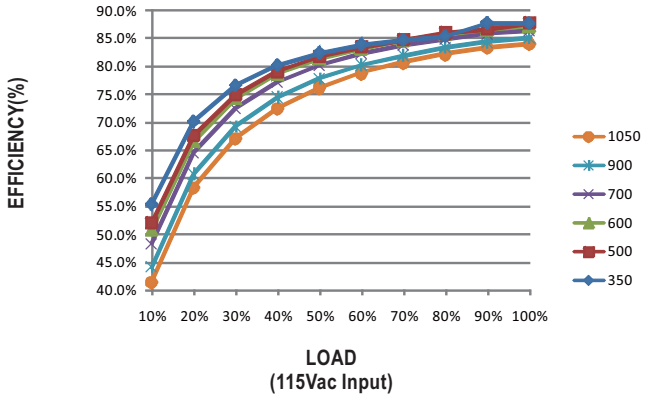
※ Tcase at 80℃



■ EFFICIENCY vs LOAD

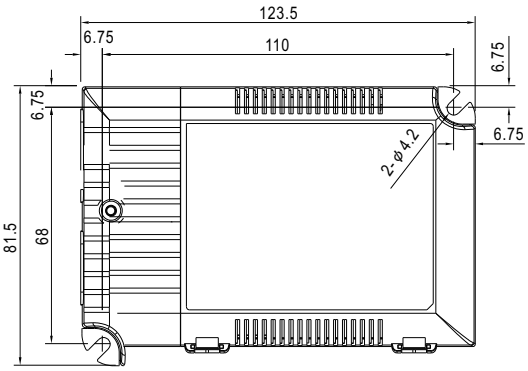
LCM-40U series possess superior working efficiency that up to 87.5% can be reached in field applications.

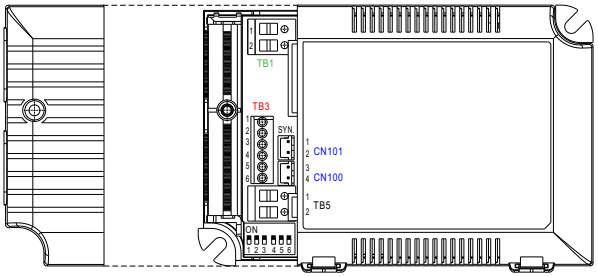
※ Tcase at 80℃

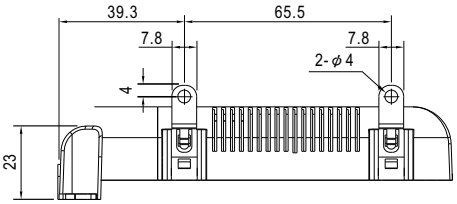


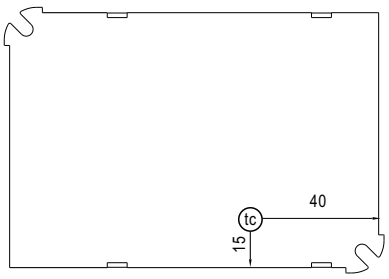
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









Bottom View

• ⓣc : Max. Case Temperature

※ Terminal Pin No. Assignment(TB1)

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

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN	3	+NTC	5	DIM+
2	-FAN	4	-NTC	6	DIM-

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output;it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

35W Multiple-Stage Constant Current Mode LED Driver LCM-40UDA series

User's Manual

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming, synchronization up to 10units
- 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-40UDA series is a 35W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386-207. LCM-40UDA operates from 90～132VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 87.5%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. In addition, LCM-40UDA is equipped with push dimming and synchronization so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 40UDA - □

- Function mode option
- Output wattage
- Series name

Type	Function	Note
Blank	DALI and push dimming	In Stock
AUX	DALI and push dimming and Auxiliary DC output	By request

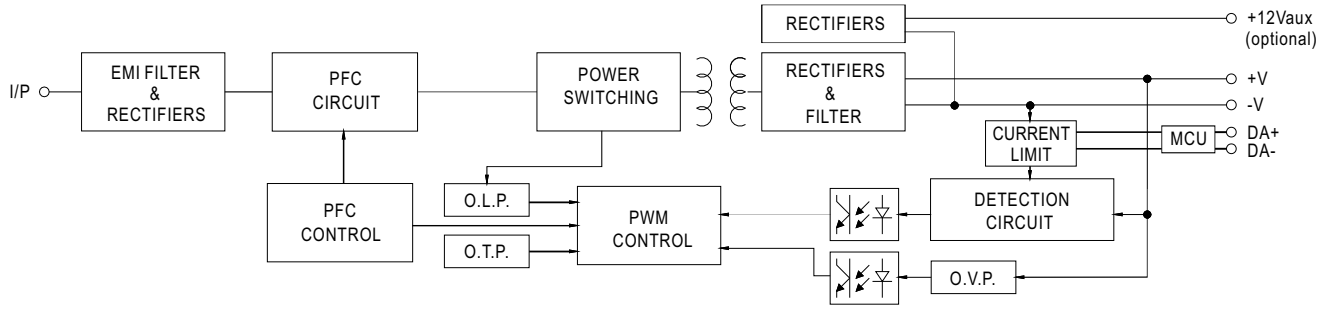
35W Multiple-Stage Constant Current Mode LED Driver LCM-40UDA series

SPECIFICATION

MODEL		LCM-40UDA-□					
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	35W					
	DC VOLTAGE RANGE	2 ~ 100V	2 ~ 70V	2 ~ 59V	2 ~ 50V	2 ~ 39V	2 ~ 34V
	OPEN CIRCUIT VOLTAGE (max.)	110V			65V		
	CURRENT RIPPLE Note.6	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3	1000ms / 115VAC					
INPUT	VOLTAGE RANGE Note.2	90 ~ 132VAC 127 ~ 186VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.98/115VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	87.5%					
	AC CURRENT (Typ.)	0.43A/115VAC					
	INRUSH CURRENT (Typ.)	COLD START 15A(t_{width}=270μs measured at 50% I_{peak}) at 115VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	22 units (circuit breaker of type B) / 38 units (circuit breaker of type C) at 115VAC					
	LEAKAGE CURRENT	<0.5mA / 120VAC					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	110 ~ 130V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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 approved					
	DALI STANDARDS	Comply with IEC62386-101, 102, 207					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	Compliance to FCC part 15 Subpart B					
OTHERS	MTBF	2285.3K hrs min. Telcordia SR-332 (Bellcore) ;222.9K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.28Kg ; 54pcs/16Kg/1.12CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 115VAC 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/70V output set by DIP switch. 5. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf) 6. It is measured 50%~100% of maximum voltage under rated power delivery. 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). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

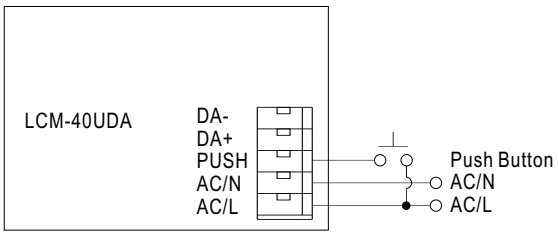


■ DIP SWITCH TABLE

LCM-40UDA 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



※PUSH dimming(primary side)

Action	Action duration	Function
Short push	0.1~1 sec.	Turn ON-OFF the driver
Long push	1.5~10 sec.	Every Long Push changes the dimming direction, dimming up or down
Reset	>11 sec.	Set up the dimming level to 100%

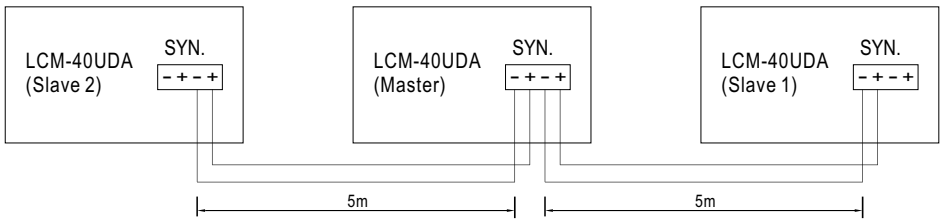
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the 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.

※DALI interface(primary side)

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ SYNCHRONIZATION OPERATION

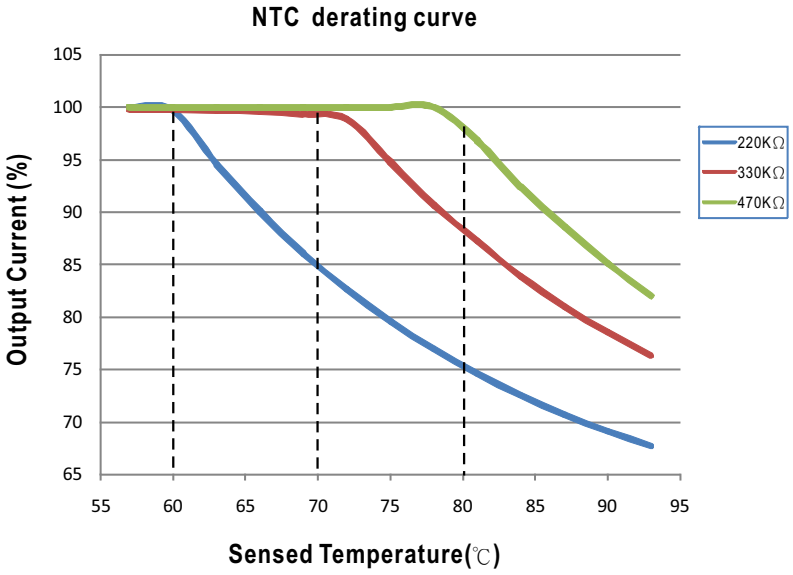
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-40UDA have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-40UDA and the detecting point on the lighting system or the surrounding environment, output current of LCM-40UDA could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-40UDA can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

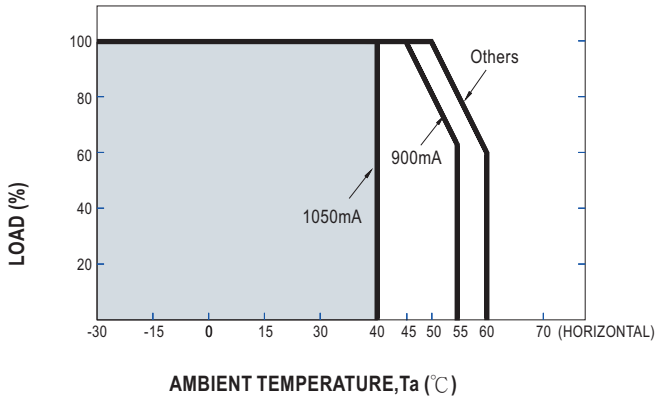
◎ NTC reference:

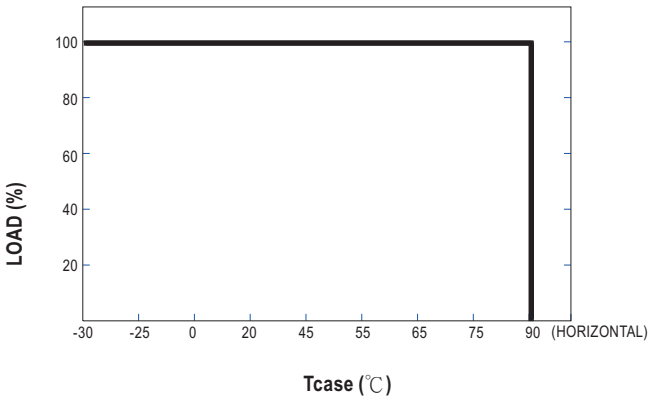
NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

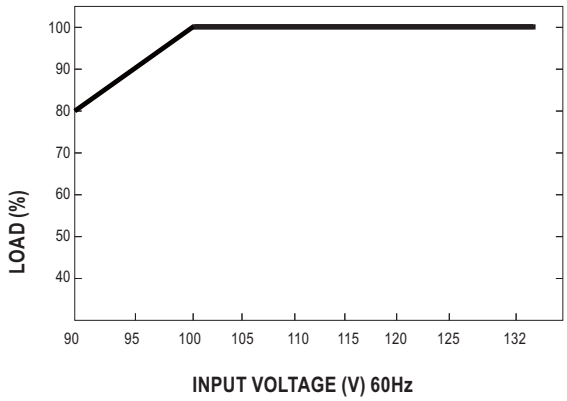
◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE





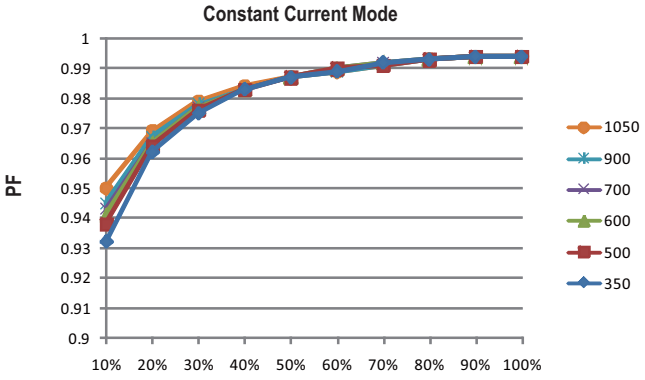
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

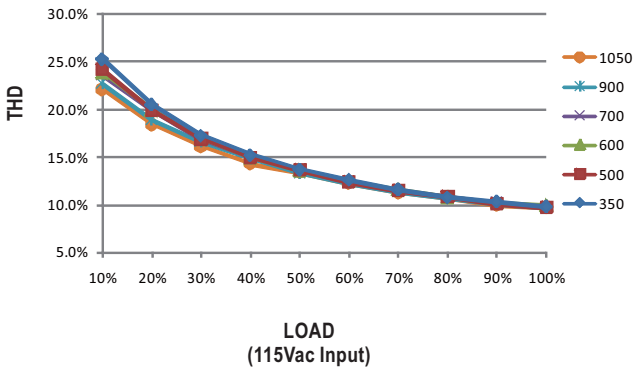
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

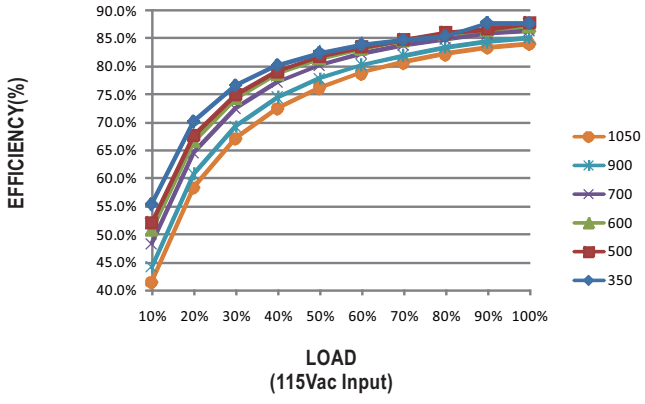
※ Tcase at 80℃



■ EFFICIENCY vs LOAD

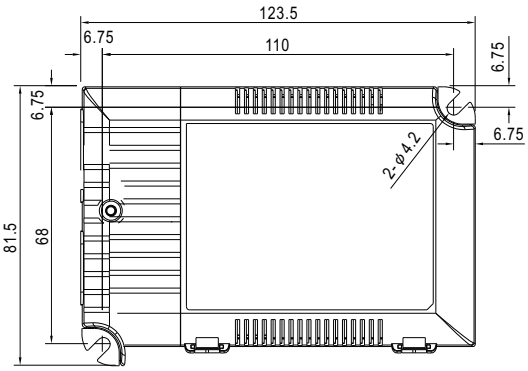
LCM-40UDA series possess superior working efficiency that up to 87.5% can be reached in field applications.

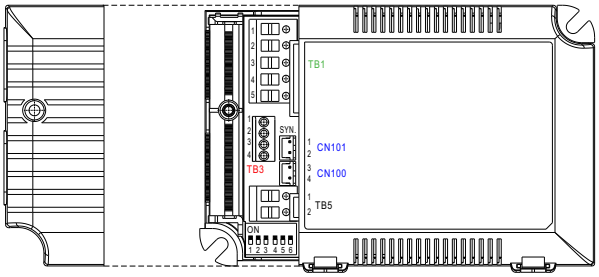
※ Tcase at 80℃

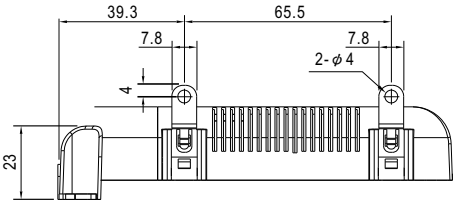


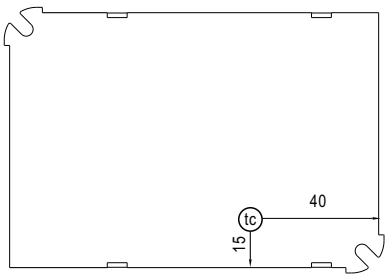
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









Bottom View

• tc : Max. Case Temperature

※ Terminal Pin No. Assignment(TB1)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N	5	DA-
3	PUSH		

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment
1	+FAN(optional)	3	+NTC
2	-FAN(optional)	4	-NTC

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-40UDA-AUX; it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

60W Multiple-Stage Constant Current Mode LED Driver LCM-60 series

User's Manual

Standard

Optional

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 <1W
- Functions: 3 in 1 dimming (dim-to-off); Auxiliary DC output; synchronization up to 10 units
- Optional: Wireless LED driver with integrated EnOcean module
- 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-60 series is a 60W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch. LCM-60 operates from 180～295VAC and offers different current levels ranging between 500mA and 1400mA. Thanks to the efficiency up to 92%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. LCM-60 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 - 60 ☐

- EO: Optional wireless EnOcean module
- Output wattage
- Series name

Type	Function	Note
Blank	3 in 1 dimming (dim-to-off)	In Stock
EO	Wireless driver with integrated EnOcean module	By request

60W Multiple-Stage Constant Current Mode LED Driver LCM-60 series

SPECIFICATION

MODEL		LCM-60					
OUTPUT	CURRENT LEVEL	Current level selectable via DIP switch, please refer to"DIP SWITCH TABLE" section					
		500mA	600mA	700mA(default)	900mA	1050mA	1400mA
	RATED POWER	60.3W					
	DC VOLTAGE RANGE	2 ~ 90V	2 ~ 90V	2 ~ 86V	2 ~ 67V	2 ~ 57V	2 ~ 42V
	OPEN CIRCUIT VOLTAGE (max.)	102V			76V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA					
	SETUP TIME Note.3	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 254 ~ 417VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.96/277VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	92%					
	AC CURRENT (Typ.)	0.32A/230VAC 0.27A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(twidth=270μs measured at 50% Ipeak) at 230VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	25 units (circuit breaker of type B) / 32 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	<0.5mA / 240VAC					
	STANDBY POWER CONSUMPTION Note.6	<1W					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 125V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	WIRELESS PROTOCOL(Optional)	EnOcean standard 868 MHz; Max. device(switch) saved into the memory : 33					
	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 40℃)					
	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 Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	2628.7K hrs min. Telcordia SR-332 (Bellcore) ; 260.6K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

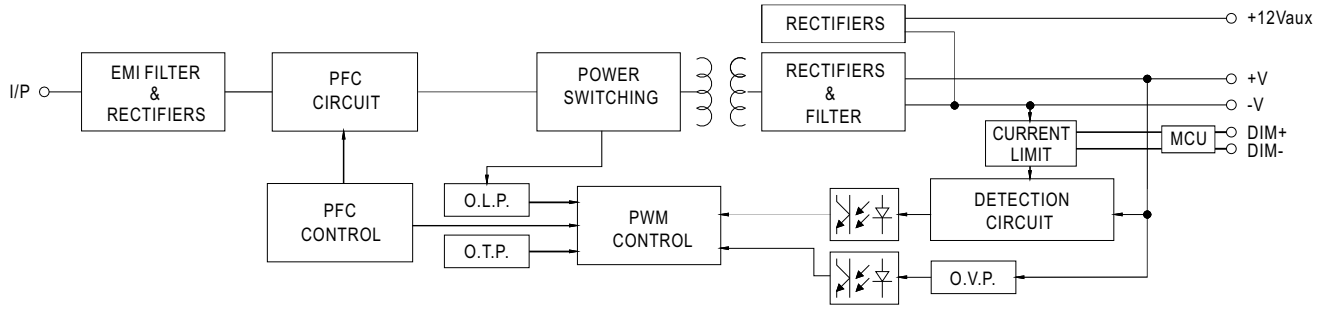
NOTE

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 900mA/67V output set by DIP switch.
5. Current ripple is measured 60%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. 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).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

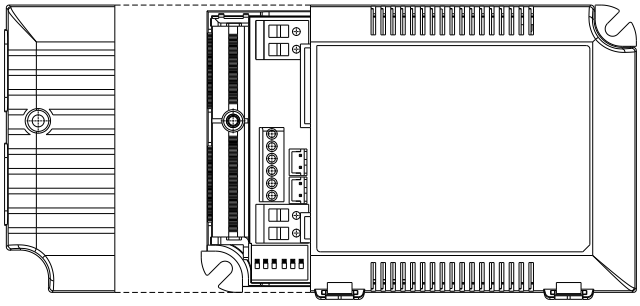


■ DIP SWITCH TABLE

LCM-60 is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	1	2	3	4	5	6
500mA	----	----	----	----	----	----
600mA	ON	----	----	----	----	----
700mA(factory default)	ON	ON	----	----	----	----
900mA	ON	ON	ON	----	----	ON
1050mA	ON	ON	ON	ON	----	ON
1400mA	ON	ON	ON	ON	ON	ON

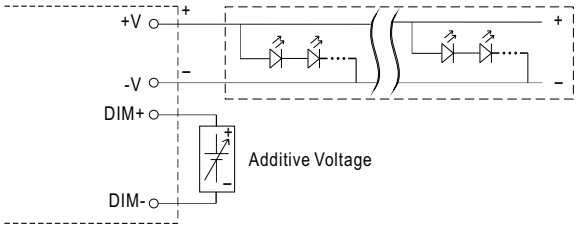
■ DIMMING OPERATION



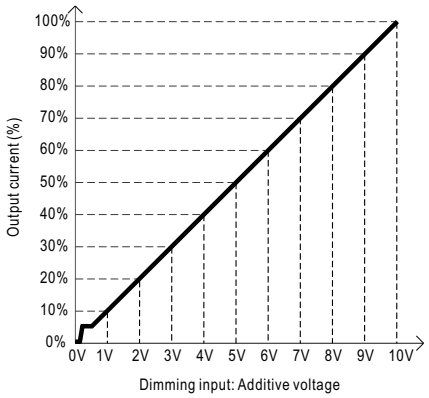
※ 3 in 1 dimming function

- 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. For optional EO model, the 3 in 1 dimming is via SYNC+ and SYNC-(CN100 or CN101 connector).
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

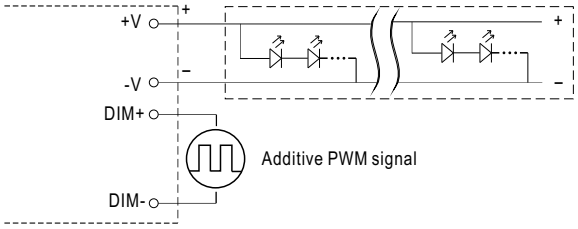
◎ Applying additive 0 ~ 10VDC



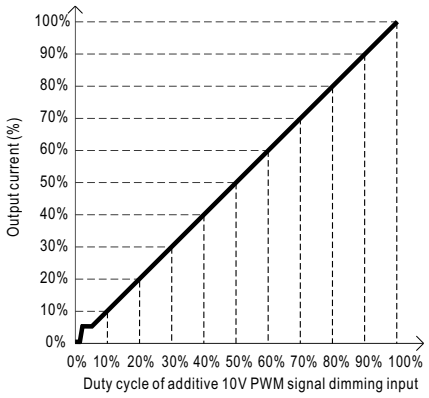
"DO NOT connect "DIM- to -V"



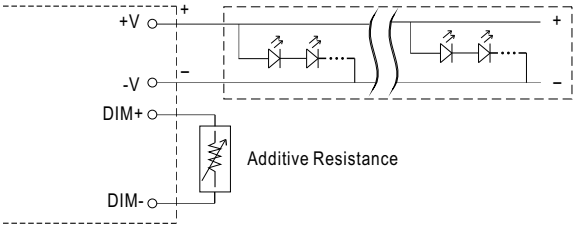
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



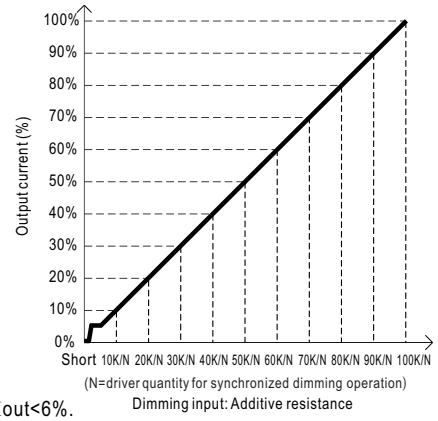
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



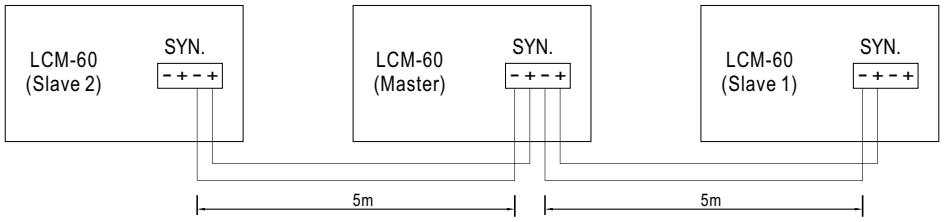
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate"temperature compensation" when performing dimming operation.

■ SYNCHRONIZATION OPERATION

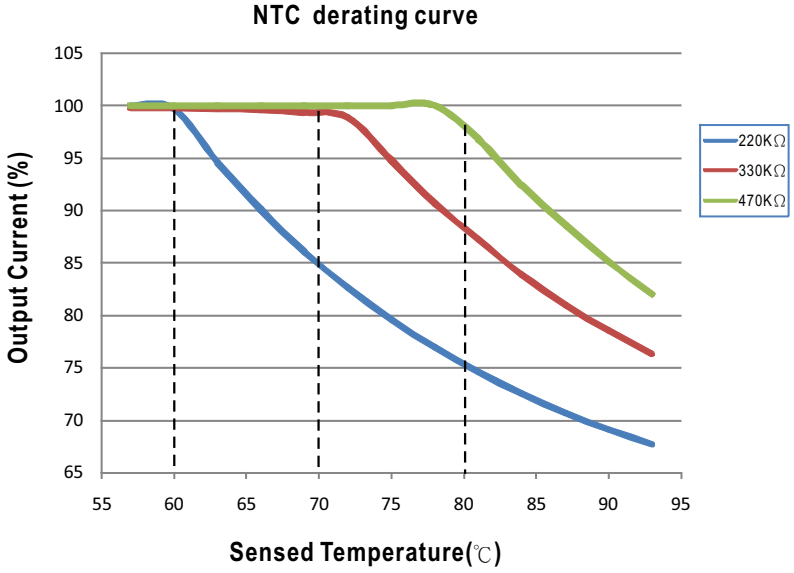
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



NOTE : 1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing.
2. For optional EO model: the master is EO and the salve could be standard model for economic arrangement.
3. Min. Dimming operating range depends on dimmer setting.

■ TEMPERATURE COMPENSATION OPERATION

LCM-60 have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-60 and the detecting point on the lighting system or the surrounding environment, output current of LCM-60 could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-60 can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

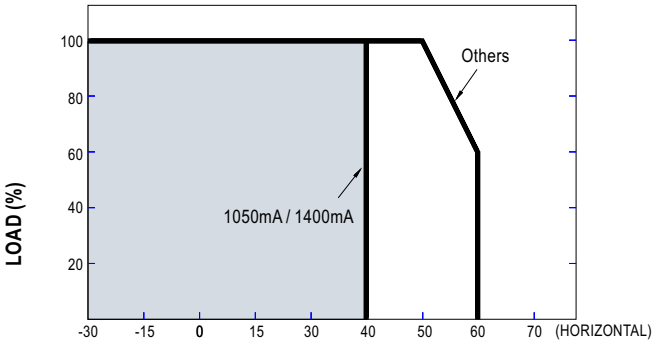
◎ NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

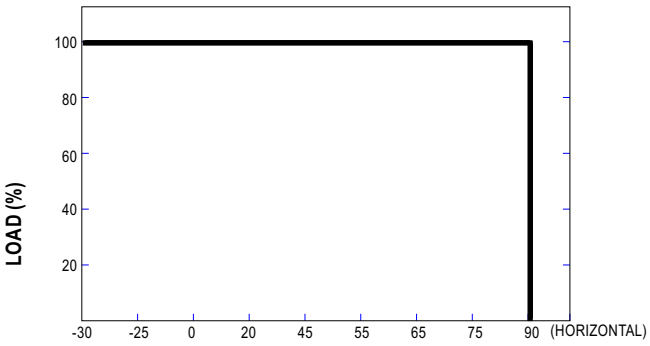
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

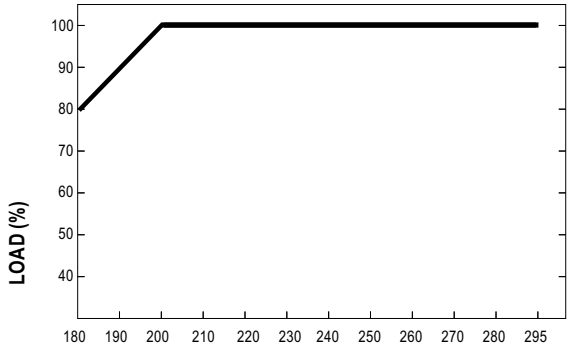


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

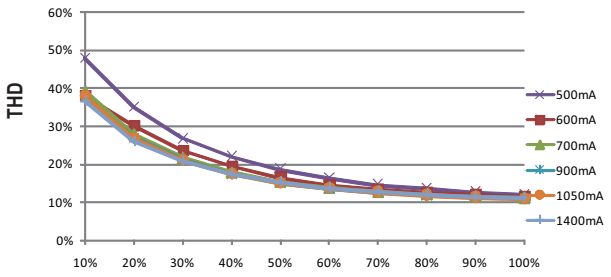


INPUT VOLTAGE (V) 60Hz

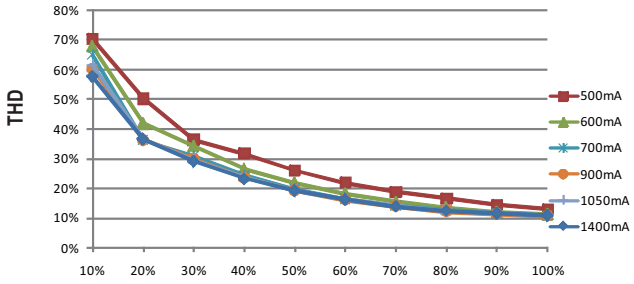
※ De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



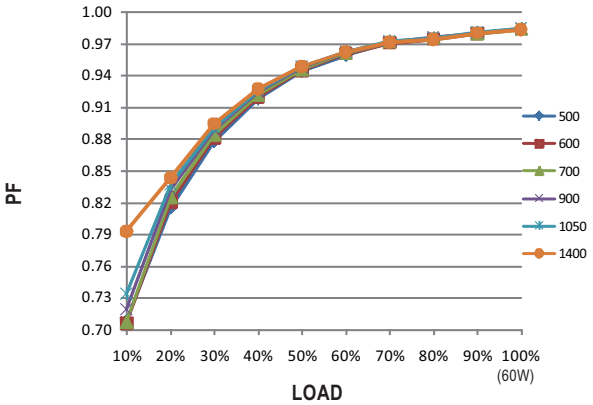
LOAD
(230Vac Input)



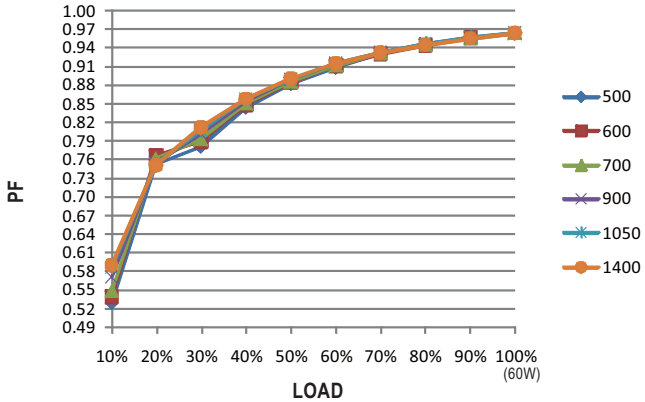
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

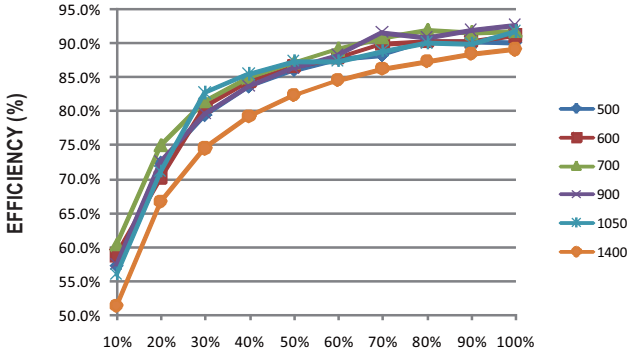


LOAD
(277Vac Input)

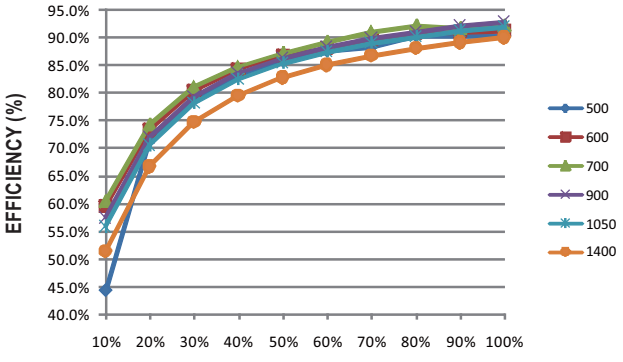
■ EFFICIENCY vs LOAD

LCM-60 series possess superior working efficiency that up to 91% can be reached in field applications.

※ Tcase at 80℃



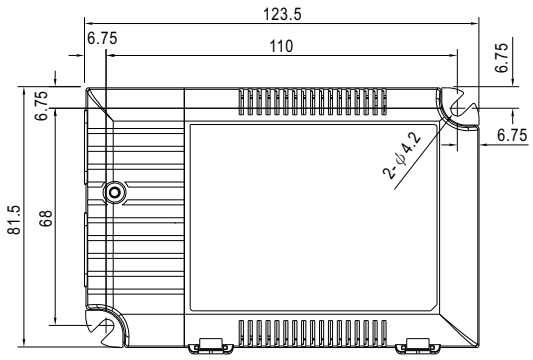
LOAD
(230Vac Input)

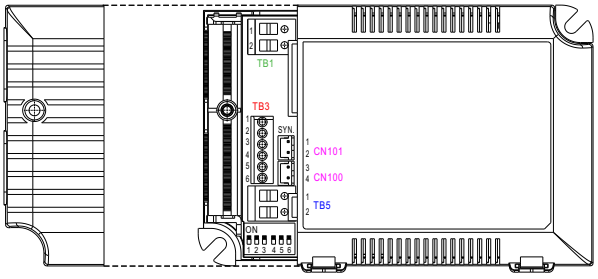


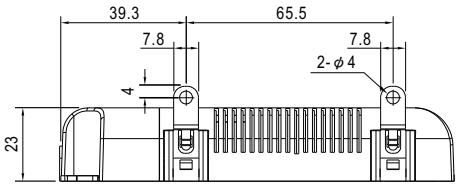
LOAD
(277Vac Input)

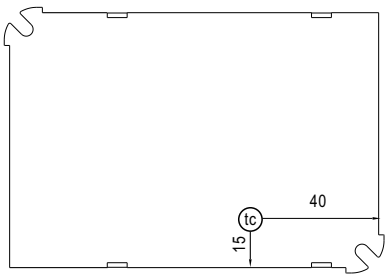
■ MECHANICAL SPECIFICATION

Case No.LCM-60A 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(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN	3	+NTC	5	DIM+
2	-FAN	4	-NTC	6	DIM-

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output;it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Installation Manual

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

※The following is only for Optional EO model:

■ LRN button description

LRN (Learn) Button:
Shortly press (around 2 second) the button to enter linking (pairing) / unlinking mode.
The LED lamp connected at the output of LCM starts toggling between 10% and 90% indicating that linking mode is active. Once activated, this mode stays active to provide time to link or unlink multiple switches. The mode will stop and bak to normal mode after 30 seconds if no wireless telegram from switch is received.

For the switch to be linked, click the"I" button (top button marked on the switch plastic or "I" symbol on the back of the switch 4 times quickly, In case the output is continuous 100% 4 seconds, it mean the switch is linked successfully.

The LED driver is now ready to accept new links on another switch.
In case a linked switch to be unlinked, please use the same action as described from the linking method above.
To exit linking / unlinking mode and return to normal operation, wait 30 seconds without doing anything or shortly press the button again.
In order to clear all linked switches and reset the LED driver to factory settings, please press and hold the button for 10 seconds.

■ Installation & Pairing

Hareware connection:
1.Connect the LED lamp to the driver.
2.Connect the driver to the AC mains.

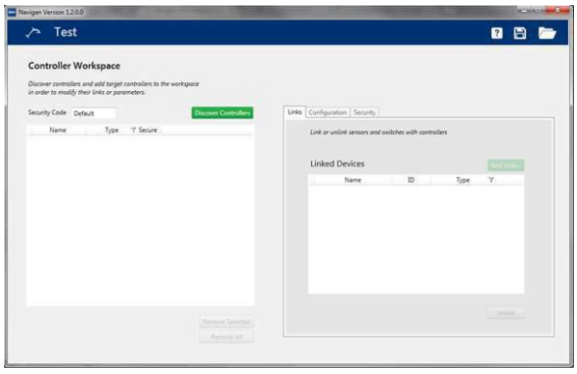
There are two approaches for linking(pairing):
1.Using the LRN button on the driver
The instruction is in the LRN button description.

2.Using the NAVIGAN wireless software
Benefit to use NAVIGAN is more dimming parameters can be configured .

The software can be download in the website link below.
http://www.navigan.com/
After the software installation, insert the NWC300 into one of USB port from the computer.

For more details, please check the manual.

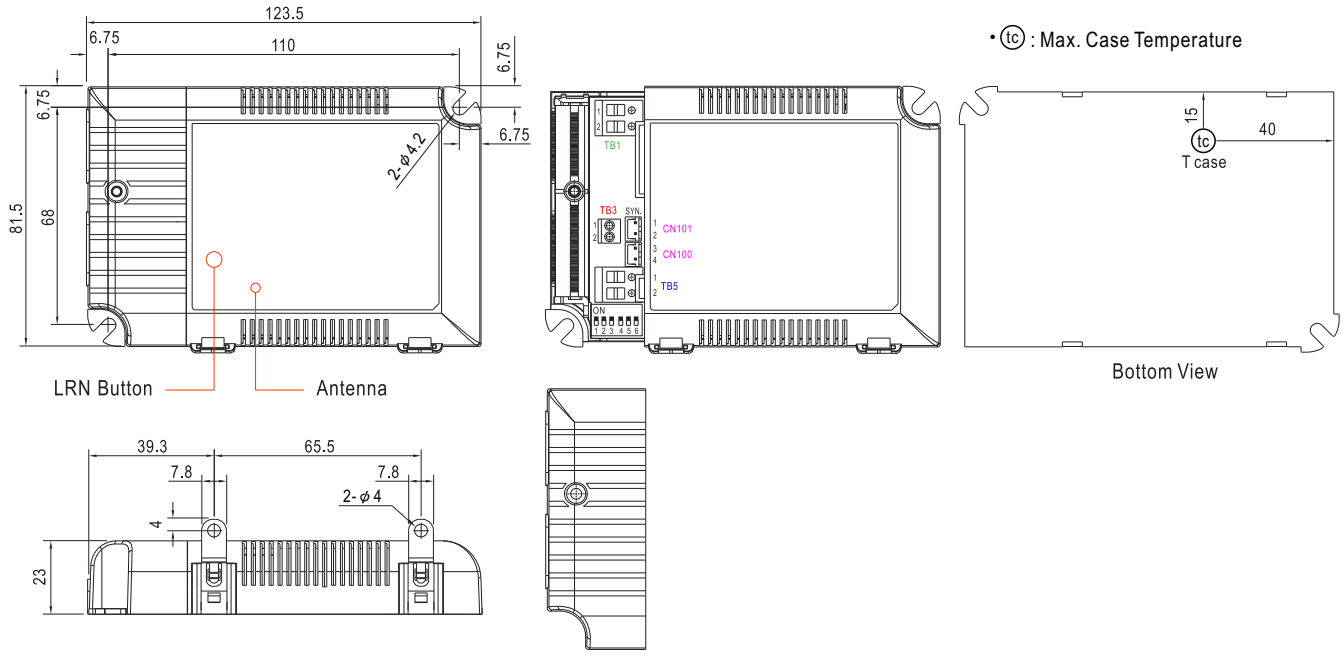
NWC300



※The following is only for Optional EO model

Case No.LCM-60A Unit:mm Tolerance:±1

■ MECHANICAL SPECIFICATION



※ Terminal Pin No. Assignment(TB1)

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

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment
1	+NTC
2	-NTC

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+Vo
2	-Vo

※ SYN. or DC 0-10V Dimming

Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Interoperable products / EnOcean Equipment Profile(EEP)

Support Equipment	Telegram
Rocker Pad Switch	F6-02-02
Occupancy Sensor	F5-07-01
Occupancy Sensor	A5-07-02
Occupancy Sensor	A5-07-03
Light Level Sensor	A5-06-02
Light Level Sensor	A5-06-03
Central Controller	A5-38-08
Demand Response	A5-37-01

■ Batteryless wireless switch supplier

MW order code:WPD-06SWT. There are many other switch supplier listed in the below.

Manufacturer	Model*
Legrand	0 784 42
Siemens	5WG4222-3AB10
Berker	24121009
Jung	ENO A 595
Busch-jaeger	EASYSENS/ENOCEAN
Gira	2422 03
Peha	D 455/61.022 FU-BLS N
Eltako	F4T65
VIMAR	20505+20506.B+21507.B

*: The model list is rovided for reference. For more information please contact original supplier

■ World Coverage Map

COUNTRY/REGION	STANDARD	FREQUENCY
Aruba	Possibly R & TTE Directive	868 MHz-Confirm with test house
Australia / New Zealand	N.A.	
Barbados	N.A.	Note1
Bermuda	N.A.	Note1
Bolivia	N.A.	Note1
Brazil	ANATEL	868 MHz
British Virgin Islands	N.A.	Note1
Cayman Islands	Possibly R & TTE Directive	868 MHz
CEPT(European regional)*	EN 300 220	868 MHz
Chile	Possibly R & TTE Directive	868 MHz
China	CNAS/MITT EN 300 220	868 MHz
Colombia	Possibly ANATEL	868 MHz
Ecuador	N.A.	Note1
El Salvador	Possibly R & TTE Directive	868 MHz
French Guiana	ETSI EN 300 220	868 MHz
Guatemala	N.A.	Note1
Hong Kong	Possibly 315MHz	Note1
India	Possibly 315MHz	Note1
Israel	Possibly 315MHz	Note1
Jamaica	N.A.	Note1
Japan 920**	ARIB STD-T108	928 MHz
Malaysia	SKMM WTS SRD / EN 300 220	868 MHz
Mexico	We believe Mexico does not accept FCC	868 MHz
Nicaragua	N.A.	Note1
Peru	N.A.	Note1
Panama	FCC CFR47 Part 15.249	902 MHz
Russia	N.A.	
Singapore	TS SRD / EN 300 220	868 MHz
South Africa	CASA / EN 300 220	868 MHz
South Korea	N.A.	
Suriname	N.A.	Note1
Taiwan	Possibly 315 MHz	Note1
Trinidad & Tabago	N.A.	Note1
Turks & Caicos Islands	Possibly R & TTE Directive	868 MHz
UAE	EN 300 220	868 MHz
Uruguay	N.A.	Note1
USA / Canada	FCC CFR47 Part 15.249	315 MHz, 902 MHz

Note1: It is suggested to check with local accredited certification angency.

*CEPT is the European regional organization dealing with postal and telecommunications issues and presently has 45 Members: Albania, Andorra, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom, and Vatican.

**In February 2012, Japanese regulatory body ARIB(Association of Radio Industries and Businesses) released new 920 MHZ frequency band for radio equipment, due to LTE rollout, The 950 MHz frequency band will be obsolete by end of 2015.

60W Multiple-Stage Constant Current Mode LED Driver LCM-60DA series

User's Manual

(for DA2-Type only) (for DA-Type only)

AC Input: 200-240Vac (for DA2-Type only)

(except for DA2-Type) (except for DA2-Type)

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Emergency lighting application is available according to IEC61347-2-13
- Built-in active PFC function and class II design
- Standby power consumption <0.5W
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming synchronization up to 10units
- 3 years warranty

Applications

- LED indoor lighting
- LED office lighting
- LED commercial lighting
- LED panel lighting
- Industrial lighting

GTIN CODE

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

Description

LCM-60DA series is a 60W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386. LCM-60DA operates from 180～295VAC and offers different current levels ranging between 500mA and 1400mA. Thanks to the high efficiency up to 92%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. In addition, LCM-60DA is equipped with push dimming and synchronization functions, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 60DA - AUX

- AUX: Function mode option: Blank or AUX type
- 60DA: DA: Built-in DALI interface and push dimming; DA2: Built-in DALI-2 interface and push dimming
- 60: Output wattage
- LCM: Series name

Type	Function	Note
Blank	standby power consumption <0.5W	In Stock
AUX	standby power consumption <1.2W and Auxiliary DC output(12V/50mA)	By request

SPECIFICATION

MODEL		LCM-60□-□					
OUTPUT	CURRENT LEVEL	Current level selectable via DIP switch, please refer to"DIP SWITCH TABLE" section					
		500mA	600mA	700mA(default)	900mA	1050mA	1400mA
	RATED POWER	60.3W					
	DC VOLTAGE RANGE	2 ~ 90V	2 ~ 90V	2 ~ 86V	2 ~ 67V	2 ~ 57V	2 ~ 42V
	OPEN CIRCUIT VOLTAGE (max.)	95V			73V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3 Note.9	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 254 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.95/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	92%					
	AC CURRENT (Typ.)	0.32A/230VAC 0.27A/277VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(t_{width}=270μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	25 units (circuit breaker of type B) / 32 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	<0.5mA / 240VAC					
	STANDBY POWER CONSUMPTION Note.6	<0.5W for Blank-Type, <1.2W for AUX-Type					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 125V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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(except for DA2-Type), 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(except for DA2-Type), EAC TP TC 004 approved; According to BS EN/EN61347-2-13 appendix J suitable for emergency installations(EL)(AC Input: 200-240Vac)(for DA2-Type only)					
	DALI STANDARDS	IEC62386-101, 102, 207,251					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC; I/P-DA:1.5KVAC; O/P-DA:1.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	2270.7K hrs min. Telcordia SR-332 (Bellcore) ; 193.7K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

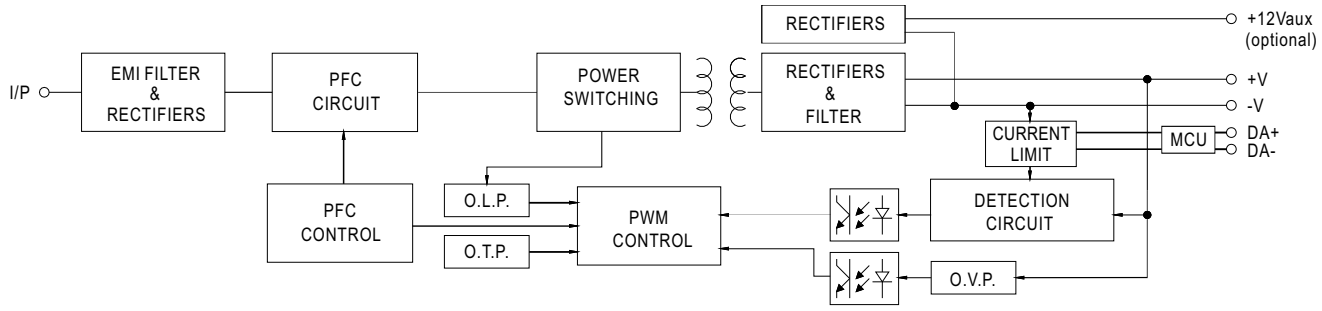
NOTE

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 900mA/67V output set by DIP switch.
5. Current ripple is measured 60%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. 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).
9. Based on IEC 62386-101/102 DALI power on timing and interruption regulations, the set up time needs to test with a DALI controller which can support for DALI power on function, otherwise the set up time will be higher than 0.5 second for DA2-type.
10. 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.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz



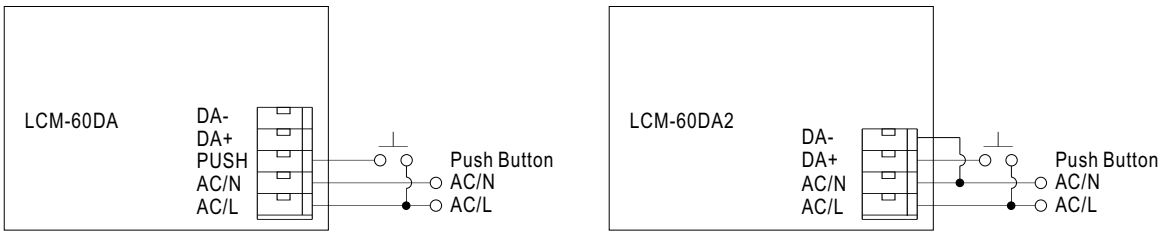
■ DIP SWITCH TABLE

LCM-60DA/DA2 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
500mA	----	----	----	----	----	----
600mA	ON	----	----	----	----	----
700mA(factory default)	ON	ON	----	----	----	----
900mA	ON	ON	ON	----	----	ON
1050mA	ON	ON	ON	ON	----	ON
1400mA	ON	ON	ON	ON	ON	ON

Note: For more current setting,please contact MW's sales.

■ DIMMING OPERATION



※PUSH dimming(primary side)

Action	Action duration	Function
Short push	0.1~1 sec.	Turn ON-OFF the driver
Long push	1.5~10 sec.	Every Long Push changes the dimming direction, dimming up or down
Reset	>11 sec.	Set up the dimming level to 100%

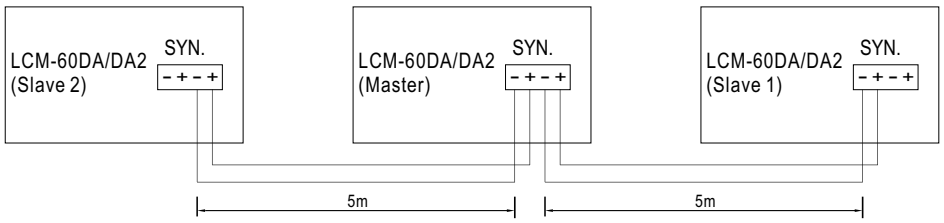
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the 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.

※DALI interface(primary side; for DA/DA2-Type)

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ SYNCHRONIZATION OPERATION

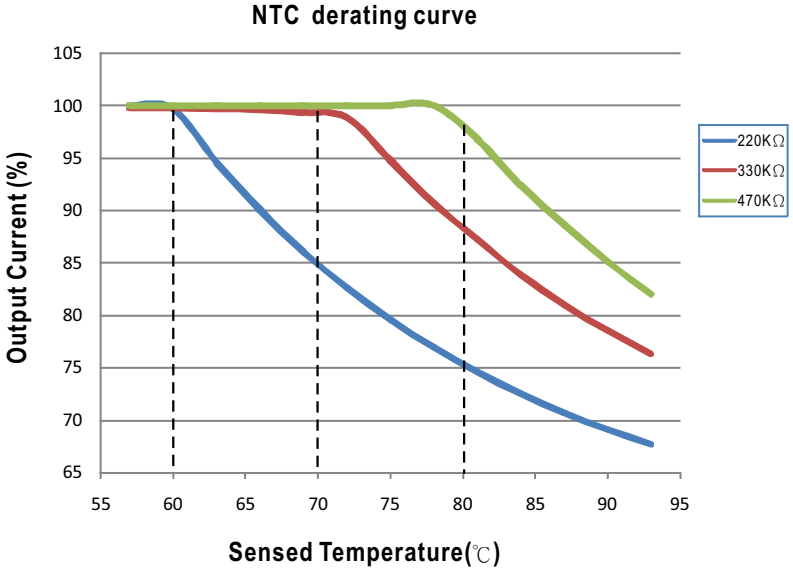
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-60DA/DA2 have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-60DA/DA2 and the detecting point on the lighting system or the surrounding environment, output current of LCM-60DA/DA2 could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



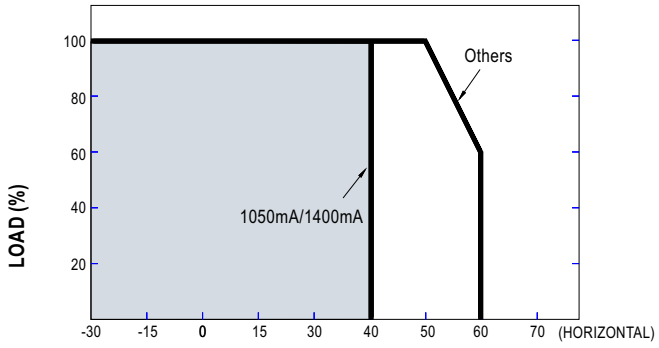
◎ LCM-60DA/DA2 can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.
NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

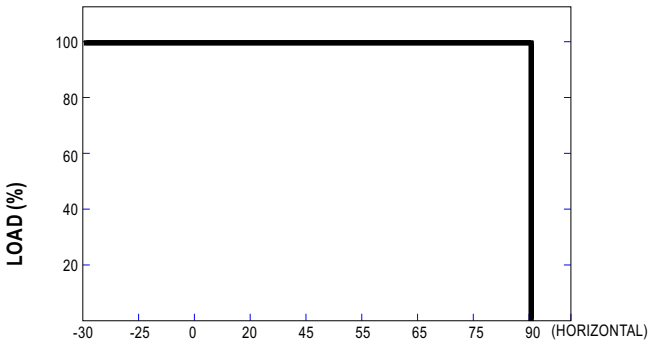
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

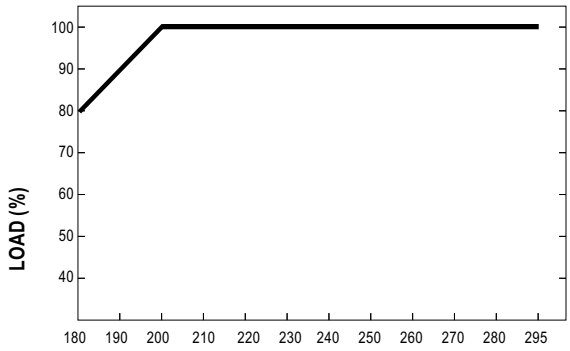


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

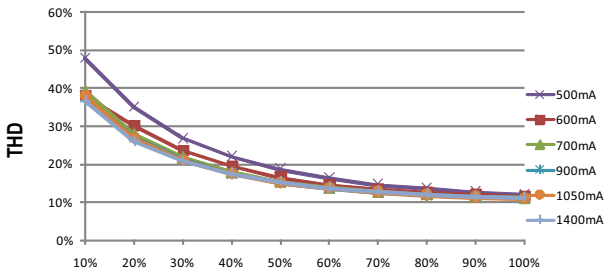


INPUT VOLTAGE (V) 60Hz

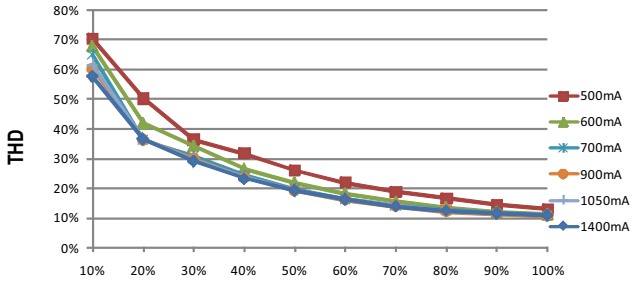
※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



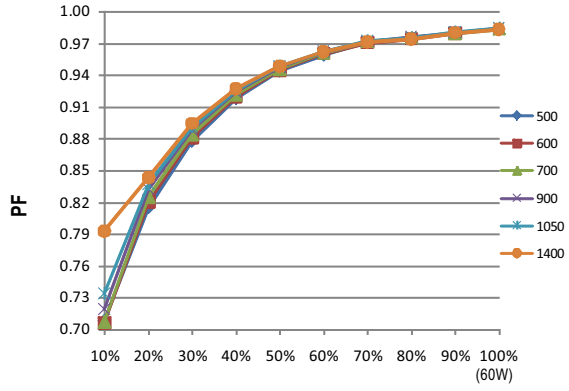
LOAD
(230Vac Input)



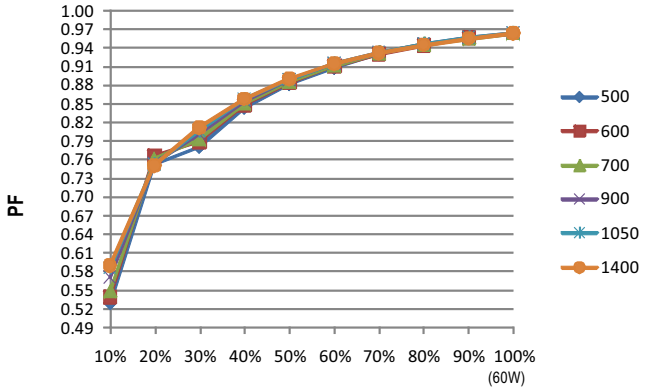
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

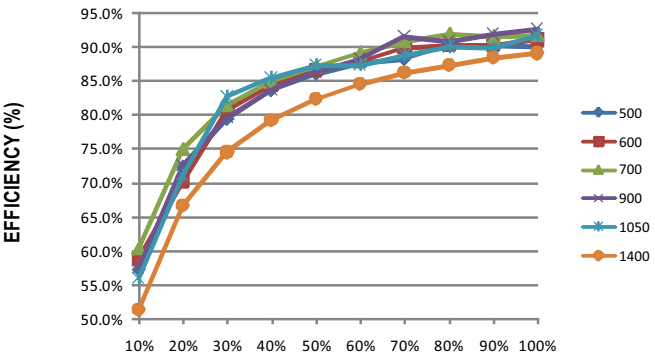


LOAD
(277Vac Input)

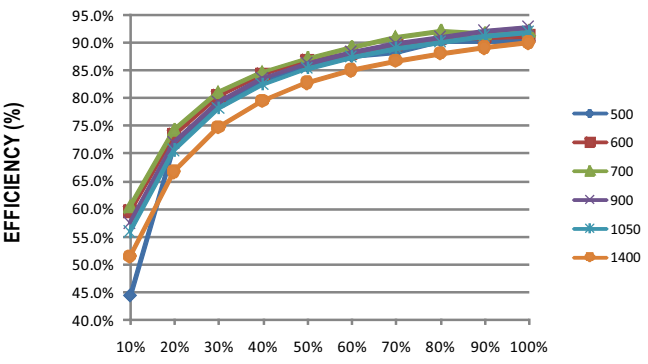
■ EFFICIENCY vs LOAD

LCM-60DA series possess superior working efficiency that up to 91% can be reached in field applications.

※ Tcase at 80℃



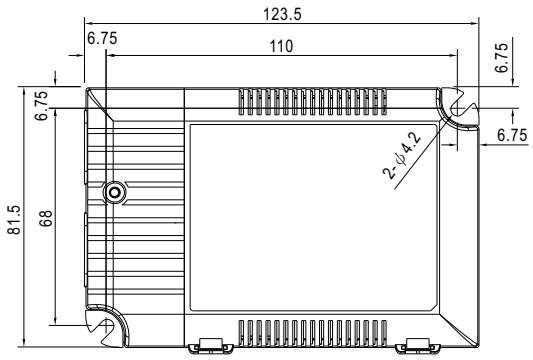
LOAD
(230Vac Input)

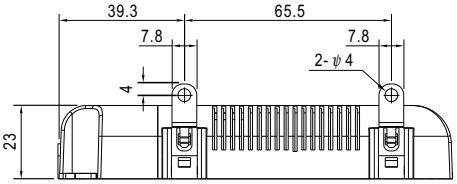


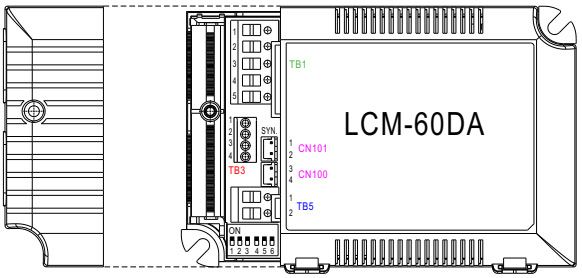
LOAD
(277Vac Input)

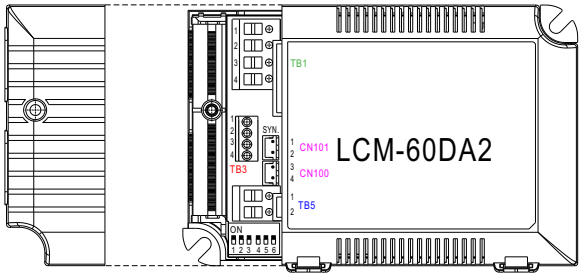
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









※Terminal Pin No. Assignment(TB1)(LCM-60DA)

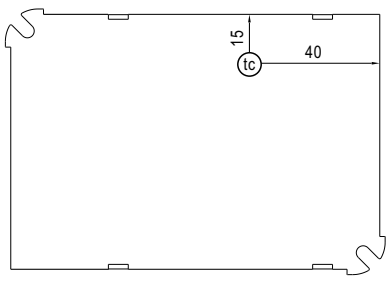
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N	5	DA-
3	PUSH		

※Terminal Pin No. Assignment(TB1)(LCM-60DA2)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA-
2	AC/N		
3	DA+		

※Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment
1	+FAN(+AUX)	3	+NTC
2	-FAN(-AUX)	4	-NTC



Bottom View

• tc : Max. Case Temperature

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-60DA-AUX; it can be used to drive fan.

※Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

■ Installation Manual

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

60W Multiple-Stage Constant Current Mode LED Driver LCM-60KN series

User's Manual

Video

AC Input: 200-240Vac

By request

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

GTIN CODE

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

Description

LCM-60KN series is a 60W 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-60KN operates from 180～295VAC and offers different current levels ranging between 500mA and 1400mA. Thanks to the high efficiency up to 91%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. In addition, LCM-60KN is equipped with push dimming and synchronization so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 60KN - AUX

- AUX: Function mode option
- 60KN: Built-in KNX interface
- 60: Output wattage
- LCM: Series name

Type	Function	Note
Blank	KNX and push dimming ,with standby power consumption <0.5W	In Stock
AUX	KNX and push dimming, with standby power consumption <1.2W and Auxiliary DC output	By request

SPECIFICATION

MODEL		LCM-60KN-□					
OUTPUT	CURRENT LEVEL	Current level selectable via DIP switch, please refer to"DIP SWITCH TABLE" section					
		500mA	600mA	700mA(default)	900mA	1050mA	1400mA
	RATED POWER	60.3W					
	DC VOLTAGE RANGE	2 ~ 90V	2 ~ 90V	2 ~ 86V	2 ~ 67V	2 ~ 57V	2 ~ 42V
	OPEN CIRCUIT VOLTAGE (max.)	95V			73V		
	CURRENT RIPPLE Note.5	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3	500ms / 230VAC					
INPUT	VOLTAGE RANGE Note.2	180 ~ 295VAC 220 ~ 392VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF≧0.93/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧75%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	91%					
	AC CURRENT (Typ.)	0.32A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 20A(t_{width}=320μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	20 units (circuit breaker of type B) / 34 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	<0.5mA / 240VAC					
	STANDBY POWER CONSUMPTION Note.6	<0.5W for Blank-Type, <1.2W for AUX-Type					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 125V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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	ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent, BIS IS15885(Part2/Sec13), EAC TP TC 004, GB19510.14 and GB19510.1(by request)approved ; According to BS EN/EN50172, BS EN/EN 60598-2-22, BS EN/EN61347-2-13 appendix J suitable for emergency installations(EL)(AC Input: 200-240Vac)					
	KNX STANDARDS	Certified protocol					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃ / 70% RH					
	EMC EMISSION Note.7	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C(@load≧40%) ; 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	1764.2K hrs min. Telcordia SR-332 (Bellcore) ; 190.0K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT					

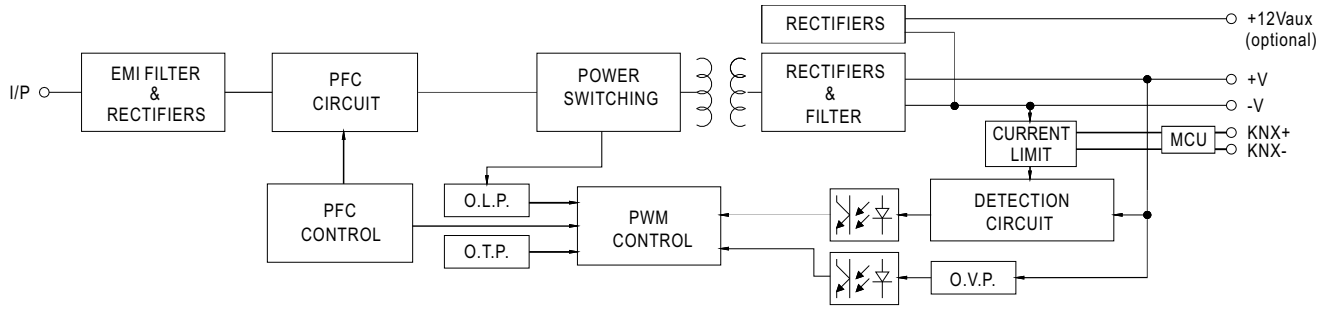
NOTE

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 900mA/67V output set by DIP switch.
5. Current ripple is measured 60%~100% of maximum voltage under rated power delivery.
6. Standby power consumption is measured at 180~230VAC.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. 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).
9. 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.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz



■ DIP SWITCH TABLE

LCM-60KN 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
500mA	----	----	----	----	----	----	90V
600mA	ON	----	----	----	----	----	90V
700mA(factory default)	ON	ON	----	----	----	----	86V
900mA	ON	ON	ON	----	----	ON	67V
1050mA	ON	ON	ON	ON	----	ON	57V
1400mA	ON	ON	ON	ON	ON	ON	42V

More current options through DIP switch are exhibited below.

Io \ DIP S.W.	1	2	3	4	5	6	Max. LED voltage
650mA	----	----	----	ON	----	----	83V
750mA	ON	----	----	ON	----	----	80V
800mA	----	ON	ON	----	----	----	75V
850mA	----	----	----	----	ON	----	71V
950mA	----	ON	ON	ON	----	ON	64V
1000mA	----	----	----	ON	ON	ON	60V
1100mA	ON	----	----	ON	ON	ON	55V
1150mA	----	ON	ON	----	ON	ON	52V
1200mA	----	----	ON	ON	ON	ON	50V
1250mA	ON	ON	ON	----	ON	ON	48V
1300mA	----	ON	ON	ON	ON	ON	46V

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

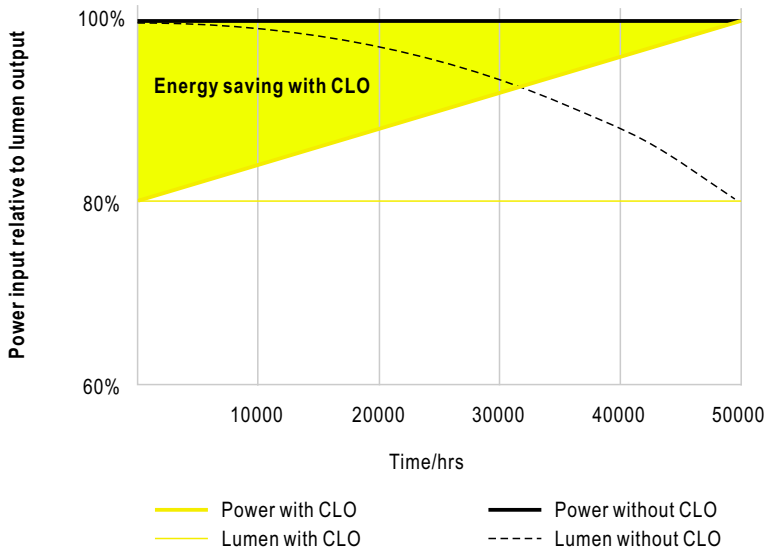
■ DIMMING OPERATION

※ 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

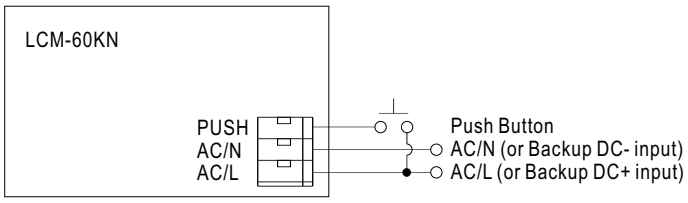
Parametrization options	Description
Switch functions	• Turn on brightness • Dimming speed for turn on/off • Switch telegram and status • Switch on/off delay
Dimming	• Dimming speed for 0~100% • Allow switch on via relative dimming • Push dimming with AC inut port • Block object for push dimming
Brightness 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

※ CONSTANT LIGHT OUTPUT



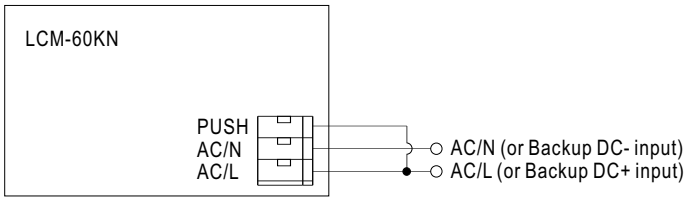
※PUSH dimming or AC/DC input monitor(Primary side)

◎ PUSH dimming



- KNX bus need to be connected when using PUSH Dimming
- The detailed function of PUSH dimming, please refer to the database.
- The maximum length of the cable between the push button and driver is 20 meters.
- The mechanical 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.

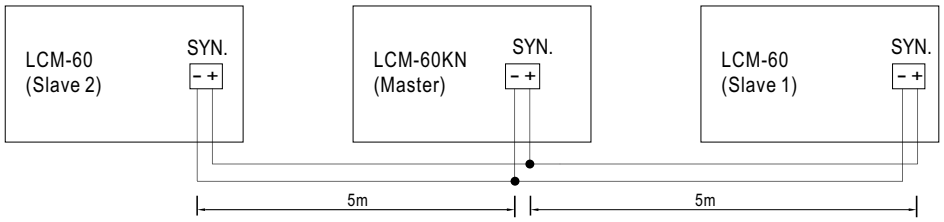
◎ AC/DC input monitor



- KNX bus need to be connected when using AC/DC input monitor
- The detailed function of AC/DC input monitor(emergency lighting), please refer to the database and instruction manual.

■ SYNCHRONIZATION OPERATION

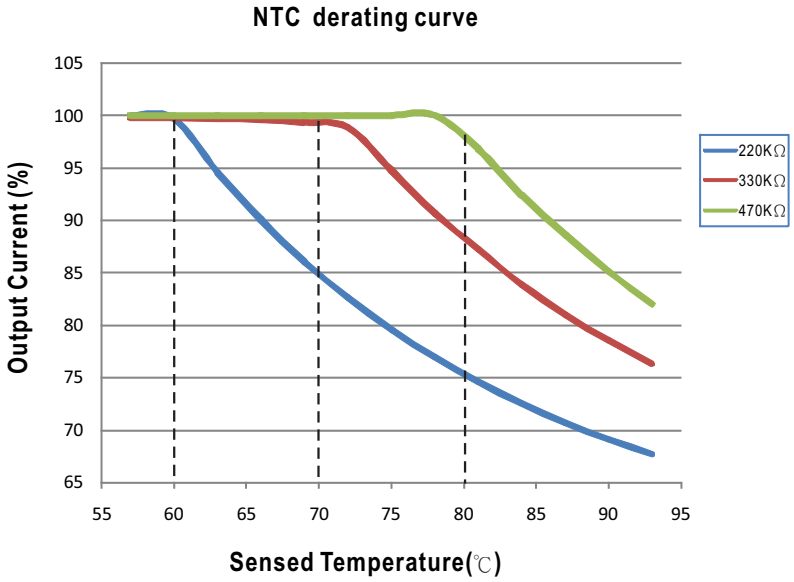
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 6%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



NOTE : Min. Dimming operating range depends on database setting.

■ TEMPERATURE COMPENSATION OPERATION

LCM-60KN have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-60KN and the detecting point on the lighting system or the surrounding environment, output current of LCM-60KN could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-60KN can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

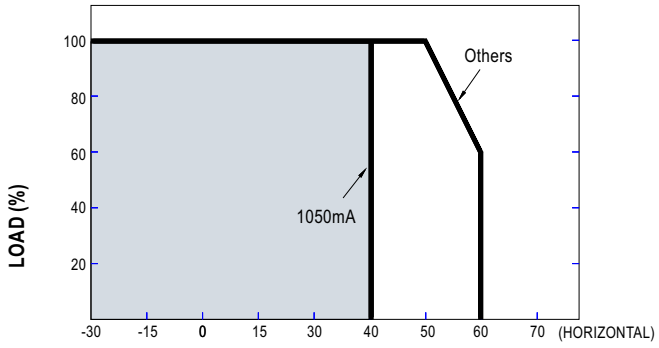
◎ NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

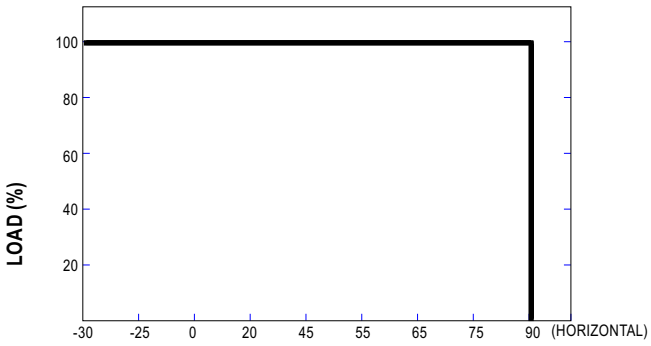
Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

◎ KNX control, dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE

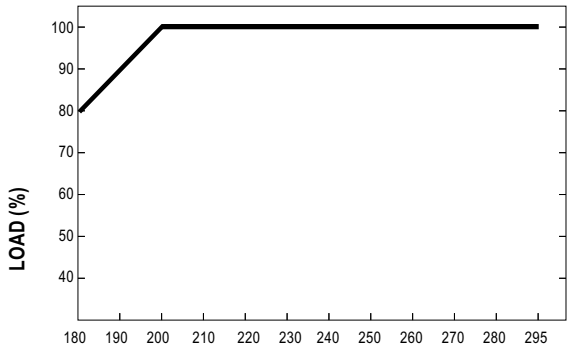


AMBIENT TEMPERATURE,Ta (℃)



Tcase (℃)

■ STATIC CHARACTERISTIC

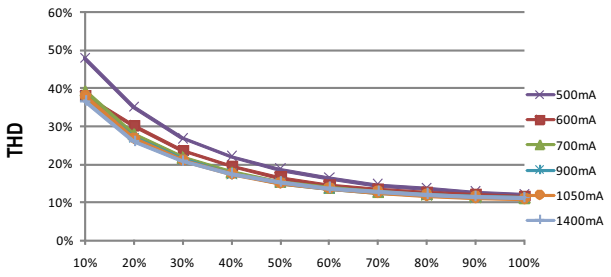


INPUT VOLTAGE (V) 60Hz

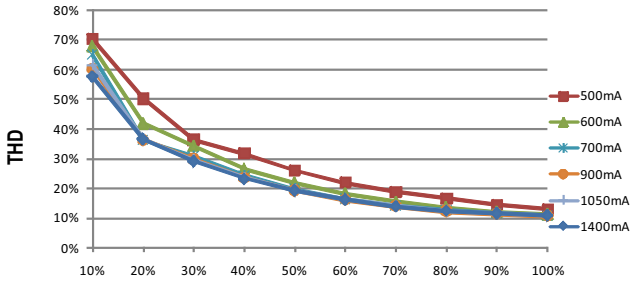
※De-rating is needed under low input voltage.

■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



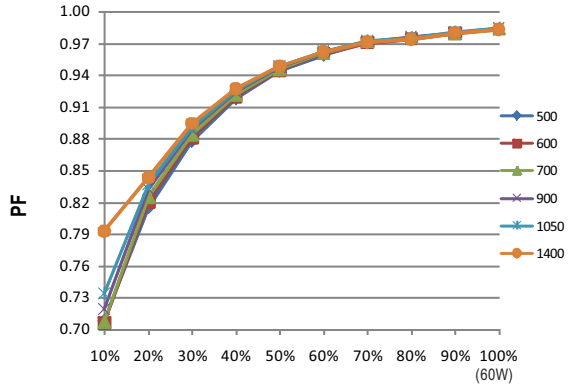
LOAD
(230Vac Input)



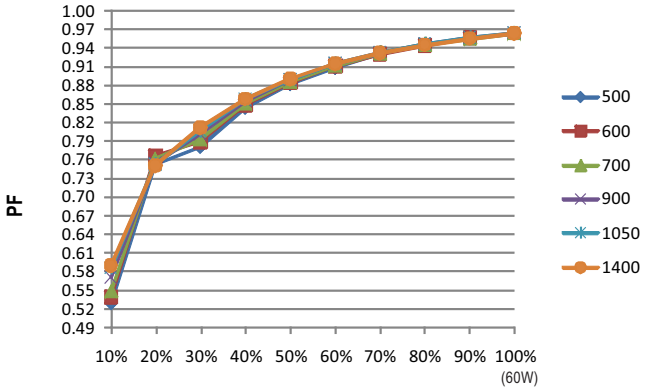
LOAD
(277Vac Input)

■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



LOAD
(230Vac Input)

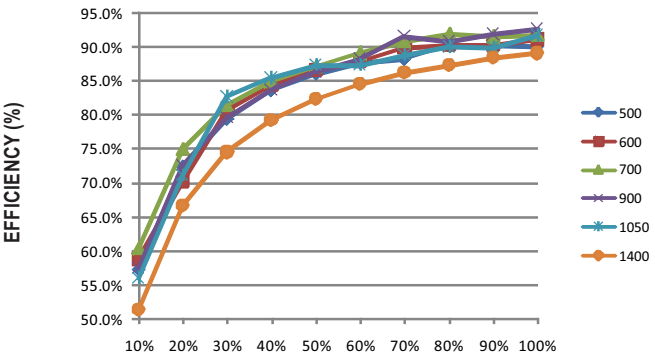


LOAD
(277Vac Input)

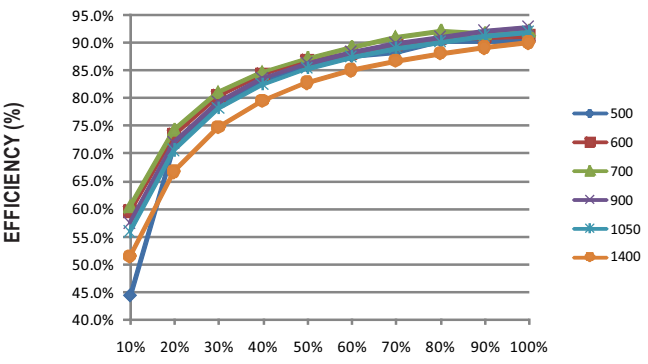
■ EFFICIENCY vs LOAD

LCM-60KN series possess superior working efficiency that up to 91% can be reached in field applications.

※ Tcase at 80℃



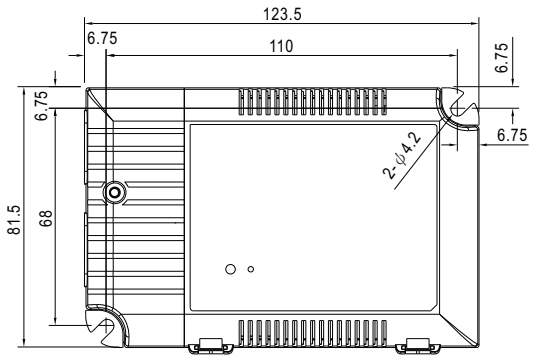
LOAD
(230Vac Input)

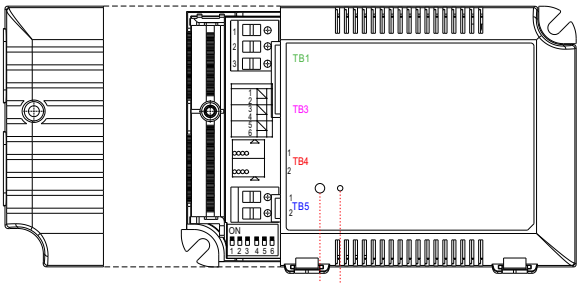


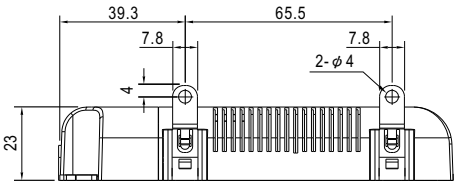
LOAD
(277Vac Input)

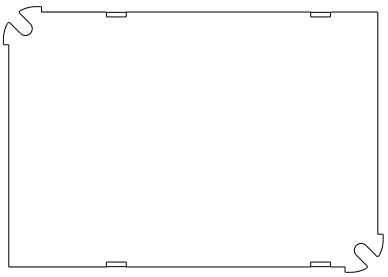
■ MECHANICAL SPECIFICATION

Case No.LCM-60B Unit:mm Tolerance:±1









Bottom View

※Terminal Pin No. Assignment(TB1)

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

※Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN(optional)	3	+NTC	5	+SYN
2	-FAN(optional)	4	-NTC	6	-SYN

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-60KN-AUX; it can be used to drive fan.

※Terminal Pin No. Assignment(TB4)

Pin No.	Assignment
1	KNX-
2	KNX+

※Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

■ Installation Manual

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

50W Multiple-Stage Constant Current Mode LED Driver LCM-60U series

User's Manual

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Functions: 3 in 1 dimming (dim-to-off); Auxiliary DC output; 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-60U series is a 50W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch. LCM-60U operates from 90～132VAC and offers different current levels ranging between 500mA and 1400mA. Thanks to the efficiency up to 89%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. LCM-60U 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 - 60U

- 60U: Output wattage
- LCM: Series name

50W Multiple-Stage Constant Current Mode LED Driver LCM-60U series

SPECIFICATION

MODEL		LCM-60U					
OUTPUT	CURRENT LEVEL	Current level selectable via DIP switch, please refer to"DIP SWITCH TABLE" section					
		500mA	600mA	700mA(default)	900mA	1050mA	1400mA
	RATED POWER	50.4W					
	DC VOLTAGE RANGE	2 ~ 90V	2 ~ 84V	2 ~ 72V	2 ~ 56V	2 ~ 48V	2 ~ 36V
	OPEN CIRCUIT VOLTAGE (max.)	102V			76V		
	CURRENT RIPPLE Note.6	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA					
	SETUP TIME Note.3	1000ms / 115VAC					
INPUT	VOLTAGE RANGE Note.2	90 ~ 132VAC 127 ~ 186VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.98/115VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	89%					
	AC CURRENT (Typ.)	0.65A/115VAC					
	INRUSH CURRENT (Typ.)	COLD START 15A(t_{width}=270μs measured at 50% I_{peak}) at 115VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	15 units (circuit breaker of type B) / 25 units (circuit breaker of type C) at 115VAC					
	LEAKAGE CURRENT	<0.5mA / 120VAC					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 125V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 40℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS	UL8750 approved					
	DALI STANDARDS	Comply with IEC62386-101, 102, 207					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	Compliance to FCC part 15 Subpart B					
OTHERS	MTBF	2648.2K hrs min. Telcordia SR-332 (Bellcore) ; 222.5K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.28Kg ; 54pcs/16Kg/1.12CUFT					

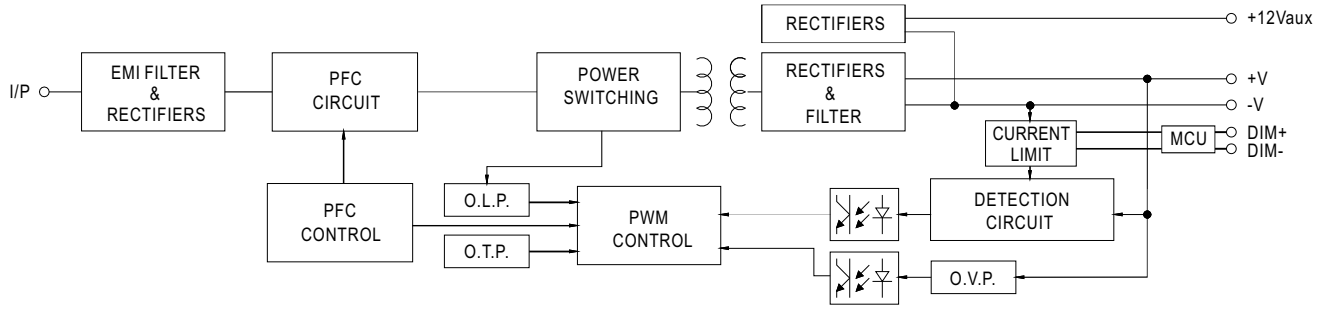
NOTE

1. All parameters NOT specially mentioned are measured at 115VAC 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 700mA/72V output set by DIP switch.
5. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. It is measured 60%~100% of maximum voltage under rated power delivery.
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).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

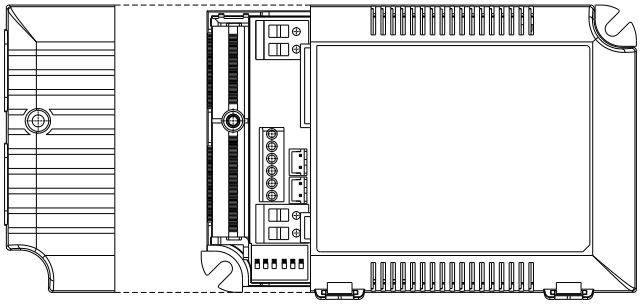


■ DIP SWITCH TABLE

LCM-60U is a multiple-stage constant current driver, selection of output current through DIP switch is exhibited below.

DIP S.W. / Io	1	2	3	4	5	6
500mA	----	----	----	----	----	----
600mA	ON	----	----	----	----	----
700mA(factory default)	ON	ON	----	----	----	----
900mA	ON	ON	ON	----	----	ON
1050mA	ON	ON	ON	ON	----	ON
1400mA	ON	ON	ON	ON	ON	ON

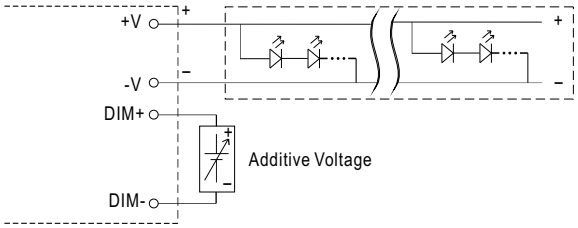
■ DIMMING OPERATION



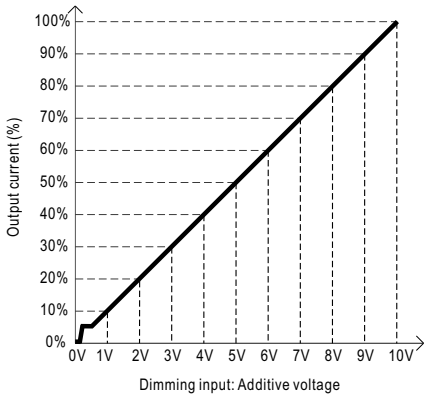
※ 3 in 1 dimming function

- 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: 100μA (typ.)

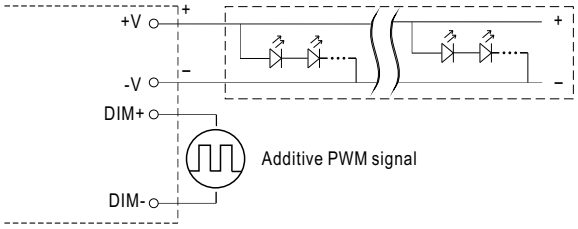
◎ Applying additive 0 ~ 10VDC



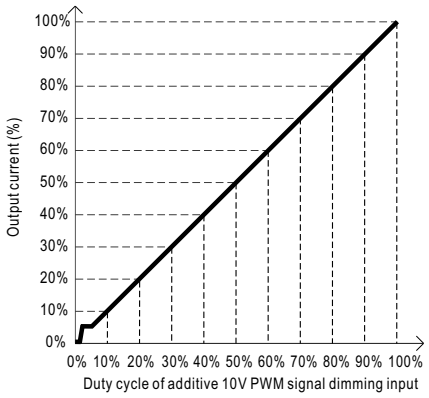
"DO NOT connect "DIM- to -V"



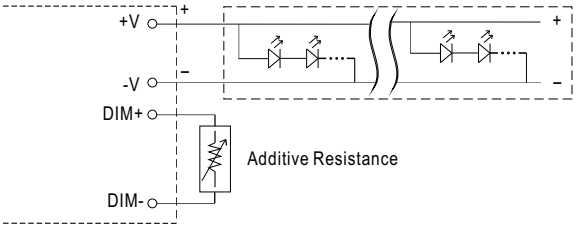
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



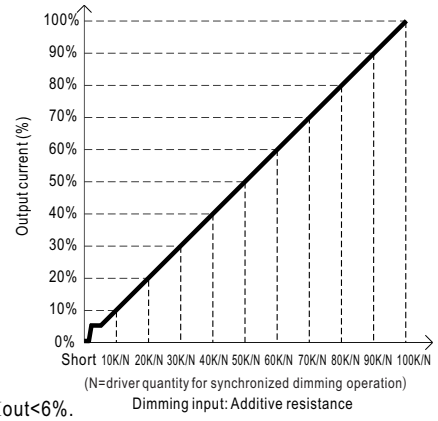
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



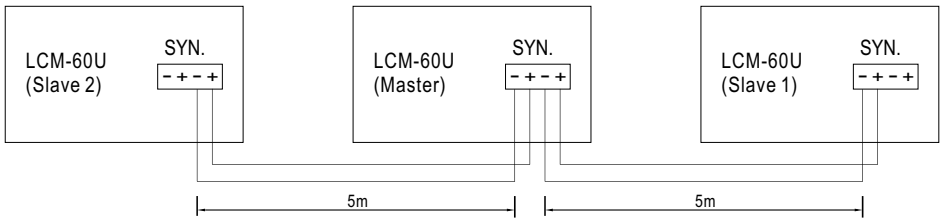
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.
3. Please do not activate"temperature compensation" when performing dimming operation.

■ SYNCHRONIZATION OPERATION

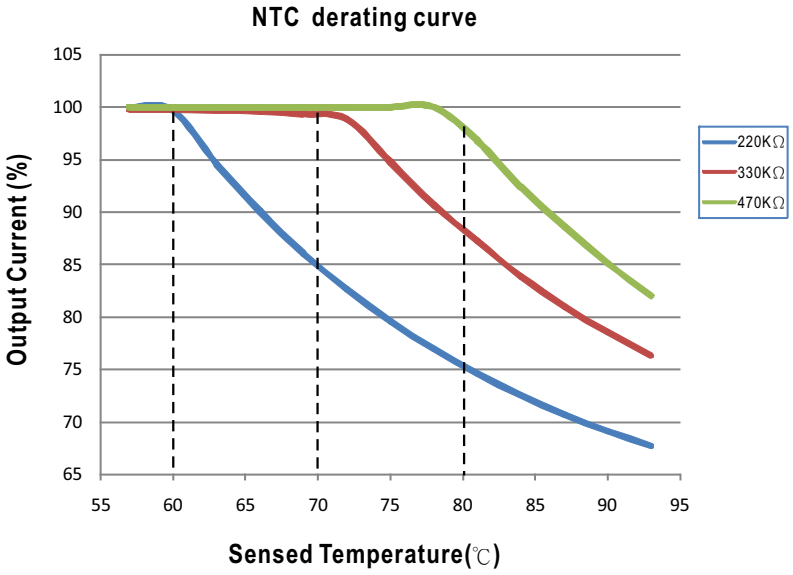
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-60U have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-60U and the detecting point on the lighting system or the surrounding environment, output current of LCM-60U could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-60U can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

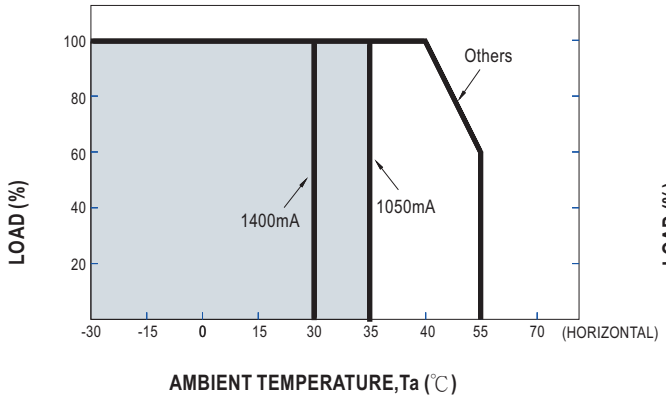
◎ NTC reference:

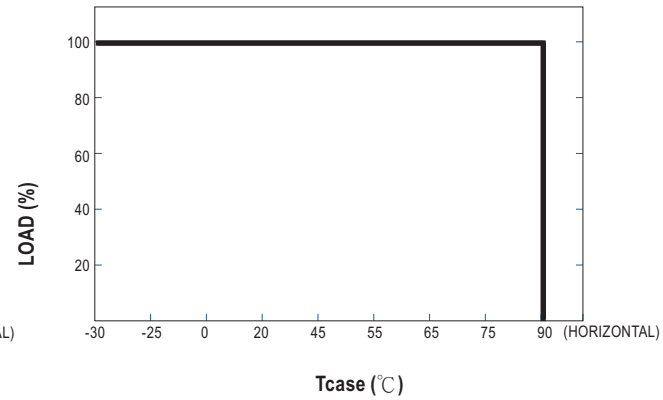
NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
2. If other brands of NTC resistor is applied,please check the temperature curve first.

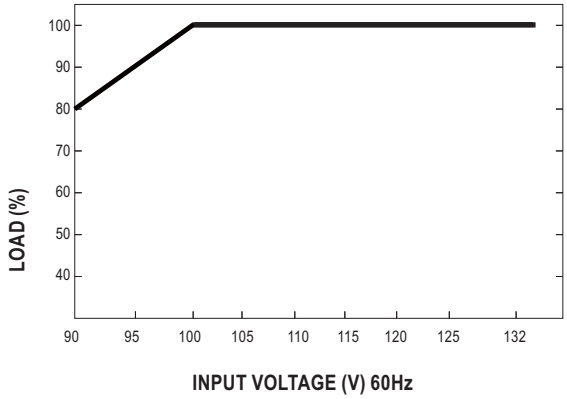
◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE





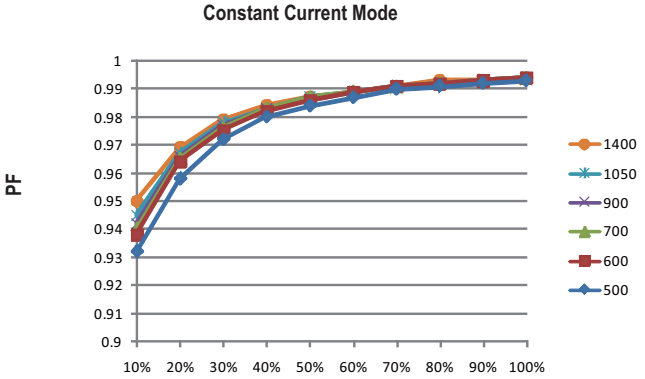
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

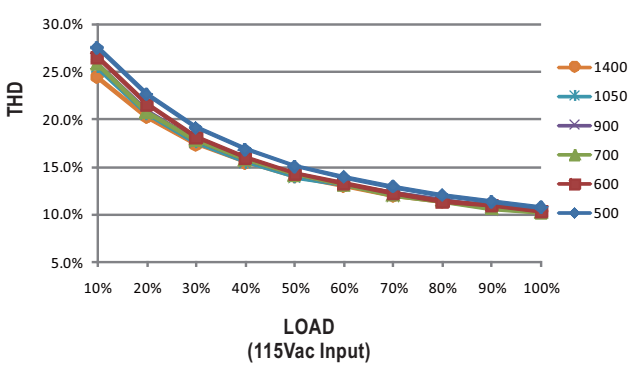
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

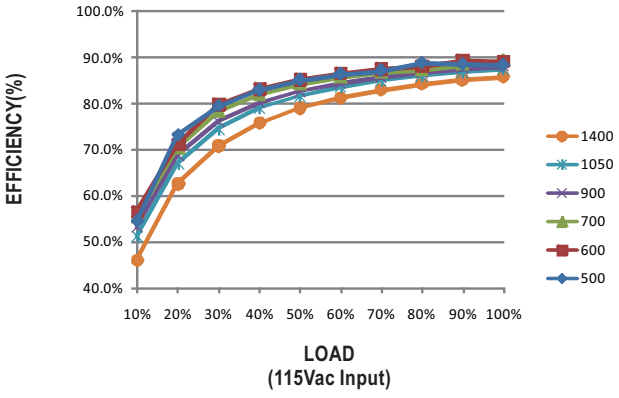
※ Tcase at 80℃



■ EFFICIENCY vs LOAD

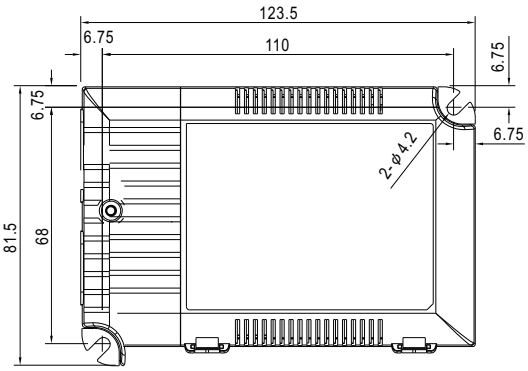
LCM-60U series possess superior working efficiency that up to 89% can be reached in field applications.

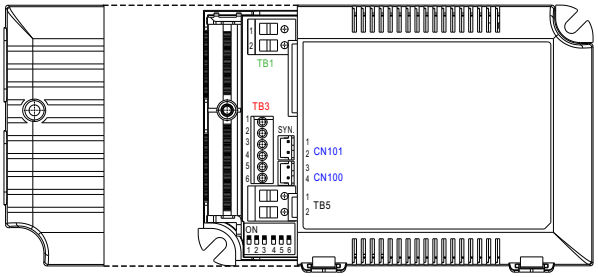
※ Tcase at 80℃

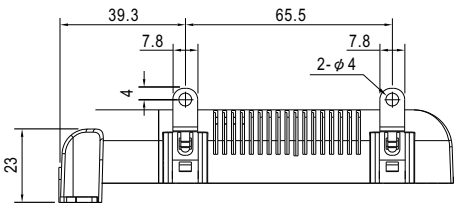


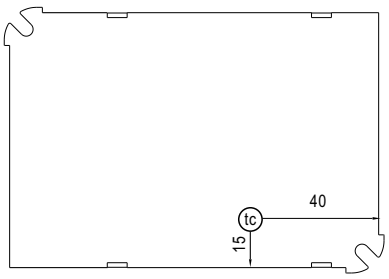
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









Bottom View

• ⓣc : Max. Case Temperature

※ Terminal Pin No. Assignment(TB1)

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

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment	Pin No.	Assignment
1	+FAN	3	+NTC	5	DIM+
2	-FAN	4	-NTC	6	DIM-

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output;it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		

50W Multiple-Stage Constant Current Mode LED Driver LCM-60UDA series

User's Manual

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Plastic housing with class II design
- Built-in active PFC function
- Functions: DALI interface(logarithm or linear dimming curve selectable), push dimming, synchronization up to 10units
- 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-60UDA series is a 50W LED AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and the DALI interface with the compliance to IEC62386-207. LCM-60UDA operates from 90～132VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 89%, with the fanless design, the entire series is able to operate for -30℃~+90℃ case temperature under free air convection. In addition, LCM-60UDA is equipped with push dimming and synchronization so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

LCM - 60UDA - □

- Function mode option
- Output wattage
- Series name

Type	Function	Note
Blank	DALI and push dimming	In Stock
AUX	DALI and push dimming and Auxiliary DC output	By request

50W Multiple-Stage Constant Current Mode LED Driver LCM-60UDA series

SPECIFICATION

MODEL		LCM-60UDA-☐					
OUTPUT	CURRENT LEVEL	Current level selectable via DIP switch, please refer to"DIP SWITCH TABLE" section					
		500mA	600mA	700mA(default)	900mA	1050mA	1400mA
	RATED POWER	50.4W					
	DC VOLTAGE RANGE	2 ~ 90V	2 ~ 84V	2 ~ 72V	2 ~ 56V	2 ~ 48V	2 ~ 36V
	OPEN CIRCUIT VOLTAGE (max.)	102V			76V		
	CURRENT RIPPLE Note.6	5.0% max. @rated current					
	CURRENT TOLERANCE	±5%					
	AUXILIARY DC OUTPUT	Nominal 12V(deviation 11.4~12.6V)@50mA for AUX-Type only					
	SETUP TIME Note.3	1000ms / 115VAC					
INPUT	VOLTAGE RANGE Note.2	90 ~ 132VAC 127 ~ 186VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF≧0.98/115VAC @full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)					
	EFFICIENCY (Typ.) Note.4	89%					
	AC CURRENT (Typ.)	0.65A/115VAC					
	INRUSH CURRENT (Typ.)	COLD START 15A(t_{width}=270μs measured at 50% I_{peak}) at 115VAC; Per NEMA 410					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	15 units (circuit breaker of type B) / 25 units (circuit breaker of type C) at 115VAC					
	LEAKAGE CURRENT	<0.5mA / 120VAC					
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 ~ 125V					
		Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	Shutdown o/p voltage,re-power on to recover					
FUNCTION	DIMMING	Please refer to "DIMMING OPERATION" section					
	SYNCHRONIZATION	Please refer to "SYNCHRONIZATION OPERATION" section					
	TEMP. COMPENSATION	By external NTC, please refer to "TEMPERATURE COMPENSATION OPERATION"section					
ENVIRONMENT	WORKING TEMP.	Tcase=-30 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	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 approved					
	DALI STANDARDS	Comply with IEC62386-101, 102, 207					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION	Compliance to FCC part 15 Subpart B					
OTHERS	MTBF	2284.6K hrs min. Telcordia SR-332 (Bellcore) ; 222.5K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.28Kg ; 54pcs/16Kg/1.12CUFT					

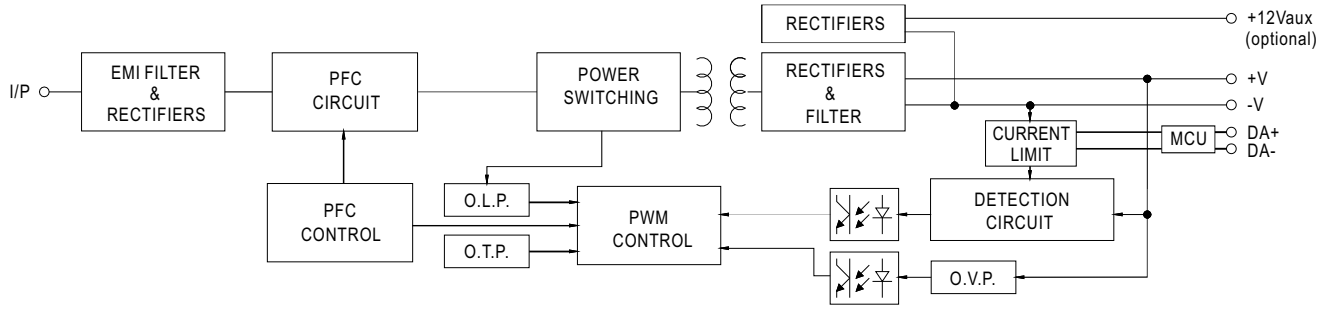
NOTE

1. All parameters NOT specially mentioned are measured at 115VAC 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 700mA/72V output set by DIP switch.
5. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. It is measured 60%~100% of maximum voltage under rated power delivery.
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).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM

PFC fosc : 60KHz
PWM fosc : 80KHz

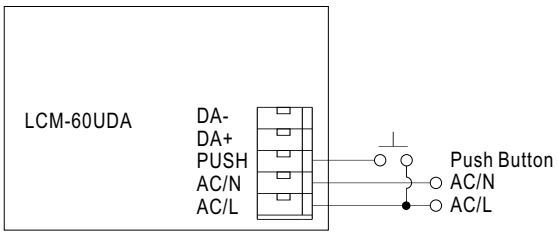


■ DIP SWITCH TABLE

LCM-60UDA 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
500mA	----	----	----	----	----	----
600mA	ON	----	----	----	----	----
700mA(factory default)	ON	ON	----	----	----	----
900mA	ON	ON	ON	----	----	ON
1050mA	ON	ON	ON	ON	----	ON
1400mA	ON	ON	ON	ON	ON	ON

■ DIMMING OPERATION



※PUSH dimming(primary side)

Action	Action duration	Function
Short push	0.1~1 sec.	Turn ON-OFF the driver
Long push	1.5~10 sec.	Every Long Push changes the dimming direction, dimming up or down
Reset	>11 sec.	Set up the dimming level to 100%

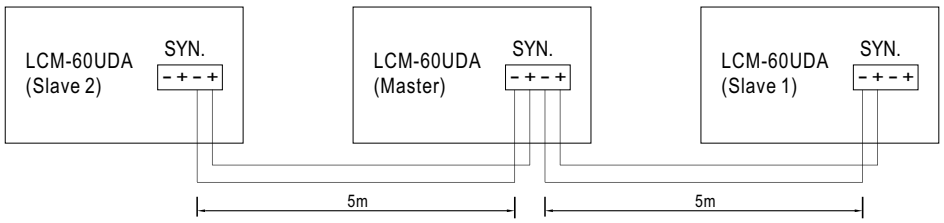
- The factory default dimming level is at 100%.
- If the push action lasts less than 0.05 sec., it will not lead to a change for the status of the driver.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the 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.

※DALI interface(primary side)

- Apply DALI signal between DA+ and DA-
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 6% of output.

■ SYNCHRONIZATION OPERATION

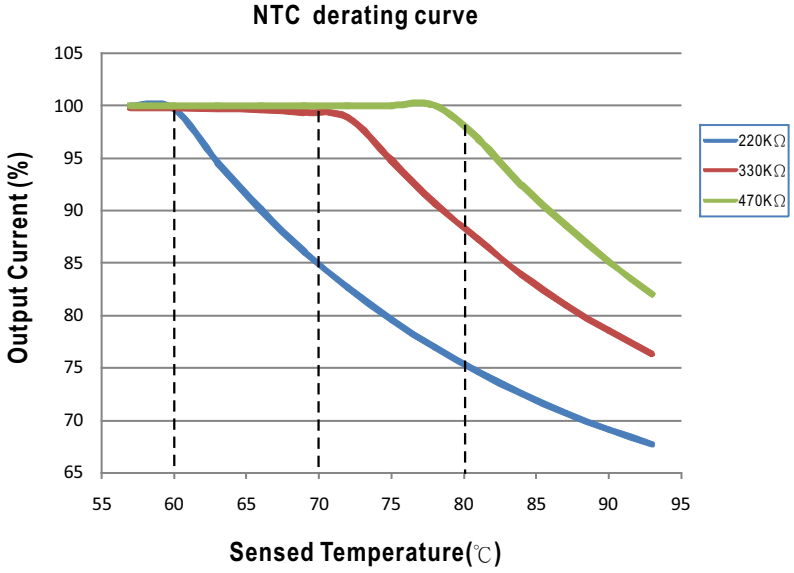
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm^2)



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

■ TEMPERATURE COMPENSATION OPERATION

LCM-60UDA have the built-in temperature compensation function ; by connecting a temperature sensor (NTC resistor) between the *+NTC / -NTC* terminal of LCM-60UDA and the detecting point on the lighting system or the surrounding environment, output current of LCM-60UDA could be correspondingly changed, based on the sensed temperature, to ensure the long life of LED.



◎ LCM-60UDA can still be operated normally when the NTC resistor is not connected and the value of output current will be the current level selected through the DIP switch.

◎ NTC reference:

NTC resistance	Output Current
220K	< 60℃, 100% of the rated current (corresponds to the setting current level) > 60℃, output current begins to reduce, please refer to the curve for details.
330K	< 70℃, 100% of the rated current (corresponds to the setting current level) > 70℃, output current begins to reduce, please refer to the curve for details.
470K	< 80℃, 100% of the rated current (corresponds to the setting current level) > 80℃, output current begins to reduce, please refer to the curve for details.

Notes: 1. MEAN WELL does not offer the NTC resistor and all the data above are measured by using THINKING TTC03 series.
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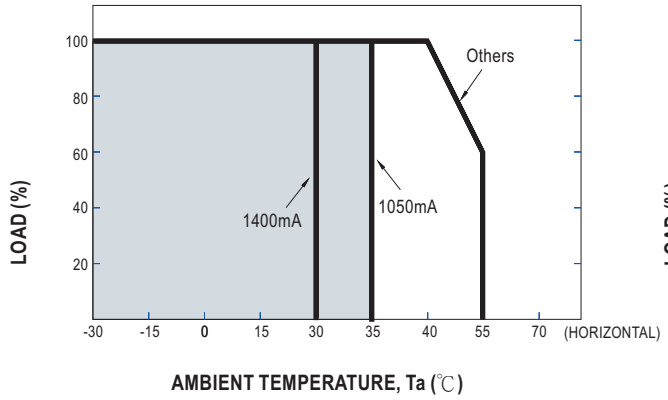
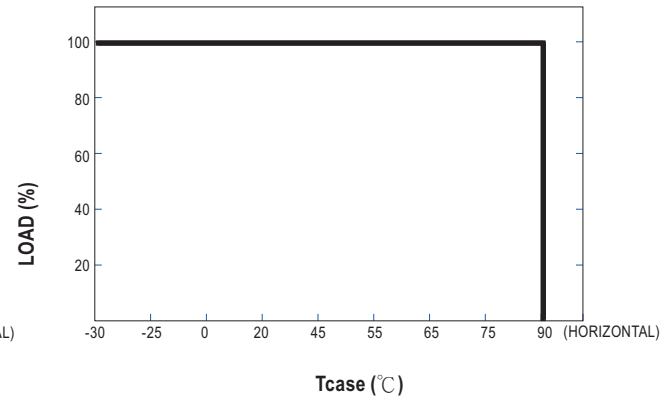
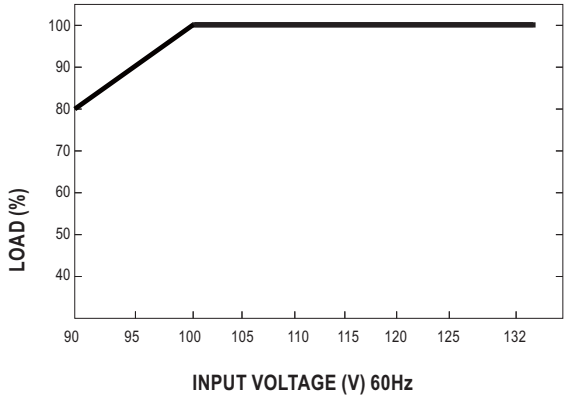
◎ Dimming and synchronization function of the driver will be invalid when the "temperature compensation" function is in use.

■ OUTPUT LOAD vs TEMPERATURE





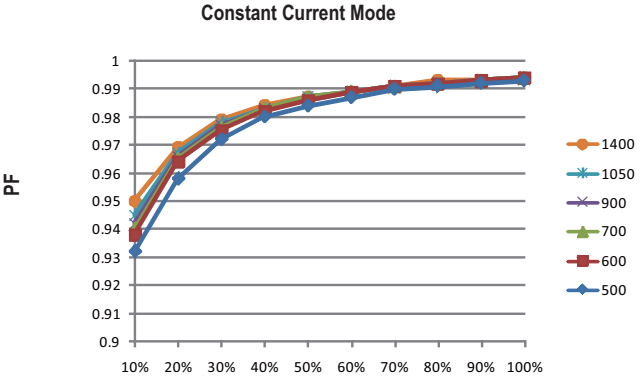
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

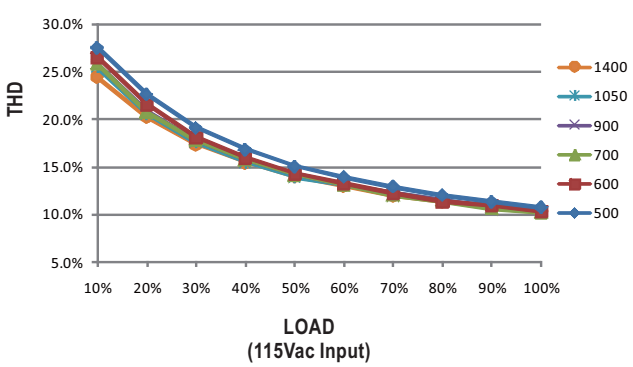
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

※ Tcase at 80℃



■ EFFICIENCY vs LOAD

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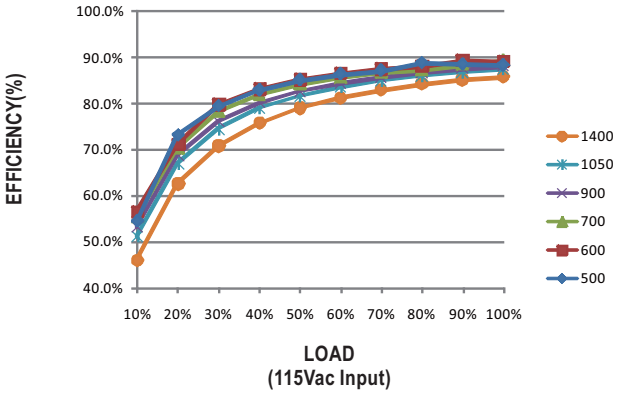
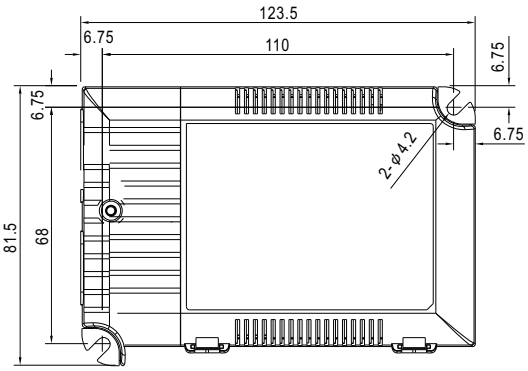
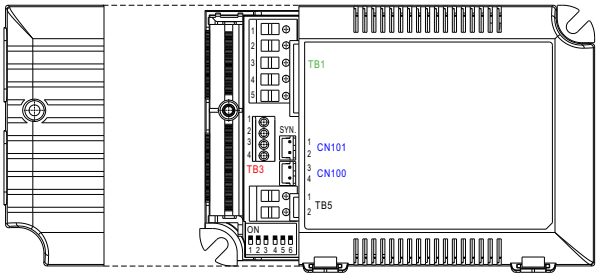
※ Tcase at 80℃

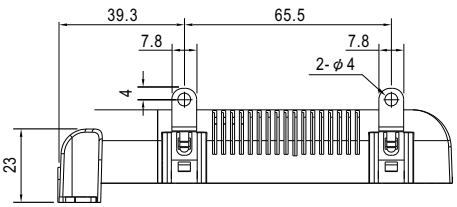


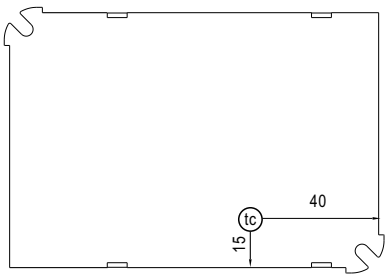
■ MECHANICAL SPECIFICATION

Case No.LCM-60A Unit:mm Tolerance:±1









Bottom View

• tc : Max. Case Temperature

※ Terminal Pin No. Assignment(TB1)

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4	DA+
2	AC/N	5	DA-
3	PUSH		

※ Terminal Pin No. Assignment(TB3)

Pin No.	Assignment	Pin No.	Assignment
1	+FAN(optional)	3	+NTC
2	-FAN(optional)	4	-NTC

◎ Pin1*(+FAN)* / Pin2*(-FAN)* is the Auxiliary DC output for the optional model LCM-60UDA-AUX; it can be used to drive fan.

※ Terminal Pin No. Assignment(TB5)

Pin No.	Assignment
1	+V
2	-V

※ SYN. Connector(CN101/CN100):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2,4	–		