MEAN WELL LCM-25 IoT Series 25W Wireless Lighting Constant Current LED Driver Solution Instruction Manual

Contents

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LCM-25 IoT Series

Features

- Constant Current mode output with multiple levels selectable by dip switch
- Flicker free design
- Plastic housing with class II design
- Functions: Bluetooth low energy mesh
  Synchronization up to 10units
- 3 years warranty

Applications

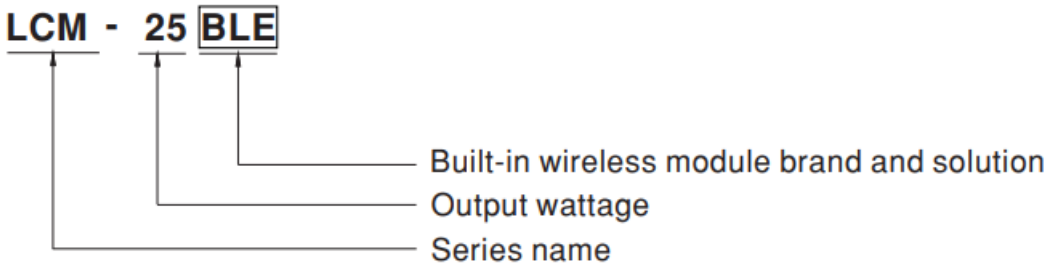
LED indoor lighting LED office lighting LED architectural lighting LED panel lighting LED commercial lighting Intelligent lighting control

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

Description

LCM-25 IoT series is a 25W AC/DC constant current mode output LED driver featuring the multiple levels selectable by dip switch and integration with Bluetooth control solution.LCM-25 IoT operates from 180~277VAC and offers different current levels ranging between 350mA and 1050mA. Thanks to the efficiency up to 84.5o, with the fanless design, the entire series is able to operate for -20C~+85C case temperature under free air convection. In addition, LCM-25 IoT is designed with synchronization Function, so as to provide the optimal design flexibility for LED lighting system and upgrade lighting to be an intelligent lighting system.

Model Encoding



IoT wireless Module brand and solution

Brand	Solution	Wireless standard	Note
Casambi	BLE	Bluetooth low energy mesh 2.4GHz protocol	By request
Tuya	TY1	Bluetooth low energy mesh 2.4GHz protocol	By request
Silvair	SVA	Bluetooth low energy mesh 2.4GHz protocol	By request

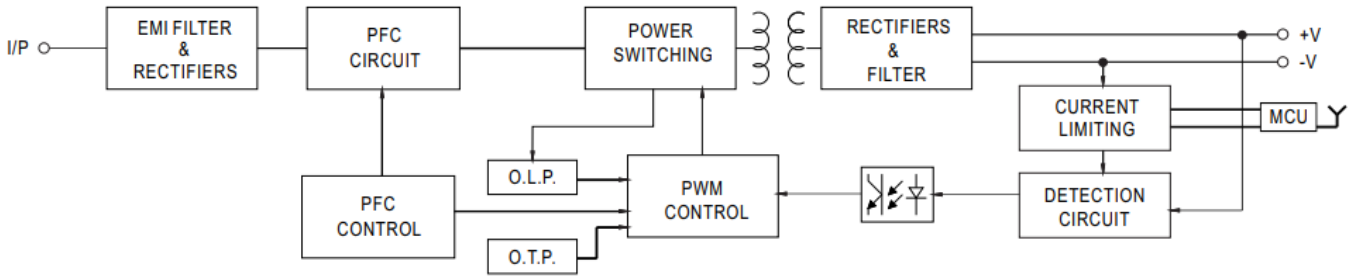
SPECIFICATION

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%					
	VOLTAGE RANGE	**Note. 2**	180 ~ 277VAC 254 ~ 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)					

INPUT	**EFFICIENCY (Typ.)**	**Note. 4**	84.5%					
	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					
	STAND BY POWER CONSUMPTION	**Note. 8**	<1W					
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	**WIRELESS PROTOCOL**		Bluetooth low energy 2.4GHz protocol					
	DIMMING RANGE	**Note. 9**	0~100% Minimum dimming level:6%,dim to off					
	SYNCHRONIZATION		Please refer to “SYNCHRONIZATION OPERATION” section					
ENVIRONMENT	**WORKING TEMP.**		Tcase=-20 ~ +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					

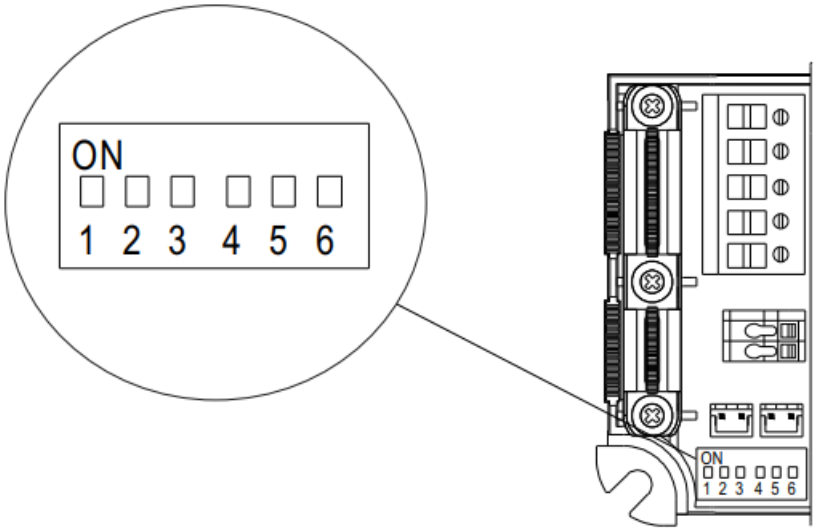
SAFETY & EMC	**SAFETY STANDARDS**	UL8750(except for DA2-Type), CSA C22.2 NO.250.0-08, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13, BS EN/EN62384 independent,GB19510.14, GB19510.1,BIS IS15885, EAC TP TC 004 approved
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C/ 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; GB17625.1,GB17743, 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**	2712.7K hrs min. Telcordia SR-332 (Bellcore) ; 249.5K hrs min. MIL-HDBK-217F (25°C)
	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 25C 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. Turming ONOFF the driver may lead to increase of the set up time. 4. Efficiency is measured at 500mA/50V output set by DIP sSwitch. 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 manutacturers must re-quality EMC Directive on the complete installation again. . 7. The ambient temperature derating of 3.5 C1000m with fanless models and of 5 C/1000m with fan models for operating attitude higher than 200om(6500t), 8. The standby power consumption does not need to meet ErP due to the integrated wireless transmitter which is working all the time. 9. the dimming memory function needs at least 5 seconds to complete.. 10. The matching mode of TY1 type is on-off-on-off-on by AC or DC power 11. . 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. X Product Liability **Disclaimer**: For detailed information, please refer to **https://www.meanwell.com/serviceDisclaimer.aspx**	

BLOCK DIAGRAM



DIP SWITCH TABLE

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

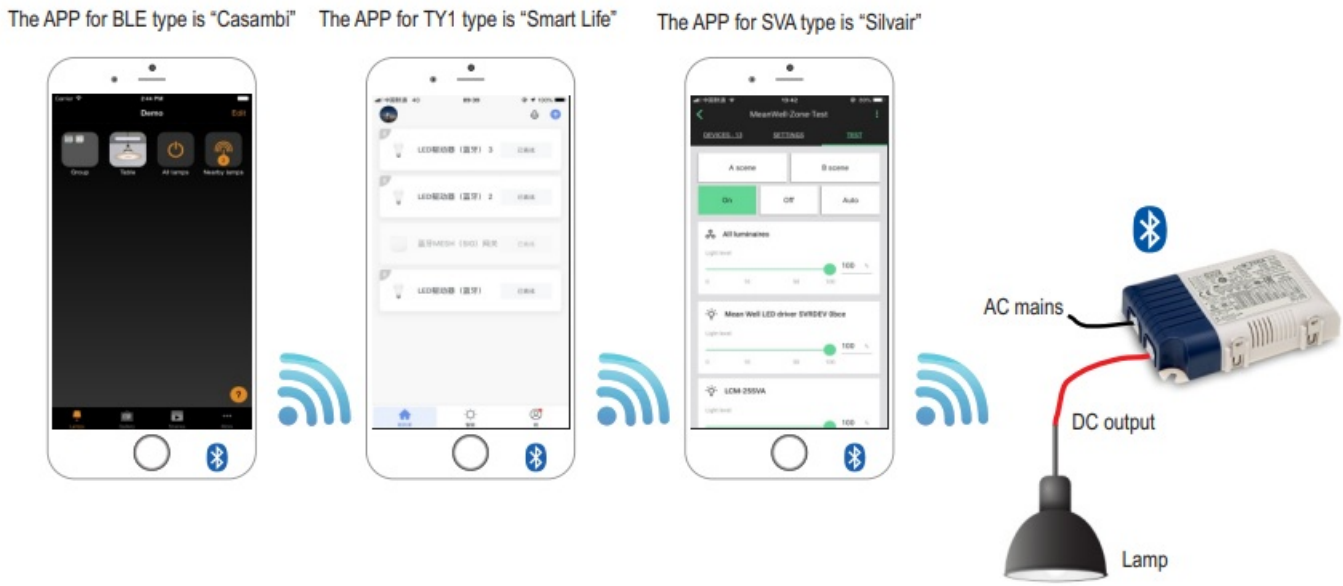


NOTE: For more output current is selectable, please contact MEANWELL for details

DIMMING OPERATION

***Bluetooth control**

- To be used through APP available on Ap Search: BLE with Casambi/TY1 with Smart Life/SVA with Silvair Example: Store and Google Play Store for iOS and Android.



OFFICIAL WEBSITE AND ECOSYSTEM INFORMATION

The real time Bluetooth IC temperature is shown in the APP. In case it reaches above 72 ºC (equivalent to Tc 85ºC), the driver will be turn off to provide a protection. In case the units is cooled down, it can be manually turn ON and back to normal operation again.
NOTE:

1. .This software temperature protection is an extra independent function from driver its own hardware over temperature protection(when it is enabled, it needs re-AC power on to recover).
2. In general the software temperature protection is triggered before the hardware one when in over temperature.
3. Website: **https://www.casambi.com**

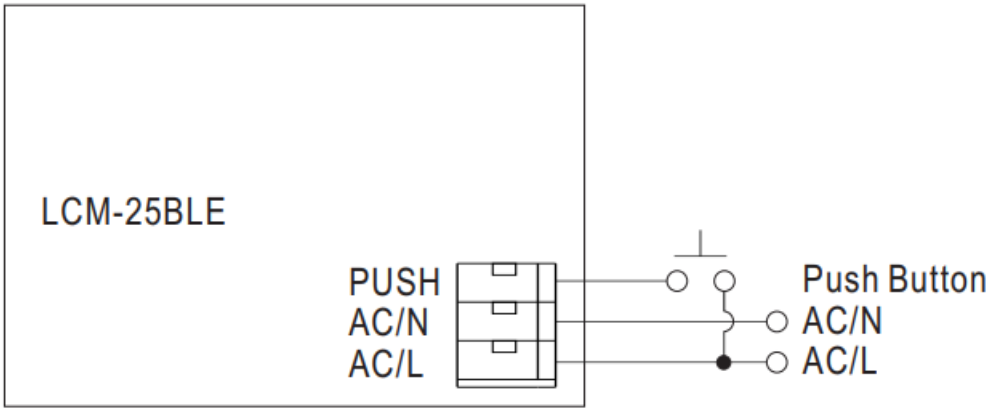
Powered by tuya Intelligence Inside

NOTE:
Website: **https://www.tuya.com**

SILVAIR

NOTE:
Website: **https://www.silvair.com**

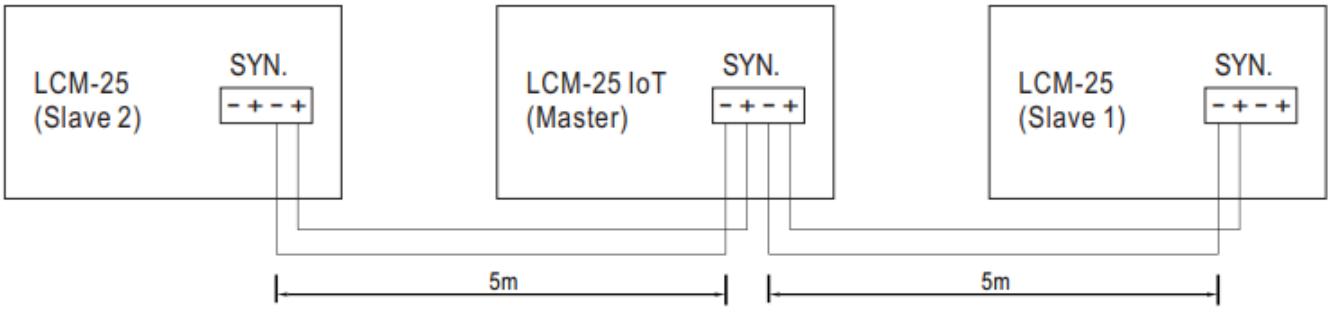
PUSH DIMMING FUNCTION



Freely assignable (push) input(Push dimming function only for BLE)
The LCM BLE series also has one freely assignable AC mains (push) input. As with a CASAMBI sensor module, control pulses can be defined here (e.g. “controls a luminaire”; “controls an element”; “controls a group”; “controls scenes”; “controls all luminaires”; “change scenes”). See the reference connection figure in the above.

SYNCHRONIZATION OPERATION

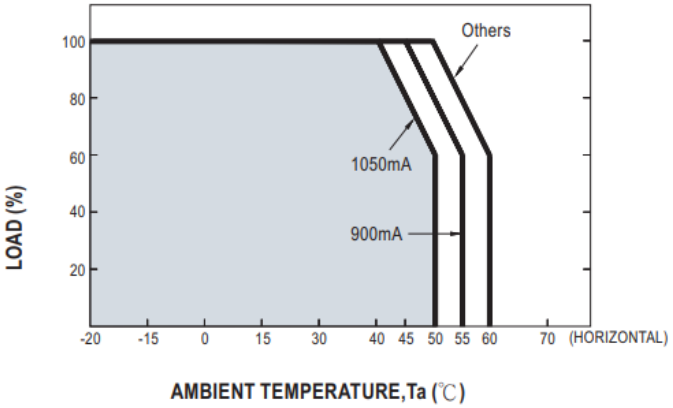
- Synchronization up to 10 drivers (1 master + 9 slaves)
- Dimming operating range : 10%~100%
- Sync cable length : < 5m
- Sync cable type : Flat cable
- Sync cable cross section area : 22 – 24 AWG (0.2~0.3mm2)

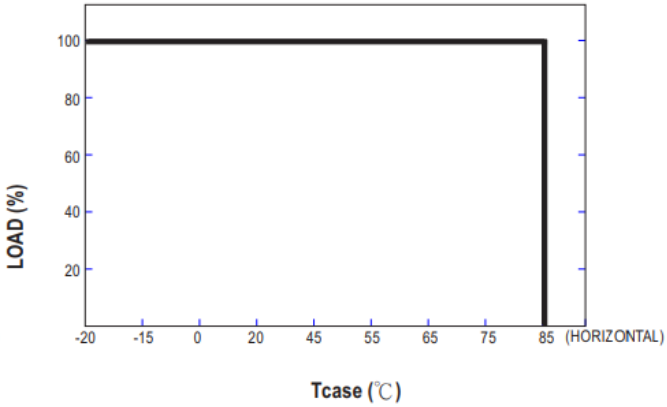


NOTE:

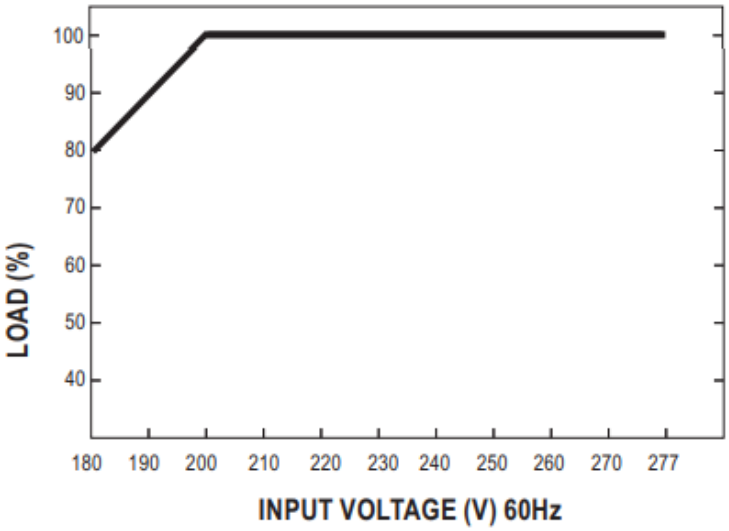
1. Please make sure all units are set to 100% dimming setting (factory default) before synchronizing
2. Min. Dimming operating range depends on dimmer setting..

OUTPUT LOAD vs TEMPERATURE



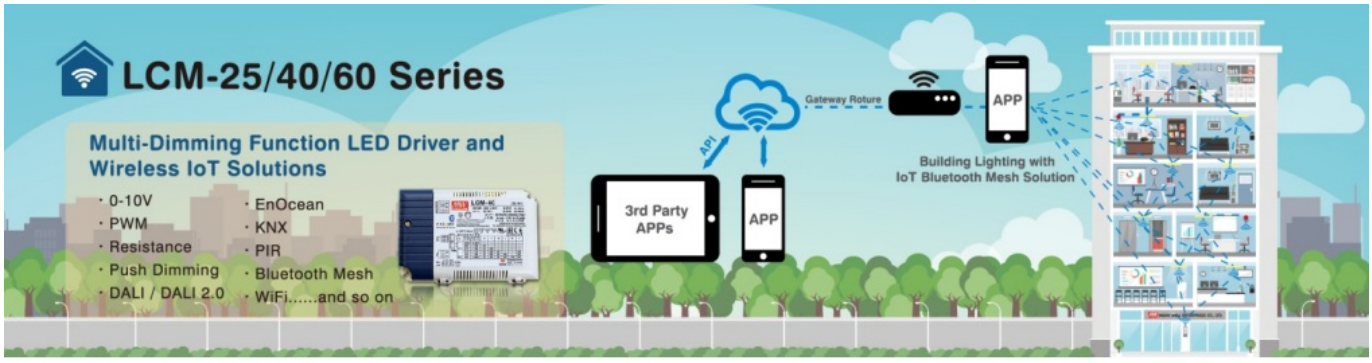


STATIC CHARACTERISTIC



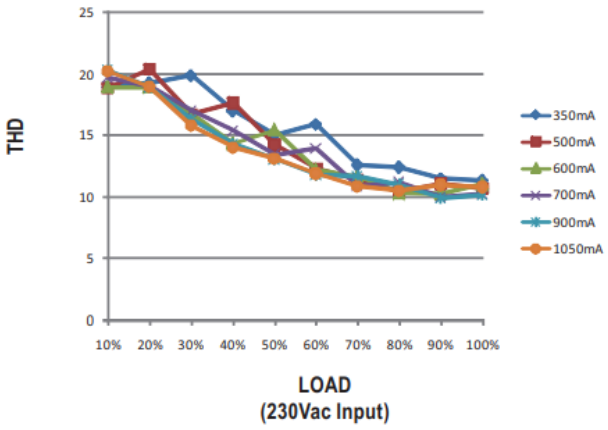
De-rating is needed under low input voltage.

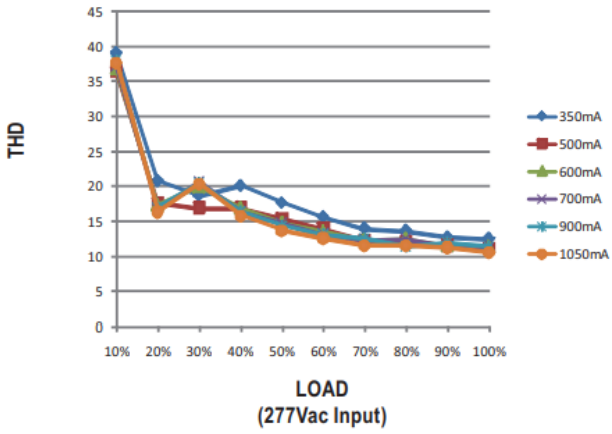
Bluetooth mesh LED driver for intelligent lighting Application



TOTAL HARMONIC DISTORTION (THD)

Tcase at 75°C

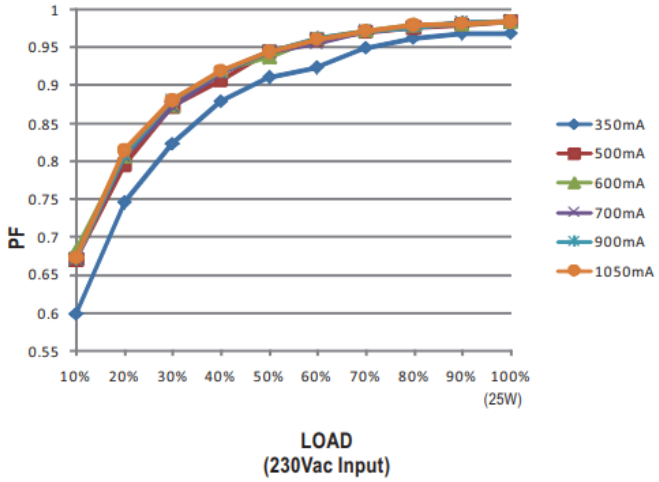




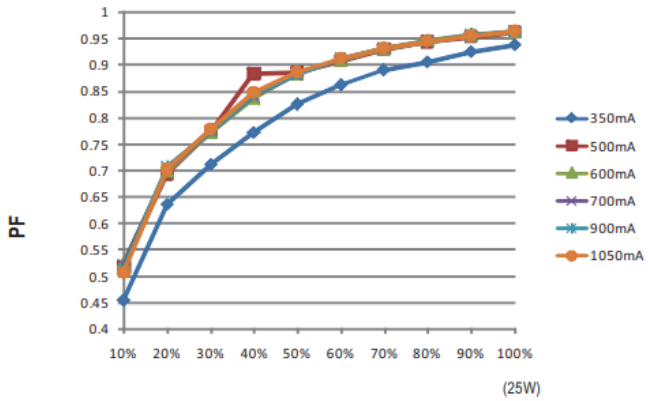
POWER FACTOR (PF) CHARACTERISTIC

Tcase at 75°C

※ Tcase at 75℃



LOAD
(230Vac Input)

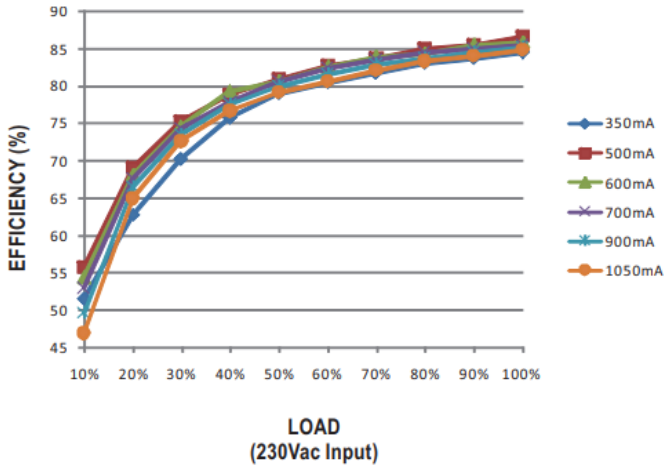


LOAD
(277Vac Input)

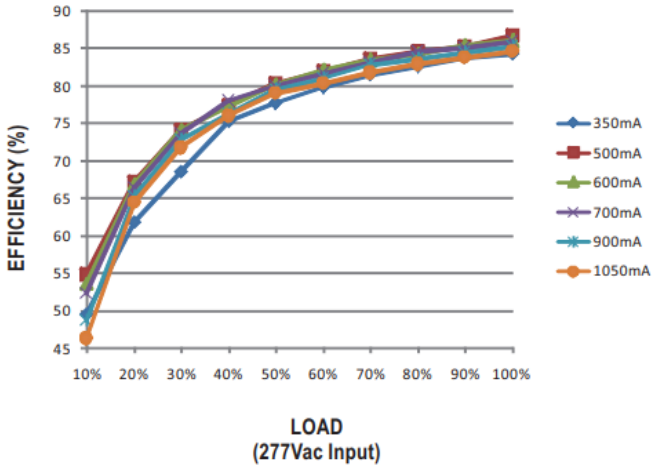
EFFICIENCY vs LOAD

LCM-25 IoT series possess superior working efficiency that up to 84.5% can be reached in field applications.
Tcase at 75℃

※ Tcase at 75℃

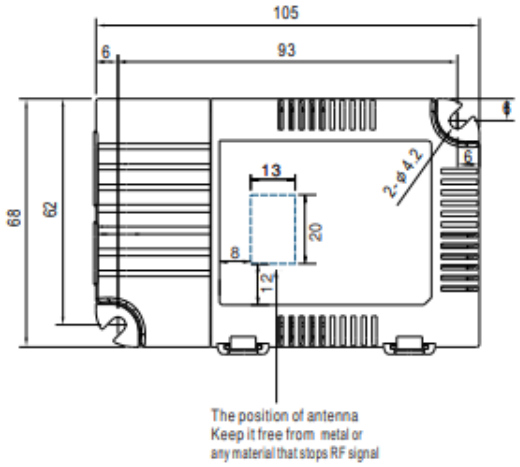


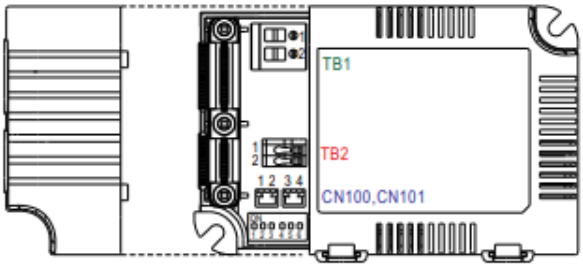
LOAD
(230Vac Input)

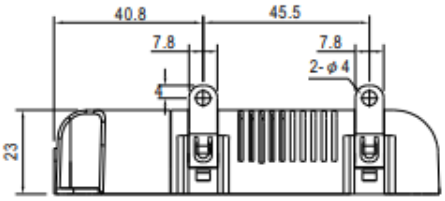


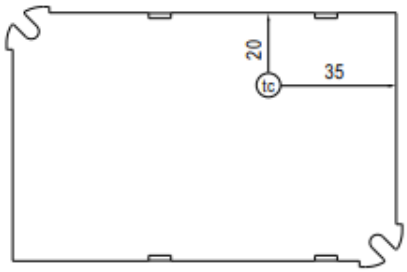
LOAD
(277Vac Input)

MECHANICAL SPECIFICATION









Bottom View

• tc : Max. Case Temperature <85℃

Terminal Pin No. Assignment(TB1)(Input)

Pin No.	Assignment
1	AC/L
2	AC/N
3	PUSH(BLE only)

Terminal Pin No. Assignment(TB2) (Output)

Pin No.	Assignment
1	+V
2	-V

SYN. Connector(CN100/CN101):

Pin No.	Assignment	Mating Housing	Terminal
1, 3	–	JST PHR-2	JST SPH-002T-P0.5S
2, 4	+	or equivalent	or equivalent

Note: Please use wires with a cross section of 0.5~2.5mm2(14~20AWG) for TB1 and wires with a cross section

of 0.5~1.5 mm2(16~20AWG) for TB2. Please use wires with a cross section of 0.126~0.205mm2(24~26AWG) for CN100/CN101

INSTALLATION MANUAL

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

Documents / Resources

	MEAN WELL LCM-25 IoT Series 25W Wireless Lighting Constant Current LED Driver Solution [pdf] Instruction Manual LCM-25 IoT Series, 25W Wireless Lighting Constant Current LED Driver Solution, LCM-25 IoT Series 25W Wireless Lighting Constant Current LED Driver Solution, Wireless Lighting Constant Current LED Driver Solution, Lighting Constant Current LED Driver Solution, Constant Current LED Driver Solution, Current LED Driver Solution, LED Driver Solution

References

- Installation Manual-MEAN WELL Switching Power Supply Manufacturer
- Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer
- Casambi - Smart Lighting Control
- Silvair - Reliable and energy-efficient lighting control
- Tuya Smart - Global IoT Development Platform Service Provider