

Professionally approved products.

Datasheet

Dimmable Constant Current LED Driver 60.3W 2 → 90V 0.5 0.6 0.7 0.9 1.05 1.4A RS LCM-60

RS Stock number 771-7724



- Features :
- Output current level selectable by DIP S.W.
- 180~295VAC input only
- Built-in active PFC function
- Protections: Short circuit / Over voltage / Over temperature
- Cooling by free air convection
- Fully isolated plastic case
- Class II power unit, no FG
- Built-in 0~10Vdc and PWM signal dimming function
- Built-in 12V/50mA auxiliary output
- Temperature compensation function by external NTC
- No load power consumption <1W(Note.7)
- Power supplies synchronization function up to 10 units
- Suitable for LED lighting applications

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SPECIFICATION

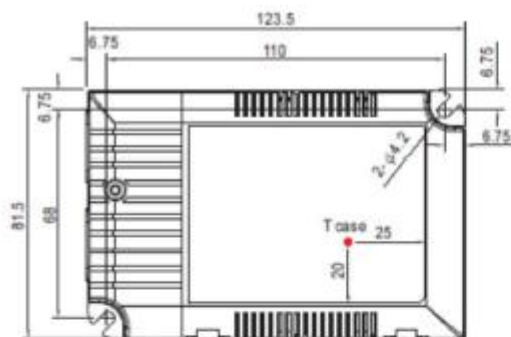
MODEL		771-7724					
OUTPUT	SELECTABLE CURRENT <small>Note.3</small>	500mA	600mA	700mA	900mA	1050mA	1400mA
	DC VOLTAGE RANGE	2 - 90V	2 - 90V	2 - 86V	2 - 67V	2 - 57V	2 - 42V
	RATED POWER	60.3W					
	RIPPLE CURRENT	±5%					
	RIPPLE & NOISE (max.) <small>Note.2</small>	700mVp-p					
	NO LOAD OUTPUT VOLTAGE (max.)	95V				73V	
	CURRENT ACCURACY	±5.0%					
	SETUP, RISE TIME <small>Note.5</small>	1000ms, 80ms / 230VAC at rated power					
HOLD UP TIME (Typ.)	16ms/230VAC at rated power						
INPUT	VOLTAGE RANGE <small>Note.4</small>	180 - 295VAC		254 - 417VDC			
	FREQUENCY RANGE	47 - 63Hz					
	POWER FACTOR (Typ.)	PF ≥ 0.98/230VAC, PF ≥ 0.96/277VAC at rated power (Please refer to "Power Factor Characteristic" curve)					
	TOTAL HARMONIC DISTORTION	Total harmonic distortion will be lower than 20% when output loading is 75% or higher					
	EFFICIENCY (Typ.) <small>Note.6</small>	92%					
	AC CURRENT (Typ.)	0.3A/230VAC		0.25A/277VAC			
	INRUSH CURRENT (Typ.)	COLD START 20A (width=270μs measured at 50% peak) at 230VAC					
LEAKAGE CURRENT	<0.5mA / 240VAC						
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE	105 - 125V Protection type: Shutdown o/p voltage, re-power on to recover					
	OVER TEMPERATURE	90°C ±10°C (RTH2) Protection type: Shut down o/p voltage, re-power on to recover					
FUNCTION	AUXILIARY POWER	12V @ 50mA for driving fan; Tolerance±5%					
	TEMP. COMPENSATION	By external NTC(not provide with the power supply), please see "Temperature Compensation Operation"					
	DIMMING	Please see "Dimming Operation"					
	SYNCHRONIZATION	Please see "Synchronization Operation"					
ENVIRONMENT	WORKING TEMP.	-30 ~ +60°C (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 independent approved					
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P: >100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (≥ 35% rated power); EN61000-3-3					
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN55024, EN61547 light industry level (surge 2KV), criteria A					
	MTBF	260.6K hrs min. MIL-HDBK-217F (25°C)					
	DIMENSION	123.5*81.5*23mm (L*W*H)					
	PACKING	0.24Kg; 54pcs/15Kg/1.12CUFT					

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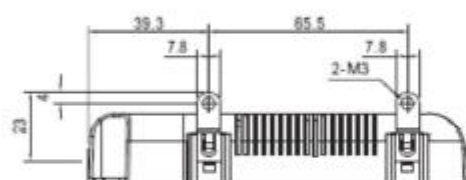
Mechanical Specification

Case No.LCM-60A

Unit:mm

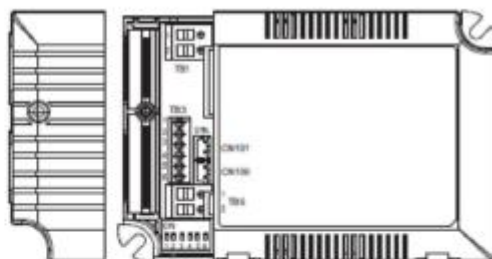


※ T case: Max. Case Temperature.



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
1	+FAN	4	-NTC
2	-FAN	5	DIM+
3	+NTC	6	DIM-

Terminal Pin No. Assignment(TB5)

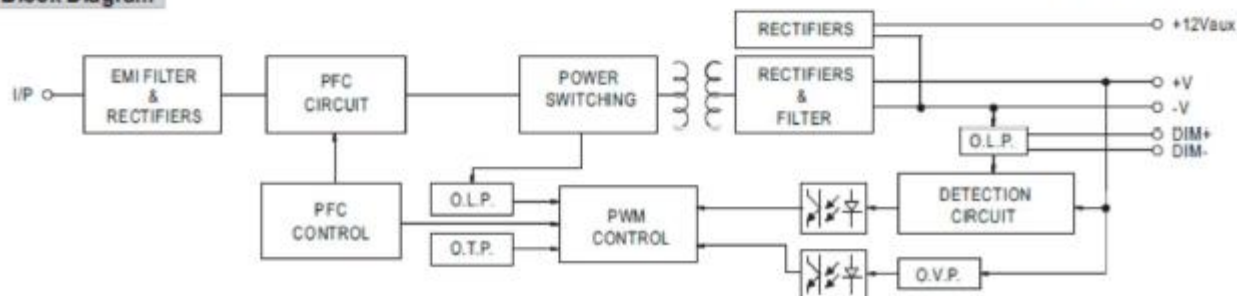
Pin No.	Assignment
1	+Vo
2	-Vo

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

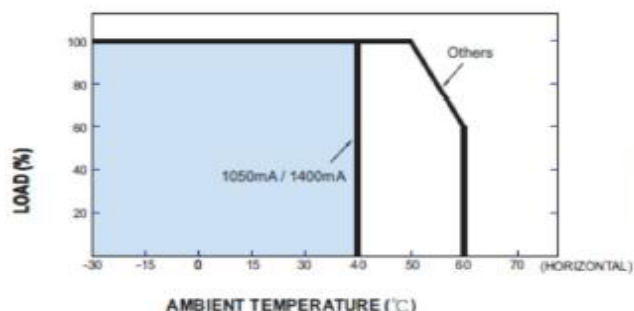
Pin No.	Assignment	Mating Housing	Terminal
1,3	+	JST XHP or equivalent	JSTS XH-001T-P0.6 or equivalent
2,4	-		

PFC fosc : 60KHz
PWM fosc : 80KHz

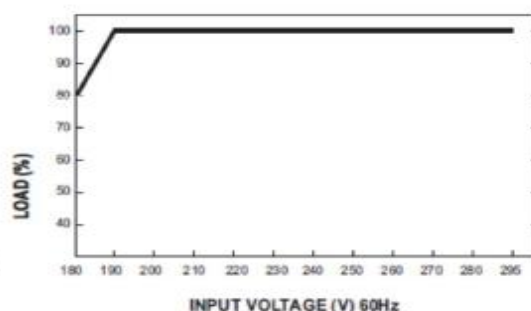
Block Diagram



Derating Curve

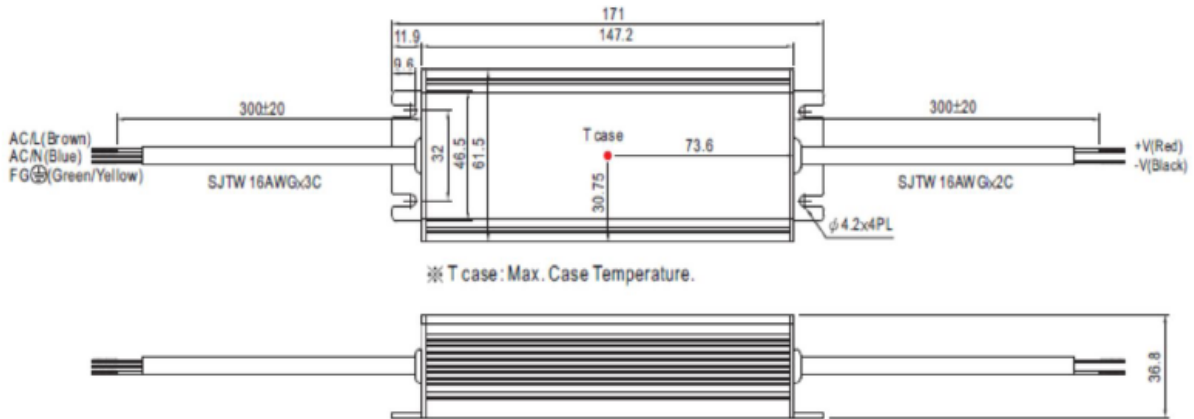


Static Characteristics

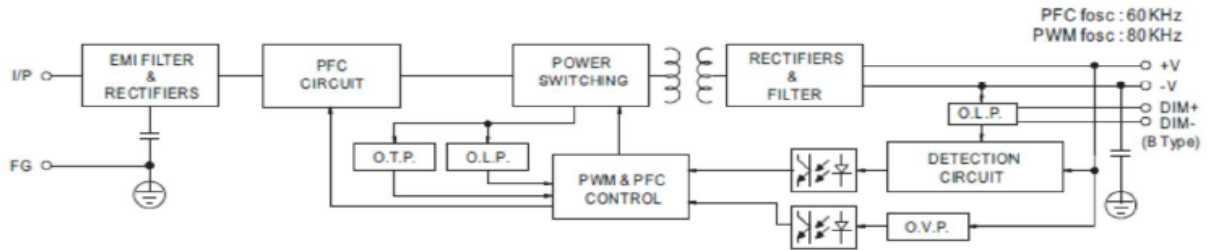


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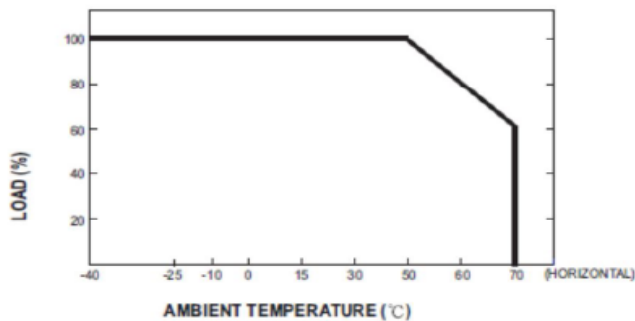
D Type:(HLG-60H-C_D)



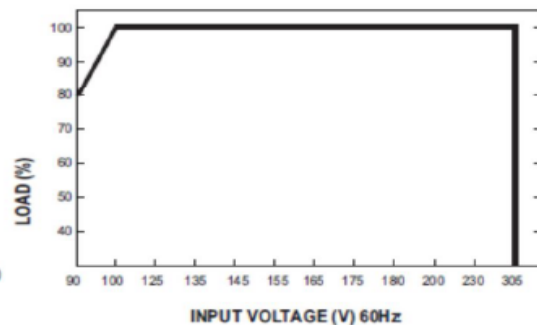
Block Diagram



Derating Curve



Static Characteristics



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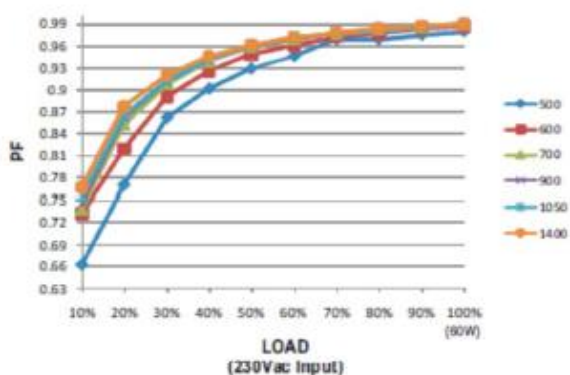
DIP Switch Table

LCM-60 is a multiple-stage output current supply, selection of output current through DIP switch as table below.

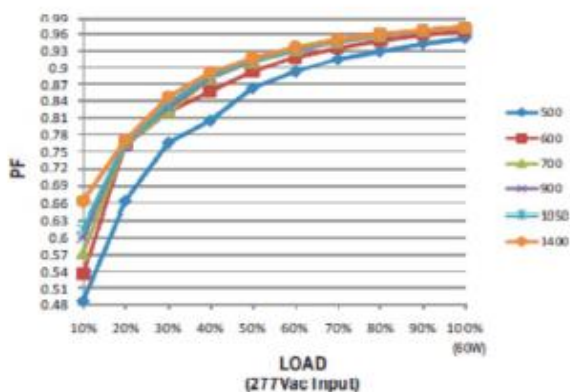
Io \ DIP S.W.	1	2	3	4	5	6
500mA	----	----	---	----	----	----
600mA	ON	----	---	----	----	----
700mA(Factory Setting)	ON	ON	---	----	----	----
900mA	ON	ON	ON	----	----	ON
1050mA	ON	ON	ON	ON	----	ON
1400mA	ON	ON	ON	ON	ON	ON

Power Factor Characteristic

Constant Current Mode

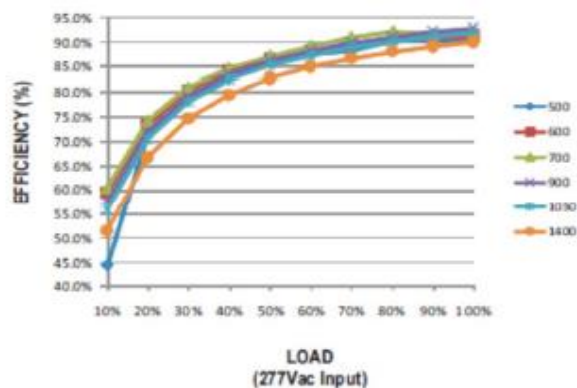
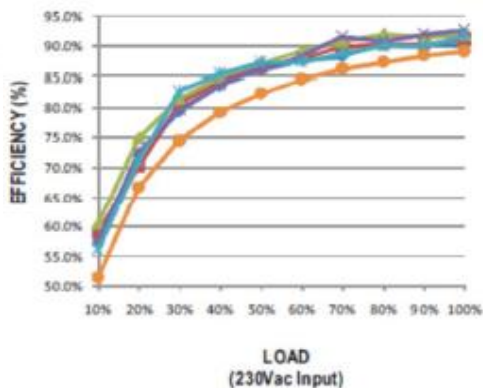


Constant Current Mode



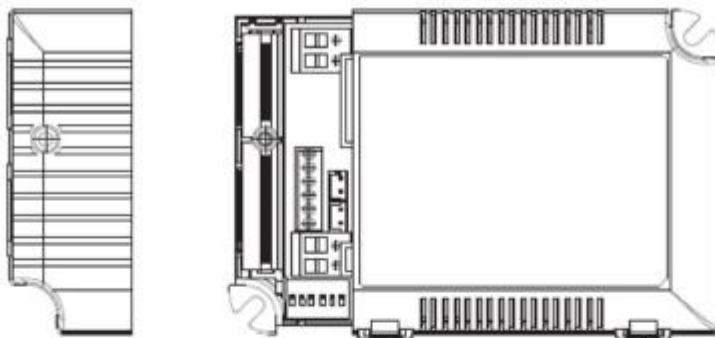
EFFICIENCY vs LOAD

LCM-60 series possess superior working efficiency that up to 92% can be reached in field applications.



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DIMMING OPERATION



⊗ Built-in 2 in 1 dimming function, output constant current level can be adjusted through output terminal by 0 – 10Vdc or 10V PWM signal between DIM+ and DIM-.

⊗ Please DO NOT connect *DIM-* to *-Vo*.

⊗ 0 – 10V dimming function for output current adjustment (Typical)

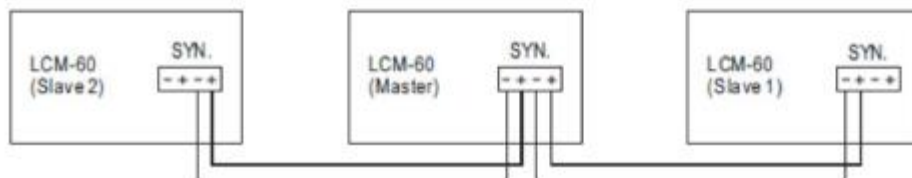
Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	100%~108%

⊗ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	100%~108%

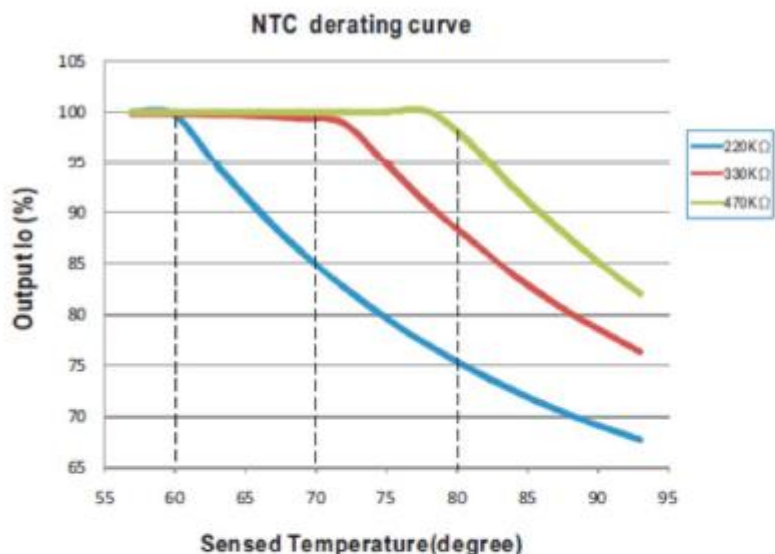
SYNCHRONIZATION OPERATION

- 10 drivers(max.) synchronization (1 master + 9 slaves)
- Maximum length of the cable from first driver to last driver is 15 meter.



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TEMPERATURE COMPENSATION OPERATION



LCM-60 have the built-in temperature compensation function ($T \uparrow, I_o \downarrow$). By connecting a temperature sensor (NTC resistor) between the 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 to ensure the long life of LED.

1. LCM-60 can still be operated well when the NTC resistor is not connected and the value of output current will be the current level that you set through the DIP switch.
- 2.

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