

2040_LED Trafo LCM-60 60W 500-1400mA 0-10V/PWM dimmbar



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 indoor LED lighting applications



SPECIFICATION

MODEL		LCM-60										
	SELECTABLE CURRENT Note.3	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%	 ±5%									
OUTPUT	RIPPLE & NOISE (max.) Note.2	700mVp-p										
	NO LOAD OUTPUT VOLTAGE (max.)	95V	5V 73V									
	CURRENT ACCURACY	±5.0%										
	SETUP, RISE TIME Note.5	1000ms, 80ms / 230VAC	at rated power									
	HOLD UP TIME (Typ.)	16ms/230VAC at rated p	ower									
	VOLTAGE RANGE Note.4	180 ~ 295VAC 254	30 ~ 295VAC 254 ~ 417VDC									
	FREQUENCY RANGE	47 ~ 63Hz										
	POWER FACTOR (Typ.)	PF≧0.975/230VAC, PF	\geq 0.96/277VAC at ra	ated power (Please r	efer to "Power Factor	Characteristic" cur	ve)					
	TOTAL HARMONIC DISTORTION	Total harmonic distortio	tal harmonic distortion will be lower than 20% when output loading is 75% or higher									
INPUT	EFFICIENCY (Typ.) Note.6	92%	······································									
	AC CURRENT (Typ.)	0.32A/230VAC 0.2	32A/230VAC 0.27A/277VAC									
	INRUSH CURRENT(Typ.)	COLD START 20A(twidth=	DLD START 20A(twidth=270,/Ls measured at 50% Ipeak) at 230VAC									
	LEAKAGE CURRENT	<0.5mA / 240VAC										
	SHORT CIRCUIT	Constant current limiting	Constant current limiting, recovers automatically after fault condition is removed									
		105~125V										
PROTECTION	OVER VOLIAGE	Protection type : Shutdown o/p voltage, re-power on to recover										
		90℃±10℃ (RTH2)										
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover										
	AUXILIARY POWER	12V @ 50mA for driving	V @ 50mA for driving fan; Tolerance±5%									
	TEMP. COMPENSATION	By external NTC(not pro	vide with the power	supply), please see "	Temperature Compe	nsation Operation"						
FUNCTION	DIMMING	Please see "Dimming O	peration"									
	SYNCHRONIZATION	Please see "Synchroniz	ation Operation"									
	WORKING TEMP.	-30 ~ +60°C (Refer to "Derating Curve")										
	WORKING HUMIDITY	20 ~ 90% RH non-conde	nsing									
ENVIRONMENT	STORAGE TEMP., HUMIDITY	-40 ~ +80 °C , 10 ~ 95% RH										
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)										
	VIBRATION	10 ~ 500Hz, 2G 10min./*	cycle, period for 60n	nin. each along X, Y, Z	axes							
	SAFETY STANDARDS	UL8750, ENEC EN6134	UL8750, ENEC EN61347-1, EN61347-2-13, EN62384 independent approved									
SALETY 9	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC										
SAFEITA	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C/ 70% RH										
EIVIC	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C(≥40% rated power) ; EN61000-3-3										
	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℃)									
OTHERS	DIMENSION	123.5*81.5*23mm (L*W*H)										
	PACKING	0.24Kg ; 54pcs/15Kg/1.12CUFT										
NOTE	 All parameters NOT special Ripple & noise are measure Please see "DIP switch table Derating may be needed ur 	rs NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. se are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf parallel capacitor. 'DIP switch table". y be needed under low input voltage. Please check the static characteristics for more details.										
	 Length of set up time is me Efficiency is measured at 90 No load power consumption The power supply is consid complete installation, the fin 	usured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time. 0mA/67V output set by DIP switch. <1W is measured at 180~277VAC, with lighting fixture connected and output current dimmed to 0%. ared as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the all equipment manufacturers must re-qualify EMC Directive on the complete installation again.										



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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.

lo 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.





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 cable length between each units : 20 meter.





LCM-60 have the built-in temperature compensation function (T \uparrow , Io \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.

LONGLIFE 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	
2	
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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 $^{\circ}$ C , 100% of the rated current (corresponds to the setting current level) > 70 $^{\circ}$ 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.

Notes: 1. MW 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.