

Project Name:
Type:

QM50 Series

50 Watts Max, 110-277VAC High Power Constant Current LED Driver

PRODUCT FEATURE

- · Compact size maximizes design flexibility.
- Low flickering Less than 10% up to 120Hz
- No-load power consumption less than 0.5W
- Turn on time Less than 500mS
- Meeting CEC Title 24, JA-8.3.3 requirements
- 4 in 1 dimming TRIAC/ELV/0-10V/PWM (see models)
- · Available with dim-to-warm (see models)
- Dimming percentage to 1-2% All dimming methods
- Optional dimming curve linear
- CC or CV output 4 in 1 dimming
- · Easy quick "dip switch" output programming
- Wireless communication protocol using ZigBee or Casambi Optional
- · Transient Protection
- UL8750 supplement SF, Class 2; Class P and CE compliant





WARRANTY

See <u>Limited Warranty Policy</u> for more additional information

RELATED PRODUCTS

⊘ OM32 Series

SPECIFICATIONS

Input Range : 110 - 277VAC / 0.30 - 0.15A / 47 - 63Hz

DC output Range : Refer to model selection table

Efficiency : 87% Typical

Power Factor : > 0.98 at full load, 115VAC or 230VAC

Output Current Regulation : ±5%

Protection : OCP, SCP, OVP - Auto recovery

Surge Rating : 2.5 KVA

Dimming : Compatible with TRIAC / ELV / 0-10V / PWM

PWM dimming Signal : 500Hz - 10Khz; Min. 10V amplitude Operation Temp. : -30°C - +50°C, Tc : 90°C

Storage Temp. : -50 C - +50 C, 1C . 90 T

Humidity (Non-Condensing) : 5% to 95% Vibration Frequency : 5 to 50Hz

MTBF : >100,000 Hours, FUII load, 25°C Amb., MIL-217F

Regulation Compliance : UL8750 Supplement SF, Class P

EN61347, EN55015, EN61547

Cooling : Convection

Dimension : 4.23" x 1.71" x 1.26" (L x W x H)

MODEL SELECTION

MODEL NUMBER	LED ch#	DC OUTPUT RANGE (Vf)	MAX OUTPUT CURRENT (mA)	Max output power (W)	TOTAL POWER (1+2)
OMEO 11497 yanay VD	1	10 – 48 VDC Note 5	1250	50	50
QM50-U48Z-yyyy-XP	2	10 – 48 VDC Note 5	1250	50	30
QM50-U48Z-yyyy-XP (1)	1	10 – 48 VDC Note 5	1250	50	FO
	2	10 – 48 VDC Note 5	1250	50	50
QM50-U24Z-yyyy-XP	1	24 VDC	1900	46	50
	2	24 VDC	1900	46	50

NOTE 1: "yyyy" = Standard output current is (1250 or 0850) Please refer to output current chart; XP = 94V-0 plastic case

NOTE 2: Custom output current configuration available.

NOTE 3: "z" = "S" single output; "D" dual outputs

NOTE 4: "UM50-U48z-yyyy-XP (1)" is non-AC Dim option

NOTE 5: Please refer to performance chart for more details.

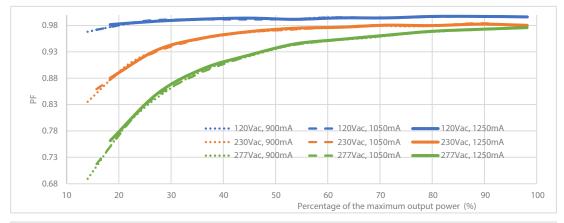


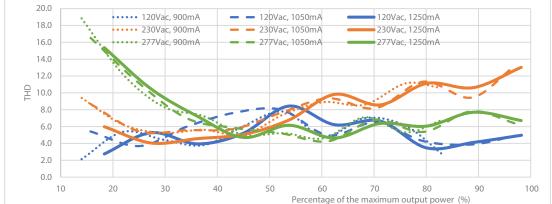
PERFORMANCE

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POWER FACTOR VS LOAD





83% 78% 120Vac, 900mA — 120Vac, 1050mA — 120Vac, 1250mA 230Vac, 900mA — 230Vac, 1050mA — 230Vac, 1250mA 277Vac, 900mA — 277Vac, 1050mA — 277Vac, 1250mA

Percentage of the maximum output power (%)

THD VS LOAD

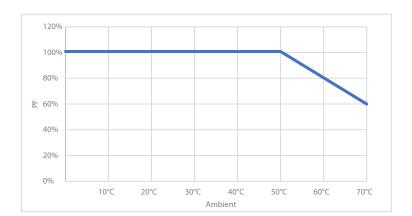
EFFICIENCY VS LOAD

Note: The above reports are generated using QM50-U48D-1250-XP with forward voltage range from 7VDC to 48V.

88%

10

DE-RATING TEMP VS LOAD



100

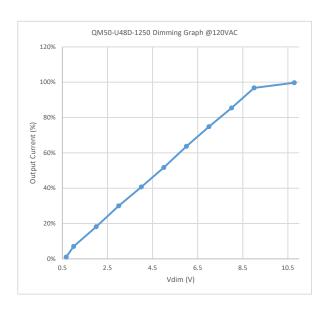


QM50 Series

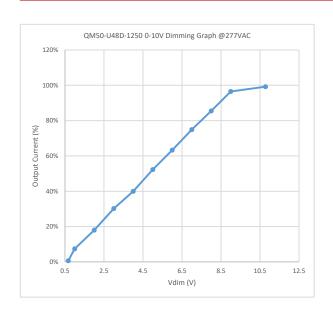
50 Watts Max, 110-277VAC High Power Constant Current LED Driver



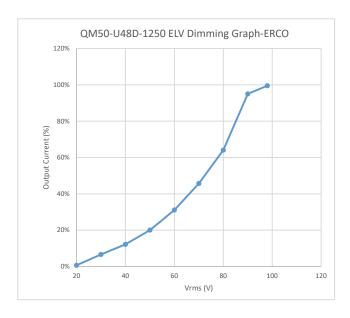
QM50-U48D-1250 0-10V DIMMING GRAPH AT 120VAC



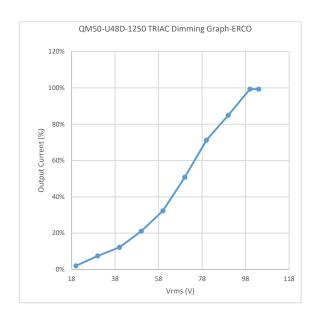
QM50-U48D-1250 0-10V DIMMING GRAPH AT 277VAC



QM50-U48D-1250 ELV DIMMING GRAPH-ERCO



QM50-U48D-1250 TRIAC DIMMING GRAPH-ERCO



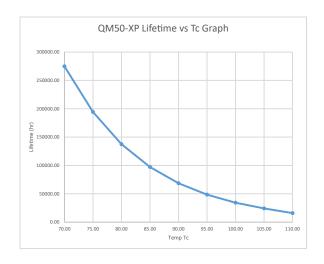


QM50 Series

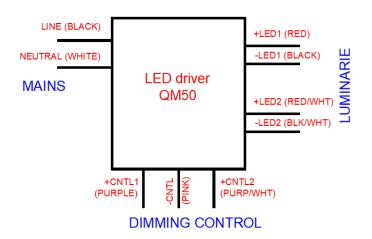
50 Watts Max, 110-277VAC High Power Constant Current LED Driver



LIFE TIME VS AMBIENT TEMPERATURE



WIRING DIAGRAM



SWITCHES SETTING CHART

SW1 SW2 SW3 SW4 SW5 SW6 SW7

SW1, SW2, SW3 are for output current settings (output setting accuracy: ±2.5%

OUTDUT (mA)	-0850			
OUTPUT (mA)	SW1	SW2	SW3	SW4
500	Off	Off	Off	
550	On	Off	Off	
600	Off	On	Off	
650	On	On	Off	Dim to off = Off
700	Off	Off	On	Dim to on = On
750	On	Off	On	
800	Off	On	On	
850	On	On	On	

OUTDUT (mA)	-1250		-1250		
OUTPUT (mA)	SW1	SW2	SW3	SW4	
900	Off	Off	Off		
950	On	Off	Off		
1000	Off	On	Off		
1050	On	On	Off	Dim to off = Off	
1100	Off	Off	On	Dim to on = On	
1150	On	Off	On		
1200	Off	On	On		
1250	On	On	On		

SW4 is for DIN to on or DIM to off

DIMMINIC STATUS	DIMMING STATUS	
DIMMING STATUS	SW4	
Dim to Off	Off	
Dim to On	On	

SW5, SW6 is to setup 0-10v dimming functions

MODE	0-10V DIMMING MODE			
MODE	SW5	SW6		
1	Off	On		
2	On	On		
3	Off	Off		
4	On	Off		



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QM50 - DUAL OUTPUT LED DRIVER MODES OF OPERATION

MODE 1

CONTROL BOTH OUTPUTS WITH ONE DIMMER

 $0{\sim}10V$ dimmer connected on DIM CNTL 1 can control the brightness on both output channels simultaneously.

MODE 2 CONTROL EACH OUTPUT WITH THE ASSIGNED DIMMER

 $0\sim10V$ DIMMER on the CNTL 1 only adjusts the brightness of LED on OUTPUT 1; $0\sim10V$ DIMMER on the CNTL 2 only adjusts the brightness of LED on OUTPUT 2;

MODE 3 DIM TO WARM

Only connect one $0\sim10\rm{V}$ on CNTL 1. The dimmer adjusts the brightness and color mixing between the LEDS on both outputs, the lower the brightness the warmer the color temperature.

MODE 4 COLOR TUNNING

One 0~10V dimmer on CNTL1 and one 0~10V dimmer on CNTL2; CNTL 1 for brightness, CNTL 2 for color tuning.

SW5	SW6	OUTPUT 1 (RED-BLACK)	OUTPUT 2 (RED/WHT- BLK/WHT)	DIM CNTL 1 (PURPLE-PINK)	DIM CNTL 2 (PURPLE/WHT- PINK)
OFF	ON	1ST LED	2ND LED	For the brightness of LEDs on OUTPUT 1 and OUPUT 2	NA

SW5	SW6	OUTPUT 1 (RED-BLACK)	OUTPUT 2 (RED/WHT- BLK/WHT)	DIM CNTL 1 (PURPLE-PINK)	DIM CNTL 2 (PURPLE/WHT- PINK)
ON	ON	1ST LED	2ND LED	For the brightness of LED on OUTPUT 1	For the brightness of LED on OUTPUT 2

SW5	SW6	OUTPUT 1 (RED-BLACK)	OUTPUT 2 (RED/WHT- BLK/WHT)	DIM CNTL 1 (PURPLE-PINK)	DIM CNTL 2 (PURPLE/WHT- PINK)
OFF	OFF	WHITE LED	WARM LED	For brightness and color temperature	NA

SW5	SW6	OUTPUT 1 (RED-BLACK)	OUTPUT 2 (RED/WHT- BLK/WHT)	DIM CNTL 1 (PURPLE-PINK)	DIM CNTL 2 (PURPLE/WHT- PINK)
ON	OFF	WHITE LED	WARM LED	For brightness	For color temperature

MECHANICAL SPECIFICATION

CON	PIN	COLOR	OUTPUT
AC IN	-	BLACK	LINE
ACIN	-	WHITE	NEUTRA
	LED1	RED	+
OUT	LEDI	BLACK	-
001	LED2	RED/WHITE	+
	LEDZ	BLACK/WHITE	-
	CNTL1+	PURPLE	+
DIM	DIM	PINK	-
	CNTL2+	PURPLE/WHITE	+

