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
- 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 or progression
- CC or CV output 4 in 1 dimming
- Easy quick "dip switch" output programming
- Wireless using ZigBee or Casambi - Optional
- Transient Protection
- UL8750 Class 2 Class P and CE compliant – Pending

Pending   Pending

WARRANTY
- See Limited Warranty Policy for more additional information

RELATED PRODUCTS

🔗 QM32 Series

🔗 QM40 Series

🔗 QM70 Series

🔗 QM100 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.	:	-40°C - +85°C
HUMIDITY (NON-CONDENSING)	:	5% to 95%
VIBRATION FREQUENCY	:	5 to 50Hz
MTBF	:	>100,000 hours, FUll load, 25°C Amb.,
REGULATION COMPLIANCE	:	MIL-217F
		UL8750 Supplement SF, Class P
COOLING	:	EN61347, EN55015, EN61547
DIMENSION	:	Convection
		4.23" x 1.71" x 1.26" (L x W x H)

MODEL SELECTION

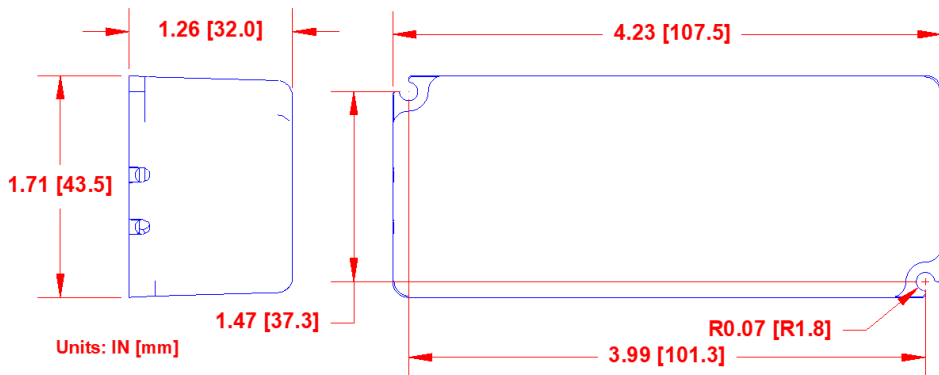| MODEL NUMBER	LED ch#	DC OUTPUT RANGE (Vf)	MAX OUTPUT CURRENT (mA)	Max output power (W)	TOTAL POWER (1+2)
QM50-U48Z-yyyy-XP	1	20 – 48 VDC	1250	50	50
	2	20 – 48 VDC	1250	50	
QM50-U48Z-yyyy-XP (1)	1	20 – 48 VDC	1250	50	50
	2	20 – 48 VDC	1250	50	
QM50-U24Z-yyyy-XP	1	24 VDC	1900	46	50
	2	24 VDC	1900	46	

NOTE
1. "yyyy" = Output current (1250 or 0850) ; XP = 94V-0 plastic case
2. "z" = "S" single output; "D" dual outputs
3. "UM50-U48z-yyyy-XP (1)" is non-AC Dim option
4. With Zigbee or Casambi control option, 4 in 1 dimming feature is disabled.

Page **1/5**
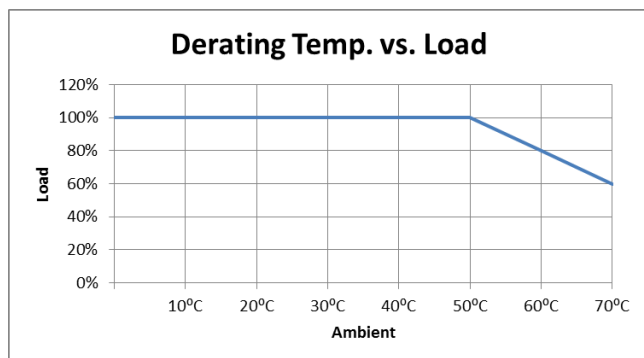Rev. **08/08/2022**

MAGTECH INDUSTRIES CORP. reserves the right to change specifications, drawings, dimensions without prior notice.
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MECHANICAL SPECIFICATION

CON	PIN	COLOR	OUTPUT	AWG	LENGTH
AC IN	-	BLACK	LINE	18	6.5 [165] ±0.5 [±13]
	-	WHITE	NEUTRA	18	
OUT	LED1	RED	+	20	
		BLACK	-	20	
	LED2	RED/WHITE	+	20	
		BLACK/WHITE	-	20	
DIM	CNTL1+	PURPLE	+	22	
	DIM	PINK	-	22	
	CNTL2+	PURPLE/WHITE	+	22	

1.26 [32.0] **4.23 [107.5]**

1.71 [43.5]

1.47 [37.3] **R0.07 [R1.8]**

Units: IN [mm] **3.99 [101.3]**

DE-RATING TEMP VS LOAD

Derating Temp. vs. Load

EFFICIENCY VS LOAD 52V MODEL

Efficiency vs. Load
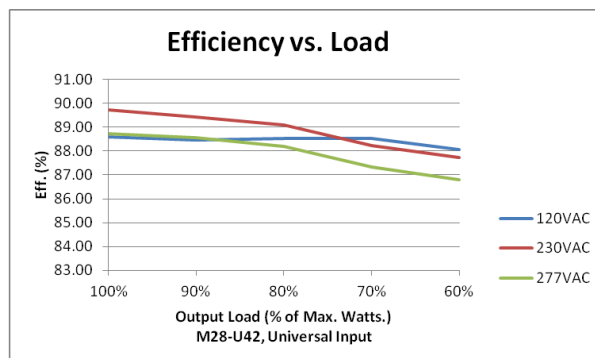
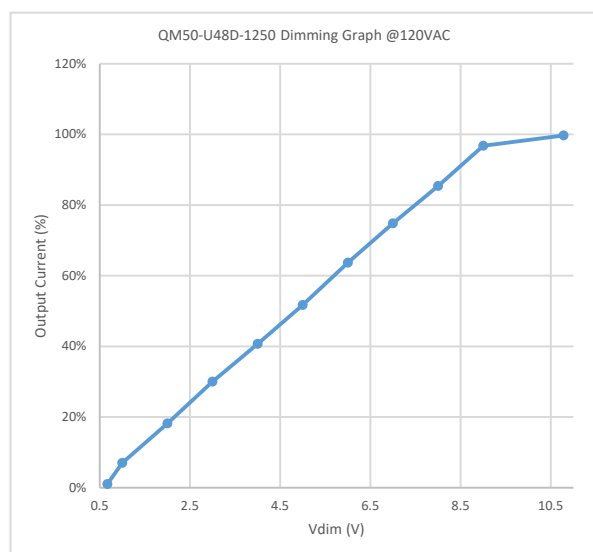## POWER FACTOR VS LOAD
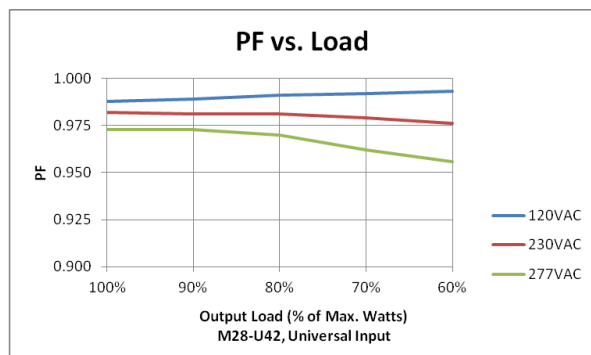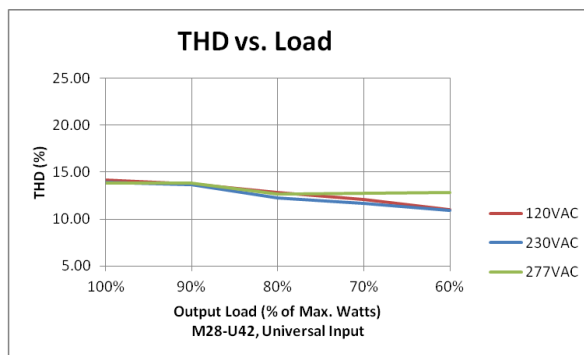
PF vs. Load
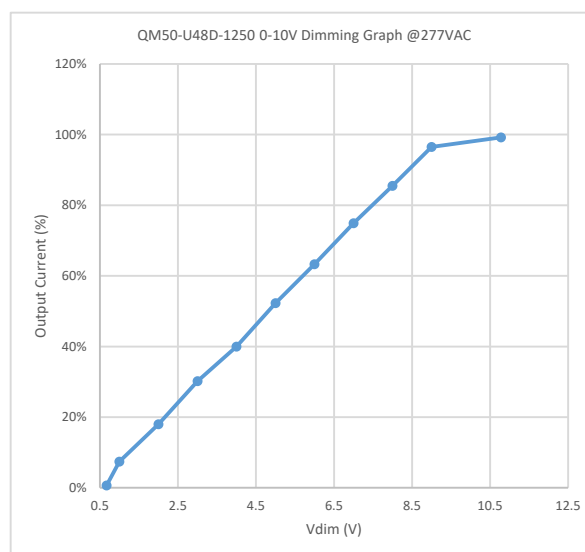
THD VS LOAD

THD vs. Load

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

QM50-U48D-1250 Dimming Graph @120VAC
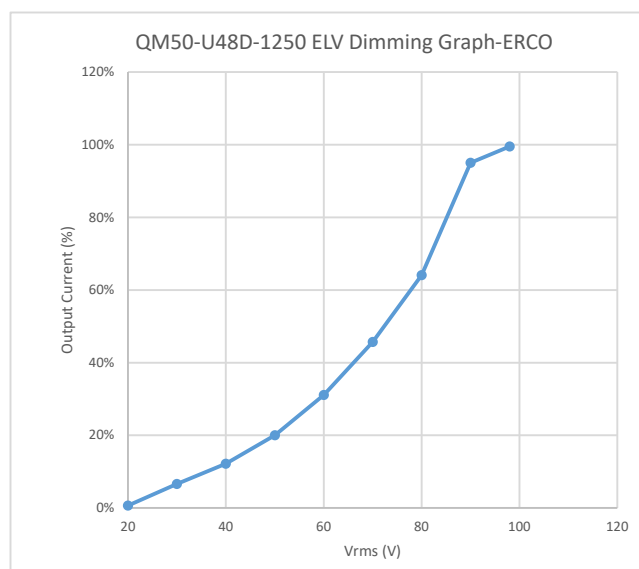
QM50-U48D-1250 0-10V DIMMING GRAPH AT 277VAC
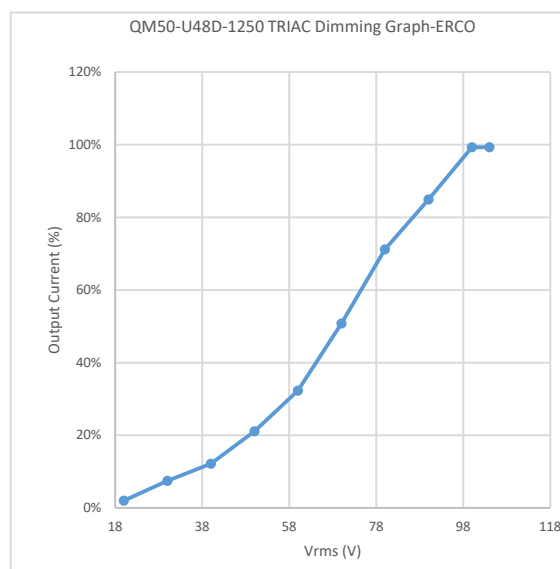

QM50-U48D-1250 0-10V Dimming Graph @277VAC

QM50-U48D-1250 ELV DIMMING GRAPH-ERCO
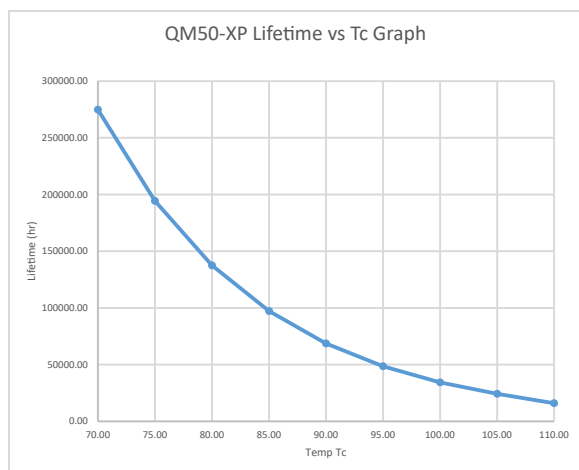

QM50-U48D-1250 ELV Dimming Graph-ERCO

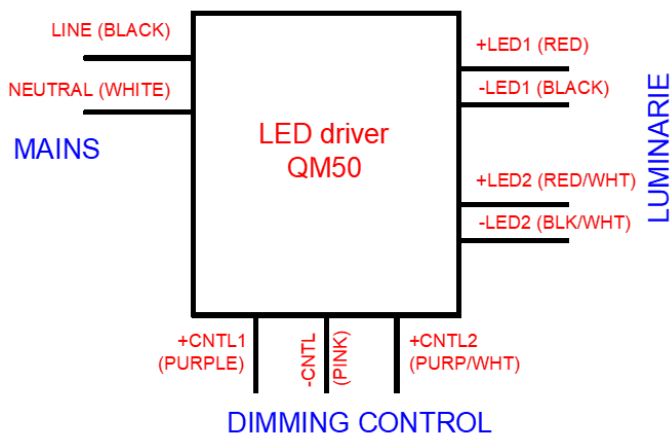## QM50-U48D-1250 TRIAC DIMMING GRAPH-ERCO

QM50-U48D-1250 TRIAC Dimming Graph-ERCO

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LIFE TIME VS AMBIENT TEMPERATURE

QM50-XP Lifetime vs Tc Graph

WIRRING DIAGRAM

NOTE: CNTL wires removed when unit is configured with Zigbee or Casambi.

SWITCHES SETTING CHART

SW1	SW2	SW3	SW4	SW5	SW6	SW7

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

-0850 OUTPUTS (mA) / CHANNEL	OUTPUT CURRENT SETTING		
	SW1	SW2	SW3
500	Off	Off	Off
550	On	Off	Off
600	Off	On	Off
650	On	On	Off
700	Off	Off	On
750	On	Off	On
800	Off	On	On
850	On	On	On

-1250 OUTPUTS (mA) / CHANNEL	OUTPUT CURRENT SETTING		
	SW1	SW2	SW3
900	Off	Off	Off
950	On	Off	Off
1000	Off	On	Off
1050	On	On	Off
1100	Off	Off	On
1150	On	Off	On
1200	Off	On	On
1250	On	On	On

SW4 is for DIN to on or DIM to off

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	
	SW5	SW6
1	Off	On
2	On	On
3	Off	Off
4	On	Off

MAGTECH
The Power To Drive Innovations

Project Name:	
Type:	

QM50 Series
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QM50 - DUAL OUTPUT LED DRIVER
MODES OF OPERATION

MODE 1
FOR USE WITH MONOCHROME LED
- Using a single 0-10 Volt dimmer
- The single dimmer control is dimming level of both output simultaneoiusly.
- The output current value selected will be for output Channel 1 & the same value for Output Channel 2.

Added feature: The ability to select from "Dim to Minimum" or "Dim to OFF".

OUTPUT						
OPERATION MODE - SELECTOR SWITCH			CONSTANT CURRENT OUT		CONTROL	
SW5	SW6	SW4	LED 1	LED 2	CONTROL 1	CONTROL 2
OFF	ON	ON - Dim to Minimum OFF - Dim to OFF	Enable	Enable	Enable dimming	Disable

MODE 2
FOR USE WITH MONOCHROME LED
- Using a single 0-10 Volt dimmer
- The dimmer work independently.
- The output current value selected will be for CTL1 - LED 1 & CTL2 - LED 2.
Added featuew: the ability to select from "Dim to Minimum" or Dim to OFF"

OUTPUT						
OPERATION MODE - SELECTOR SWITCH			CONSTANT CURRENT OUT		CONTROL	
SW5	SW6	SW4	LED 1	LED 2	CONTROL 1	CONTROL 2
ON	ON	ON - Dim to Minimum OFF - Dim to OFF	Enable	Enable	Enable dimming LED 1	Enable dimming LED 2

MODE 3
FOR USE WITH MONOCHROME LED
- Using a single 0-10 Volt dimmer
- The single dimmer control provide dim towarm effect
The output current value selected to total current

OUTPUT						
OPERATION MODE - SELECTOR SWITCH			CONSTANT CURRENT OUT		CONTROL	
SW5	SW6	SW4	LED 1	LED 2	CONTROL 1	CONTROL 2
OFF	OFF	N/A	Enable White LED	Enable Warm LED	Enable dim to warm	Disable
Factory Default Setting						

MODE 4
FOR USE WITH COB TUNABLE LED
- Using a single 0-10 Volt dimmerS
- One dimmer controls CCT & the second dimmer controls intensity
The output current value selected to total current

OUTPUT						
OPERATION MODE - SELECTOR SWITCH			CONSTANT CURRENT OUT		CONTROL	
SW5	SW6	SW4	LED 1	LED 2	CONTROL 1	CONTROL 2
ON	OFF	ON - Dim to Minimum OFF - Dim to OFF	Enable White LED	Enable Warm LED	Enable INTENSITY	Enable Color tuning

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