

# QM50 Series

Multi-Dimm®

# Product Specifications

ANZ#: Z257b, April 17, 2019

High Power Constant Current LED Driver	
Total Power	50 Watts max.
Input Voltages	110 ~ 277VAC
Number of Outputs	Three

## SPECIAL FEATURES

- 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 and CV output 4 in 1 dimming
- 12VDC auxiliary output at 200mA
- Easy quick “dip switch” output programming
- Wireless using ZigBee Protocol – Optional
- Transient Protection
- UL8750 Class 2 Class P and CE compliant – Pending



## SPECIFICATIONS :

Input Range : 110 ~ 277VAC / 0.30 ~ 0.15A /47~63Hz	Operation Temp. : -30°C ~ +50°C , Tc : 90 °C
DC Output Range : Refer to Model selection table	Storage Temp. : -40°C ~ +85°C
Efficiency : 87% Typical	Humidity (Non-Condensing) : 5% to 95%
Power Factor: > 0.98 at full load, 115VAC or 230VAC	Vibration Frequency : 5 to 50 Hz
Output Current Regulation : ±5%	MTBF : >100,000 Hours, Full Load, 25 °C amb., MIL-217F
Protection : OCP, SCP, OVP – Auto Recovery	Regulation Compliance: UL8750 or EN61347, EN55015, EN61547
Surge Rating: 2.5KVA	Cooling : Convection
Dimming : Compatible with TriAC / ELV / 0-10V / PWM	
PWM dimming signal : 500Hz – 10Khz; Min. 10V amplitude	Dimension: 4.23” (L) x 1.71” (W) x 1.26” (H)

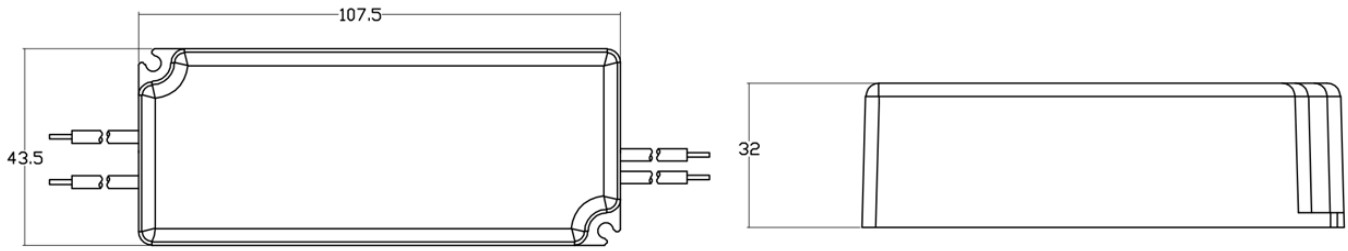
## MODEL SELECTION :

Model Number	Ch #	DC Output Range (Vf)	Max. Output Current (mA)	Max. Output/Ch. (W)	Total Power (1 + 2 + Aux.)
QM50-U48z-yyyy-XP-1	1	20 ~ 48 VDC	2000	50	50
	2	20 ~ 48 VDC	2000	50	
	Aux.	12 VDC	200	2.4	
QM50-U48z-yyyy-XP-2	1	20 ~ 48 VDC	2000	50	50
	2	20 ~ 48 VDC	2000	50	
	Aux.	12 VDC	200	2.4	
QM50-U24z-XP-2	1	24 VDC	2000	50	50
	2	24 VDC	2000	50	
	Aux.	12 VDC	200	2.4	

### Notes:

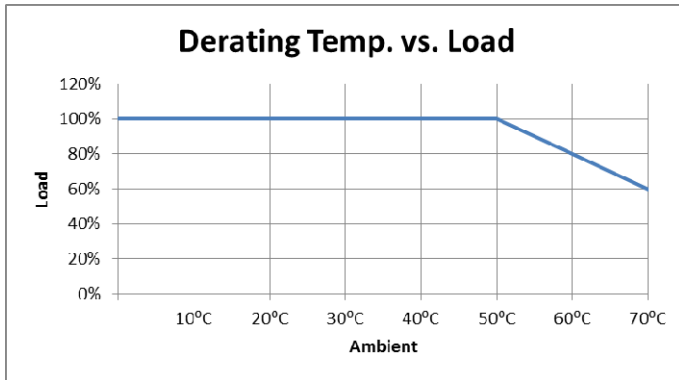
1. “yyyy” = Output current ; XP = 94V-0 plastic case
2. “z” = “S” single output; “D” dual outputs
3. “XP-1” is TRIAC/ELV dimmable with dim-to-warm; single 0-10V dimming wire with dim-to-warm affect
4. “XP-2” is TRIAC/ELV dimmable; dual 0-10V dimming wires

**MECHANICAL SPECIFICATION : 4.23" (L) x 1.71" (W) x 1.26" (H)**

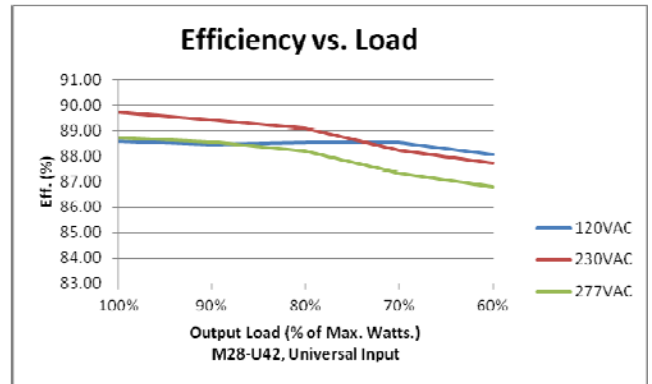


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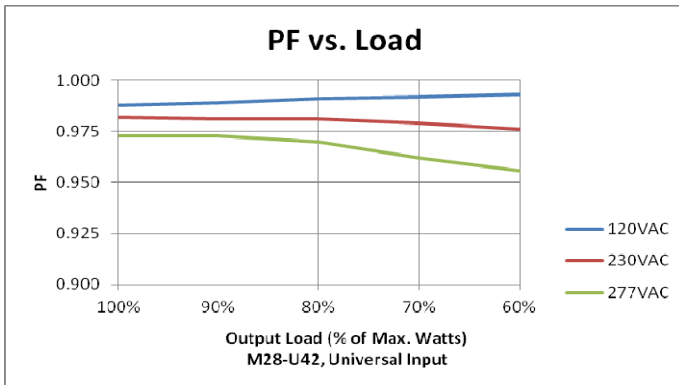
**De-rating Temp vs. Load**



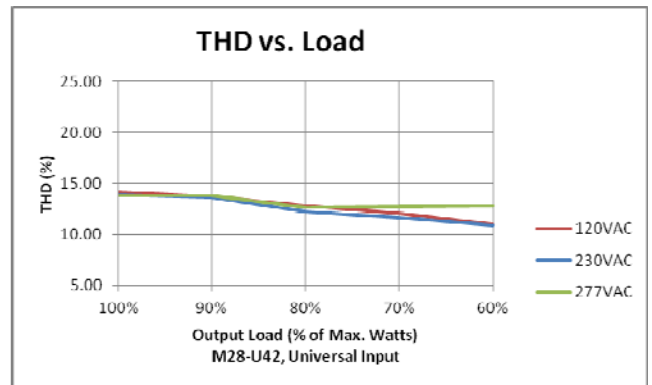
**Efficiency vs. Load**



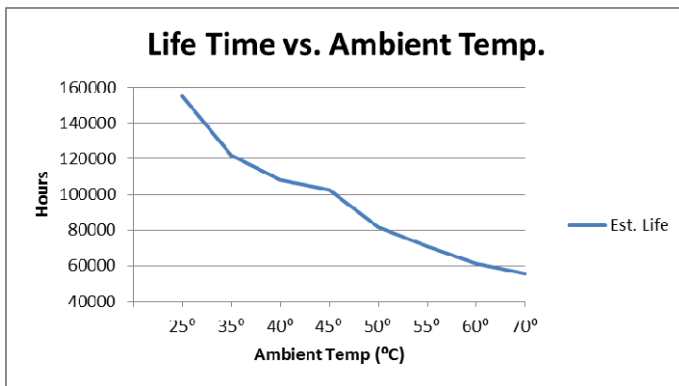
**Power Factor vs. Load**



**THD vs. Load**



**Life Time vs. Ambient Temp**



**Switches Setting Chart**

# Switches Setting Chart

SW1	SW2	SW3	SW4	SW5	SW6	SW7
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**SW1, SW2, SW3 are for output current settings** (output setting accuracy:  $\pm 2.5\%$ )

Dual Outputs (mA) / Channel	Output Current Setting		
	SW1	SW2	SW3
550	On	On	On
650	Off	On	On
750	On	Off	On
850	Off	Off	On
950	On	On	Off
1050	Off	On	Off
1150	On	Off	Off
1250	Off	Off	Off

Single Output (mA)	Output Current Setting		
	SW1	SW2	SW3
880	On	On	On
1040	Off	On	On
1200	On	Off	On
1360	Off	Off	On
1520	On	On	Off
1680	Off	On	Off
1840	On	Off	Off
2000	Off	Off	Off

**SW7 is for DIM to on or DIM to off**

DIM Status	DIMMING Status
	SW7
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

**MODE 1  
FOR USE WITH MONOCHROME LED**

Using a single 0-10volt dimmer.

The single dimmer controls dimming level of both outputs simultaneously.

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".

**Operation Mode - selector switch**

<u>SW5</u>	<u>SW6</u>	<u>SW7</u>
OFF	ON	ON = Dim to Minimum OFF = Dim to OFF

**Constant Current Out**

<u>CHANNEL 1</u>	<u>CHANNEL 2</u>
Enable	Enable

**Controls**

<u>CNTL 1</u>	<u>CNTL 2</u>
Enable	Disable
DIMMING	

**MODE 2  
FOR USE WITH MONOCHROME LED**

Using two 0-10volt dimmers.

The dimmers work independently.

**The output current value selected will be for Output 1 & the same value for Output 2.**

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

<u>SW5</u>	<u>SW6</u>	<u>SW7</u>
ON	ON	ON = Dim to Minimum OFF = Dim to OFF

<u>CHANNEL 1</u>	<u>CHANNEL 2</u>
Enable	Enable

<u>CNTL 1</u>	<u>CNTL 2</u>
Enable	Disable
DIMMING LEDIMMING LED	

**MODE 3  
FOR USE WITH COB TUNABLE LED**

Using a single 0-10volt dimmer.

The single dimmer controls provide dim to warm effect.

**The output current value selected is total current.**

<u>SW5</u>	<u>SW6</u>	<u>SW7</u>
OFF	OFF	N/A

<u>CHANNEL 1</u>	<u>CHANNEL 2</u>	<u>CNTL 1</u>	<u>CNTL 2</u>
Enable	Enable	Enable	Disable
WHITE LED	WARM LED	DIM TO WARM	

**MODE 4  
FOR USE WITH COB TUNABLE LED**

Using two 0-10volt dimmers.

One dimmer controls CCT & the second dimmer controls intensity.

**The output current value selected is total current.**

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

<u>SW5</u>	<u>SW6</u>	<u>SW7</u>
ON	OFF	ON = Dim to Minimum OFF = Dim to OFF

<u>CHANNEL 1</u>	<u>CHANNEL 2</u>	<u>CNTL 1</u>	<u>CNTL 2</u>
Enable	Enable	Enable	Enable
WHITE LED	WARM LED	COLOR TUNING	INTENSITY