

SPECIFICATION FOR APPROVAL

Part No. MANGO40
Description: 40W ADAPTER
Revision: 1.0
Customer:
Customer Approval No. :

Please return to us one original of “**SPECIFICATION FOR APPROVAL**” with your approved signatures.

APPROVED SIGNATURES	
APPROVED BY:	DATE:
CHOP & SIGNATURES:	

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1.1 Table 1 Input Electrical Characteristics Overview

Input voltage range	90Vac to 264Vac
Normal voltage range	100Vac to 240Vac
Frequency range	47~63Hz
Max input ac current	2Amax at full load condition
Inrush current (cold start)	70 Amperes @ 230Vac / 50Hz input
Average Efficiency	≥85.3%min (25%, 50%, 75%, and 100% load with input AC voltage of 115Vac @ 60Hz and 230Vac @ 50Hz.)
Harmonic current	IEC61000-3-2 class D
Leakage Current	Less Than 0.1mA, 240Vac input
power consumption	≅0.5W At 240Vac input and no load condition
Input Fuse	T3.15A/250Vac

1.2 Output Electrical Characteristics Overview

1.2.1 Table 2 Output Voltage ,Current & Regulation. (

Output Voltage	Regulation	Min. current	Rated current	Peak current
+12.0V	±5%	0.0A	3.33A	*

Note:* pulse width within 100ms

1.2.2 Table 3 DC Output Ripple & Noise.

Output Voltage	Ripple & Noise (Max.)
+12V	120mVpk

Note: 1) Measurements shall be made with an oscilloscope with 20MHz bandwidth.

2) Outputs shall be bypassed at the connector with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading.

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1.2.3 Output Transient Response.

Table 4. Test condition.

Voltage Tolerance Limit	Slew Rate	Load Change
+12.0V \pm 5%	0.1A/uS	25% load to 75% load and 50% to full load

Note: Transient response measurements shall be made with a load changing repetition rate of 50Hz to 10kHz.

1.2.4 Table 5 DC Output Hold-Up Time.

Output Voltage	120Vac input	220Vac input
+12.0V	≥ 10 mS	≥ 10 mS

Note: At rated ac input and full load condition.

1.2.5 Table 6 DC Output Overshoot At Turn On & Turn Off.

Output power	Output (V)	Over shoot voltage (V)	
		Turn on	Turn off
40W	+12V	5%	5%

Note: At rated ac input and full load condition.

1.2.6 Table 7 DC output voltage rise time

Output Voltage	120Vac input & Full Load	220Vac input & Full Load
+12V	≤ 100 mS	≤ 100 mS

Note: The output voltages shall rise from 10% to 90% of their output voltage at rated ac input and full load condition.

1.2.7 Turn-on delay

Output Voltage	Delay time
+12V	$200 \text{ mS} \leq T \leq 1000 \text{ mS}$

Note: At rated ac input and full load condition.

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1.3 Protection:

1.4.1 Table 9 DC output Over Voltage Protection.

Output Voltage	Min. Over Voltage	Comments
+12V	*	Power supply latch into shutdown state

Note: The power supply shall be test at max AC voltage (264Vac) and min load or no load.

After protection the converter shall shut down, and converter shall restart after AC reset when false condition removed.

1.4.2 Table 10 DC Output Overload Protection.

Output Voltage	Over Current	Comments
+12.0V	$\geq 4.5A$	The adapter will latch off under overload conditions.

Note: When the converter output current is overloaded, the converter voltage shall shut down without damage. When output current overload is removed, the converter output shall return to normal operation without user intervention.

1.4.3 Table 11 DC Output Short Circuit Protection.

Output Voltage	Comments
+12.0V	The adapter will latch off under overload conditions.

Note: When the converter output current is overloaded, the converter voltage shall shut down without damage. When output current overload is removed, the converter output shall return to normal operation without user intervention.

1.4.4 Over Temperature Protection.

The power supply shall shut down when the temperature exceeds 105°C +/-5oC.

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The converter shall return to normal operation after AC reset and the temperature decreases 35°C cooler than the trip point

2. Isolation

2.1 Table 12

Input To Output	DC500V 15M Ω min (at room temperature)
Input To FG	DC500V 15M Ω min (at room temperature)
Output To FG	Isolated

2.2 Table 13

Input To Output	3000Vac 50Hz 1minute \leq 10mA
Input To FG	1000Vac 50Hz 1minute \leq 10mA
Output To FG	Isolated

Note:

3. Safety

The power supply shall compliance with the following Criterion:

- 1) UL1310-1-1

4. EMC

- 1) UL1310-1-2

4.1 EMI

The power supply shall compliance with the following Criterion:

- 1) Conduction Emission :
 - *EN55022, CLASS B
 - *FCC CLASS B
- 2) Radiated Emission :
 - *EN55022, CLASS B
 - *FCC CLASS B

4.2 EMS

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The power supply shall compliance with the following Criterion:

- 1) Conducted
 - * EN 61000-4-6
- 2) EFT
 - * EN 61000-4-4 Level 3
- 3) SURGE)
 - * EN 61000-4-5 Level 3
- 4) Harmonics
 - * EN 61000-3-2 Class D
- 5) RF Susceptibility
 - EN 61000-4-3

5. Environmental Requirement

5.1 Temperature

* Operating: 0℃ to +50℃.

Derating: 2.5%/℃>50℃

* Store -20℃ to +60℃.

5.2 Humidity

* Operating: From 10%to90% relative humidity , (non-condensing).

* Store: From 30 to 95% relative humidity at 28 ° C dew point , (non-condensing).

5.3 Altitude

* Operating: to40,000 ft.

* Store: to 40,000ft.

5.4 Cooling Method

* Ventilation cooling .

5.5 Vibration (non operating)

* The unit shall be design to meet the following vibration requirements:

MIL-STD-810E, EN60068-2-6.

5.6 Impact

* he unit shall meet MIL-STD-810E/F, EN60068-2-27. EN60068-2-47.

6. Dimension

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7. Weight

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8. Pin Connection

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9. Power Supply And Mechanical Details

TBD

10. Package

TBD

11. Power Supply Overview:

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