User's Manual

Features

- Universal AC input / Full range
- Low leakage current <150μA
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Free air convection for 140W and forced air convection for 200W
- Medical safety approved (2 x MOPP between primary to secondary)(Note.8)
- With power good and fail signal output
- Built-in remote ON-OFF control
- Built-in remote sense function
- Fixed switching frequency at 100KHz
- 3 years warranty

TPTC004 UL60950-1 BS EN/EN60601-1 IEC60601-1

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Specification

AC INPUT VOLTAGE
90~264 VAC, 47~63Hz / 127~370VDC.

POWER FACTOR (Typ.)
PF>0.95/230VAC PF>0.98/115VAC at full load

AC INPUT CURRENT (Typ.)
Maximum input current 3.5A at 115VAC, 60Hz or 1.6A at 230VAC, 60Hz with 100% output load.

INRUSH CURRENT (Typ.)
Inrush current is less than 25A at 115VAC or less than 40A at 230VAC under cold start conditions. Limiting provided by internal thermistors.

SETUP, RISE TIME
1000ms, 20ms / 230VAC at full load
3000ms, 20ms / 115VAC at full load

HOLD-UP TIME (Typ.)
16ms / 230VAC at full load
16ms / 115VAC at full load

LEAKAGE CURRENT Note.7
Earth leakage current < 150μA/264VAC ,
Touch current < 100μA/264VAC

DC OUTPUT ADJ. RANGE
DC output voltage (or CH1 of multiple output models) can be adjusted between -5%~+10% rated output voltage by potential meter.

OVERLOAD PROTECTION
Fully protected against short circuit and output overload. The hiccup type protection will be activated at 120~160% rated load and recovers automatically after fault condition is removed.

OVER VOLTAGE PROTECTION
Provided on output channel 1 only at 115%~135% rated output voltage.
Output will be shut down when this protection is activated.

OVER TEMPERATURE PROTECTION
When the temperature of TSW1 which detect on heat sink of power transistor reaches 95℃, This protection is activated. Then output will be shut down and recovers automatically after temperature goes down.

POWER GOOD / FAIL SIGNAL
TTL logic high for power good and TTL low for power fail. When the output voltage reaches 90% of rated value, a +5V TTL signal will be sent out with a 10~500ms delay; At least 1ms before the output voltage goes below 90% of the rated value, the TTL signal will be turned off.

REMOTE CONTROL
RC+/RC-:0 ~ 0.8V=power on; 4 ~ 10V=power off sink current<4~10mA

WORKING TEMP.
Whole series can operate from -20~70℃. Please refer to the derating curves.

WORKING HUMIDITY
20~90% RH non-condensing.

STORAGE TEMP., HUMIDITY
-40~+85℃, 10~90% RH

TEMP. COEFFICIENT
±0.04%/℃ on all outputs at full load between 0~50℃ of ambient temperature.

VIBRATION
2G of acceleration, vibrating frequency adjust from 10Hz ~500Hz within a 10-minute cycle. 6 testing cycles (60 minutes) each along X, Y, Z axes.

SAFETY STANDARDS
IEC 60601-1:2005+A1,TUV BS EN/ EN 60601-1:2006+A1+A12+A2
ANSI/AAMI ES60601-1:2005+A2,CAN/CSA C22.2 No. 60601-1:2014+A2
EAC TP TC 004 approved

WITHSTAND VOLTAGE
4000VAC between input and output
2000VAC between input and F.G.
1500VAC between output and F.G.

ISOLATION RESISTANCE
>100M Ohms for I/P-O/P, I/P-FG, O/P-FG by using 500VDC test voltage.

	Compliance Level	
EMI COMPLIANCE	BS EN/EN55011, Class B	
EMI Specifications	EAC TP TC 020	
Conducted & Radiation	BS EN/EN61000-3-2	
Harmonic distortion	BS EN/EN61000-3-3	
Voltage flicker		
	Compliance Level	
EMS COMPLIANCE	BS EN/EN61000-4-2,	Level 3, 8KV
EMS Specification	BS EN/EN61000-4-2,	Level 2, 4KV
ESD air	BS EN/EN61000-4-3,	Level 2, 3V/m
ESD contact		Level 3, 10V/m
	BS EN/EN61000-4-4,	Level 2, 1KV/5KHz
RF field susceptibility		Level 3, 2KV/5KHz
	BS EN/EN61000-4-5,	Level 4, 2KV/Line-Line
EFT(Electrical Fast Transient)/Burst		4KV/Line-Earth
	BS EN/EN61000-4-6,	Level 2, 3Vrms/m
Lightning/Surge		Level 3, 10Vrms/m
	BS EN/EN61000-4-8,	Level 2, 3A/m
Conducted RF susceptibility		Level 3, 10A/m
	BS EN/EN61000-4-11,	Compliance
Magnetic field immunity	BS EN/ENV50204,	Level 2, 3V/m, 900MHz
Voltage dip, interruption		Level 3, 10A/m, 900MHz
Digital phone carrier immunity	EAC TP TC 020	

MTBF
1679.6K hrs min. Telcordia SR-332 (Bellcore) ; 213.8K hrs min. MIL-HDBK-217F (25℃)

DIMENSION (L*W*H)
177.8x107.2x35.5mm or 7"x4.22"x1.4"

PACKING
0.66Kg; 24pcs/16.8Kg/1.17CUFT

■ Output Chart

MODEL	OUTPUT VOLTAGE	RATED CURRENT	OUTPUT CURRENT				RIPPLE & NOISE (Max.) (Note 2)	VOLTAGE TOLERANCE (Note 3)	LINE REGULATION	LOAD REGULATION	EFFICIENCY (typ.)
			MINIMUM LOAD	CONVECTION (max.)	WITH FAN (25CFM)	PEAK LOAD WITH 25CFM FAN (Note 4)					
MPQ-200B	5V	15A	3A	12A	15A	18A	80mVp-p	±2.0%	±0.5%	±1.0%	78%
	12V	7A	0.7A	5.3A	7A	8.4A	120mVp-p	±8.0%	±1.0%	±5.0%	
	-5V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-12V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-200C	5V	15A	3A	12A	15A	18A	80mVp-p	±2.0%	±0.5%	±1.0%	78%
	15V	5A	0.5A	4A	5A	6A	150mVp-p	±6.0%	±1.0%	±5.0%	
	-5V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-15V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-200D	5V	15A	3A	12A	15A	18A	80mVp-p	±2.0%	±0.5%	±1.0%	79%
	24V	3A	0.3A	2.3A	3A	3.6A	180mVp-p	±8.0%	±1.0%	±5.0%	
	12V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-12V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-200F	5V	15A	3A	12A	15A	18A	80mVp-p	±2.0%	±0.5%	±1.0%	81%
	24V	2.7A	0.3A	2.1A	2.7A	3.3A	180mVp-p	±8.0%	±1.0%	±5.0%	
	15V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-15V	2A	0A	1A	2A	2.4A	80mVp-p	±5.0%	±0.5%	±1.0%	

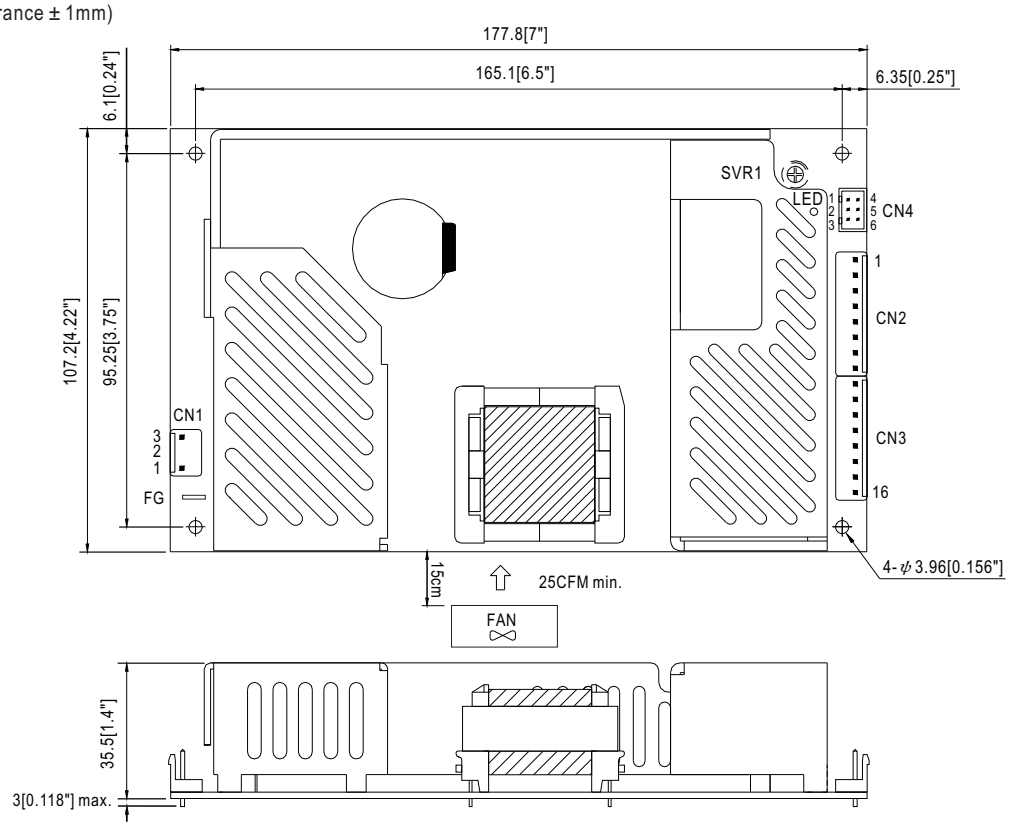
Notes :

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF & 47μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
6. Derating may be needed under low input voltages. Please check the derating curve for more details.
7. Touch current was measured from primary input to DC output.
8. Suitable for BF application with appropriate system consideration.
9. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Mechanical Specification

(Unit: mm , tolerance ± 1mm)



AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

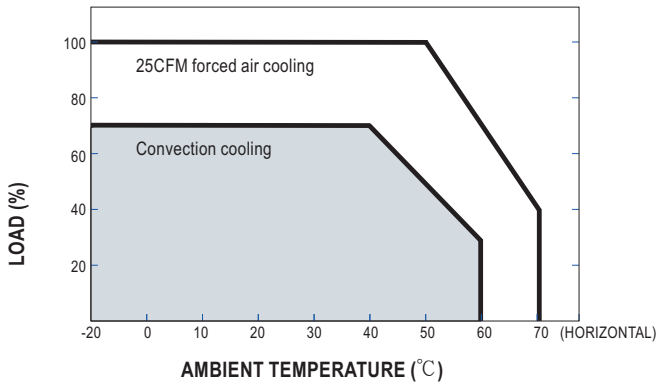
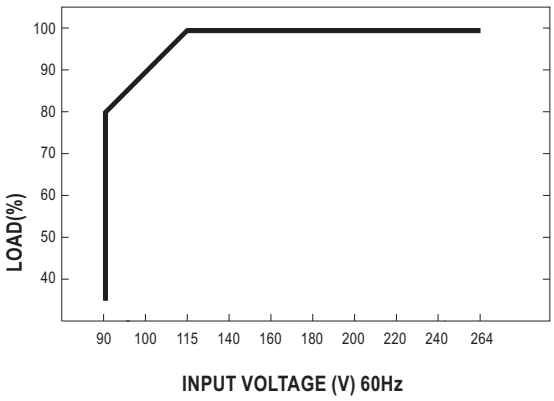
DC Output Connector (CN2,3) : JST B8P-VH*2 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3,4	V1	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
5~11	COM		
12,13	V2		
14	V3		
15	No pin		
16	V4		

DC Output Connector (CN4) : JS-2008-03*2 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	PG	JS-2007-03*2 or equivalent	JS-2007-T or equivalent
2	RS-		
3	GND		
4	RC+		
5	RS+		
6	RC-		

Derating Curve



Static Characteristics