

MCHQ320VxA series

320W LED Switching Power Supply (CV+CC) with output voltage and current level adjustment



■ Features:

- Universal AC input / Full range (Max. 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- IP65 design for indoor and outdoor appliances
- Compliance to worldwide regulations for lighting
- Output voltage and constant current level adjustable by internal potentiometers



ELECTRICAL SPECIFICATION

MODEL	MCHQ320V12A	MCHQ320V15A	MCHQ320V24A	MCHQ250V36A	MCHQ320V48A	MCHQ320V54A
OUTPUT						
Rated Voltage	12V	15V	24V	36V	48V	54V
Constant Current Region [2]	7.2 ÷ 12V	9 ÷ 15V	14.4 ÷ 24V	21.6 ÷ 36V	28.8 ÷ 48V	32.4 ÷ 54V
Rated Current	22A	19A	13A	8.9A	6.7A	6A
Rated Power	264W	285W	320W	320W	320W	320W
No Output Voltage (max.)	12V	15V	24V	36V	48V	54V
Voltage Adjustment Range – Vadj potentiometer	10.5 ÷ 13.5V	13.5 ÷ 17V	22 ÷ 27V	33 ÷ 40V	43 ÷ 53V	49 ÷ 58V
Current Adjustment Range – Iadj potentiometer	11 ÷ 22A	9.5 ÷ 19A	6.7 ÷ 13.4A	4.5 ÷ 8.9A	3.4 ÷ 6.7A	3 ÷ 5.93A
Line Regulation	± 1%					
Load Regulation	± 3%					
Voltage Tolerance [3]	± 3%					
Current Tolerance [3]	± 5%					
Ripple & Noise (max.) [4]	150mV _{p-p}	150mV _{p-p}	300mV _{p-p}	300mV _{p-p}	300mV _{p-p}	300mV _{p-p}
Setup, Rise, Holdup time [5]	500ms, 30ms, 30ms					
INPUT						
Voltage Range	90 ÷ 305VAC					
Frequency Range	47 ÷ 63Hz					
Power Factor (typ.)	PF > 0.98 / 115VAC; PF > 0.95 / 230VAC at full load					
Efficiency (typ.)	92%	93%	94%	94.5%	95%	95%
AC current (typ.)	4A / 115VAC; 2A / 230VAC					
Inrush current (max.)	45A / 230VAC(25°C)					

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PROTECTIONS

Over Current	Range: 110 ÷ 160%					
	Type: constant current limiting to 60% rated voltage next hiccup mode. Recovers automatically after fault condition is removed.					
Short Circuit	Type: hiccup mode. Recovers automatically after fault condition is removed.					
Over Voltage	Max. 18V	Max. 25V	Max. 35V	Max. 50V	Max. 65V	Max. 72V
	Type: shut down output voltage. Re-power on to recovery.					
Over Temperature	Range: 110°C ± 10°C					
	Type: shut down output voltage. After temperature goes down re-power on to recovery.					

WORKING ENVIRONMENT

Working Temperature	-40°C ÷ 70°C (refer to Derating Curve)
Working Humidity	15 ÷ 95% RH non-condensing
Storage Temperature and Humidity	-40°C ÷ 80°C, 10 ÷ 95% RH non-condensing
Temperature Coefficient	± 0.05% / °C (-10°C ÷ 45°C)
Vibration	10 ÷ 500Hz, 5G, 10min / cycle, period 30min. each along X, Y, Z axes

SAFETY AND EMC REGULATIONS

Safet Standards	Compliance to EN61347-1, EN61347-2-13
Withstand Voltage	IN/OUT: 5.3kVDC/1min
Isolation Resistance	IN/OUT; IN/GND; OUT/GND: 50MΩ/500VDC/25°C/70%
EMC Emission	Compliance to EN55015
EMC Immunity	Compliance to EN61547; EN61000-4-2, -3, -4, -5, -6, -8, -11; EN55024
Harmonic Current	Compliance to EN61000-3-3; EN61000-3-2 class C (≥ 100% load)

OTHERS

MTBF	225 000h MIL-HDBK-217F (25°C)
Dimensions	246 x 84 x 41.3mm (L x W x H)
Weight and Packing	1.3kg; 10pcs./box; box weight and dimensions: 16kg, 30.5 x 25 x 29.5cm

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Constant current operation region is within announced range. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
3. Tolerance includes set up tolerance, line regulation and load regulation.
4. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF i 47μF parallel capacitor.
5. Setup and rise time is measured from 0 to 90% rated output voltage.
6. Power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment must be re-qualify to comply with EMC Directives.

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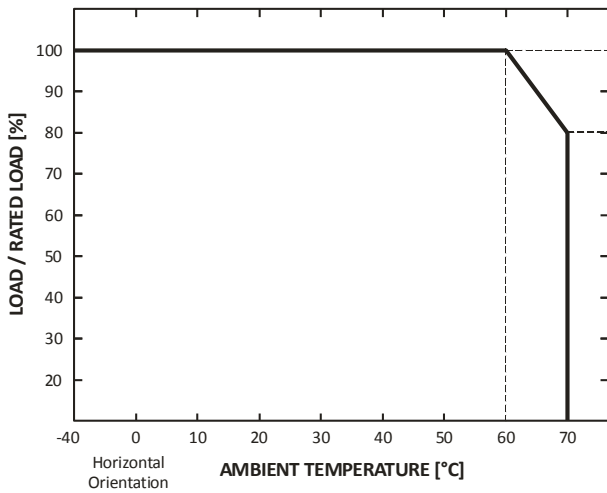
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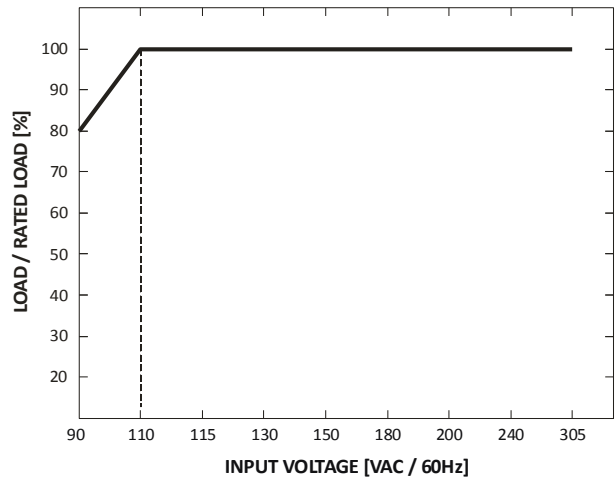
MECHANICAL SPECIFICATION



DERATING CURVE



STATIC CHARACTERISTIC



CONSTANT VOLTAGE + CONSTANT CURRENT MODE OPERATION

