

MCHQ50V-GA series

50W LED Switching Power Supply (CV+CC) with output voltage and current level adjustment



■ Features:

- Constant voltage / Constant current mode
- Universal AC input range (max. 305VAC)
 - Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
 - Cooling by free air convection
- High surge protection: 4kV – differential mode, 6kV – common mode
 - IP65 protection class
- Suitable for dry, humid and rainy environment

CONSTANT CURRENT
CONSTANT VOLTAGE

SELV IP65



ELECTRICAL SPECIFICATION

MODEL	MCHQ50V12-GA	MCHQ50V24-GA
OUTPUT		
Rated Voltage	12V	24V
Rated Current	4.16A	2.08A
Voltage Adjustment Range – Vadj potentiometer	10.5 ÷ 13.5V	22 ÷ 26V
Current Adjustment Range – Iadj potentiometer	2.08 ÷ 4.16A	1.2 ÷ 2.08A
Minimum voltage for Constant Current mode	7.2V	14.4V
Rated power	50W	
Line Regulation	± 1%	
Load Regulation	± 2%	
Current Accuracy	± 5%	
Voltage ripple (pk-pk)	± 2	
Current ripple (pk-pk)	± 5	
Setup, Rise time	400ms, 100ms / 230Vac	

INPUT

Voltage Range	90 ÷ 305VAC (refer to Derating Curve)
Frequency Range	47 ÷ 63Hz
AC current (max.)	0.54A / 110Vac at full load; 0.26A / 230Vac at full load
Inrush current (max.)	60A / 230Vac, 50Hz
Power Factor (typ.)	0.97 / 230Vac at full load (refer to PF curve)
THD (max.)	< 8.5% / 230Vac, full load (refer to THD curve)
Efficiency (typ.)	88%
Leakage Current (max.)	0.7mA / 230Vac at full load
No load power consumption (max.)	0.5W / 230VAC

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PROTECTIONS

Over load	Range: 110 ÷ 160% rated load 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	Range: 150% rated voltage Type: shut down output voltage. Re-power on to recovery.
Over Temperature	110°C Type: shut down output voltage. Re-power on to recovery.

WORKING ENVIRONMENT

Working Temperature	-40°C ÷ 70°C; tc=90°C (refer to derating curve)
Working Humidity	10 ÷ 90% RH non-condensing
Storage Temperature and Humidity	-40°C ÷ 85°C, 5 ÷ 95% RH non-condensing

SAFETY and EMC STANDARDS

Safety Standards	Compliance to EN61347-1, EN61347-2-13 , EN 62493
EMC emission	Compliance to EN55015
EMC Immunity	Compliance to EN61547
Harmonic Current	Compliance to EN61000-3-2, EN61000-3-3
Withstand Voltage	IN/OUT: 3200VAC / 5mA, 60s IN/GND: 1600VAC / 5mA, 60s OUT/GND: 1000VAC / 5mA, 60s
Insulation Resistance	IN/OUT: ≥ 10MΩ / 500VDC
Grounding Resistance	≤ 0.1Ω / 25A, 1min
IP Protection Class	IP65

OTHERS

MTBF	200 000 hours / 25°C, full load, according to MIL-HDBK-217F
Lifetime	55 000 hours / 230VAC, full load, tc=75°
Dimensions	157 x 40.9 x 36.5mm (L x W x H)
Weight and packing	0.4kg; 15pcs./box; box weight and dimension: 8kg; 26.5 x 20 x 25.5cm
Primary cable	H05RN-F 105°C 3Gx1.0mm ² , length = 300 ± 30mm
Secondary cable	12V: SJTW, 2*18AWG / 2*0.824mm ² , 105°C, length = 300 ± 30mm 24V: SJTW, 2*18AWG / 2*0.824mm ² , 105°C, length = 300 ± 30mm

EAN Code



1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.

2. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC Directives.

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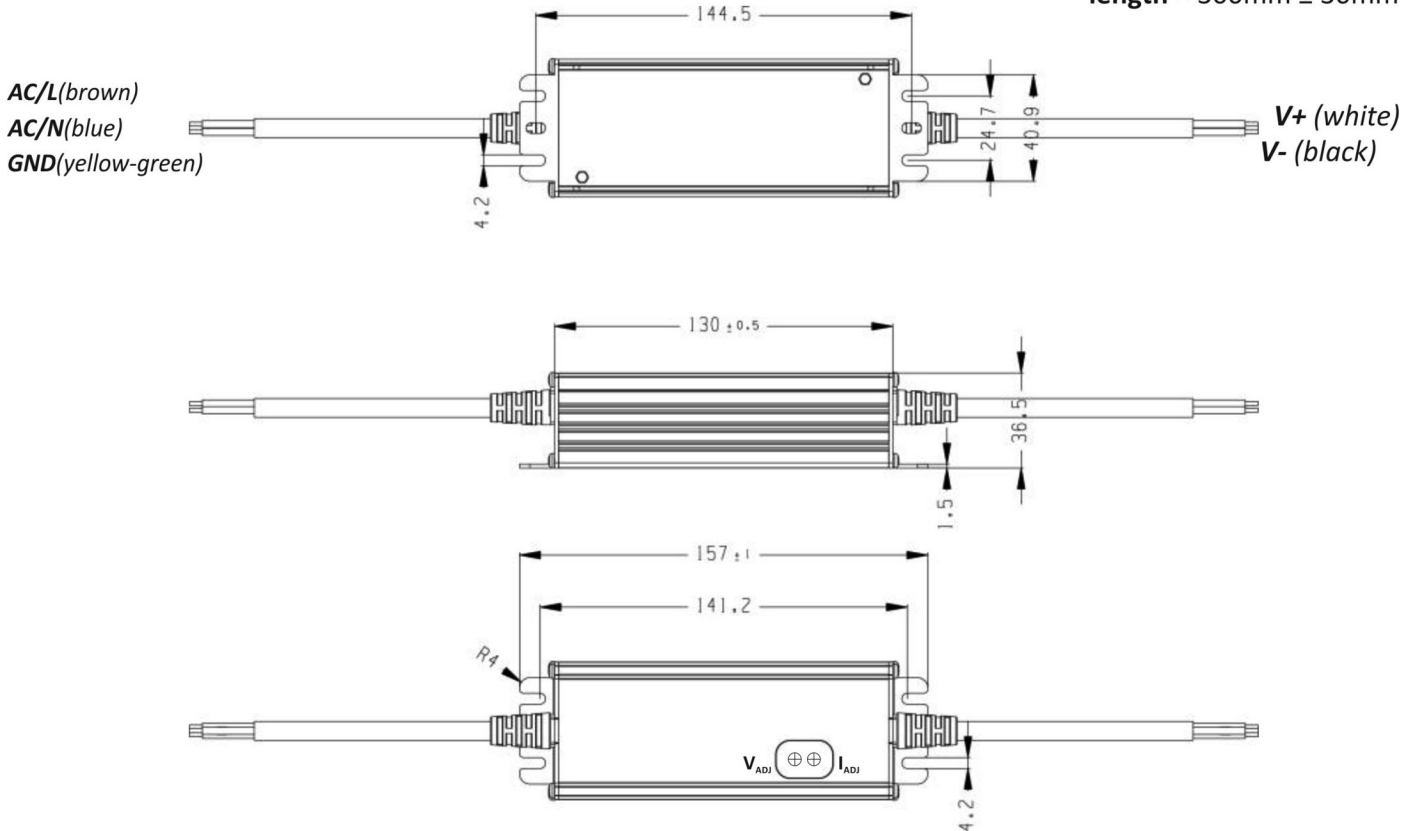
MECHANICAL SPECIFICATION

INPUT

H05RN-F 105°C 3Gx1.0mm²
length = 300mm ± 30mm

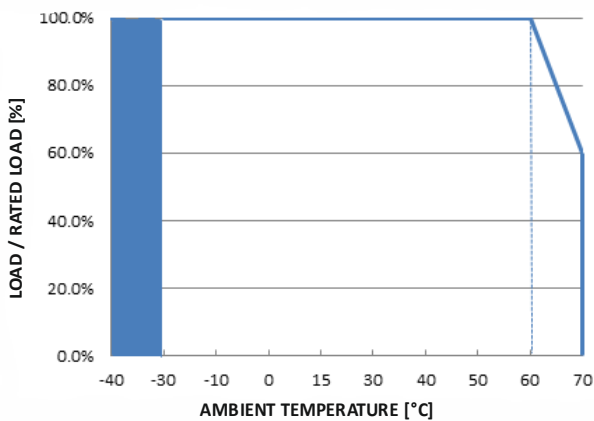
OUTPUT

12V: SJTW, 2*18AWG / 2*0.824mm², 105°C
24V: SJTW, 2*18AWG / 2*0.824mm², 105°C
length = 300mm ± 30mm

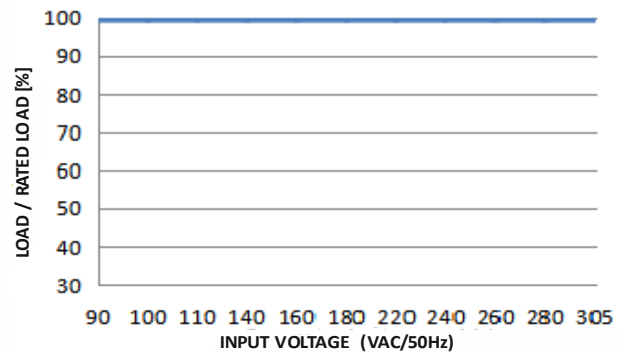


CHARACTERISTICS

DERATING CURVE



STATIC CHARACTERISTICS

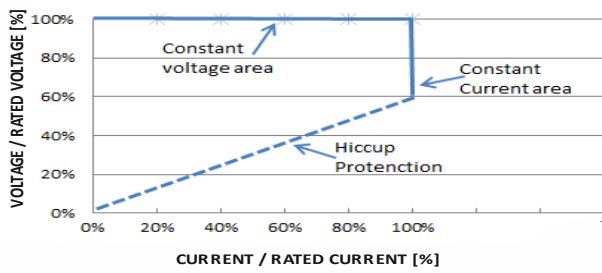


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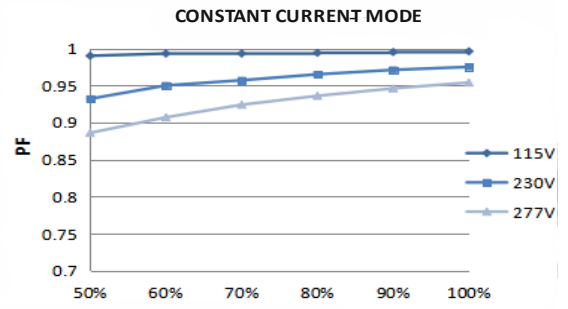
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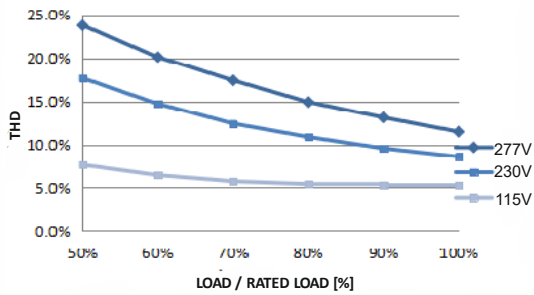
I-V CURVE



PF CURVE



THD Curve



EFFICIENCY CURVE

