

# MCHQ150V-GA series

150W 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



## ELECTRICAL SPECIFICATION

MODEL	MCHQ150V12-GA	MCHQ150V24-GA
<b>OUTPUT</b>		
<b>Rated Voltage</b>	12V	24V
<b>Rated Current</b>	12.5A	6.25A
<b>Voltage Adjustment Range – Vadj potentiometer</b>	10.5 ÷ 13.5V	22 ÷ 26V
<b>Current Adjustment Range – Iadj potentiometer</b>	6.5 ÷ 12.5A	3.3 ÷ 6.25A
<b>Minimum voltage for Constant Current mode</b>	7.2V	14.4V
<b>Rated power</b>	150W	150W
<b>Line Regulation</b>		± 1%
<b>Load Regulation</b>		± 1%
<b>Current Accuracy</b>		± 5%
<b>Voltage ripple (pk-pk)</b>		± 2%
<b>Current ripple (pk-pk)</b>		± 5%
<b>Setup, Rise time</b>	300ms, 100ms / 230Vac	

## INPUT

<b>Voltage Range</b>	90 ÷ 305Vac (refer to Derating Curve)	
<b>Frequency Range</b>	47 ÷ 63Hz	
<b>AC current (max.)</b>	1.6A / 110VAC; 0.8A / 230VAC	
<b>Inrush current (max.)</b>	60A / 230VAC(25°C)	
<b>Power Factor (typ.)</b>	PF > 0.97 / 230VAC at full load (refer to PF curve)	
<b>THD (max.)</b>	THD < 5% / 230VAC at full load (refer to THD curve)	
<b>Efficiency (typ.)</b>	92%	93.5%
<b>Leakage Current (max.)</b>	0.7mA / 230VAC at full load	
<b>No load power consumption (max.)</b>	0.5W / 230VAC	

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## PROTECTIONS

<b>Over load</b>	Range: 110 ÷ 160% rated load Type: constant current limiting to 60% rated voltage next hiccup mode. Recovers automatically after fault condition is removed.
<b>Short Circuit</b>	Type: hiccup mode. Recovers automatically after fault condition is removed.
<b>Over Voltage</b>	Range: 150% rated voltage Type: shut down output voltage. Re-power on to recovery.
<b>Over Temperature</b>	110°C Type: shut down output voltage. Re-power on to recovery.

## WORKING ENVIRONMENT

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

## SAFETY and EMC STANDARDS

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

## OTHERS

<b>MTBF</b>	200 000 hours / 25°C, full load, according to MIL-HDBK-217F
<b>Lifetime</b>	55 000 hours / 230VAC, full load, tc=75°C
<b>Dimensions</b>	193.6 x 63 x 38mm (L x W x H)
<b>Weight and packing</b>	0.9kg; 15szt./karton; masa i wymiary kartonu: 14.5kg; 28.5 x 23.5 x 25.5 cm
<b>Primary cable</b>	H05RN-F 105°C 3Gx1.0mm <sup>2</sup> , length = 300 ± 30mm
<b>Secondary cable</b>	12V: SJTW, 2*16AWG / 2*1.31mm <sup>2</sup> , 105°C, length = 300 ± 30mm 24V: SJTW, 2*16AWG / 2*1.31mm <sup>2</sup> , 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

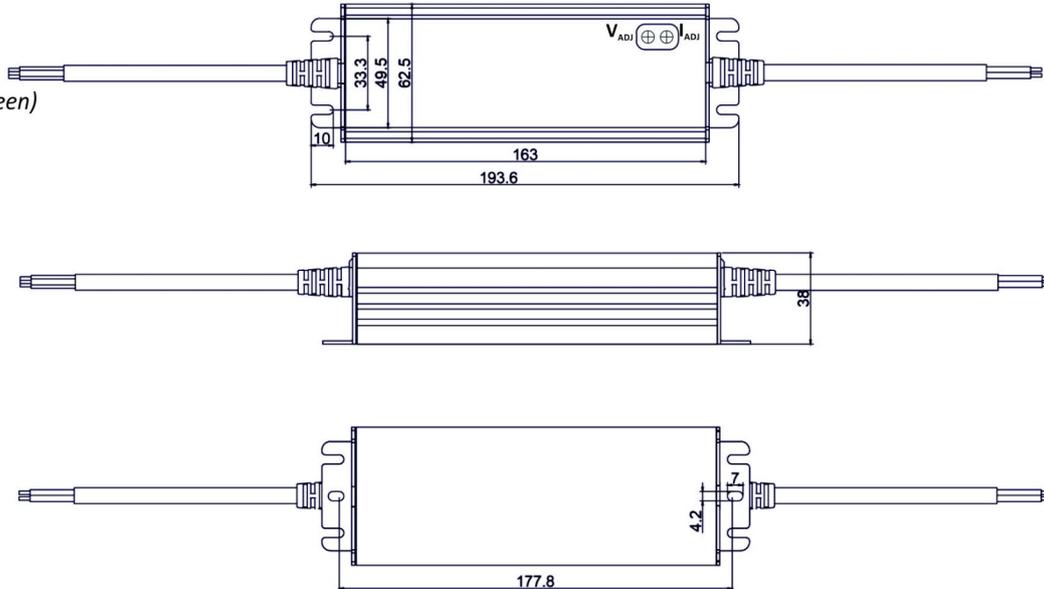
### INPUT

H05RN-F 105°C 3Gx1.0mm<sup>2</sup>  
length = 300mm ± 30mm

### OUTPUT

**12V:** SJTW, 2\*16AWG / 2\*1.31mm<sup>2</sup>, 105°C  
**24V:** SJTW, 2\*16AWG / 2\*1.31mm<sup>2</sup>, 105°C  
length = 300mm ± 30mm

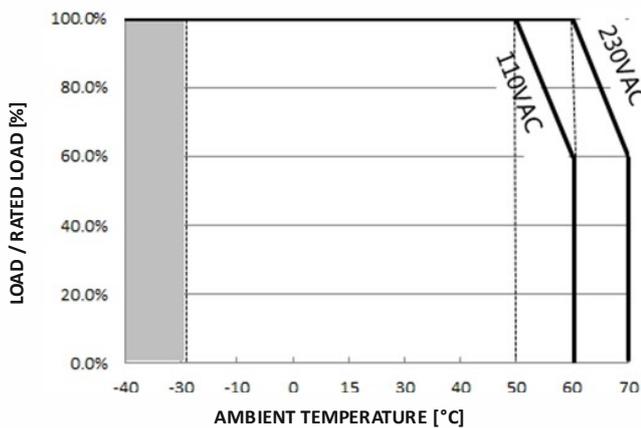
AC/L(brown)  
AC/N(blue)  
GND(yellow-green)



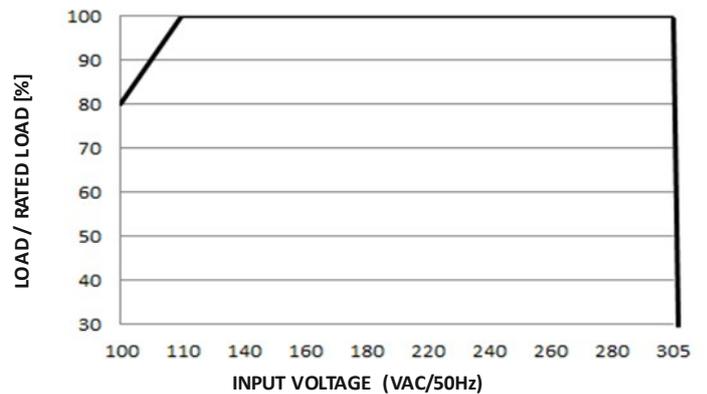
V+ (white)  
V- (black)

## CHARACTERISTICS

DERATING CURVE



STATIC CHARACTERISTICS

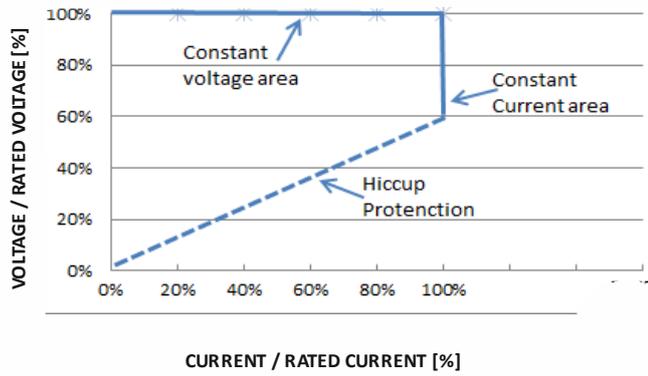


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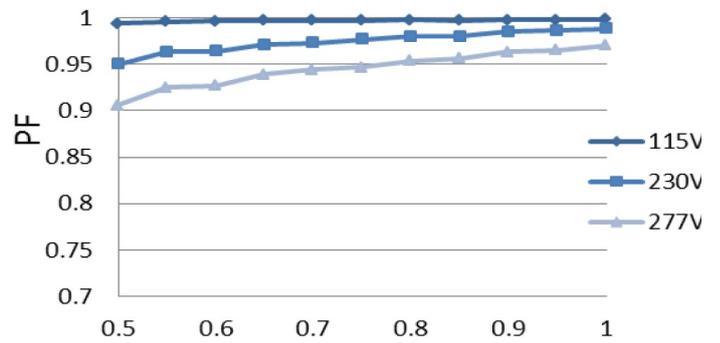


I-V CURVE

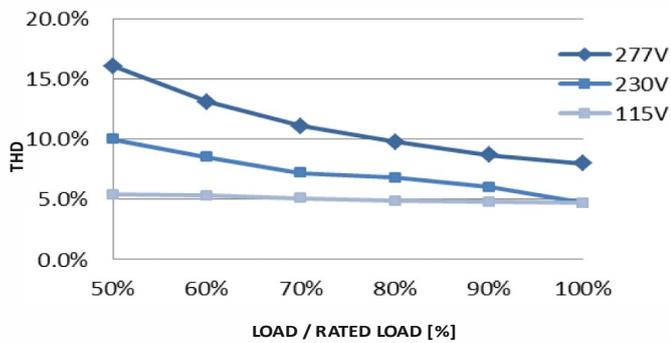


PF CURVE

CONSTANT CURRENT MODE



THD Curve



EFFICIENCY CURVE

