

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

SELV IP65



ELECTRICAL SPECIFICATION

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

INPUT

Voltage Range	90 ÷ 305Vac (refer to Derating Curve)	
Frequency Range	47 ÷ 63Hz	
AC current (max.)	1.6A / 110VAC; 0.8A / 230VAC	
Inrush current (max.)	60A / 230VAC(25°C)	
Power Factor (typ.)	PF > 0.97 / 230VAC at full load (refer to PF curve)	
THD (max.)	THD < 5% / 230VAC at full load (refer to THD curve)	
Efficiency (typ.)	92%	93.5%
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°C
Dimensions	193.6 x 63 x 38mm (L x W x H)
Weight and packing	0.9kg; 15szt./karton; masa i wymiary kartonu: 14.5kg; 28.5 x 23.5 x 25.5 cm
Primary cable	H05RN-F 105°C 3Gx1.0mm ² , length = 300 ± 30mm
Secondary cable	12V: SJTW, 2*16AWG / 2*1.31mm ² , 105°C, length = 300 ± 30mm
	24V: SJTW, 2*16AWG / 2*1.31mm 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 intended to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-qualified to comply with EMC Directives.

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MECHANICAL SPECIFICATION

INPUT

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

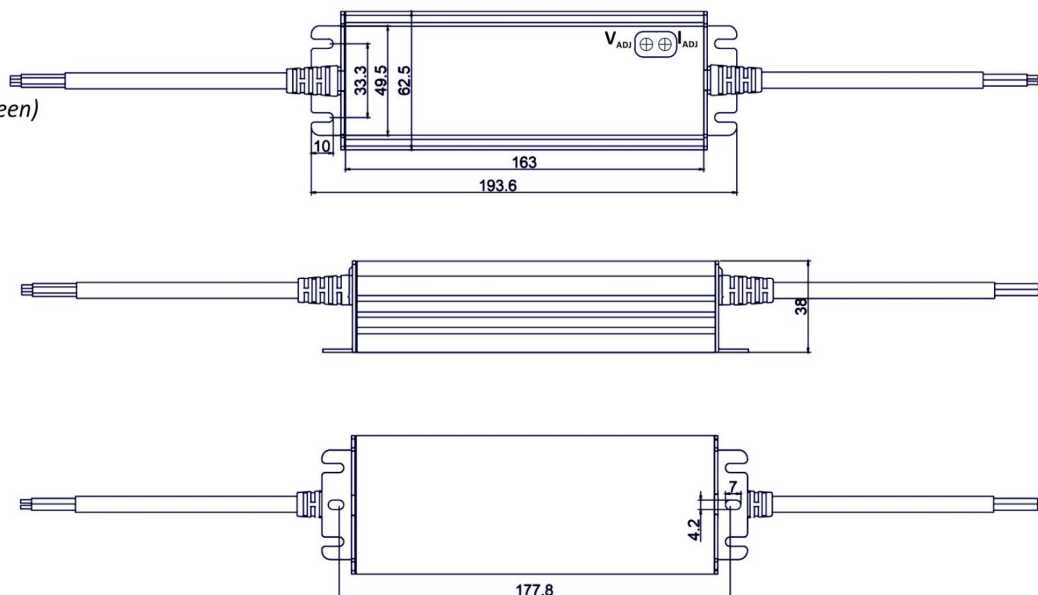
OUTPUT

12V: SJTW, 2*16AWG / 2*1.31mm², 105°C
24V: SJTW, 2*16AWG / 2*1.31mm², 105°C
length = 300mm ± 30mm

AC/L(brown)

AC/N(blue)

GND(yellow-green)

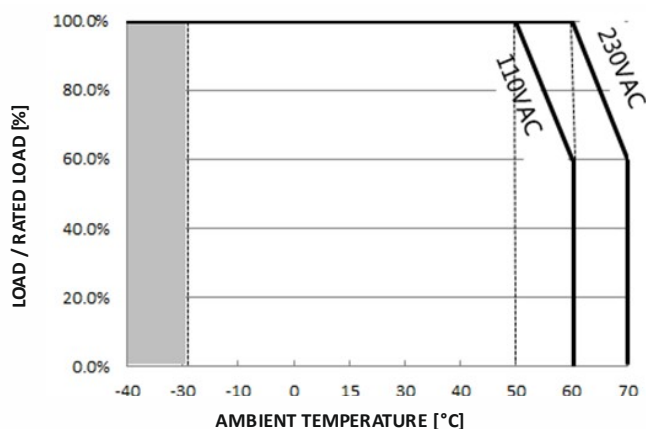


V+ (white)

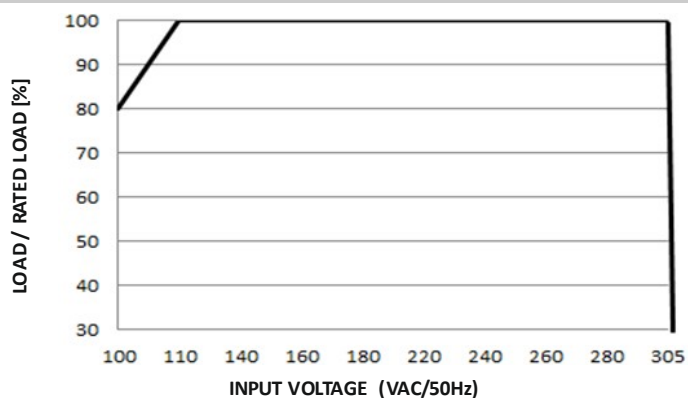
V- (black)

CHARACTERISTICS

DERATING CURVE



STATIC CHARACTERISTICS

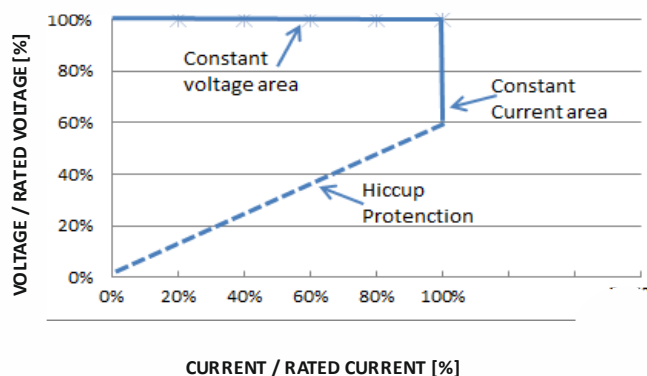


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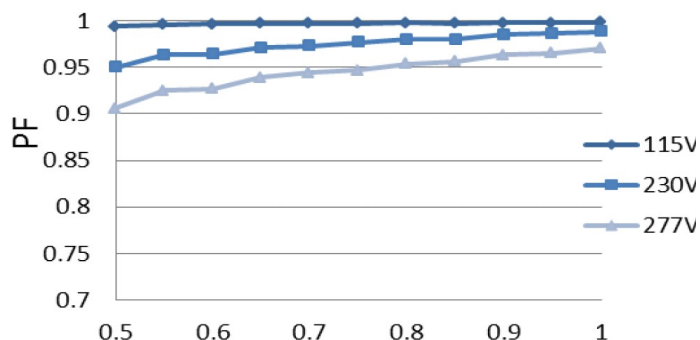


I-V CURVE

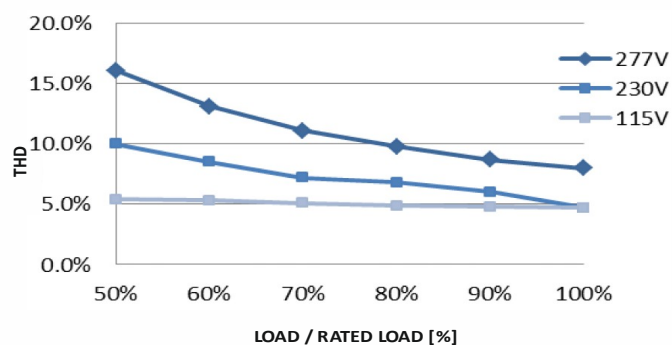


PF CURVE

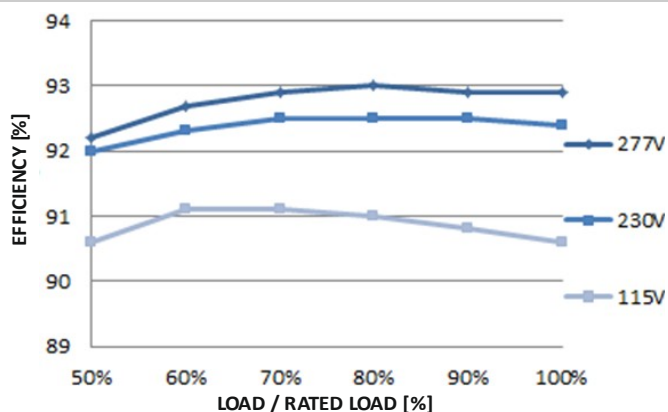
CONSTANT CURRENT MODE



THD Curve



EFFICIENCY CURVE



DEKLARACJA ZGODNOŚCI UE

/EU DECLARATION OF CONFORMITY

Deklarujemy zgodność produktu: */For the following equipment:*

Oznaczenie: <i>/Part No.:</i>	MCHQ80VX-GA (X=12, 24)
Numer partii: <i>/Batch No.</i>	S21xxxxxxxxx

z wymaganiami następujących przepisów oraz norm Unii Europejskiej: */is herewith confirmed to comply with the requirements set out in the Council Directive, the following standards were applied:*

Dyrektywy ROHS 2011/65/UE, 2015/863/UE, 2017/2102/UE
/ROHS Directives 2011/65/EU, 2015/863/EU, 2017/2102/EU

Zastosowana norma <i>/Standard</i>	Opis <i>/Description</i>
EN 62321-3-1:2014	Oznaczanie wybranych substancji w wyrobach elektrotechnicznych -- Część 3-1: Badanie przesiewowe -- Oznaczanie ołowiu, rtęci, kadmu, całkowitej zawartości chromu oraz całkowitej zawartości bromu metodą fluoescencyjnej spektrometrii rentgenowskiej <i>/Determination of certain substances in electrotechnical products. Screening. Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry</i>

Dyrektywa LVD 2014/35/UE
/Low Voltage Directive 2014/35/EU

Zastosowana norma <i>/Standard</i>	Opis <i>/Description</i>
EN 62493:2015	Ocena sprzętu oświetleniowego związana z ekspozycją człowieka na działanie pól elektromagnetycznych <i>/Assessment of lighting equipment related to human exposure to electromagnetic field</i>
EN 61347-1:2015	Urządzenia do lamp -- Część 1: Wymagania ogólne i bezpieczeństwa <i>/Lamp controlgear - General and safety requirements.</i>
EN 61347-2-13:2014 + A1:2017	Urządzenia do lamp -- Część 2-13: Wymagania szczegółowe dotyczące elektronicznych urządzeń sterujących zasilanych prądem stałym lub prądem przemiennym do modułów LED <i>/Lamp controlgear - Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules</i>

Dyrektywa EMC 2014/30/UE
/Electromagnetic Compatibility Directive 2014/30/EU

Zastosowana norma <i>/Standard</i>	Opis <i>/Description</i>
EN55015:2019	Poziomy dopuszczalne i metody pomiaru zaburzeń radioelektrycznych wytwarzanych przez elektryczne urządzenia oświetleniowe i urządzenia podobne <i>/Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment</i>
EN61000-3-2:2019	Kompatybilność elektromagnetyczna (EMC) -- Część 3-2: Poziomy dopuszczalne -- Poziomy dopuszczalne emisji harmonicznych prądu (fazowy prąd zasilający odbiornika ≤ 16 A) <i>/Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)</i>
EN61000-3-3:2013 + A1:2019	Kompatybilność elektromagnetyczna (EMC) -- Część 3-3: Poziomy dopuszczalne -- Ograniczanie zmian napięcia, wahań napięcia i migotania światła w publicznych sieciach zasilających niskiego napięcia, powodowanych przez odbiorniki o fazowym prądzie znamionowym < lub = 16 A przyłączone bezwarunkowo <i>/Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection</i>
EN61547:2009	Sprzęt do ogólnych celów oświetleniowych -- Wymagania dotyczące kompatybilności elektromagnetycznej <i>/Equipment for general lighting purposes. EMC immunity requirements</i>

Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.
/This declaration of conformity is issued under the sole responsibility of the manufacturer.

Zabrze, 04.01.2021r.

MPL Power Elektro Sp z o.o.
ul. Handlowa 13, 41-807 Zabrze
NIP 6312457646, REGON 240105606

Pieczęć firmy */Company stamp*

KIEROWNIK
Działu Technicznego

Lukasz Jaromin

Podpis i pieczęć osoby */Person signature and stamp*