

MCHQ320V-GA series

320W 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	MCHQ320V12-GA	MCHQ320V24-GA
OUTPUT		
RATED VOLTAGE	12V	24V
RATED CURRENT	22A	13.3A
VOLTAGE ADJUSTMENT RANGE – VADJ POTENTIOMETER	10.5 ÷ 13.5V	22 ÷ 26V
CURRENT ADJUSTMENT RANGE – IADJ POTENTIOMETER	13.5 ÷ 22A	7.5 ÷ 13.3A
MINIMUM VOLTAGE FOR CONSTANT CURRENT MODE	7.2V	14.4V
RATED POWER	264W	320W
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.)	4.5A / 110VAC; 1.6A / 230VAC	
INRUSH CURRENT (MAX.)	90A / 230VAC(25°C)	
POWER FACTOR (TYP.)	PF > 0.98 / 230VAC at full load (refer to PF curve)	
THD (MAX.)	THD < 4% / 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	261 x 62.5 x 41.4mm (L x W x H)
WEIGHT	1.5kg; 10pcs./box; box weight and dimension: 17kg; 32 x 18.5 x 28cm
PRIMARY CABLE	H05RN-F 105°C 3Gx1.0mm ² , length = 300 ± 30mm
SECONDARY CABLE	12V: SJTW, 2x2*14AWG / 2x2*2.08mm ² , 105°C, length = 300 ± 30mm 24V: SJTW, 2*14AWG / 2*2.08mm ² , 105°C, length = 300 ± 30mm
EAN CODE	 5 902135 113927 1  5 902135 113928 8

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-qualified to comply with EMC Directives.

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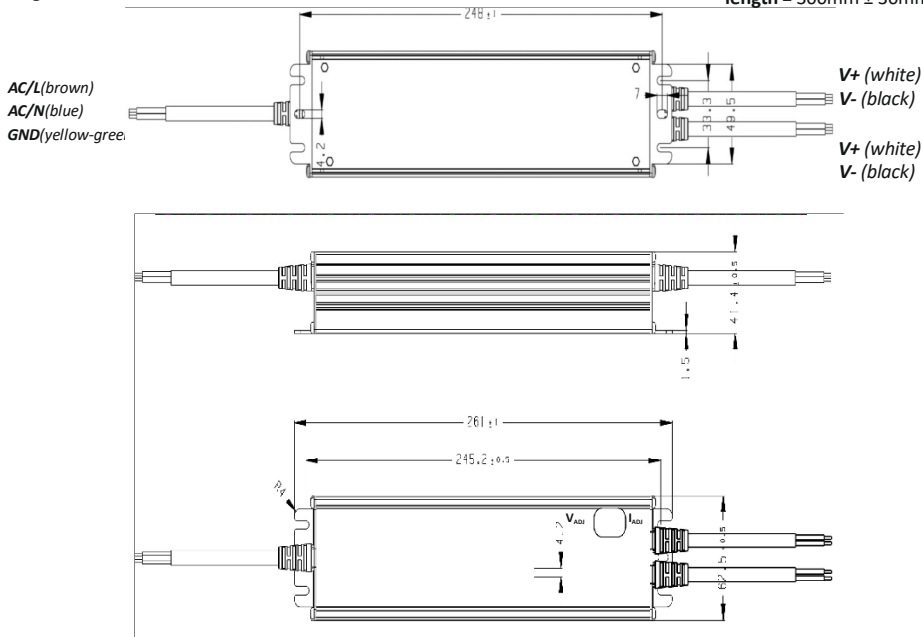
MECHANICAL SPECIFICATION: MCHQ320V12-GA

INPUT

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

OUTPUT

12V: SJTW, 2x2*14AWG / 2x2*2.08mm², 105°C
length = 300mm ± 30mm



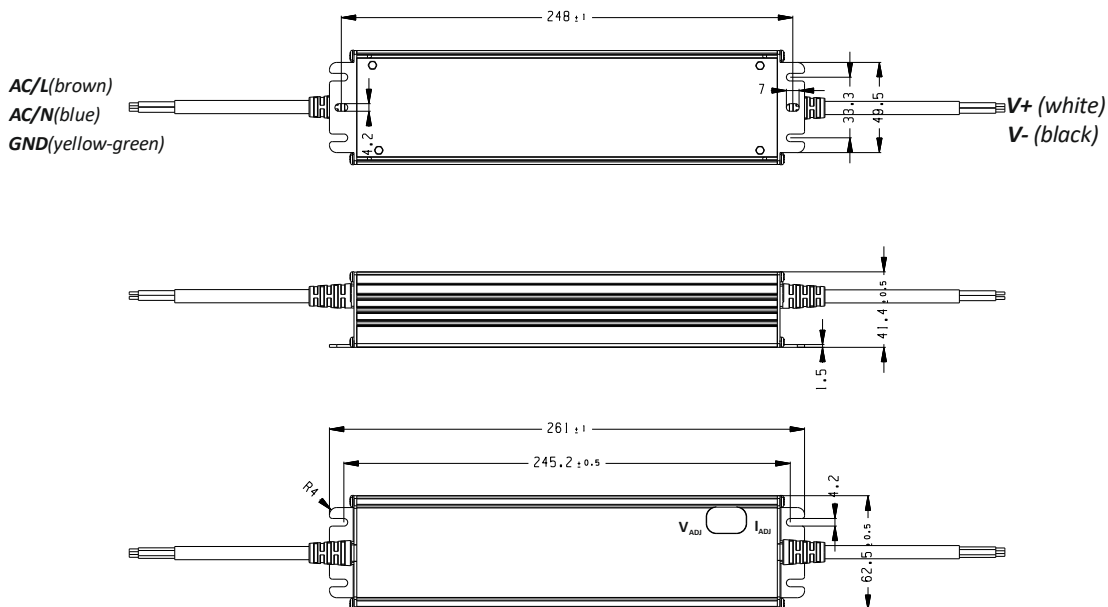
MECHANICAL SPECIFICATION: MCHQ320V24-GA

INPUT

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

OUTPUT

24V: SJTW, 2*14AWG / 2*2.08mm², 105°C
length = 300mm ± 30mm



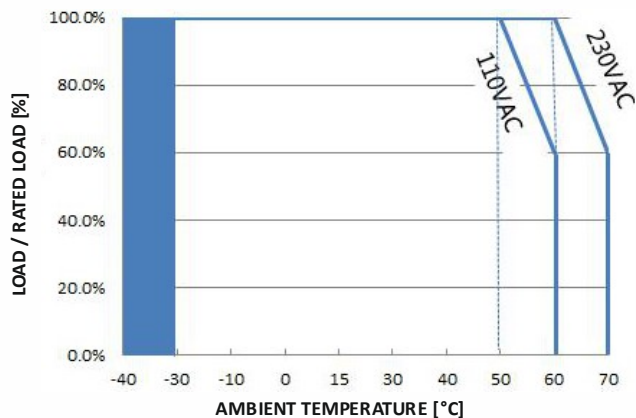
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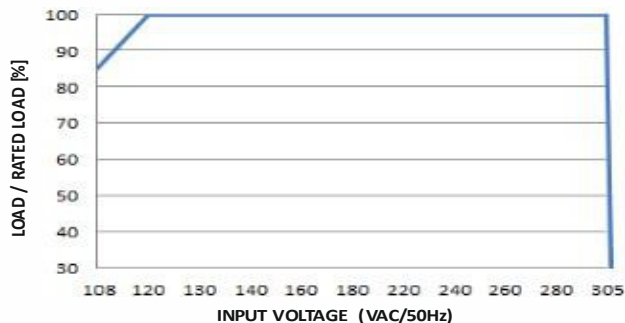


CHARACTERISTICS

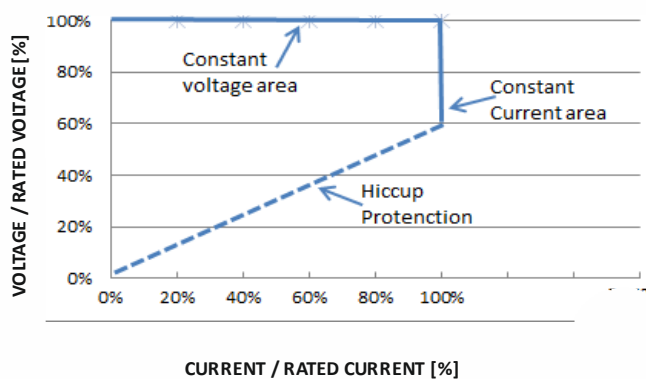
DERATING CURVE



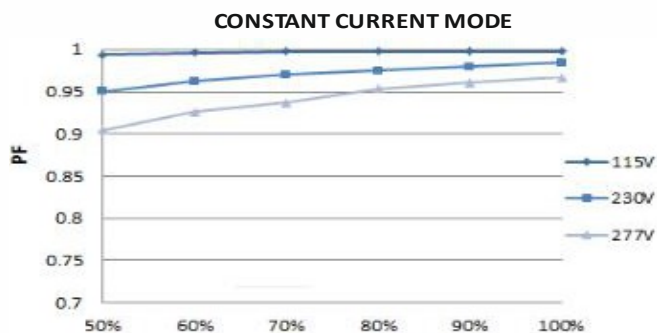
STATIC CHARACTERISTICS



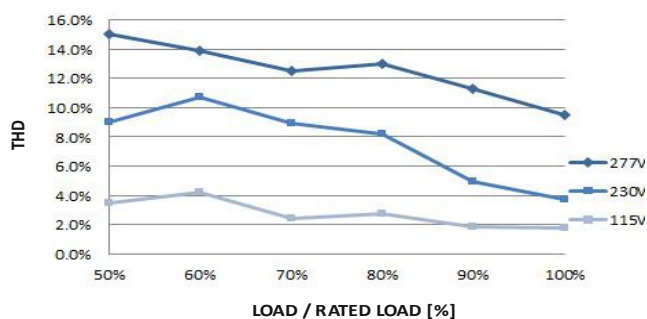
I-V CURVE



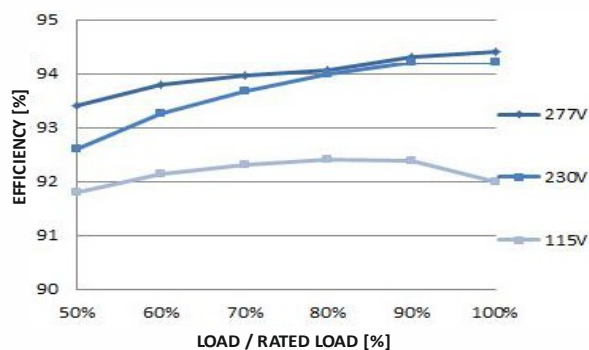
PF CURVE



THD Curve



EFFICIENCY CURVE



DEKLARACJA ZGODNOŚCI UE

/EU DECLARATION OF CONFORMITY

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

Oznaczenie: <i>/Part No.:</i>	MCHQ320VX-GE (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 fluorescencyjnej 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 + A1:2021	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 + A1:2020	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 + A1:2021	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 < 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, 04.12.2021r.

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Pieczęć firmy */Company stamp*

KIEROWNIK
Działu Technicznego

Lukasz Jaromin

Podpis i pieczęć osoby */Person signature and stamp*