

MCHQ320V-GE series

320W Constant Voltage LED Switching Power Supply



■ Features:

- Constant voltage design
- European 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
- IP67 protection class
- Suitable for dry, humid and rainy environment



CONSTANT VOLTAGE **SELV IP67** **PFC** **110** **M** **M** **UK** **CA** **CE** **E**

ELECTRICAL SPECIFICATION

MODEL	MCHQ320V12-GE	MCHQ320V24-GE					
OUTPUT							
RATED VOLTAGE	12V	24V					
RATED CURRENT	24.2A	13.3A					
RATED POWER	290W	320W					
LINE REGULATION	± 1%	± 1%					
LOAD REGULATION	± 1%	± 1%					
VOLTAGE RIPPLE (PK-PK)	± 2%	± 2%					
SETUP, RISE TIME	100ms, 300ms / 230Vac	100ms, 300ms / 230Vac					
INPUT							
VOLTAGE RANGE	180 ÷ 305Vac (refer to Derating Curve)						
FREQUENCY RANGE	47 ÷ 63Hz						
POWER FACTOR (TYP.)	PF > 0.98 / 230VAC at full load (refer to PF curve)						
THD (MAX.)	12% / 230VAC at full load (refer to THD curve)						
EFFICIENCY (TYP.)	93.5%	94.3%					
AC CURRENT (MAX.)	1.3A/230VAC						
INRUSH CURRENT (MAX.)	63A / 230VAC; T _{WIDTH} = 1000µs						
MAX. NO. OF PSU ON CIRCUIT BREAKER	B10	B16	C10	C16	D10	D16	
	12V	2	4	5	4	6	8
	24V	2	4	5	4	6	8
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: 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 ÷ +55°C; tc=90°C (refer to derating curve)
WORKING HUMIDITY	10 ÷ 90% RH non-condensing
STORAGE TEMPERATURE AND HUMIDITY	-40°C ÷ 85°C, 10 ÷ 90% RH non-condensing
Tc	tc=90°C / tc=75°C for 5 years warranty

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 class C, EN61000-3-3
OTHER REGULATIONS	Compliance to Commission Regulation (EU) 2019/2020
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	IP67

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OTHERS

MTBF	200 000 hours / 25°C, full load (MIL-HDBK-217F)
LIFETIME	55 000 hours / 230VAC, full load, $t_c=75^\circ\text{C}$
DIMENSIONS	261 x 62.5 x 41.4mm (L x W x H)
WEIGHT AND PACKING	1.19kg ; 10pcs./ctn; ctn dimensions: 26.5 x 19 x 25.5cm
PRIMARY CABLE	H05RN-F 105°C 3Gx1.0mm ² , length = 300 ± 30mm
SECONDARY CABLE	12V: SJTW, 2x2*14AWG / 2*2.08mm ² , 105°C, length = 300 ± 30mm
	24V: SJTW, 2*14AWG / 2*2.08mm 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.

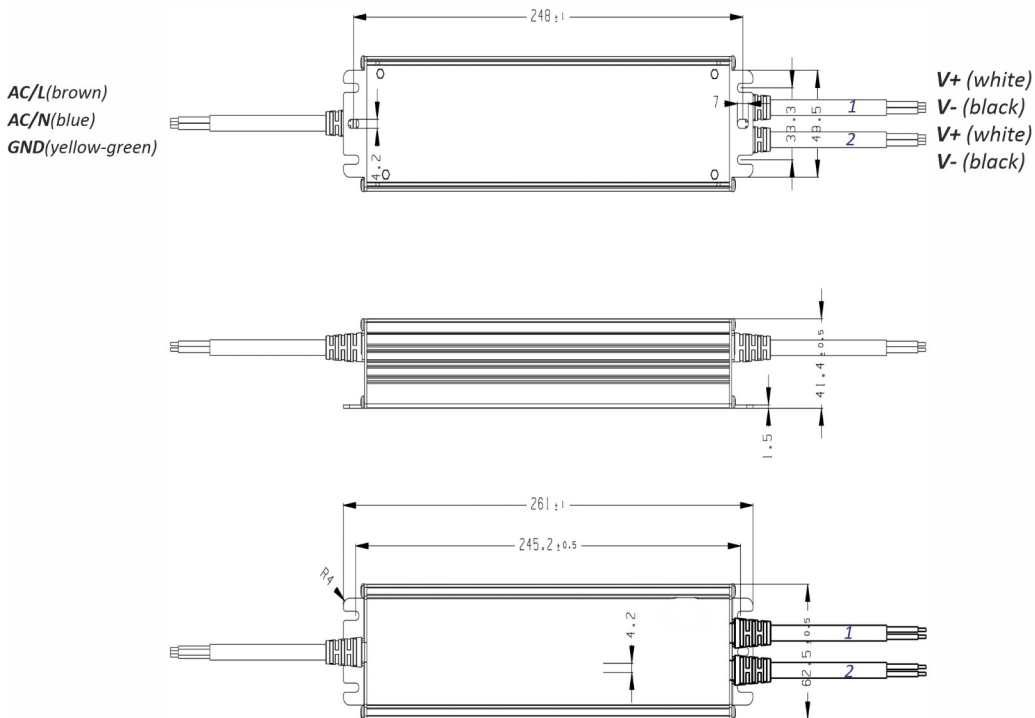
MECHANICAL SPECIFICATION

INPUT

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

OUTPUT

12V: SJTW, 2x2*14AWG / 2x2*2.08mm², 105°C
24V: SJTW, 2*14AWG / 2*2.08mm², 105°C
length = 300mm ± 30mm



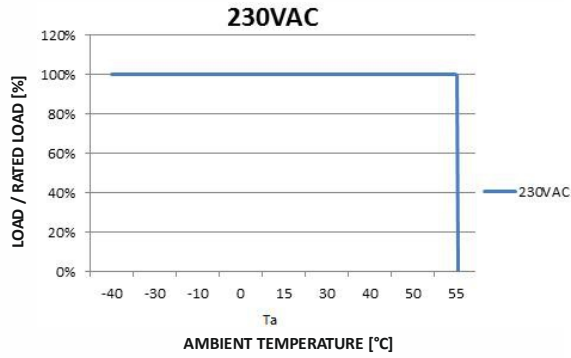
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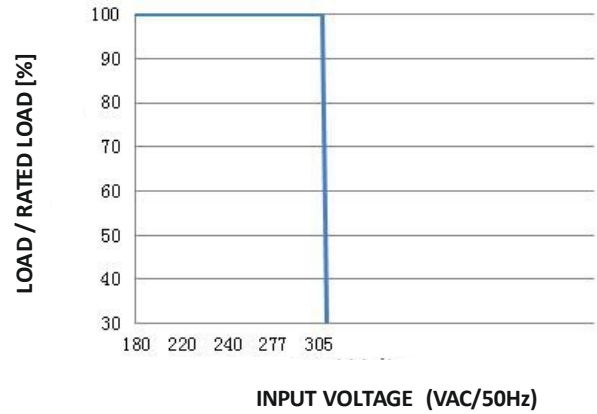


CHARACTERISTICS

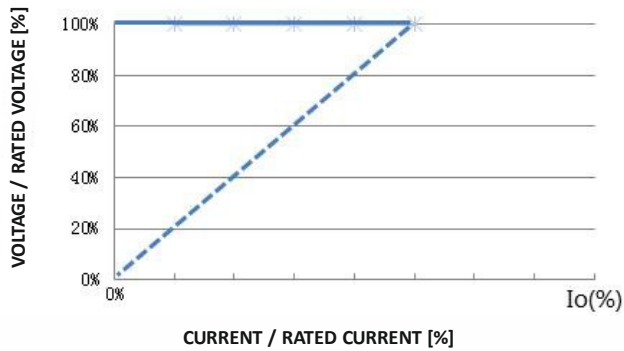
DERATING CURVE



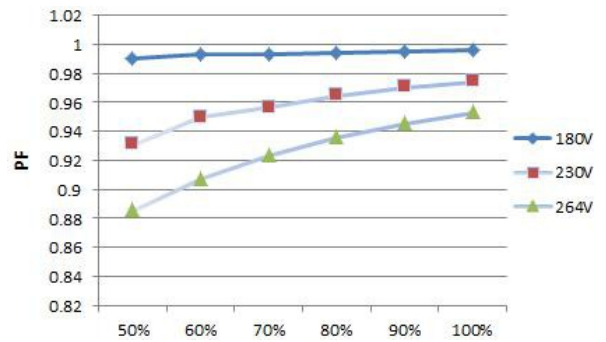
STATIC CHARACTERISTICS



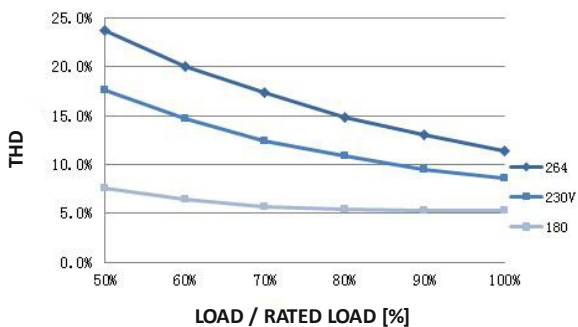
I-V CURVE



PF CURVE



THD Curve



EFFICIENCY CURVE

