

MCHQ40VxB series

40W LED Switching Power Supply (CV+CC) with 3 in 1 dimming function



■ Features:

- Universal AC input / Full range (Max. 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- IP65 design for indoor and outdoor appliances
- Compliance to worldwide regulations for lighting
- Built-in 3 in 1 dimming function: 0-10V or PWM or resistance



IP67 SELV

© MODEL ENCODING

MCHQ	40V	X	B	-Y
Series	Rated output power	Rated output voltage	Built-in 3 in 1 dimming function	Case color
		X = 12 -> 12VDC		-Y = blank -> grey
		X = 24 -> 24VDC		-Y = SC -> silver

© ELECTRICAL SPECIFICATION

MODEL	MCHQ40V12B	MCHQ40V24B
	MCHQ40V12B-SC	MCHQ40V24B-SC
OUTPUT		
Rated Voltage	12V	24V
Constant Current Region [2]	6 ÷ 12V	12 ÷ 24V
Rated Current	3.3A	1.66A
Rated Power (max.)	39.6W	39.84W
No Output Voltage (max.)	15V	30V
Line Regulation	± 1%	
Load Regulation	± 3%	
Current Tolerance [3]	± 5%	
Ripple & Noise (max.) [4]	350mV _{p-p}	450mV _{p-p}
Setup, Rise [5]	500ms, 30ms	
Holdup time	15ms	
INPUT		
Voltage Range	90 ÷ 305VAC	
Frequency Range	47 ÷ 63Hz	
Power Factor (typ.)	PF > 0.98 / 115VAC; PF > 0.95 / 230VAC at full load	
Efficiency (typ.)	87%	88%
AC current (typ.)	0.55A / 115VAC; 0.22A / 230VAC	
Inrush current (max.)	60A / 230VAC(25°C)	

MCHQ40VxB series

40W LED Switching Power Supply (CV+CC) with 3 in 1 dimming function



PROTECTIONS

Over Current	Range: 110 ÷ 160%	
	Type: constant current limiting to 50% 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	Max. 18V	Max. 35V
	Type: shut down output voltage. Re-power on to recovery.	
Over Temperature	Range: 110°C ± 10°C	
	Type: shut down output voltage. After temperature goes down re-power on to recovery.	

WORKING ENVIRONMENT

Working Temperature	-40°C ÷ 70°C (refer to Derating Curve)
Working Humidity	15 ÷ 95% RH non-condensing
Storage Temperature and Humidity	-40°C ÷ 80°C, 10 ÷ 95% RH non-condensing
Temperature Coefficient	± 0.05% / °C (-10°C ÷ 45°C)
Vibration	10 ÷ 500Hz, 2G, 10min / 1 cycle, period 30min. each along X, Y, Z axes

SAFETY AND EMC REGULATIONS

Safety Standards	Compliance to EN61347-1, EN61347-2-13
Withstand Voltage	IN/OUT: 5.3kVDC/1min
Isolation Resistance	IN/OUT; IN/GND; OUT/GND: 50MΩ/500VDC/25°C/70%
EMC Emission	Compliance to EN55015
EMC Immunity	Compliance to EN61547; EN61000-4-2, -3, -4, -5, -6, -8, -11; EN55024; EN61547
Harmonic Current	Compliance to EN61000-3-2 class C (≥ 100% load)

OTHERS

MTBF	43 200h MIL-HDBK-217F (25°C)
Dimensions	157 x 53 x 36.5mm (L x W x H)
Weight and Packing	0.5kg; 15pcs./box; box weight and dimensions: 8.2kg, 27.6 x 21 x 27cm

EAN Code	MCHQ40V12B	MCHQ40V24B
	 5 902135 111817 7	
	MCHQ40V12B-SC	MCHQ40V24B-SC
	 5 902135 12187 0	 5 902135 111915 0

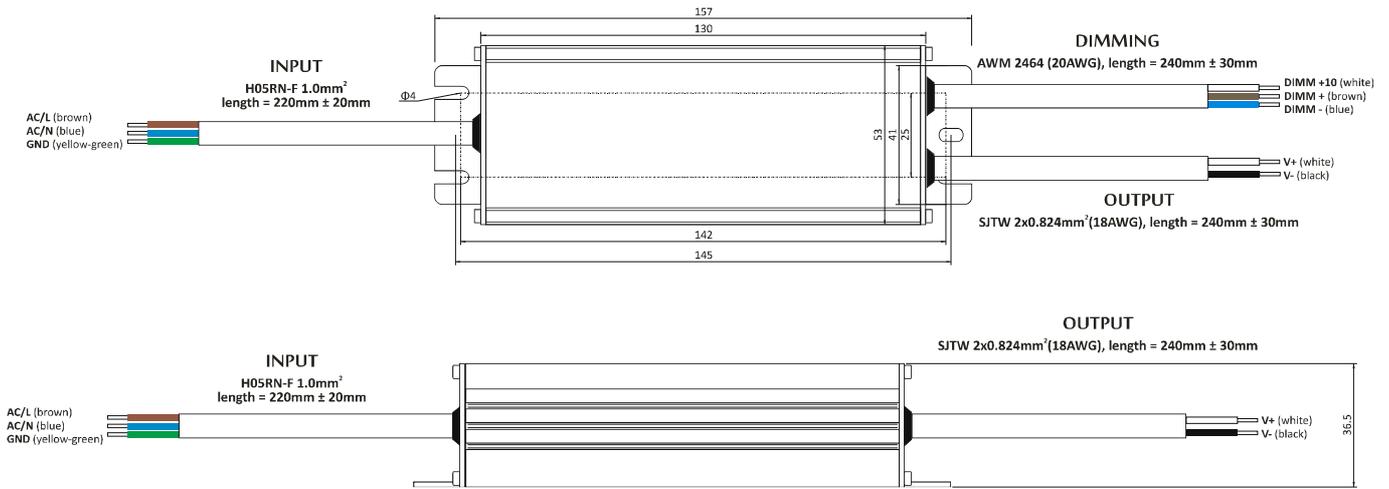
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Constant current operation region is within announced range. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
3. Tolerance includes set up tolerance, line regulation and load regulation.
4. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF i 47μF parallel capacitor.
5. Setup and rise time is measured from 0 to 90% rated output voltage.
6. 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.

MCHQ40VxB series

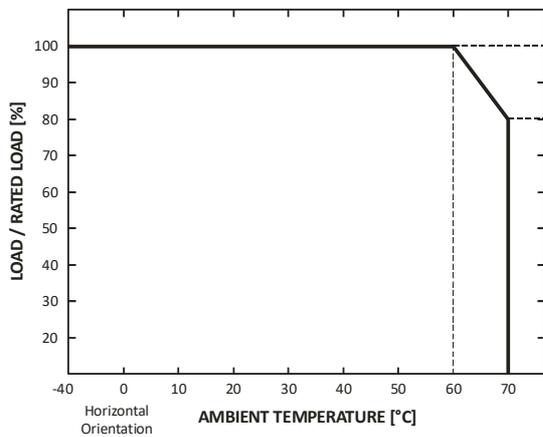
40W LED Switching Power Supply (CV+CC) with 3 in 1 dimming function



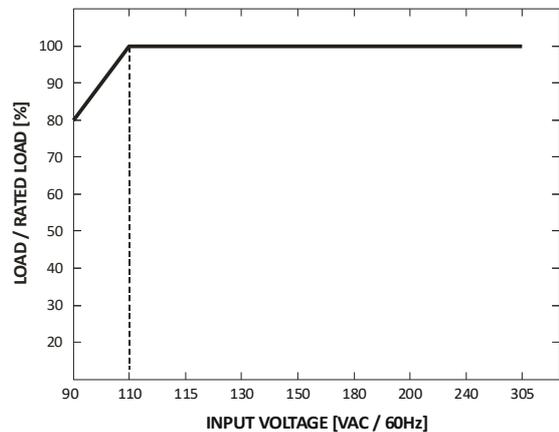
MECHANICAL SPECIFICATION



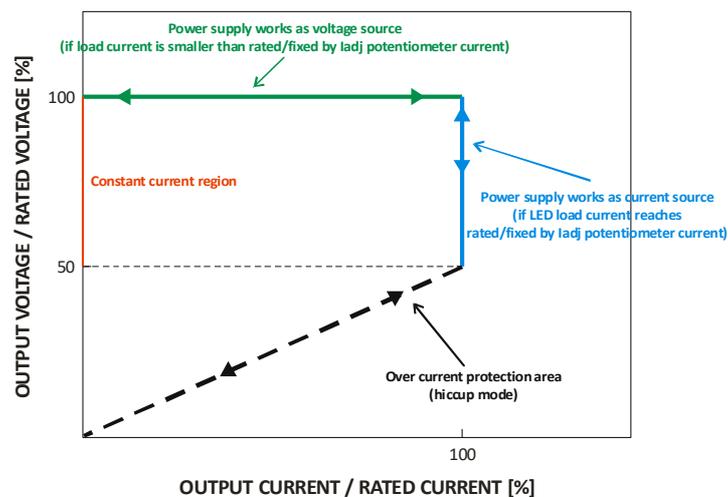
DERATING CURVE



STATIC CHARACTERISTIC



CONSTANT VOLTAGE + CONSTANT CURRENT MODE OPERATION



MCHQ40VxB series

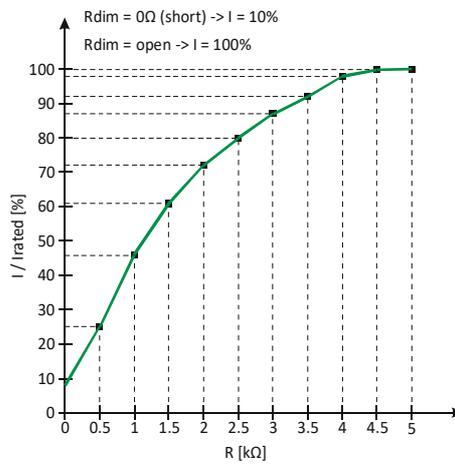
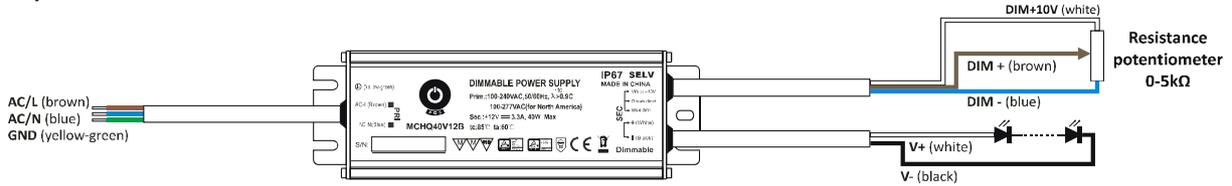
40W LED Switching Power Supply (CV+CC) with 3 in 1 dimming function



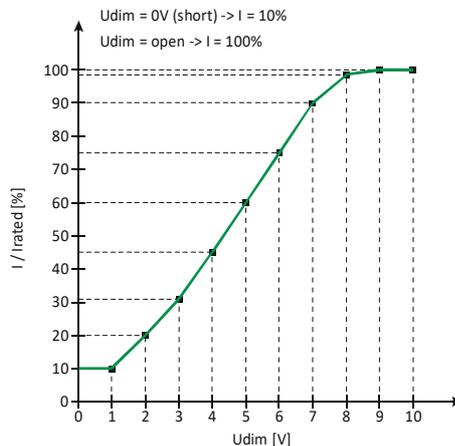
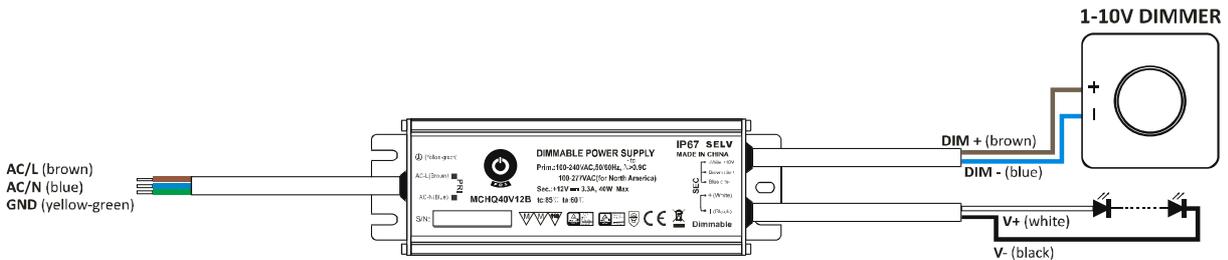
© DIMMING OPERATION

For use dimming function connect dimmer to DIM+ and DIM- terminals. Dimming effect is achieved by changing output constant current level in 10%÷100% range. You can use dimming function by one of three ways:

1. By variable resistance 0kΩ÷5kΩ:



2. By variable DC voltage 1÷10V.

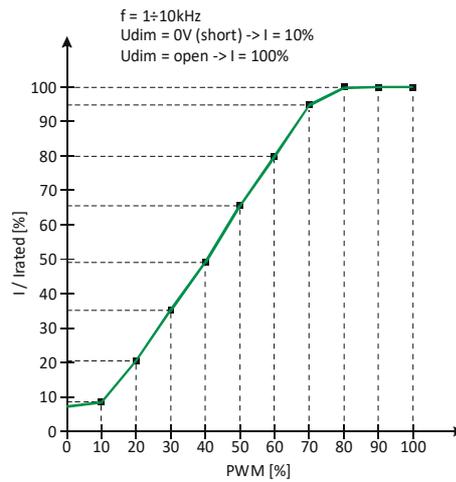
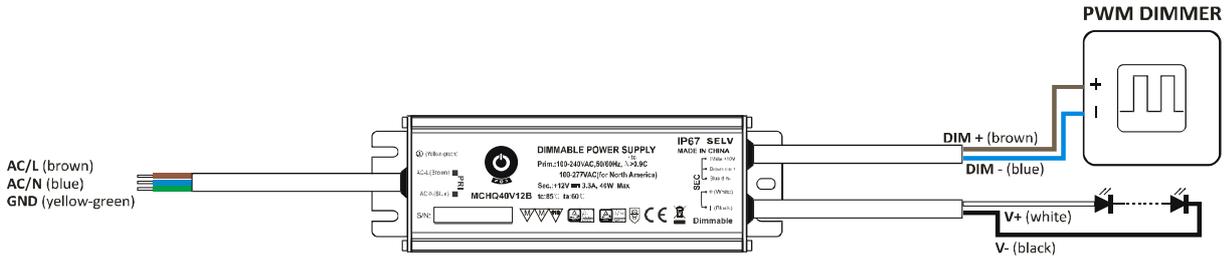


MCHQ40VxB series

40W LED Switching Power Supply (CV+CC) with 3 in 1 dimming function



3. By variable PWM signal, duty range = 10% ÷ 100%, $f = 1\text{kHz} \div 10\text{kHz}$, $U = 10\text{V}$.



Compatible dimmers
<ul style="list-style-type: none">OSRAM DIM MCU
<ul style="list-style-type: none">BERKER 2891 10
<ul style="list-style-type: none">Other 1-10V dimmers