Features:

1. Wide input range (85-305VAC/100-430VDC)
2. Package：DIP
3. Efficiency (Full Load): 91% Typ.
4. Max. Output Power:60W
5. Protection type: undervoltage/output short-circuit/overcurrent/reverse polarity
6. Operating temperature range: -40℃ to +85℃
7. 4200V isolation voltage, CLASS III over voltage level
8. Widely used in industrial, power, household appliance, instrumentation, telecommunications, and consumer industries
9. 3 years warranty

RoHS CE 3 years Warranty

Selection Guide

Model	Input Voltage	Rated Power (W)	Output Voltage (V)	Output Current (A)	Ripple & Noise (mVp-p)	Efficiency (%)
QM60-23B05R2	85-305VAC 100-430VDC	50	5	10	80	89
QM60-23B12R2		60	12	5	80	90
QM60-23B15R2		60	15	4	80	90
QM60-23B24R2		60	24	2.5	80	90
QM60-23B48R2		60	48	1.25	80	91

Specifications

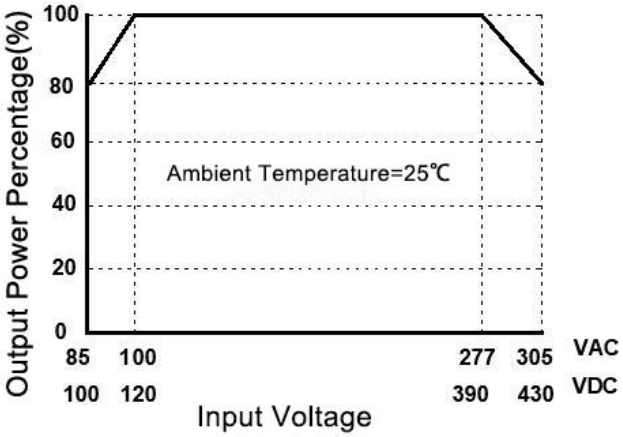
OUTPUT	Voltage Tolerance	±2.0%
	Line Regulation	±1.0% Full load
	Load Regulation	±1.5%(0-100% load)
	Standby Power	0.3W Typ. 0.45W Max.(230VAC)
	Hold Up Time (Typ.)	65ms/230VAC
	Ripple & Noise (Max.) (Note 2.)	80mV Typ. 150mV Max.
	Min. Load	0%
INPUT	Voltage Range	85-305VAC 100-430VDC
	Frequency Range	47-63Hz
	Current (Typ.)	1.8A/115VAC 1.0A/230VAC
	Inrush Current (Typ.)	30A/115VAC 60A/230VAC
	External Fuse Recommended	3.15A/300V
	Leakage Current (Typ.)	0.25mA RMS MAX./277VAC/50Hz
PROTECTION	Short Circuit	Hiccup mode, recovers automatically after fault condition is removed
	overcurrent	Min.140%Io
ENVIRONMENT	Working Temp.	-40°C to +85°C
	Storage Temp., Humidity	-40°C to +85°C, 95%RH
	Soldering Temp.	Wave Soldering: 260 ± 5° C; Time: 5-10S
		Hand Soldering: 360 ± 10° C; Time: 3-5S
	Temp. Coefficient	±0.02 %/°C
SAFETY	Safety Standards	IEC/UL62368-1 CLASS II
	Isolation Voltage	I/P-O/P: 4200VAC (Test Time: 1m,Leakage Current < 5mA)
	Isolation Resistance	I/P-O/P: >100M Ohms/500VDC
OTHERS	MTBF	300K hrs min. MIL-HDBK-217F (25°C)
	Hot plug	Unavailable
	Dimension	70.00 x 48.00 x 27.00mm
	Weight	TBD

EMC Characteristics

EMI	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
EMS	RI	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria A
	Surge	IEC/EN61000-4-5 line to line ±2KV	perf. Criteria A
	CI	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV	perf. Criteria A

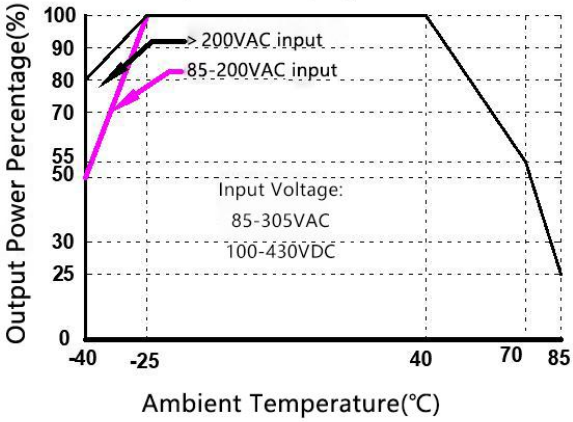
Typical Characteristics Curve

Input Voltage Derating Curve

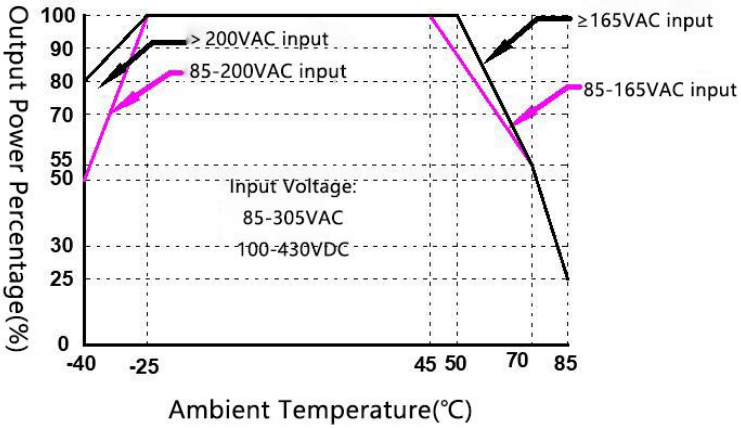


Temperature Derating Curve

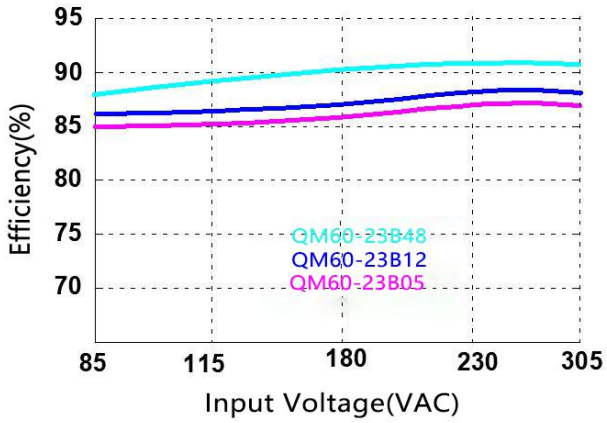
(5VDC Output)



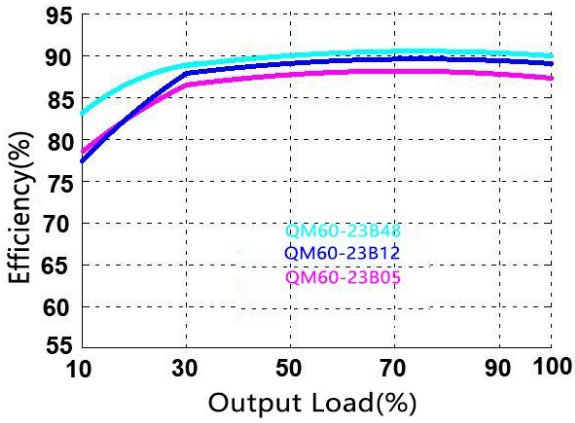
(12/15/24/48VDC)



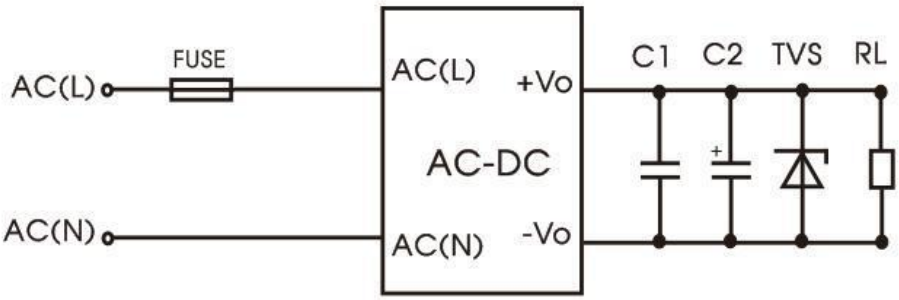
Efficiency Vs Input Voltage Derating Curve



Efficiency Vs Output Load Derating Curve



Typical Application



Recommended Peripheral Components

Output Voltage	FUSE	C2	C1	TVS
5VDC	3.15A/300VAC Time-delay fuse, mandatory connection	1uF/50V	470uF/16V	SMBJ7.0A
12VDC			330uF/16V	SMBJ20A
15VDC			330uF/25V	SMBJ20A
24VDC			220uF/35V	SMBJ30A
48VDC		1uF/100V	100uF/63V	SMBJ64A

Note:
1,The output filter capacitor C2 is an electrolytic capacitor. It is recommended to use a low-ESR (Equivalent Series Resistance) electrolytic capacitor suitable for high-frequency applications. Please refer to the technical specifications provided by various manufacturers for its capacitance value and rated ripple current. The capacitor's voltage rating must be derated to at least 80% of its nominal value.
2,Capacitor C1 is a ceramic capacitor used to filter out high-frequency noise.
3,The TVS (Transient Voltage Suppressor) diode is recommended to protect the subsequent circuit in case of module abnormality.

EMC Solution — Recommended Circuit

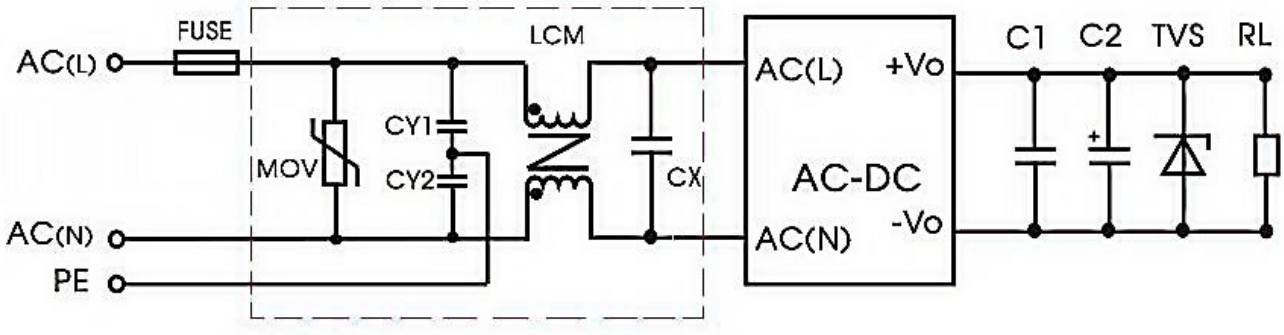
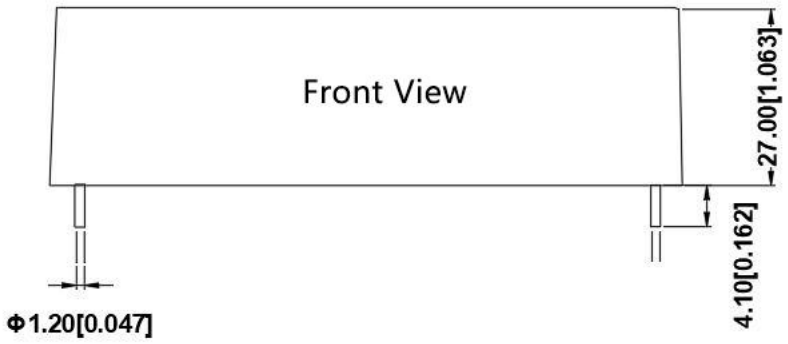


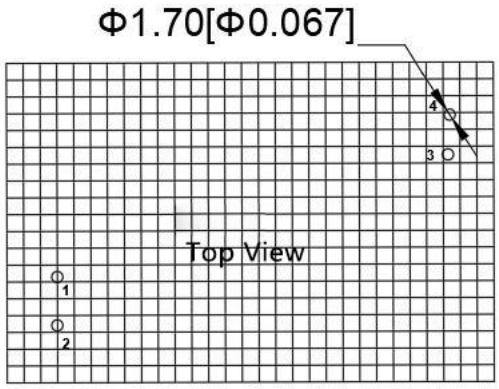
Fig.2

Recommended Peripheral Components

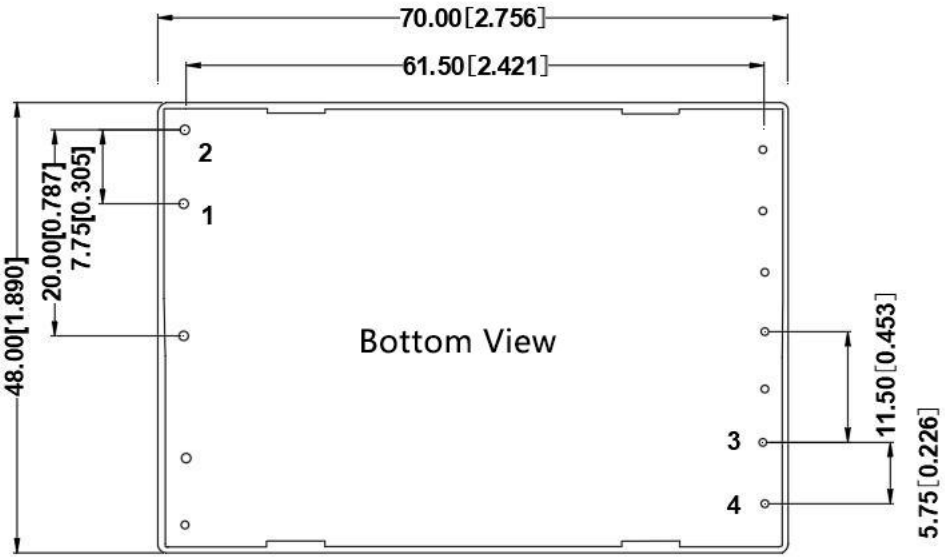
Component	Recommended Value
FUSE	3.15A/300VAC Time-delay fuse, mandatory connection
MOV	14D561K
CY1、CY2	1.0nF/400VAC
Cx	0.33uF/305VAC
LCM	10mH Common Mode Choke

Mechanical Specification





Grid:2.54*2.54mm



Pin	Function
1	AC(N)
2	AC(L)
3	-Vo
4	+Vo

NOTE:
Unit size: mm[inch]
Terminal tolerance: ±0.1mm[±0.004]
Unmarked tolerances: ±0.5mm[±0.020]

Notes:

1. If the product works under the minimum required load, it cannot guarantee that the performance of the product complies with all the performance indicators in this manual;
2. The maximum capacitive load is tested under the input voltage range and full load condition;
3. Unless otherwise stated, all indexes in this manual are measured at Ta=25℃, humidity <75%RH, nominal input voltage and rated output load;
4. All index testing methods in this manual are based on the enterprise standards of the company;
5. Our company can provide product customization, specific needs can directly contact our technical staff;
6.AMCHARD reserves the right to make changes to the product at any time without notice.