



KEY FEATURES

- Switching Power Module for PCB Mountable
- 4000VAC Input to Output 2MOPP Insulation
- Cooling by Free Air Convection
- High Efficiency up to 90%
- With P.F.C. Function >0.9
- <0.3W No Load Input Power
- Screw Terminal for Option
- EMI for Both Class I (with PE) and Class II (without PE) Configuration
- Suitable for BF Application with Appropriate System Consideration
- UL / IEC / EN 60601 3.1 Edition Safety Approvals
- 3-Year Product Warranty



ELECTRICAL SPECIFICATIONS

All specifications valid at 230VAC input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.	MQCS100-12S	MQCS100-24S	MQCS100-48S
Max Output Wattage (W)	100 W		
Input	Voltage (Note 3)	90-264 VAC	
	Frequency (Hz)	47-63 Hz	
	Current (Full load)	< 2.0 A max. (115 VAC) / < 1.0 A max. (230 VAC)	
	Inrush Current (<2ms)	< 40 A max. (115 VAC) / < 70 A max. (230 VAC)	
	Leakage Current	< 0.1mA / 264 VAC (Touch Current)	
	Power Factor	PF>0.97 (115 VAC) / PF>0.9 (230 VAC) at Full Load	
Output	Voltage (V.DC.)	12V	24V
	Trim	±10% Output Voltage	
	Voltage Accuracy	±2%	
	Current (A) max	8.333	4.167
	Line Regulation	±1%	
	Load Regulation (10-100%)	±1%	
	Minimum Load	0%	
	Maximum Capacitive Load	3000µF	1500µF
	Ripple & Noise (max.) (Note 1)	160mV	1% Vout
	Efficiency (at 230VAC)	90%	90%
Protection	Hold-up Time (at 115 VAC) (Note 2)	10 ms min.	
	Over Power Protection	Auto recovery, Hiccup mode	
	Over Voltage Protection	Auto recovery, Hiccup mode	
	Overt Temperature Protection	Latch off	
	Short Circuit Protection	Protection level 1 (nominal) : Continuous, Auto recovery Protection level 2 (instantaneous high current) : Latch	
Isolation	Input-Output	4000VAC or 5656VDC	
	Input-FG	2000VAC or 2828VDC	
	Output-FG	1500VAC or 2121VDC	
Environment	Operating Temperature	-30°C...+70°C (with derating)	
	Storage Temperature	-30°C...+85°C	
	Temperature Coefficient	±0.05%/°C	
	Altitude During Operation	5000m	
	Humidity	95% RH	
	Atmospheric Pressure	56 kPa to 106 kPa	
	MTBF	>250,000 h @ 25°C (MIL-HDBK-217F, Notice 1)	
	Vibration	IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)	
	Shock	IEC60068-2-27	



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Physical	Dimensions (L x W x H)	3.3 x 2.32 x 1.38 Inches (83.8 x 58.4 x 35.0 mm) Tolerance ± 0.5 mm, Height Tolerance ± 1 mm	
	Weight	253 g	
	Cooling Method	Free convection	
Safety	Approval	UL / IEC / EN 60601 3.1 rd Edition (2 x MOPP)	
EMC	Conducted EMI (Note 4)	EN55011 Conducted Class B	
	Radiated EMI (Note 4)	EN55011 Class I class B / Class II class A	
	EMS	EN60601-1-2 4th edition	

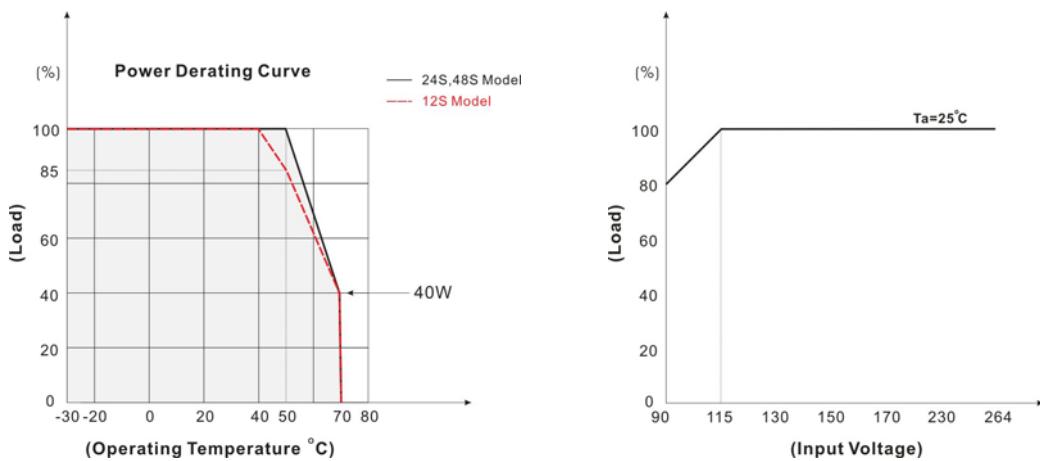
NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Hold-up Time measured at 90% Vout.
3. Please check the derating curve for more details.
4. Please secure the power supply unit to your metal case by using the four screw holes in the corners for either Class I or Class II equipment
5. **CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

(ATTENTION : 2 poles avec fusible sur le neutre. Deconnecter le secteur avant intervention.)

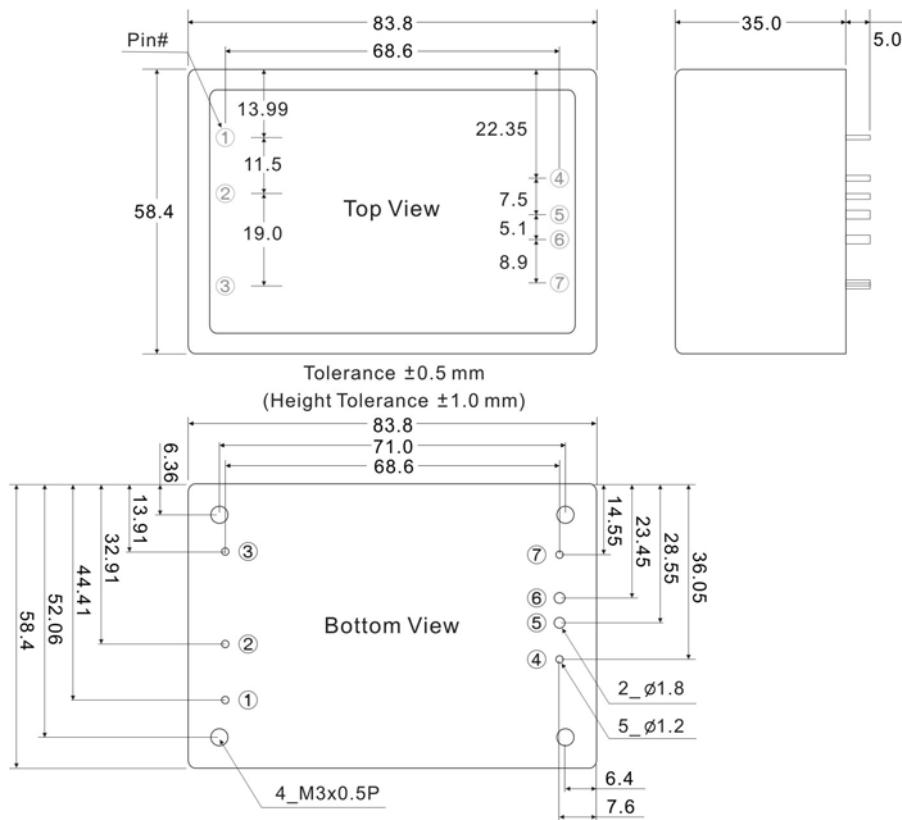
DERATING

If the input voltage is below 99VAC, we can only use it under the environment of higher than -10 celsius degree





MECHANICAL DIMENSIONS (Top View)



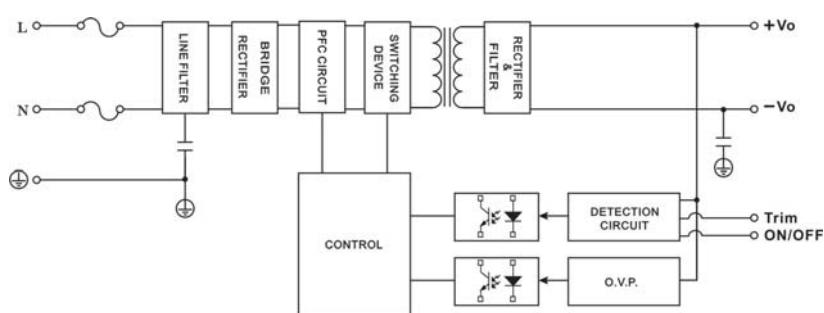
PIN#	Φ	Single
1	1.2±0.3mm	PE
2	1.2±0.3mm	AC IN (N)
3	1.2±0.3mm	AC IN (L)
4	1.2±0.3mm	ON / OFF (Provide +5Vdc Controlled)
5	1.8±0.3mm	+DC OUT
6	1.8±0.3mm	-DC OUT
7	1.2±0.3mm	Trim

Remark:

Please reserve the pin 4 hole on PCB.

If the remote on/off function is not required, please connect the pin 4 circuit layout with pin6, or keep pin 4 floating.

BLOCK DIAGRAM



TRIM

	12S		24S		48S	
Trim → -V	+10%	0%	+10%	0%	+10%	0%
	16KΩ	~ 10M	17KΩ	~ 10M	20KΩ	~ 10M
Trim → +V	0%	-10%	0%	-10%	0%	-10%
	10M	~ 45KΩ	10M	~ 125KΩ	10M	~ 280KΩ



SCREW TERMINAL

MQCS100-A2



PIN#	Single
1	PE
2	AC IN (N)
3	AC IN (L)
4	NC
5	ON / OFF
6	+DC OUT
7	-DC OUT
8	Trim

