

### EMC Filter



### FEATURES

- Ultra-Wide input voltage range: 0-305VAC
- Operating ambient temperature range -40°C to +85°C
- Insertion Loss DM&CM>40dB@10MHz
- Meet IEC/EN61000-4 series standards and CISPR32/EN55032
- Compliance with surge 2KV/4KV and 4KV/6KV
- The max operating current is up to 3A
- Safety according to IEC/EN60939 and IEC62368

The filter module are extremely useful in noise-sensitive analog circuit applications. FC-L03Ix connected on the input of AC-DC converters can ensure system compliance with EMC requirements according to IEC/EN61000-4 series and CISPR32/EN55032 standards. MORNSUN' s AC-DC converter module can be used with the filters as long as the AC-DC converters input voltage and maximum input current does not exceed FC-L03Ix maximum rating.

### Selection Guide

Model	Operating Voltage(VAC)		Operating Current(A)		Efficiency(%) Min/Typ.
	Typ. (Range)	Max*	Typ.	Max	
FC-L03I	230 (0-305)	310	--	3.0	Line-Line ±2kV Line-Ground ±4kV
FC-L03I2	230 (0-305)	310	--	3.0	Line-Line ±4kV Line-Ground ±6kV

Note: \* The input voltage must not exceed this value, otherwise permanent and unrecoverable damage may be caused;

### General Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	85	°C
Storage Temperature		-40	--	85	
Storage Humidity		--	--	95	%RH
Withstand voltage	IN(L)~PE, IN(N)~PE, electric strength test for 1 minute with a leakage current of 5mA max	2000	--	--	VAC
MTBF	MIL-HDBK-217F@25°C	1000	--	--	K hours
Insertion Loss (CM/DM)	150KHz~1MHz	25	30	-	dB
	1MHz~10MHz	40	45	-	dB
	10MHz~30MHz	20	25	-	dB

### Mechanical Specifications

Case Material	Black plastic; flame-retardant and heat-resistant (UL94 V-0)	
Dimensions	92.66 x 25.0 x 58.0 mm	
Weight	FC-L03I	78g(Typ.)
	FC-L03I2	80g(Typ.)

### Electromagnetic Compatibility (EMC)

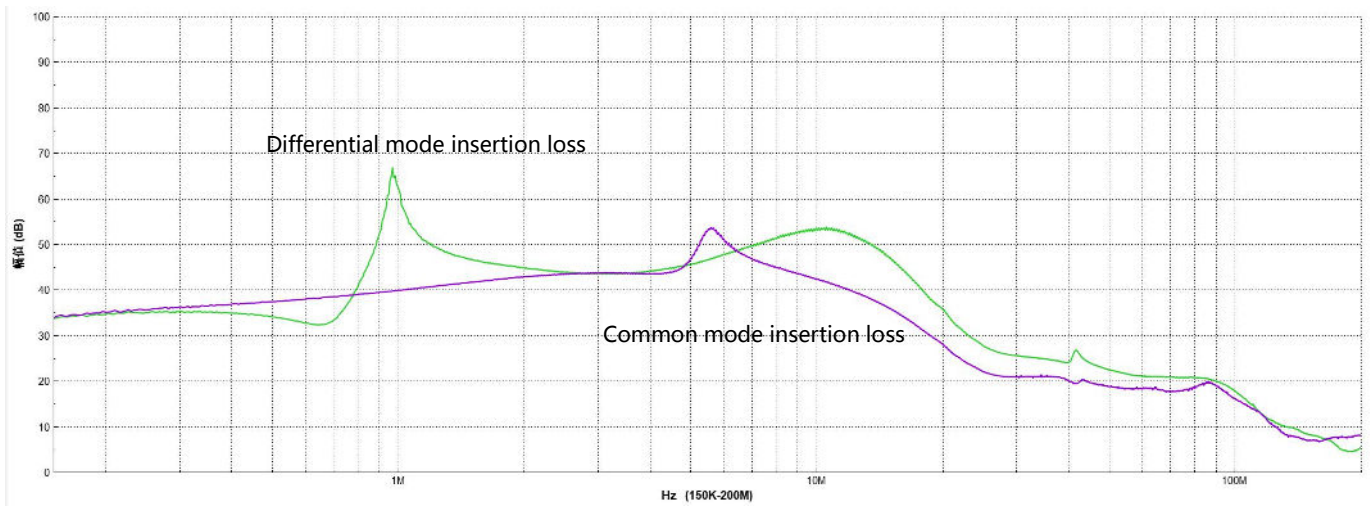
EMI	CE	CISPR32/EN55032	CLASS B
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	RE	CISPR32/EN55032	CLASS B			
EMS	ESD	IEC/EN61000-4-2	Contact $\pm 8kV$ , Air $\pm 15kV$		perf. Criteria A	
	RS	IEC/EN61000-4-3	10V/m		perf. Criteria A	
	EFT	IEC/EN61000-4-4	$\pm 4kV$		perf. Criteria A	
	Surge	IEC/EN61000-4-5	FC-L03I	Line-Line $\pm 2kV$ , Line-Ground $\pm 4kV$		perf. Criteria A
			FC-L03I2	Line-Line $\pm 4kV$ , Line-Ground $\pm 6kV$		perf. Criteria A
	CS	IEC/EN61000-4-6	10V r.m.s		perf. Criteria A	
MS	IEC/EN61000-4-8	50/60Hz 30A/m(rms)		perf. Criteria A		

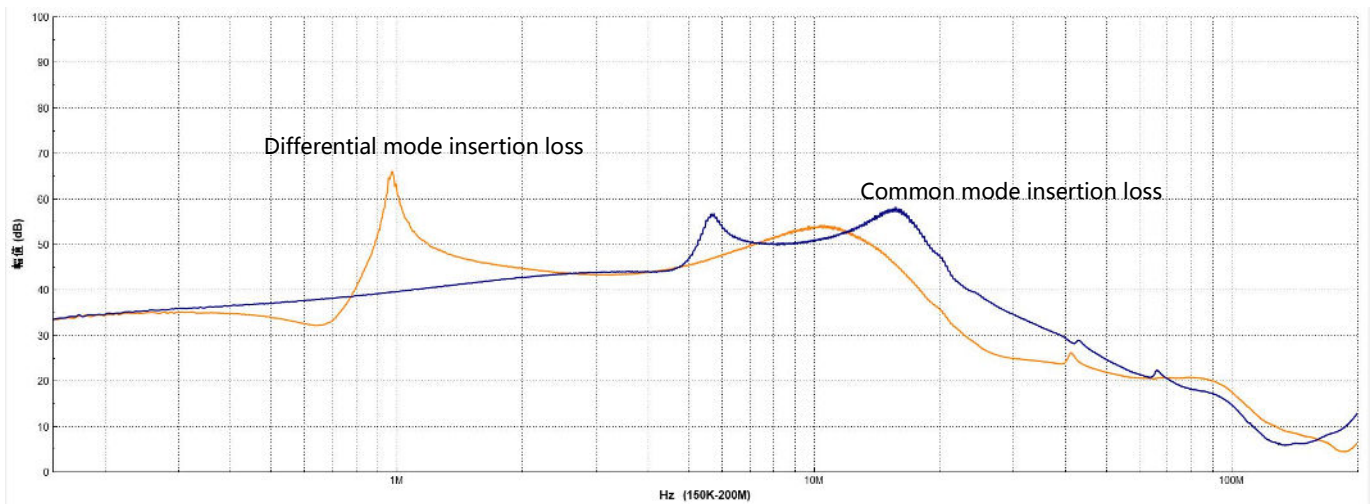
Note: Installing FC-L03Ix on the front of the LIXX series guide rail power supply, makes the system meet the EMC features of above.

### Insertion Loss Specifications

#### FC-L03I Insertion Loss Curve

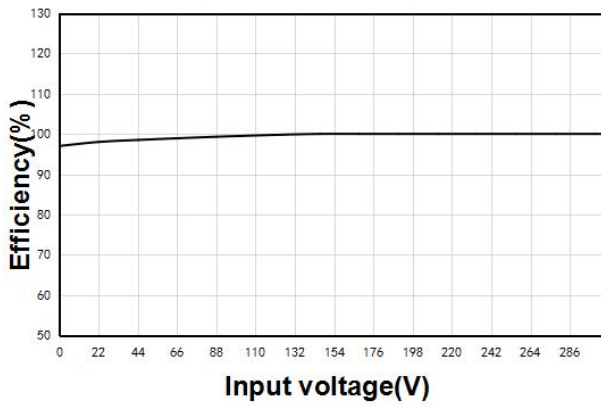


#### FC-L03I2 Insertion Loss Curve

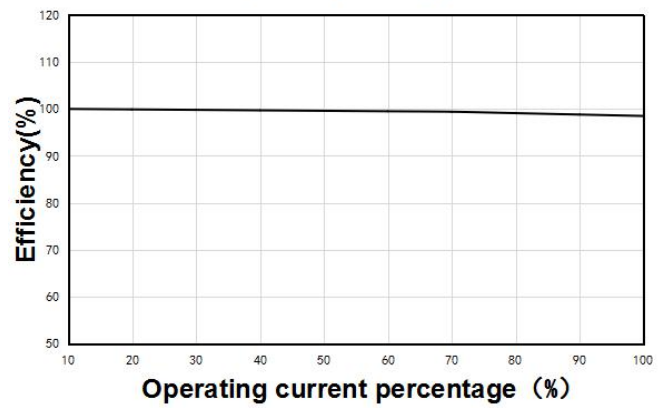


Product Typical Curve

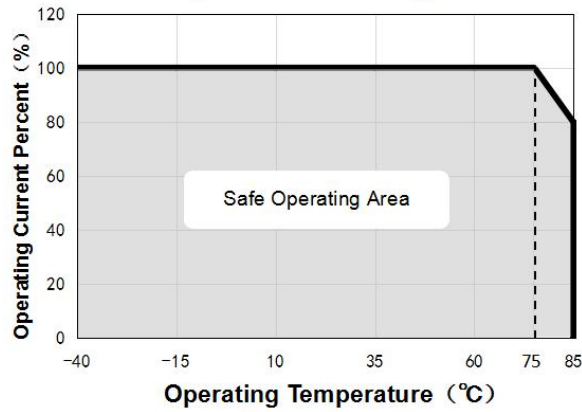
Efficiency VS Input voltage(Full load)



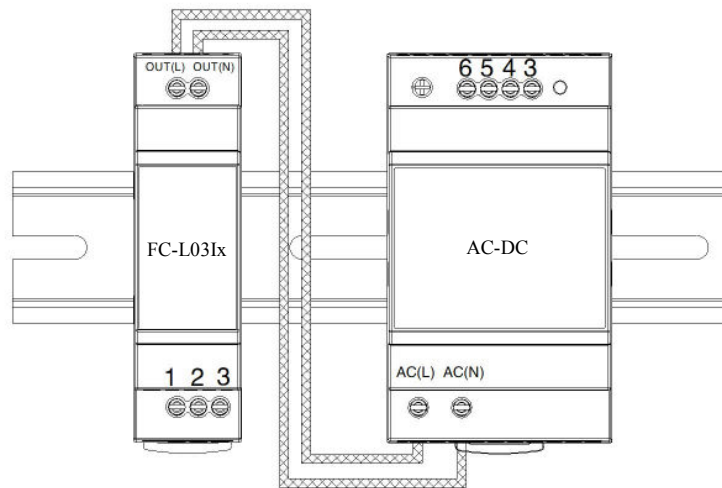
Efficiency VS Operating Current



Temperature Derating Curve

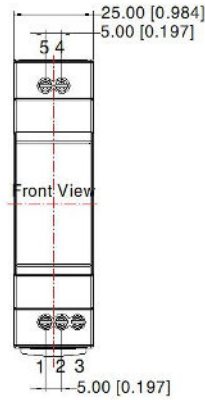
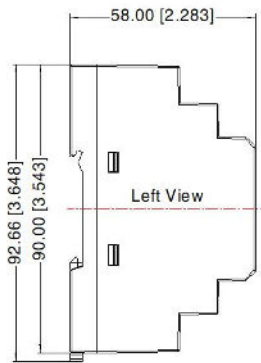


Installation Instruction



### Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	Mark
1	IN(L)
2	IN(N)
3	
4	OUT(N)
5	OUT(L)

Note:  
 Unit: mm[inch]  
 Wire range: 24-12 AWG  
 Tightening torque: Max 0.4 N · m  
 Mounting rail: TS35  
 General tolerances: ± 1.00[± 0.039]

Note:

1. For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58220254;
2. Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta=25°C, humidity<75%RH with nominal input voltage and rated load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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