

EMC Filter



FEATURES

- Ultra wide input voltage range: 0-305VAC / 0-430VDC
- Operating ambient temperature range: -40°C to +85°C
- EMC compliance : IEC/EN61000-4、CISPR32/EN55032
- High surge suppression capability: 2kV/4kV、4kV/6kV
- Insertion loss DM up to 75dB & CM up to 50dB
- Compliance with safety standards IEC62368/IEC60939

The filter is suitable for applications that are sensitive to noise, such as analog circuits. Adding FC-L03Wx and FC-L06Wx to the front end of AC/DC chassis power supply can make the power supply products meet the EMC requirements of IEC/EN61000-4 series and CISPR32/EN55032 standards. When used with Mornsun AC/DC chassis power supply, the maximum input voltage of the power supply should not be greater than the maximum working voltage of this product, and the maximum input current should be less than the maximum working current of this product.

Selection Guide

Model	Operating Voltage(VAC)		Operating Current(A)		Surge Performance
	Typ. (Range)	Max*	Typ.	Max	
FC-L03W	230 (0-305)	310	-	3.0	Line-Line ±2kV Line-PE ±4kV
FC-L03W2	230 (0-305)	310	-	3.0	Line-Line ±4kV Line-PE ±6kV
FC-L06W	230 (0-305)	310	-	6.0	Line-Line ±2kV Line-PE ±4kV
FC-L06W2	230 (0-305)	310	-	6.0	Line-Line ±4kV Line-PE ±6kV

Note: ①*Input voltage should not exceed this value, otherwise permanent irreparable damage may be caused;

②*Product model suffix plus "A2S" for metal plate wiring type package, suffix plus "A4S" for guide rail type package, such as: FC-L06WA4S;

General Specifications

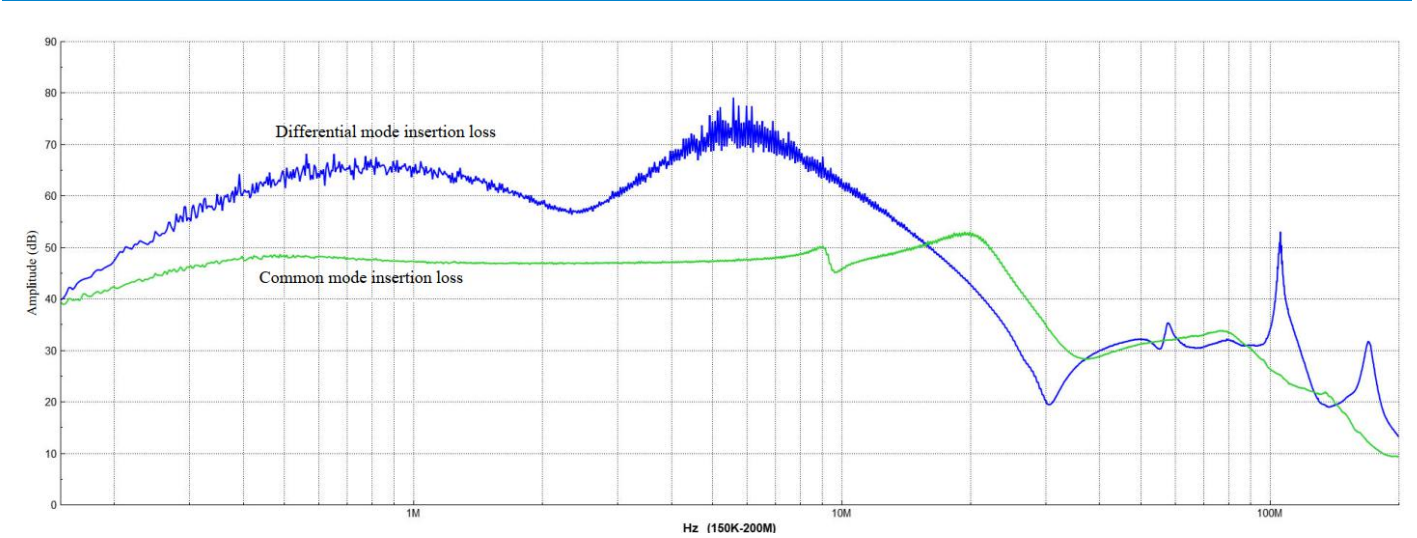
Item	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	+85	°C
Storage Temperature		-40	--	+105	
Storage Humidity		--	--	95	%RH
Isolation Voltage	IN(L) ~ PE, IN(N) ~ PE, test time 1 minute, leakage current < 3.5mA	2000	--	--	VAC
Insertion Loss	150kHz~1MHz	25	30	-	dB

(CM/DM)	1MHz~10MHz	30	35	-	dB
	10MHz~30MHz	18	20	-	dB
MTBF		MIL-HDBK-217F@25℃≥1000,000 h			
Impact and Vibration Test		10-55Hz, 5G, 30 Min. along X, Y and Z			
Altitude	80-110kPa	≅ 5000m			

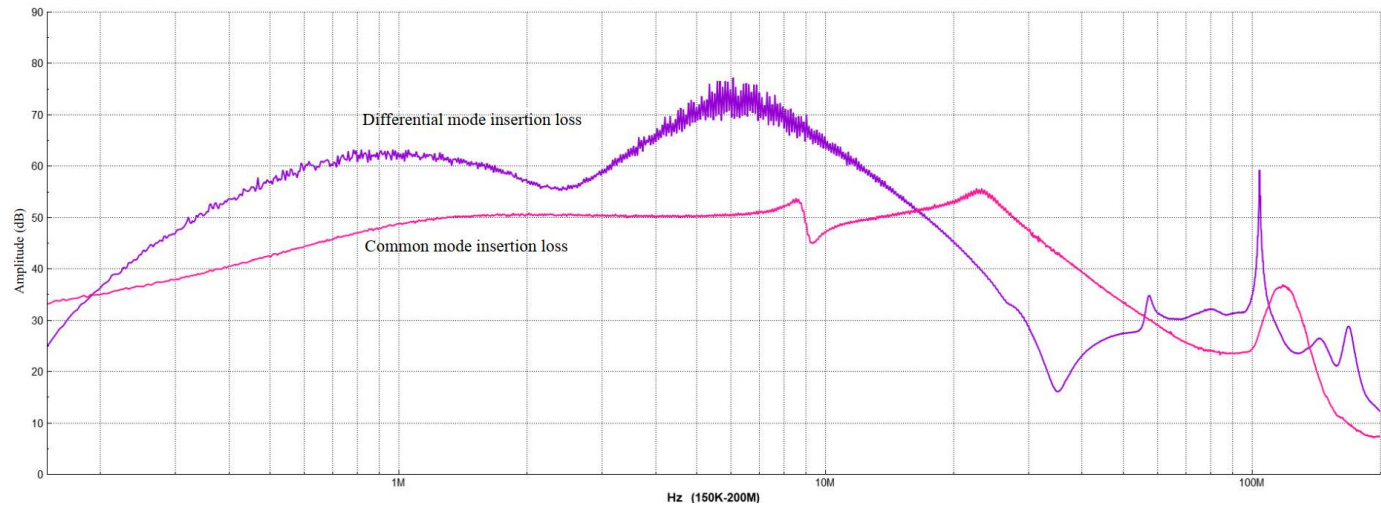
physical characteristics

Case Material	Black plastic; flame-retardant and heat-resistant (UL94 V-0)		
Dimension	FC-L03Wx FC-L06Wx	Horizontal packaging	85.00*39.00*28.90mm
		A2S wiring type package	85.00*39.00*29.90mm
		A4S wiring type package	89.00*39.00*36.40mm
Weight	FC-L03W	Horizontal packaging	68g(Typ.)
		A2S wiring type package	94(Typ.)
		A4S wiring type package	105(Typ.)
	FC-L03W2	Horizontal packaging	74(Typ.)
		A2S wiring type package	100(Typ.)
		A4S wiring type package	111(Typ.)
	FC-L06W	Horizontal packaging	72(Typ.)
		A2S wiring type package	98(Typ.)
		A4S wiring type package	109(Typ.)
	FC-L06W2	Horizontal packaging	78(Typ.)
		A2S wiring type package	104(Typ.)
		A4S wiring type package	115(Typ.)
Cooling Method	Free air convection		

FC-L03Wx Insertion Loss Specifications



FC-L06Wx Insertion Loss Specifications

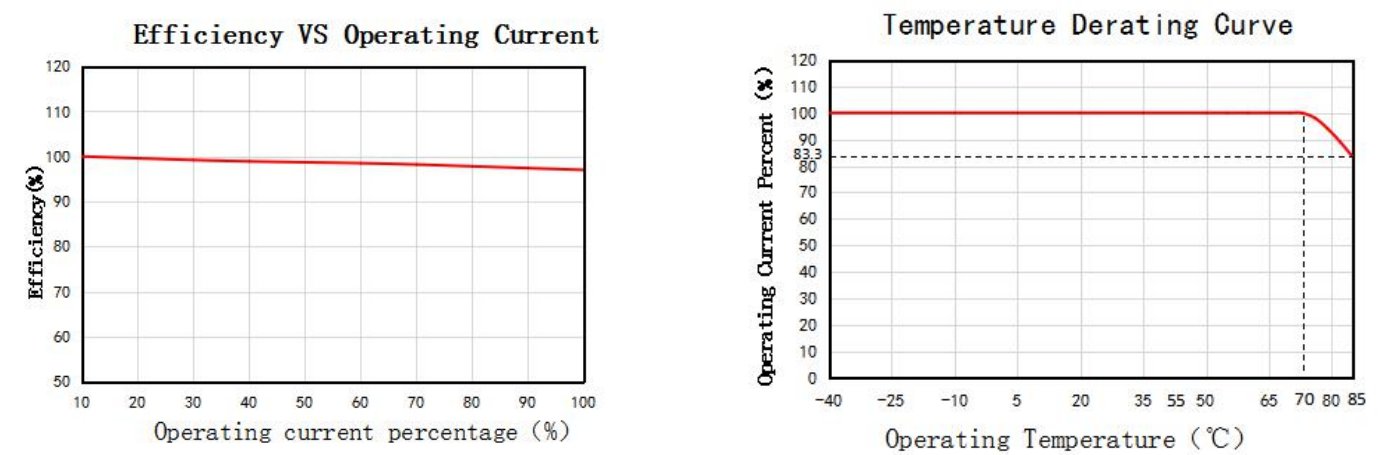


EMC characteristics

EMI	CE		CISPR32/EN55032	CLASS B	
	RE		CISPR32/EN55032	CLASS B	
EMS	ESD		IEC/EN61000-4-2	Contact ±8kV Air ±15kV	perf. Criteria A
	RS		IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT		IEC/EN61000-4-4	±4kV	perf. Criteria A
	CS		IEC61000-4-6	10V r.m.s	perf. Criteria A
	PFMF		IEC61000-4-8	50/60Hz 30A/m	perf. Criteria A
	Surge	FC-L03W FC-L06W	IEC61000-4-5	Line-Line ±2kV Line-PE ±4kV	perf. Criteria A
		FC-L03W2 FC-L06W2		Line-Line ±4kV Line-PE ±6kV	perf. Criteria B

Note: Matching FC-L03Wx/FC-L06Wx to the front end of the LM200/350-10Bxx series power supply can make the power module meet above EMC characteristics.

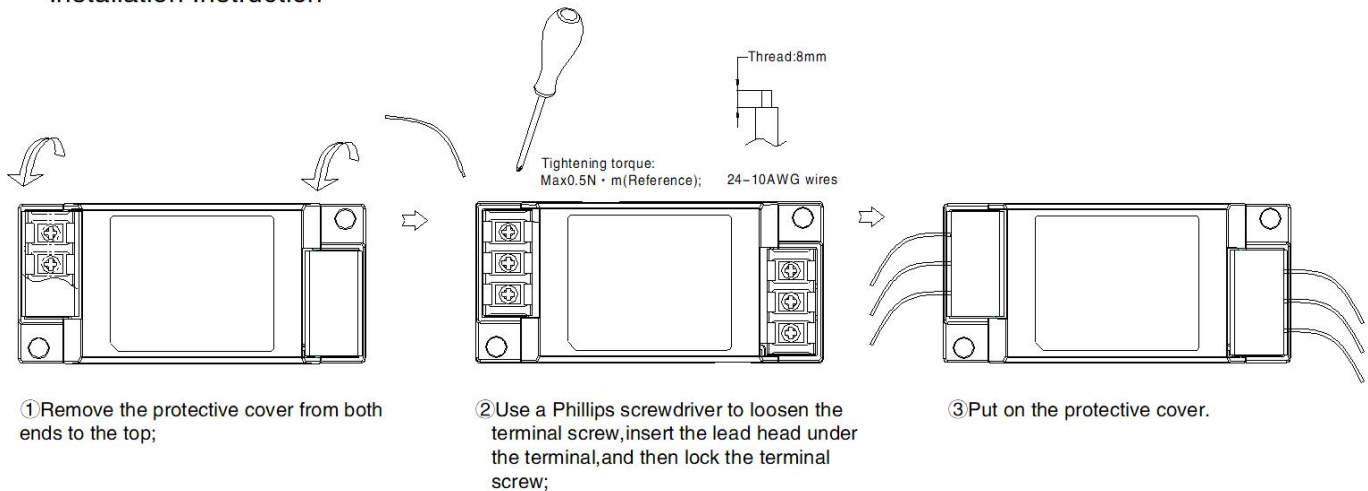
Product Typical Curve



Note: This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.

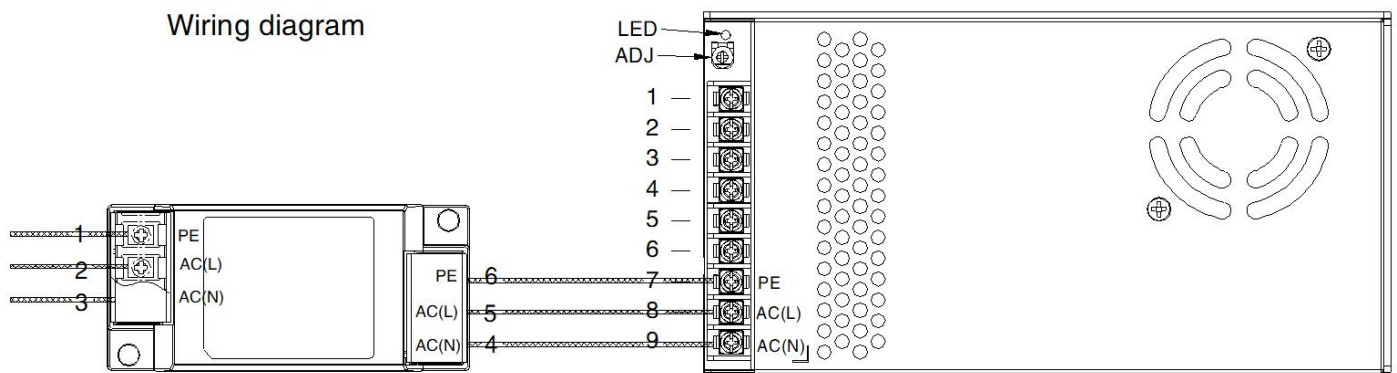
FC-L03Wx & FC-L06Wx Installation Instruction

Installation Instruction

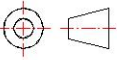


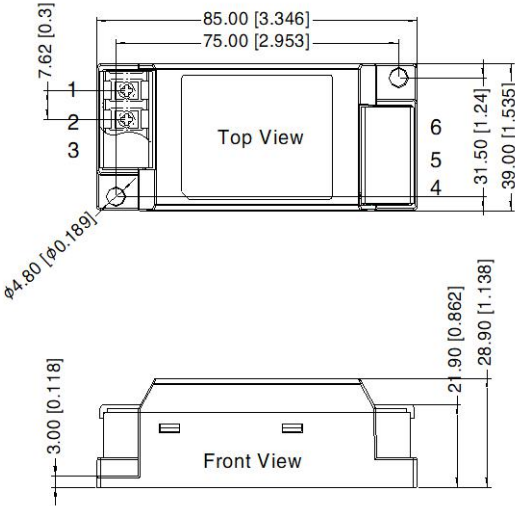
FC-L03Wx & FC-L06Wx Wiring Schematic Diagram

Wiring diagram



FC-L03WX & FC-L06WX Dimensions and Recommended Layout

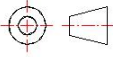
THIRD ANGLE PROJECTION 

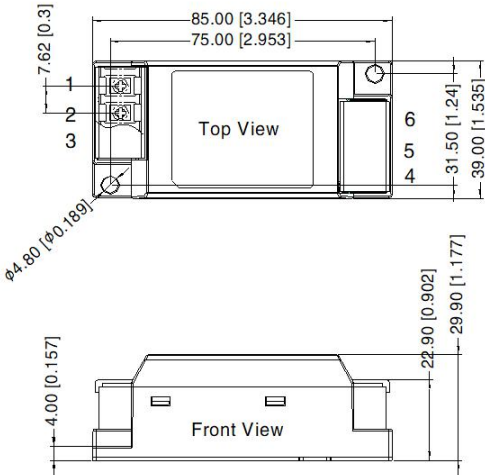


Pin-Out	
Pin	Mark
1	
2	IN(L)
3	IN(N)
4	OUT(N)
5	OUT(L)
6	

Note:
Unit: mm[inch]
Wire range: 22-14 AWG
Tightening torque: Max 0.5 N · m
General tolerances: ± 1.00[± 0.039]

FC-L03WXA2S & FC-L06WXA2S Dimensions and Recommended Layout

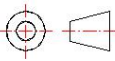
THIRD ANGLE PROJECTION 

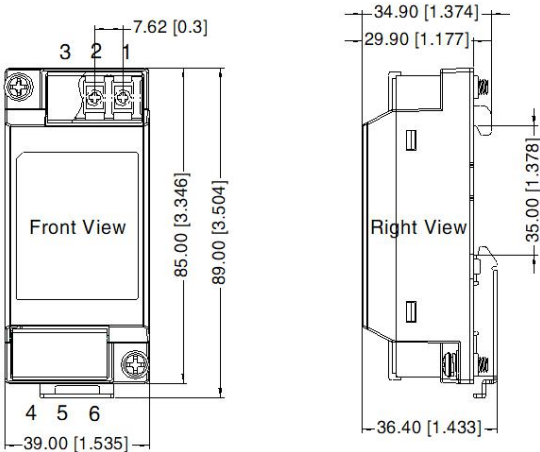


Pin-Out	
Pin	Mark
1	
2	IN(L)
3	IN(N)
4	OUT(N)
5	OUT(L)
6	

Note:
Unit: mm[inch]
Wire range: 22-14 AWG
Tightening torque: Max 0.5 N · m
General tolerances: ± 1.00[± 0.039]

FC-L03WXA4S & FC-L06WXA4S Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	Mark
1	
2	IN(L)
3	IN(N)
4	OUT(N)
5	OUT(L)
6	

Note:
Unit: mm[inch]
Wire range: 22–14 AWG
Tightening torque: Max 0.5 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. Packaging bag number: 58240047 (A4S wiring type package) , 58240046 (Other packages.)
 - 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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