

MDCFM-xxW



Wide 2:1 Input, DC Compact EMC Filter Module

Key Features:

- 18 to 75 VDC Input
- Compact 1" x 2" Case
- Reverse Polarity Protection
- 1.0 MHour MTBF
- -40°C to +85°C Operation
- Soft Start
- 97% Efficiency
- Chassis Mount Option
- DIN Rail Mount Option
- Low Cost



Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range, See Note 1	MDCFM-18W-50	18	24	36	VDC
	MDCFM-36W-75	36	48	75	
No Load Current, See Note 2				10.0	mA

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Efficiency			97		%
Max Output Voltage	MDCFM-18W-50 (Input <47V)		39		VDC
	MDCFM-36W-75 (Input <100V)		82		
Max Output Power	MDCFM-18W-50			50	W
	MDCFM-36W-75			75	

EMI Characteristics (See Note 4)

Parameter	Standard	Level
Radiated Emissions	EN 55022	Class B (150 kHz - 30 MHz)
Conducted Emissions	EN 55022	Class B (30 MHz - 1 GHz)
ESD	EN 61000-4-2	Criteria B; Air ±8 kV, Contact ±6 kV
RS	EN 61000-4-3	Criteria A; 10V/m
EFT	EN 61000-4-4	Criteria B; ±4 kV (5 kHz - 100 kHz)
Surge	EN 61000-4-5	Criteria B; ±2 kV (1.2 μS/50 μS 2Ω)
CS	EN 61000-4-6	Criteria B; ±4 kV (1.2 μS/50 μS 12Ω)
		Criteria B; 10 Vrms

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+85	°C
Storage Temperature Range		-55		+125	°C
Cooling	Free Air Convection				
Humidity	RH, Non-condensing			95	%

Physical

Case Size	Module	See Mechanical Drawing (Page 2)
	Chassis (A2) Mount	See Mechanical Drawing (Page 2)
	DIN (A4) Mount	See Mechanical Drawing (Page 2)
Case Material	Non-Conductive Black Plastic (UL94-V0)	
Weight	Module	1.77 Oz (50g)
	Chassis (A2) Mount	2.48 Oz (70g)
	DIN (A4) Mount	3.19 Oz (90g)

Notes:

1. The Max input voltage level of the DC/DC converter must be less than the maximum specified input of the MDCFM-xxW.
2. The maximum power of the DC/DC converter must be less than the maximum output power of the MDCFM-xxW.
3. The -Vout pin should not be connected to the "ground" input.
4. The external capacitors shown in the typical connection diagram below are required to meet specified operation. Recommended component values are given in the table at right.

Component	Value
C1	400 μF/200V
CY1, CY2	1nF/2kV

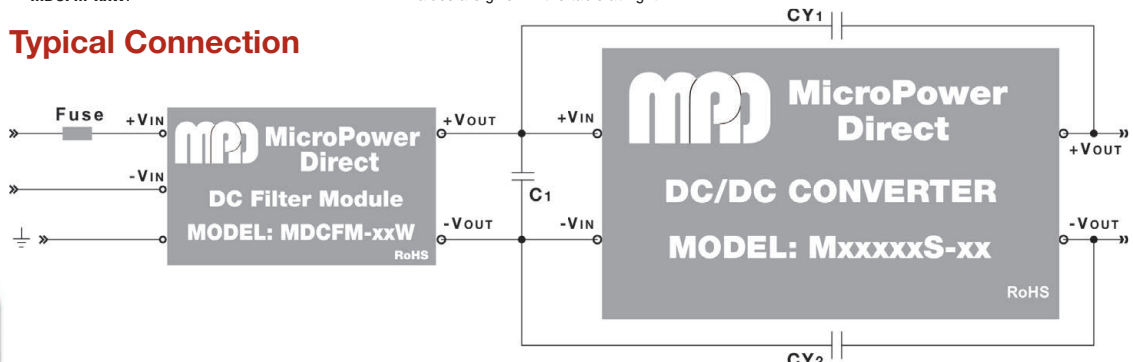
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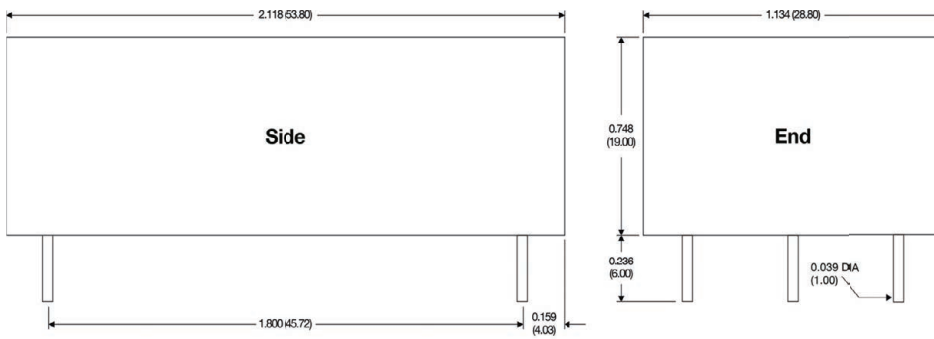


Typical Connection



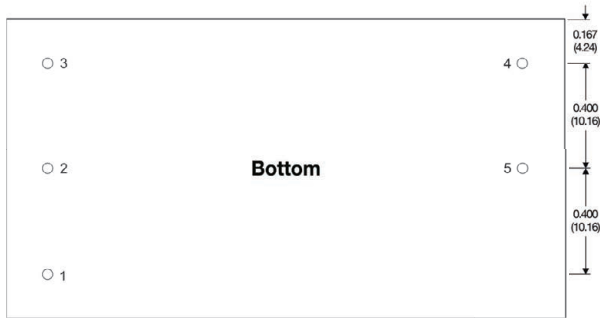
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Mechanical Dimensions

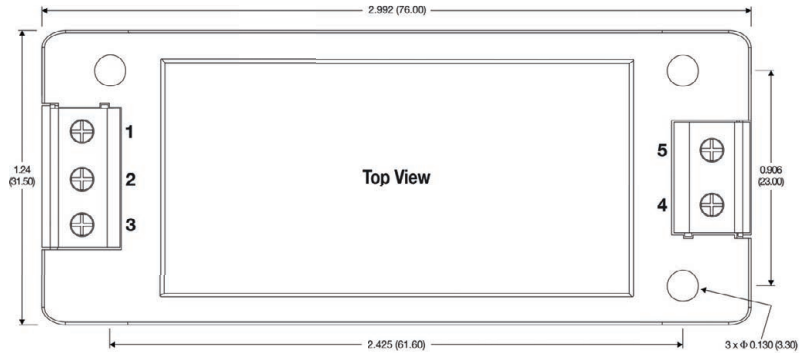


Pin Connections

Pin	Function
1	GND
2	-VIN
3	+VIN
4	+VOUT
5	-VOUT



Mechanical Dimensions: With Chassis Mount Option (A2)



The **MDCFM-xxW** is available mounted on an adapter plate for mounting to a chassis or on a DIN rail. Mechanical dimensions for these adapters are shown at right. The photo below shows a product mounted on a similar adapter. Please contact the factory for more information.

For the chassis mount option, add suffix "A2" to the model number (i.e. **MDCFM-18W-50-A2**)

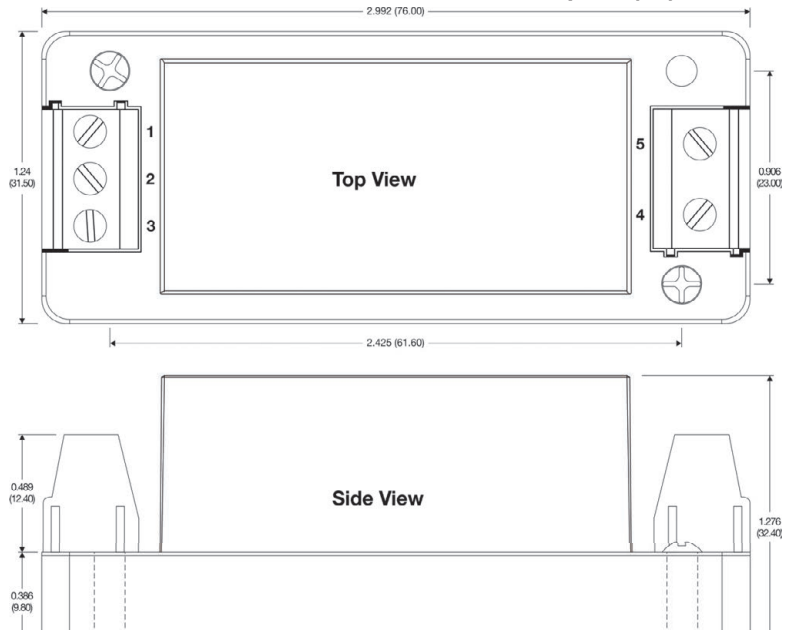
For the DIN rail mount option, add suffix "A4" to the model number (i.e. **MDCFM-36W-75-A4**)

Pin Connections

Pin	Function
1	GND
2	-VIN
3	+VIN
4	+VOUT
5	-VOUT

Connection is the same for A2 & A4

Mechanical Dimensions: With DIN Rail Option (A4)



Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.02 (±0.50)
- Wire range for A2 & A4 connection is 24 - 12 AWG



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