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**AMFW72-NZ**



Encapsulated

The AMFW72-NZ series of EMC filters are designed for railway and industrial applications. They offer an input voltage range of 40-160VDC with an efficiency of 98%.

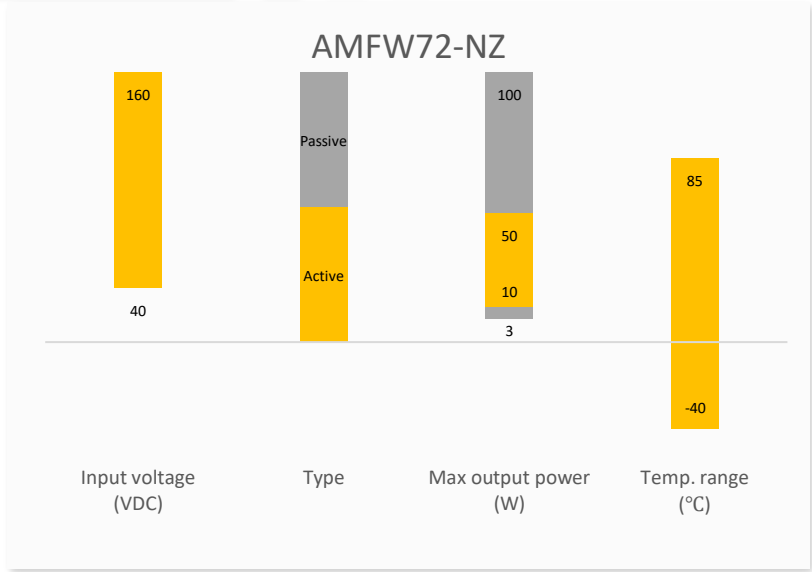
The AMFW72-NZ series can aid in compliance to EN50155 for railway and IEC/EN61000-2 and CISPR32/EN55032 industrial standards. This EMC filter has an operating temperature range of -40 to +85°C. It is PCB mountable and available in optional chassis and DIN-rail mounting plate options.

**Features**

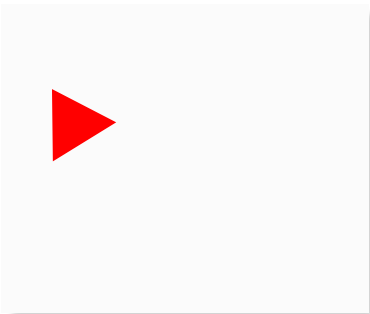


- Ultra-Wide Input: 40 - 160VDC
- Operating Temp: -40 °C to +85 °C
- High Isolation Voltage Up To 2000VAC
- Input Reverse Voltage Protection
- EMI Meet EN55022 Class B
- EMS Meet IEC 61000-4

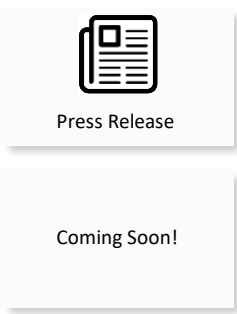
**Summary**



**Training**



Product Training Video  
(click to open)



Application Notes

**Applications**



Power Grid



Industrial



Telecom



Instrumentation

## Models & Specifications

Models		
Model	Input Voltage (VDC)	Max output power (W)
AMFW72-0.13NZ	40 ~ 160	10
AMFW72-0.41NZ	40 ~ 160	30
AMFW72-0.69NZ	40 ~ 160	50

Note: Use suffix "ST" for chassis and suffix "STD" for DIN-Rail mounting (ex. AMFW72-0.69NZ-ST is chassis mounting and AMFW72-0.69NZ-STD is DIN-Rail mounting version). The optional -ST, -STD mounting plate are for models AMFW72-0.41NZ and AMFW72-0.69NZ only.

Input Specifications				
Parameters	Tested Conditions	Typical	Maximum	Units
Input Voltage		110	160	VDC
No-load Current	110VDC, AMFW72-0.69NZ 110VDC, Others		3 1	mA

Output Specifications				
Parameters	Tested Conditions	Typical	Maximum	Units
Max Output Voltage Limit	Input voltage is not more than 175V	165		VDC

NOTE: Continuous operation of the filters at their Max. Output voltage Limit may cause failures or permanent damage.

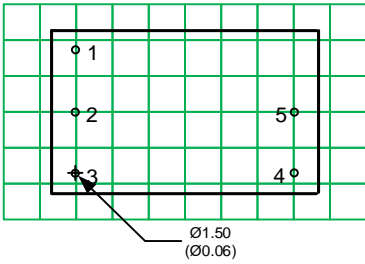
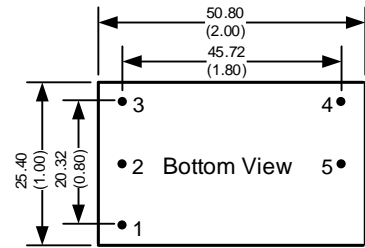
General Specifications					
Parameters	Conditions		Typical	Maximum	Units
Efficiency	110VDC, Full load		98		%
Operating temperature			-40 to +85		°C
Storage temperature			-55 to +125		°C
Case temperature rise	110VDC, Full load		+25		°C
Isolation Voltage (+Vin / GND ; -Vin / GND)	1 min, < 5mA leakage current	AMFW72-0.69NZ Others		2000 1500	VAC
Humidity				95	%RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)				
Weight	PCB mountable model	AMFW72-13NZ	35		g
	PCB mountable models		50		
	Optional -ST mounting plate	Others	70		
	Optional -STD mounting plate		90		
Dimensions (L x W x H)	PCB mountable model	AMFW72-13NZ	2.00 x 1.00 x 0.60 inches (50.80 x 25.40 x 15.16mm)		
	PCB mountable models		2.12 x 1.13 x 0.75 inches (53.80 x 28.80 x 19.00mm)		
	Optional -ST mounting plate	Others	2.99 x 1.24 x 1.09 inches (76.00 x 31.50 x 27.80mm)		
	Optional -STD mounting plate		2.99 x 1.24 x 1.28 inches (76.00 x 31.50 x 32.40mm)		
Vibration	Each axis 10 cycles for 3 min Frequency : 5 to 150Hz ; Amplitude : 7.5mm Acceleration : 10g		IEC/EN61373		

MTBF	>1,200,000 hrs (MIL-HDBK -217F, t=+40°C)
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.	

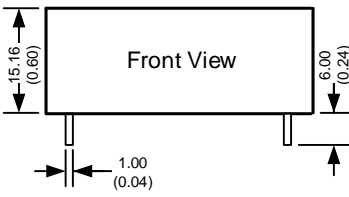
Safety Specifications		
Parameters		
Standards	EMI - Conducted and radiated emission	CISPR22 / EN55022, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV / Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±4KV, Criteria B
	Surge Immunity	IEC 61000-4-5 ±2KV(2Ω internal) / ±4KV(12Ω internal), Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A

## Dimensions

### AMFW72-13NZ

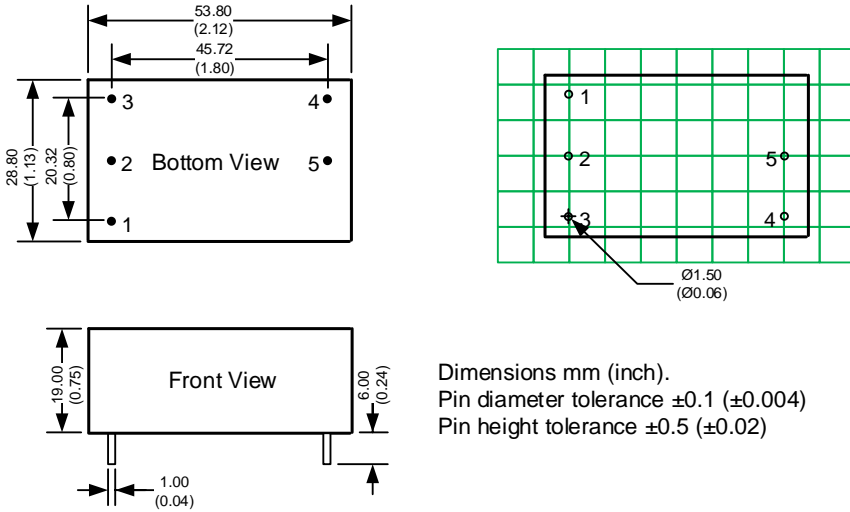


Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output



Dimensions mm (inch)  
 Pin diameter tolerance ±0.1 (±0.004)  
 Pin height tolerance ±0.5 (±0.02)

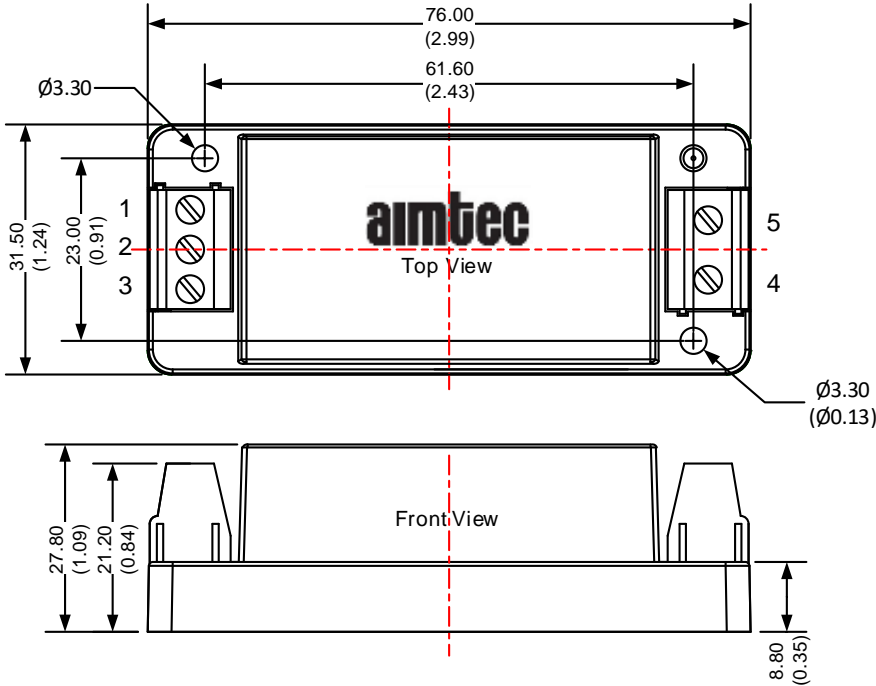
AMFW72-0.41NZ & AMFW72-0.69NZ



Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions with ST Optional

AMFW72-0.41NZ & AMFW72-0.69NZ

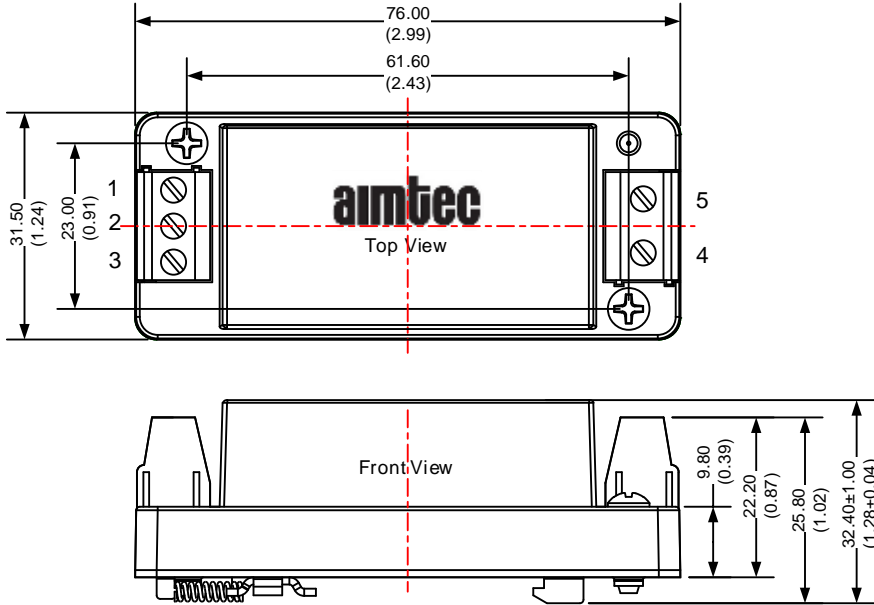


Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

## Dimensions with STD Optional



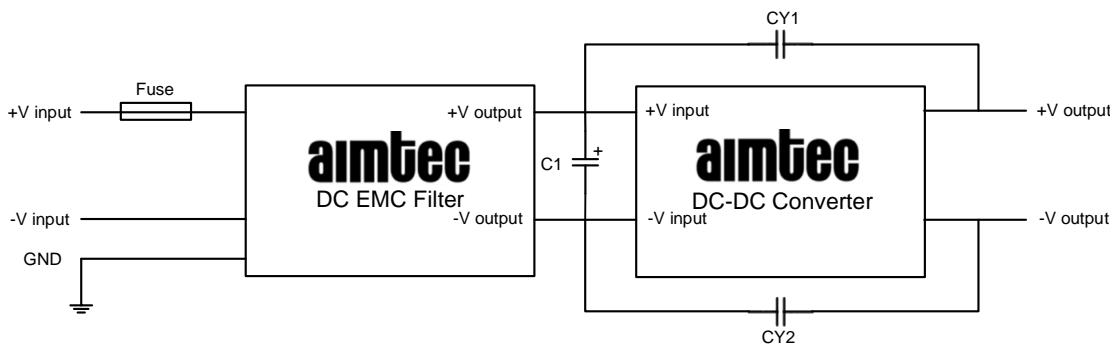
AMFW72-0.41NZ & AMFW72-0.69NZ



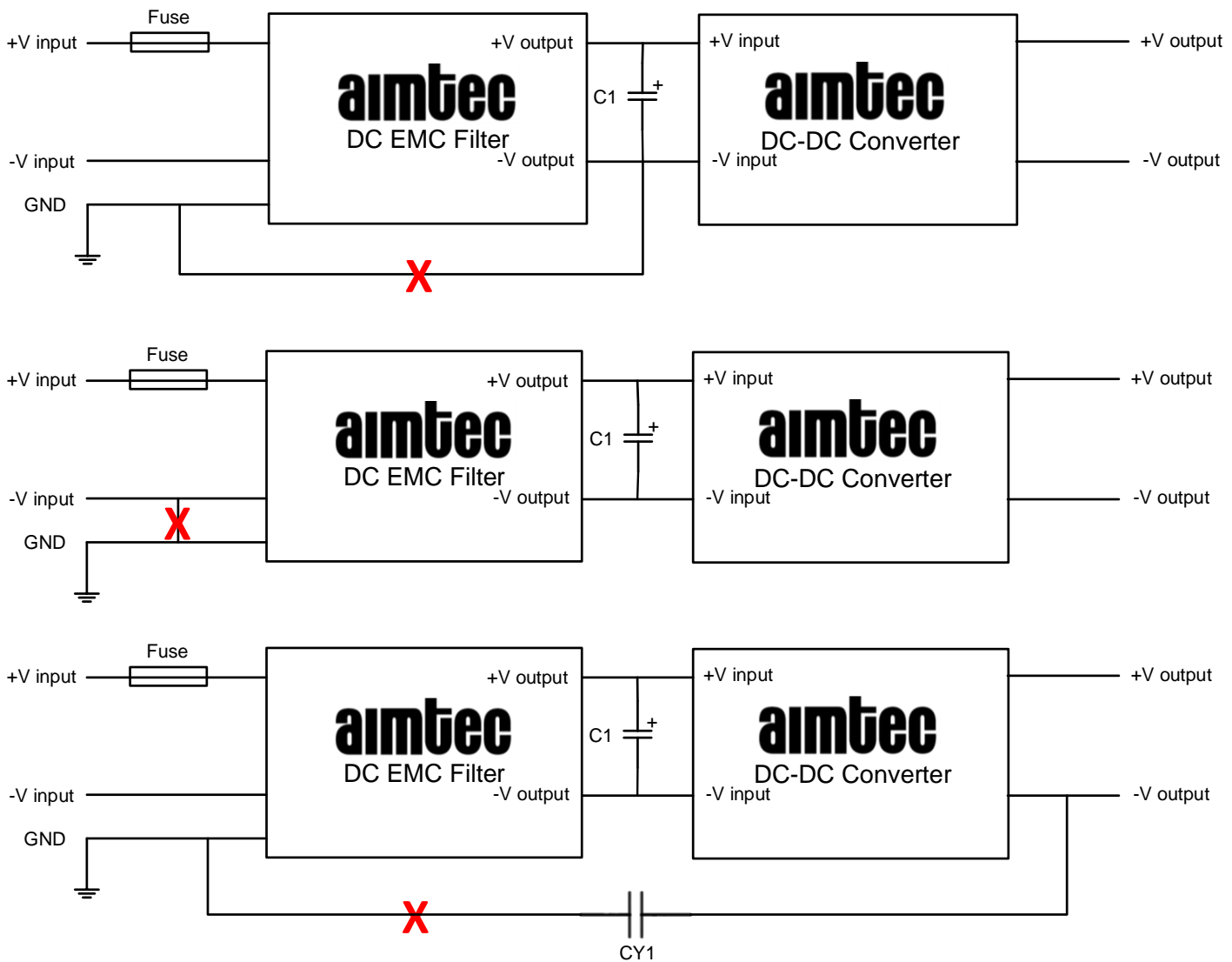
Pin Output Specifications	
Pin	Single
1	GND
2	-V Input
3	+V Input
4	+V Output
5	-V Output

Dimensions mm (inch)  
Wire range: 24-12 AWG  
General tolerances:  $\pm 0.50$  ( $\pm 0.02$ )

## Application Circuit



Model	Recommended external circuit parameters	
C1	AMFW72-0.69NZ Others	200uF/400V electrolytic capacitor in parallel 100uF/200V electrolytic capacitor
CY1 / CY2	1nF/2KV	
Fuse	The fuse value varies with different power modules and must be selected in accordance with the specified input current of the corresponding power converter, but not exceeding the filter specifications.	



**Note:** Connections marked with X interfere with this filter modules performance and should therefore not be used

**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).