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AMFW72-NZ



Encapsulated

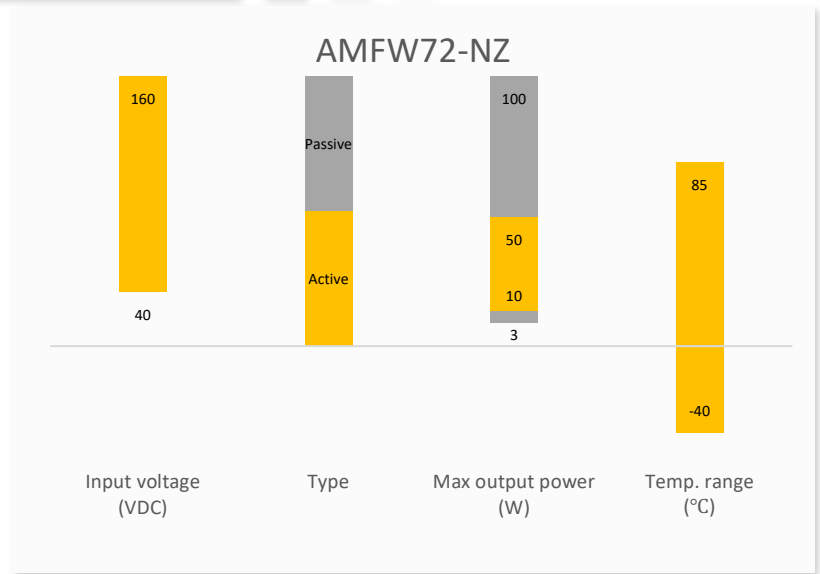
The AMFW72-NZ series of EMC filters are designed for railway and industrial applications. They offer an input voltage range of 40-160VDC with an efficiency of 98%.

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

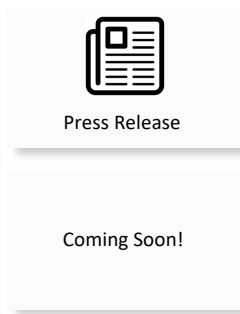
Summary



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.

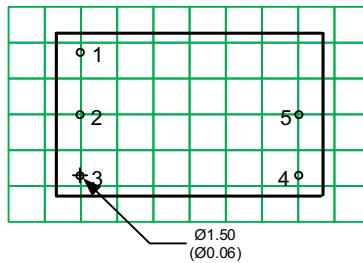
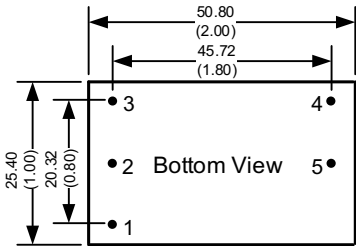
| General Specifications | | | | | |
|---|---|-------------------------|---|--------------|-------|
| Parameters | Conditions | | Typical | Maximum | Units |
| Efficiency | 110VDC, Full load | | 98 | | % |
| Operating temperature | | | -40 to +85 | | °C |
| Storage temperature | | | -55 to +125 | | °C |
| 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 | Others | 50 | | |
| | Optional -ST mounting plate | | 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 | Others | 2.12 x 1.13 x 0.75 inches (53.80 x 28.80 x 19.00mm) | | |
| | Optional -ST mounting plate | | 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. | |

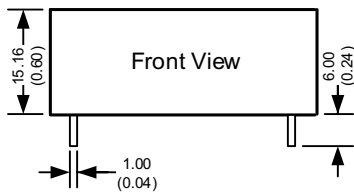
| Safety Specifications | | |
|-----------------------|--|--|
| Parameters | | |
| Standards | EMI - Conducted and radiated emission | CISPR22 / EN55022, class B |
| | Electrostatic Discharge Immunity | IEC 61000-4-2 Contact ±6KV / Air ±8KV, Criteria B |
| | RF, Electromagnetic Field Immunity | IEC 61000-4-3 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

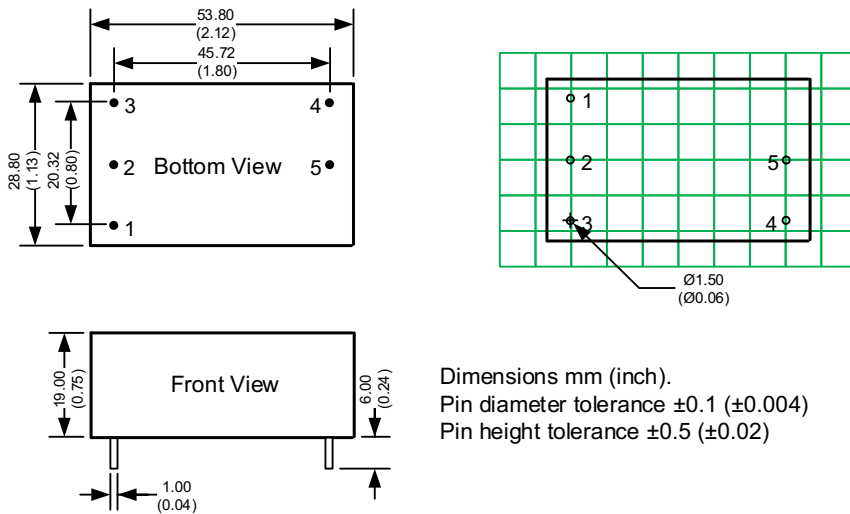


| Pin Output Specifications | |
|---------------------------|-----------|
| Pin | Single |
| 1 | GND |
| 2 | -V Input |
| 3 | +V Input |
| 4 | +V Output |
| 5 | -V Output |



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

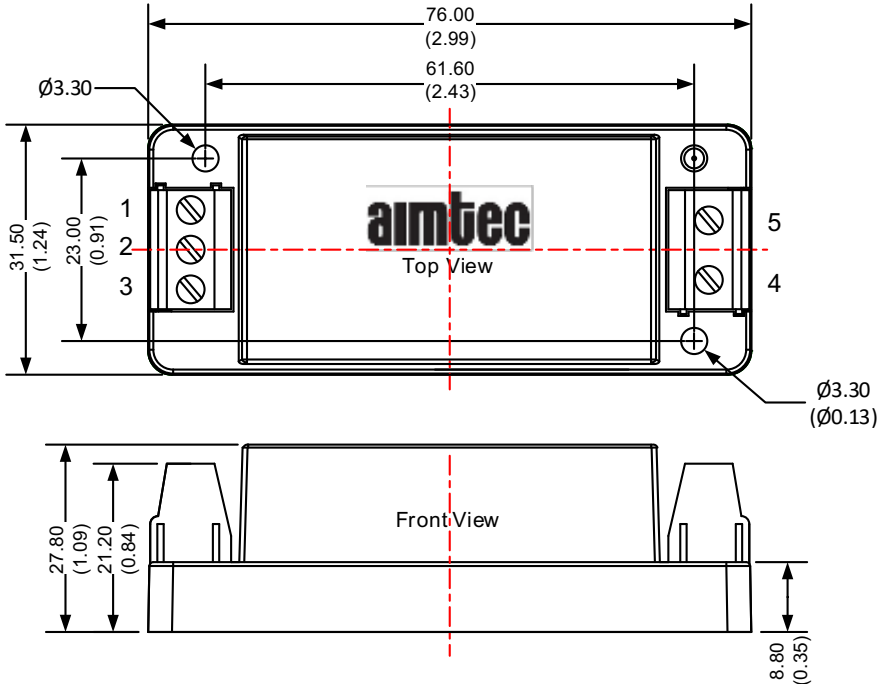
AMFW72-0.41NZ & AMFW72-0.69NZ



| 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

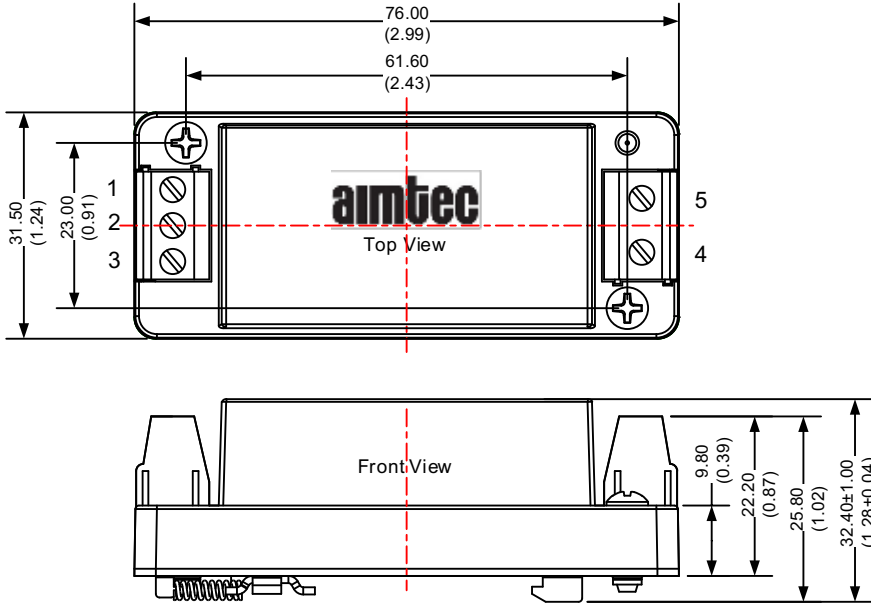


| Pin Output Specifications | |
|---------------------------|-----------|
| Pin | Single |
| 1 | GND |
| 2 | -V Input |
| 3 | +V Input |
| 4 | +V Output |
| 5 | -V Output |

Dimensions with STD Optional



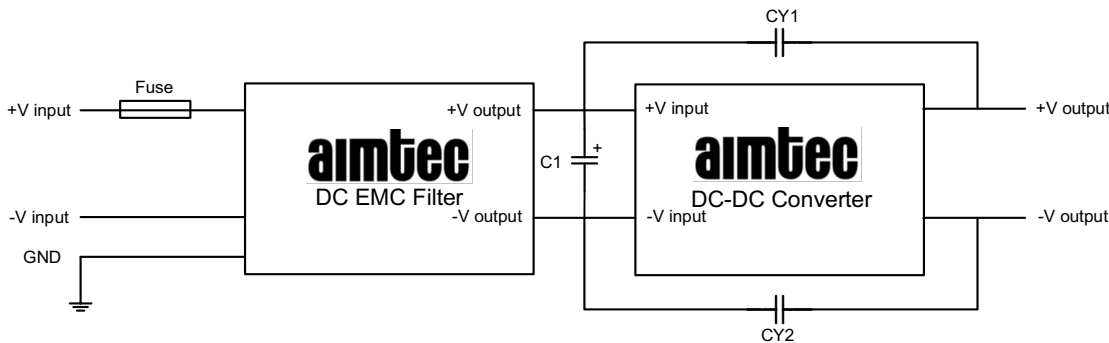
AMFW72-0.41NZ & AMFW72-0.69NZ



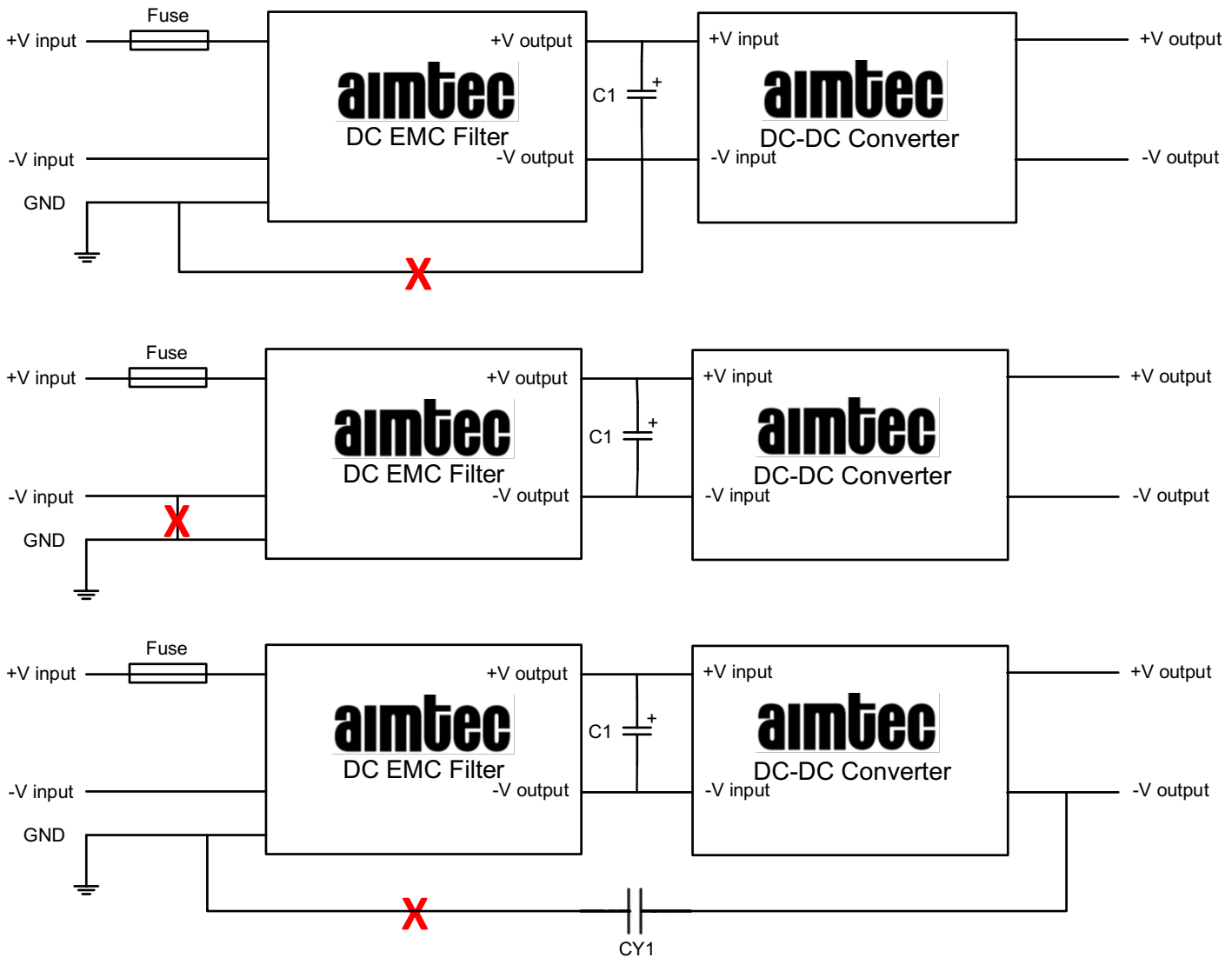
| Pin Output Specifications | |
|---------------------------|-----------|
| Pin | Single |
| 1 | GND |
| 2 | -V Input |
| 3 | +V Input |
| 4 | +V Output |
| 5 | -V Output |

Dimensions mm (inch)
Wire range: 24-12 AWG
General tolerances: ± 0.50 (± 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

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