ENERDOOR
Engineered by Finmotor

FINHRM5C

Applications

- VFDs and servo drives
- Processing and industrial automation
- Water & wastewater treatment
- Oil & gas operations
- HVAC systems
- SCRs - Silicon controlled rectifiers

Features

- Compact size – Among the smallest in the industry
- Reduces current THD <5% with an unbalanced voltage of 2.5%
- Rated current from 10 to 1400A
- Voltage rating up to 690 Vac for the HV version
- Available in NEMA1 and 3R enclosures

Benefits

- UL approved for USA and Canada
- Ensures compliance with international standards IEEE-519 and IEC61000-3-12
- Low power loss and operating temperature
- Mitigates system losses caused by harmonic distortion
- Unaffected by network conditions

A Breakthrough in Passive Harmonic Filtering

The Enerdoor FINHRM5C represents a breakthrough in passive harmonic filtering technology, offering unparalleled attenuation of current harmonic distortion and overvoltage spikes. This white paper explores the innovative features, compliance standards, performance metrics, and benefits of integrating the FINHRM5C into industrial power systems.

Introduction

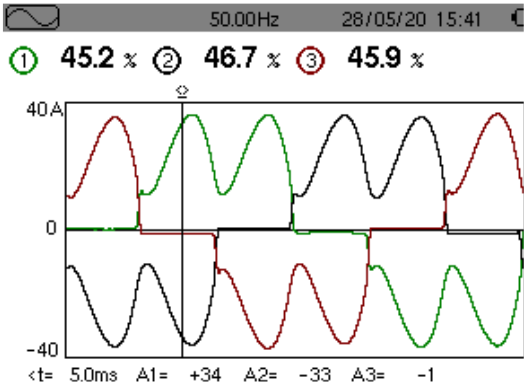
The increasing demand for power quality optimization necessitates advanced solutions to mitigate harmonic distortions and voltage irregularities. The Enerdoor FINHRM5C emerges as a compact, efficient, and compliant passive harmonic filter designed to address these challenges with exceptional precision and reliability.

Key Features and Specifications

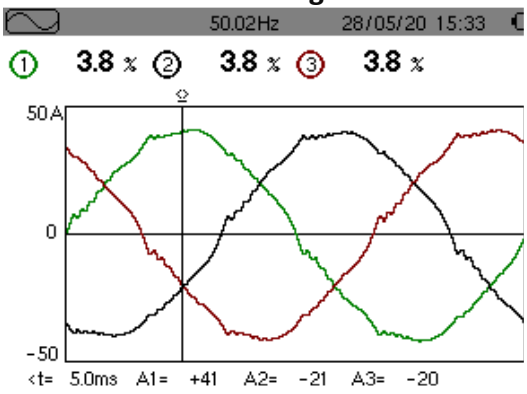
- **Compact Design:** The FINHRM5C sets a new standard for space efficiency, occupying minimal cabinet space while delivering robust performance.
- **Compliance Assurance:** Meeting stringent international standards such as IEEE-519 and IEC61000-3-12, coupled with UL approval for North America, ensures seamless integration and regulatory compliance.
- **Application Support:** With a capacity of up to 1400A, the FINHRM5C is engineered to accommodate a wide range of industrial applications, providing reliable harmonic mitigation across diverse operating conditions.
- **Temperature Resilience:** Utilizing Class H Materials (180°C), the filter exhibits exceptional durability in ambient environments up to 70°C, maintaining optimal performance even under strenuous conditions.

Performance Analysis

THD Current without and with FINHRM5C Harmonic Filtering



*THD Current Distortion from VFD - **No Filtering***

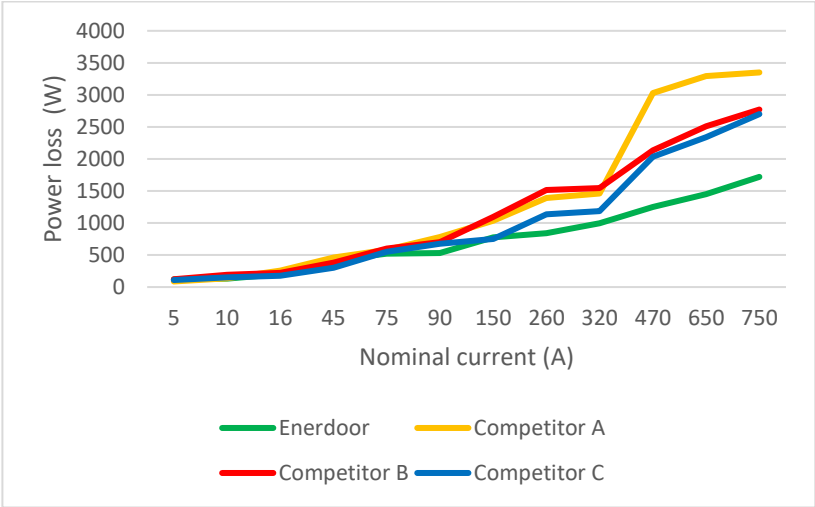


*THD Current Distortion from VFD – **with FINHRM5C***

Total Harmonic Distortion (THD) Reduction: The FINHRM5C achieves a remarkable reduction in current THD to <5%, effectively mitigating harmonic distortions originating from Variable Frequency Drives (VFDs) and other sources.

Compliance and Utility Savings: By ensuring conformity with international harmonic emission standards, end-users can avoid utility fines for poor power quality while safeguarding equipment from the adverse effects of high harmonic emissions.

Power Loss Comparison



Enerdoor HRM5C
vs
Three Major Competitors Filters

Comparative analysis reveals substantially lower power loss with the Enerdoor FINHRM5C compared to major competitor filters, resulting in reduced temperatures within the cabinet and lower energy costs.

Conclusion: The Enerdoor FINHRM5C stands as a testament to innovation and excellence in passive harmonic filtering technology. With its compact design, compliance assurance, and exceptional performance, the FINHRM5C redefines power quality optimization in industrial settings, offering tangible benefits in terms of efficiency, reliability, and cost savings.

20240131

ENERDOOR
Engineered by Finmotor

United States
Tel: (207) 210-6511
info@enerdoor.com

Europe
Tel: 0041 (0) 91 922 8060
info@enerdoor.ch

www.enerdoor.com