Four-in-One Filter Inductor for Four-Leg PCS

Product Design Reference | PMT-PR-2026-1112-12 | Rev A/0 | 2026-11-12

This reference reproduces published product information and its stated evidence status. Final project specifications require an approved drawing and sample acceptance record.

Published Parameters and Conditions

Parameter	Published value / interpretation
PCS topology	Four-leg A/B/C/N output filter
Reference power	125 kW class
Channels	Four channels in a potted aluminum housing
Inductance target per channel	80 µH ±5%; DC-bias and temperature conditions to be agreed
Current target	190 A RMS per channel
Frequency	16 kHz
Core and winding	Nanocrystalline cut core, 25-turn flat-wire winding
Insulation requirements	Class F; 3000 V AC / 60 s dielectric test target
Dimensions, DCR and temperature rise	Not published; define in the project drawing and validate on samples
Status	Development design and 3D render; not a released universal specification

Application and Validation

This development design combines A/B/C/N filter channels in one potted aluminum housing for a 125 kW-class four-leg PCS. Each channel has a design target of 80 µH ±5% at 190 A RMS and 16 kHz, using a nanocrystalline cut core and a 25-turn flat-wire winding. Class F insulation and a 3000 V AC / 60 s dielectric test are design requirements. The image is a 3D render; project samples must confirm the targets.

Published values are provided for application review. Design values, simulation results, rendered images and measured values retain the status stated above. Final specifications and acceptance criteria require an approved drawing and project-specific sample testing.

Please provide topology, voltage, RMS and peak current, switching frequency, cooling, insulation requirements and available mounting space.

Conformal coating and potting are available as optional processes for outdoor energy storage, charging-station and industrial magnetic components. Selection depends on moisture exposure, insulation, thermal paths, material compatibility and serviceability. Project-specific environmental protection requires an agreed process and sample validation.

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Project Review and Contact

Send voltage, topology, frequency, RMS and peak current, loaded inductance or turns ratio, thermal boundary, insulation and available mounting dimensions. Sample fees and delivery schedule are confirmed in the project quotation.

3rd Floor, Building 1, No. 22 Dongda Road, Dongkeng Community, Fenghuang Street, Guangming District, Shenzhen, Guangdong 518132, China

Phone: +86 13537658938 | Email: zyong@promagtech.cn | www.promagtech.com

Product page: https://www.promagtech.com/products/four-in-one-pcs-filter-inductor.html