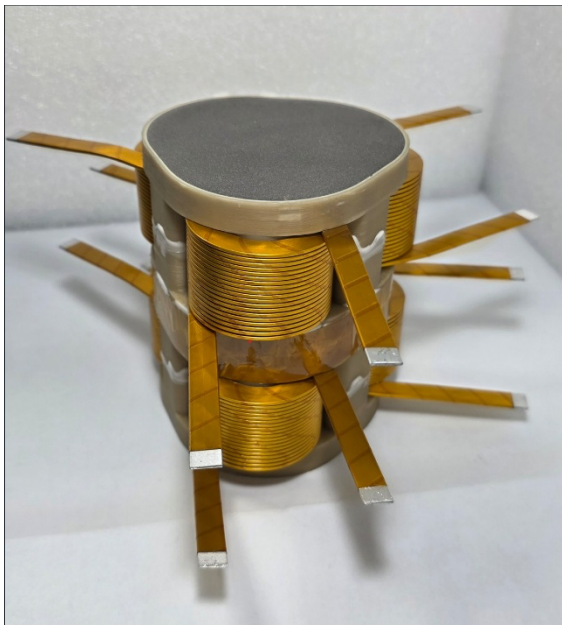
Inverse-Coupled

6-Phase PFC Choke for UPS Systems



Inverse-Coupled Inductor with flat Aluminium wire windings

Website :

www.ajka-trafos.com

The power converter is a bipolar boost with the inductor of both poles inversely coupled and isolating 800 VDC. Three more phases are added with each interleaved by 120 deg.

- **High Leakage Inductance**
- **Low Coupling coefficient (K) 0.1 ~ 0.2**
- **DCR T.B.D**
- **Frequency T.B.D**

Highly reliable CMI chokes for uninterruptible power supplies – developed to meet the requirements for availability and long-term stability in UPS systems.

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An inverse-coupled inductor choke is a magnetic component with two or more windings on a shared core, designed to enhance DC-DC converter performance by allowing magnetic flux to cancel out, reducing core saturation . It reduces ripple current and improves transient response without increasing output ripple, making it ideal for interleaved converters .

Applications

- **Multi-phase Converters: Used for voltage regulation in microprocessors .**
- **DC/DC Converters: Implemented in topologies like SEPIC, CUK, and Zeta to manage energy transfer .**
- **Power Supplies: Used in automotive and industrial power management for power factor correction .**

Key Features & Advantages

- **Reduced Core Saturation: Unlike common-mode chokes that cancel flux to prevent saturation, inverse-coupled inductors are designed to handle high DC current because the magnetic fields oppose each other .**
- **Improved Efficiency: Reduces peak-to-peak ripple current in multiphase converters, allowing for smaller, more efficient, and faster-transient designs .**
- **Compact Design: Integrates two inductors into one, saving board space .**
- **Low Coupling coefficient (K) 0.1 ~ 0.2**