

High Power Transformer for Megawatt Charging Systems

MARKET TRENDS

	MCS	
Power range	1 – 3.75 MW	
Voltage range	500 - 1250 V	
Maximum current	3000 A	

The new **MCS** standard enables **ultra-fast DC charging** for **heavy-duty electric vehicles**. It supports charging power levels of up to **3.75MW**, with voltages up to **1250V** and currents up to **3000A**, using a **liquid-cooled connector**.

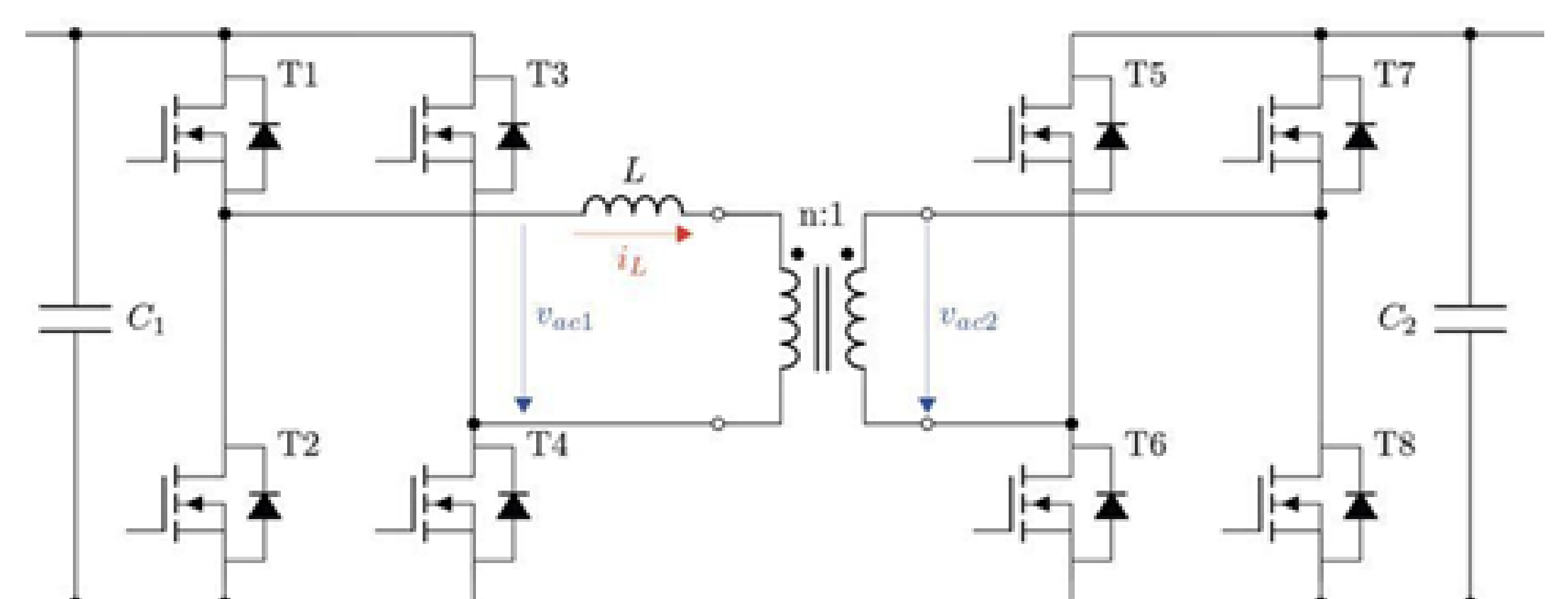
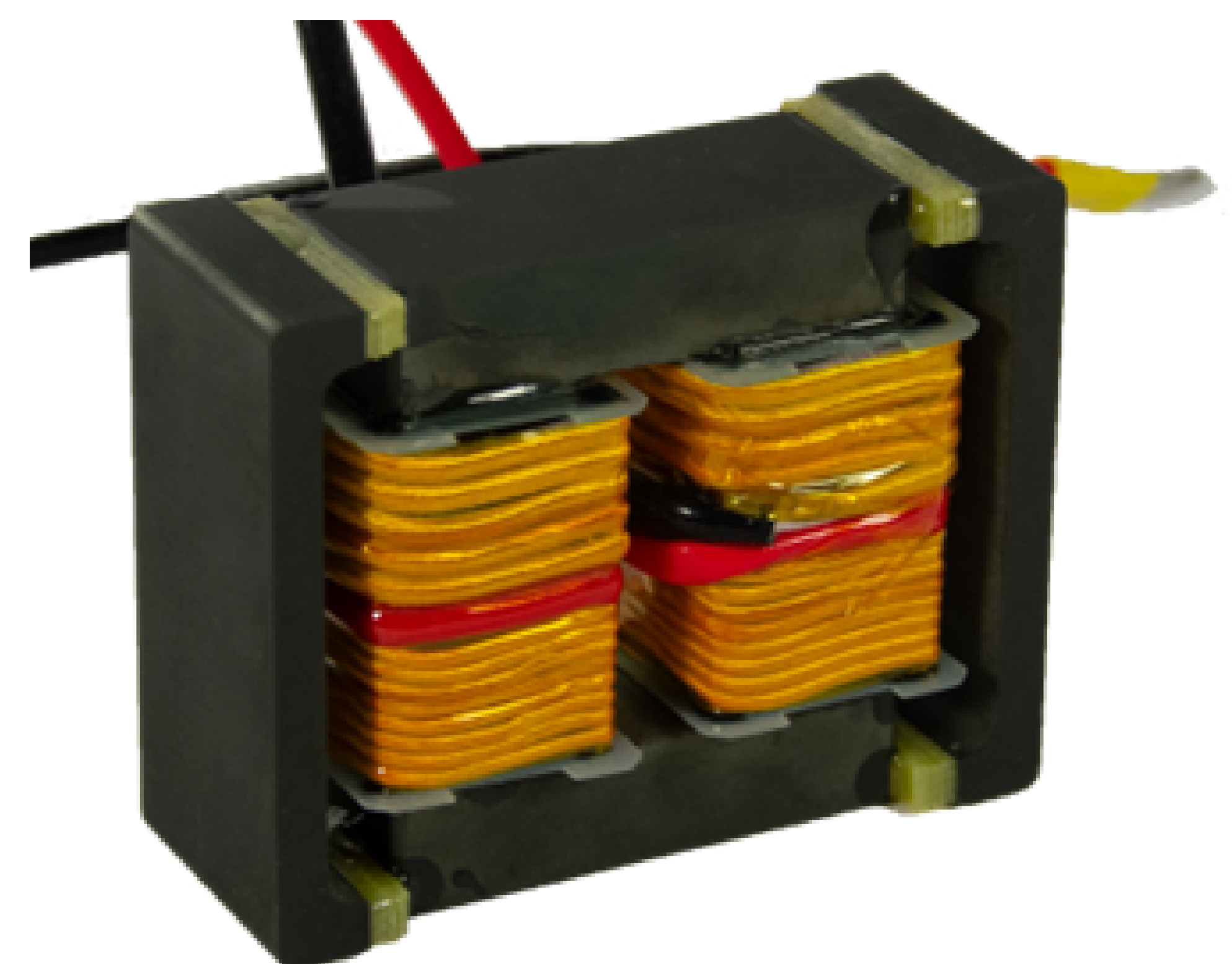
TYPICAL REQUIREMENTS

- High power density: 50kW to 100kW per stage.
- High input voltage range: 800Vdc to 1500Vdc.
- Wide output voltage range: 400Vdc to 1200Vdc.
- High voltage isolation: $\geq 2.5\text{--}5.0\text{kV}$.
- High operating efficiency: $\geq 98\%$.
- High operating frequency: 20kHz to 200kHz.
- Good thermal management.
- Low leakage inductance tolerance: $\pm 10\%$.

PRAX approach:

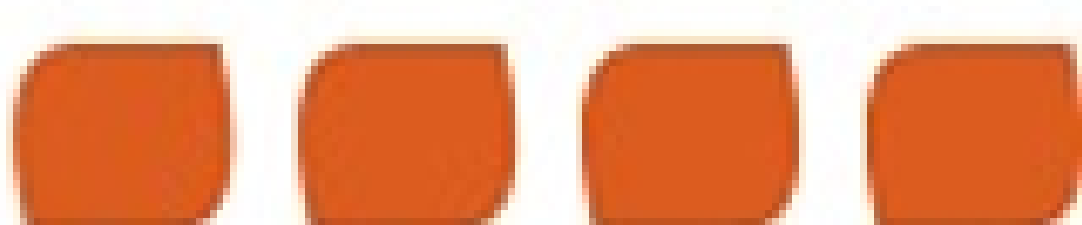
Transformer with integrated inductor

- Optimized for DAB topologies with air cooling.
- Shielded magnetic stray fields from leakage inductance.
- Customizable design for power levels: Up to 100kW.
- Working voltage: Up to 1500V.
- Operating frequency: Up to 200kHz.
- Hi-pot isolation: Up to 5000Vac.



Do you like this solution?

Please contact Heynen for distribution in BENELUX.

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