

New

TIGON-SST-37.5KW

SST Wireless Charging 1:1 FLAT COIL
FLAT TRANSFORMER



APPLICATIONS

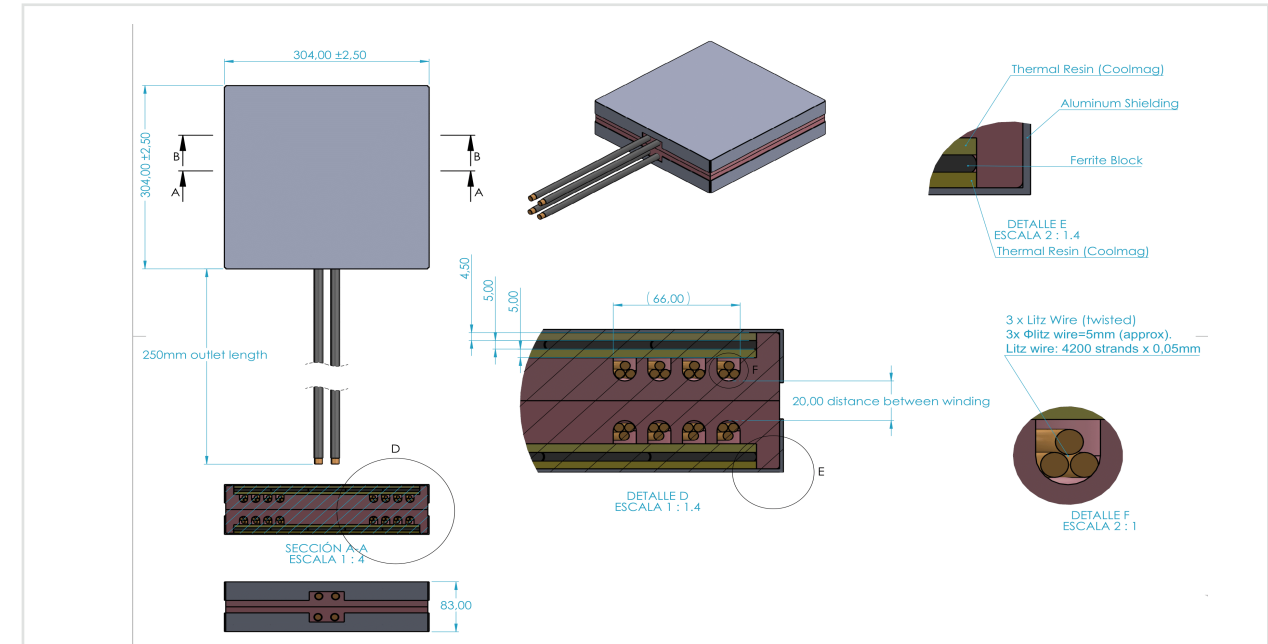
PREMO is developing customized Solid State Transformers will be the next system widely used in power electronics. With super-high isolation capability (>30kV), it allows safe operation on MV networks and flexibility in terms of setup and tuning of the converter.

01 FEATURES

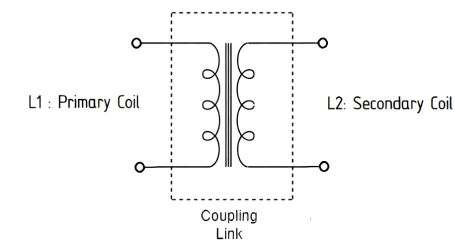
- › WPT assembly technologies, with Coolmag (resin compound dissipate heat) integrated. Flat design with low profile coils and ferrite cores sets.
- › SST Wireless Charging FLAT COIL 1:1
- › Design Concept: Aluminum in shape L and plane of the ferrite cores.
- › 85kHz Operating frequency.
- › Size 305 x 305 x 85 mm MAX.
- › Winding Circular & Ferrite Core Flexible
- › Aluminum Shielding.
- › Temperature from -40°C to 85°C.
- › Compound Resin Thermal (Coolmag).
- › IP67 grade Waterproof
- › High Mechanical requirements.

02 SPECIFICATIONS

DIMENSIONS (mm)



ELECTRICAL DIAGRAM



ELECTRICAL PARAMETERS

PARAMETER	VALUE	UNITS
Single Litz Wire (strand diameter)	0.05	mm
Number of strands per bundle	4200	-
Number of bundles per conductor	3	-
External conductor diameter	12,79	mm
Total number of single litz wires (strands)	12600	-
Number of winding turns	4	-
Primary and secondary self-inductance (L1-L2)	6.5	µH
Mutual inductance (M)	3.65	µH

New

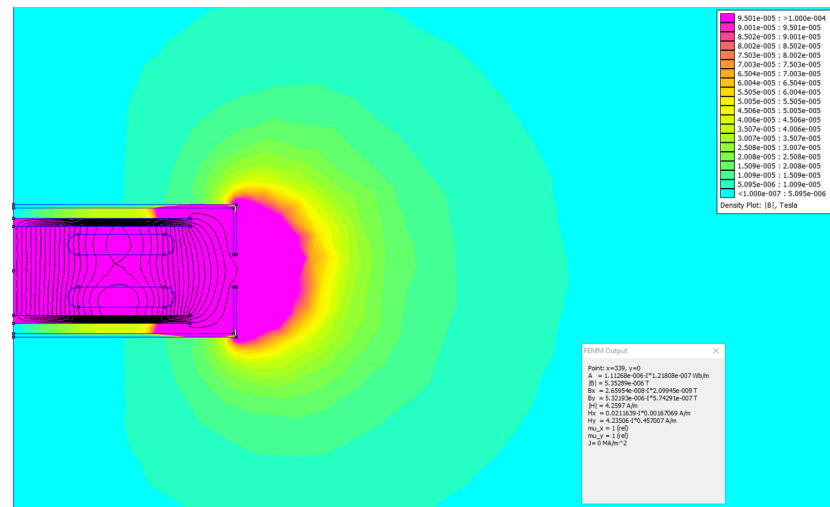
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03 SIMULATION-Electromagnetic Field L1:L2 (Primary Coil vs Secondary Coil)



Flux density 20cm away from IPT is OK!

FLUX DENSITY	LOSSES	MAX I PRIMARY (PERMANENT)	MAX I SECONDARY (PERMANENT)	MAX VC PRIMARY (PERMANENT)	MAX VC SECONDARY (PERMANENT)
~ 5 μ T	~ 0.6%	~ 135A	~ 100A	~ 3100V	~ 2150V

04 APPLICATION

RESONANT TANK

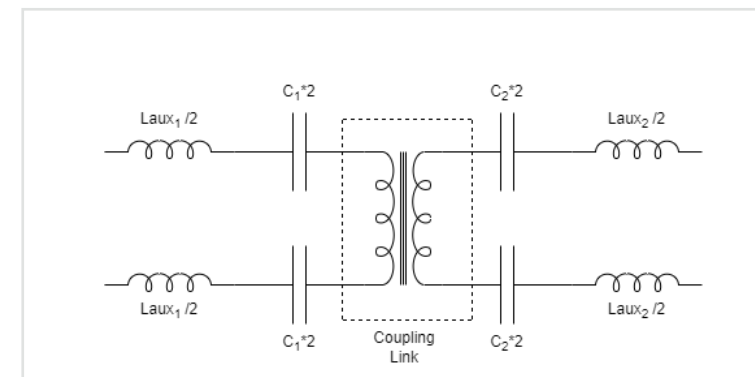
PARAMETER

Primary capacitor (C1)

Secondary capacitor (C2)

Primary additional inductor (Laux1)

Primary additional inductor (Laux2)



Complete Setup: Converters DC/DC, AC/DC, Resonant Chokes, Resonant tank- Capacitors, SST.