



Press release

New from SMP:

Inductors and all-mode filters now for frequencies up to 5 GHz

Graben-Neudorf, Germany, July 2023. SMP Sintermetalle Prometheus GmbH & Co KG (SMP) has extended the frequency range for inductive components and filter systems. Filter damping in all-mode products now has an effective range of up to 5 GHz.

SMP manufactures and develops EMC filter systems and inductive suppression components based on All Mode Technology (AM), a registered trademark of SMP. AM technology enables simultaneous filtering of both common mode and differential mode disturbances. Consequently, the number of filter components needed is reduced by about 50 percent. The High Frequency Composite Materials (HFCM) developed and produced in-house by SMP enable frequency stabilities up to 5 GHz, very low losses, and saturation induction of up to 2 Tesla. For noise-sensitive applications, SMP offers magnetostriction-free components.

The inductors and AM filters are maintenance-free, lightweight and compact. They have a minimum stray field and can be used for currents up to 3000 Ampere. The components are available in sizes from 19 mm to 300 mm and weights from 0.05 kg to 130 kg. For harsh environmental conditions, they can be realized in temperature class H (180°C) according to DIN EN 60085 in combination with fire protection class HL3 according to DIN EN 45545. Protection classes range from IP00 to IP67 according to DIN EN 60529. This means that the inductors and filters can be used in PD4-level environmental conditions, both inside and outside a converter or electric system. Cooling methods include air cooling, water cooling and free convection. All SMP products are RoHS and REACH compliant, as well as CE, EAC and UKCA certified and UL listed.

The components are used in power electronics applications in drive technology, robotics, automotive, aerospace, railway engineering, medical engineering, renewable energies and energy conversion.



Headquartered in Germany, SMP produces and develops EMC filter systems, inductive suppression components, mid-frequency transformers and cores. The soft magnetic HFCM materials used for the components are developed specially for each application and manufactured in-house, guaranteeing high availability. The products are distributed worldwide, with an export rate above 50 percent.

Summary:

- Frequencies: DC up to 5 GHz
- HFCM materials
- AM technology
- Currents: up to 3000 A
- Saturation induction: up to 2 T
- Temperature class: H (180°C) according to DIN EN 60085
- Protection class: IP00 to IP67 according to DIN EN 60529
- Fire protection: HL3 according to DIN EN 45545
- Cooling methods: free convection, air cooling, water cooling

Images:

Pic 1: AM (All Mode) sine-wave filters from SMP in various sizes

Pic 2: Choke from SMP with protective coating conforming to IP66

Company information:

SMP Sintermetalle Prometheus GmbH & Co KG develops and manufactures inductive components, filter systems and magnetically soft materials mouldings. The products are marketed worldwide with an export quota of over 50 percent. The company was founded in 1982 by material science expert Dr.-Ing. Vasilios Gemenetzis for the purpose of manufacturing sintered metals in a process he had developed himself. Since 1994, SMP has shifted its focus to manufacturing electrical components. Material science remains an essential factor in the development of ultra-low loss inductive components: The powder composite materials used for the components are specially developed and produced for each application. In the course of the years, the family-owned company has become one of the key global suppliers of magnetically soft materials for industrial applications. In order to be able to control the full production cycle, in 2008 a further factory was founded for the proprietary development and manufacture of powder composite materials. In 2011, SMP expanded its production capabilities with an injection moulding facility, so that the company



itself can develop and manufacture coil carriers and insulation systems for the components.

With the addition of a EMC laboratory, SMP carries out measurements of both conducted and radiated emissions.

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TPR International would be grateful for a sample copy of the publication with this article.