



## EMC filters

Customer-specific filters  
Sine-wave output filters for traction applications  
Rated current 200 to 500 A

**Series/Type:**            **B84143-TRAC**  
**Date:**                     January 2006

© EPCOS AG 2006. Reproduction, publication and dissemination of this data sheet and the information contained therein without EPCOS' prior express consent is prohibited.

**Sine-wave output filters for traction applications****Sine-wave output filters for 3-phase systems****Rated voltage 400 to 2100 V AC****Rated current 200 to 500 A****Construction**

- 3-line output filter
- Stainless-steel frame for underfloor installation (customized matching to vehicle)

**Features**

- Turns squarewave output voltage of converter into sinusoidal voltage on filter output (voltage between phases)
- Mechanical design optimized by finite element analysis
- Minimized noise level and transmission of structure-borne noise
- Designed to traction requirements
- Verification of static and dynamic loading cases and fatigue strength upon request
- Radial-flow fan for forced cooling with drop-down speed

**Applications**

- Traction with central onboard power supply

**Terminals**

- Terminal board with Cu rails for connecting cable lugs
- Optional terminals to customer specification

**Marking**

Marking on component:

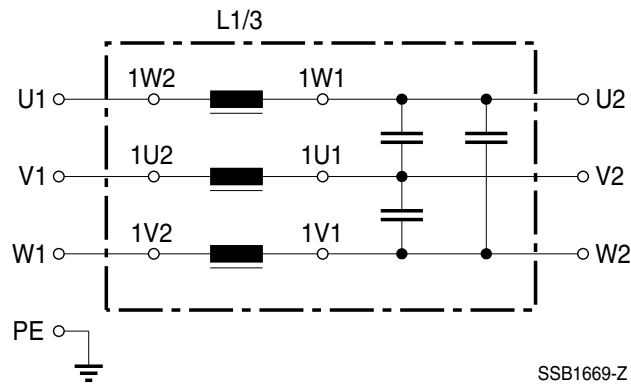
Manufacturer's logo, ordering code, serial number, rated voltage, rated current, ambient temperature, frequency, inductance, capacitance, weight, volume rate of air flow

Minimum data on packaging:

Delivery note for each filter



Typical circuit diagram




Technical data and measuring conditions

Rated voltage $V_R$	At 40/50 Hz
Rated current $I_R$	Referred to 40 °C ambient temperature
Test voltage $V_{test}$	According to standards and/or customer-specific requirements
Overload capability (thermal)	1.5 · $I_R$ for 3 min per hour or 2.5 · $I_R$ for 30 s per hour
Rated power at filter output	200 ... 1000 kVA
Ambient temperature $T_A$	-25 °C ... +40 °C
Climatic category (IEC 60721)	5K2
Pollution degree (IEC 60664-1)	3

Characteristics and ordering codes

$V_R$ AC V	$I_R$ A	Approx. weight kg	Ordering code
400 ... 2100	200 ... 500	400 ... 1100	upon request

### Important information

Please read all safety and warning notes carefully before installing the EMC filter and putting it into operation (see ) . The same applies to the warning signs on the filter. Please ensure that the signs are not removed nor their legibility impaired by external influences.

Death, serious bodily injury and substantial material damage to equipment may occur if the appropriate safety measures are not carried out or the warnings in the text are not observed.

### Using according to the terms

The EMC filters may be used only for their intended application within the specified values in low-voltage networks in compliance with the instructions given in the data sheets and the data book. The conditions at the place of application must comply with all specifications for the filter used.

### Warnings

- It shall be ensured that only qualified persons (electricity specialists) are engaged on work such as planning, assembly, installation, operation, repair and maintenance. They must be provided with the corresponding documentation.
- Danger of electric shock. EMC filters contain components that store an electric charge. Dangerous voltages can continue to exist at the filter terminals for longer than five minutes even after the power has been switched off.
- The protective earth connections shall be the first to be made when the EMC filter is installed and the last to be disconnected. Depending on the magnitude of the leakage currents, the particular specifications for making the protective-earth connection must be observed.
- Impermissible overloading of the EMC filter, such as impermissible voltages at higher frequencies that may cause resonances etc. can lead to destruction of the filter housing.
- EMC filters must be protected in the application against impermissible exceeding of the rated currents by suitable overcurrent protective.

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as “hazardous”)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.epcos.com/material](http://www.epcos.com/material)). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.  
We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the “General Terms of Delivery for Products and Services in the Electrical Industry” published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, EPCOS-Jones, Baoke, CeraDiode, CSSP, MLSC, PhaseCap, PhaseMod, SIFI, SIKOREL, SilverCap, SIMID, SIOV, SIP5D, SIP5K, UltraCap, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.epcos.com/trademarks](http://www.epcos.com/trademarks).