



EMC filters

2-line filters
for converters and power electronics
Rated current 8 to 25 A

Series/Type: **B84142B*R000**
Date: January 2006

Power line filters for 1-phase systems
Rated voltage 250 V DC/AC, 50/60 Hz
Rated current 8 to 25 A
Construction

- 2-line filters
- Metal case


Features

- Very high insertion loss due to two-stage construction
- Optimized leakage current
- Easy to install
- Degree of protection IP 20¹⁾
- Optimized for long motor cables and operation under full load
- Design complies with UL 1283, CSA C22.2 No.8
- ENEC10 approval 

Applications

- Frequency converters for motor drives, e.g.
 - elevators
 - pumps
 - conveyor systems
 - HVAC systems (heating, ventilation and air conditioning)
- Power supplies
- DC applications

Terminals

- Finger-safe terminal blocks

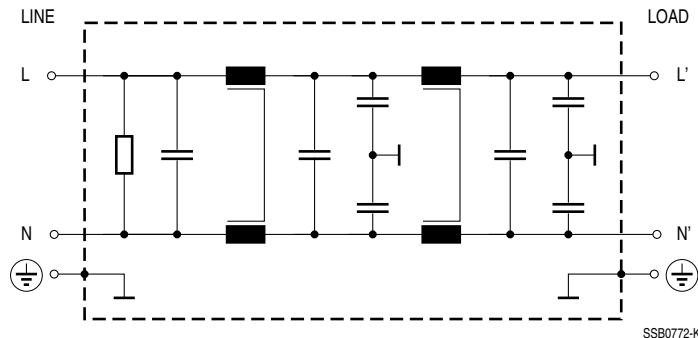
Marking
Marking on component:

Manufacturer's logo, ordering code, rated voltage, rated current, rated temperature, climatic category, date code

Minimum marking on packaging:

Manufacturer's logo, ordering code

1) To IEC 60529

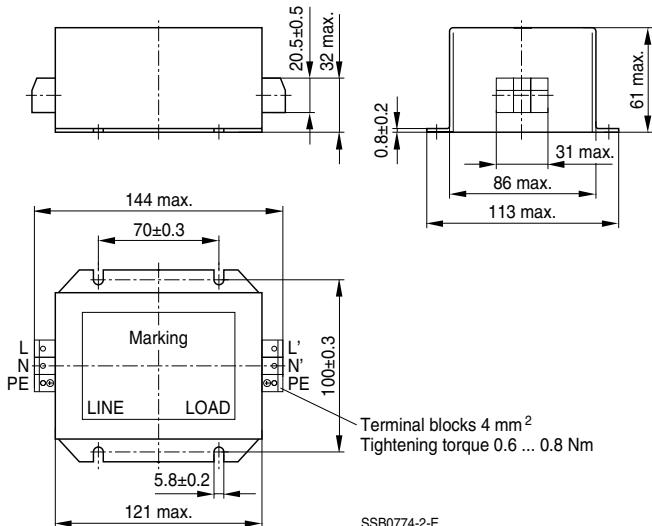
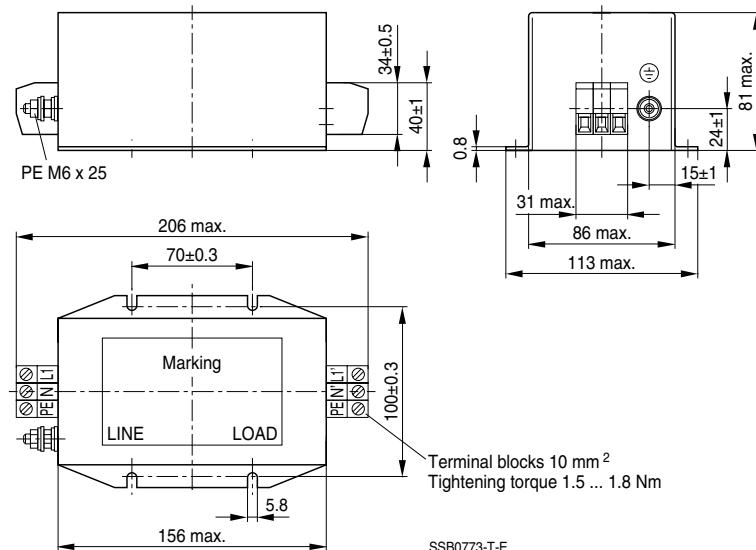
Typical circuit diagram

Technical data and measuring conditions

| | |
|---------------------------------|----------------------------------------------------------------------------|
| Rated voltage V_R | 250 V DC/AC, 50/60 Hz |
| Rated current I_R | Referred to 40 °C ambient temperature |
| Test voltage V_{test} | 1770 V DC, 2 s (line/line) 2700 V DC, 2 s (lines/case) |
| Overload capability (thermal) | $1.5 \cdot I_R$ for 3 min per hour or $2.5 \cdot I_R$ for 30 s per hour |
| Leakage current I_{leak} | At 250 V AC, 50 Hz |
| Climatic category (IEC 60068-1) | 25/100/21 (−25 °C/+100 °C/21 days damp heat test) |
| Approvals | EN 133200 |

Characteristics and ordering codes

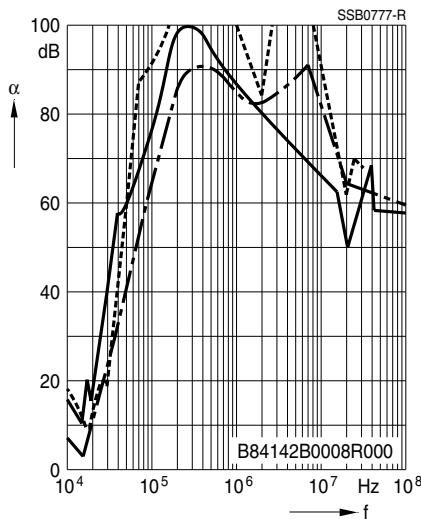
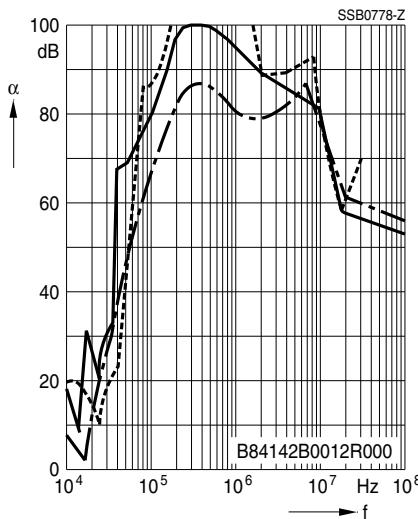
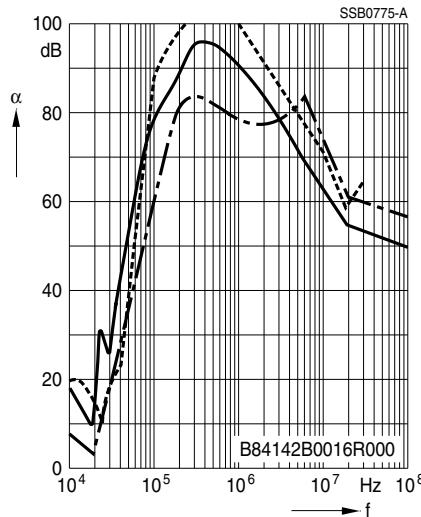
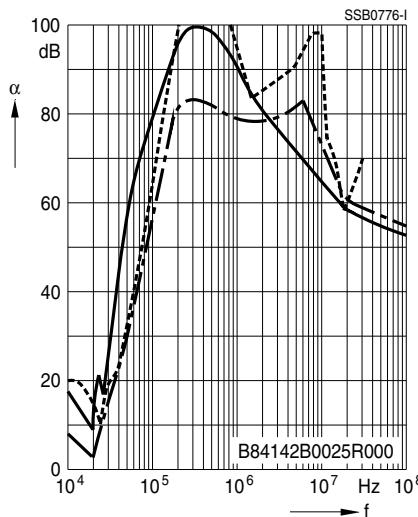
| V_R AC/DC V | I_R A | Terminal cross section mm ² | I_{leak} mA | R_{typ} mΩ | Approx. weight kg | Ordering code | Approvals |
|---------------------|------------|----------------------------------------------|------------------|-----------------|-------------------------|-----------------|-----------|
| 250 | 8 | 4 | < 3.5 | 42 | 1.35 | B84142B0008R000 | × |
| | 12 | 4 | < 3.5 | 30 | 1.45 | B84142B0012R000 | × |
| | 16 | 4 | < 3.5 | 21 | 1.45 | B84142B0016R000 | × |
| | 25 | 10 | < 3.5 | 9 | 3.7 | B84142B0025R000 | × |

× = approval granted

Dimensional drawings
B84142B0008R000 ... B84142B0016R000 (8 ... 16 A)

B84142B0025R000 (25 A)


Insertion loss (typical values at $Z = 50 \Omega$)

- unsymmetrical, adjacent branches terminated
- - - common mode, all branches in parallel (asymmetrical)
- - - differential mode (symmetrical)

Filters for 8 A

Filters for 12 A

Filters for 16 A

Filters for 25 A


EMC filters

Cautions and warnings

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.

EMC filters

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