EMC filters

2-line filters
SIFI-D for high insertion loss
Rated current 1 to 10 A

Series/Type: **B84114D**
Date: January 2006

Power line filters for 1-phase systems
Rated voltage 250 V DC/AC, 50/60 Hz
Rated current 1 to 10 A

Construction

- 2-line filters
- Metal case
- Polyurethane potting (UL 94 V-0)

Features

- Compact design
- Optimized leakage current
- Cost-optimized construction
- Also for assembly on top-hat rails
- ENEC10, UL and CSA approval

Applications

- Switch-mode power supplies in
  - industrial electronics
  - telecommunications
  - data systems
  - medical equipment
- DC applications

Case styles and terminal styles

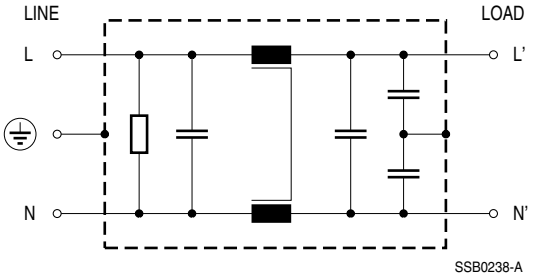
Case style A	Tab connectors on face ends, lateral fixing lugs. Particularly suitable for mounting on a shielding wall.
Case style B	Tab connectors on face ends, fixing lugs on face ends.
Case style K	IEC connector as per IEC 60320 C 14 on line side, tab connectors on load side, mounting holes with metric thread.
Case style L	Litz wires on face ends, fixing lugs on face ends

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

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}	1414 V DC, 2 s (line/line) 2700 V DC, 2 s (lines/case)
Leakage current I_{leak}	At 230 V AC, 50 Hz
Climatic category (IEC 60068-1)	25/085/21 (–25 °C/+85 °C/21 days damp heat test)
Approvals	EN 133200, UL 1283, CSA C22.2 No.8

Characteristics and ordering codes

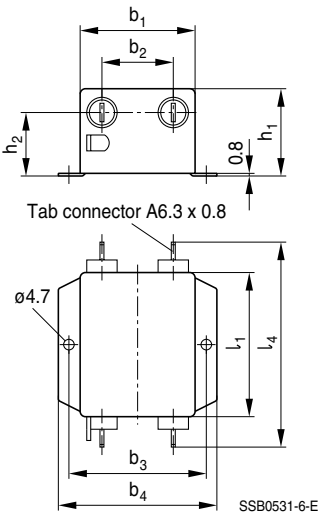
I_R A	C_R	L_R mH	I_{leak} mA	Case style	Approx. weight g	Ordering code	Mounting plate for top-hat rail (ordering code)
V_R = 250 V DC/AC, 50/60 Hz							
1	2 × 0.47 µF (X2) + 2 × 4700 pF (Y2)	2 × 5.6	< 0.5	A	150	B84114D0000A010	—
				B	150	B84114D0000B010	C62122A0132B092
				K	210	B84114D0000K010	—
				L	150	B84114D0000L010	—
2	2 × 0.47 µF (X2) + 2 × 4700 pF (Y2)	2 × 5.6	< 0.5	A	150	B84114D0000A020	—
				B	150	B84114D0000B020	C62122A0132B092
				L	150	B84114D0000L020	—
3	2 × 0.47 µF (X2) + 2 × 4700 pF (Y2)	2 × 5.6	< 0.5	A	150	B84114D0000A030	—
				B	150	B84114D0000B030	C62122A0132B092
				K	210	B84114D0000K030	—
				L	150	B84114D0000L030	—
6	2 × 0.47 µF (X2) + 2 × 4700 pF (Y2)	2 × 4.7	< 0.5	A	230	B84114D0000A060	—
				B	230	B84114D0000B060	C62122A0132B093
				K	290	B84114D0000K060	—
				L	230	B84114D0000L060	—
10	2 × 0.68 µF (X2) + 2 × 4700 pF (Y2)	2 × 4.7	< 0.5	A	420	B84114D0000A110	—
				B	420	B84114D0000B110	C62122A0132B094
				L	420	B84114D0000L110	—

Case styles and dimensions

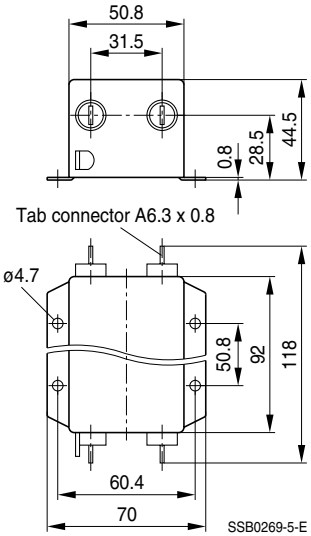
Case style	I_R A	Dimensions (mm) b_1	b_2	b_3	b_4	l_1	l_2	l_3	l_4	h_1	h_2	Litz mm²	Style 1015
A	1	50.8	31.5	60.4	70	63.5	—	—	89.5	28.6	20	—	—
B	1	50.8	31.5	—	—	63.5	74.7	84.5	89.5	28.6	20	—	—
K	1	50.8	—	—	—	79.5	—	—	—	32	—	—	—
L	1	50.8	—	—	—	63.5	74.7	84.5	—	28.6	—	0.82	AWG18
A	2	50.8	31.5	60.4	70	63.5	—	—	89.5	28.6	20	—	—
B	2	50.8	31.5	—	—	63.5	74.7	84.5	89.5	28.6	20	—	—
L	2	50.8	—	—	—	63.5	74.7	84.5	—	28.6	—	0.82	AWG18
A	3	50.8	31.5	60.4	70	63.5	—	—	89.5	28.6	20	—	—
B	3	50.8	31.5	—	—	63.5	74.7	84.5	89.5	28.6	20	—	—
K	3	50.8	—	—	—	79.5	—	—	—	32	—	—	—
L	3	50.8	—	—	—	63.5	74.7	84.5	—	28.6	—	0.82	AWG18
A	6	50.8	31.5	60.4	70	75.5	—	—	101.5	31.8	20	—	—
B	6	50.8	31.5	—	—	75.5	87.1	97	101.5	31.8	20	—	—
K	6	50.8	—	—	—	92.5	—	—	—	32	—	—	—
L	6	50.8	—	—	—	75.5	87.1	97	—	31.8	—	0.82	AWG18
A	10	See dimensional drawing											
B	10	See dimensional drawing											
L	10	50.8	—	—	—	92	103.1	113	—	44.5	—	1.35	AWG16

Case styles A

1 … 6 A (B84114D0000A010 … A060)

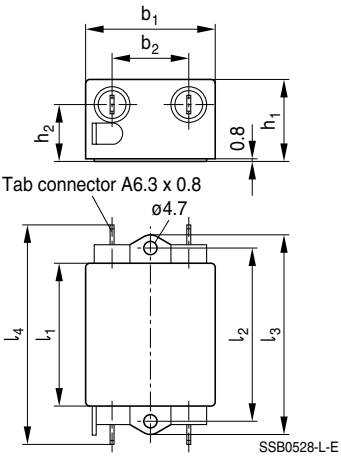


10 A (B84114D0000A110)

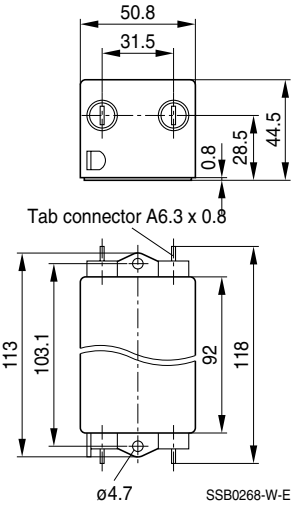


Case styles B

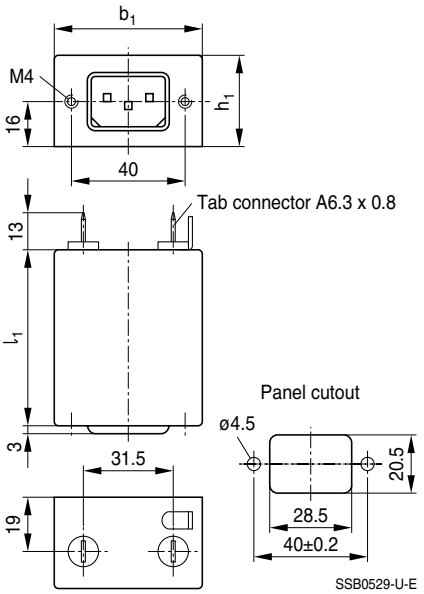
1 … 6 A (B84114D0000B010 … B060)



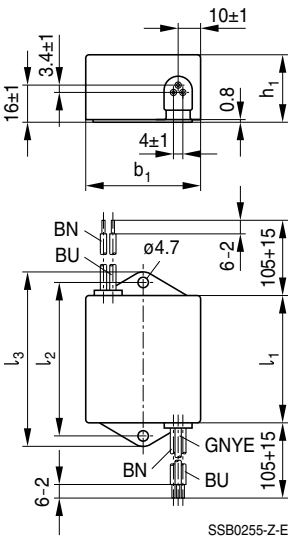
10 A (B84114D0000B110)



Case style K



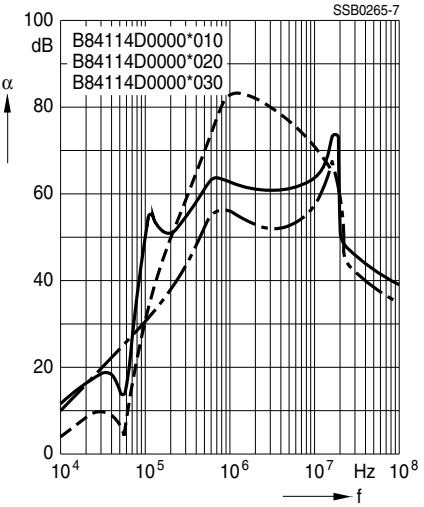
Case style L



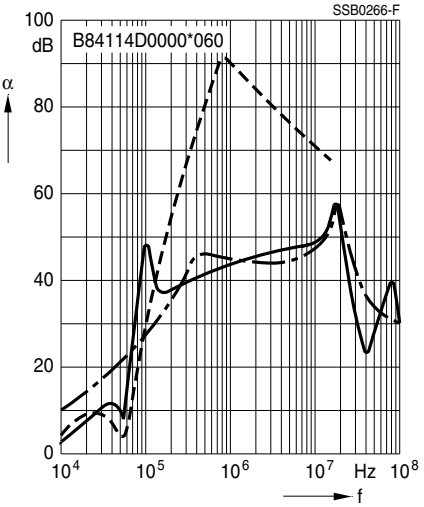
Insertion loss (typical values at Z = 50 Ω)

——————— unsymmetrical, adjacent branches terminated
– · – · – · – · – common mode, all branches in parallel (asymmetrical)
– – – – – – – – differential mode (symmetrical)

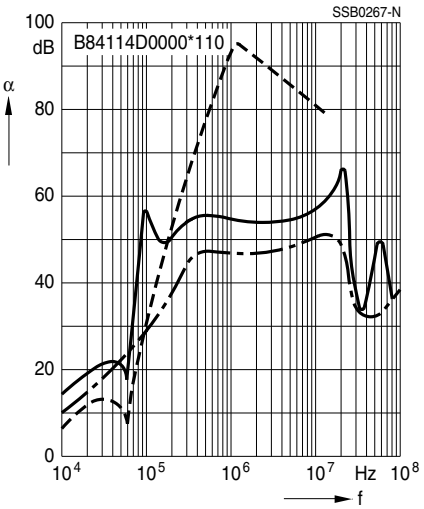
Filters for 1, 2 and 3 A



Filters for 6 A



Filters for 10 A



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.

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