



2-line filters

SIFI-H for very high insertion loss

250 V, 50/60 Hz, 3 ... 36 A

Ordering code:	B84113H0000B030 ... G136
Date:	2006-10-10
Version:	02

Construction

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

Features

- Low leakage current
- Compact design
- Cost optimized construction
- ENEC-, UL- and CUL-approval



Applications

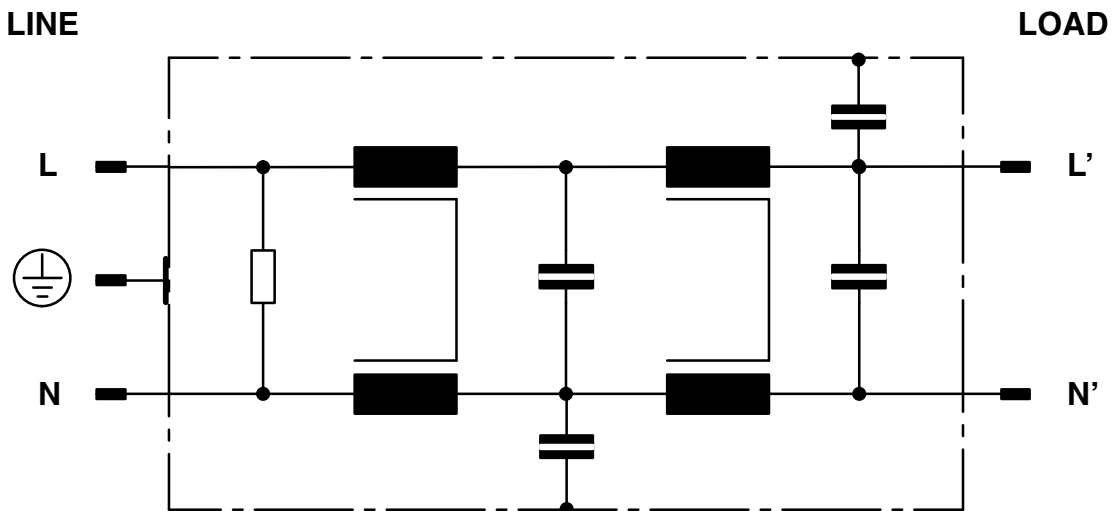
- Switch-mode power supplies in
 - industrial electronics
 - telecommunications
 - data systems
 - medical engineering

Terminals

- Case style B: Tab connectors for filters up to 16A
Mounting tabs on face ends
- Case style G: Screw thread M5 for filters from 20A to 36A




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

Typical circuit diagram

Technical data and measuring conditions

Rated voltage	U_R	250	V AC
Rated frequency	f_R	50/60	Hz
Test voltage line to line for 2 s	U_{test}	1414	V DC
Test voltage line to case for 2 s	U_{test}	2700	V DC
Rated temperature	T_R	40	°C
Overload capability (thermal) for 3 min per hour or for 30 s per hour		1.5 x I_R 2.5 x I_R	
Climatic category (IEC 60068-1)		25/100/21	

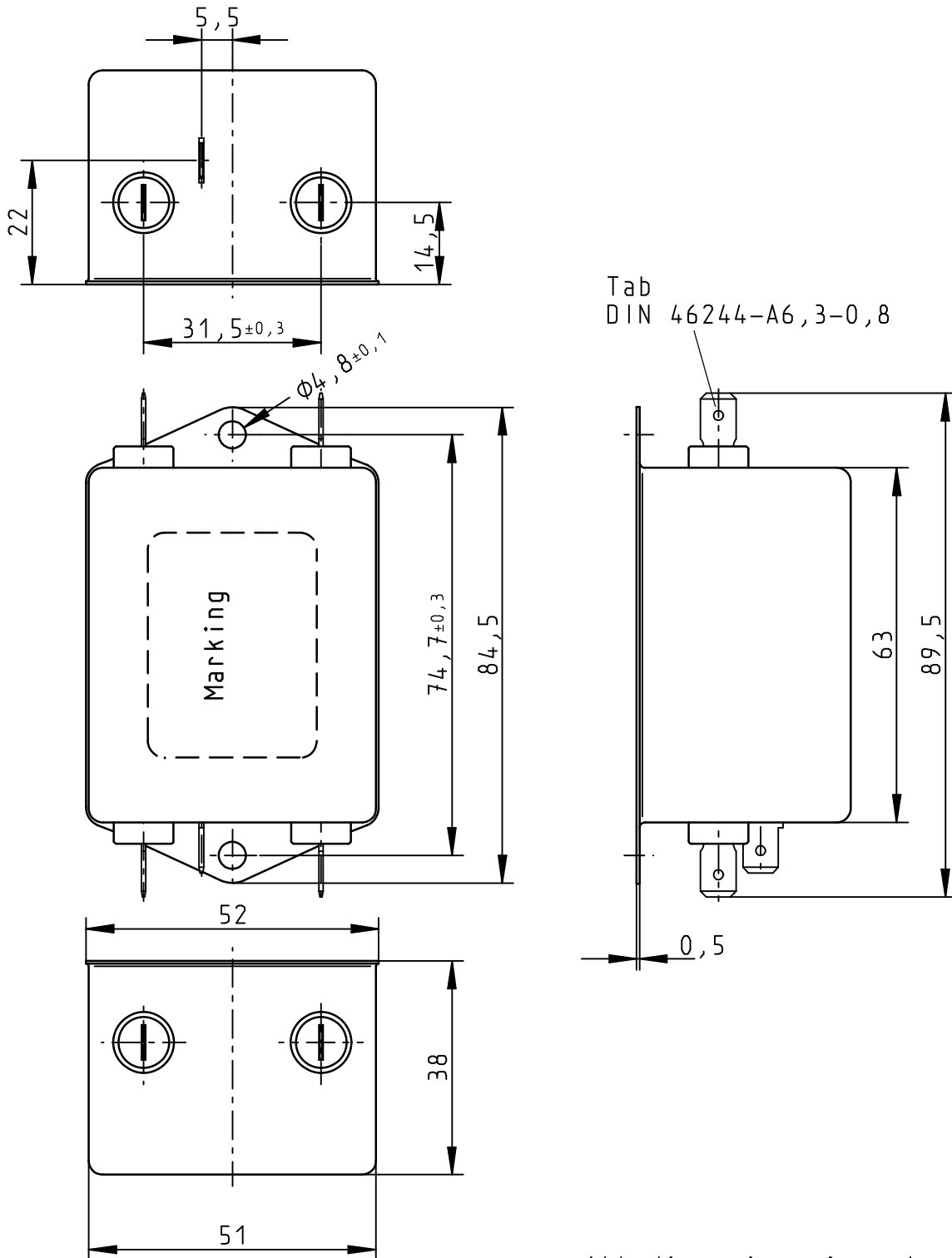
Characteristics and ordering codes

I _R A	C _R	L _R mH	I _{leak} ²⁾ mA	Case style	Approx. weight g	Ordering code	Approvals		
									
3	2 x 1,0 µF (X2) + 2 x 4700 pF (Y2)	4 x 5,9	< 0,5	1	250	B84113H0000B030	X	X	X
6	2 x 1,0 µF (X2) + 2 x 4700 pF (Y2)	4 x 3,6	< 0,5	1	260	B84113H0000B060	X	X	X
10	2 x 1,5 µF (X2) + 2 x 4700 pF (Y2)	4 x 3,9	< 0,5	2	420	B84113H0000B110	X	X	X
16	2 x 1,5 µF (X2) + 2 x 4700 pF (Y2)	4 x 1,3	< 0,5	2	440	B84113H0000B116	X	X	X
20	2 x 2,2 µF (X2) + 2 x 22 nF (Y2)	4 x 1,2	< 3,5	3	860	B84113H0000G120	X	X	X
25	2 x 2,2 µF (X2) + 2 x 22 nF (Y2)	4 x 0,8	< 3,5	3	870	B84113H0000G125	X	X	X
36	2 x 3,3 µF (X2) + 2 x 22 nF (Y2)	4 x 0,5	< 3,5	3	870	B84113H0000G136	X	X	X

X = approval granted

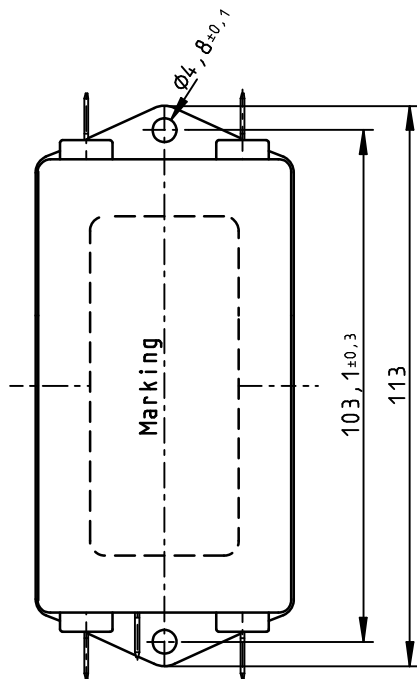
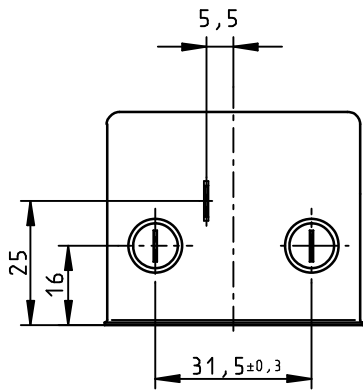
2) maximum voltage = U_R; frequency = 50 Hz without harmonics; tolerance of capacitors –20%/ 0%; worst case positioning of the components

Dimensional drawing (case style 1)
 B84113H0000B030...B84113H0000B060

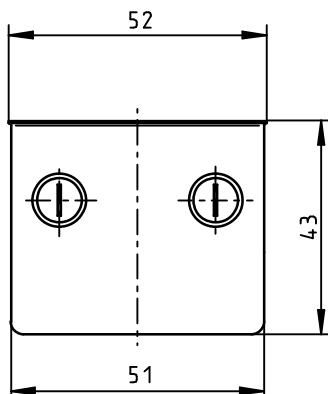
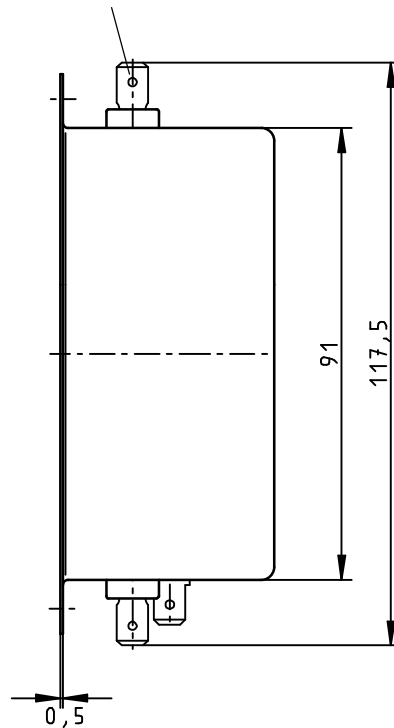


All dimensions in mm!

Dimensional drawing (case style 2)
B84113H0000B110...B84113H0000B116

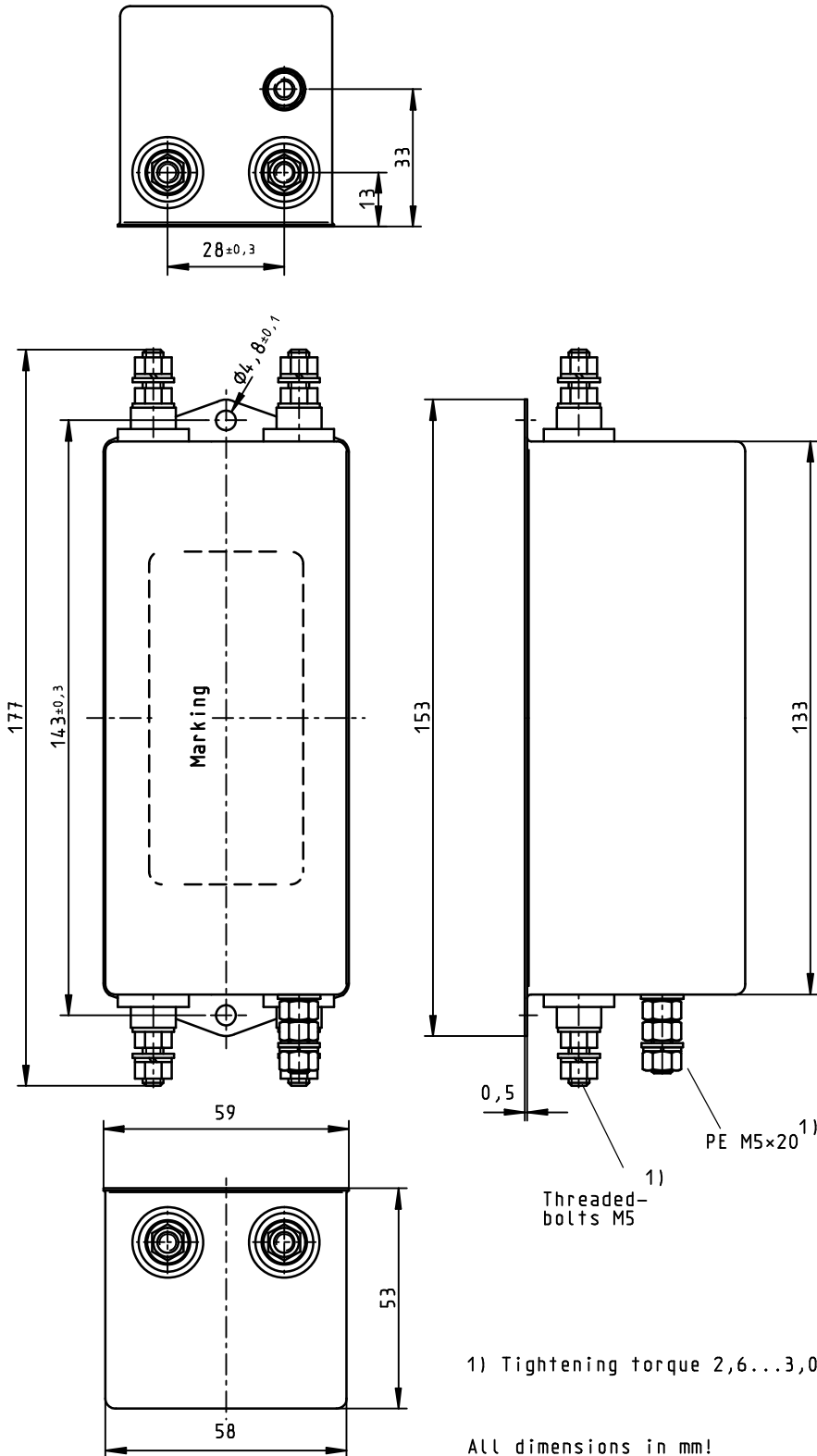


Tab
DIN 46244-A6,3-0,8



All dimensions in mm!

Dimensional drawing (case style 3)
B84113H0000G120...B84113H0000G136



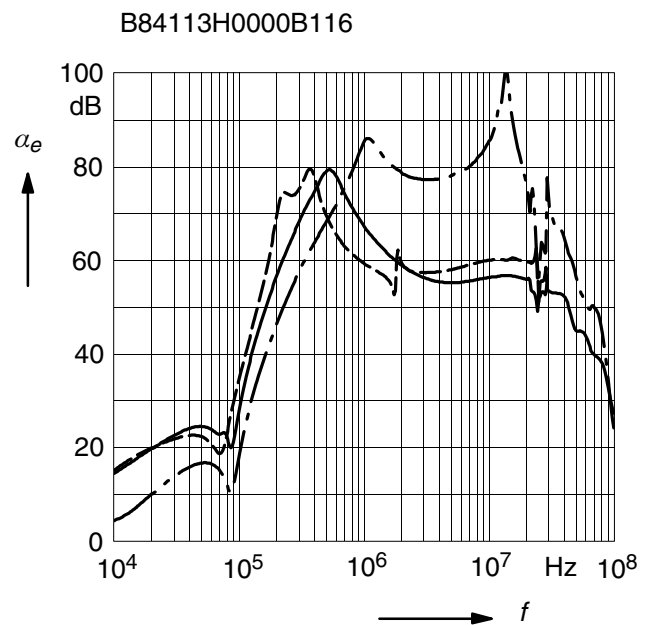
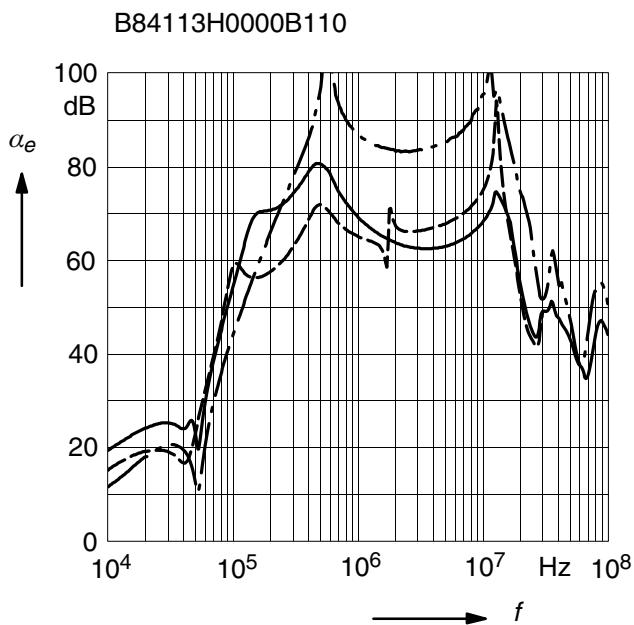
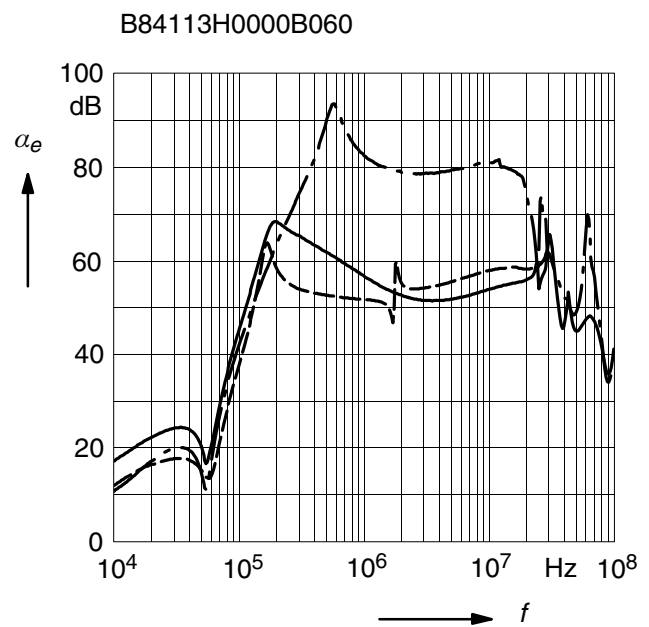
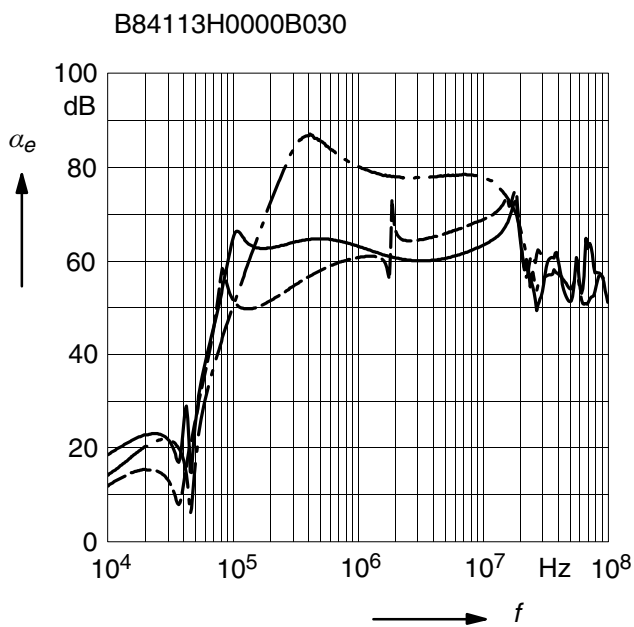
1) Tightening torque 2,6...3,0 Nm!

All dimensions in mm!

SIFI-H for very high insertion loss

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

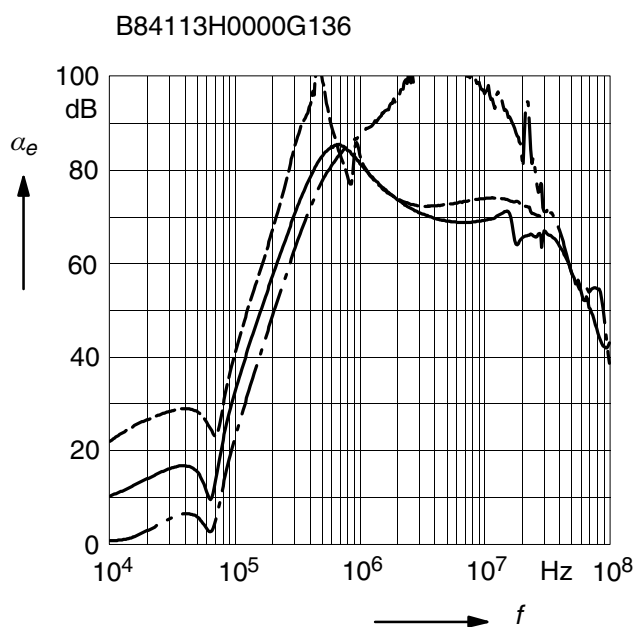
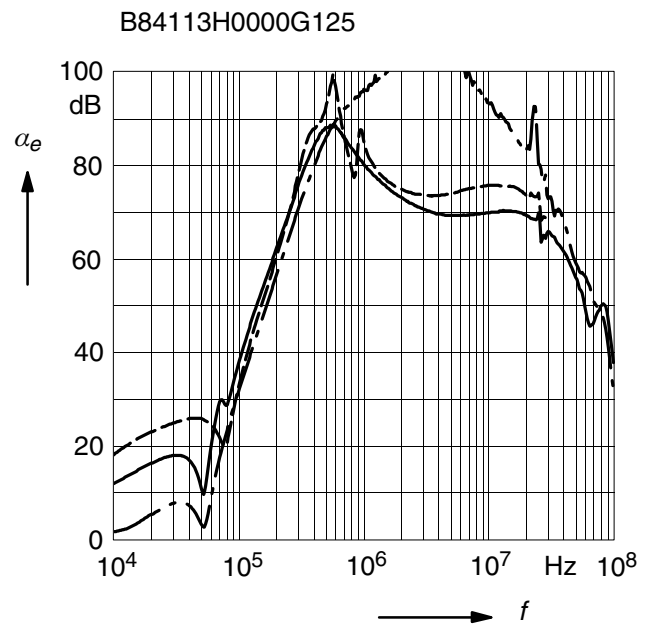
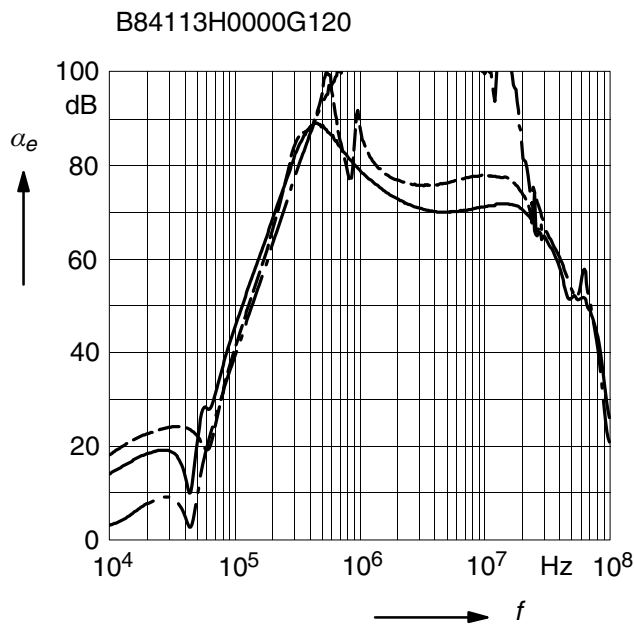
- unsymmetrical, adjacent branches terminated
- · - · asymmetrical, all branches in parallel (common mode)
- - - symmetrical (differential mode)



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Caution and warnings

- Please note the advices in our data book “EMC Filters” (latest edition); attention should be paid to the chapter “General safety notes”.
- 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 with circuits able to cause resonances, impermissible voltages at higher frequencies etc. can lead to bodily injury and death as well as cause substantial material damages (e.g. destruction of the filter housing).
- EMC filters must be protected in the application against impermissible exceeding of the rated currents by overcurrent protective.
- In case of leakage currents $> 3.5 \text{ mA}$ you shall mount the PE conductor stationary with the required cross section before beginning of operation and save it against disconnecting. For leakage currents $I_L^{4)} < 10 \text{ mA}$ the PE conductor must have a KU value ³⁾ of 4.5; for leakage currents $I_L \geq 10 \text{ mA}$ the PE conductor must have a KU value of 6.

3) The KU value (symbol KU) is a classification parameter of safety–referred failure types designed to ensure protection against hazardous body currents and excessive heating.

A value of KU = 4.5 with respect to interruptions is attained:

– with a permanently connected protective earth circuit $\geq 1.5 \text{ mm}^2$

– with a protective earth circuit $\geq 2.5 \text{ mm}^2$ connected via shroud connectors (IEC 60309–2).

KU = 6 with respect to interruptions is achieved for fixed–connection lines $\geq 10 \text{ mm}^2$ where the type of connection and line layout correspond to the requirements for PEN conductors as specified in relevant standards.

4) I_L = leakage current let–go

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