



EMC filters

3-line filters
for converters and power electronics
Rated current 8 to 150 A

Series/Type: B84143A*R105

Date: January 2006


Power line filters for 3-phase systems
Rated voltage 520/300 V AC, 50/60 Hz
Rated current 8 to 150 A



Construction

- 3-line filter
- Metal case
- Book size

Features

- Excellent price/performance ratio
- Ultra-compact design
- Low weight
- Easy to install
- Optimized for long motor cables and operation under full load
- ENEC10, UL and cUL approval 

Applications

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

Terminals

- Finger-safe terminal blocks

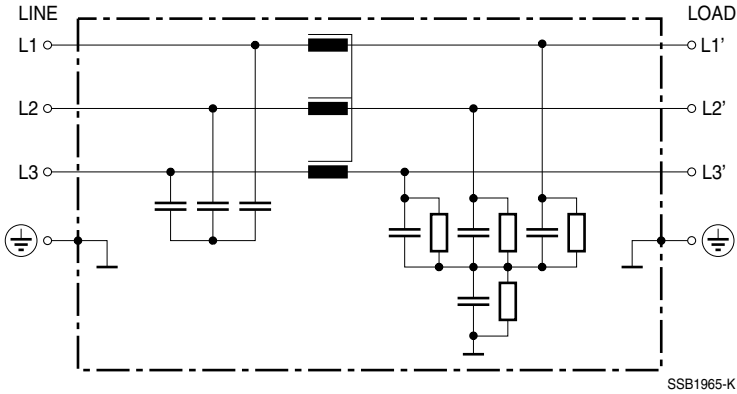
Marking

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

Typical circuit diagram

Technical data and measuring conditions

Rated voltage V_R	520/300 V AC, 50/60 Hz
Rated current I_R	Referred to 40 °C ambient temperature
Test voltage V_{test}	2236 V DC, 2 s (line/line) 2720 V DC, 2 s (lines/case)
Overload capability (thermal)	1.5 · I_R for 3 min per hour or 2.5 · I_R for 30 s per hour
Leakage current I_{leak}	At 520 V AC, 50 Hz
Climatic category (IEC 60068-1)	25/100/21 (-25 °C/+100 °C/21 days damp heat test)
Approvals	EN 133200, UL 1283, CSA C22.2 No.8

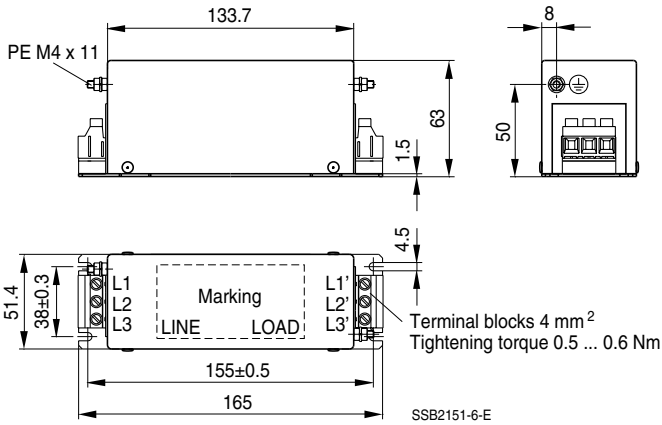
Characteristics and ordering codes

V _R AC V	I _R A	Terminal cross section mm ²	I _{leak} mA	R _{typ} mΩ	Approx. weight kg	Ordering code	Approvals		
									
520/300	8	4	13	16	0.58	B84143A0008R105	×	×	×
	16	4	15	9	0.90	B84143A0016R105	×	×	×
	25	4	15	5	1.10	B84143A0025R105	×	×	×
	36	10	15	4	1.75	B84143A0036R105	×	×	×
	50	10	15	2	1.75	B84143A0050R105	×	×	×
	66	16	16	1.5	2.7	B84143A0066R105	×	×	×
	90	35	18	1.1	4.2	B84143A0090R105	×	×	×
	120	35	18	0.90	4.9	B84143A0120R105	×	×	×
	150	50	18	0.55	5.3	B84143A0150R105	×	×	×

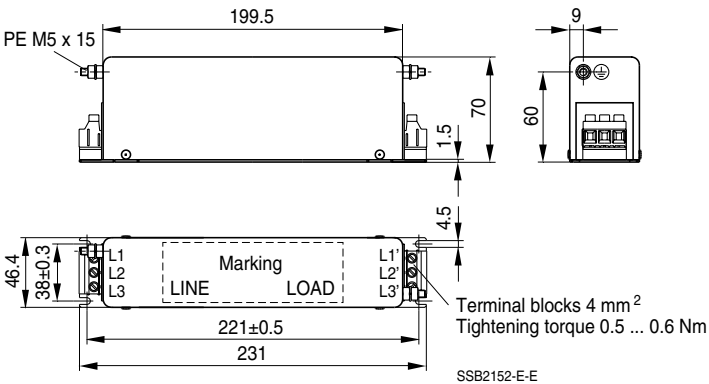
× = approval granted

Dimensional drawings

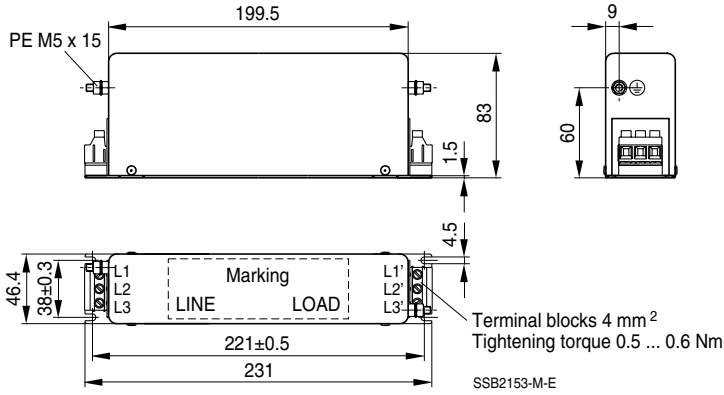
B84143A0008R105 (8 A)



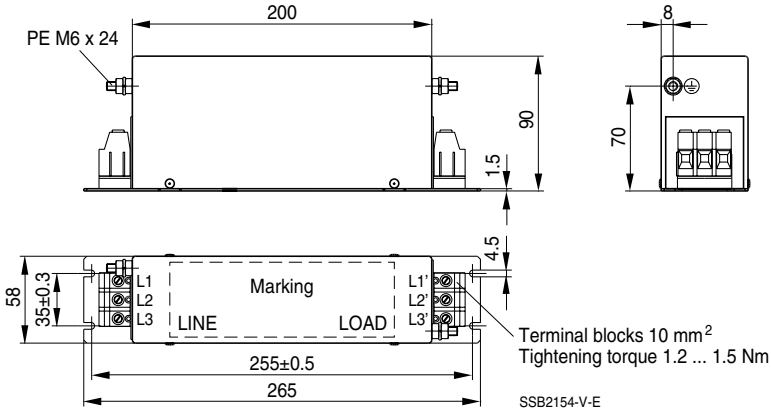
B84143A0016R105 (16 A)



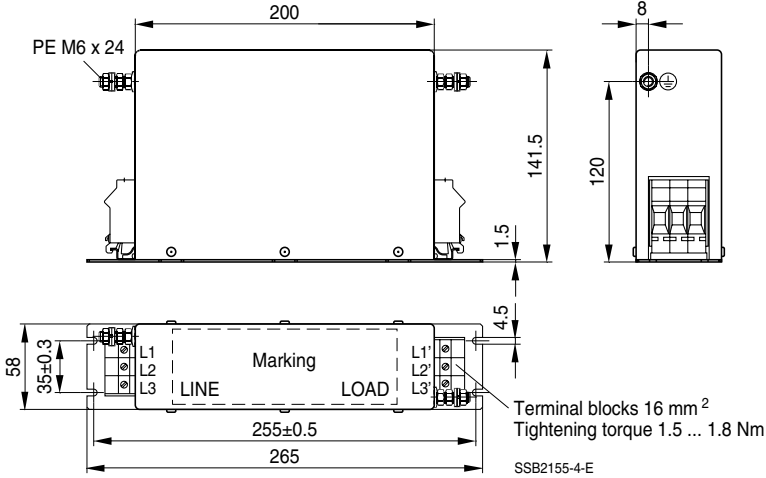
B84143A0025R105 (25 A)



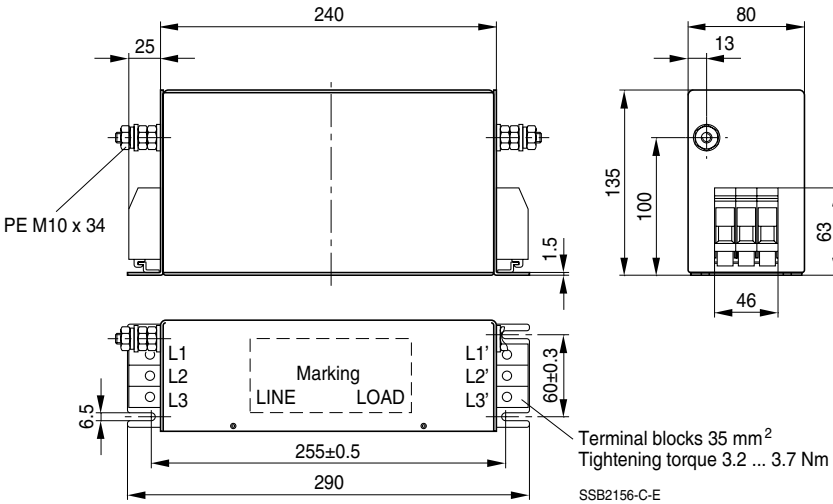
B84143A0036R105, B84143A0050R105 (36 and 50 A)



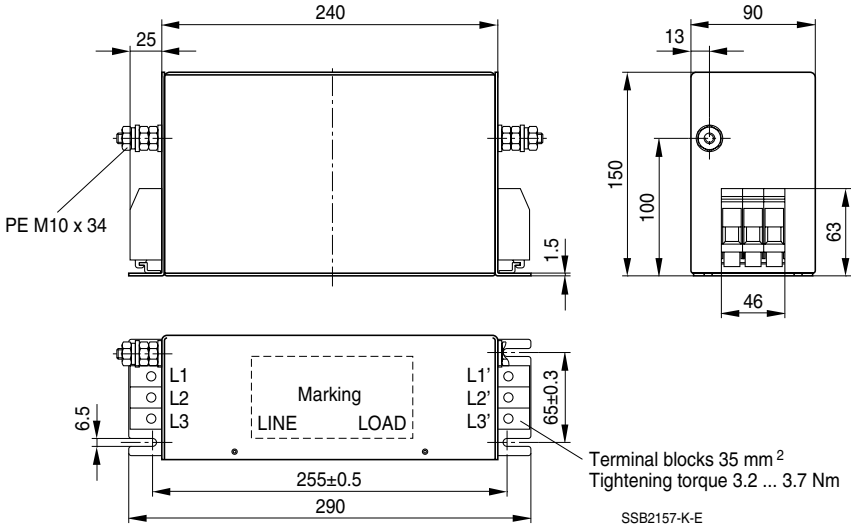
B84143A0066R105 (66 A)



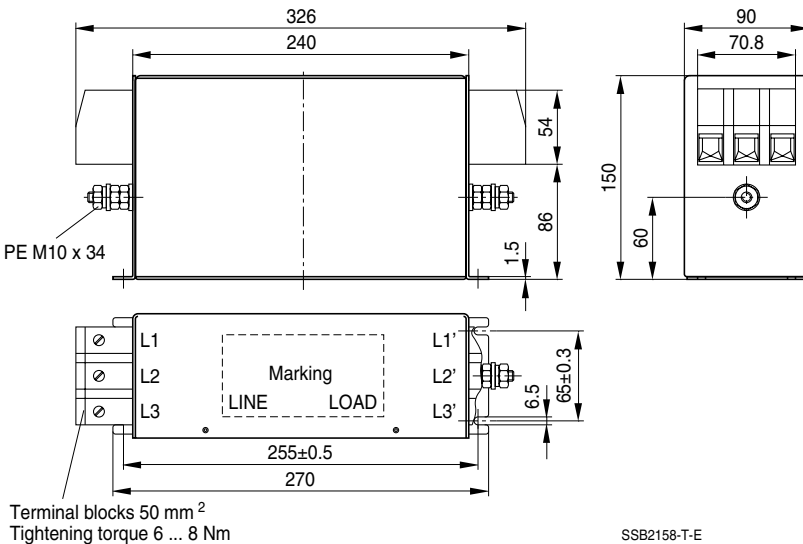
B84143A0090R105 (90 A)



B84143A0120R105 (120 A)



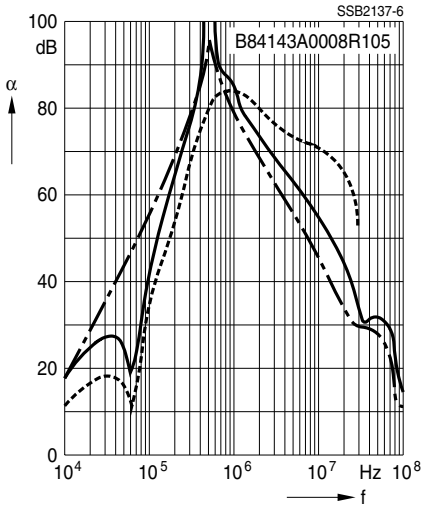
B84143A0150R105 (150 A)



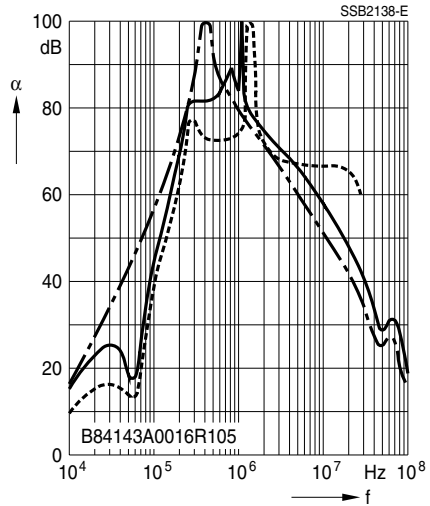
Insertion loss (typical values at $Z = 50 \Omega$)

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

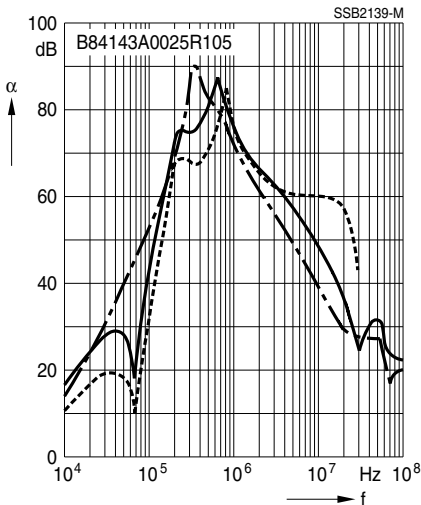
Filters for 8 A



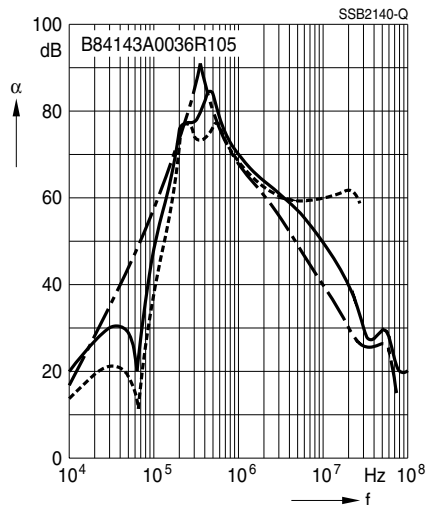
Filters for 16 A



Filters for 25 A



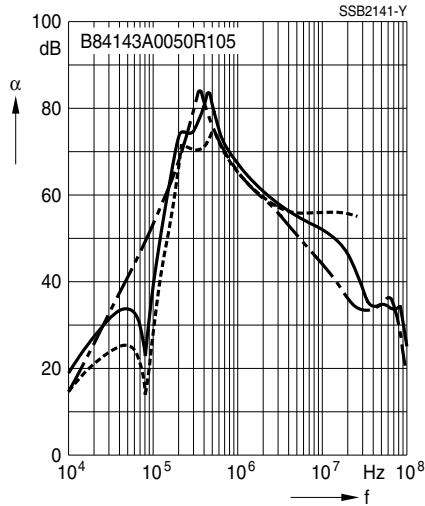
Filters for 36 A



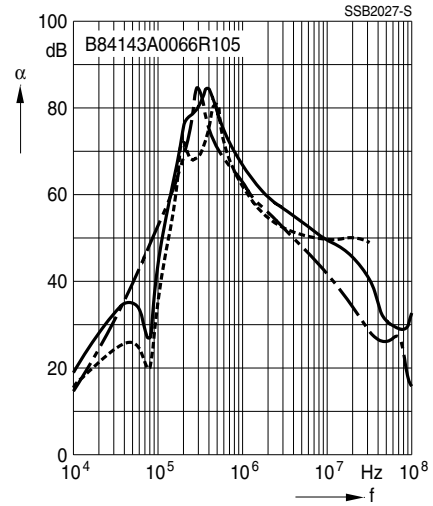
Insertion loss (typical values at $Z = 50 \Omega$)

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

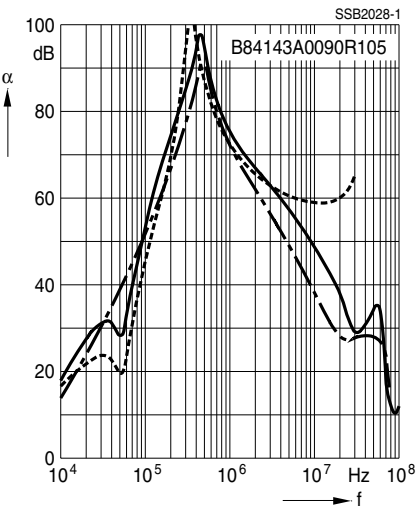
Filters for 50 A



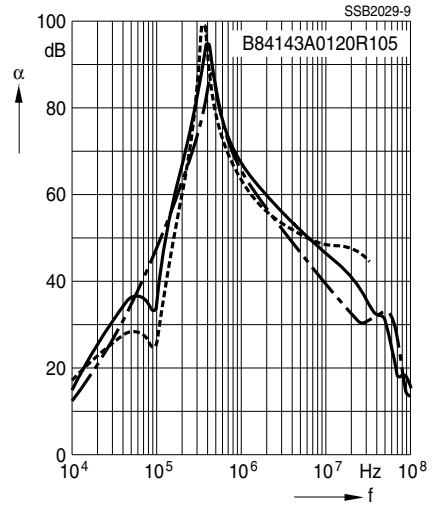
Filters for 66 A



Filters for 90 A



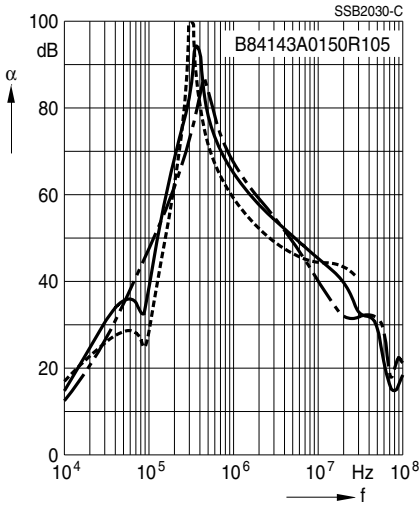
Filters for 120 A




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

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

Filters for 150 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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