

EMC filters

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

Series/Type: B84143A*R105 Date: January 2006

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for converters and power electronics

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



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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)	$1.5 \cdot I_R$ for 3 min per hour or 2.5 \cdot 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		



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Characteristics and ordering codes

V _R AC	I _R	Terminal cross section	I _{leak}	R _{typ}	Approx. weight	Ordering code	Appro	ovals	
V	А	mm ²	mA	mΩ	kg		K 10	<i>71</i>	c 711
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	×	×	×

 \times = approval granted

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Dimensional drawings

B84143A0008R105 (8 A)



B84143A0016R105 (16 A)





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B84143A0025R105 (25 A)



B84143A0036R105, B84143A0050R105 (36 and 50 A)





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B84143A0066R105 (66 A)



B84143A0090R105 (90 A)





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B84143A0120R105 (120 A)



B84143A0150R105 (150 A)



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

 unsymmetrical, adjacent branch
 common mode, all branches in J
 differential mode (symmetrical)

nsymmetrical, adjacent branches terminated ommon mode, all branches in parallel (asymmetrical)



Filters for 25 A



Please read Cautions and warnings and Important notes at the end of this document.









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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 90 A



Please read *Cautions and warnings* and *Important notes* at the end of this document.

Filters for 66 A



Filters for 120 A



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

. <u> </u>	unsymmetrical, adjacent branches terminated
	common mode, all branches in parallel (asymmetrical)
	differential mode (symmetrical)

Filters for 150 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 \triangle). 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 lowvoltage 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.

\Lambda 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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