

**Power line filters for three-phase systems**

**Rated voltage 480/275 and 520/300 V~, 50/60 Hz**


**Rated current 8 to 220 A**



**Construction**

- Three-line filter
- Metal case
- Book size

**Features**

- High insertion loss
- Low leakage current
- Optimized footprint saves space
- Litz wires on the load side reduce mounting time
- Low weight
- Degree of protection: IP 20<sup>1)</sup>
- Design based on  
EN 133 200, CSA 22.2 No.8 1986
- Optimized for long motor cables and operation under full load
- UL 1283 approval for type -R110 ,  
for -R112 UL and CSA approval pending

**Applications**

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

**Terminals**

- Line: Safe-to-touch terminal blocks
- Load: Litz wires

**Marking**

Marking on component:

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

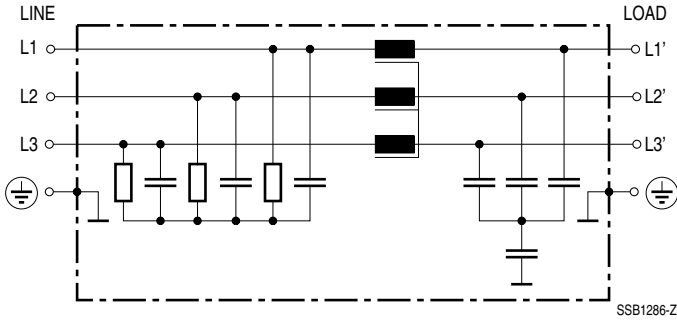
Minimum marking on packaging:

Manufacturer's logo, ordering code

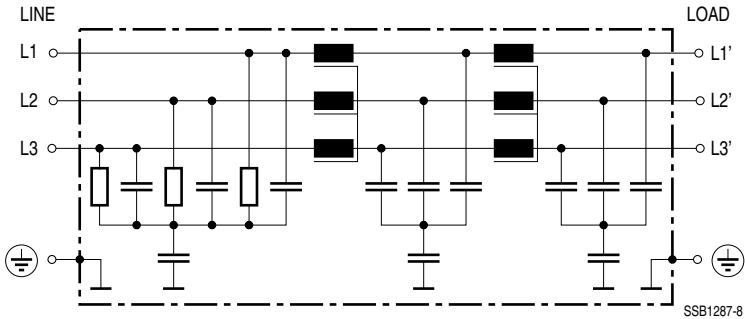
1) In accordance with IEC 60529:1989; EN 60529:1991; DIN VDE 0470-1

**Typical circuit diagrams**

**B84143-G8 ... G20-R110/R112**



**B84143-G36 ... G220-R110/R112**



**Technical data**

Rated voltage $V_R$	480/275 V~, 50/60 Hz (type -R110) 520/300 V~, 50/60 Hz (type -R112)
Rated current $I_R$	Referred to 40 °C ambient temperature
Test voltage $V_P$	1770 V~, 2 s (line/line) 2700 V~, 2 s (lines/case)
Overload capability	$1,5 \cdot I_R$ for 3 min per hour or $2,5 \cdot I_R$ for 30 s per hour
Leakage current $I_{leak}$	at 480 V~, 50 Hz
Climatic category	25/100/21 (- 25 °C/+ 100 °C/21 days damp heat test) in accordance with EN 60068-1

**Characteristics and ordering codes**

$I_R$	Terminal cross section		$I_{leak}$ typ. 1)	$R_{typ}$	Approx. weight	Ordering code
	line side: terminal blocks mm <sup>2</sup>	load side: litz wires mm <sup>2</sup>				
A			mA	mΩ	kg	
8	4	1,5	< 6	40	1,3	B84143-G8-R11*
20	4	2,5	< 6	10	1,3	B84143-G20-R11*
36	6	6,0	< 16	5,2	2,8	B84143-G36-R11*
50	16	10	< 16	2,4	3,3	B84143-G50-R11*
66	25	16	< 16	1,8	4,4	B84143-G66-R11*
90	25	25	< 16	1,2	4,9	B84143-G90-R11*
120	50	35	< 16	1,0	7,5	B84143-G120-R11*
150	50	35	< 16	0,7	8,0	B84143-G150-R11*
220	95	70	< 16	0,4	11,5	B84143-G220-R11*

**Compilation of ordering code**

Replace the asterisk \* by the code number for the required version:

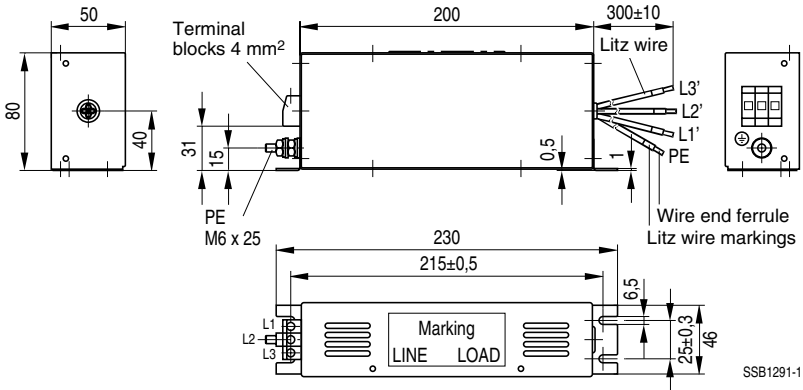
0 = 480 / 275 V

2 = 520 / 300 V

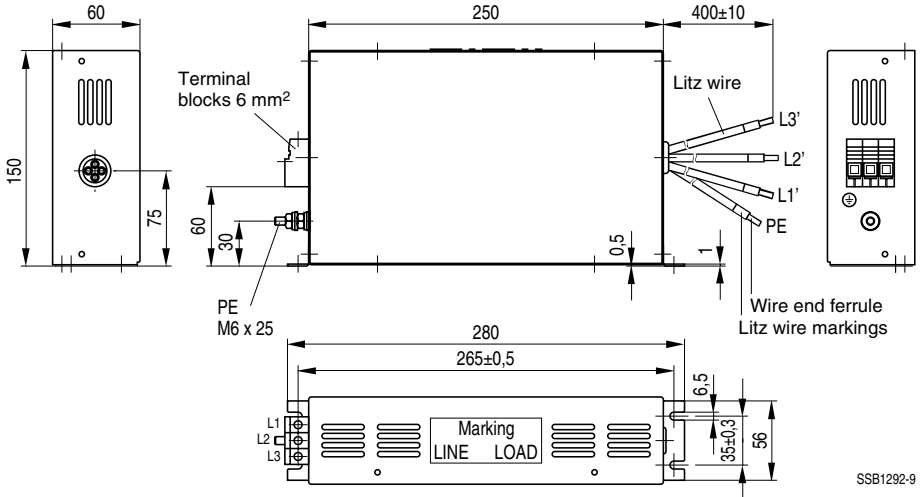
1) At rated operation

Dimensional drawings

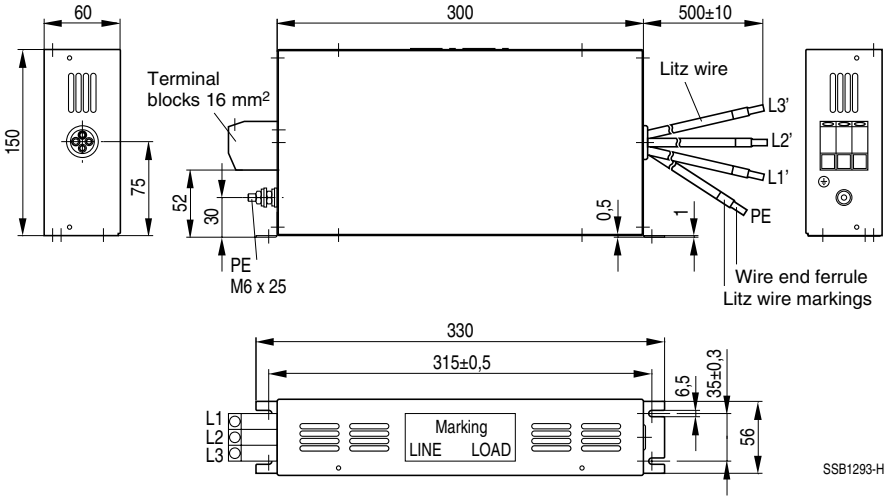
B84143-G8-R11\*, B84143-G20-R11\*



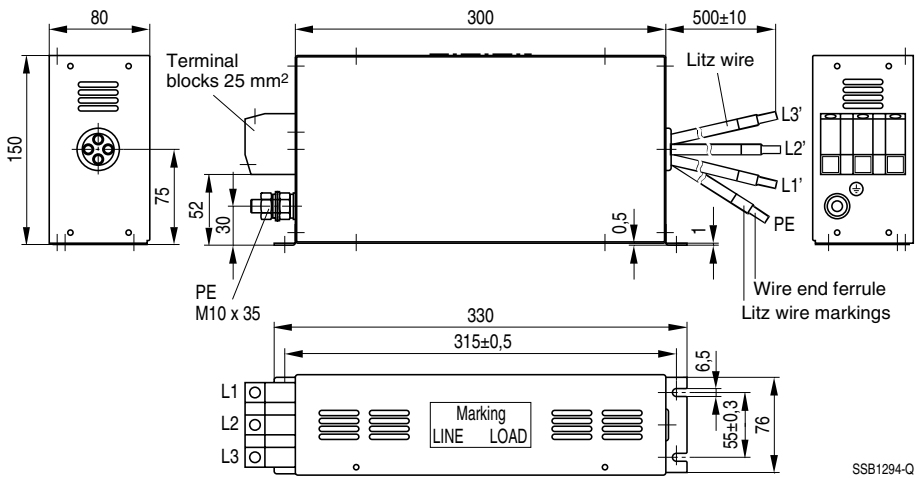
B84143-G36-R11\*



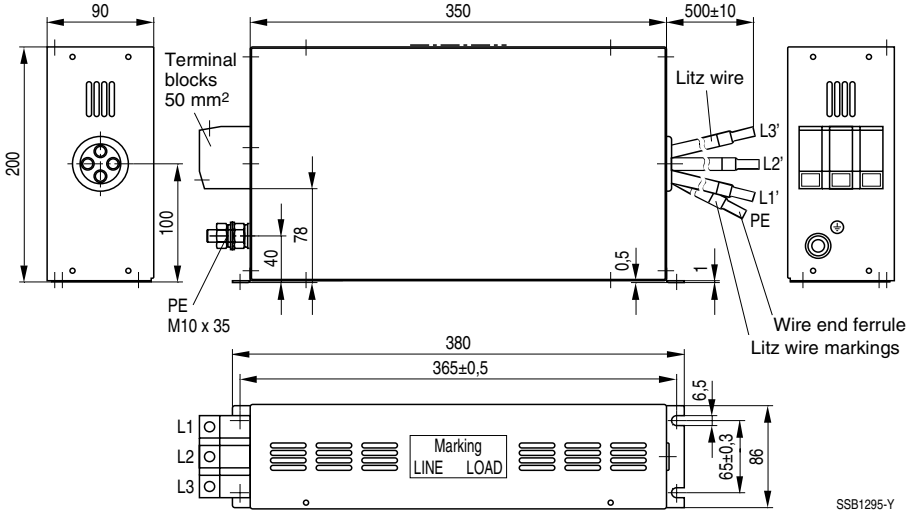
**B84143-G50-R11\***



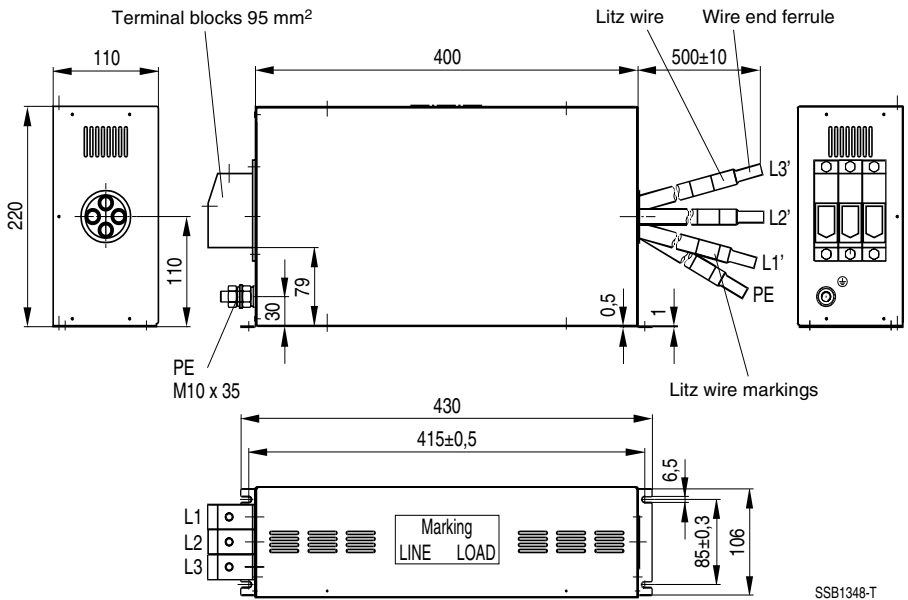
**B84143-G66-R11\*, B84143-G90-R11\***



B84143-G120-R11\*, B84143-G150-R11\*



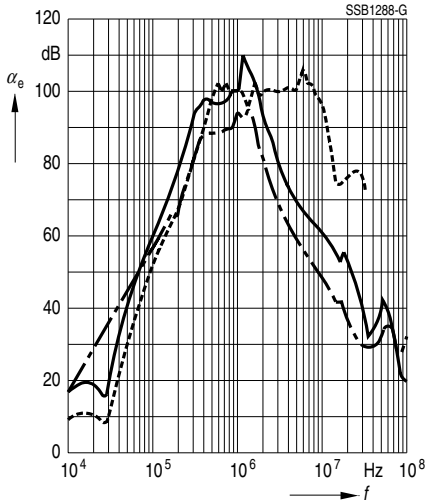
B84143-G220-R11\*



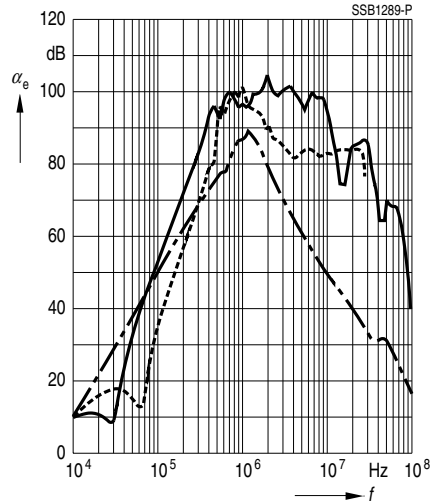
**Insertion loss** (typical values at  $Z = 50 \Omega$ )

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

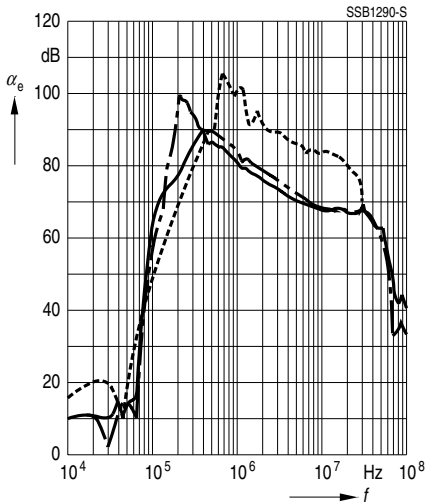
B84143-G8-R11\*



B84143-G20-R11\*



B84143-G36 ... G220-R11\*



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