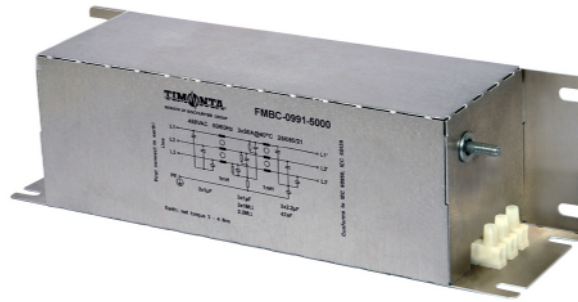


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FMBC Series, compact, 2-stage all-purpose filters to Protection Class I, conform to EN 133200, UL 1283 and IEC 60950

Content:

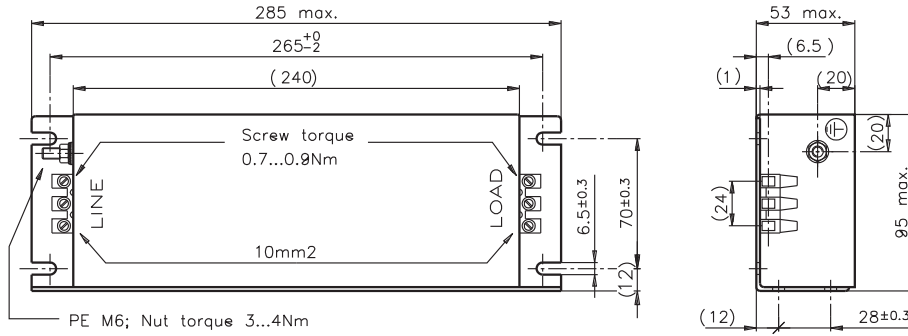
Sheet No.

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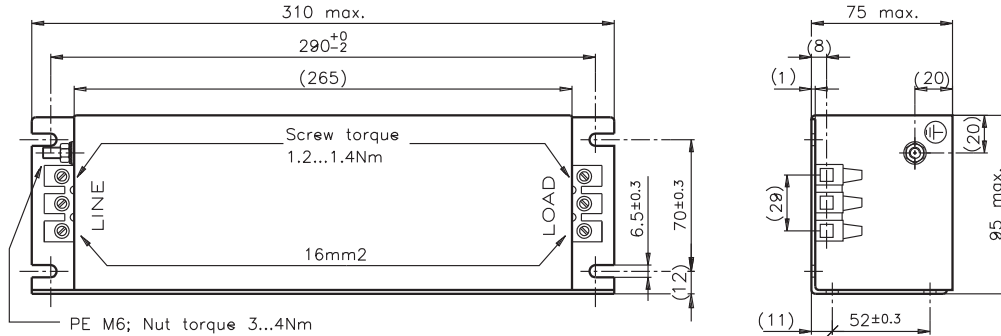
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1. Metal Case Dimensions

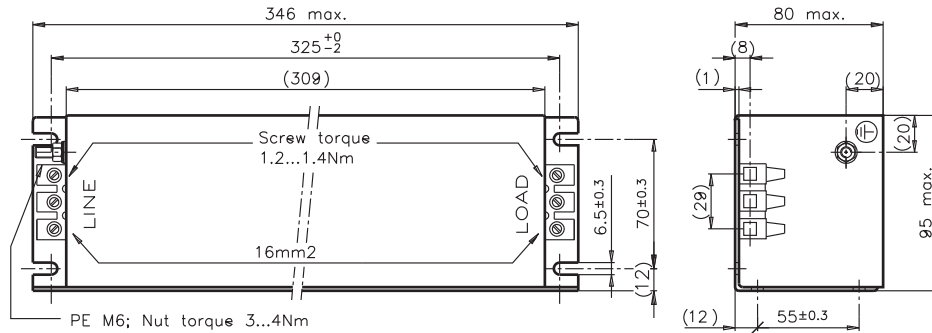
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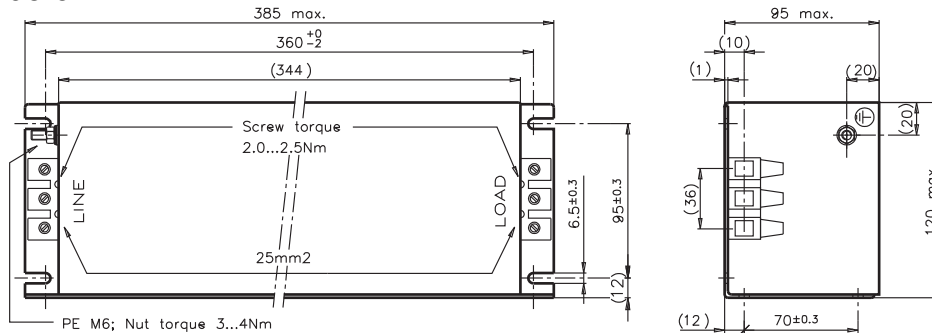
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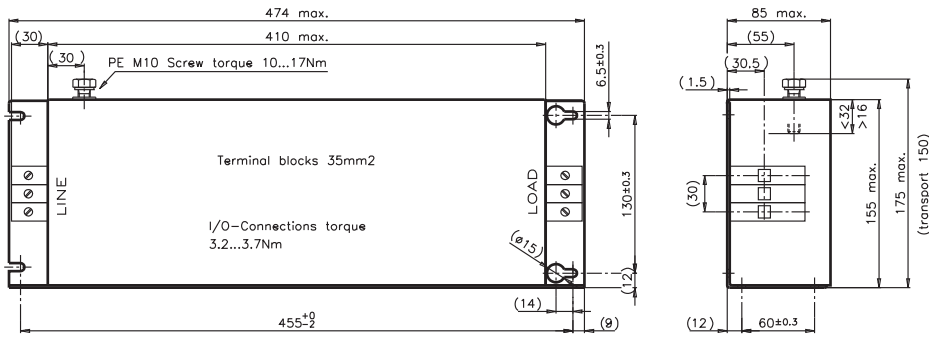


98-3

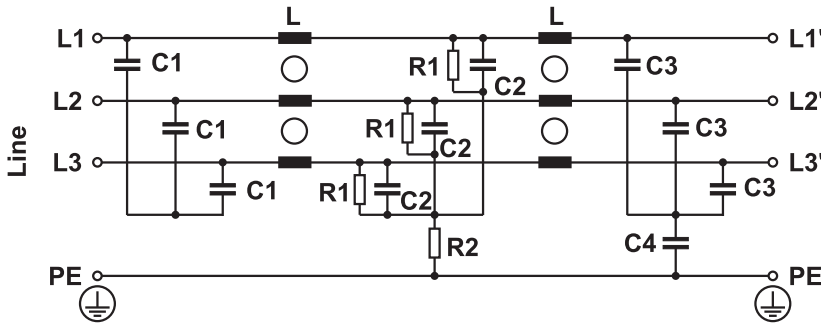


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2. Circuit diagram



3. Components data

IN @ 9a 40°C ⁽¹⁾ [A]	L _N ⁽²⁾ -30% / +50% [mH]	C ₁ ±20% [µF]	C ₂ ±20% [µF]	C ₃ ±20% [µF]	C ₄ ±20% [nF]	R ₁ [MΩ]	R ₂ [MΩ]	Case	Max. leakage current @ 440V/50Hz		DC-resistance @ 25°C [mΩ]	Part No.
									In 3-phase system [mA] ⁽³⁾	Worst case [mA] ⁽⁴⁾		
36	1.30	1	1	2.2	47	1	1	95-3	≤ 5	7.5	6.0	FMBC-0995-3600
50	0.65	1	1	2.2	47	1	1	96-3		7.5	3.1	FMBC-0996-5000
65	0.80	1	1	2.2	47	1	1	97-3		7.5	3.2	FMBC-0997-6500
80	0.50	1	1	2.2	47	1	1	98-3		7.5	1.5	FMBC-0998-8000
120	0.25	1	2.2	2.2	100	1	1	94-3		15.0	1.1	FMBC-0994-H100

(1) Current derating over 40°C: $I = I_N \cdot \sqrt{(100 - \vartheta_a) / 60}$

(2) Nominal inductance measured according to EN 138100, see introduction of the catalog paragraph 3.4

(3) Measured according to IEC 60950 – 5.2.5, valid for TT and TN mains and with regular Sinus. See introduction of the catalog paragraph 3.5

(4) Measured according to IEC 60950 – Annex G.4, valid for IT mains. See introduction of the catalog paragraph 3.5

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4. Description

General:

The TIMONTA high-current filter family FMBC was developed for the following industrial applications:

- Frequency Converters
- Stepper Motor Drives
- UPS-Systems
- Inverters

Specially developed for use in frequency converters and similar applications. Reduced case size encourages universal usage up to 480 VAC. The two stage configuration ensure that this line filters meets the requirements of EN 55011 / 55014, UL 1283 and EN 133200. This TIMONTA line offers end users a cost effective EMC solution for ensue compliance with the CE requirements.

Special characteristics of this high-current filter series are:

- RoHS conform, the filter isn't full potted
- Reduced dimension due to the compact assembly


Mounting:

This type of Filter is particularly adapted for Chassy assembly.

The filter must be fixed with 4 screw to obtain a good contact between the Filter and the device case.

The earth connection is made with a screw with size depending from the nominal current of the filter, see table n. 2.

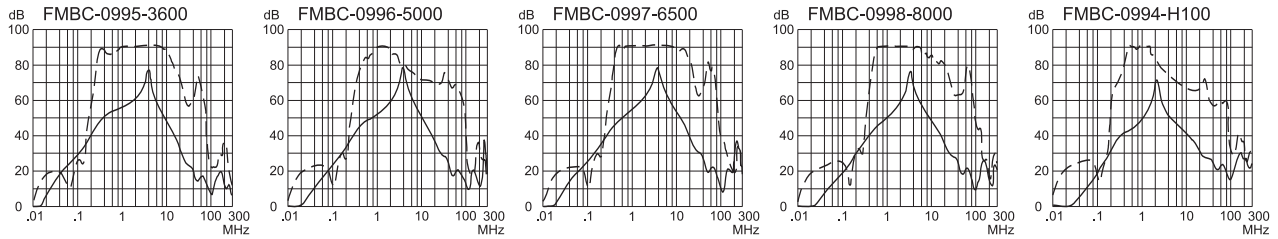
All phase connection by high current terminal, see table n. 1.

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5. Insertion loss

— Common Mode
 - - - Differential Mode



6. Technical data

General:

Rated voltage Un	480 V _{AC} 50 / 60 Hz	
Rated current In	- 36,50,65,80,120 A @ 40°C	
Dielectric strength (DC; 1min.)	L-L → 2.25 kV _{DC}	Between live parts of different potentials. (without bleeder resistor)
	L-PE → 3 kV _{DC}	Between protective conductor PE and live parts.
Clearance and creepage distances	> 3 mm	Between live parts of different potentials.
	> 4 mm	Between protective conductor PE and live parts.
Pollution degree acc.to IEC 60664-1	1 - 3	
Degree of protection	IP 20 (For Filter with Terminal Block both sides) according to IEC 60529	
Climatic category	25/85/21 acc. to IEC 60068-1	
Max. permissible ambient air temperature	- Storage temperature -25 up to 100°C	
	- Operating temperature: see table "Derating curve"	

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Terminals:

- L/N:

High current terminal block.

The next table show the cross section of the connection as function of the nominal current:

Current [A]	Contact cross section Terminal Block [mm ²]
36	10
50	16
65	16
80	25
120	35


Table n.1

- PE:

The earth connection is made with a screw with a size depending from the nominal current of the filter .The next table show the size of the screw as function of the nominal current

Current [A]	Contact cross section [mm ²]
36	M6
50	M6
65	M6
80	M6
120	M10

Table n.2

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