

ABB low voltage AC drives

Installation Guide

ARFI-10 EMC Filter

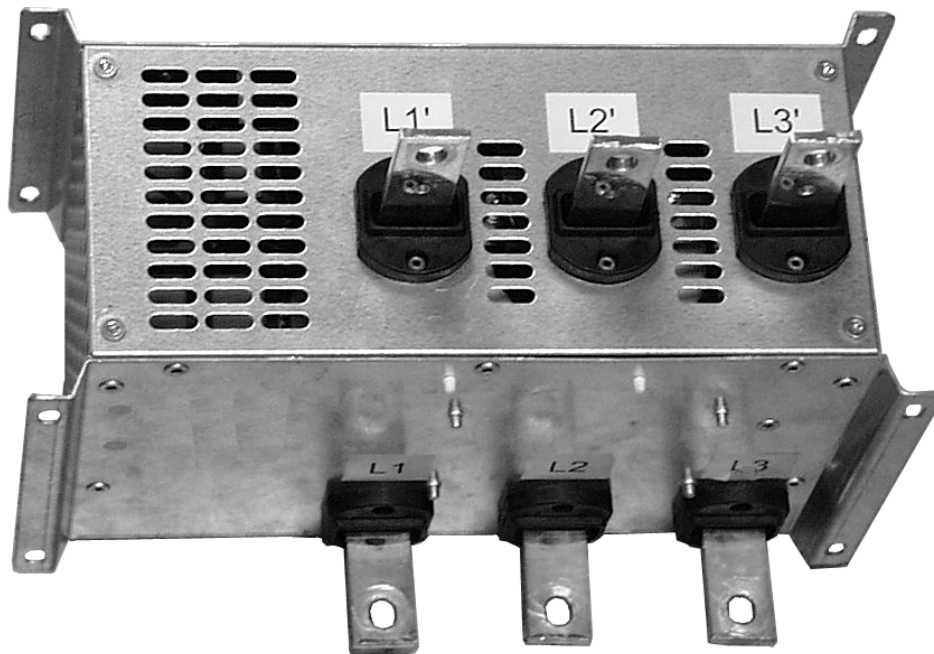


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The ARFI-10 and this guide

Contents of this chapter

This chapter describes the ARFI-10 and this guide.

Compatibility of this manual

This manual is compatible with the ARFI-10 EMC filter.

Applicability of the ARFI-10 EMC filter

The ARFI-10 EMC filter is applicable with several AC drive types, for example, ACS800-04 frames R7 and R8 and ACS880-04 frames R10 and R11.

Target audience of this manual

The guide is intended for people who plan the installation, install, commission, use and service the filter. Read the guide before working on the filter. The reader is expected to know the fundamentals of electricity, wiring, electrical components and electrical schematic symbols.

The guide is written for readers worldwide. Both SI and imperial units are shown.

Safety

Read the safety instructions in the drive hardware manual before working on the filter, drive, motor or motor cable.

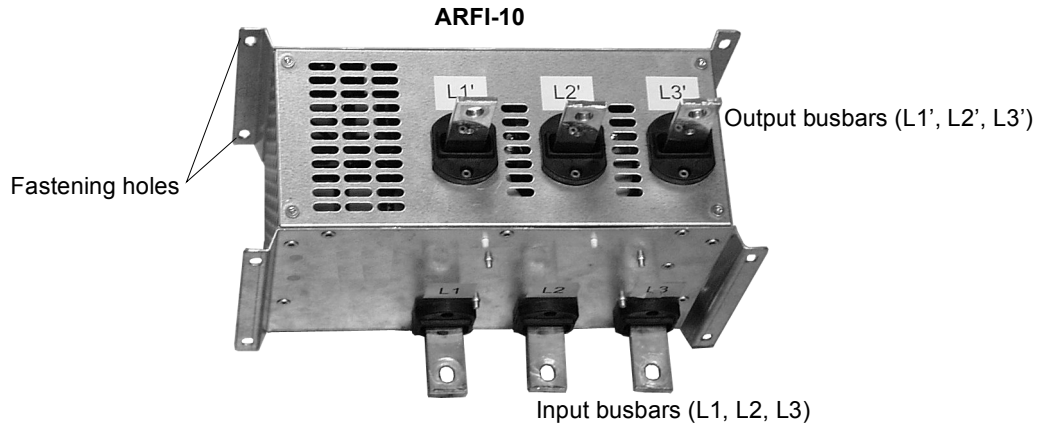
The ARFI-10

The ARFI-10 is an EMC filter for the First environment (IEC 61800-3). The filter suppresses conducted emissions of the drive.

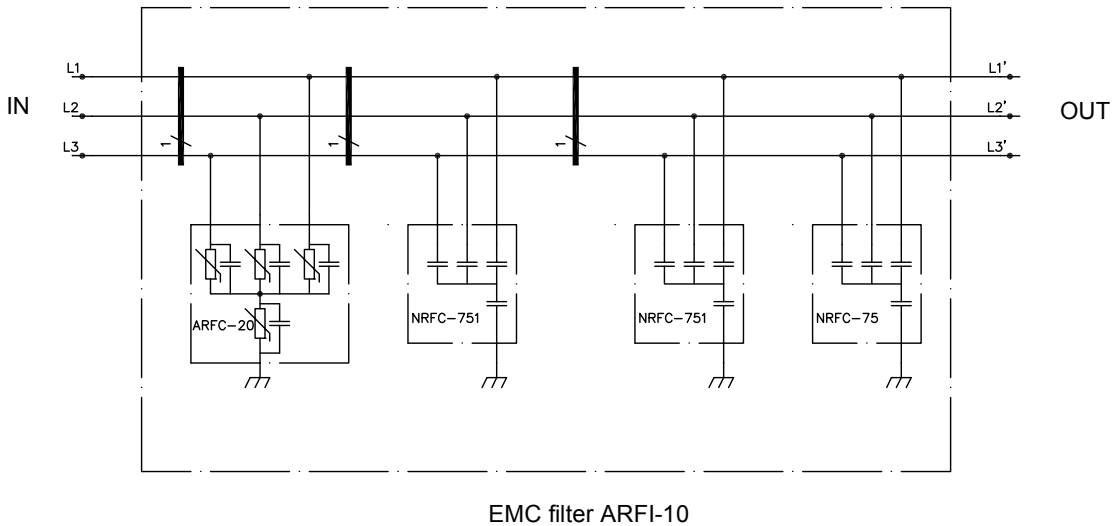
ABB delivers the filter on a separate kit or as a factory-equipped option +E202.

The customer must install the filter in a cabinet or an enclosure.

Kit code: 68241561



Circuit diagram



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Installation

Contents of this chapter

This chapter shows how to install and wire the filter.

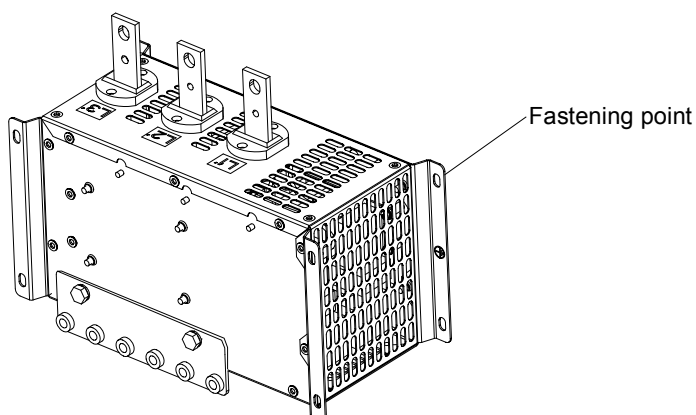
IT (ungrounded) systems



WARNING! Do not install EMC filter +E202 on an IT system [an ungrounded or a high resistance-grounded (over 30 ohms) power system]. The system will be connected to earth potential through the EMC filter capacitors of the drive. This may cause danger or damage the unit.

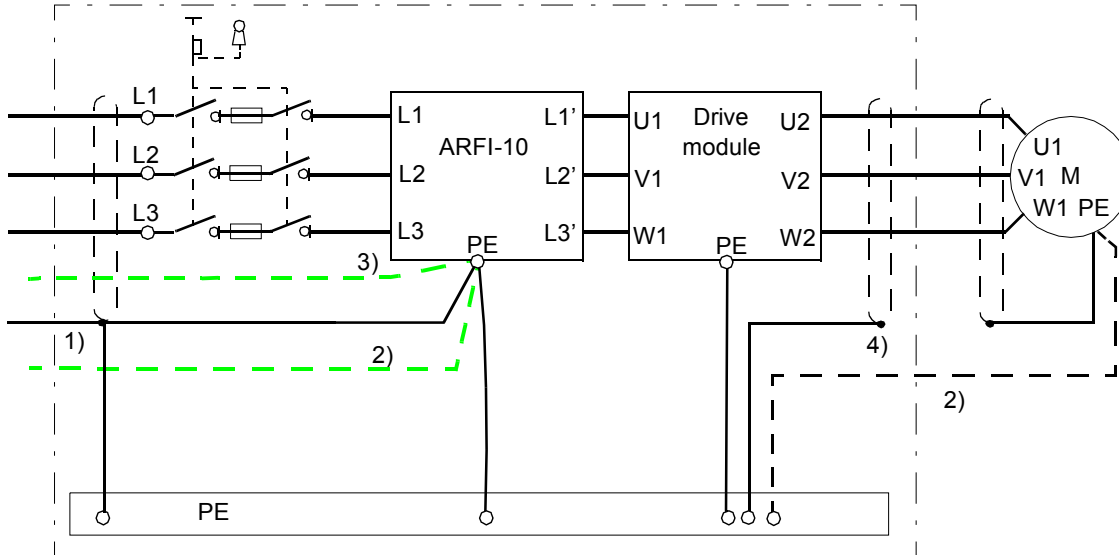
Fastening the filter

Fasten the filter to the cabinet. See [Dimension drawings](#) for the dimensions.



Wiring

The diagram shows the main circuit of a installation with an EMC filter. For more information, see the drive hardware manual.



1) If shielded cable is used, 360 degrees grounding is recommended at the cabinet entry.

2), 3)

If shielded cable is used and the conductivity of the shield is not sufficient for the sole protective ground conductor, use a separate PE cable (2). Alternative for the input cable is to use a cable with a grounding conductor (3).

Ground the other end of the PE conductor at the distribution board.

4) 360 degrees grounding required at the cabinet entry



Technical data and dimensions

Technical data

■ Rated voltage

208/220/230/240 VAC 3-phase ± 10% for 230 VAC units

380/400/415 VAC 3-phase ± 10% for 400 VAC units

380/400/415/440/460/480/500 VAC 3-phase ± 10% for 500 VAC units

■ Weight

7 kg (15 lb)

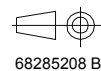
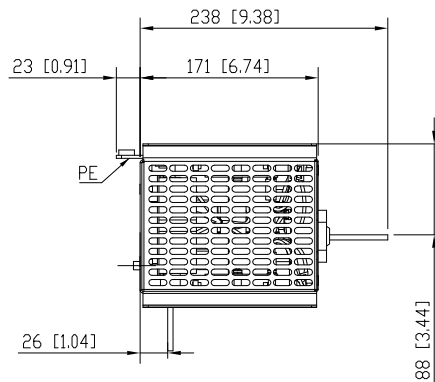
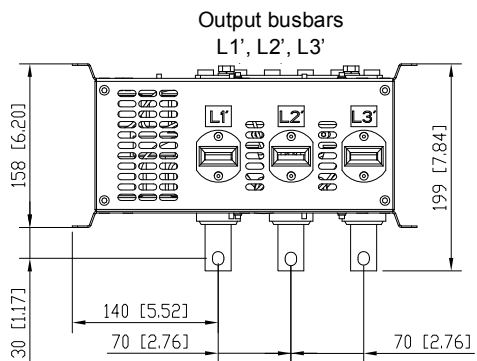
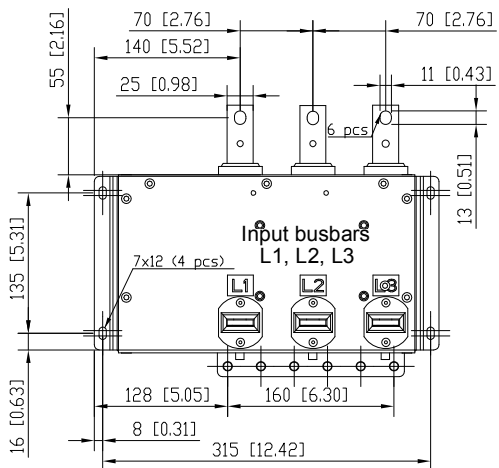
■ Connection busbars

Input, and output connection busbar sizes (per phase) and tightening torques are given below. One-hole 1/2 inch diameter cable lugs can be used.

L1, L2, L3, L1', L2', L3'				Grounding PE	
Number of holes per phase	Busbar width mm (in.)	Screw	Tightening torque Nm (lbf ft)	Screw	Tightening torque Nm
1	25 (0.98)	M10 (3/8)	30...44 (22...32)	M8 (5/16)	15...22 (3.7)

Dimension drawings

■ Dimensions of ARFI-10



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Further information

Product and service inquiries

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to www.abb.com/searchchannels.

Product training

For information on ABB product training, navigate to www.abb.com/drives and select *Training courses*.

Providing feedback on ABB Drives manuals

Your comments on our manuals are welcome. Go to www.abb.com/drives and select *Document Library – Manuals feedback form (LV AC drives)*.

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