
ABB LV AC DRIVE

PIHF Harmonic Filters

Recycling instructions and environmental information





List of related manuals

Manuals and Guides

Code

PIHF Harmonic filters user manual

[3ABD00045569](#)

You can find manuals and other product documents in PDF format on the Internet. See section *Document library on the Internet* on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.

Recycling instructions and environmental information

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1

Introduction to the manual

What this chapter contains

This chapter describes the contents of the manual. It also contains information on the compatibility and intended audience.

Applicability

This document covers the environmental information of the following products:

- PIHF Harmonic Filters

Target audience

This document is intended for ABB customers and for professional recyclers.

Contents of the manual

The document contains information for treatment facilities in accordance with the EU directive on waste electrical and electronic equipment (WEEE).

This manual contains the following chapters:

- [Product materials](#)
- [Manufacturing and use](#)
- [Product disposal](#)

The WEEE directive is implemented through national regulations and therefore requirements vary in each EU member state.

Filters are always parts of other machines or equipment and they are covered by the WEEE directive when the end product is covered. Inclusion or exclusion depends on the application of the filters.

The WEEE directive does not apply to filters which are used in large-scale fixed installations, large-scale stationary industrial tools, means of transport for persons and goods, or non-road mobile machinery made available exclusively for professional use.

We recommend to contact local environmental authorities for up-to-date information about national recycling requirements.

Frame size

This manual covers all different frame sizes of the product family. The frame size is marked on the type designation label of the device. The frame size is also shown in the rating tables for each device type.

Disclaimer

The information presented in this publication does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequences of its use. Publication thereof does not convey nor imply any license under patent - or other industrial or intellectual - property rights.



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Product materials

Contents of this chapter

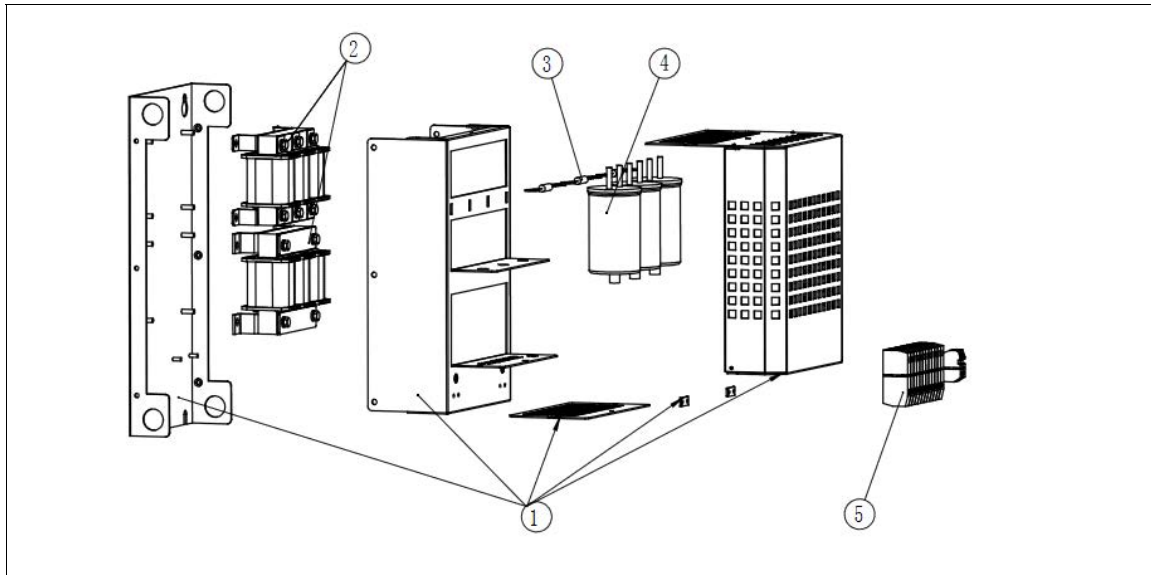
This chapter describes the main components and product materials of the PIHF Harmonic Filters.

Materials of frame S1

The data below applies to these product types with frame size S1:

- PIHF-0004-4-10
- PIHF-0007-4-10

The main components are shown in the figure below.



PIHF-0004-4-10

Frame S1 product materials				Total weight (kg) ~12
Part No.	Name	Qty	Materials	Weight(g)
1	Sheet metal parts	6	Zn-coated Fe	4100
2	Choke	2	Fe, Cu, PET +Nomex, silicone, thermoplastic polyester, glass-filled nylon, epoxy, A3X2G5 plastic	6700
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	1050
5	Connecting terminal	14	Plastic:PA66,Fe, Cu	200
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	200
	Ligature band	N/A	Nylon	10

PIHF-0007-4-10

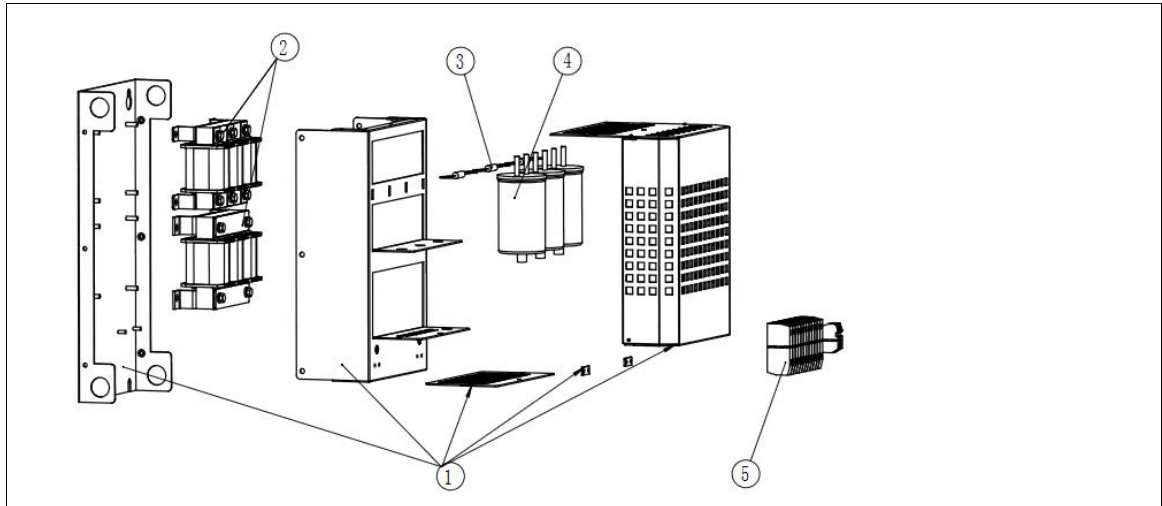
Frame S1 product materials				Total weight (kg) ~14
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	6	Zn-coated Fe	4200
2	Choke	2	Fe, Cu, PET +Nomex, silicone, thermoplastic polyester, glass-filled nylon, epoxy, A3X2G5 plastic	8200
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	1450
5	Connecting terminal	14	Plastic:PA66,Fe,Cu	200
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	200
	Ligature band	N/A	Nylon	10

Materials of frame S2

The data below applies to these product types with frame size S2:

- PIHF-0012-4-10
- PIHF-0015-4-10

The main components are shown in the figure below.



PIHF-0012-4-10

Frame S2 product materials				Total weight (kg) ~23
Part No.	Name	Qty	Materials	Weight(g)
1	Sheet metal parts	6	Zn-coated Fe	8500
2	Choke	2	Fe, Cu, PET +Nomex, silicone, thermoplastic polyester, glass-filled nylon, epoxy, A3X2G5 plastic	12500
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	2250
5	Connecting terminal	14	Plastic:PA66,Fe, Cu	200
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

PIHF-0015-4-10

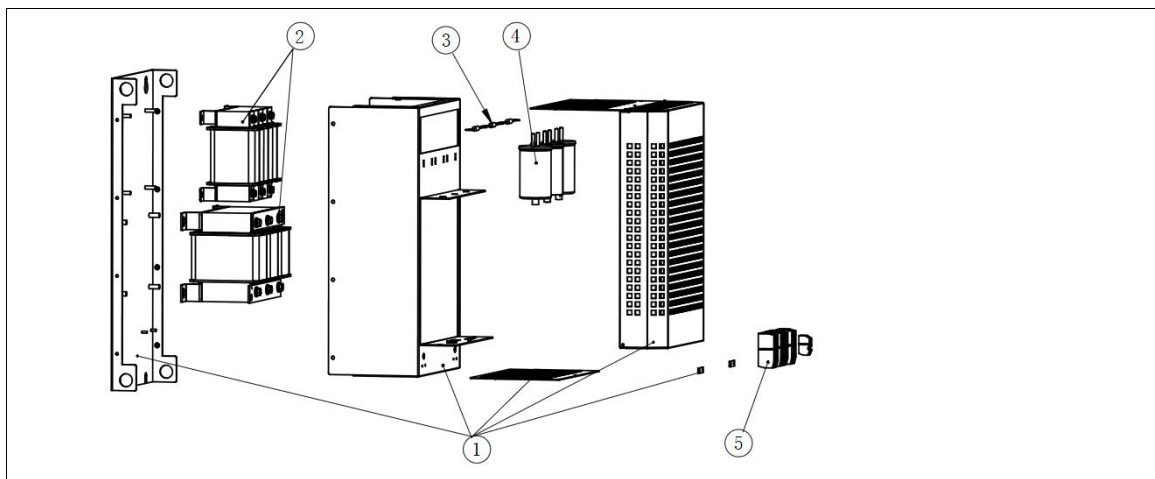
Frame S2 product materials				Total weight (kg) ~30
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	6	Zn-coated Fe	8500
2	Choke	2	Fe, Cu, PET +Nomex, silicone, thermoplastic polyester, glass-filled nylon, epoxy, A3X2G5 plastic	12800
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	2250
5	Connecting terminal	14	Plastic:PA66,Fe, Cu	200
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

Materials of frame S3

The data below applies to these product types with frame size S3:

- PIHF-0030-4-10
- PIHF-0045-4-10

The main components are shown in the figure below.



PIHF-0030-4-10

Frame S3 product materials				Total weight (kg) ~50
Part No.	Name	Qty	Materials	Weight(g)
1	Sheet metal parts	6	Zn-coated Fe	12800
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	40000
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	1450
5	Connecting terminal	14	Plastic:PA66,Fe,Cu	250
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

PIHF-0045-4-10

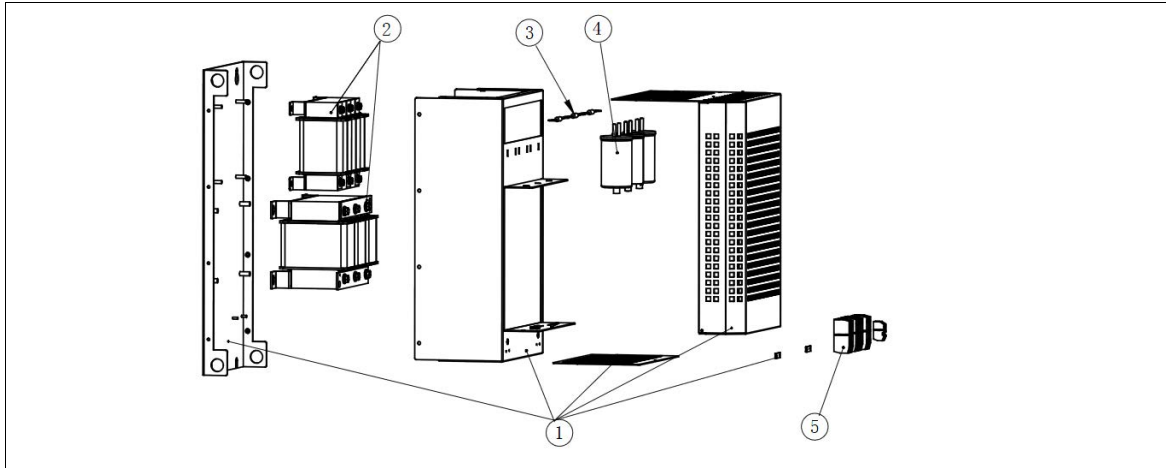
Frame S3 product materials				Total weight (kg) ~55
Part No.	Name	Qty	Materials	Weight(g)
1	Sheet metal parts	6	Zn-coated Fe	12800
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	42000
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	2250
5	Connecting terminal	14	Plastic:PA66,Fe,Cu	250
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

Materials of frame S4

The data below applies to these product types with frame size S4:

- PIHF-0075-4-10
- PIHF-0090-4-10

The main components are shown in the figure below.



PIHF-0075-4-10

Frame S4 product materials				Total weight (kg) ~67
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	6	Zn-coated Fe	16000
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	48000
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	2400
5	Connecting terminal	14	Plastic:PA66,Fe?Cu	250
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

PIHF-0090-4-10

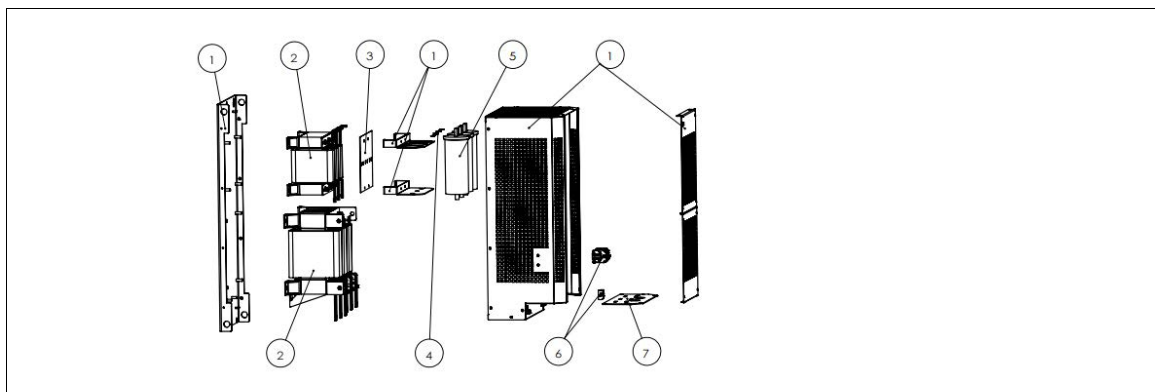
Frame S4 product materials				Total weight (kg) ~70
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	6	Zn-coated Fe	16000
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	50000
3	Resistor	3	Ceramics, epoxy	45
4	Capacitance	3	Al, Polypropylene	4650
5	Connecting terminal	14	Plastic:PA66,Fe?Cu	250
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	300
	Ligature band	N/A	Nylon	10

Materials of frame S5

The data below applies to these product types with frame size S5:

- PIHF-0160-4-10
- PIHF-0205-4-10

The main components are shown in the figure below.



PIHF-0160-4-10

Frame S5 product materials				Total weight (kg) ~140
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	13	Zn-coated Fe	29075
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	103000
3	Heat Insulation Board	1	Mica Plate	318
4	Metal film resistor	3	Ceramics, Epoxy	45
5	Capacitance	3	Al, Polypropylene	4200
6	Terminal section	2	PA, Cu, Fe	650
7	Face plate	1	FR-4	420
	Ligature band	3	Nylon	20
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	400

PIHF-0205-4-10

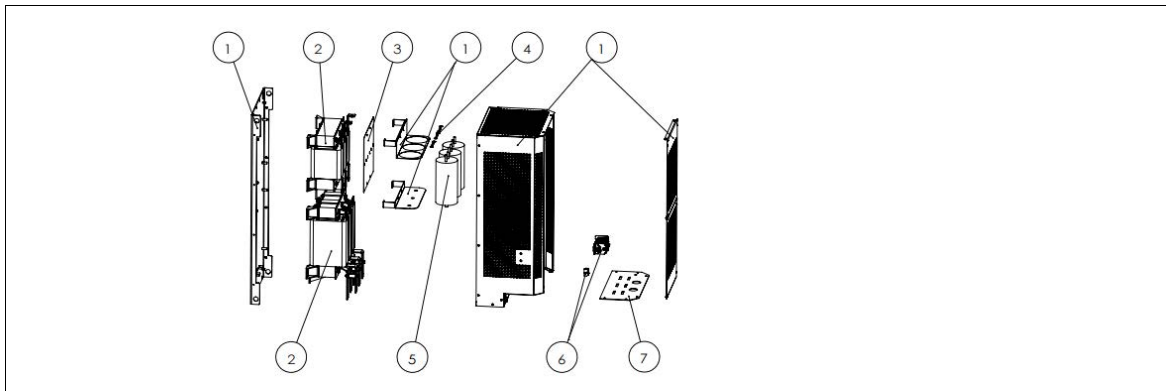
Frame S5 product materials				Total weight (kg) ~145g
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	13	Zn-coated Fe	29000
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	107000
3	Heat Insulation Board	1	Mica Plate	401
4	Metal film resistor	3	Ceramics, Epoxy	45
5	Capacitance	3	Al, Polypropylene	4200
6	Terminal section	2	PA, Cu, Fe	650
7	Face plate	1	FR-4	420
	Ligature band	3	Nylon	20
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	400

Materials of frame S6

The data below applies to these product types with frame size S6:

- PIHF-0290-4-10
- PIHF-0363-4-10
- PIHF-0430-4-10

The main components are shown in the figure below.



PIHF-0290-4-10

Frame S6 product materials				Total weight (kg) ~190
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	13	Zn-coated Fe	34350
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	145000
3	Heat Insulation Board	1	Mica Plate	516
4	Metal film resistor	3	Ceramics, Epoxy	45
5	Capacitance	3	Al, Polypropylene	7000
6	Terminal section	2	PA, Cu, Fe	700
7	Face plate	1	FR-4	572
	Ligature band	3	Nylon	20
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	550

PIHF-0363-4-10

PIHF-0430-4-10

Frame S6 product materials				Total weight (kg) ~195
Part No.	Name	Qty	Materials	Weight (g)
1	Sheet metal parts	13	Zn-coated Fe	35000
2	Choke	2	Fe, AL, PET+Nomex, Silicone, Thermoplastic polyester, Glass-filled nylon, Epoxy	147000
3	Heat Insulation Board	1	Mica Plate	460
4	Metal film resistor	3	Ceramics, Epoxy	45
5	Capacitance	3	Al, Polypropylene	7800
6	Terminal section	2	PA, Cu, Fe	800
7	Face plate	1	FR-4	572
	Ligature band	3	Nylon	20
	Cables/wires	N/A	Cu, Sn, Silicone Rubber	650

Package

The product package is made of wood.

You can recycle all materials used in the package.

To avoid pollution caused by unnecessary transportation, the factory does not take back.

used packages. Contact your local ABB office for package recycling instructions if needed.

ABB recommends package recycling as it preserves raw materials and reduces waste being land filled.

Product manuals and sales brochures

To save natural resources and reduce paper waste, all product manuals are available in ABB Library and on the Internet.



3

Manufacturing and use

Manufacturing

ABB Drives has a company-wide integrated quality, environmental and occupational health & safety management system. The system is certified in accordance with requirements of the international standards ISO 9001:2015 and ISO 14001:2015.

The Integrated Management System applies to all units of the company.

Use

The use of a filter has several positive impacts, such as:

- Effectively reducing the harmonic current on the power supply side.
- Improve power grid quality.

For more information on ABB Policy on Health, Safety, Environment, Security and Sustainability, see

new.abb.com/sustainability/abb-policy-on-health-safety-environment-security-and-sustainability.

For more information on ABB group sustainability objectives, see

new.abb.com/sustainability/creating-value/objectives.

4

Product disposal

Contents of this chapter

This chapter contains product disposal instructions.

Disposal

The main parts of the PIHF can be recycled to preserve natural resources and energy.

Product parts and materials should be dismantled and separated.

Generally all metals, such as steel, aluminum, copper and its alloys, and precious metals can be recycled as material. Plastics, rubber, cardboard and other packaging material can be used in energy recovery. Capacitors need selective treatment according to IEC 62635 guidelines.

To aid recycling, plastic parts are marked with an appropriate identification code.

Contact your local ABB distributor for further information on environmental aspects. End of life treatment must follow international and national regulations.

Dismantling

You can dismantle the PIHF manually or in a shredding machine. The chapter is divided in two sections on basis of the dismantling method.

■ Manual dismantling

Sort the parts of the product according to their material contents as follows:

- ferrous metals (plates, screws, Silicon Steel)
- aluminum, copper
- plastics
- capacitors
- other.

You can recycle metal parts (iron, aluminum and copper) and most of the other materials according to local regulations.

For information on harmful materials, see subsection [ABB list of prohibited and restricted substances](#).

■ Mechanical shredding

In this method, a whole product is mechanically shredded into small pieces and materials are sorted using dedicated sorting processes

Remove the harmful material before shredding the PIHF in the shredding machine. See subsection [ABB list of prohibited and restricted substances](#).

ABB list of prohibited and restricted substances

The purpose of this list is to comply with legislation to avoid chemical substances that may present hazards to the environment or the health.

This document provides information about “Prohibited substances”, substances that must not be used, and “Restricted substances”, substances whose use should be limited within ABB.

Definitions and regulations of hazardous materials differ from country to country and are likely to change when knowledge of materials increases. The materials used in the product are materials typically used in electrical and electronic equipment.

■ Reference list

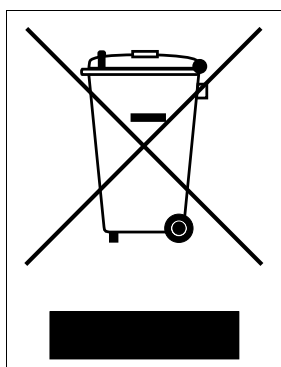
1. Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II).
 2. Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):
 - Annex XIV: List of substances subject to authorization
 - Annex XVII: Restrictions on use of substances in articles
 - SVHC: Candidate list of substances of very high concern for authorization.
 3. Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE).
-

Recycling information in accordance with the WEEE

The product is marked with the wheelie bin symbol. It indicates that at the end of life the product should enter the recycling system.

You should dispose of it separately at an appropriate collection point and not place it in the normal waste stream.

The figure below shows the wheelie bin symbol indicating separate collection for electrical and electronic equipment (EEE).



The horizontal bar underneath the crossed-out wheelie bin indicates that the equipment has been manufactured after the Directive came into force in 2005.

The wheelie bin symbol is added to the type designation label of the product since 2017.

The figure below shows an example.



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 abb.com/searchchannels.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB Drives manuals

Your comments on our manuals are welcome. Navigate to new.abb.com/drives/manuals-feedback-form.

Document library on the Internet

You can find manuals and other product documents in PDF format on the Internet at abb.com/drives/documents.

ABB environment policy

You can find ABB's environmental policy on the Internet at new.abb.com/sustainability/environment-policy.

ABB group sustainability objectives

For information on ABB group sustainability objectives, navigate to new.abb.com/sustainability/creating-value/objectives.

ABB list of prohibited and restricted substances

You can find the ABB list of prohibited and restricted substances at new.abb.com/sustainability/environment.



abb.com/drives