ABB Drives

Recycling instructions and environmental information
ACS350/ACS150 product family

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List of related manuals

Drive hardware manuals and guides	Code (English)
ACS350/ACS150 recycling instructions and environmental information	*3AFE68614180*
ACS350 drives (0.37...22 kW, 0.5...30 hp) user's manual	*3AFE68462401*
ACS150 drives (0.37...4 kW, 0.5...5 hp) user's manual	*3AFE68576032*

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

ACS350/ACS150 product family

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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:

- ACS350/ACS150 product family
- all accessories and option modules.

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.

Drives 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 drive.

The WEEE directive does not apply to drives 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 drive. The frame size is also shown in the rating tables for each drive type. The rating tables are in the *drive user's manual.*

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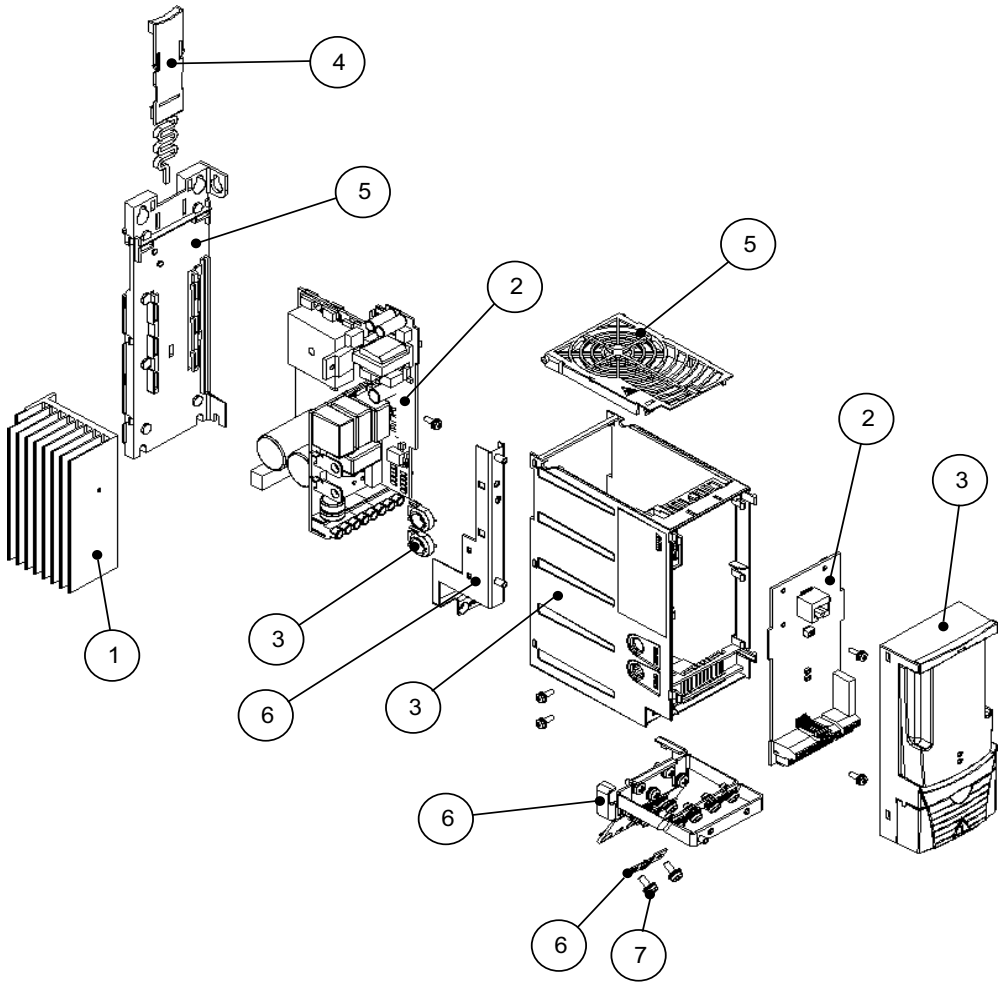
Product materials

Contents of this chapter

This chapter describes the main components and product materials of the ACS350/ACS150 modules of frame sizes R0 to R3.

Structure of the ACS350/ACS150 module frame size R0

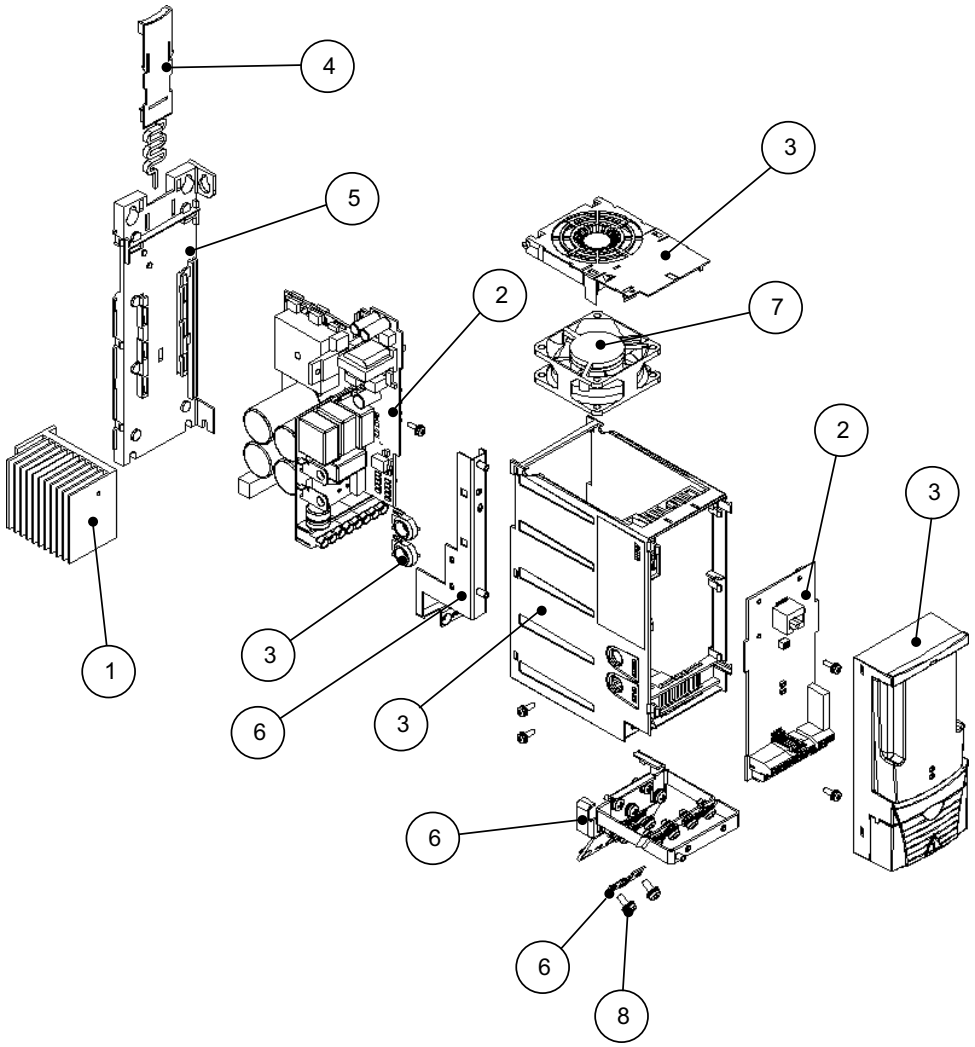
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Heatsink	1...3	Aluminum alloy, EN AW-6063-T5	230...240
2	Printed circuit board	3	Various (FR4)	430
3	Plastic part	7	PC+ABS	210
4	DIN spring	1	PA+GF	10
5	Plastic part	2	PC+GF	80
6	Sheet metal part	10	Zn-coated steel	140
7	Screw	20	Zn-coated steel	50
			Total weight	**1150...1160 kg**

Structure of the ACS350/ACS150 module frame size R1

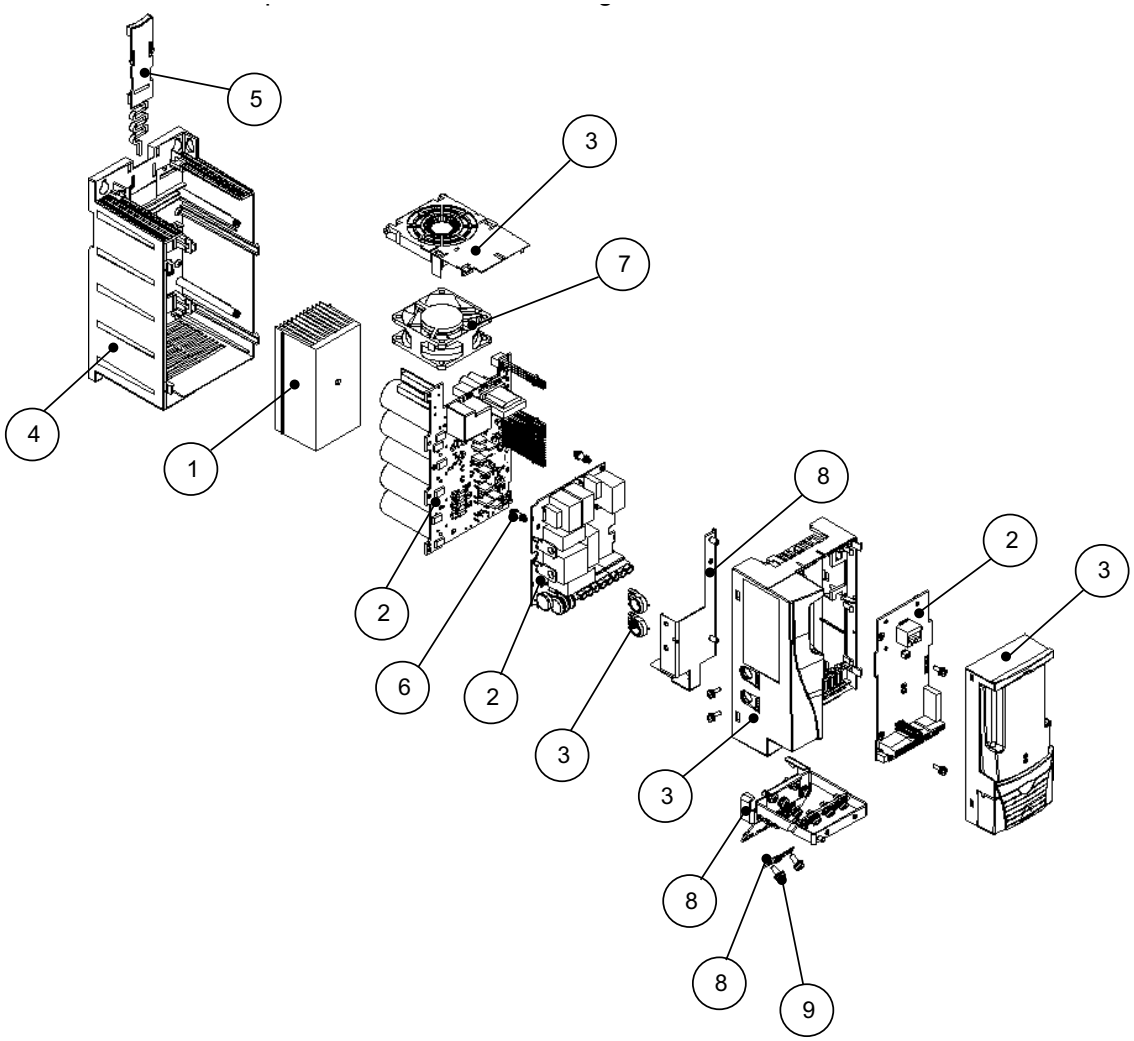
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Heatsink	1...3	Aluminum alloy, EN AW-6063-T5	150...250
2	Printed circuit board	2	Various (FR4)	560
3	Plastic part	8	PC+ABS	230
4	DIN spring	1	PA+GF	10
5	Plastic part	1	PC+GF	70
6	Sheet metal part	10	Zn-coated steel	140
7	Fan	1	Various	40...60
8	Screw	20	Zn-coated steel	50
			Total weight	**1250...1370 g**

Structure of the ACS350/ACS150 module frame size R2

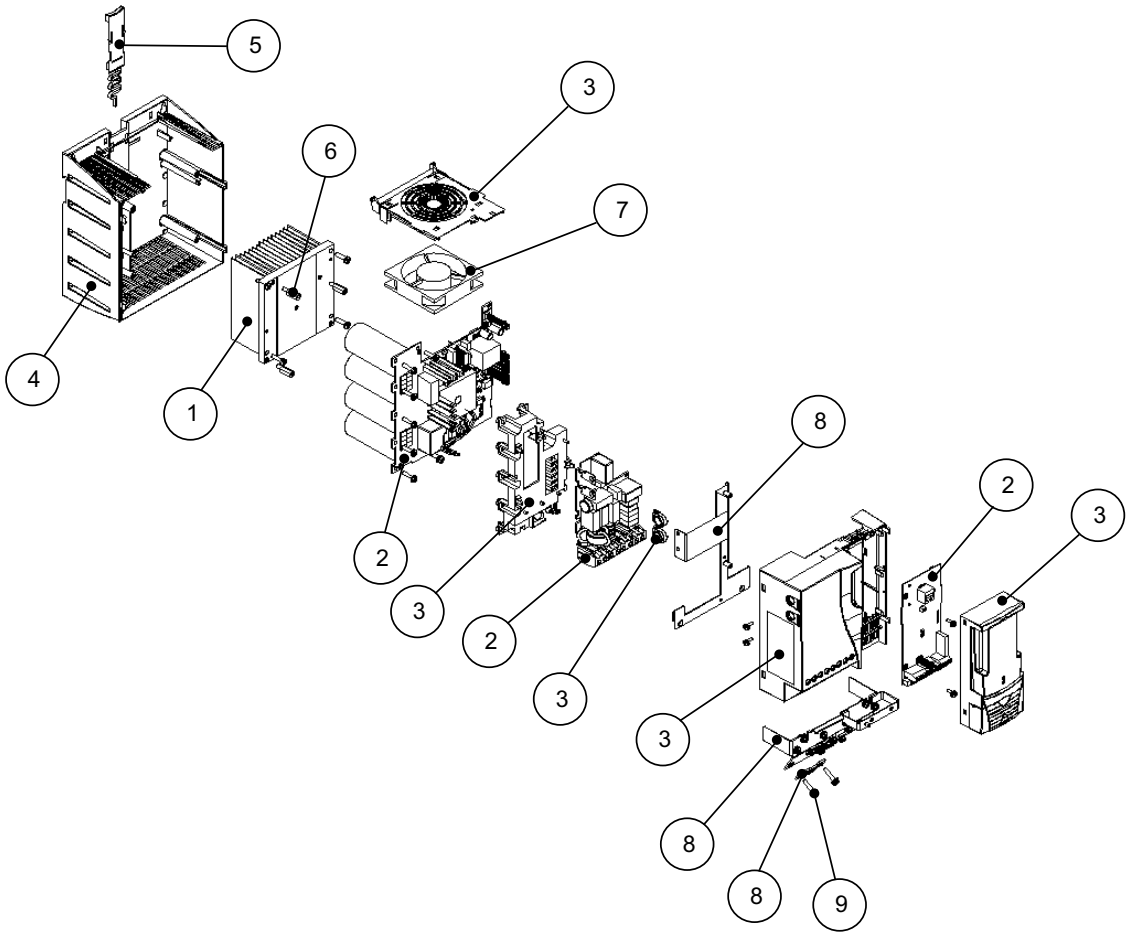
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Heatsink	1	Aluminum alloy, EN AW-6063-T5	350
2	Printed circuit board	3	Various (FR4)	490
3	Plastic part	8	PC+ABS	190...210
4	Frame	1	PC+GF	220
5	DIN spring	1	PA+GF	10
6	Spacer	2	PA	<10
7	Fan	1	Various	60
8	Sheet metal part	9	Zn-coated steel	160
9	Screw	23	Zn-coated steel	50
			Total weight	**1530...1550 g**

Structure of the ACS350 module frame size R3

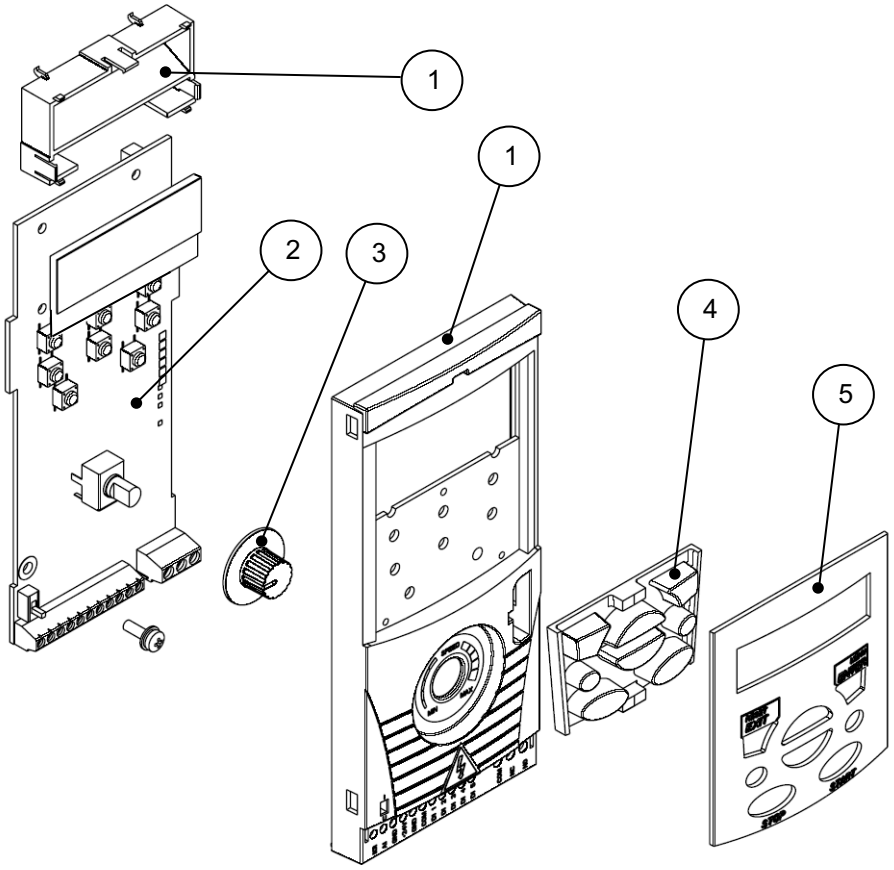
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Heatsink	1	Aluminum alloy, EN AW-6063-T5	710
2	Printed circuit board	3	Various (FR4)	1060
3	Plastic part	9	PC+ABS	320
4	Frame	1	PC+GF	330
5	DIN spring	1	PA+GF	10
6	Spacer	3	PA	<10
7	Fan	1	Various	70
8	Sheet metal part	8	Zn-coated steel	240
9	Screw	33	Zn-coated steel	80
			Total weight	**2820 g**

Structure of the ACS150 specific parts

The main components specific to ACS150 are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Plastic parts	3	PC+ABS	30
2	Printed circuit board	1	Various (FR4)	60
3	Control button	1	PA+GF	<10
4	Keypad	1	Silicone rubber	10
5	Lens	1	PC	<10
			Total weight	**100 g**

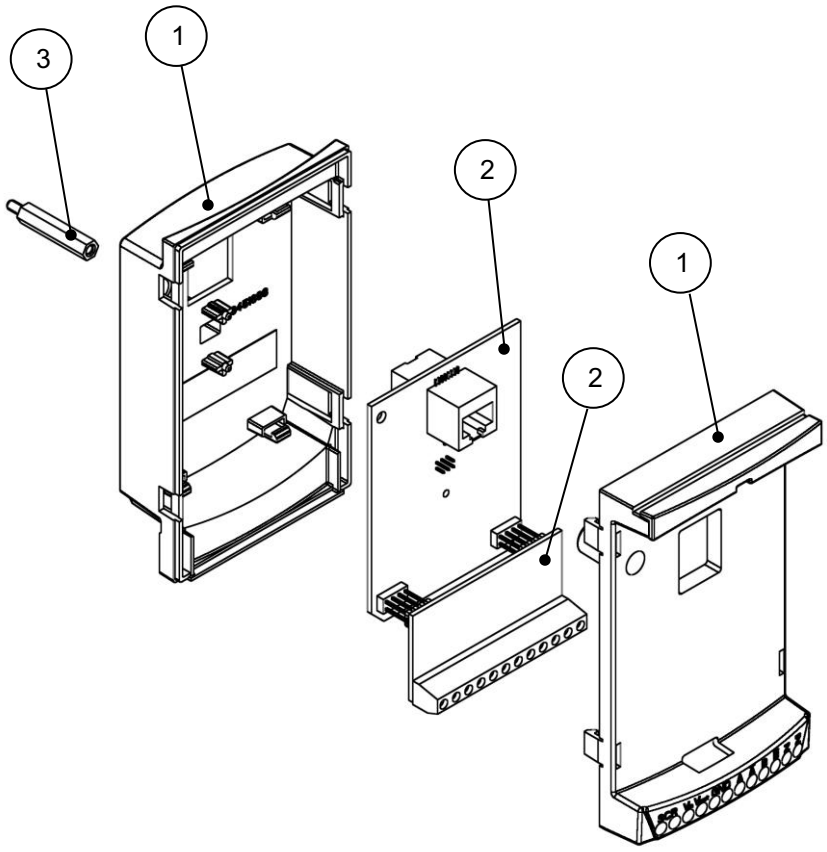
Options

Structure of the control panel

See recycling instructions of the ACS550 product family (3AFE68315727).

Structure of the MTAC-01 option

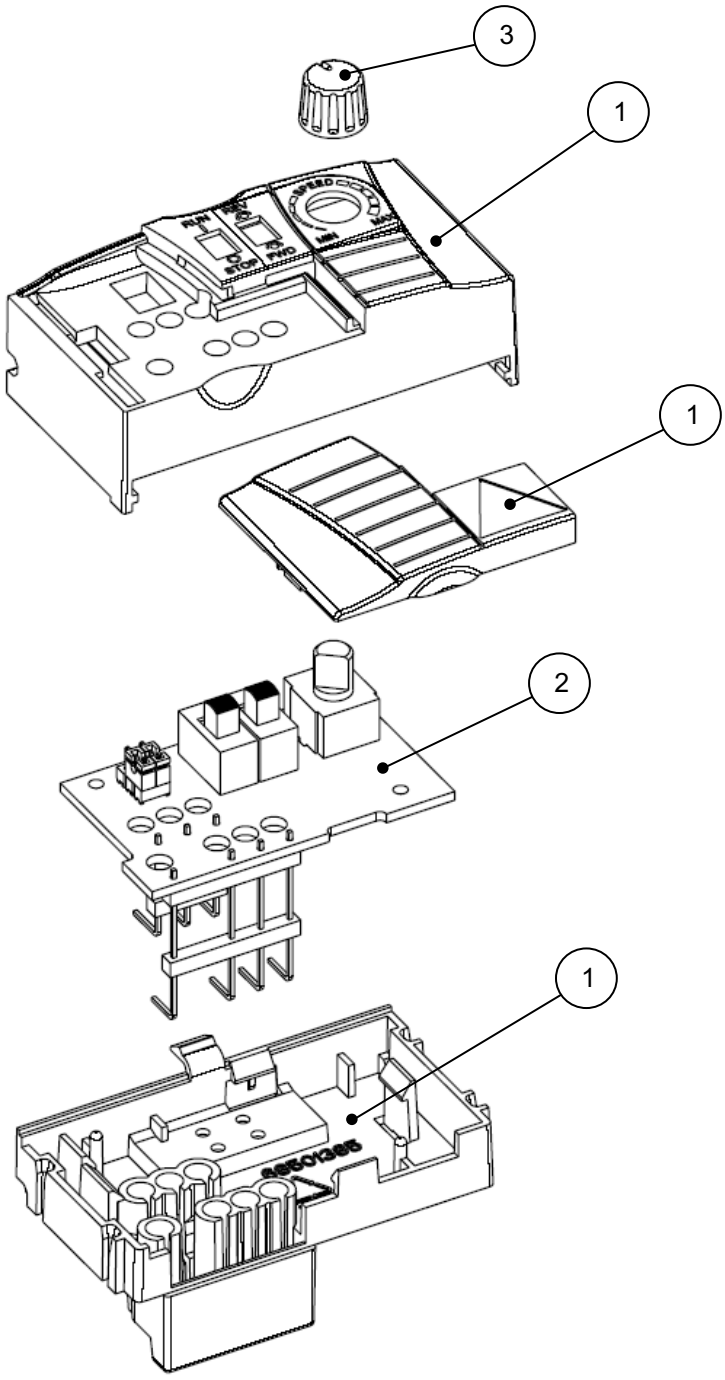
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Plastic part	3	PC+ABS	50
2	Printed circuit board	2	Various (FR4)	60
3	Screw tower	1	Zn-coated steel	<10
			Total weight	**110 g**

Structure of the MPOT-01 option

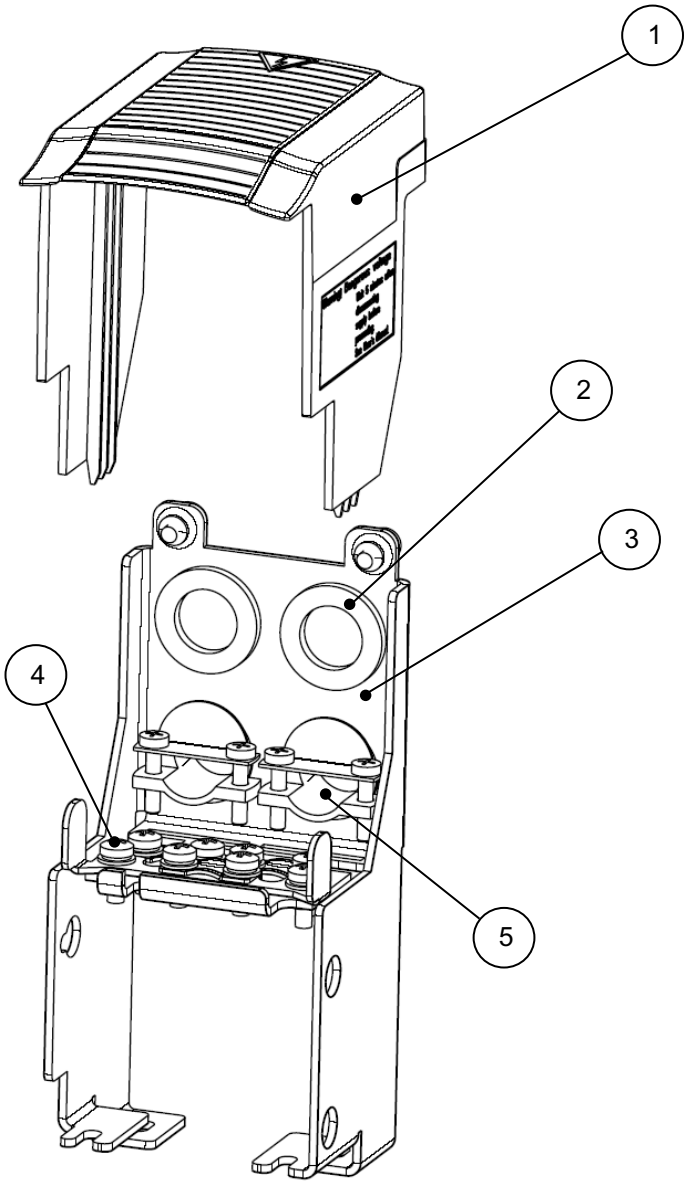
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Plastic part	3	PC+ABS	20
2	Printed circuit board	1	Various (FR4)	10
3	Control button	1	PA+GF	<10
			Total weight	**30 g**

Structure of the MUL-R1 option

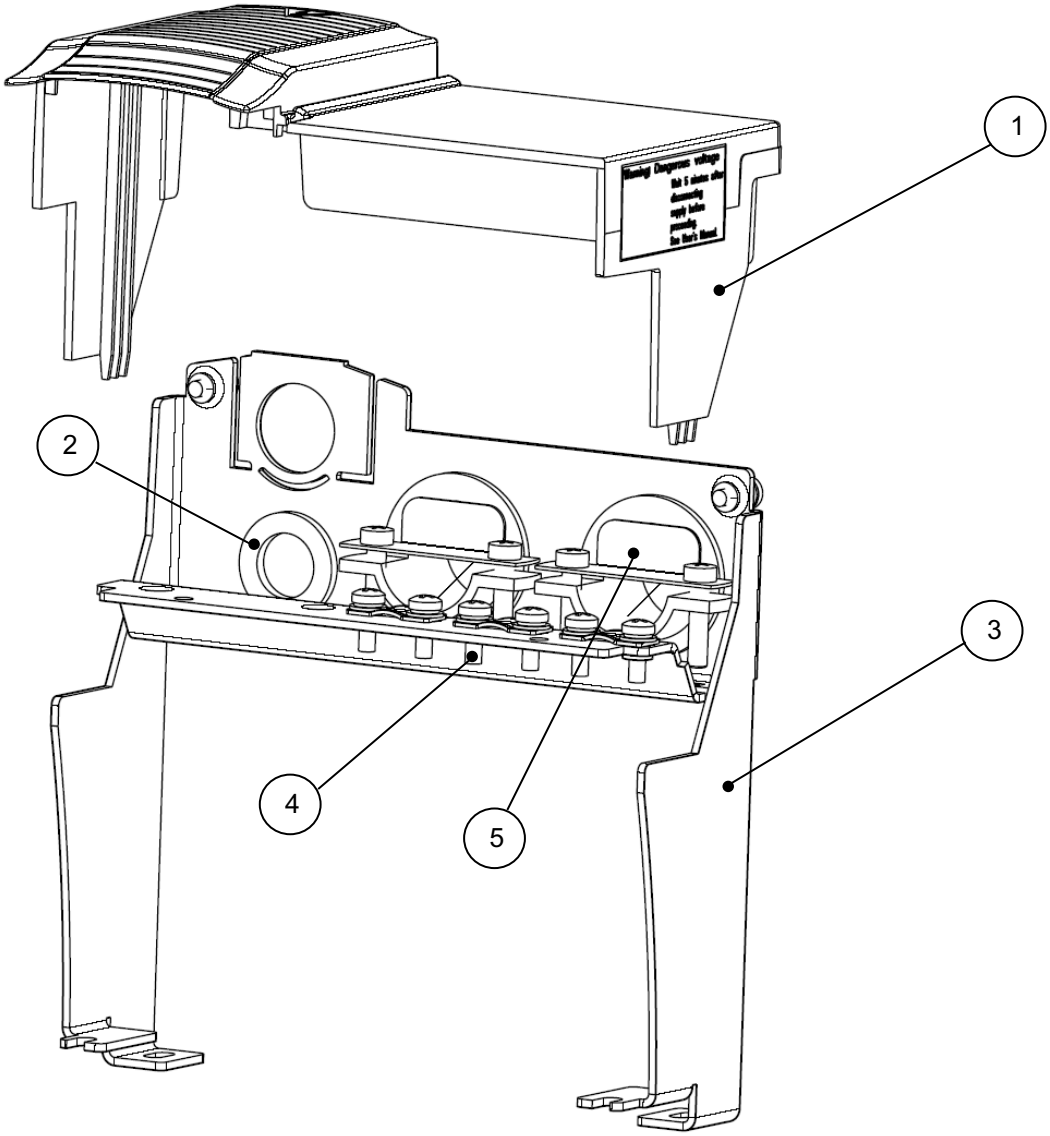
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Cover	1	PC+ABS	50
2	Sealing ring	2	Rubber	<10
3	Metal part	5	Zn-coated steel	270
4	Screw	10	Zn-coated steel	20
5	Connector	4	Zn-coated steel	160
			Total weight	**500 g**

Structure of the MUL1-R3 option

The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Cover	1	PC+ABS	70
2	Sealing ring	1	Rubber	<10
3	Metal part	4	Zn-coated steel	420
4	Screw	10	Zn-coated steel	20
5	Connector	4	Zn-coated steel	240
			Total weight	**750 g**

All screws in ACS350/ACS150: carbon steel, Pozidrives or Torx recess, zinc plating

Plastics and rubber	
ABS	Acrylonitrile-butadiene-styrene
GF	Glass fibre
PA	Polybutene terephthalate
PC	Polycarbonate

All plastic parts (weight > 25 g) are marked according to ISO 1043 and DIN 54840.

Package

The product package is made of corrugated board.

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 landfilled.

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 Oy (Finland) 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 drive has several positive environmental impacts, such as:

- Substantial energy savings and reduced operating costs can be reached using a drive. Rather than have an electric motor running continuously at full speed, an electric drive allows the user to slow down or speed up the motor.
- Process control is optimized. An electric drive enables a process to achieve the right speed and torque while maintaining its accuracy.
- Need for maintenance is reduced. Being able to vary the speed and torque of an electric motor means there is less wear and tear on the motor and the driven machine.

4

Product disposal

Contents of this chapter

This chapter contains product disposal instructions.

Disposal

The main parts of the drive 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.

Printed circuit boards and DC 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 drive 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)
- aluminum (heatsink)
- plastics
- printed circuit boards
- electrolytic capacitors (mounted on the main circuit board)
- other.

You can recycle metal parts (iron and aluminum) 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 drive 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 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

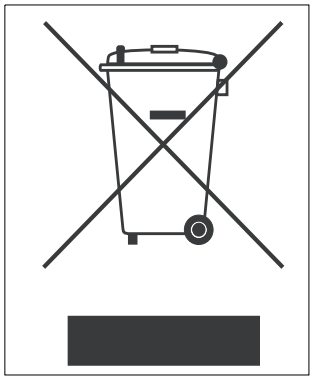
1. Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II).
2. Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning 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.

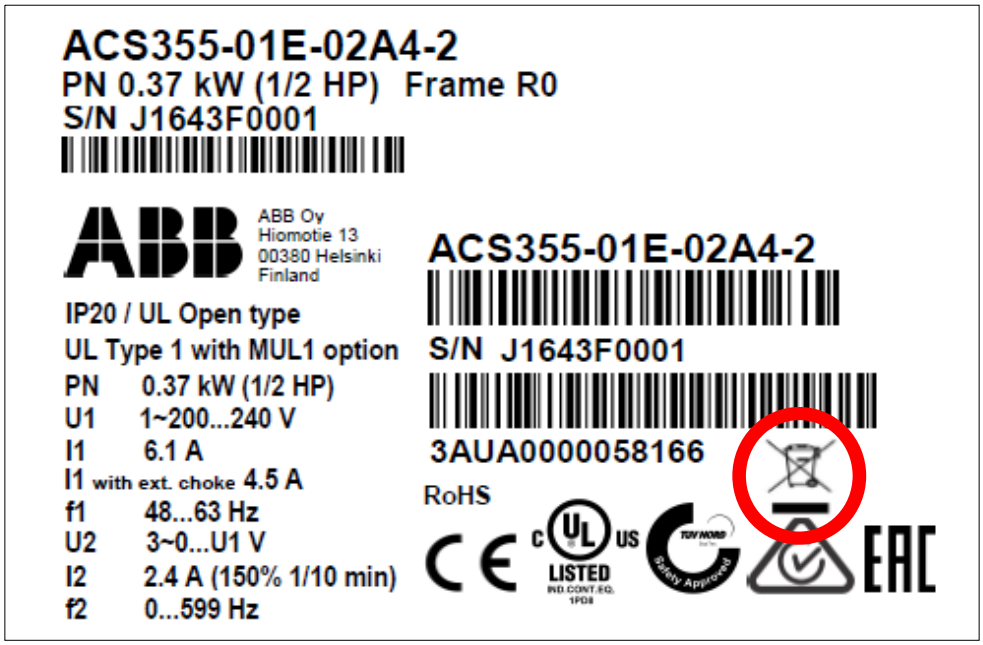
The figure below shows the wheelie bin symbol indicating separate collection for electrical and electronic equipment (EEE).



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.



A recycling example

This example complies with typical national regulations valid at the time of publishing this manual.

Materials	Recycling method
Steel	Recycled as material
Aluminum	Recycled as material
Plastics	Energy recovery (incineration)
Printed circuit boards	Recycled as WEEE
Electrolytic capacitors	Recycled as WEEE
Cables	Recycled as material
Ceramics	Landfilled
Other materials	Energy recovery (incineration)

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 new.abb.com/service/training.

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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.

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