Recycling instructions and environmental information
ACS200 product family
List of related manuals

<table>
<thead>
<tr>
<th>Drive hardware manuals and guides</th>
<th>Code (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS200 recycling instructions and environmental information</td>
<td>DOCRIACS20001</td>
</tr>
</tbody>
</table>

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 environment information
ACS200 product family
# Table of contents

1. *Introduction to the manual*
   - What this chapter contains .......................................................... 7
   - Applicability ............................................................................... 7
   - Target audience ......................................................................... 7
   - Contents of the manual ............................................................... 7
   - Frame size ................................................................................ 8
   - Disclaimer ................................................................................ 8

2. *Product materials*
   - Contents of this chapter .............................................................. 9
   - Structure of the ACS200 module .................................................. 9
   - Accessories and option modules ................................................ 12
     - Control panel .......................................................................... 12
     - Resistor ................................................................................ 12
     - Input and output chokes ............................................................ 12
     - IP65 set for control panel .......................................................... 12
   - Package .................................................................................... 13
   - Product manuals and sales brochures ......................................... 13

3. *Manufacturing and use*
   - Manufacturing .......................................................................... 15
   - Use ............................................................................................ 15

4. *Product disposal*
   - Contents of this chapter .............................................................. 17
   - Disposal .................................................................................... 17
   - Dismantling ................................................................................ 17
     - Manual dismantling ................................................................ 18
     - Mechanical shredding .............................................................. 18
   - ABB list of prohibited and restricted substances ....................... 18
   - Reference list ........................................................................... 18
   - Recycling information in accordance with the WEEE ............... 19
   - A recycling example ................................................................. 20

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**Further information**

- Product and service inquiries .................................................. 21
- Product training .......................................................................... 21
- Providing feedback on ABB manuals ....................................... 21
- Document library on the Internet ............................................. 21
- ABB environment policy ........................................................... 21
- ABB group sustainability objectives ......................................... 21
- ABB list of prohibited and restricted substances ....................... 21
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:
- ACS200 product family frame sizes R0 and R1
- 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 ACS200 drive.

Structure of the ACS200 module
The picture below describes materials of the frame size R1. Difference between frame sizes R0 and R1 is that R0 does not contain a fan.
The main components are shown in the figure below.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Qty</th>
<th>Materials</th>
<th>Weight (total) / g</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover panel</td>
<td>1</td>
<td>PC</td>
<td>60...65</td>
</tr>
<tr>
<td>2</td>
<td>Cover part</td>
<td>1</td>
<td>ABS (70%), PC (30%)</td>
<td>302...365</td>
</tr>
<tr>
<td>3, 5</td>
<td>Printed circuit board</td>
<td>2</td>
<td>Various</td>
<td>520...850</td>
</tr>
<tr>
<td>4</td>
<td>Standoffs</td>
<td>4</td>
<td>Nickel-plated brass</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>Gasket</td>
<td>1</td>
<td>CR</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Standoff</td>
<td>1</td>
<td>PVC</td>
<td>1</td>
</tr>
<tr>
<td>8, 9</td>
<td>IGBT and rectifier bridge</td>
<td>1</td>
<td>Various</td>
<td>95</td>
</tr>
<tr>
<td>10</td>
<td>Heatsink</td>
<td>1</td>
<td>AlSi12 (trade name A380)</td>
<td>1790...2147</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Fan*</td>
<td>1</td>
<td>PBT, PA, steel</td>
<td>58</td>
</tr>
<tr>
<td>12</td>
<td>Fan guard*</td>
<td>1</td>
<td>R1 chromium-plated steel, R2 Noryl or ABS</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>Cable plate</td>
<td>1</td>
<td>Zinc-coated steel</td>
<td>39</td>
</tr>
<tr>
<td>14</td>
<td>Capacitors</td>
<td>2...4</td>
<td>Various</td>
<td>101...202</td>
</tr>
<tr>
<td>15</td>
<td>Standoff</td>
<td>1</td>
<td>PA</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Hit-Sert</td>
<td>2</td>
<td>Brass</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>IP21 cover hat</td>
<td>1</td>
<td>ABS (70%), PC (30%)</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Screws etc.</td>
<td>n</td>
<td>Carbon steel</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total weight 3153...4009 g**

* Only in frame size R1
12  Product materials

Accessories and option modules

- Control panel

![Control panel diagram]

- Resistor

An example: A resistor for the smallest ACS200 (100 ohm, 250 W). Weight of the resistor varies greatly according to the drive type with which it is used.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Qty</th>
<th>Materials</th>
<th>Weight / g</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frame</td>
<td>1</td>
<td>Zinc-coated steel</td>
<td>545</td>
</tr>
<tr>
<td>2</td>
<td>Resistor</td>
<td>1</td>
<td>Steatite C221 or cordierite C551, AlPO₄</td>
<td>385</td>
</tr>
<tr>
<td>3</td>
<td>Resistance wire</td>
<td>1</td>
<td>CrAlFe, CrNi, CuNi</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>Connectors</td>
<td>1</td>
<td>Porcelain</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Cables</td>
<td>2</td>
<td>Nickelchrome and magnesium oxide, nickel or constantan, insulation silicone</td>
<td>4</td>
</tr>
</tbody>
</table>

Total weight: 1016 g

- Input and output chokes

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Qty</th>
<th>Materials</th>
<th>Weight (total) / g</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Choke</td>
<td>1...6</td>
<td>Armature sheet 56-69 weight-%, Cu 14-20%, Fe 7-13%, various plastics (incl. PVC, connector PA) 4-13%</td>
<td>1600...16200 g</td>
</tr>
</tbody>
</table>

Total weight: 1600...16200 g

- IP65 set for control panel

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Name</th>
<th>Qty</th>
<th>Materials</th>
<th>Weight (total) / g</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cable</td>
<td>1</td>
<td>PVC, Cu</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>Gasket</td>
<td>1</td>
<td>CR</td>
<td>3</td>
</tr>
</tbody>
</table>

Total weight: 80 g

All screws: carbon steel, Philips recess, zinc plating
Package

The product package is made of corrugated board. The package contains also some supporting pieces made of polyethylene foam. The packages are equipped with recycling symbols.

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.
Product materials
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.
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**


   - 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.

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.

<table>
<thead>
<tr>
<th>Materials</th>
<th>Recycling method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>Recycled as material</td>
</tr>
<tr>
<td>Aluminum</td>
<td>Recycled as material</td>
</tr>
<tr>
<td>Plastics</td>
<td>Energy recovery (incineration)</td>
</tr>
<tr>
<td>Printed circuit boards</td>
<td>Recycled as WEEE</td>
</tr>
<tr>
<td>Electrolytic capacitors</td>
<td>Recycled as WEEE</td>
</tr>
<tr>
<td>Cables</td>
<td>Recycled as material</td>
</tr>
<tr>
<td>Ceramics</td>
<td>Landfilled</td>
</tr>
<tr>
<td>Other materials</td>
<td>Energy recovery (incineration)</td>
</tr>
</tbody>
</table>
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.

Providing feedback on ABB 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 www.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.