



ABB Machinery & Automation

PLC , Programmable Logical Controller Recycling instructions and environmental information

3ADR993016

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The system/product owners must establish and maintain appropriate measures, including, but not limited to, the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, and so on, to protect these products, the network, its system, and interfaces against security breaches, unauthorized access, interference, intrusion, leakage, and/or theft of data or information.

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1. INTRODUCTION TO THE MANUAL

1.1 What this chapter contains

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

1.2 Applicability

This document covers the environmental information of the following products: DCS880 drives with option modules.

1.3 Target audience

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

1.4 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.

1.5 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.

1.6 Disclaimer

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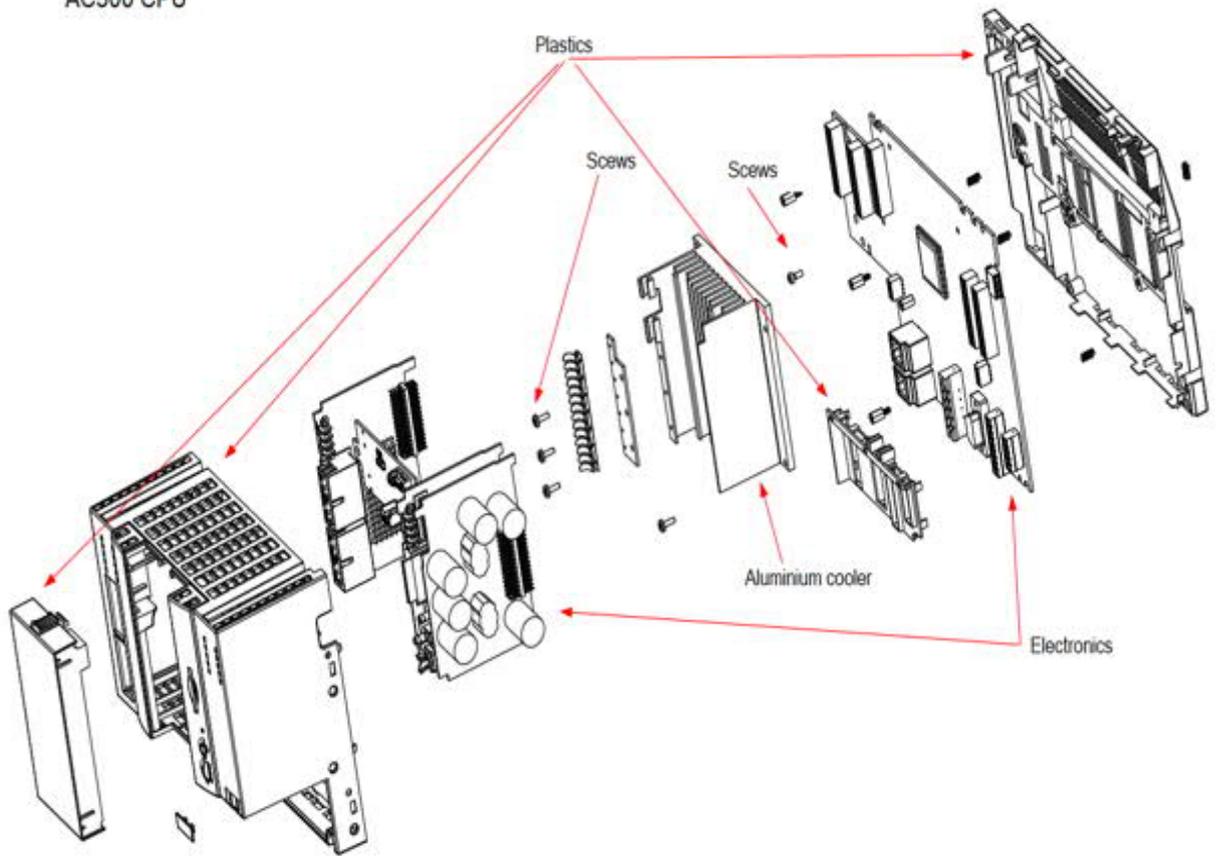
2. PRODUCT MATERIALS

2.1 Contents of this chapter

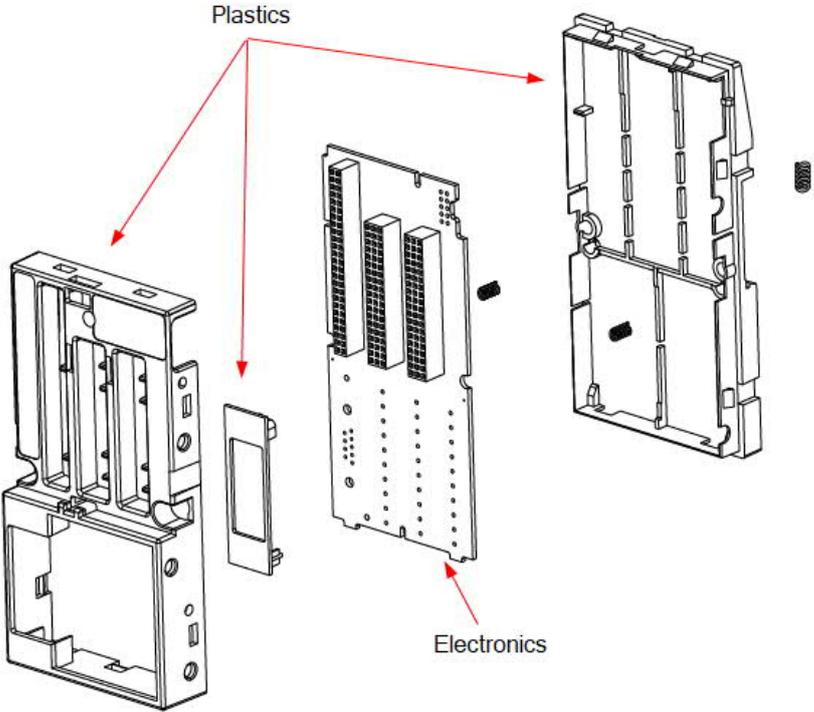
This chapter describes the main components and product materials of the PLC's.

2.2 Examples for different family types

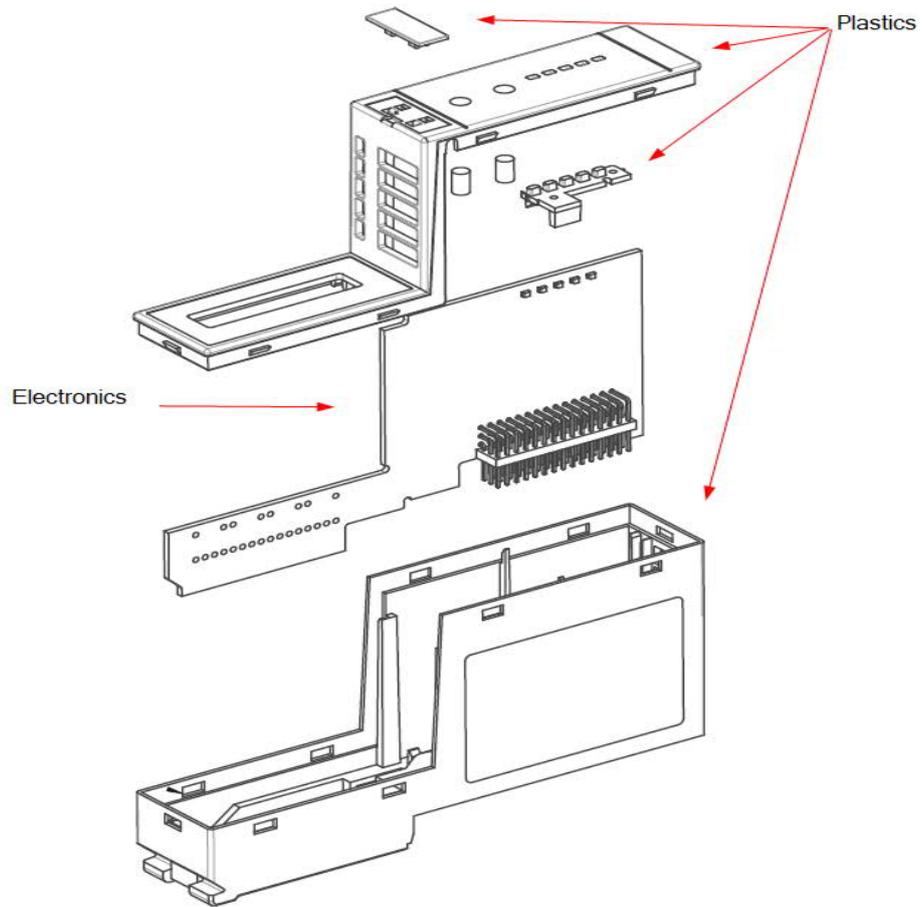
AC500 CPU



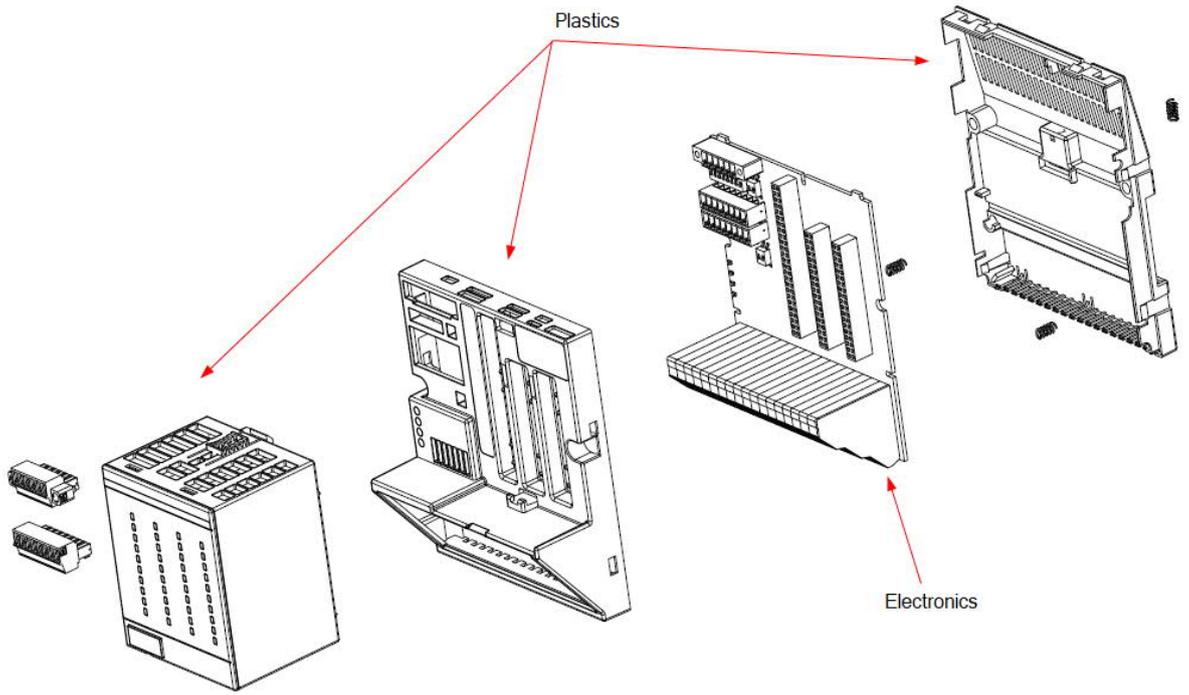
S500 Terminalunit



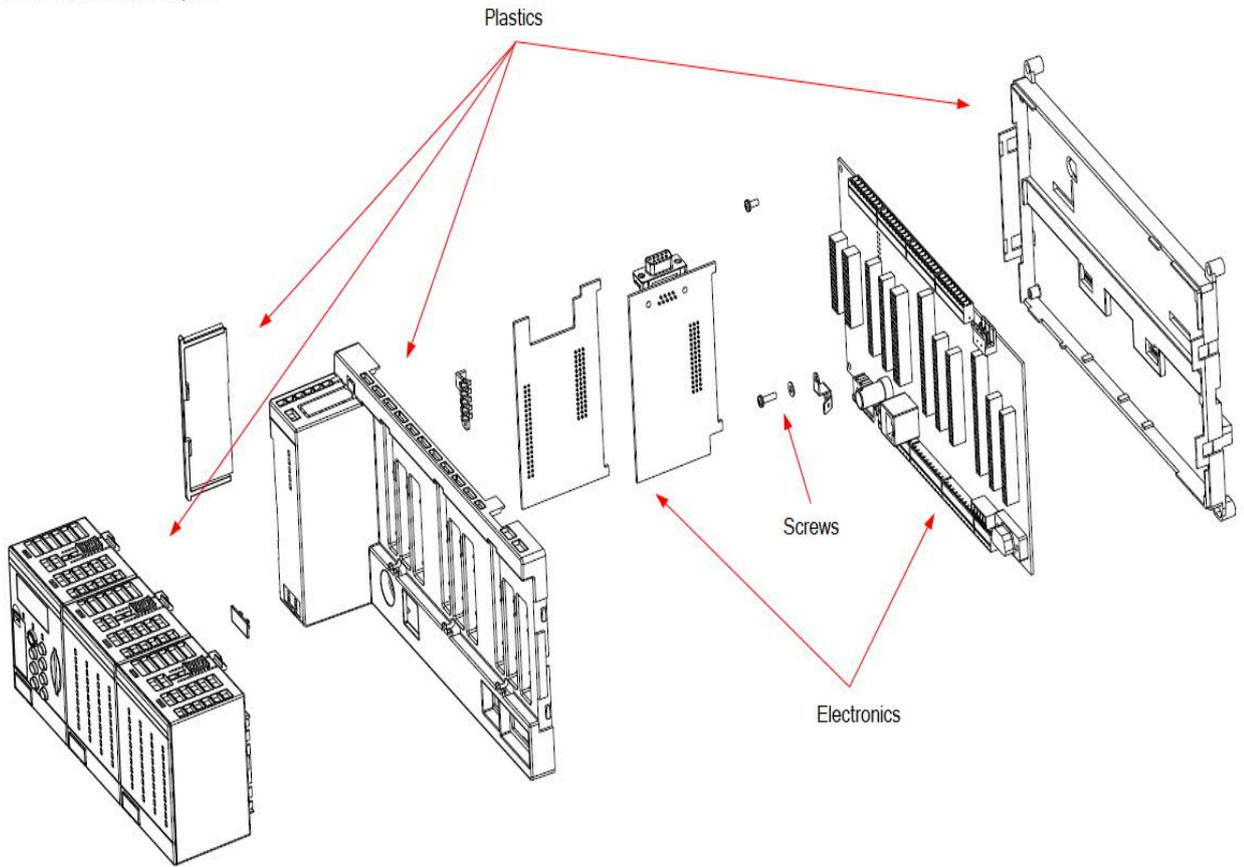
AC500 Coupler



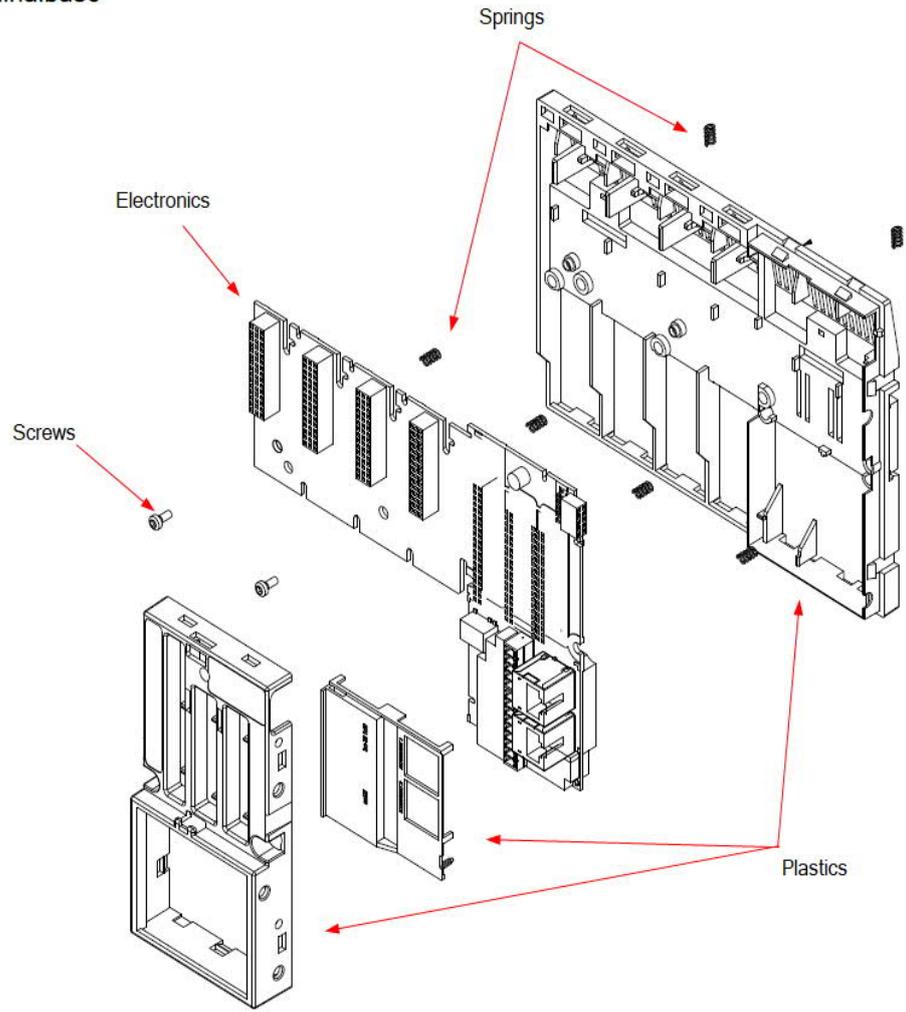
AC31 Adapter RIO



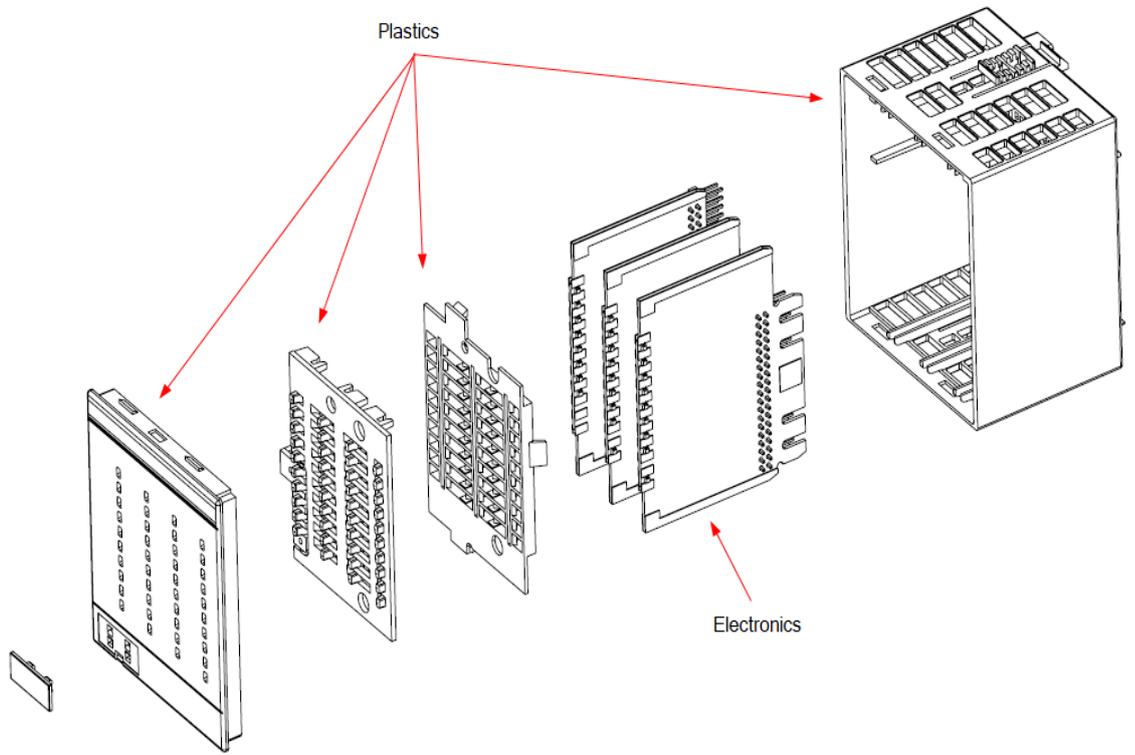
AC31 07KT9x adapter



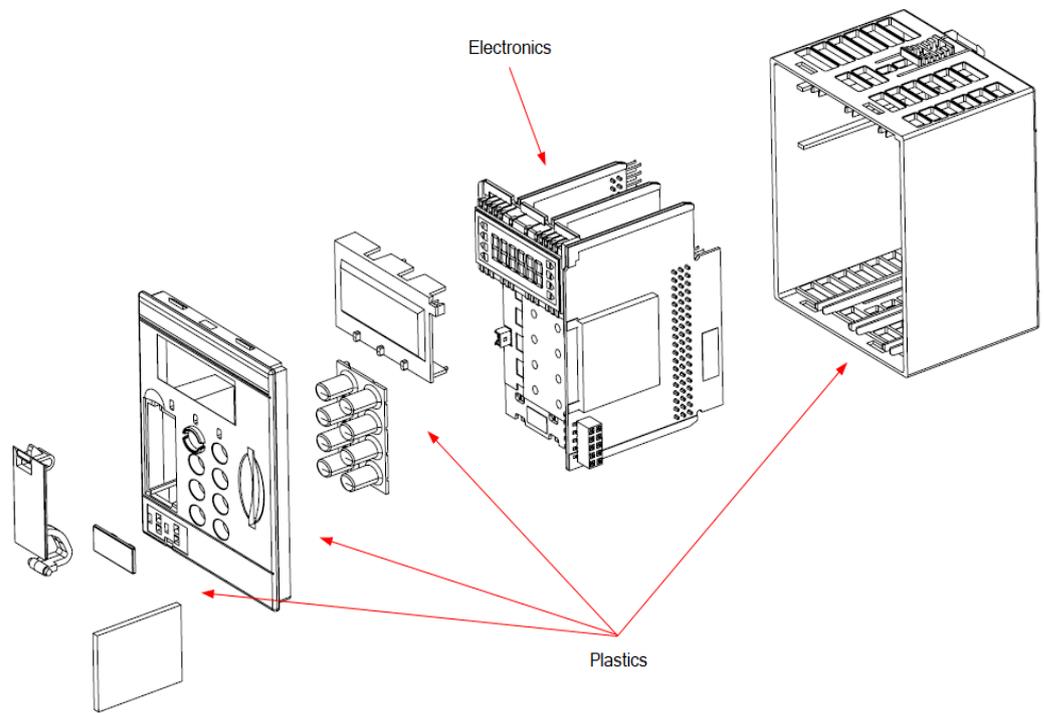
AC500 Terminalbase



Digital IO



CPU with Ethernet



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3. MANUFACTURING

3.1 Manufacturing

ABB Automation Products GmbH (Germany) 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.

4. PRODUCT DISPOSAL

4.1 Contents of this chapter

This chapter contains product disposal instructions.

4.2 Disposal

The main parts of the PLC 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 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.

4.3 Dismantling

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

4.3.1 Manual dismantling

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

- ferrous metals (plates, screws)
- plastics
- printed circuit boards
- 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.

4.3.2 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 shredder.

4.4 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.

4.4.1 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.

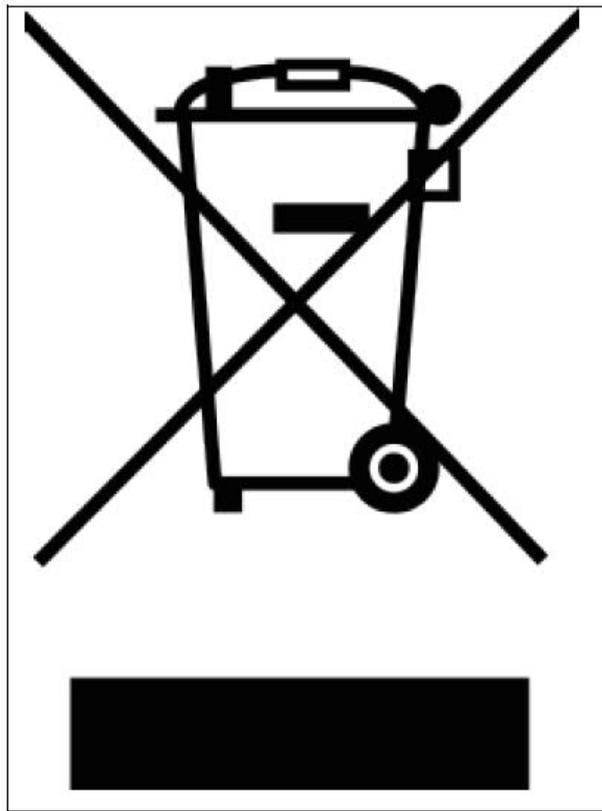
3. Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE).

4.5 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)

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5. FURTHER INFORMATION

5.1 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.

5.2 Document library on the Internet

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You can find manuals and other product documents in PDF format on the Internet. Go to www.abb.com/PLC and select Document Library. You can browse the library or enter selection criteria, for example a document code, in the search field.

5.3 ABB environment policy

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

5.4 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

6. 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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