

1SFC132395M0201

Softstarters Type PSE18...PSE370

Recycling Instructions and Environmental Information



This manual belongs to:



Softstarters Type PSE18...PSE370

Recycling Instructions and Environmental Information

General

This document covers information on recycling of the ABB softstarters type PSE18...PSE370.

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This document has been carefully checked. If the user nevertheless detects any errors, he is kindly asked to notify us as soon as possible.

The data contained in this manual is intended solely for the product description and is not to be deemed to be a statement of guaranteed properties. In the interests of our customers, we constantly seek to ensure that our products are developed to the latest technological standards.

As a result, there may be some differences between the softstarter and the information in this manual.

Author's address:

ABB AB
Control Products
SE-721 61 Västerås, Sweden

Telephone: +46 (0) 21 32 07 00

www.new.abb.com/drives/softstarters/pse

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Chapter 1 Introduction

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

1.1 List of related manuals

For the softstarters type PSE18...PSE370, the following manuals are available:

1SFC132369M9901 (User manual short form, printed)

1SFC132057M0201 (Installation and commissioning manual, PDF-file)

You can find manuals and other product documents in PDF format at new.abb.com/drives/softstarters/pse. Go to Document library.

1.2 Applicability

This document covers recycling and environmental information for the following products:

- Softstarters type PSE18...PSE370.

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:

- Introduction
- Product materials
- Manufacturing and use
- Product disposal
- Further information

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

Softstarters 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 softstarter.

The WEEE directive does not apply to softstarters 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 Products

This manual covers all different products within the complete PSE softstarter product range. The product type and rating is marked on the type designation printing found on the front of the softstarter. Product component decomposition and material to be recycled is found listed per each group of products in this manual. Refer to the product type that corresponds to the correct group of products and material content when dismantling your device.

1.6 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.

1.7 Revision notes and other documents

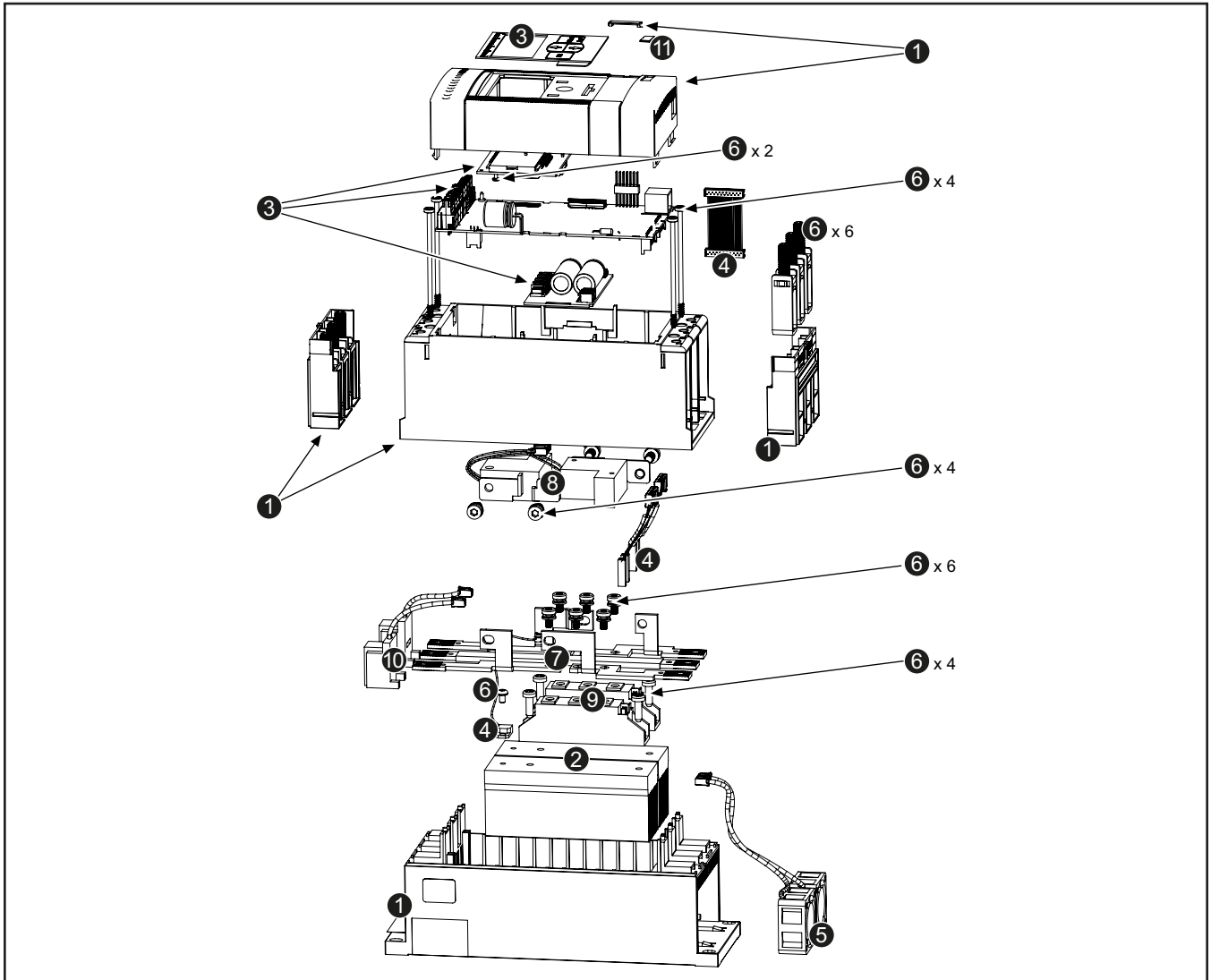
For latest information on revisions and other documents related to the PSE softstarters, please check www.new.abb.com/drives/softstarters/pse

Chapter 2 Product materials

This chapter describes the main components and product materials of the PSE softstarter.

2.1 Materials of PSE Softstarter PSE18...PSE72-600-70

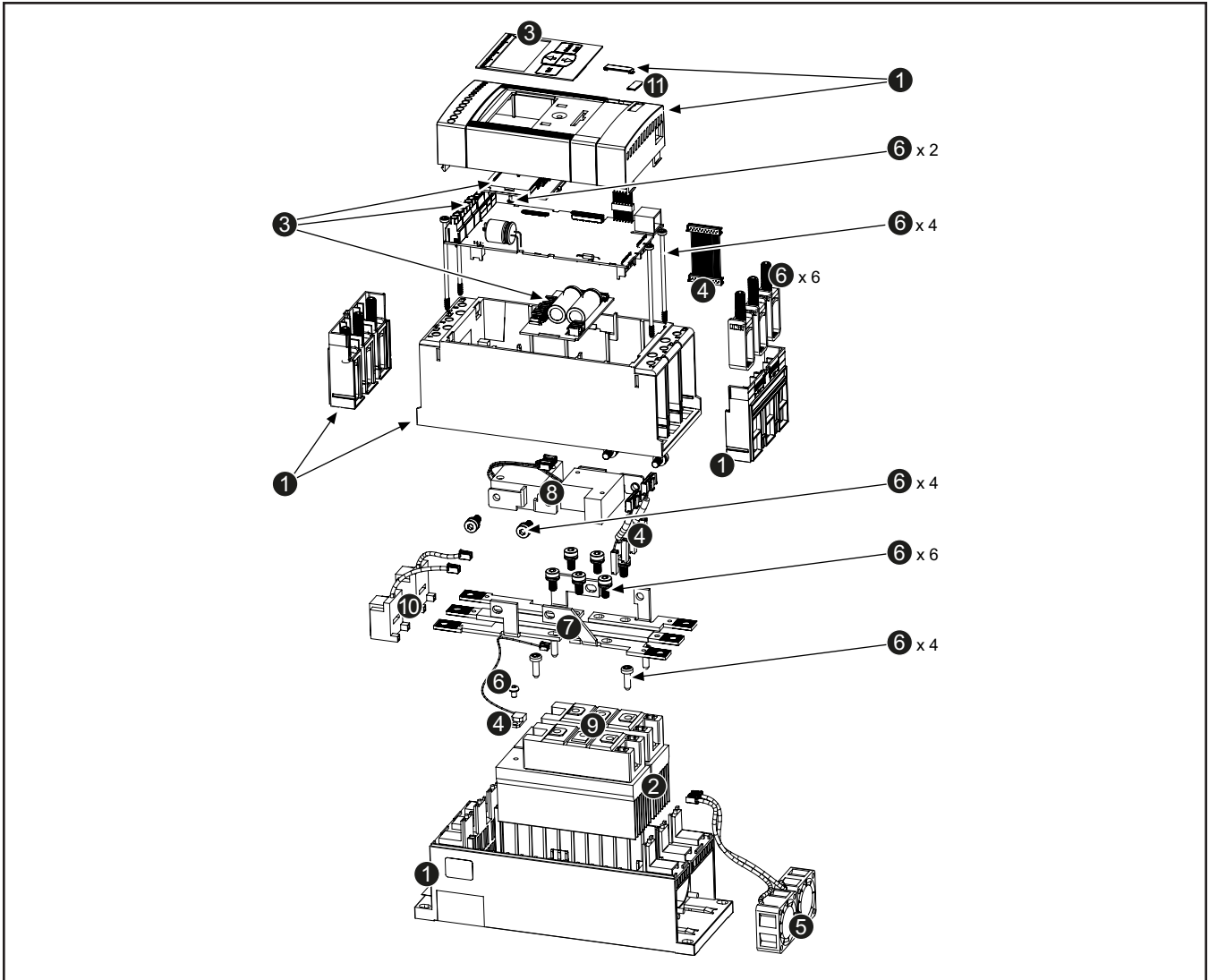
Ordering Codes 1SFA897101...07R7000.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure and terminal housings	6	Plastics	Polyamide (PA6)	728g
2	Heatsinks	2	Metal	Aluminium	652g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	264g
4	Cables and sensor	4	Electrical	Cables and various material	24g
5	Fans	2	Electrical	Electronic components and various material	46g
6	Screws and terminal connections	27	Metal	Ferrous metals	370g
7	Terminal bar connectors	5	Metal	Copper and rubber	270g
8	Relays	2	Electrical	Various material	166g
9	Thyristors	2	Electrical	Various material	184g
10	Current transformers	2	Electrical	Various material	118g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	57			2822g

2.2 Materials of PSE Softstarter PSE85...PSE105-600-70

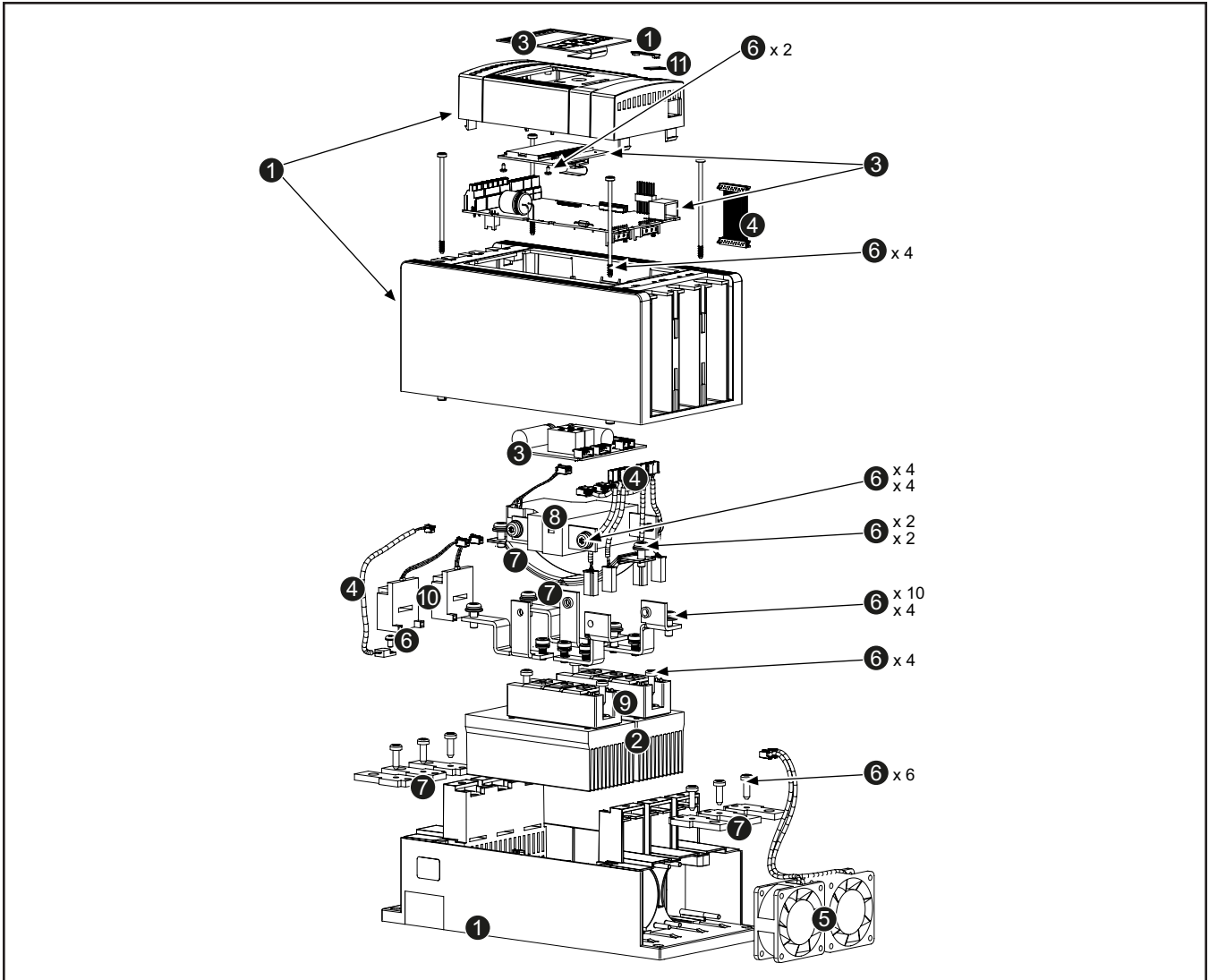
Ordering Codes 1SFA897108...09R7000.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure and terminal housings	6	Plastics	Polyamide (PA6)	728g
2	Heatsinks	2	Metal	Aluminium	652g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	264g
4	Cables and sensor	4	Electrical	Cables and various material	24g
5	Fans	2	Electrical	Electronic components and various material	46g
6	Screws and terminal connections	27	Metal	Ferrous metals	370g
7	Terminal bar connectors	5	Metal	Copper and rubber	260g
8	Relays	2	Electrical	Various material	166g
9	Thyristors	2	Electrical	Various material	335g
10	Current transformers	2	Electrical	Various material	118g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	57			2963g

2.3 Materials of PSE Softstarter PSE142...PSE170-600-70

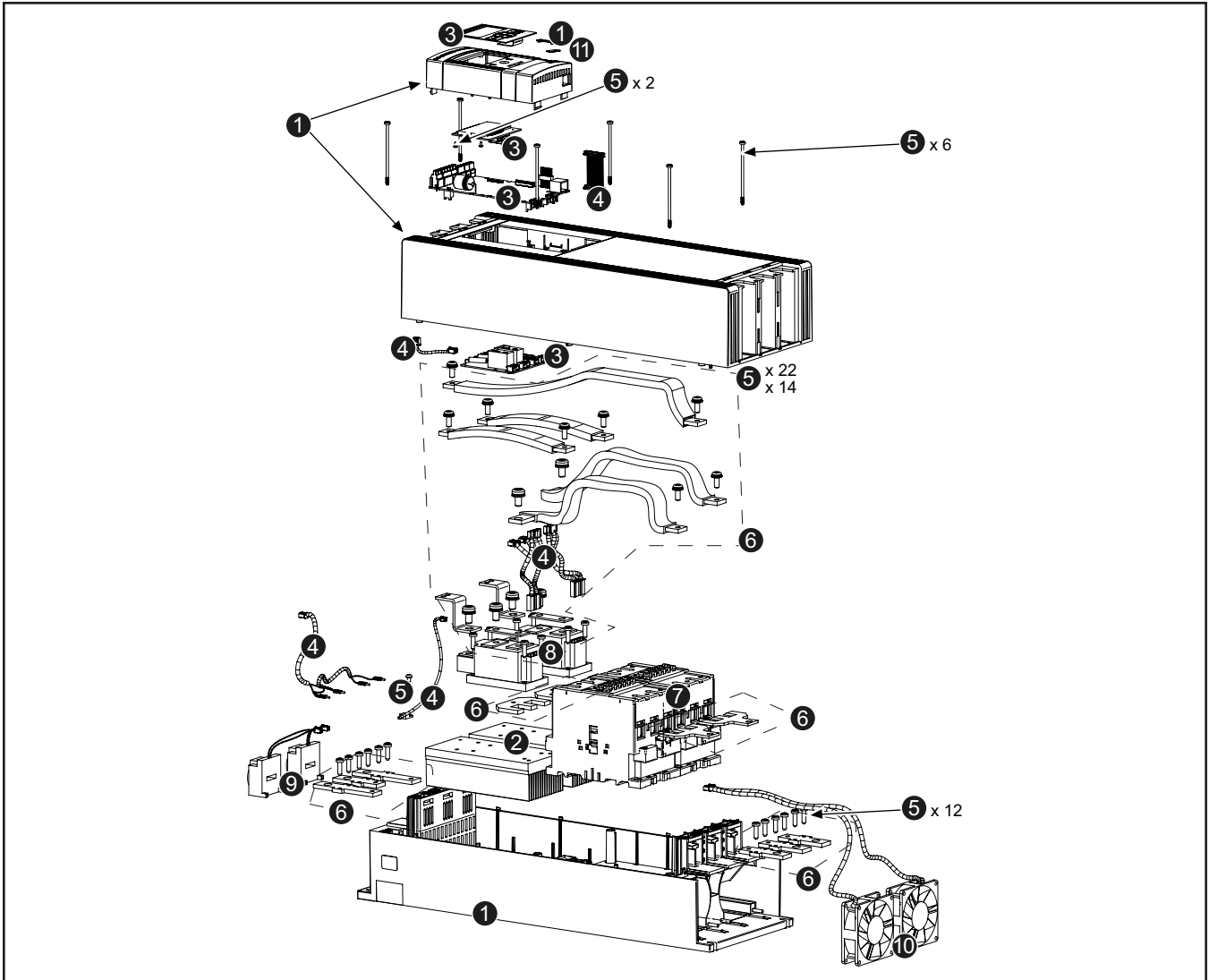
Ordering Codes 1SFA897110...11R7000.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	4	Plastics	Polyamide (PA6)	1378g
2	Heatsinks	2	Metal	Aluminium	1072g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	294g
4	Cables and sensor	4	Electrical	Cables and various material	38g
5	Fans	2	Electrical	Electronic components and various material	112g
6	Screws and washers	43	Metal	Ferrous metals	160g
7	Terminal cable and bar connectors	11	Metal	Copper	532g
8	Relay	1	Electrical	Various material	320g
9	Thyristors	2	Electrical	Various material	246g
10	Current transformers	2	Electrical	Various material	156g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	76			4308g

2.4 Materials of PSE Softstarter PSE210-600-70

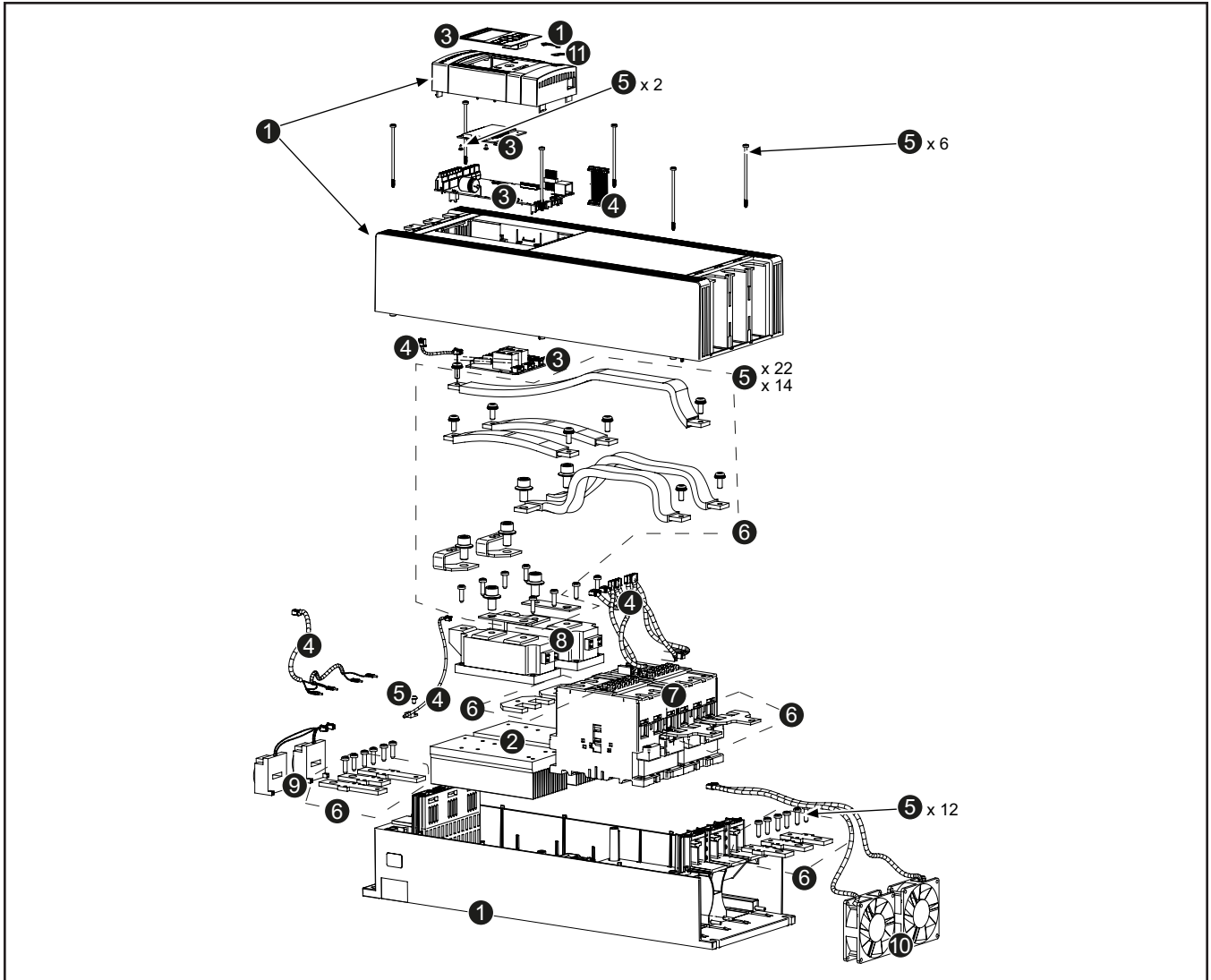
Ordering Codes 1SFA897112R7000.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	4	Plastics	Polyamide (PA6)	2736g
2	Heatsinks	2	Metal	Aluminium	1780g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	298g
4	Cables and sensor	6	Electrical	Cables and various material	40g
5	Screws and washers	43	Metal	Ferrous metals	278g
6	Terminal cables and bar connectors	19	Metal	Copper, rubber and tin coated copper	1706g
7	Contactors	2	Electrical	Various material	3866g
8	Thyristors	2	Electrical	Various material	1372g
9	Current transformers	2	Electrical	Various material	332g
10	Fans	2	Electrical	Various material	132g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	87			12540g

2.5 Materials of PSE Softstarter PSE250...PSE370-600-70

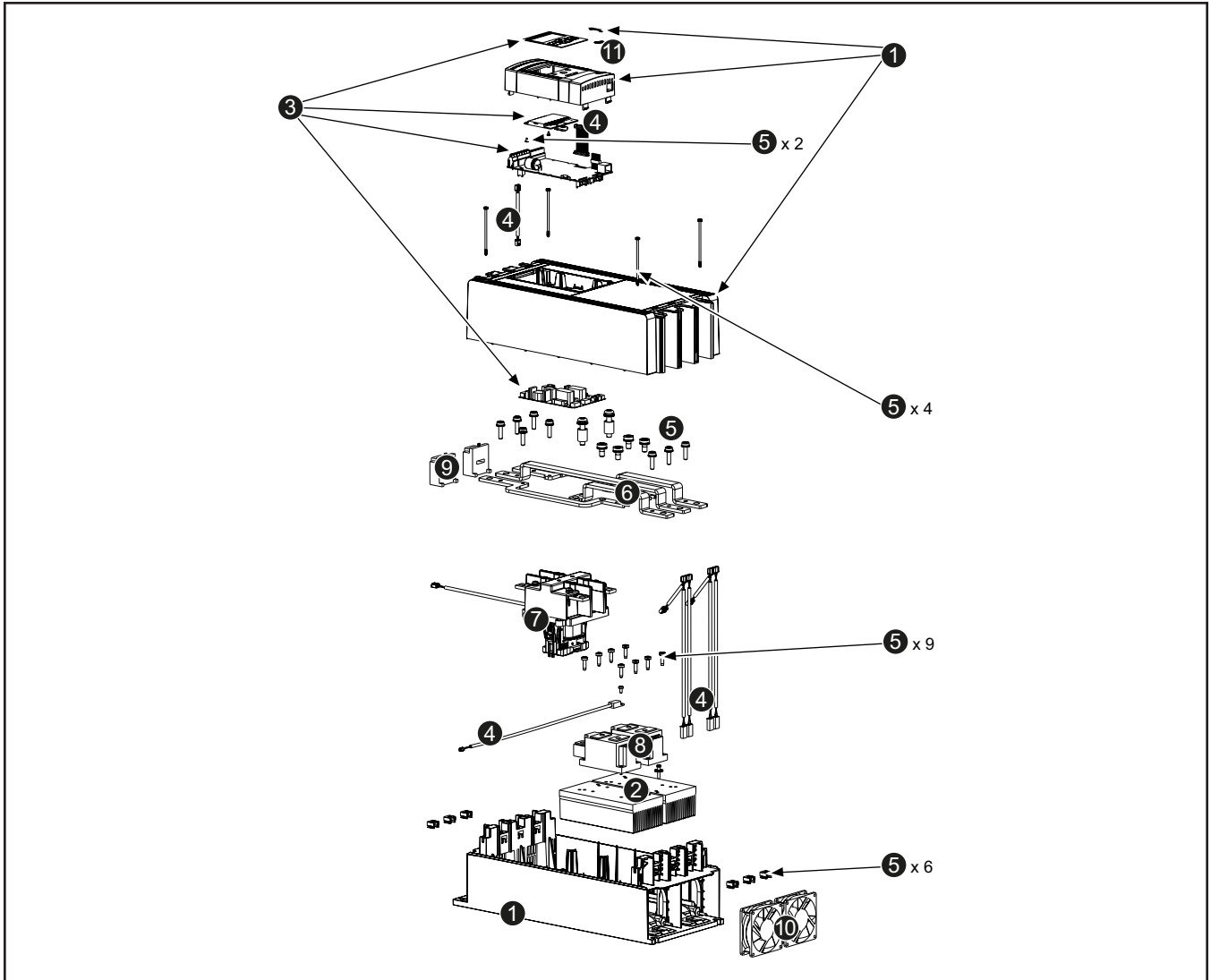
Ordering Codes 1SFA897113...15R7000.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	4	Plastics	Polyamide (PA6)	2736g
2	Heatsinks	2	Metal	Aluminium	1780g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	298g
4	Cables and sensor	6	Electrical	Cables and various material	40g
5	Screws and washers	57	Metal	Ferrous metals	322g
6	Terminal cables and bar connectors	19	Metal	Copper, rubber and tin coated copper	1808g
7	Contactors	2	Electrical	Various material	3866g
8	Thyristors	2	Electrical	Various material	2680g
9	Current transformers	2	Electrical	Various material	332g
10	Fans	2	Electrical	Various material	132g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	101			13994g

2.6 Materials of PSE Softstarter PSE210-600-70-1

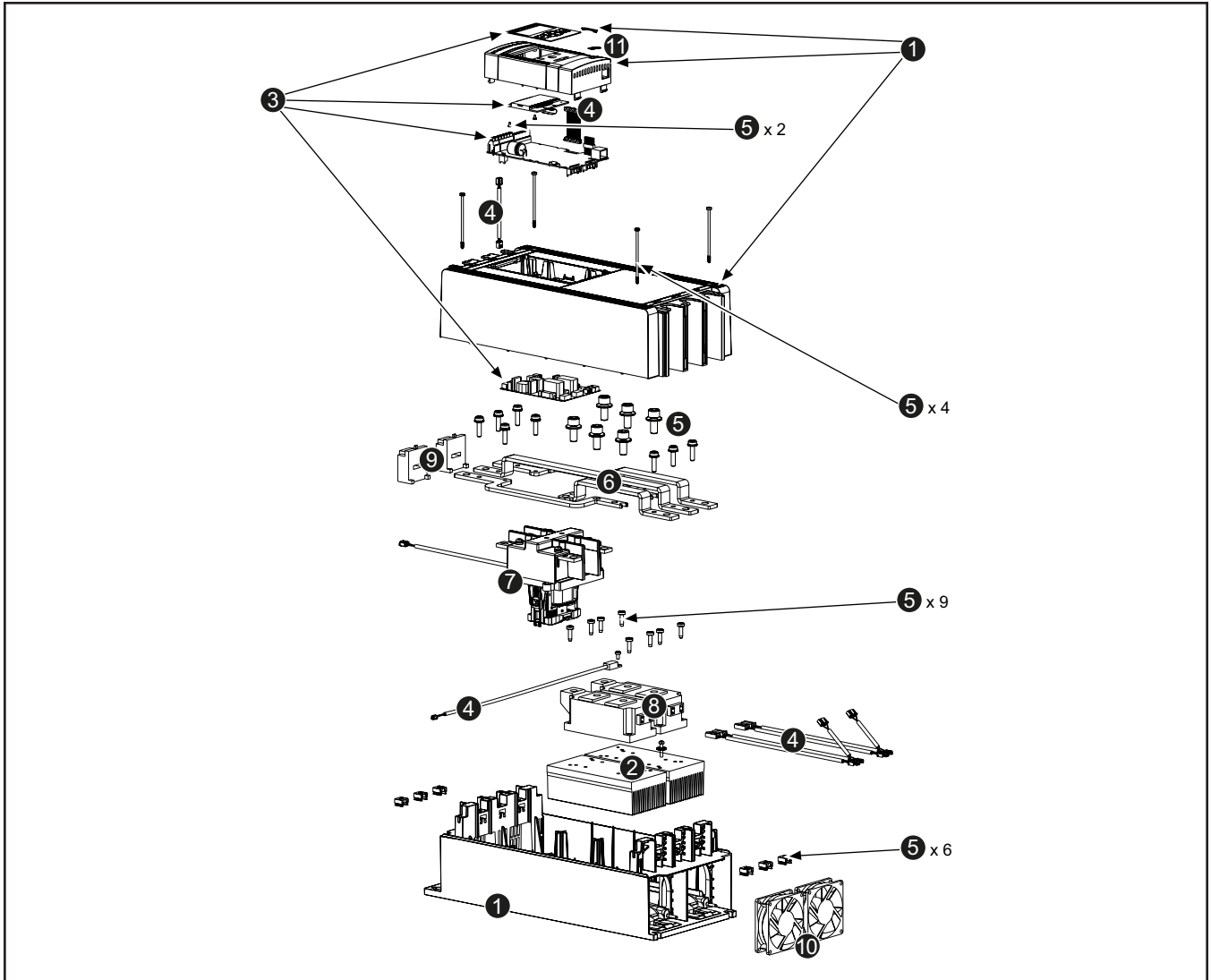
Ordering Codes 1SFA897112R7001.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	4	Plastics	Polyamide (PA6)	2126g
2	Heatsinks	2	Metal	Aluminium	1780g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	314g
4	Cables and sensor	5	Electrical	Cables and various material	48g
5	Nuts, screws, washers and distances	49	Metal	Ferrous metals and aluminium	260g
6	Terminal bar connectors	5	Metal	Tin coated copper	1368g
7	Bypass contactor	1	Electrical	See separate sheet	1478g
8	Thyristors	2	Electrical	Various material	1372g
9	Current transformers	2	Electrical	Various material	332g
10	Fans	2	Electrical	Various material	132g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	77			9210g

2.7 Materials of PSE Softstarter PSE250...PSE370-600-70-1

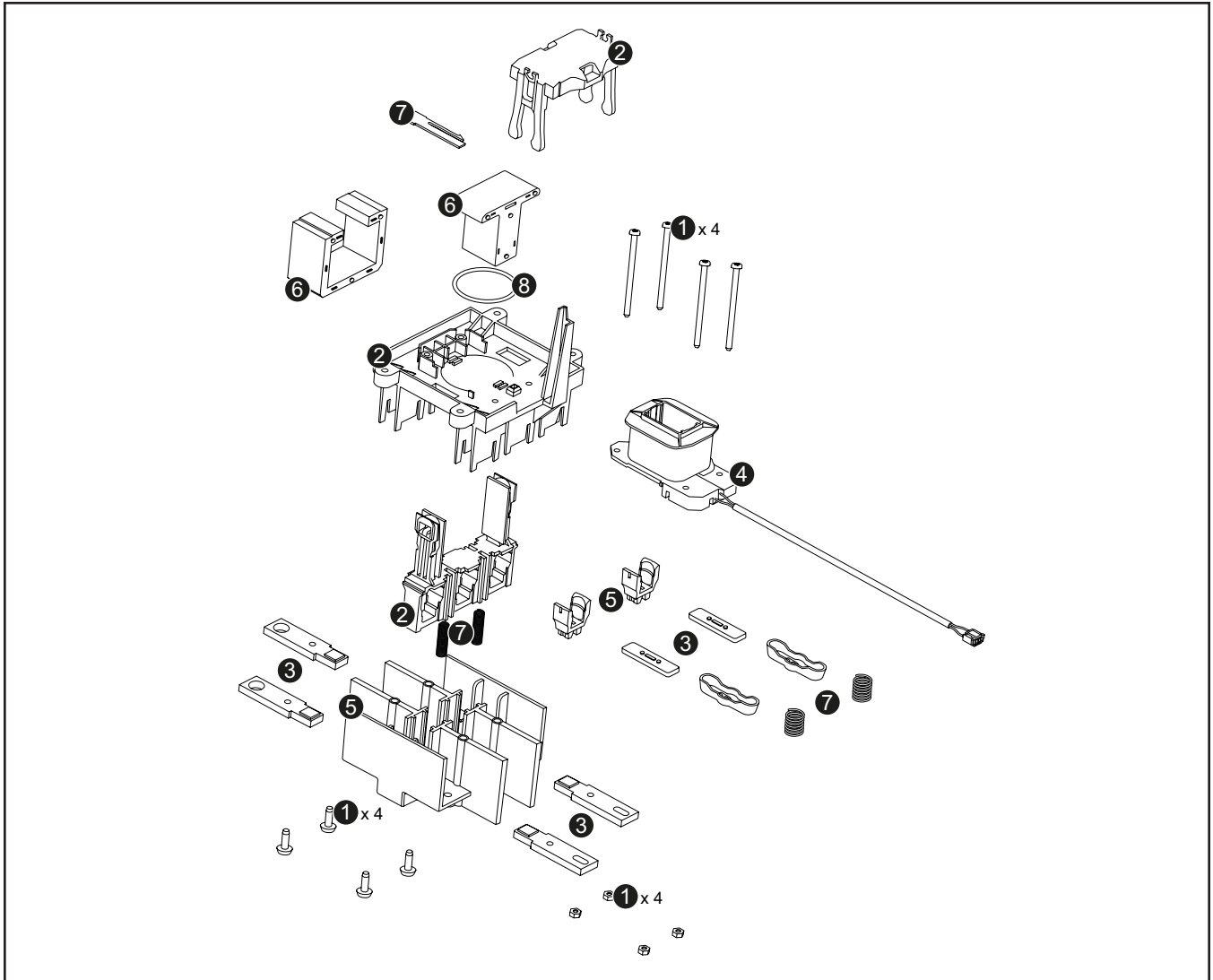
Ordering Codes 1SFA897113...15R7001.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	4	Plastics	Polyamide (PA6)	2126g
2	Heatsinks	2	Metal	Aluminium	1780g
3	Circuit boards and keyboard	4	Electrical	Electronic components and various material	314g
4	Cables and sensor	5	Electrical	Cables and various material	48g
5	Nuts, screws and washers	51	Metal	Ferrous metals	320g
6	Terminal bar connectors	5	Metal	Tin coated copper	1368g
7	Bypass contactor	1	Electrical	See separate sheet	1478g
8	Thyristors	2	Electrical	Various material	2680g
9	Current transformers	2	Electrical	Various material	332g
10	Fans	2	Electrical	Various material	132g
11	Marking	1	Plastics	Polybutylene terephthalate (PBT)	0.2g
	Total:	79			10578g

2.8 Materials of PSE210...370-600-70-1 Bypass Contactor

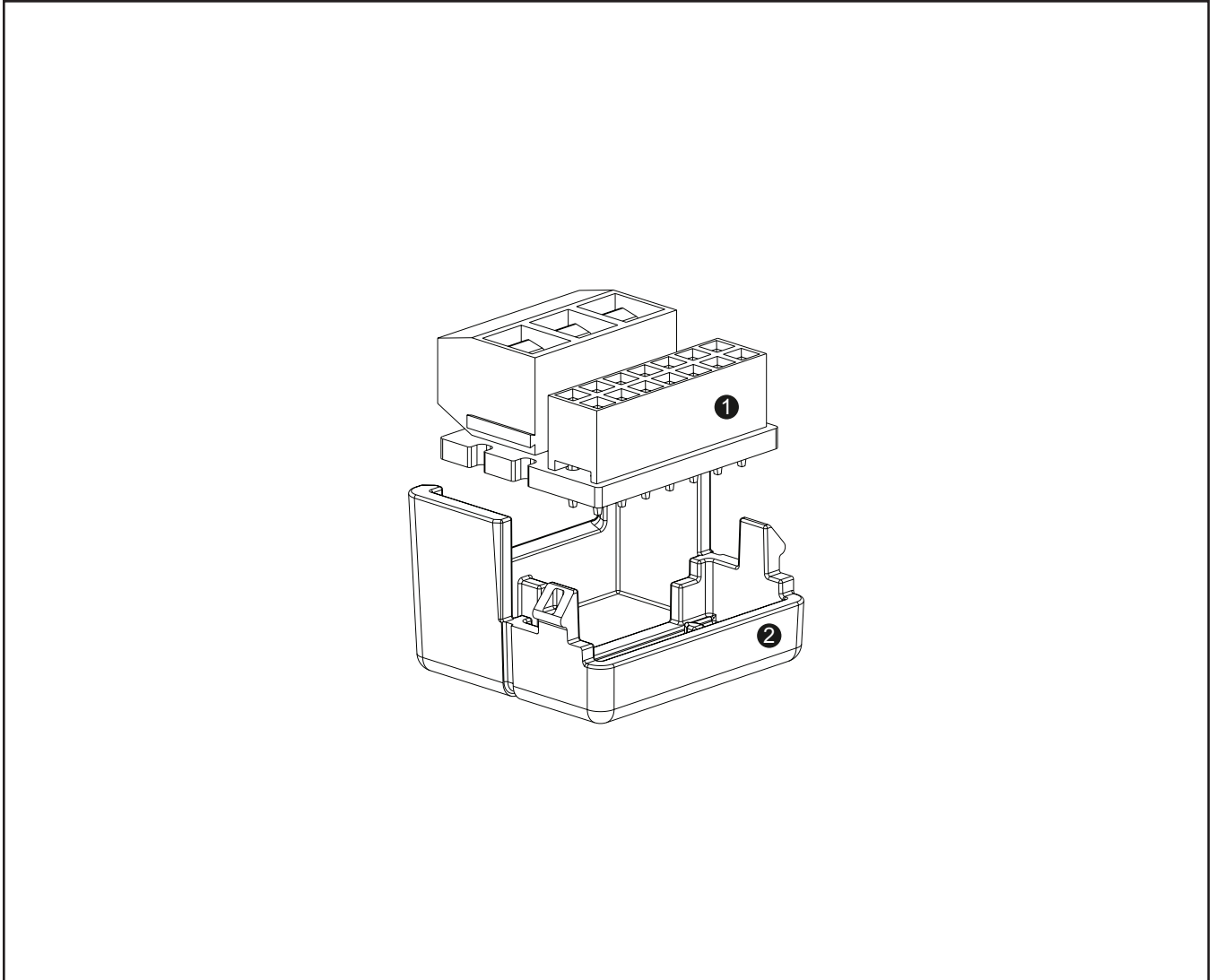
Ordering Codes 1SFB535002D1009.



No.	Parts	Qty.	Category	Materials	Weight
1	Nuts and screws	12	Metal	Ferrous metals	38g
2	Armature holder, coil housing and contact bridge	3	Plastics	Polyamide (PA6)	176g
3	Contacts	6	Metal	Copper and silver	206g
4	Coil and cable	1	Electrical	Cable, copper wire and various material	230g
5	Enclosure base part and bridge cassettes	3	Plastics	Thermosetting plastics	244g
6	Core and armature	2	Metal	Ferrous metals	544g
7	Springs, contact beam and sprint	7	Metal	Ferrous metals	34g
8	O-ring	1	Rubber	Rubber	2g
	Total:	35			1474g

2.9 Materials of Modbus RTU adapter

Ordering Codes 1SFA899300R1020.



No.	Parts	Qty.	Category	Materials	Weight
1	Enclosure	1	Plastics	Polyamide (PA6)	1.6g
2	Circuit boards	1	Electrical	Aluminium	6g
	Total:	79			8g

2.10 Packaging

The product package is made of corrugated cardboard. Some package sizes have inlays of PE and HDPE plastic.

You can recycle all materials used in the package.

To avoid pollution caused by unnecessary transportation, the factory does not take back used packages. The local ABB companies give instructions on the package recycling when necessary.

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

2.11 Product manuals and instructions

Product manuals and instructions delivered with the products can be recycled.

2.12 Accessories

Adapters and plastic supports can be recycled into metal, electrical, rubber and plastics.

Chapter 3 Manufacturing and use

3.1 Manufacturing

ABB AB (Sweden) 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.

3.2 Use

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

- Energy savings and reduced operating costs can be reached using a softstarter. This due to the fact that a softstarter will minimize the power losses at full speed through its internal bypass solution.
- Need for maintenance is reduced. Being able to smoothly start and stop an electric motor means there is less wear and tear on the motor and the driven machine.

Chapter 4 Product disposal

This chapter contains product disposal instructions.

4.1 Disposal

The main parts of the softstarter 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, most 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.

4.2 Dismantling

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

4.2.1 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
- copper
- silver
- 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.

4.2.2 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 softstarter in the shredding machine. See subsection ABB list of prohibited and restricted substances.

4.3 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 and its amendment (2015/863/EU) on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
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).

4.4 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 2018.

The figure below shows an example.

ABB						PSE18-600-70	
1SFA897101R7000		GB/T 14048.6				R-REI-Abb-PSE105-R1	
IEC/EN 60947-4-2		18A:AC53a:5-2:50-10				 	
Us:100-250V AC	Ue	220-240	380-400	500	V	  	
Ie:5,4-18A	In line	4	7,5	11	kW	 	
UL508		More data see 1SFC132369M9901				LISTED IND.CONT.EQ 7F 39	
Us:100-250V AC	Ue	208	220-240	380-400	550-600	V	
FLA:5,4-18A	In line	5	5	10	15	Hp	
Overload class 10		Made in Sweden					

4.5 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
Copper	Recycled as material
Plastics	Energy recovery (incineration)
Printed circuit boards	Recycled as WEEE
Cables	Recycled as material
Ceramics	Landfilled
Other materials	Energy recovery (incineration)

Chapter 5 Further information

5.1 Product training

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

5.2 Providing feedback on ABB Drives manuals

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

5.3 Document library on the Internet

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

5.4 ABB group sustainability objectives

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

5.5 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 AB, Control Products

SE-721 61 Västerås

Sweden

E-mail: sales@se.abb.com

www.new.abb.com/drives/softstarters/pse

