



# Product Recycling Manual

## GD200A series Inverter



Shenzhen INVT Electric Co., Ltd

# Content

<b>1</b>	<b>Introduction to the manual</b>	<b>2</b>
1.1	Contents of chapter 1	2
1.2	Scope of application	2
1.3	Target audience	2
1.4	Main contents of this manual	2
1.5	Disclaimer	2
<b>2</b>	<b>Product material</b>	<b>3</b>
2.1	Contents of this chapter	3
2.2	Structure of GD200A model frame size B1	4
2.3	Structure of GD200A model frame size B2	5
2.4	Structure of GD200A model frame size B3	6
2.5	Structure of GD200A model frame size B4	7
2.6	Structure of GD200A model frame size B5	8
2.7	Structure of GD200A model frame size B6	9
2.8	Structure of GD200A model frame size B7	10
2.9	Structure of GD200A model frame size B8	11
2.10	Structure of GD200A model frame size B9	12
2.11	Structure of GD200A model frame size B10	13
2.12	Materials of optional accessories	14
2.12.1	Dynamic brake unit (DBU)	14
2.12.1.1	DBU100H 060-2/4	14
2.12.1.2	DBU100H 110-2/4/6, 160-2/4/6, 220-2/4/6	15
2.12.1.3	DBU100H 320-4/6, 400-4/6	16
2.12.2	Filter	17
2.12.3	Reactor	18
2.12.3.1	Input reactor	18
2.12.3.2	Output reactor	19
2.12.3.3	DC reactor	19
2.13	Package	20
2.14	Operation manuals and brochures	20
<b>3</b>	<b>Manufacturing and application</b>	<b>21</b>
3.1	Manufacturing	21
3.2	Application	21
<b>4</b>	<b>Disposal</b>	<b>22</b>
4.1	Contents of this chapter	22
4.2	Product disposal	22
4.3	Dismantle	22
4.4	Manual dismantle	22
4.5	Mechanical dismantle	22
4.6	List of prohibited and restricted substances	22
4.6.1	Reference	23
4.7	Recycling information conforming to WEEE	23
4.8	Recycling instance	24

# 1 Introduction to the manual

## 1.1 Contents of chapter 1

This chapter contains the main contents of the manual and information related to compatibility and target audience.

## 1.2 Scope of application

This manual applies to GD200A series inverters and their optional accessories.

## 1.3 Target audience

The manual is intended for INVT customers and professional recyclers.

## 1.4 Main contents of this manual

This manual provides information for treatment facilities conforming to EU directive on waste electrical and electronic equipment (WEEE).

This manual is divided into the following chapters.

- Product material
- Manufacturing and application
- Disposal

As WEEE directive is implemented through national regulations, the requirements vary in different EU member state.

Drives play an essential role in various kinds of machines or equipment. If the end product needs to comply with WEEE directive, the drive of this product should also comply with related requirements depending on actual application conditions.

The WEEE directive is not applicable to drives used in large-scale fixed equipment, large-scale stationary industrial tools, vehicle of transport for persons and goods, or non-road mobile machinery made for exclusive purpose.

Contact local environmental agents for the latest information concerning material recycling or other treatment.

## 1.5 Disclaimer

This recycling manual 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.

## 2 Product material

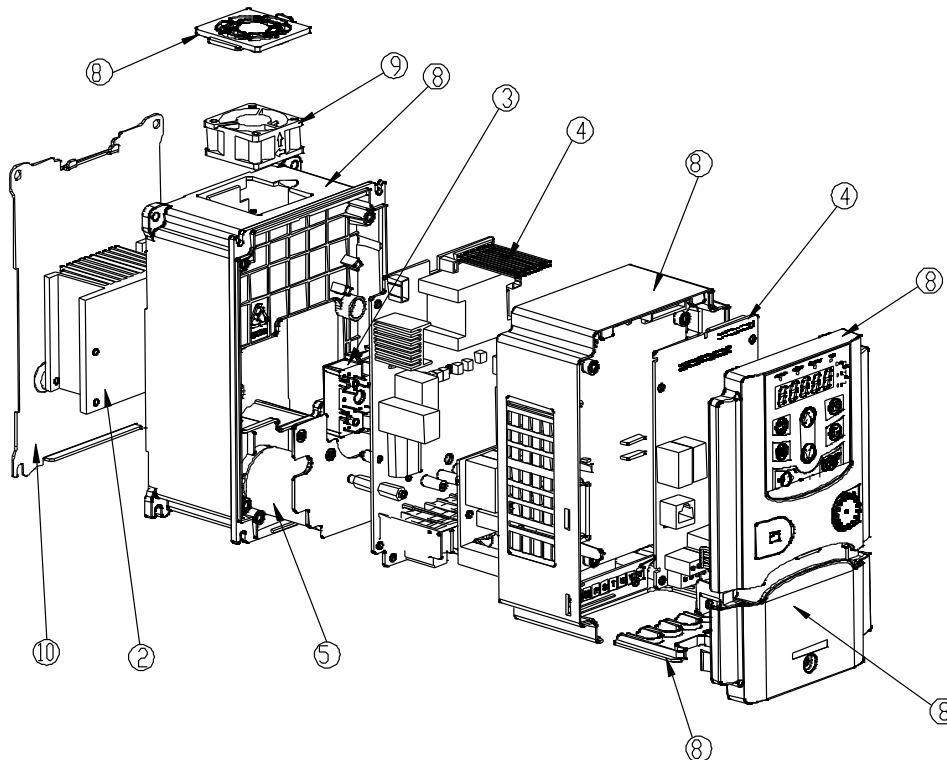
### 2.1 Contents of this chapter

This chapter presents the main parts/components and materials of GD200A models of frame sizes B1 to B10. The frame size of each model is listed in the table below.

Model	Frame size
GD200A-0R7G-4	B1
GD200A-1R5G-4	
GD200A-2R2G-4	
GD200A-004G/5R5P-4	B2
GD200A-5R5G/7R5P-4	
GD200A-7R5G/011P-4	
GD200A-011G/015P-4	B3
GD200A-015G/018P-4	
GD200A-018G/022P-4	
GD200A-022G/030P-4	B4
GD200A-030G/037P-4	
GD200A-037G/045P-4	
GD200A-045G/055P-4	B5
GD200A-055G/075P-4	
GD200A-075G/090P-4	
GD200A-090G/110P-4	B6
GD200A-110G/132P-4	
GD200A-132G/160P-4	
GD200A-160G/185P-4	B7
GD200A-185G/200P-4	
GD200A-200G/220P-4	
GD200A-220G/250P-4	B8
GD200A-250G/280P-4	
GD200A-280G/315P-4	
GD200A-315G/350P-4	B9
GD200A-350G/400P-4	
GD200A-400G-4	
GD200A-500G-4	B10

## 2.2 Structure of GD200A model frame size B1

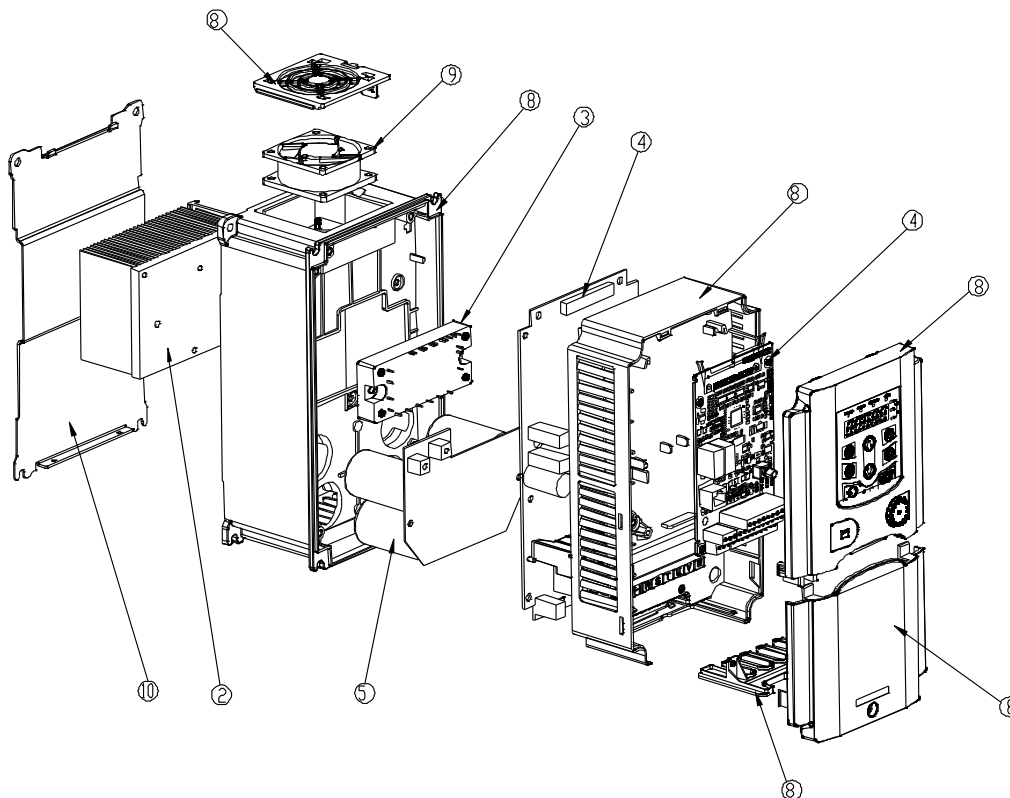
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
2	Heat sink	1	Al-alloy (Mg, Si)	235
3	Semiconductors	1	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	36
4	Printed circuit board	5	Various(FR4)	610
5	Electrolytic capacitor	2	Al, electrolytic solute	140
8	Cover parts	1	PC+ABS=Cycloy ®	310
9	Fan	1	Various, plastic parts PBT+PA	30
10	Sheet metal parts	1	Zn-coated steel	200
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	300
<b>Total weight</b>				<b>1.9kg</b>

## 2.3 Structure of GD200A model frame size B2

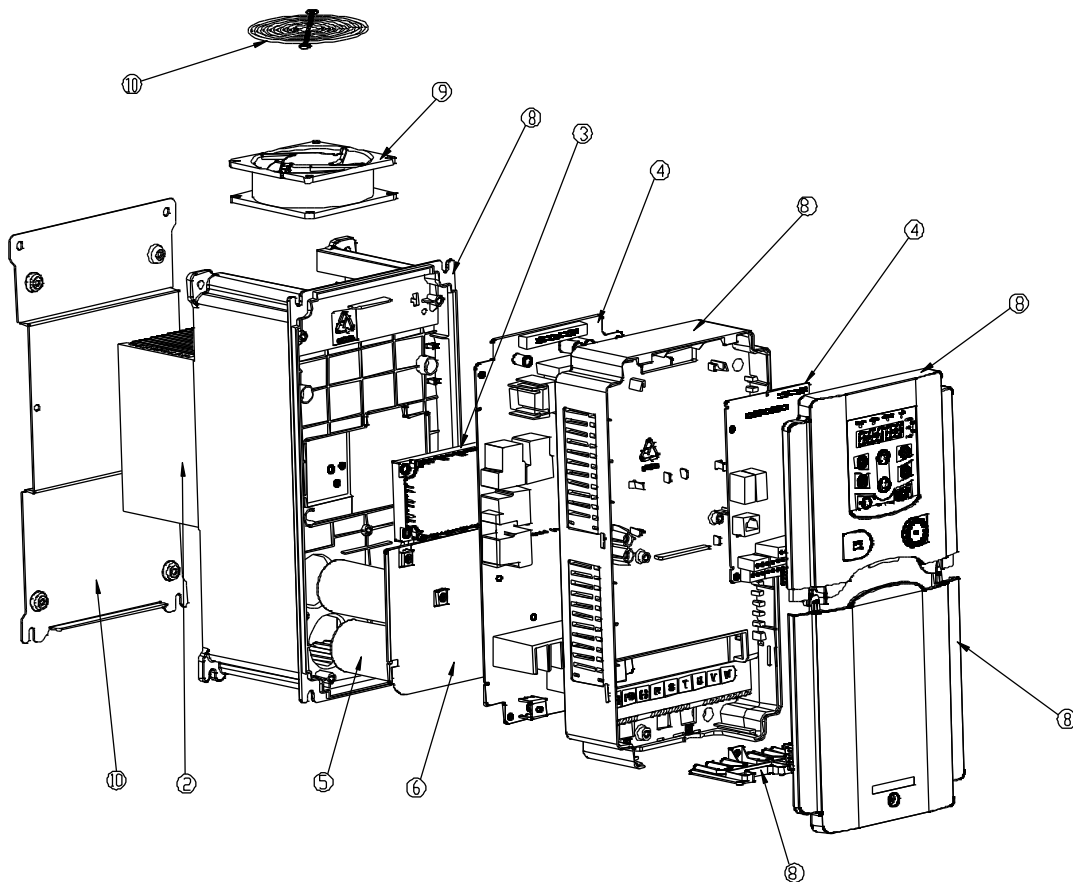
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
2	Heat sink	1	Al-alloy (Mg, Si)	616
3	Semiconductors	2	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	180
4	Printed circuit board	4	Various (FR4)	890
5	Electrolytic capacitor	4	Al, electrolytic solute	328
8	Cover parts	6	PC+ABS=Cyclcoloy ®	420
9	Fan	1	Various, plastic parts PBT+PA	80
10	Sheet metal parts	1	Zn-coated steel	360
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	300
<b>Total weight</b>				<b>3.2kg</b>

## 2.4 Structure of GD200A model frame size B3

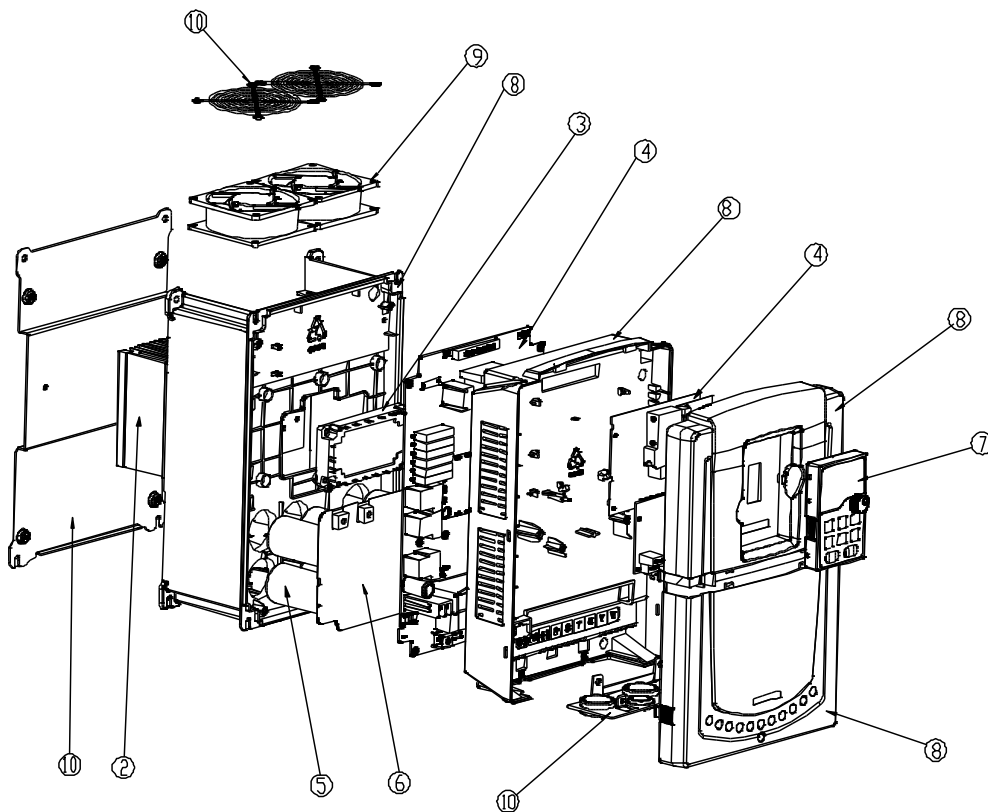
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
2	Heat sink	1	Al-alloy(Mg, Si)	1470
3	Semiconductors	1	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	300
4	Printed circuit board	4	Various (FR4)	1240
5	Electrolytic capacitor	4	Al, electrolytic solute	700
6	Insulating parts	1	PC glass filler	12
8	Cover parts	5	PC+ABS=Cycoloy ®	995
9	Fan	1	Various, plastic parts PBT+PA	190
10	Sheet metal parts	2	Zn-coated steel	670
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	300
<b>Total weight</b>				<b>5.9kg</b>

## 2.5 Structure of GD200A model frame size B4

The main parts and components are listed in the table below.

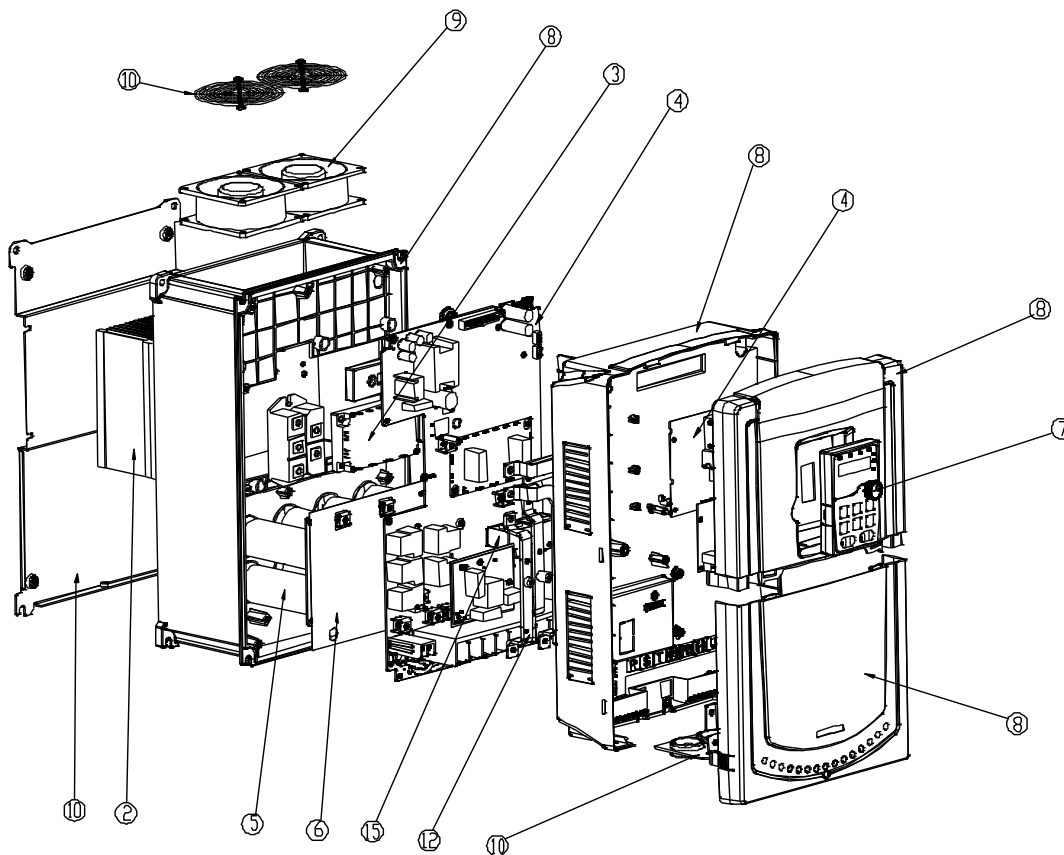


Part no.	Name	Quantity	Material	Weight (g)
2	Heat sink	1	Al-alloy (Mg, Si)	1708
3	Semiconductors	1	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	300
4	Printed circuit board	4	Various (FR4)	1530
5	Electrolytic capacitor	6	Al, electrolytic solute	900
6	Insulating parts	1	PC glass filler 10%/PA, GF, epoxy	8.7
7	Panel	1	Various	150
8	Cover parts	4	PC+ABS=Cycology ®	1241
9	Fan	2	Various, plastic parts PBT+PA	160
10	Sheet metal parts	4	Zn-coated steel	1089
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	500
<b>Total weight</b>				<b>7.6kg</b>



## 2.6 Structure of GD200A model frame size B5

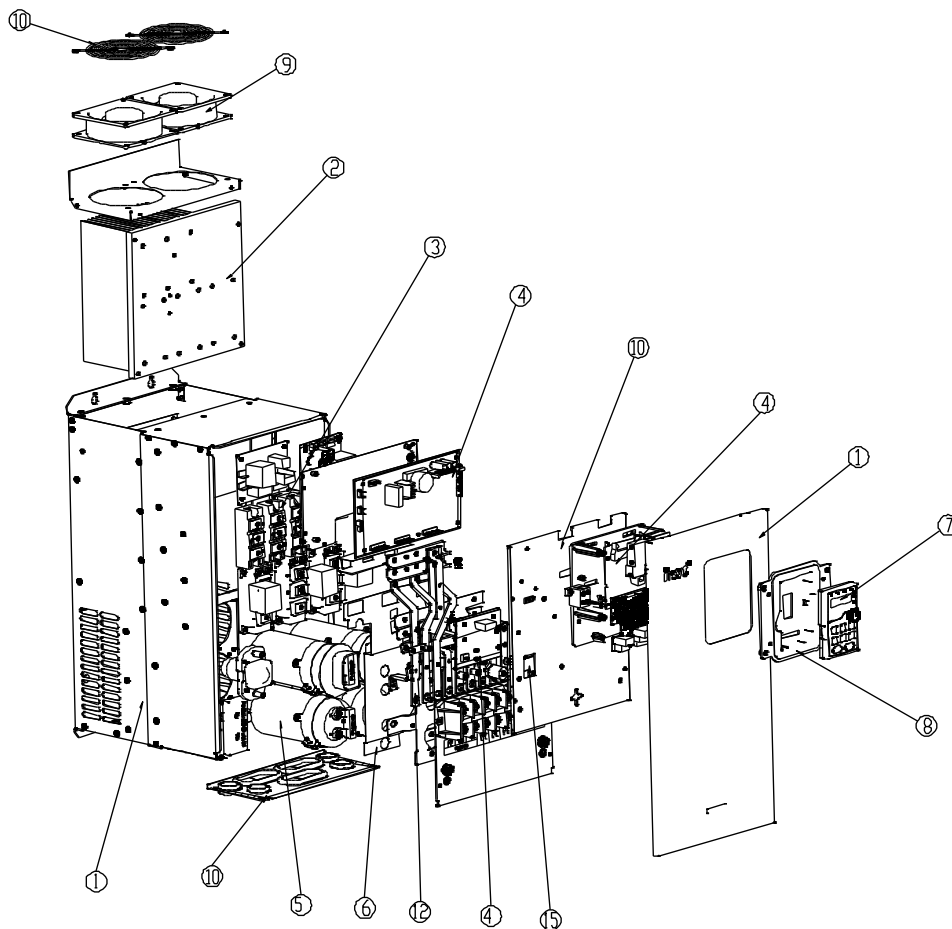
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
2	Heat sink	1	Al-alloy (Mg, Si)	2880
3	Semiconductors	2	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	730
4	Printed circuit board	6	Various(FR4)	1780
5	Electrolytic capacitor	8	Al, electrolytic solute	1400
6	Insulating parts	1	PC glass filler	5
7	Panel	1	Various	150
8	Cover parts	4	PC+ABS=Cycoloy®	1440
9	Fan	2	Various, plastic parts PBT+PA	380
10	Sheet metal parts	4	Zn-coated steel	1140
12	Busbars	1	Sn-coated Cu	420
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	550
15	Transducers	2	PC, PUR, Cu	120
<b>Total weight</b>				<b>11kg</b>

## 2.7 Structure of GD200A model frame size B6

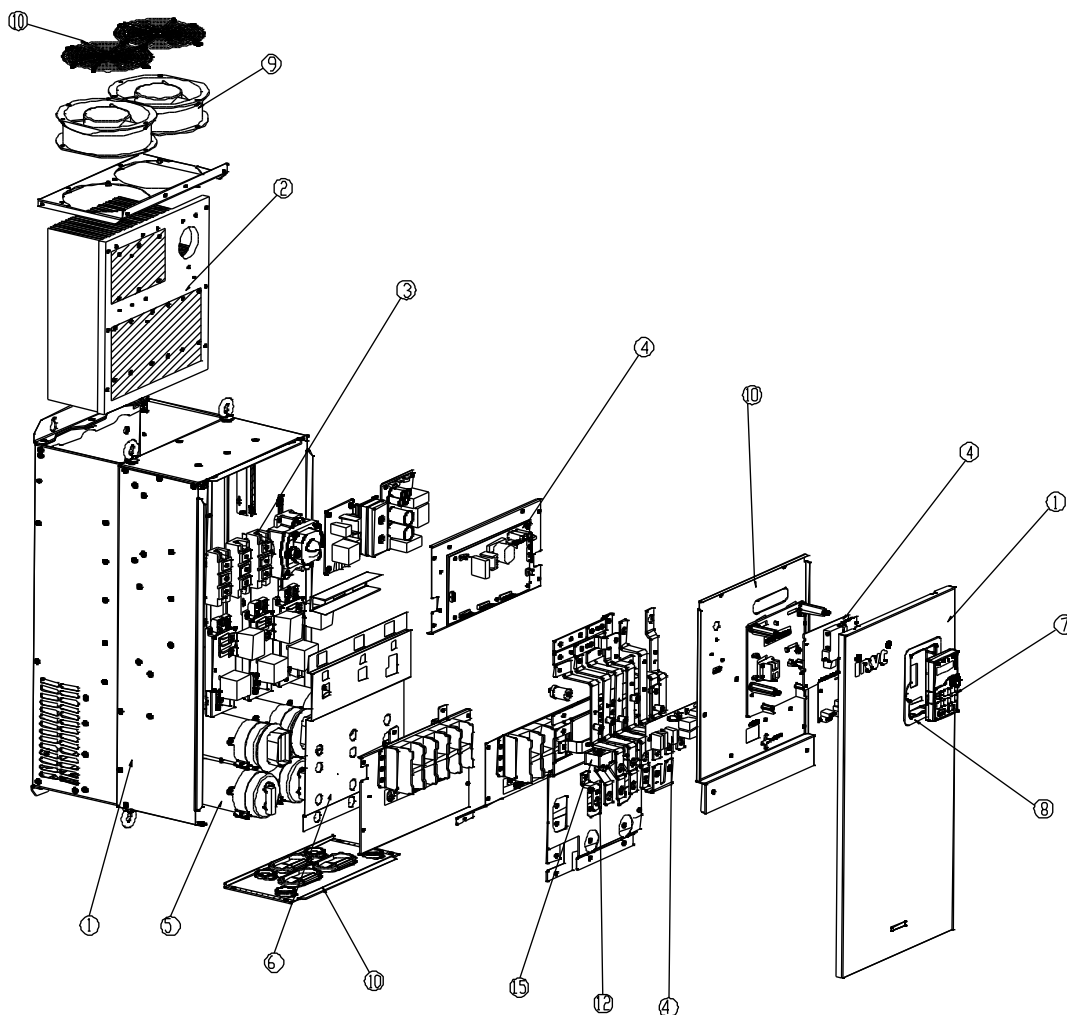
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	2	Polyester powder paint (Teknos CZ 8080R)	11400
2	Heat sink	1	Al-alloy (Mg, Si)	5950
3	Semiconductors	6	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	1500
4	Printed circuit board	6	Various (FR4)	1890
5	Electrolytic capacitor	4	Al, electrolytic solute	3520
6	Insulating parts	1	PC glass filler, PA, GF, epoxy	16
7	Panel	1	Various	150
8	Cover parts	2	PC+ABS=Cycloy®	143
9	Fan	2	Various, plastic parts PBT+PA	540
10	Sheet metal parts	1	Zn-coated steel	1540
12	Busbars	1	Sn-coated Cu	2140
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	850
15	Transducers	3	PC, PUR, Cu	180
<b>Total weight</b>				<b>30kg</b>

## 2.8 Structure of GD200A model frame size B7

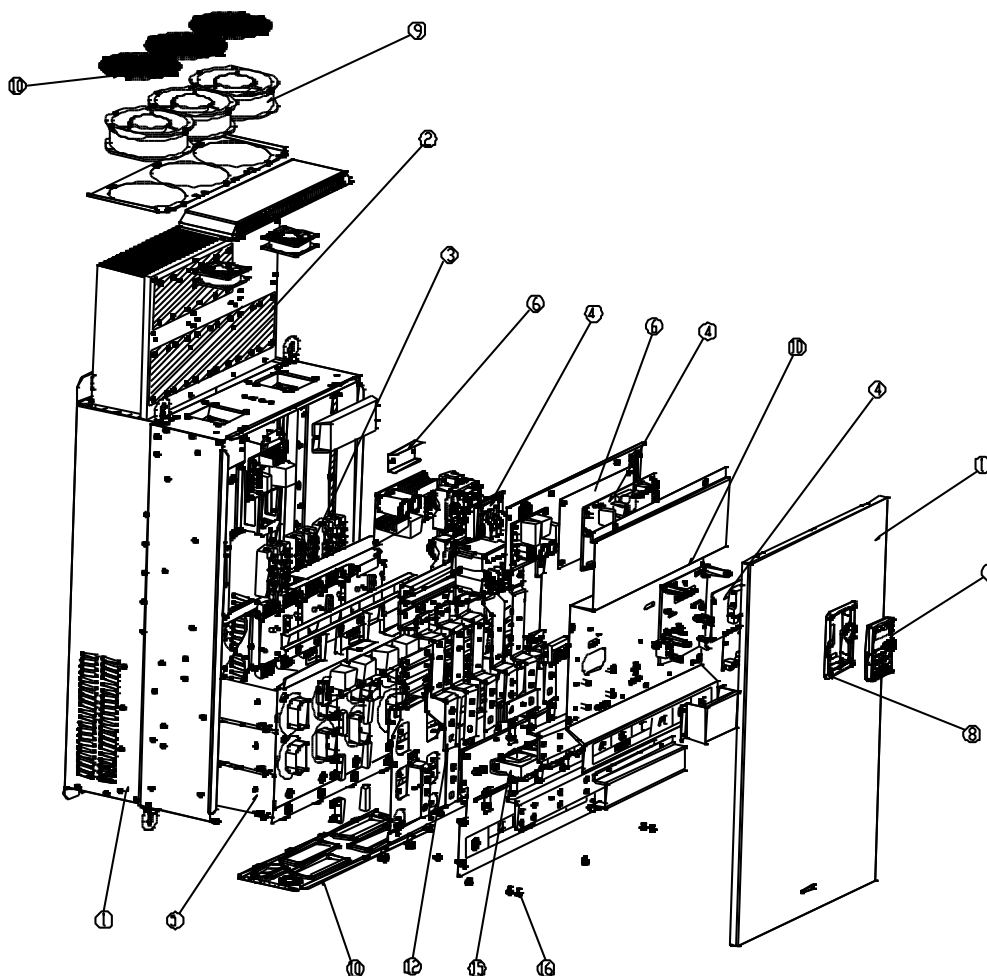
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	2	Polyester powder paint (Teknos CZ 8080R)	17342
2	Heat sink	1	Al-alloy (Mg, Si)	9841
3	Semiconductors	6	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	1500
4	Printed circuit board	5	Various (FR4)	2270
5	Electrolytic capacitor	6	Al, electrolytic solute	5280
6	Insulating parts	3	PC glass filler, PA, GF, epoxy	36
7	Panel	1	Various	150
8	Cover parts	3	PC+ABS=Cycoloy ®	143
9	Fan	2	Various, plastic parts PBT+PA	1560
10	Sheet metal parts	8	Zn-coated steel	2748
12	Busbars	1	Sn-coated Cu	4517
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	1000
15	Transducers	3	PC, PUR, Cu	180
<b>Total weight</b>				<b>47kg</b>

## 2.9 Structure of GD200A model frame size B8

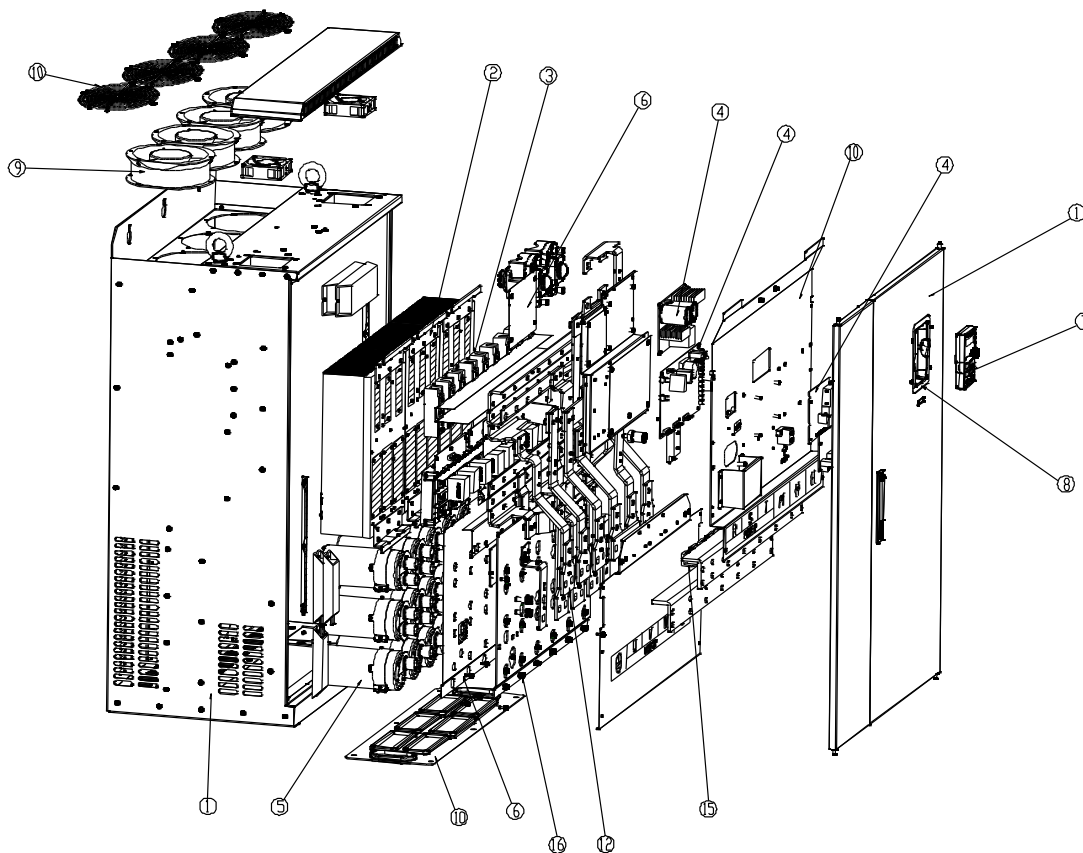
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	3	Polyester powder paint (Teknos CZ 8080R)	33705
2	Heat sink	1	Al-alloy(Mg, Si)	13350
3	Semiconductors	12	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	3000
4	Printed circuit board	10	Various(FR4)	2560
5	Electrolytic capacitor	12	Al, electrolytic solute	10560
6	Insulating parts	5	PC glass filler, PA, GF, epoxy	74
7	Panel	1	Various	150
8	Cover parts	3	PC+ABS=Cycoloy ®	143
9	Fan	5	Various, plastic parts PBT+PA	2500
10	Sheet metal parts	8	Zn-coated steel	3755
12	Busbars	1	Sn-coated Cu	9504
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	1500
15	Transducers	3	PC, PUR, Cu	900
16	Screws	1	Zn-coated steel	3075
<b>Total weight</b>				<b>85kg</b>

## 2.10 Structure of GD200A model frame size B9

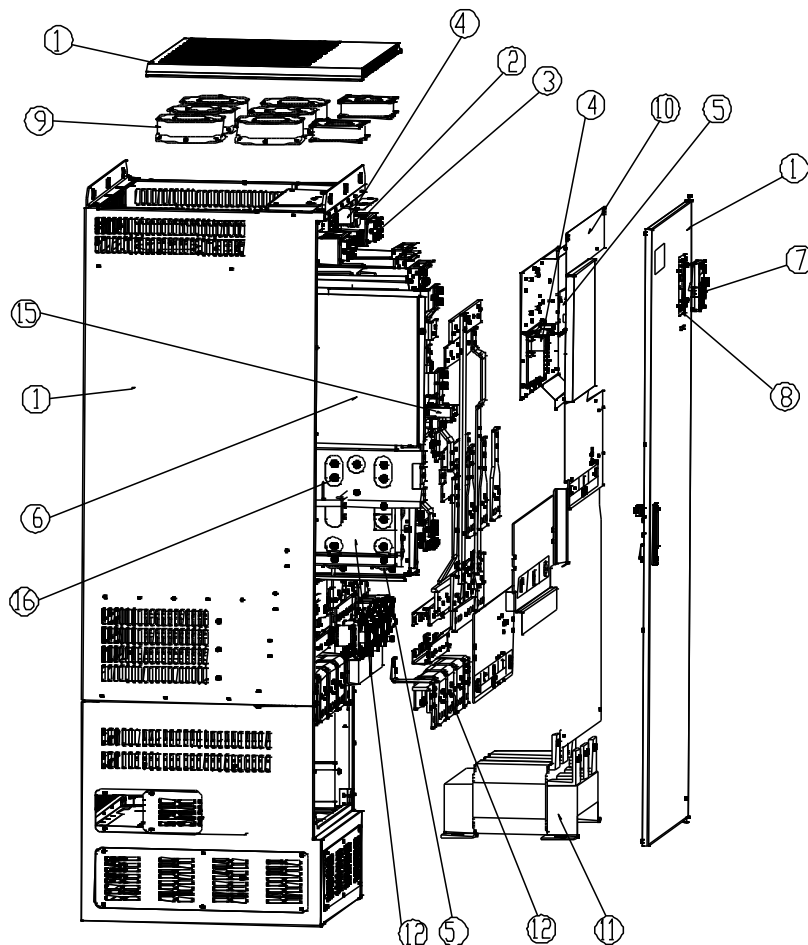
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	4	Polyester powder paint (Teknos CZ 8080R)	62480
2	Heat sink	1	Al-alloy(Mg, Si)	7854
3	Semiconductors	18	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	4500
4	Printed circuit board	10	Various(FR4)	3174
5	Electrolytic capacitor	18	Al, electrolytic solute	14220
6	Insulating parts	6	PC glass filler, PA, GF, epoxy	120
7	Panel	1	Various	150
8	Cover parts	3	PC+ABS=Cycoloy ®	143
9	Fan	6	Various, plastic parts PBT+PA	3280
10	Sheet metal parts	8	Zn-coated steel	7138
12	Busbars	1	Sn-coated Cu	27880
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	2000
15	Transducers	3	PC, PUR, Cu	900
16	Screws	1	Zn-coated steel	6140
<b>Total weight</b>				<b>135kg</b>

## 2.11 Structure of GD200A model frame size B10

The main parts and components are listed in the table below.



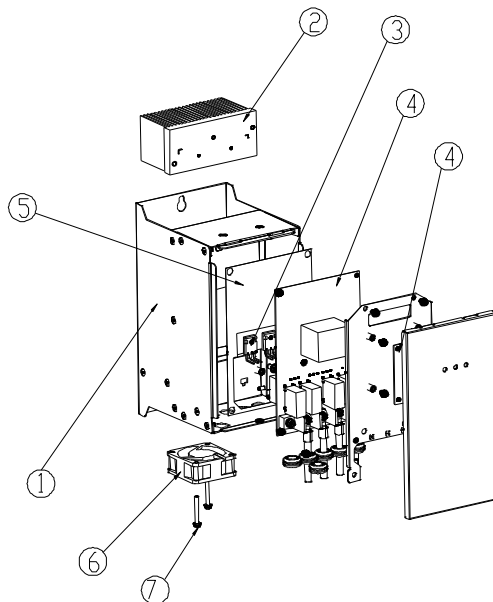
Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	8	Polyester powder paint (Teknos CZ 8080R)	155240
2	Heat sink	5	Al-alloy(Mg, Si)	51521
3	Semiconductors	27	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	6000
4	Printed circuit board	14	Various(FR4)	4150
5	Electrolytic capacitor	24	Al, electrolytic solute	25200
6	Insulating parts	11	PC glass filler, PA, GF, epoxy	174
7	Panel	1	Various	150
8	Cover parts	1	PC+ABS=Cycoloy ®	67.6
9	Fan	8	Various, plastic parts PBT+PA	4840
10	Sheet metal parts	5	Zn-coated steel	31142
11	Chokes	1	Fe, Cu, Various	54000
12	Busbars	4	Sn-coated Cu	50521
13	Cables	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	11200
15	Transducers	3	PC, PUR, Cu	840
16	Screws	1	Zn-coated steel	12450
<b>Total weight</b>				<b>410kg</b>

## 2.12 Materials of optional accessories

### 2.12.1 Dynamic brake unit (DBU)

#### 2.12.1.1 DBU100H 060-2/4

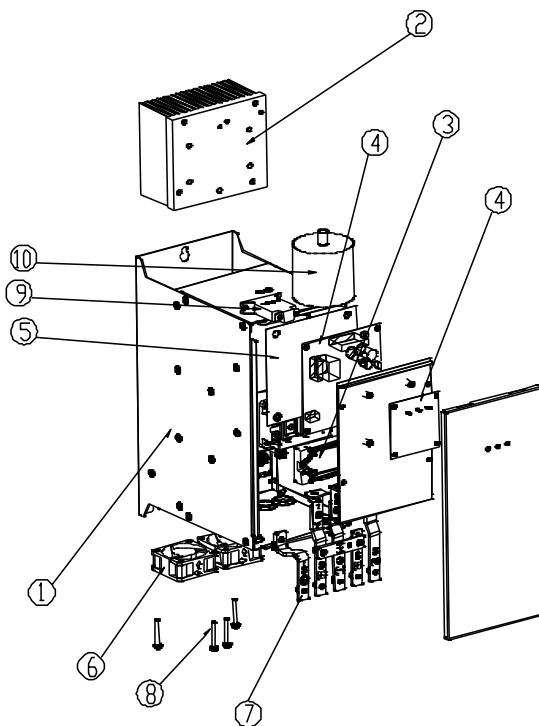
The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	1	Polyester powder paint (Teknos CZ 8080R)	2427
2	Heat sink	1	Al-alloy(Mg, Si)	604
3	Semiconductors	4	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	60
4	Printed circuit board	2	Various(FR4)	450
5	Insulating parts	2	PC glass filler, PA, GF, epoxy	5
6	Fan	1	Various, plastic parts PBT+PA	80
7	Screws	1	Zn-coated steel	68
<b>Total weight</b>				<b>3.7kg</b>

**2.12.1.2 DBU100H 110-2/4/6, 160-2/4/6, 220-2/4/6**

The main parts and components are listed in the table below.

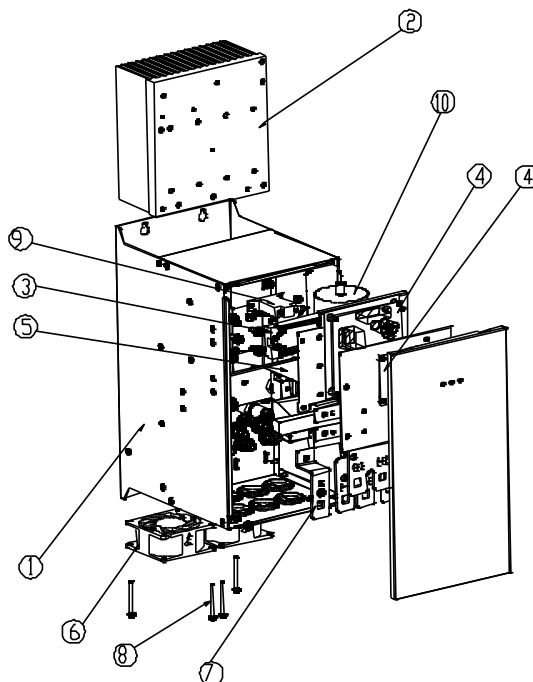


Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	1	Polyester powder paint (Teknos CZ 8080R)	4472
2	Heat sink	1	Al-alloy(Mg, Si)	1466
3	Semiconductors	2	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	540
4	Printed circuit board	2 or 3	Various(FR4)	350-390
5	Insulating parts	2	PC glass filler, PA, GF, epoxy	19
6	Fan	2	Various, plastic parts PBT+PA	160
7	Busbars	1	Sn-coated Cu	352
8	Screws	1	Zn-coated steel	314
9	Varistor	0 or 1	Zinc oxide	0-50
10	Bus film capacitor	1	Polypropylene/polyester , epoxy resin , Al	500
<b>Total weight</b>				<b>8.3kg</b>



**2.12.1.3 DBU100H 320-4/6, 400-4/6**

The main parts and components are listed in the table below.



Part no.	Name	Quantity	Material	Weight (g)
1	Sheet metal parts painted	1	Polyester powder paint (Teknos CZ 8080R)	5604
2	Heat sink	1	Al-alloy(Mg, Si)	4854
3	Semiconductors	2	Epoxy, Cu, Al, Si, Si gle, PBT, Pb, PPS, SiN, AlN	540–880
4	Printed circuit board	2 or 3	Various(FR4)	350–390
5	Insulating parts	2	PC glass filler, PA, GF, epoxy	21
6	Fan	2	Various, plastic parts PBT+PA	380
7	Busbars	1	Sn-coated Cu	922
8	Screws	1	Zn-coated steel	675
9	Varistor	0 or 1	Zinc oxide	0–50
10	Bus film capacitor	1	Polypropylene/polyester , epoxy resin , Al	500
<b>Total weight</b>				<b>14.3kg</b>

**2.12.2 Filter**

<b>Voltage class</b>	<b>Model</b>	<b>Material</b>	<b>Weight (kg)</b>
1-phase 220V	FLT-PS2003H-A	Iron, copper, FR4, epoxy	0.5
	FLT-LS2003H-A	Iron, copper, FR4, epoxy	
	FLT-PS2010H-A	Iron, copper, FR4, epoxy	1.0
	FLT-LS2010H-A	Iron, copper, FR4, epoxy	
3-phase 400V	FLT-P04006L-B	Iron, copper, FR4, epoxy	1.5
	FLT-L04006L-B	Iron, copper, FR4, epoxy	
	FLT-P04016L-B	Iron, copper, FR4, epoxy	2.5
	FLT-L04016L-B	Iron, copper, FR4, epoxy	
	FLT-P04032L-B	Iron, copper, FR4, epoxy	3.5
	FLT-L04032L-B	Iron, copper, FR4, epoxy	
	FLT-P04045L-B	Iron, copper, FR4, epoxy	4.0
	FLT-L04045L-B	Iron, copper, FR4, epoxy	
	FLT-P04065L-B	Iron, copper, FR4, epoxy	4.5
	FLT-L04065L-B	Iron, copper, FR4, epoxy	
	FLT-P04100L-B	Iron, copper, FR4, epoxy	9.0
	FLT-L04100L-B	Iron, copper, FR4, epoxy	9.0
	FLT-P04150L-B	Iron, copper, FR4, epoxy	9.0
	FLT-L04150L-B	Iron, copper, FR4, epoxy	
	FLT-P04240L-B	Iron, copper, FR4, epoxy	11.0
	FLT-L04240L-B	Iron, copper, FR4, epoxy	
	FLT-P04400L-B	Iron, copper, FR4, epoxy	34.0
	FLT-L04400L-B	Iron, copper, FR4, epoxy	32.0
	FLT-P04600L-B	Iron, copper, FR4, epoxy	27.0
	FLT-L04600L-B	Iron, copper, FR4, epoxy	22.0
FLT-P04800L-B	Iron, copper, FR4, epoxy	27.0	
FLT-L04800L-B	Iron, copper, FR4, epoxy	22.0	
FLT-P041000L-B	Iron, copper, FR4, epoxy	27.0	
FLT-L041000L-B	Iron, copper, FR4, epoxy	22.0	
3-phase 660V	FLT-P06050H-B	Iron, copper, FR4, epoxy	11.0
	FLT-L06050H-B	Iron, copper, FR4, epoxy	12.0
	FLT-P06100H-B	Iron, copper, FR4, epoxy	18.0
	FLT-L06100H-B	Iron, copper, FR4, epoxy	14.0
	FLT-P06200H-B	Iron, copper, FR4, epoxy	21.0
	FLT-L06200H-B	Iron, copper, FR4, epoxy	19.0
	FLT-P06300H-B	Iron, copper, FR4, epoxy	26.0
	FLT-L06300H-B	Iron, copper, FR4, epoxy	23.0
	FLT-P06400H-B	Iron, copper, FR4, epoxy	34.0
	FLT-L06400H-B	Iron, copper, FR4, epoxy	32.0
	FLT-P06600H-B	Iron, copper, FR4, epoxy	27.0
	FLT-L06600H-B	Iron, copper, FR4, epoxy	22.0
	FLT-P06800H-B	Iron, copper, FR4, epoxy	27.0
	FLT-L06800H-B	Iron, copper, FR4, epoxy	22.0
3-phase 1140V	FLT-P12050H-B	Iron, copper, FR4, epoxy	11.0
	FLT-L12050H-B	Iron, copper, FR4, epoxy	12.0

Voltage class	Model	Material	Weight (kg)
	FLT-P12100H-B	Iron, copper, FR4, epoxy	18.0
	FLT-L12100H-B	Iron, copper, FR4, epoxy	14.0
	FLT-P12200H-B	Iron, copper, FR4, epoxy	21.0
	FLT-L12200H-B	Iron, copper, FR4, epoxy	19.0
	FLT-P12300H-B	Iron, copper, FR4, epoxy	26.0
	FLT-L12300H-B	Iron, copper, FR4, epoxy	23.0
	FLT-P12400H-B	Iron, copper, FR4, epoxy	34.0
	FLT-L12400H-B	Iron, copper, FR4, epoxy	32.0
	FLT-P12600H-B	Iron, copper, FR4, epoxy	27.0
	FLT-L12600H-B	Iron, copper, FR4, epoxy	22.0
	FLT-P12800H-B	Iron, copper, FR4, epoxy	27.0
	FLT-L12800H-B	Iron, copper, FR4, epoxy	22.0
	FLT-P121000H-B	Iron, copper, FR4, epoxy	27.0
	FLT-L121000H-B	Iron, copper, FR4, epoxy	22.0

## 2.12.3 Reactor

### 2.12.3.1 Input reactor

Model in the operation manual	Main material (electromagnetic wire, silicon steel sheet and insulation)	Weight (kg)
ACL2-1R5-4	Copper, 50w470, frame	2.6
ACL2-2R2-4	Copper, 50w470, frame	2.8
ACL2-004-4	Copper, 50w470, frame	2.8
ACL2-5R5-4	Copper, 50w470, frame	3.3
ACL2-7R5-4	Copper, 50w470, frame	3.0
ACL2-011-4	Copper, 50w470, frame	4.8
ACL2-015-4	Copper, 50w470, frame	5.0
ACL2-018-4	Copper, 50w470, frame	7.6
ACL2-022-4	Copper, 50w470, frame	8.0
ACL2-030-4	Copper, 50w470, frame	8.0
ACL2-037-4	Copper, 50w470, frame	8.0
ACL2-045-4	Copper, 50w470, frame	11.8
ACL2-055-4	Al, 50W470, NM insulation paper	14.8
ACL2-075-4	Al, 50W470, NM insulation paper	20.1
ACL2-110-4	Al, 50W470, NM insulation paper	23.3
ACL2-132-4	Al, 50W470, NM insulation paper	29.4
ACL2-160-4	Al, 50W470, NM insulation paper	29.4
ACL2-200-4	Al, 50W470, NMN insulation paper	33.3
ACL2-250-4	Al, 50W470, NMN insulation paper	45.3
ACL2-280-4	Al, 50W470, NM insulation paper	45.5
ACL2-315-4	Al, 50W470, NM insulation paper	49.5
ACL2-350-4	Al, 50W470, NM insulation paper	53.6
ACL2-400-4	Al, 50W470, NM insulation paper	70.0
ACL2-500-4	Al, 50W470, NMN insulation paper	69.6
ACL2-630-4	Al, 50W470, NMN insulation paper	92.0

**2.12.3.2 Output reactor**

Model in the operation manual	Main material (electromagnetic wire, silicon steel sheet and insulation)	Weight (kg)
OCL2-1R5-4	Copper, 50w470, frame	2.4
OCL2-2R2-4	Copper, 50w470, frame	2.7
OCL2-004-4	Copper, 50w470, frame	2.6
OCL2-5R5-4	Copper, 50w470, frame	3.2
OCL2-7R5-4	Copper, 50w470, frame	3.8
OCL2-011-4	Copper, 50w470, frame	5.5
OCL2-015-4	Copper, 50w470, frame	5.5
OCL2-018-4	Copper, 50w470, frame	5.6
OCL2-022-4	Copper, 35w310, frame	6.6
OCL2-030-4	Copper, 30Q120, frame	6.2
OCL2-037-4	Copper, 30Q120, frame	6.5
OCL2-045-4	Copper, 35w310, frame	11.4
OCL2-055-4	Al, 35W310, NM insulation paper	16.3
OCL2-075-4	Al, 35W310, NM insulation paper	19.4
OCL2-110-4	Al, 35W310, NM insulation paper	19.6
OCL2-132-4	Al, 35W310, NM insulation paper	24.4
OCL2-160-4	Al, 35W310, NM insulation paper	27.4
OCL2-200-4	Al, 35W310, NM insulation paper	27.0
OCL2-250-4	Al, 30Q120, NMN insulation paper	40.8
OCL2-280-4	Al, 35W310, NM insulation paper	37.9
OCL2-315-4	Al, 35W310, NM insulation paper	44.2
OCL2-350-4	Al, 30Q120, NM insulation paper	46.0
OCL2-400-4	Al, 35W310, NM insulation paper	48.0
OCL2-500-4	Al, 30Q120, NM insulation paper	62.1
OCL2-630-4	Al, Z10-0.27, NMN insulation paper	80.0

**2.12.3.3 DC reactor**

Model in the operation manual	Main material (electromagnetic wire, silicon steel sheet and insulation)	Weight (kg)
DCL2-2R2-4	Copper, 50W47, NMN insulation paper	5.0
DCL2-004-4	Copper, 50W47, NMN insulation paper	6.5
DCL2-7R5-4	Al, 50W47, NMN insulation paper	7.5
DCL2-015-4	Al, 50W47, NMN insulation paper	8.0
DCL2-018-4	Al, 50W47, NMN insulation paper	8.0
DCL2-022-4	Al, 50W47, NM insulation paper	5.3
DCL2-030-4	Al, 50W47, NM insulation paper	7.5
DCL2-037-4	Al, 50W47, NMN insulation paper	7.62
DCL2-045-4	Al, 50W47, NMN insulation paper	9.0
DCL2-055-4	Al, 50W47, NMN insulation paper	9.42
DCL2-75-4	Al, 50W47, NM insulation paper	13.1
DCL2-90-4	Al, 50W47, NM insulation paper	13.1
DCL2-132-4	Al, 50W47, NM insulation paper	23.6
DCL2-160-4	Al, 50W47, NM insulation paper	23.6
DCL2-220-4	Al, 50W47, NM insulation paper	28.6
DCL2-280-4	Al, 50W47, NMN insulation paper	39.8
DCL2-315-4	Al, 50W47, NMN insulation paper	35.1
DCL2-400-4	Al, 50W47, NM insulation paper	64.6
DCL2-500-4	Al, 35W310, NMN insulation paper	45.8

The materials of screws used in GD200A series products: carbon steel, zinc coating

Definition of terms for plastic and rubber materials	
ABS	Acrylonitrile-butadiene-styrene
GF	Glass fiber
PA	Polyamide
PBT	Polybutylene terephthalate
PP	Polypropylene
PC	Polycarbonate
PPS	Polyphenylene sulfide
PUR	Polyurethane
PVC	Polyvinyl chloride

## 2.13 Package

The product package is made of corrugated board or plywood.

The plastic cover of the package is made from PE-LD and tied up by PP ribbon. The optional boards are packed into the protective bag made from PE-LD.

Users can recycle all the materials used in the package.

In order to prevent pollutions caused by repetitive transportation, the factory will not take back used packages. Users can contact local INVT offices for more recycling instructions.

Package recycling is recommended as it is conducive to preserve the raw materials and reduce industrial waste.

## 2.14 Operation manuals and brochures

To save natural resources and reduce paper consumption, INVT has uploaded all the operation manuals and brochures onto the official website for users to download as needed.

## **3 Manufacturing and application**

### **3.1 Manufacturing**

INVT has implemented a company-wide management system integrated with quality, environment and vocational health and safety. This system is certified by ISO9001:2015, ISO14001:2015 and OHSAS 18001:2007 and applied to all the departments.

### **3.2 Application**

The application of drives is beneficial to the environment, for instance:

- Save energy and reduce cost;
- Improve process control;
- Reduce repair/maintenance needs.

## 4 Disposal

### 4.1 Contents of this chapter

This chapter describes instructions for product disposal.

### 4.2 Product disposal

The main body of the machine can be recycled to save natural resources and energy. The parts and materials should be dismantled and separated.

Generally, all the metals (such as steel, Al, copper, copper alloy and precious metal) can be recycled, while plastic, rubber and other packing material may be used in energy recycle.

PCBs (Printed circuit board) and DC capacitors should be disposed of in a proper manner in accordance with IEC 62635 instructions.

All the plastic parts are marked with identification code for the convenience of recycling.

The product disposal shall comply with international and national laws and regulations

### 4.3 Dismantle

The machine can be dismantled manually or mechanically. This chapter introduces in details these two dismantling modes.

### 4.4 Manual dismantle

The materials dismantled manually can be classified into the following categories based on the material content.

- Ferrous metal (plates, screws)
- Al (heat sink)
- Copper (bus)
- Plastic
- PCBs
- Electrolytic capacitor
- Others

Users can recycle the metal parts (iron and Al) and most of other materials in accordance with local regulations.

See *List of prohibited and restricted substances* for more details.

### 4.5 Mechanical dismantle

The machine can be shredded mechanically by shredding machine, and the shredded materials can be sorted out with professional sorting process.

User should remove the harmful materials inside the machine before mechanical shredding. See *List of*

*prohibited and restricted substances* for more details.

## 4.6 List of prohibited and restricted substances

This list aims to comply with legislation to avoid the use of chemical substances which may generate hazards to the environment or health.

The “prohibited substance” refers to the substances prohibited to be used; “restricted substance” refers to the substances whose use should be limited within INVT.

The definition and regulation concerning hazardous substances vary in countries and are likely to change when knowledge of materials increase. The materials used in the product are materials generally used in electrical and electronic equipment.

### 4.6.1 Reference

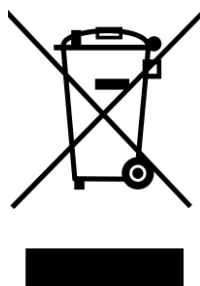
1. Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II).
2. Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning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

## 4.7 Recycling information conforming to WEEE

The wheelie bin symbol indicates this product will enter recycling system at the end of life.

Users should dispose of the product in appropriate collection location. Do not discard the product in normal waste stream.

The wheelie bin symbol shown below indicates separate collection for electrical and electronic equipment (EEE)







The horizontal bar underneath the wheelie bin indicates the equipment is manufactured after the directive come into effect in 2005.

The wheelie bin symbol is added to the type designation key of the product since 2018

Please refer to the example below.



**Model:** GD200A-037G/045P-4 IP20

**Power(Output):** 37kW/45kW

**Input:** AC 3PH 380V(-15%)-440V(+10%) 80A/94A 47Hz-63Hz

**Output:** AC 3PH 0V-Uinput 75A/92A 0Hz-400Hz

S/N:  Made in China

---

**Shenzhen INVT Electric Co., Ltd.**

### 4.8 Recycling instance

This instance complies with the typical national regulations effective at the time of publishing this manual.

Materials	Recycling mode
Aluminum	Recycled as material
Cables	Recycles as material
Copper	Recycled as material
Ceramics	Landfilled
Electrolytic capacitors	Recycled as WEEE
Plastics	Energy recycling (incineration)
Printed circuit boards	Recycled as WEEE
Steel	Recycles as material
Other materials	Energy recycling (incineration)

## **Further Information**

### **Product and service inquiries**

Address any inquiries about the product to your local INVT offices, quoting the type designation and serial number of the unit in question. A listing of INVT sales, support and service contacts can be found by navigating to [www.invt.com.cn](http://www.invt.com.cn).

### **Feedback of INVT Inverters manuals**

Your comments on our manuals are welcome. Go to [www.invt.com.cn](http://www.invt.com.cn), directly contact online service personnel or choose Contact Us to obtain contact information.

### **Document library on the Internet**

You can find manuals and other product documents in PDF format on the Internet. Go to [www.invt.com.cn](http://www.invt.com.cn) and choose Service and Support > Data Download.