# Operation **Manual**

## Hardware Manual of
## Goodrive800 Series Products



**SHENZHEN INVT ELECTRIC CO., LTD.**

# Preface

Thank you for purchasing our products.

Please read this manual carefully before any application.

Goodrive800 series products are developed for sophisticated application market which needs high overload capacity, high reliability and continuous operations. Its rated current is especially designed for various heavy-load applications such as metallurgy, port machinery, lifting, shore power, petroleum, petrochemical, municipal, chemical, electric power, building materials, mining, ship-building, paper-making and other industries and devices.

Goodrive800 series products apply international module, providing rectifier unit, IGBT, filter unit or whole cabinet to meet requirements of end-users and clients of OEM and integrated system. Different modules can be combined flexibly according to different requirement on the basic of standard configuration. Not only the user can control machines at high precision, but also present the excellent product reliability. Various solution applications are also provided to improve the convenient application at a great rate.

There are hardware manual, software manual, commissioning manual, installation and maintenance manual and application manual, to provide detailed instruction of installation and commissioning, electrical connections, parameters setting, common troubleshooting and routine maintenance. Please read corresponding manual during installation, commissioning and application to ensure proper use and long service life of the product.

If the product is ultimately used for military affairs or manufacture of weapon, it will be listed on the export control formulated by **Foreign Trade Law of the People's Republic of China**. Rigorous review and necessary export formalities are needed when exported.

Our company reserves the right to update the information of our products. Information may be subject to change without notice during product improving.

The manuals of Goodrive800 include (according to actual order):

**Software Manual of Goodrive800 Series Inverters;**

**Hardware Manual of Goodrive800 Series Inverters;**

**Software Manual of Goodrive800 Series PWM Rectifiers;**

**Installation and Maintenance Manual of Goodrive800 Series Products** and**;**

**Application Manual of Goodrive800 Series Products.**

# Content

# Chapter 1 Safety precautions

Please read this manual carefully and follow all safety precautions before moving, installing, operating and servicing the inverter. If ignored, physical injury or death may occur, or damage may occur to the devices.

If any physical injury or death or damage to the devices occurs for ignoring to the safety precautions in the manual, our company will not be responsible for any damages and we are not legally bound in any manner.

## 1.1 Safety definition

**Danger**: Serious physical injury or even death may occur if not follow relevant requirements.

**Warning**: Physical injury or damage to the devices may occur if not follow relevant requirements.

**Note**: Physical hurt may occur if not follow relevant requirements.

**Qualified electricians**: People working on the device should take part in professional electrical and safety training, receive the certification and be familiar with all steps and requirements of installing, commissioning, operating and maintaining the device to avoid any emergency.

## 1.2 Warning symbols

Warnings caution you about conditions which can result in serious injury or death and/or damage to the equipment, and advice on how to avoid the danger. Following warning symbols are used in this manual:

| Symbols | Name | Instruction | Abbreviation |
|---|---|---|---|
| ⚡ Danger | Danger | Serious physical injury or even death may occur if not follow the relative requirements | ⚡ |
| ⚠ Warning | Warning | Physical injury or damage to the devices may occur if not follow the relative requirements | ⚠ |
| ▲ Do not | Electrostatic discharge | Damage to the PCBA board may occur if not follow the relative requirements | ▲ |
| 🔥 Hot sides | Hot sides | Sides of the device may become hot. Do not touch. | 🔥 |
| Note | Note | Physical hurt may occur if not follow the relative requirements | Note |

## 1.3 Safety guidelines

| ⚡ | ✧ Only qualified electricians are allowed to operate the inverter. |
|---|---|
| | ✧ Do not carry out any wiring and inspection or changing components when the power supply is applied. Ensure all input power supply is disconnected before wiring and checking and always wait for at least the time designated on the inverter or until the DC bus voltage is less than 36V. Below is the table of the waiting time: |

| Voltage degree of Goodrive800 series products | Minimum waiting time |
|---|---|
| 380V | 15 minutes |

| | | 500V | |
| | |---|---|
| | | 660V | |
| ⚠ | ✧ Do not refit Goodrive800 series products unauthorized; otherwise fire, electric shock or other injury may occur. | | |
| ♨ | ✧ The base of the radiator may become hot during running. Do not touch to avoid hurt. | | |
| ⚠ | ✧ The electrical parts and components inside Goodrive800 series products are electrostatic. Take measurements to avoid electrostatic discharge during relevant operation. | | |

## 1.3.1 Delivery and installation

| | |
|---|---|
| ⚠ | ✧ Use special tools to install and remove the unit. |
| | ✧ Use crane to install the whole machine. |
| | ✧ Do not install Goodrive800 series products on combustible materials and avoid them to contact any combustible materials. |
| | ✧ Connect the optional parts and components (braking resistors, braking units and feedback units) according to the wiring diagram. |
| | ✧ Prevent dumping in installation because the gravity of the unit is high. |
| | ✧ Ensure that no other objects, such as screws, cable, left in the cabinet or Goodrive800 series products after installation or maintenance, otherwise damage may occur. |
| | ✧ Do not operate if there is any damage or components loss. |
| | ✧ Do not touch Goodrive800 series products with wet items or some part of the body, electric shock may occur. |

**Note:**

✧ Select appropriate moving and installing tools to ensure a safe and normal running of the inverter and avoid physical injury or death. For physical safety, the erector should take some mechanical protective measurements, such as wearing exposure shoes and working uniforms.

✧ Ensure to avoid physical shock or vibration during delivery and installation.

✧ Install away from children and other public places.

✧ Goodrive800 series products cannot meet the requirements of low voltage protection in IEC61800-5-1 if the sea level of installation site is above 2000m.

✧ The leakage current of Goodrive800 series products may be above 3.5mA during operation.

✧ The conductivity of PE grounding conductor is the same as that of the phase conductor (with the same cross sectional area).

| Cross-sectional area of conductor power cord (mm$^2$) | Cross-sectional area of grounding conductor (mm$^2$) |
|---|---|
| S≤16 | S |
| 16<S≤35 | 16 |
| 35<S | S/2 |

## 1.3.2 Time and sequence when power on/off

Time and sequence when power on:

| Power on (control circuit) | Delay for 10s<br>Display P.oFF | Power on (main circuit) | Delay for 3s | Run |
|---|---|---|---|---|

Time and sequence when power off:

| Stop | → Delay for 1s → | Power off (main circuit) | → Delay for 3s → | Power off (control circuit) |
|------|------------------|--------------------------|------------------|------------------------------|
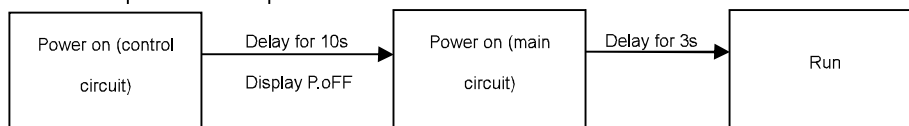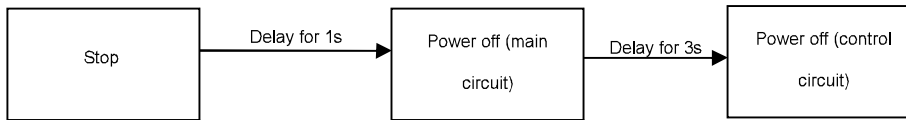
## 1.3.3 Commissioning and running

◇ Disconnect all power supplies applied to Goodrive800 series products before the terminal wiring and wait for at least the designated time after disconnecting the power supply.

◇ Check the connection of cable before power on.

◇ If the auxiliary control power of Goodrive800 series products is provided by external device, all power supplies are not disconnected. Check according to the diagram because voltage may be present when the device is not started, otherwise physical injury may occur.

◇ The operator can not touch the electrical parts in the cabinet directly. Pay attention when process the metal shield.

◇ Do not carry out any withstand voltage test in unit connection. Disconnect the motor cable before any isolation or withstand voltage test to the motor or motor cable.

◇ High voltage is present inside the product during running. Do not open the cabinet door.

◇ The inverter may start up by itself when P01.21=1. Do not get close to the product and motor.

◇ Voltage is also present on the motor terminals even if the motor does not rotate.

◇ "E-stop" of the device is for the disconnection of input power supply but not for the use of "E-stop device".

◇ The device can not be used to break the motor suddenly. A mechanical braking device should be provided.

◇ Follow below precautions:

1. All input power supplies are disconnected (including the main and control power supply).

2. Permanent magnet synchronous motor has stopped and the measured output voltage of Goodrive800 series products is less than 36V.

3. The waiting time after permanent magnet synchronous motor stopping is no less than the designated time on Goodrive800 series products and the measured voltage between (+) and (-) is less than 36V.

4. Ensure the motor does not rotate again during operation. It is recommended to install external braking devices or switch off the direct electrical connection between permanent magnet synchronous motor and Goodrive800 series products.

**Note:**

◇ Do not switch on or off the input power supply of Goodrive800 series products frequently.

◇ For Goodrive800 series products that have been stored for a long time, check and fix the capacitance and try to run it again before utilization (see Installation and Maintenance Manual).

◇ Cover the cabinet door before running, otherwise electric shock may occur.

### 1.3.3 Maintenance and replacement of components

| | |
|---|---|
| ⚡ | ✧ Only qualified electricians are allowed to perform the maintenance, inspection, and components replacement of Goodrive800 series products. |
| | ✧ Disconnect all power supplies to Goodrive800 series products before the terminal wiring. Wait for at least the time designated on Goodrive800 series products after disconnection. |
| | ✧ Take measures to avoid screws, cables and other conductive matters to fall into Goodrive800 series products during maintenance and component replacement. |
| | ✧ Operating optical fiber should be very careful. Do not touch the plug fiber optic fiber, because |
| | ✧ Operate the optical fiber carefully. Do not touch the conduction-section (glass fiber) when plugging and inserting, because the fiber optic section (glass fiber) is extremely sensitive to dirt. The minimum bend radius of the optical fiber is 35 mm. |

**Note:**

✧ Please select proper torque to tighten screws.

✧ Keep the inverter, parts and components away from combustible materials during maintenance and component replacement.

✧ Do not carry out any isolation and voltage test on the inverter and do not measure the control circuit of the inverter by megameter.

✧ Take right measures to avoid static electric for the product or internal parts and components during the maintenance and replacement.

### 1.3.4 What to do after scrapping

| | |
|---|---|
| ⚠ | ✧ There are heavy metals in Goodrive800 series products. Deal with it as industrial effluent. |

## 1.4 Precautions of installation and applications

### 1.4.1 Do not connect the output of inverter to capacitor
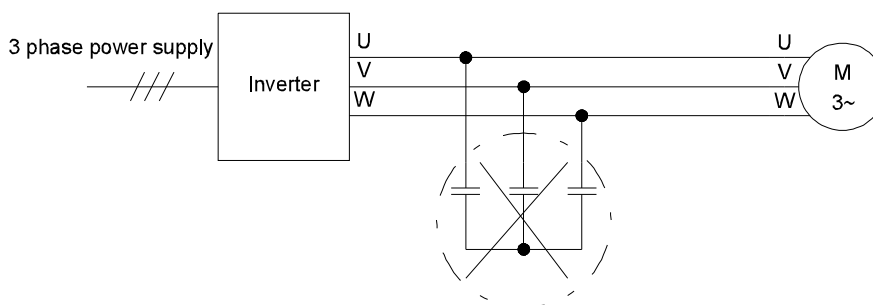


### 1.4.2 Cable requirements of parallel connection (inverters or power units)

Connection 1: the output cables are converged to the motor and the cables between the inverter and the motor have same length, cross section and model.
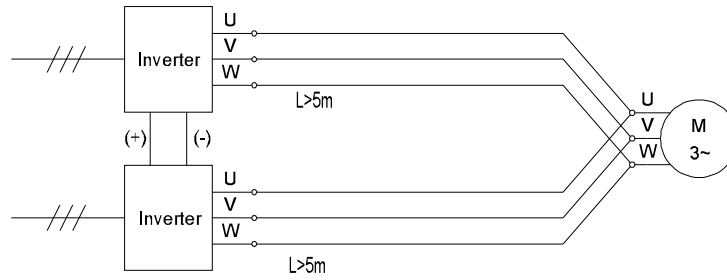
Connection 2: the output cables are converged to the sinusoidal filter.
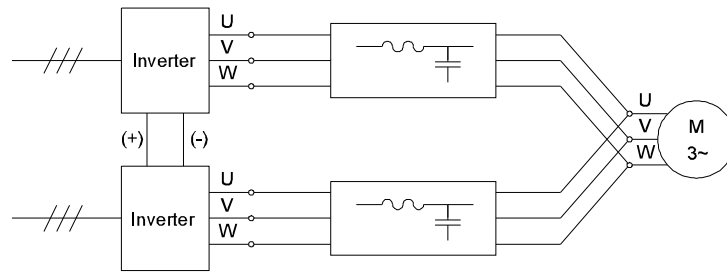


Wrong connection: the output cables are converged at the inverter side and the cables length between the inverter and the motor is different.
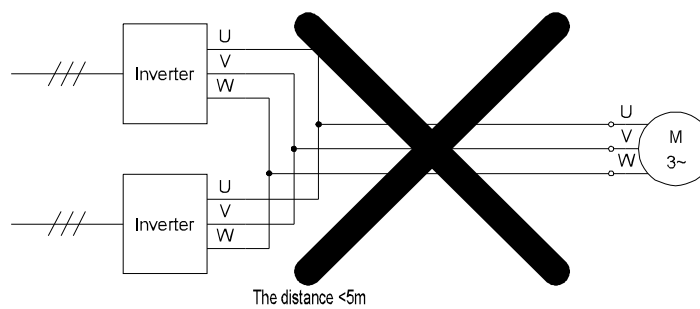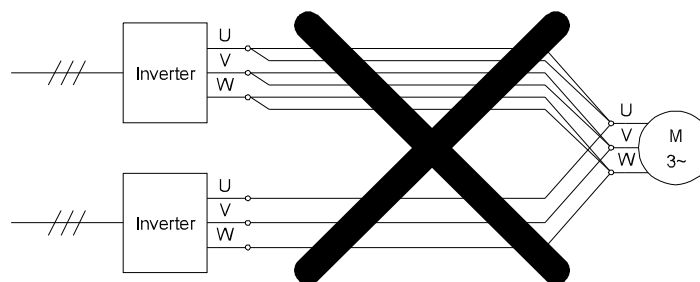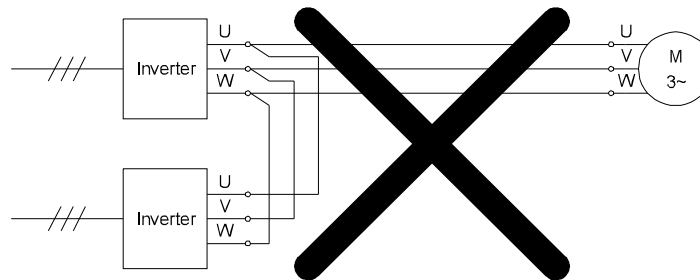
# Chapter 2 Application precautions

## 2.1 Inspection before power on

### 2.1.1 Unpacking inspection

Check as followings after receiving products:

| 1. Check that there are no damage and humidification to the package. |
| --- |
| 2. Check the information on the type designation label on the outside of the package to verify that the drive is of the correct type. |
| 3. Check that there are no signs of water in the package and no signs of damage or breach to the inverter. |
| 4. Check the information on the type designation label on the outside of the package to verify that the name plate is of the correct type. |
| 5. Check to ensure the accessories (including user's manual, control keypad and extension card) inside the device is complete. |

If any problem, please contact with local dealers or INVT offices.

### 2.1.2 Application confirmation

Check the machine before beginning to use the product:

| 1. Check the load type to verify that there is no overload of Goodrive800 series products during work and check that whether the drive needs to modify the power degree. |
| --- |
| 2. Check the product meets the requirements of the communication mode. |
| 3. Check the grid voltage is in the allowable input voltage range of Goodrive800 series products. |
| 4. Check that the actual current of the motor is less than the rated current of Goodrive800 series products. |

### 2.1.3 Environment

Check as followings before the actual installation and usage:

| 1. Check that the ambient temperature of Goodrive800 series products is below 40℃. If exceeds, derate 3% for every additional 1℃. Additionally, Goodrive800 series products can not be used if the ambient temperature is above 50℃. |
| --- |
| 2. Check that the ambient temperature of Goodrive800 series products in actual usage is above -10℃. If not, add heating facilities. |
| 3. Check that the altitude of the actual usage site is below 1000m. If exceeds, derate1% for every additional 100m. |
| 4. Check that the humidity of the actual usage site is below 90% and condensation is not allowed. If not, add additional protection inverters. |
| 5. Check that the actual usage site is away from direct sunlight and foreign objects can not enter Goodrive800 series products. If not, add additional protective measures. |
| 6. Check that there is no conductive dust or flammable gas in the actual usage site. If not, add additional protection to inverters. |

### 2.1.4 Installation confirmation

Check as followings after the installation:

| 1. Check that the input and output cables meet the need of actual load. |
| --- |
| 2. Check that the accessories of Goodrive800 series products are correctly and properly installed. The installation cables should meet the needs of every component (including reactors, input filters, output reactors, output filters, DC reactors, braking units and braking resistors). |

| | |
|---|---|
| 3. Check that Goodrive800 series product is installed on non-flammable materials and the calorific accessories (reactors and brake resistors) are away from flammable materials. |
| 4. Check that all control cables and power cables are run separately and the routation complies with EMC requirement. |
| 5. Check that all grounding systems are properly grounded according to the requirements of Goodrive800 series products. |
| 6. Check that the free space during installation is sufficient according to the instructions in user's manual. |
| 7. Check that the external connection terminals are tightly fastened and the torque is appropriate. |
| 8. Check that there are no screws, cables and other conductive items left in Goodrive800 series products. |

## 2.2 Environmental requirements of the product

Refer to *Installation and Maintenance Manual for Goodrive800 series products*.

Installation site is important to the application and maintenance of Goodrive800 series products; please select the installation site according to followings:

| Environmental conditions | | Standards |
|---|---|---|
| Operation environment | Installation site | Install the drive system vertically on the indoor base; Outlet/inlet≥10cm; Distance between the cabinet and walls or other obstacle≥5 cm; The cooling medium is air. |
| | Ambient temperature | -10°C~50°C, Changes of air temperature ≤0.5°C /min; Derate if the temperature is above 40°C; Max. temperature: 50°C |
| | Relative humidity | 5%~95% |
| | Other climatic conditions | No condensation, freezing rain, snow and hail; Solar radiation≤700W/m$^2$; Barometric pressure 70~106kPa |
| | Salt spray and corrosive gas content | Pollution degree 2 |
| | Dirt and solid particle content | Pollution degree 2 |
| | Altitude | ≤1000m; Derate if the altitude is above 1000m; Derate 1% for every additional 100m |
| | Vibration | Maximum amplitude≤5.8m/s$^2$(0.6g) |
| Storage environment | Storage site | Clean and dry |
| | Ambient temperature | -30°C ~60℃; Changes of air temperature ≤1 ℃/min |
| | Relative humidity | 5%~95% |
| | Storage time | ≤6 months |
| Transportation environment | Transportation tools | Automobiles, trains, ships are available for standard package |
| | Ambient temperature | -30°C ~60°C |

| Environmental conditions | | Standards |
|---|---|---|
| | RH | ≤95% at 40°C |
| | Vibration | 15m/s$^2$(1.5g) at sinusoidal vibration 9~200Hz |

# 2.3 Derating of Goodrive800 series products

## 2.3.1 Capacity

Inverter sizing is based on the rated motor current and power. To achieve the rated motor power given in the table, the rated current of Goodrive800 series products must be higher than or equal to the rated motor current. Also the rated power of Goodrive800 series products must be higher than or equal to the rated motor power. The power ratings are the same regardless of the supply voltage within one voltage range.

**Note:**

**1.** The maximum allowed motor shaft power is limited to 1.5*PN. If the limit is exceeded, motor torque and current are automatically restricted. The function protects the input bridge of the drive against overload.

**2.** The ratings apply at ambient temperature of 40 °C

**3.** It is important to check that in common DC systems the power flowing through the common DC connection does not exceed PN.

## 2.3.2 Derating

The load capacity decreases if the installation site ambient temperature exceeds 40 °C, the altitude exceeds 1000 meters or the carrier frequency exceeds the default value.

### 2.3.2.1 Temperature derating

In the temperature range +40°C~+50°C, the rated output current is decreased by 2% for every additional 1 °C. Refer to the below list for the actual derating.
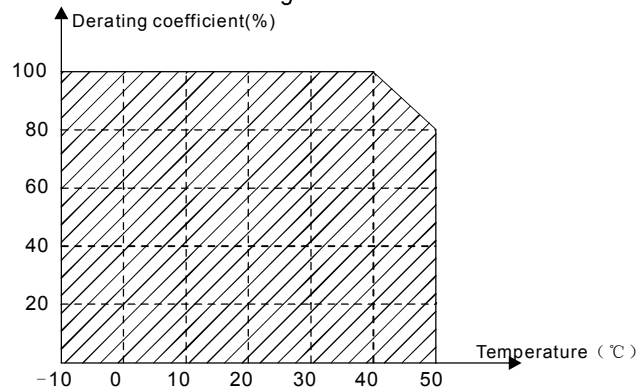


It is not recommended to use the inverter when the temperature is above 50 °C.

### 2.3.2.2 Altitude derating

The device can output at rated power if the installation site below 1000m. The output power decreases if the altitude exceeds 1000 meters. Below is the detailed decreasing range of the derating:
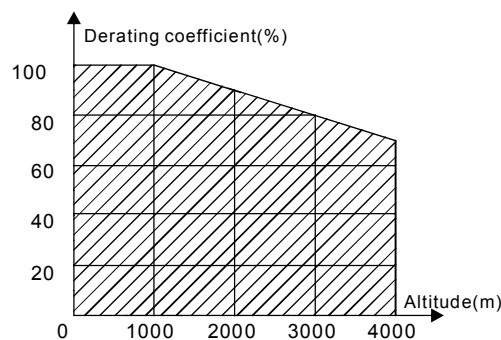


### 2.3.2.3 Carrier frequency derating

Different Goodrive800 series products have different carrier frequency. The rated power is based on the factory carrier frequency, and if the value exceeds the setting range, Goodrive800 series products need to derate 10% for every additional 1kHz.
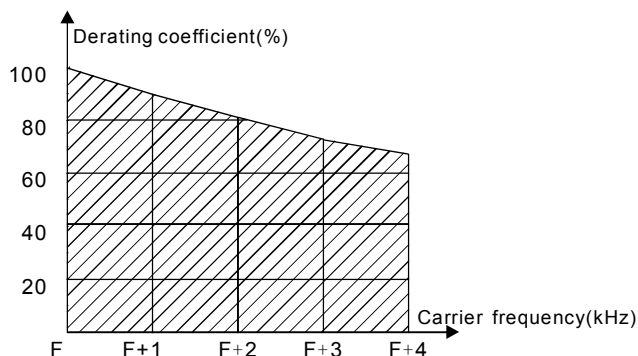


## 2.4 Application standards

Goodrive800 series products follow:

| | |
|---|---|
| EN/ISO 13849-1:2008 | Machinery Safety – The safety-related parts of control systems – Part 1: General principles for design |
| IEC/EN 60204-1:2006 | Machinery Safety – The electrical equipment of the machine – Part 1: General requirements |
| IEC/EN 62061:2005 | Machinery Safety-Functional safety of the safety-related electrical, electronic and programmable electronic control system |
| IEC/EN 61800-3:2004 | Adjustable speed electrical drive systems. Part 3: EMC standards and specific test of EMC adjustable speed electrical power drive systems |
| IEC/EN 61800-5-1:2007 | Adjustable speed electrical drive systems-Part 5-1:Safety requirements – electrical, thermal and energy |
| IEC/EN 61800-5-2:2007 | Adjustable speed eelectrical drive systems- Part 5-2: Safety requirements – functional |

### 2.4.1 CE mark

The CE mark is attached to the drive to verify that the drive follows the provisions of the European Low Voltage (2006/95/EC) and EMC Directives (2004/108/EC).

### 2.4.2 Compliance with the European EMC Directive

The EMC Directive defines the requirements for immunity and emissions of electrical equipment used within the European Union. The EMC product standard (EN 61800-3:2004) covers requirements stated for drives. See section EMC regulations.

## 2.5 EMC regulations

EMC product standard (EN 61800-3:2004) contains the EMC requirements to the inverter.

First environment: domestic environment (includes establishments connected to a low-voltage network which supplies buildings used for domestic purposes).

Second environment includes establishments connected to a network not directly supplying domestic premises.

Four categories of the inverter:

Inverter of category C1: inverter of rated voltage less than 1000 V and used in the first environment.

Inverter of category C2: inverter of rated voltage less than 1000 V other than pins, sockets and motion devices and intended to be installed and commissioned only by a professional electrician when used in the first environment.

Inverter of category C3: inverter of rated voltage less than 1000 V and used in the second environment other than the first one

Inverter of category C4: inverter of rated voltage more than 1000 V or the nominal current is above or equal to 400A and used in the complicated system in second environment

**Note:** IEC/EN 61800-3 in EMC standard doesn't limit the power distribution of the inverter, but it defines the usage, installation and commission. The professional electrician has necessary skills in installing and/or commissioning power drive systems, including their EMC aspects.

## 2.5.1 Category C2

The emission limits are complied with the following provisions:

1. The optional EMC filter is selected according to the options and installed as specified in the EMC filter manual.

2. The motor and control cables are selected as specified in this manual.

3. The drive is installed according to the instructions given in this manual.

| ⚡ | In the domestic environment, this product may cause radio inference, in which case supplementary mitigation measures may be required. |
|---|---|

## 2.5.2 Category C3

The immunity performance of the drive complies with the demands of IEC/EN 61800-3, second environment.

The emission limits are complied with the following provisions:

1. The optional EMC filter is selected according to the options and installed as specified in the EMC filter manual.

2. The motor and control cables are selected as specified in this manual.

3. The drive is installed according to the instructions given in this manual.

| ⚡ | A drive of category C3 is not intended to be used on a low-voltage public network which supplies domestic premises. Radio frequency interference is expected if the drive is used on such a network. |
|---|---|

# Chapter 3 Technical parameters

## 3.1 Product name plate
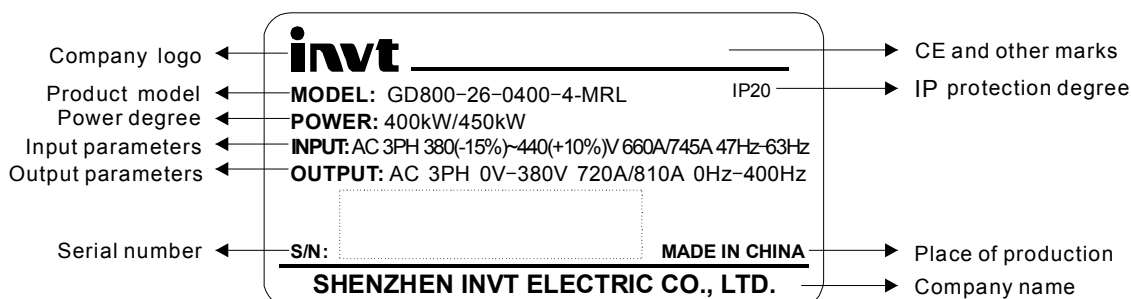


Note: CE mark is only present on the corresponding position if pass the CE certification.

## 3.2 Product model and name

### 3.2.1 Model of Goodrive800 series products

$$\underset{①}{\underline{GD}}\ \underset{②}{\underline{800}} - \underset{③}{\underline{2}}\ \underset{④}{\underline{6}} - \underset{⑤}{\underline{0400}} - \underset{⑥}{\underline{4}} - \underset{⑦}{\underline{MRL}}$$

Descriptions:

| Key | No. | Instruction | Example |
|---|---|---|---|
| Product series | ① | Product series | GD: Goodrive series inverters |
| Product name | ② | Series name | 300: Common inverters<br>800: Engineering drive products |
| | ③ | Product type | 1: Two-quadrant variable frequency drive<br>2: Four-quadrant variable frequency drive<br>5: Convertering<br>6: Diode rectification<br>7: Silicon-controller rectification<br>8: IGBT synchronous rectification<br>9: IGBT PWM rectification |
| | ④ | Structure type | 1: Unit products<br>2: Standard drive products<br>6: Cabinet products (IP20)<br>8: Cabinet products (IP54) |
| Power degree | ⑤ | Power degree | Refer to the electric parameters definition of each unit for the definition of the power code |
| Voltage degree | ⑥ | Voltage degree | 4: AC 3PH 380V (-15%)~440V(+10%)<br>5: AC 3PH 380V (-10%)~550V(+10%)<br>6: AC 3PH 520V (-15%)~690V(+10%) |
| Lot number | ⑦ | Lot number | MLR: Multiple cabinet products from left to right: switching cabinet→filter rectification cabinet→convertering cabinet; |

| | | | MRL: Multiple cabinet products from right to left: converting cabinet←filter rectification cabient←switching cabinet; |
| | | | MSC: Single cabinet products (default) |

## 3.2.2 Model of Goodrive800 control unit

$$\underline{GD800} - \underline{ICU} - \underline{0400} - \underline{4}$$
$$① \qquad\qquad ② \qquad\qquad ③ \qquad ④$$

| Key | Sign | Instruction | Example |
|---|---|---|---|
| Product series | ① | Product series | GD: Goodrive series inverters |
| Product name | ② | Product name | 300: Common inverters<br>800: Engineering drive products |
| | ③ | Control unit type | RCU: PWM rectification control unit<br>ICU: inverter control unit |
| Power code | ④ | Power code | Refer to the electric parameters definition of each unit for the definition of the power code |
| Voltage degree | ⑤ | Voltage degree | 4: AC 3PH 380V (-15%)~440V(+10%)<br>5: AC 3PH 380V (-10%)~550V(+10%)<br>6: AC 3PH 520V (-15%)~690V(+10%) |

## 3.2.3 Model of Goodrive800 optional unit

| Key | Sign | Instruction | Example |
|---|---|---|---|
| Product series | ① | Product series | GD: Goodrive series inverters |
| Product name | ② | Product name | 300: Common inverters<br>800: Engineering drive products |
| | ③ | Control unit type | 01: LCL PWM rectification filter unit<br>02: Sina wave filter unit<br>03: Bus capacitor energy storage/ filter unit |
| Power code | ④ | Power code | Refer to the electric parameters definition of each unit for the definition of the power code |
| Voltage degree | ⑤ | Voltage degree | 4: AC 3PH 380V (-15%)~440V(+10%)<br>5: AC 3PH 380V (-10%)~550V(+10%)<br>6: AC 3PH 520V (-15%)~690V(+10%) |

## 3.2.4 Product name of Goodrive800 series models

### 3.2.4.1 Product name of Goodrive800 series models

| Product name | Series name | Name | Voltage degree | Power range |
|---|---|---|---|---|
| Unit product | Goodrive800-11 | Inverter unit | 380 | 4~400 |
| | | | 500 | 4~400 |
| | | | 660 | 22~500 |
| | Goodrive800-51 | IGBT unit | 380 | 37~400 |
| | | | 500 | 37~400 |
| | | | 660 | 75~500 |
| | Goodrive800-61 | Diode rectifier unit | 380 | 132~400 |

| Product name | Series name | Name | Voltage degree | Power range |
|---|---|---|---|---|
| Standard cabinet product | | | 500 | 132~400 |
| | | | 660 | 132~500 |
| | Goodrive800-71 | Silicon-controlled rectifier unit | 380 | 400~600 |
| | | | 500 | 400~600 |
| | | | 660 | 630~1000 |
| | Goodrive800-81 | IGBT synchronous rectifier unit | 380 | 75~400 |
| | | | 500 | 75~400 |
| | | | 660 | 75~500 |
| | Goodrive800-91 | Simple PWM rectification unit | 380 | 37~400 |
| | | | 500 | 37~400 |
| | | | 660 | 75~500 |
| | Goodrive800-16 | Cabinet inverter | 380 | 75~1200 |
| | | | 500 | 75~1200 |
| | | | 660 | 75~1500 |
| | Goodrive800-26 | Four-quadrant cabinet inverter | 380 | 75~2400 |
| | | | 500 | 75~2400 |
| | | | 660 | 75~3000 |
| | Goodrive800-56 | Cabinet converter | 380 | 75~2400 |
| | | | 500 | 75~2400 |
| | | | 660 | 75~3000 |
| | Goodrive800-66 | Cabinet diode rectifier | 380 | 132~1200 |
| | | | 500 | 132~1200 |
| | | | 660 | 132~1500 |
| | Goodrive800-76 | Cabinet SCR rectifier | 380 | 200~2400 |
| | | | 500 | 200~2400 |
| | | | 660 | 200~3000 |
| | Goodrive800-86 | Cabinet IGBT synchronous rectifier | 380 | 75~1200 |
| | | | 500 | 75~1200 |
| | | | 660 | 75~1500 |
| | Goodrive800-96 | Cabinet IGBT PWM rectifier | 380 | 75~2400 |
| | | | 500 | 75~2400 |
| | | | 660 | 75~3000 |

### 3.2.4.2 Product name of Goodrive800 series models (optional)

| Product name | Series name | Name | Voltage degree | Power range |
|---|---|---|---|---|
| Unit product | Goodrive800-01 | LCL PWM rectification filter unit | 380 | 250~400 |
| | | | 500 | 250~400 |
| | | | 660 | 315~500 |
| | Goodrive800-02 | Sine wave filter unit | 380 | 250~400 |
| | | | 500 | 250~400 |
| | | | 660 | 315~500 |
| | | Bus capacitor energy storage/ filter unit | 380 | 250~400 |

| Product name | Series name | Name | Voltage degree | Power range |
|---|---|---|---|---|
| | Goodrive800-03 | | 500 | 250~400 |
| | | | 660 | 315~500 |

## 3.2.5 Products comparison

| Model | Goodrive800-01 | Goodrive800-11 | Goodrive800-51 | Goodrive800-61 | Goodrive800-71 | Goodrive800-81 |
|---|---|---|---|---|---|---|
| Name | LCL PWM filter unit | Inverter unit | Convertering (power) unit | Diode rectification unit | Silicon-controller rectification unit | IGBT synchronous rectification unit |
| Features | 1. includes the inlet filter reactor, damping resistor, capacitor unit and the rectification reactor<br>2. important part of GD800-26 and 96 series | 1.includes diode rectification and IGBT converering<br>2. be used with control unit<br>3. important part of GD800-16 | 1. be used as rectification unit and converering unit<br>2. be used with control unit<br>3. be parallel-connected, important part of GD800-26, 96 and 56 | 1. diode rectification, the bus voltage can be adjusted<br>2. no energy feedback<br>3. support 6 pulse and 12 pulse input<br>4. support AC and DC buffer buffer | 1. silicon-controlled and diode rectification, the bus voltage can be adjusted<br>2. no energy feedback<br>3. silicon-controlled phase-shift buffer, no electricity buffer contactor | 1. IGBT rectification, the bus voltage can be adjusted<br>2. with energy feedback<br>3. to be equipped with communication buffer contactor<br>4. to be equipped with pressure drop of 4% AC reactor |
| Cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling |

| Model | Goodrive800-16 | Goodrive800-26 | Goodrive800-56 | Goodrive800-66 | Goodrive800-76 | Goodrive800-86 | Goodrive800-96 |
|---|---|---|---|---|---|---|---|
| Name | Cabinet inverter | Four quadrant cabinet inverter | Cabinet converter | Cabinet diode rectifier | Cabinet silicon controlled rectifier | Cabinet IGBT synchronous rectifier | Cabinet IGBT PWM rectifier |
| Features | 1. diode rectification, the bus voltage can be adjusted<br>2. no energy feedback | 1. includes PWM rectifier and converter<br>2. with energy feedback and the bus voltage can be adjusted | 1. independent control unit<br>2. flexible configuration<br>3. mainly for DC bus and can be connect to 66, 76, 86 and 96 | 1. diode rectification, the bus voltage can be adjusted<br>2. no energy feedback<br>3. contactor buffer | 1. silicon-controlled and diode rectification, the bus voltage can be adjusted<br>2. no energy feedback<br>3. silicon-controlled phase-shift buffer, no electricity buffer contactor | 1. IGBT rectification, the bus voltage can be adjusted<br>2. with energy feedback<br>3. to be equipped with AC buffer contactor | 1. IGBT rectification, the bus voltage can be adjusted<br>2. with energy feedback<br>3. to be equipped with AC buffer contactor |
| Cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling | internal forced air cooling |
| Power factor | >92% (with external AC reactor 4%) | >98%,<br>>99% at full load | | >92%(with external AC input reactor 4% at the rated load) | >92%(with external AC input reactor 4% at the rated load) | >92%(with external AC input reactor 4% at the rated load) | >98%,<br>>99% at full load |

## 3.3 Product specifications

### 3.3.1 Product specifications of Goodrive800-51 series power unit

| Function | | Specifications |
|---|---|---|
| Power ratings | DC voltage (V) | 380V: DC350V~800V<br>500V: DC450V~1000V<br>660V: DC570V~1200V |
| | Rated input current(V) | Refer to 3.4.2 |
| | Rated output voltage(V) | $0~0.7V_{DC}$ |
| | Rated output current(A) | Refer to 3.4.2 |
| | Rated output power(kW) | Refer to 3.4.2 |
| | Rated input efficiency (%) | 98% |
| | Output frequency (Hz) | 0~400Hz |
| Operation control | Current limit | Max. value: 200% of the rated current |
| | Carrier frequency | 1~8kHz |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| Protections | Overload protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | About 20 unit fault protections |
| Others | Audio noise | <75dB |
| | Installation mode | Cabinet installation |
| | Protection degree | IP00 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

**Note:** No standard control units. It can be used as an inverter with ICU control units and as PWM rectifiers with RCU control units.

## 3.3.2 Product specifications of Goodrive800-11 series inverter unit

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%)<br>AC 3PH 380V (-10%)~550V(+10%)<br>AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.1 |
| | Rated input frequency(Hz) | 50Hz/60Hz, 47~63Hz |
| | Rated input efficiency (%) | ≥97% |
| Power output | Rated output voltage(V) | 0~input voltage |
| | Rated output current(A) | Refer to 3.4.1 |
| | Rated output power(kW) | Refer to 3.4.1 |
| | Rated output frequency(Hz) | 0~400Hz |
| Operation control | Current limit | Max. value: 200% of the rated current |
| | Carrier frequency | 1~8kHz |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| Protections | Motor protection | Motor overload and overtemperature protection |
| | Overcurrent protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |
| | Undervoltage protection | 380V: bus 350V undervoltage<br>500V: bus 450V overvoltage<br>660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | About 20 unit fault protections |
| Others | Audio noise | <75dB |
| | Installation mode | Cabinet installation |
| | Protection degree | IP00 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

**Note:** No standard control units. It can be used as an inverter with ICU control units.

### 3.3.3 Product specifications of Goodrive800-61 diode rectification unit

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%) <br> AC 3PH 380V (-10%)~550V(+10%) <br> AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.3 |
| | Rated input frequency(Hz) | 50Hz/60Hz, 47~63Hz |
| | Rated input efficiency (%) | ≥97% |
| | Rated input power factor | ≥98% |
| Operation control | Current limit | Max. value: 200% of the rated current |
| | Carrier frequency | 2~8kHz |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| Protections | Motor protection | Motor overload and overtemperature protection |
| | Overcurrent protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage <br> 500V: bus 1000V overvoltage <br> 660V: bus 1200V overvoltage |
| | Undervoltage protection | 380V: bus 350V undervoltage <br> 500V: bus 450V overvoltage <br> 660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | About 20 unit fault protections |
| Others | Audio noise | <90dB |
| | Installation mode | Cabinet installation |
| | Protection degree | IP00 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

## 3.3.4 Product specifications of Goodrive800-16 inverter unit

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%)<br>AC 3PH 380V (-10%)~550V(+10%)<br>AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.1 |
| | Rated input frequency(Hz) | 50Hz/60Hz, 47~63Hz |
| | Rated input efficiency (%) | ≥97% |
| Power output | Rated output voltage(V) | 0~input voltage |
| | Rated output current(A) | Refer to 3.4.1 |
| | Rated output power(kW) | Refer to 3.4.1 |
| | Rated output frequency(Hz) | 0~400Hz |
| Operation control | Current limit | Max. value: 200% of the rated current |
| | Carrier frequency | 1~8kHz |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| Protections | Motor protection | Motor overload and overtemperature protection |
| | Overcurrent protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |
| | Undervoltage protection | 380V: bus 350V undervoltage<br>500V: bus 450V overvoltage<br>660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | About 20 unit fault protections |
| Others | Audio noise | <75dB |
| | Installation mode | Cabinet installation |
| | Protection degree | IP00 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

### 3.3.5 Product specifications of Goodrive800-26 series four-quadrant cabinet inverter

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%)<br>AC 3PH 380V (-10%)~550V(+10%)<br>AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.4 |
| | Rated input frequency (Hz) | 50Hz/60Hz, range: 47~63Hz |
| | Rated input efficiency (%) | ＞95% |
| | Rated input power factor (%) | ＞98% |
| | Rated input current harmonic (%) | <5% |
| Power output | Rated output voltage(V) | 0~1.15*input voltage, up to $0.7V_{DC}$ |
| | Rated output current(A) | Refer to 3.4.4 |
| | Rated output power(kW) | Refer to 3.4.4 |
| | Rated output frequency(Hz) | 0~400Hz |
| Operation control | Control mode | SVPWM, close-loop vector and open-loop vector |
| | Carrier frequency | 1-8 kHz |
| | Speed range | Close-loop vector : 1:1000<br>Open-loop vector : 1:100 |
| | Speed control accuracy | Close-loop vector: ± 0.1% of the Max. speed<br>Open-loop vector: ± 0.5% of the Max. speed |
| | Current limit | Max. value: 200% of the rated current |
| | The parallel uneven flow degrees of the power unit | ≤5% of the unit rated current |
| | The parallel uneven flow degrees of the system | ≤5% of the system rated current |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| | The terminal analog input resolution | ≤20mV |
| | The terminal switch input resolution | ≤2ms |
| Protections | Overload protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |

| Function | | Specifications |
|---|---|---|
| | Undervoltage protection | 380V: bus 350V undervoltage<br>500V: bus 450V overvoltage<br>660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | More than 30 fault protections and 20 unit fault protections |
| | Safety protection | STO, SS1, SSL, SBC protections |
| Others | Audio noise | <90dB |
| | Installation mode | Floor installation |
| | Protection degree | IP20 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

### 3.3.6 Product specifications of Goodrive800-56 series standard IGBT cabinet

| Function | | Specifications |
|---|---|---|
| Power input | Input voltage (V) | 380V: DC350V~800V<br>500V: DC450V~1000V<br>660V: DC570V~1200V |
| | Rated input current(A) | 97% |
| | Rated input current harmonic (A) | <5% |
| Power output | Output voltage (V) | 0~0.7$V_{DC}$ |
| | Rated output current(A) | Refer to 3.4.5 |
| | Rated output power(kW) | Refer to 3.4.5 |
| | Output frequency (Hz) | 0~400Hz |
| Operation control | Current mode | SVPWM, close-loop vector and open-loop vector |
| | Carrier frequency | 1~8kHz |
| | Speed ratio | Close-loop vector:1:1000<br>Open-loop vector: 1:100 |
| | Speed control accuracy | Close-loop vector: ± 0.1% of the Max. speed<br>Open-loop vector: ± 0.5% of the Max. speed |
| | Current limit | Max. value: 200% of the rated current |
| | The parallel uneven flow degrees of the power unit | ≤5% of the unit rated current |
| | The parallel uneven flow degrees of the system | ≤5% of the system rated current |
| | Bus voltage detection accuracy | Overvoltage point ±1% |
| | The output current detection accuracy | Rated current ±3% |
| | The terminal analog input resolution | ≤20mV |
| | The terminal switch input resolution | ≤2ms |
| Protections | Overload protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |
| | Undervoltage protection | 380V: bus 350V undervoltage<br>500V: bus 450V overvoltage<br>660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | More than 30 fault protections and 20 unit fault protections |
| Others | Audio noise | <80dB |

| Function | | Specifications |
|---|---|---|
| | Installation mode | Floor installation |
| | Protection degree | IP20 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

## 3.3.7 Product specifications of Goodrive800-96 series cabinet IGBT PWM rectifier

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%)<br>AC 3PH 380V (-10%)~550V(+10%)<br>AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.6 |
| | Rated input frequency(Hz) | 50Hz/60Hz, 47~63Hz |
| | Rated input efficiency (%) | ≥97% |
| | Rated input power factor (%) | ≥98% |
| Operation control | Current limit | Max. value: 200% of the rated current |
| | Carrier frequency | 2~8kHz |
| | Bus voltage detection accuracy | ±1% of the overvoltage point |
| | The input current detection accuracy | ±3% of the rated current |
| Protections | Overload protection | 150% of rated current:60s, 180% of rated current:10s, 200% of rated current:1s |
| | Overvoltage protection | 380V: bus 800V overvoltage<br>500V: bus 1000V overvoltage<br>660V: bus 1200V overvoltage |
| | Undervoltage protection | 380V: bus 350V undervoltage<br>500V: bus 450V overvoltage<br>660V: bus 570V overvoltage |
| | Overtemperature protection | 85℃ |
| | Fault protection | More than 30 fault protections and 20 unit fault protections |
| Others | Audio noise | <90dB |
| | Installation mode | Floor installation |
| | Protection degree | IP20 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

## 3.3.8 Product specifications of Goodrive800-01 LCL PWM filter unit

| Function | | Specifications |
|---|---|---|
| Power input | Rated input voltage(V) | AC 3PH 380V (-15%)~440V(+10%) <br> AC 3PH 380V (-10%)~550V(+10%) <br> AC 3PH 520V (-15%)~690V(+10%) |
| | Rated input current(A) | Refer to 3.4.7 |
| | Rated input frequency(Hz) | 50Hz/60Hz, 47~63Hz |
| Whole performance | Voltage drop at grid | 2% |
| | Voltage drop at rectifier | 8% |
| Protections | Fault protection | Fault protection signal of the reactor overheating |
| Others | Audio noise | <90dB |
| | Installation mode | Cabinet installation |
| | Protection degree | IP00 |
| | Cooling mode | Forced air cooling |
| | Safety and EMC performance | Meet CE requirement |

## 3.3.9 Product specifications of Goodrive800 control unit

| Function | | Specifications |
|---|---|---|
| Operation power supply | Rated input voltage(V) | DC 24V±20% |
| | Rated input current(A) | DC 2A |
| Periphery Interface | 10V power supply | 10.5V reference power supply |
| | 24V power supply | User power supply<br>Max. output current: 200mA |
| | PW external power supply | Digital input/output operation power supply<br>Voltage range:12~24V |
| | The terminal analog input resolution | ≤20mV |
| | The terminal switch input resolution | ≤20ms |
| | Analog input | 2 (AI1,AI2) 0~10V/0~20mA<br>1(AI3) -10V~10V |
| | Analog output | 1 (AO1)0~10V/0~20mA<br>1(AO2) -10V~10V/-20mA~20mA |
| | Digital input | 8 (S1~S8) common input; Max. frequency: 1kHz; internal impedance:3.3k<br>S8 can be used as common input and high speed input; Max. frequency: 50kHz |
| | Digital output | 1 (Y1)Y Terminal open collector output, switching capacity:200mA/30V<br>1 (Y2) High-speed pulse output, output frequency 0~50k, switching capacity 1A/30V |
| | Relay output | 4 programmable relay outputs:<br>RO1A NO, RO1B NC, RO1C common terminal<br>RO2A NO, RO2B NC, RO2C common terminal<br>RO3A NO, RO3B NC, RO3C common terminal<br>RO4A NO, RO4B NC, RO4C common terminal<br>Contact capacity:3A/AC250V，1A/DC30V<br>Relay 4 can be used as the braking output terminal if the braking function is enabled, as well as the common relay. |
| | Safety terminal input | H1 and H2 is default to short-connect to COM terminal in STO safety terminal input. It is necessary to remove the connection wires between H1 and COM, H2 and COM;<br>If PW applies external power supply, H1 and H2 need to short-connected with external power supply ground. |
| | Communication | 485 communication, apply MODBUS protocol |
| Fiber-optic communications interface | Fiber optic port for parallel units | Up to 6 parallel power units |
| | Fiber optic port for master-slave communication | Support the system extension and power balance |
| Extension Interface | Communication interface | Support PROFIBUS, ETHERNET, CANopen and DEVICE-NET communication protocol through the optional communication cards |
| | PG card interface | Support incremental encoder, UVW encoder, sine and |

| Function | | Specifications |
|---|---|---|
| | | cosine encoder and resolver encoder through the optional PG cards |
| | Signal detection interface | Optional for temperature detection board, RST signal detection board and mains synchronous cards |
| | IO extension interface | Can be extended to digital and analog input/output |
| Others | Environment temperature | -10℃~50℃ |
| | Installation mode | Wall mounting in cabinet |
| | Protection degree | IP00 |
| | Cooling mode | Natural cooling |
| | Safety and EMC performance | Meet CE requirement |

## 3.4 Main rated parameters



Heavy load application



Light load application
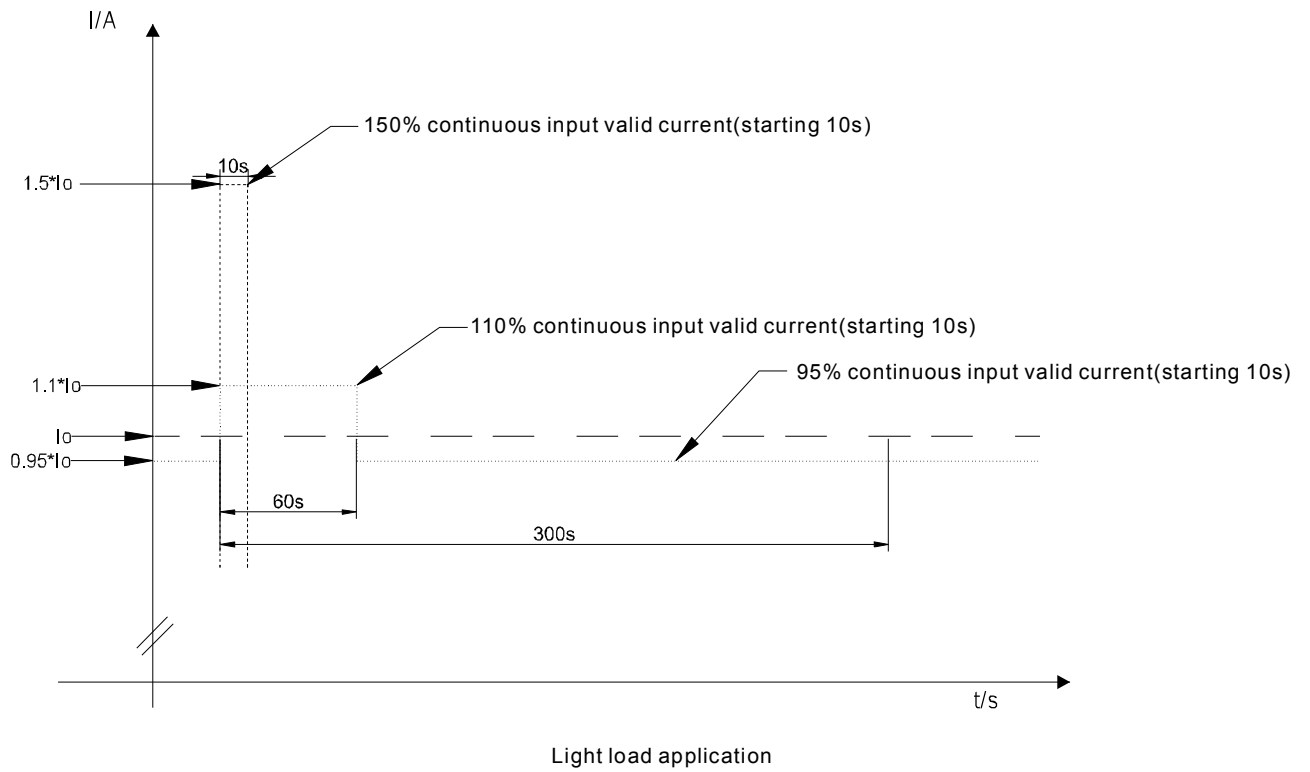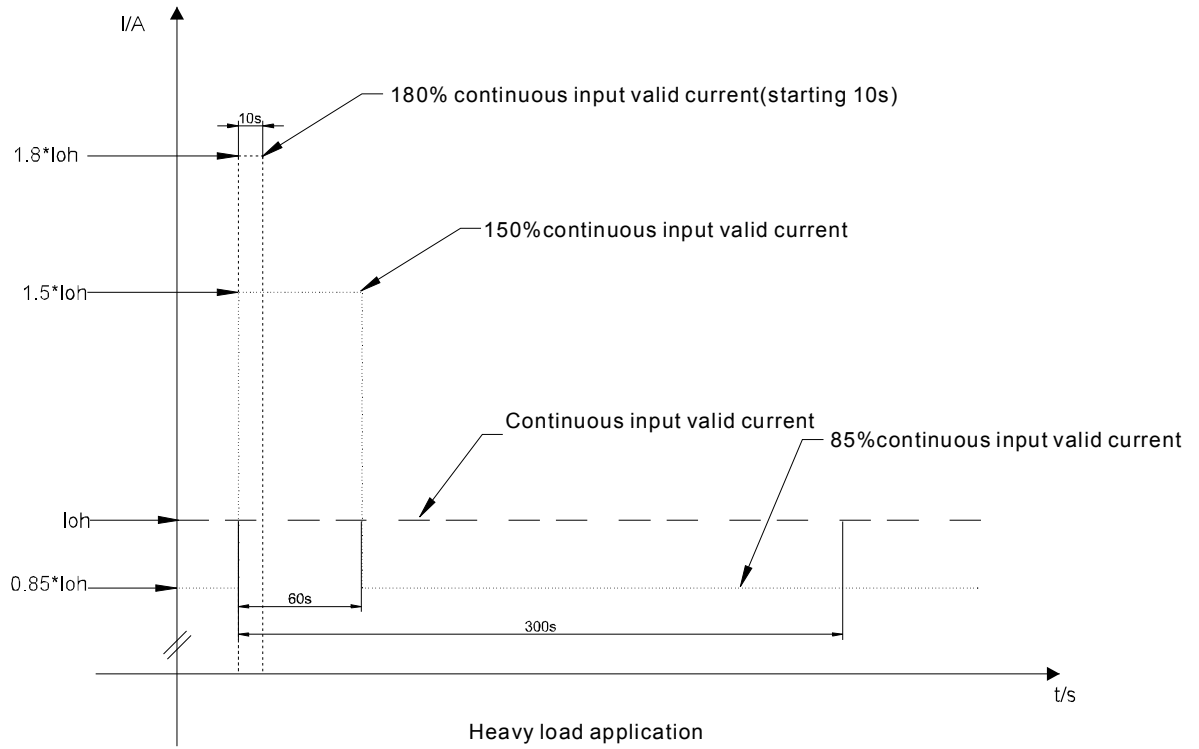
## 3.4.1 Main parameters of Goodrive800-11 inverter unit

| Model | Heavy overload application | | | Light overload application | | | Air volume (m³/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|---|
| | $P_{Lh}$ (kW) | $I_{ih}$ (A) | $I_{oh}$ (A) | $P_L$ (kW) | $I_i$ (A) | $I_o$ (A) | | | |
| $U_N$ =380 V | | | | | | | | | |
| GD800-11-0004-4 | 4 | 13.5 | 9.5 | 5.5 | 19.5 | 14 | 45 | 3.5 | 11A1 |
| GD800-11-05R5-4 | 5.5 | 19.5 | 14 | 7.5 | 25 | 18.5 | | | |
| GD800-11-07R5-4 | 7.5 | 25 | 18.5 | 11 | 32 | 25 | 100 | 7 | 11A2 |
| GD800-11-0011-4 | 11 | 32 | 25 | 15 | 40 | 32 | | | |
| GD800-11-0015-4 | 15 | 40 | 32 | 18.5 | 47 | 38 | 180 | 8.5 | 11A3 |
| GD800-11-0018-4 | 18.5 | 47 | 38 | 22 | 56 | 45 | | | |
| GD800-11-0022-4 | 22 | 56 | 45 | 30 | 70 | 60 | 180 | 13 | 11A4 |
| GD800-11-0030-4 | 30 | 70 | 60 | 37 | 80 | 75 | | | |
| GD800-11-0037-4 | 37 | 80 | 75 | 45 | 94 | 92 | 240 | 23 | 11A5 |
| GD800-11-0045-4 | 45 | 94 | 92 | 55 | 128 | 115 | | | |
| GD800-11-0055-4 | 55 | 128 | 115 | 75 | 160 | 150 | | | |
| GD800-11-0075-4 | 75 | 160 | 150 | 90 | 190 | 180 | 450 | 55 | 11A6 |
| GD800-11-0090-4 | 90 | 190 | 180 | 110 | 225 | 215 | | | |
| GD800-11-0110-4 | 110 | 225 | 215 | 132 | 265 | 260 | | | |
| GD800-11-0132-4 | 132 | 265 | 260 | 160 | 310 | 305 | 600 | 100 | 11A7 |
| GD800-11-0160-4 | 160 | 310 | 305 | 185 | 360 | 355 | | | |
| GD800-11-0200-4 | 200 | 385 | 380 | 220 | 430 | 425 | | | |
| GD800-11-0250-4 | 250 | 485 | 480 | 285 | 545 | 530 | 1650 | 180 | 11A8 |
| GD800-11-0315-4 | 315 | 610 | 600 | 350 | 625 | 650 | | | |
| GD800-11-0400-4 | 400 | 715 | 720 | 450 | 805 | 810 | | | |
| GD800-11-0132-4-B | 132 | 265 | 260 | 160 | 310 | 305 | 600 | 120 | 11B7 |
| GD800-11-0160-4-B | 160 | 310 | 305 | 185 | 360 | 355 | | | |
| GD800-11-0200-4-B | 200 | 385 | 380 | 220 | 430 | 425 | | | |
| GD800-11-0250-4-B | 250 | 485 | 480 | 285 | 545 | 530 | 800 | 160 | 11B8 |
| GD800-11-0315-4-B | 315 | 610 | 600 | 350 | 625 | 650 | | | |
| GD800-11-0400-4-B | 400 | 715 | 720 | 450 | 805 | 810 | 1400 | 450 | 11B9 |
| $U_N$ =500 V | | | | | | | | | |
| GD800-11-0004-5 | 4 | 11 | 8 | 5.5 | 15 | 10 | 100 | 7 | 11A2 |
| GD800-11-05R5-5 | 5.5 | 15 | 10 | 7.5 | 19 | 14 | | | |
| GD800-11-07R5-5 | 7.5 | 19 | 14 | 11 | 26 | 20 | | | |
| GD800-11-0011-5 | 11 | 26 | 20 | 15 | 32 | 26 | | | |
| GD800-11-0015-5 | 15 | 32 | 26 | 18.5 | 40 | 34 | 180 | 8.5 | 11A3 |
| GD800-11-0018-5 | 18.5 | 40 | 34 | 22 | 48 | 42 | 240 | 23 | 11A5 |
| GD800-11-0022-5 | 22 | 48 | 42 | 30 | 60 | 53 | | | |
| GD800-11-0030-5 | 30 | 60 | 53 | 37 | 66 | 63 | | | |
| GD800-11-0037-5 | 37 | 66 | 63 | 45 | 78 | 75 | | | |
| GD800-11-0045-5 | 45 | 78 | 75 | 55 | 95 | 92 | | | |
| GD800-11-0055-5 | 55 | 95 | 92 | 75 | 126 | 120 | | | |
| GD800-11-0075-5 | 75 | 126 | 120 | 90 | 155 | 150 | 450 | 55 | 11A6 |
| GD800-11-0090-5 | 90 | 155 | 150 | 110 | 180 | 175 | | | |

| Model | Heavy overload application | | | Light overload application | | | Air volume (m³/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|---|
| | $P_{Lh}$ (kW) | $I_{ih}$ (A) | $I_{oh}$ (A) | $P_L$ (kW) | $I_i$ (A) | $I_o$ (A) | | | |
| GD800-11-0110-5 | 110 | 180 | 175 | 132 | 215 | 210 | | | |
| GD800-11-0132-5 | 132 | 215 | 210 | 160 | 265 | 255 | 600 | 100 | 11A7 |
| GD800-11-0160-5 | 160 | 265 | 255 | 185 | 285 | 290 | | | |
| GD800-11-0200-5 | 200 | 315 | 325 | 220 | 340 | 350 | | | |
| GD800-11-0250-5 | 250 | 380 | 395 | 285 | 410 | 425 | | | |
| GD800-11-0315-5 | 315 | 495 | 510 | 350 | 525 | 545 | 1650 | 180 | 11A8 |
| GD800-11-0400-5 | 400 | 600 | 620 | 450 | 645 | 665 | | | |
| GD800-11-0132-5-B | 132 | 215 | 210 | 160 | 265 | 255 | | | |
| GD800-11-0160-5-B | 160 | 265 | 255 | 185 | 285 | 290 | 600 | 120 | 11B7 |
| GD800-11-0200-5-B | 200 | 315 | 325 | 220 | 340 | 350 | | | |
| GD800-11-0250-5-B | 250 | 380 | 395 | 285 | 410 | 425 | 800 | 160 | 11B8 |
| GD800-11-0315-5-B | 315 | 495 | 510 | 350 | 525 | 545 | | | |
| GD800-11-0400-5-B | 400 | 600 | 620 | 450 | 645 | 665 | 1400 | 450 | 11B9 |
| $U_N$ =660 V | | | | | | | | | |
| GD800-11-0022-6 | 22 | 35 | 27 | 30 | 40 | 35 | | | |
| GD800-11-0030-6 | 30 | 40 | 35 | 37 | 47 | 45 | 240 | 23 | 11A5 |
| GD800-11-0037-6 | 37 | 47 | 45 | 45 | 55 | 52 | | | |
| GD800-11-0045-6 | 45 | 55 | 52 | 55 | 65 | 62 | | | |
| GD800-11-0055-6 | 55 | 65 | 62 | 75 | 85 | 86 | | | |
| GD800-11-0075-6 | 75 | 85 | 86 | 90 | 95 | 98 | | | |
| GD800-11-0090-6 | 90 | 95 | 98 | 110 | 118 | 120 | 450 | 55 | 11A6 |
| GD800-11-0110-6 | 110 | 118 | 120 | 132 | 145 | 150 | | | |
| GD800-11-0132-6 | 132 | 145 | 150 | 160 | 165 | 175 | | | |
| GD800-11-0160-6 | 160 | 165 | 175 | 185 | 190 | 200 | | | |
| GD800-11-0200-6 | 200 | 210 | 220 | 220 | 230 | 240 | 600 | 100 | 11A7 |
| GD800-11-0250-6 | 250 | 255 | 270 | 285 | 286 | 300 | | | |
| GD800-11-0315-6 | 315 | 334 | 350 | 350 | 360 | 380 | | | |
| GD800-11-0400-6 | 400 | 411 | 430 | 450 | 465 | 480 | 1650 | 180 | 11A8 |
| GD800-11-0500-6 | 500 | 518 | 540 | 550 | 570 | 585 | | | |
| GD800-11-0160-6-B | 160 | 165 | 175 | 185 | 190 | 200 | 600 | 120 | 11B7 |
| GD800-11-0200-6-B | 200 | 210 | 220 | 220 | 230 | 240 | | | |
| GD800-11-0250-6-B | 250 | 255 | 270 | 285 | 286 | 300 | 800 | 160 | 11B8 |
| GD800-11-0315-6-B | 315 | 334 | 350 | 350 | 360 | 380 | | | |
| GD800-11-0400-6-B | 400 | 411 | 430 | 450 | 465 | 480 | 1400 | 450 | 11B9 |
| GD800-11-0500-6-B | 500 | 518 | 540 | 550 | 570 | 585 | | | |

**Note:** Goodrive800-11 does not have standard control units, but it needs to work with the control unit. In the light load application of GD800-11-0500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $P_{Lh}$ | Typical value of available motor power | $P_L$ | Typical value of available motor power |
| $I_{ih}$ | Continuous valid input current | $I_i$ | Continuous valid input current |
| $I_{oh}$ | Continuous valid output current | $I_o$ | Continuous valid output current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

## 3.4.2 Main parameters of Goodrive800-51 series power unit

| Model | Heavy overload application | | | Light overload application | | | Air volume (m³/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|---|
| | $Q_{lh}$ (kVA) | $P_{Ld}$ (kW) | $I_{oh}$ (A) | $Q_l$ (kVA) | $P_L$ (kW) | $I_0$ (A) | | | |
| **$U_N$ =380 V** | | | | | | | | | |
| GD800-51-0037-4 | 50 | 37 | 75 | 62 | 45 | 92 | 250 | 22 | 51A5 |
| GD800-51-0045-4 | 62 | 45 | 92 | 76 | 55 | 115 | | | |
| GD800-51-0055-4 | 76 | 55 | 115 | 99 | 75 | 150 | | | |
| GD800-51-0075-4 | 99 | 75 | 150 | 120 | 90 | 180 | 400 | 34 | 51A6 |
| GD800-51-0090-4 | 120 | 90 | 180 | 142 | 110 | 215 | | | |
| GD800-51-0110-4 | 142 | 110 | 215 | 172 | 132 | 260 | | | |
| GD800-51-0132-4 | 172 | 132 | 260 | 200 | 160 | 305 | 600 | 80 | 51A7 |
| GD800-51-0160-4 | 200 | 160 | 305 | 235 | 185 | 355 | | | |
| GD800-51-0200-4 | 250 | 200 | 380 | 280 | 220 | 425 | | | |
| GD800-51-0250-4 | 316 | 250 | 480 | 350 | 285 | 530 | 1650 | 150 | 51A8 |
| GD800-51-0315-4 | 395 | 315 | 600 | 430 | 350 | 650 | | | |
| GD800-51-0400-4 | 475 | 400 | 720 | 535 | 450 | 810 | | | |
| GD800-51-0132-4-B | 172 | 132 | 260 | 200 | 160 | 305 | 600 | 80 | 51B7 |
| GD800-51-0160-4-B | 200 | 160 | 305 | 235 | 185 | 355 | | | |
| GD800-51-0200-4-B | 250 | 200 | 380 | 280 | 220 | 425 | | | |
| **$U_N$ =500 V** | | | | | | | | | |
| GD800-51-0037-5 | 55 | 37 | 63 | 65 | 45 | 75 | 250 | 22 | 51A5 |
| GD800-51-0045-5 | 65 | 45 | 75 | 80 | 55 | 92 | | | |
| GD800-51-0055-5 | 80 | 55 | 92 | 105 | 75 | 120 | | | |
| GD800-51-0075-5 | 105 | 75 | 120 | 130 | 90 | 150 | 400 | 34 | 51A6 |
| GD800-51-0090-5 | 130 | 90 | 150 | 152 | 110 | 175 | | | |
| GD800-51-0110-5 | 152 | 110 | 175 | 182 | 132 | 210 | | | |
| GD800-51-0132-5 | 182 | 132 | 210 | 220 | 160 | 255 | 600 | 80 | 51A7 |
| GD800-51-0160-5 | 220 | 160 | 255 | 252 | 185 | 290 | | | |
| GD800-51-0200-5 | 282 | 200 | 325 | 305 | 220 | 350 | | | |
| GD800-51-0250-5 | 342 | 250 | 395 | 368 | 285 | 425 | 1650 | 150 | 51A8 |
| GD800-51-0315-5 | 442 | 315 | 510 | 472 | 350 | 545 | | | |
| GD800-51-0400-5 | 538 | 400 | 620 | 576 | 450 | 665 | | | |
| GD800-51-0132-5-B | 182 | 132 | 210 | 220 | 160 | 255 | 600 | 80 | 51B7 |
| GD800-51-0160-5-B | 220 | 160 | 255 | 252 | 185 | 290 | | | |
| GD800-51-0200-5-B | 282 | 200 | 325 | 305 | 220 | 350 | | | |
| **$U_N$ =660 V** | | | | | | | | | |
| GD800-51-0075-6 | 98 | 75 | 86 | 112 | 90 | 98 | 400 | 34 | 51A6 |
| GD800-51-0090-6 | 112 | 90 | 98 | 138 | 110 | 120 | | | |
| GD800-51-0110-6 | 138 | 110 | 120 | 172 | 132 | 150 | | | |
| GD800-51-0132-6 | 172 | 132 | 150 | 200 | 160 | 175 | | | |
| GD800-51-0160-6 | 200 | 160 | 175 | 230 | 185 | 200 | 600 | 80 | 51A7 |

| Model | Heavy overload application | | | Light overload application | | | Air volume (m³/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|---|
| | $Q_{Ih}$ (kVA) | $P_{Ld}$ (kW) | $I_{oh}$ (A) | $Q_I$ (kVA) | $P_L$ (kW) | $I_0$ (A) | | | |
| GD800-51-0200-6 | 252 | 200 | 220 | 275 | 220 | 240 | | | |
| GD800-51-0250-6 | 310 | 250 | 270 | 345 | 285 | 300 | | | |
| GD800-51-0315-6 | 400 | 315 | 350 | 435 | 350 | 380 | | | |
| GD800-51-0400-6 | 492 | 400 | 430 | 550 | 450 | 480 | 1650 | 150 | 51A8 |
| GD800-51-0500-6 | 620 | 500 | 540 | 670 | 550 | 585 | | | |
| GD800-51-0160-6-B | 200 | 160 | 175 | 230 | 185 | 200 | | | |
| GD800-51-0200-6-B | 252 | 200 | 220 | 275 | 220 | 240 | 600 | 80 | 51B7 |
| GD800-51-0250-6-B | 310 | 250 | 270 | 345 | 285 | 300 | | | |

**Note:** Goodrive800-51 does not have standard control units, but it needs to work with the control unit. In the light load application of GD800-51-0500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $Q_{Ih}$ | Rated input capacity | $Q_I$ | Rated input capacity |
| $P_{Lh}$ | Typical value of available motor power | $P_L$ | Typical value of available motor power |
| $I_{oh}$ | Continuous valid output current | $I_o$ | Continuous valid output current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

### 3.4.3 Main parameters of Goodrive800-61 series diode rectification unit

| Model | Heavy overload application | | Light overload application | | Air volume (m³/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|
| | $Q_{lh}$ (kVA) | $I_{ih}$ (A) | $Q_l$ (kVA) | $I_i$ (A) | | | |
| $U_N$ = 380 V | | | | | | | |
| GD800-61-0200-4 | 265 | 2*200 | 290 | 2*220 | 200 | 20 | 61A7 |
| GD800-61-0400-4 | 500 | 2*380 | 565 | 2*430 | 400 | 30 | 61A8 |
| $U_N$ = 500 V | | | | | | | |
| GD800-61-0200-5 | 285 | 2*165 | 310 | 2*180 | 200 | 20 | 61A7 |
| GD800-61-0400-5 | 554 | 2*320 | 606 | 2*350 | 400 | 30 | 61A8 |
| $U_N$ = 660 V | | | | | | | |
| GD800-61-0250-6 | 320 | 2*140 | 345 | 2*150 | 200 | 20 | 61A7 |
| GD800-61-0500-6 | 630 | 2*275 | 688 | 2*300 | 400 | 30 | 61A8 |

**Note:** In the light load application of GD800-61-0500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $Q_{lh}$ | Rated input capacity | $Q_l$ | Rated input capacity |
| $I_{ih}$ | Continuous valid input current | $I_i$ | Continuous valid input current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

## 3.4.4 Main parameters of Goodrive800-26 series four-quadrant cabinet inverter

| Model | Heavy overload application | | | Light overload application | | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|
| | $P_{Lh}$ (kW) | $I_{ih}$ (A) | $I_{oh}$ (A) | $P_L$ (kW) | $I_i$ (A) | $I_o$ (A) | | |
| $U_N$ =380 V | | | | | | | | |
| GD800-26-0075-4 | 75 | 130 | 150 | 90 | 156 | 180 | 400 | 26S1 |
| GD800-26-0090-4 | 90 | 156 | 180 | 110 | 190 | 215 | | |
| GD800-26-0110-4 | 110 | 190 | 215 | 132 | 230 | 260 | | |
| GD800-26-0132-4 | 132 | 230 | 260 | 160 | 280 | 305 | 600 | 26S2 |
| GD800-26-0160-4 | 160 | 280 | 305 | 185 | 320 | 355 | | |
| GD800-26-0200-4 | 200 | 345 | 380 | 220 | 385 | 425 | | |
| GD800-26-0250-4-MSC | 250 | 435 | 480 | 285 | 495 | 530 | 1100 | 26S3 |
| GD800-26-0250-4-MLR | | | | | | | | 26M1 |
| GD800-26-0250-4-MRL | | | | | | | | |
| GD800-26-0315-4-MSC | 315 | 545 | 600 | 350 | 605 | 650 | | 26S3 |
| GD800-26-0315-4-MLR | | | | | | | | 26M1 |
| GD800-26-0315-4-MRL | | | | | | | | |
| GD800-26-0400-4-MSC | 400 | 695 | 720 | 450 | 780 | 810 | | 26S3 |
| GD800-26-0400-4-MLR | | | | | | | | 26M1 |
| GD800-26-0400-4-MRL | | | | | | | | |
| GD800-26-0500-4-MLR | 500 | 870 | 960 | 570 | 990 | 1060 | 1800 | 26M2 |
| GD800-26-0500-4-MRL | | | | | | | | |
| GD800-26-0630-4-MLR | 630 | 1090 | 1200 | 700 | 1210 | 1300 | | |
| GD800-26-0630-4-MRL | | | | | | | | |
| GD800-26-0800-4-MLR | 800 | 1390 | 1440 | 900 | 1560 | 1620 | | |
| GD800-26-0800-4-MRL | | | | | | | | |
| GD800-26-1000-4-MLR | 1000 | 1635 | 1800 | 1100 | 1815 | 1950 | 2500 | 26M3 |
| GD800-26-1000-4-MRL | | | | | | | | |
| GD800-26-1200-4-MLR | 1200 | 2085 | 2160 | 1350 | 2340 | 2430 | | |
| GD800-26-1200-4-MRL | | | | | | | | |
| $U_N$ =500 V | | | | | | | | |
| GD800-26-0075-5 | 75 | 105 | 120 | 90 | 125 | 150 | 400 | 26S1 |
| GD800-26-0090-5 | 90 | 125 | 150 | 110 | 150 | 175 | | |
| GD800-26-0110-5 | 110 | 150 | 175 | 132 | 182 | 210 | | |
| GD800-26-0132-5 | 132 | 182 | 210 | 160 | 220 | 255 | 600 | 26S2 |
| GD800-26-0160-5 | 160 | 220 | 255 | 185 | 255 | 290 | | |
| GD800-26-0200-5 | 200 | 275 | 325 | 220 | 302 | 350 | | |
| GD800-26-0250-5-MSC | 250 | 345 | 395 | 285 | 390 | 425 | 1100 | 26S3 |
| GD800-26-0250-5-MLR | | | | | | | | 26M1 |
| GD800-26-0250-5-MRL | | | | | | | | |
| GD800-26-0315-5-MSC | 315 | 430 | 510 | 350 | 480 | 545 | | 26S3 |
| GD800-26-0315-5-MLR | | | | | | | | 26M1 |

| Model | Heavy overload application | | | Light overload application | | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|
| | $P_{Lh}$ (kW) | $I_{ih}$ （A） | $I_{oh}$ (A) | $P_L$ (kW) | $I_i$ （A） | $I_o$ （A） | | |
| GD800-26-0315-5-MRL | | | | | | | | |
| GD800-26-0400-5-MSC | | | | | | | | 26S3 |
| GD800-26-0400-5-MLR | 400 | 550 | 620 | 450 | 620 | 665 | | 26M1 |
| GD800-26-0400-5-MRL | | | | | | | | |
| GD800-26-0500-5-MLR | 500 | 690 | 790 | 570 | 780 | 850 | | 26M2 |
| GD800-26-0500-5-MRL | | | | | | | | |
| GD800-26-0630-5-MLR | 630 | 860 | 1020 | 700 | 960 | 1090 | 1800 | |
| GD800-26-0630-5-MRL | | | | | | | | |
| GD800-26-0800-5-MLR | 800 | 1100 | 1240 | 900 | 1240 | 1330 | | |
| GD800-26-0800-5-MRL | | | | | | | | |
| GD800-26-1000-5-MLR | 1000 | 1290 | 1530 | 1100 | 1440 | 1635 | | 26M3 |
| GD800-26-1000-5-MRL | | | | | | | | |
| GD800-26-1200-5-MLR | 1200 | 1650 | 1860 | 1350 | 1860 | 1995 | 2500 | |
| GD800-26-1200-5-MRL | | | | | | | | |
| $U_N$ =660 V | | | | | | | | |
| GD800-26-0075-6 | 75 | 75 | 86 | 90 | 90 | 98 | | 26S1 |
| GD800-26-0090-6 | 90 | 90 | 98 | 110 | 110 | 120 | 400 | |
| GD800-26-0110-6 | 110 | 110 | 120 | 132 | 132 | 150 | | |
| GD800-26-0132-6 | 132 | 132 | 150 | 160 | 160 | 175 | | |
| GD800-26-0160-6 | 160 | 160 | 175 | 185 | 185 | 200 | | 26S2 |
| GD800-26-0200-6 | 200 | 200 | 220 | 220 | 220 | 240 | 600 | |
| GD800-26-0250-6 | 250 | 250 | 270 | 285 | 285 | 300 | | |
| GD800-26-0315-6-MSC | | | | | | | | 26S3 |
| GD800-26-0315-6-MLR | 315 | 315 | 350 | 350 | 350 | 380 | | 26M1 |
| GD800-26-0315-6-MRL | | | | | | | | |
| GD800-26-0400-6-MSC | | | | | | | | 26S3 |
| GD800-26-0400-6-MLR | 400 | 400 | 430 | 450 | 450 | 480 | 1100 | 26M1 |
| GD800-26-0400-6-MRL | | | | | | | | |
| GD800-26-0500-6-MSC | | | | | | | | 26S3 |
| GD800-26-0500-6-MLR | 500 | 500 | 540 | 570 | 570 | 585 | | 26M1 |
| GD800-26-0500-6-MRL | | | | | | | | |
| GD800-26-0630-6-MLR | 630 | 630 | 700 | 700 | 700 | 760 | | 26M2 |
| GD800-26-0630-6-MRL | | | | | | | | |
| GD800-26-0800-6-MLR | 800 | 800 | 860 | 900 | 900 | 960 | 1800 | |
| GD800-26-0800-6-MRL | | | | | | | | |
| GD800-26-1000-6-MLR | 1000 | 1000 | 1080 | 1100 | 1100 | 1170 | | |
| GD800-26-1000-6-MRL | | | | | | | | |
| GD800-26-1200-6-MLR | 1200 | 1200 | 1290 | 1350 | 1350 | 1440 | 2500 | 26M3 |
| GD800-26-1200-6-MRL | | | | | | | | |
| GD800-26-1500-6-MLR | 1500 | 1500 | 1620 | 1650 | 1650 | 1755 | | |

| Model | Heavy overload application | | | Light overload application | | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|---|---|
| | $P_{Lh}$ (kW) | $I_{ih}$ （A） | $I_{oh}$ (A) | $P_L$ (kW) | $I_i$ （A） | $I_o$ （A） | | |
| GD800-26-1500-6-MRL | | | | | | | | |

**Note:** In the light load application of GD800-26-0500-6, GD800-26-1000-6 and GD800-26-1500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $P_{Lh}$ | Typical value of available motor power | $P_L$ | Typical value of available motor power |
| $I_{ih}$ | Continuous valid input current | $I_i$ | Continuous valid input current |
| $I_{oh}$ | Continuous valid output current | $I_o$ | Continuous valid output current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

## 3.4.5 Main parameters of Goodrive800-56 series cabinet inverter

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $P_{Lh}$(kW) | $I_{oh}$(A) | $P_L$(kW) | $I_o$(A) | | |
| **$U_N$ =380 V** | | | | | | |
| GD800-56-0132-4 | 132 | 260 | 160 | 305 | 150 | 56S1 |
| GD800-56-0160-4 | 160 | 305 | 185 | 355 | 150 | 56S1 |
| GD800-56-0200-4 | 200 | 380 | 220 | 525 | 150 | 56S1 |
| GD800-56-0250-4 | 250 | 480 | 285 | 530 | 200 | 56S1 |
| GD800-56-0315-4 | 315 | 600 | 350 | 650 | 200 | 56S1 |
| GD800-56-0400-4 | 400 | 720 | 450 | 810 | 200 | 56S1 |
| GD800-56-0500-4 | 500 | 960 | 570 | 1060 | 375 | 56S2 |
| GD800-56-0630-4 | 630 | 1200 | 700 | 1300 | 375 | 56S2 |
| GD800-56-0800-4 | 800 | 1440 | 900 | 1620 | 375 | 56S2 |
| GD800-56-1000-4 | 1000 | 1800 | 1100 | 1950 | 575 | 56M1 |
| GD800-56-1200-4 | 1200 | 2160 | 1350 | 2430 | 575 | 56M1 |

Remark:

1. Contact the company for the inverters below 380V-132kW of Goodrive800-56 series.

2. Parallel operation is available for the inverters above 380V-1200kW of Goodrive800-56 series. For example, two GD800-56-1000-4 inverters can be parallel-connected to use as one GD800-56-2000-4 inverter.

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| **$U_N$ =500 V** | | | | | | |
| GD800-56-0132-5 | 132 | 210 | 160 | 255 | 150 | 56S1 |
| GD800-56-0160-5 | 160 | 255 | 185 | 290 | 150 | 56S1 |
| GD800-56-0200-5 | 200 | 325 | 220 | 350 | 150 | 56S1 |
| GD800-56-0250-5 | 250 | 395 | 285 | 425 | 200 | 56S1 |
| GD800-56-0315-5 | 315 | 510 | 350 | 545 | 200 | 56S1 |
| GD800-56-0400-5 | 400 | 620 | 450 | 665 | 200 | 56S1 |
| GD800-56-0500-5 | 500 | 790 | 570 | 850 | 375 | 56S2 |
| GD800-56-0630-5 | 630 | 1020 | 700 | 1090 | 375 | 56S2 |
| GD800-56-0800-5 | 800 | 1240 | 900 | 1330 | 375 | 56S2 |
| GD800-56-1000-5 | 1000 | 1530 | 1100 | 1635 | 575 | 56M1 |
| GD800-56-1200-5 | 1200 | 1860 | 1350 | 1995 | 575 | 56M1 |

Remark:

1. Contact the company for the inverters below 500V-132kW of Goodrive800-56 series.

2. Parallel operation is available for the inverters above 500V-1200kW of Goodrive800-56 series. For example, two GD800-56-1000-5 inverters can be parallel-connected to use as one GD800-56-2000-5 inverter.

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| **$U_N$ =660 V** | | | | | | |
| GD800-56-0160-6 | 160 | 175 | 185 | 200 | 150 | 56S1 |
| GD800-56-0200-6 | 200 | 220 | 220 | 240 | 150 | 56S1 |
| GD800-56-0250-6 | 250 | 270 | 285 | 300 | 150 | 56S1 |
| GD800-56-0315-6 | 315 | 350 | 350 | 380 | 200 | 56S1 |

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $P_{Lh}$(kW) | $I_{oh}$(A) | $P_L$(kW) | $I_o$(A) | | |
| GD800-56-0400-6 | 400 | 430 | 450 | 480 | | |
| GD800-56-0500-6 | 500 | 540 | 570 | 585 | | |
| GD800-56-0630-6 | 630 | 700 | 700 | 760 | | |
| GD800-56-0800-6 | 800 | 860 | 900 | 960 | 375 | 56S2 |
| GD800-56-1000-6 | 1000 | 1080 | 1100 | 1170 | | |
| GD800-56-1200-6 | 1200 | 1290 | 1350 | 1440 | 575 | 56M1 |
| GD800-56-1500-6 | 1500 | 1620 | 1650 | 1755 | | |

Remark:

1. Contact the company for the inverters below 660V-160kW of Goodrive800-56 series.

2. Parallel operation is available for the inverters above 660V-1500kW of Goodrive800-56 series. For example, two GD800-56-1000-6 inverters can be parallel-connected to use as one GD800-56-2000-6 inverter.

**Note:** In the light load application of GD800-56-0500-6, GD800-56-1000-6 and GD800-56-1500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $P_{Lh}$ | Typical value of available motor power | $P_L$ | Typical value of available motor power |
| $I_{oh}$ | Continuous valid output current | $I_o$ | Continuous valid output current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

## 3.4.6 Main parameters of Goodrive800-96 series cabinet IGBT PWM rectifier

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $Q_{lh}$ (kVA) | $I_{ih}$ (A) | $Q_l$ (kVA) | $I_i$ (A) | | |
| $U_N$ = 380 V | | | | | | |
| GD800-96-0075-4 | 86 | 130 | 103 | 156 | 360 | 26S1 |
| GD800-96-0090-4 | 103 | 156 | 125 | 190 | | |
| GD800-96-0110-4 | 125 | 190 | 152 | 230 | | |
| GD800-96-0132-4 | 152 | 230 | 185 | 280 | 520 | 26S2 |
| GD800-96-0160-4 | 185 | 280 | 212 | 320 | | |
| GD800-96-0200-4 | 230 | 345 | 255 | 385 | | |
| GD800-96-0250-4-MLR | 286 | 435 | 326 | 495 | 950 | 96M1 |
| GD800-96-0250-4-MRL | | | | | | |
| GD800-96-0315-4-MLR | 360 | 545 | 400 | 605 | | |
| GD800-96-0315-4-MRL | | | | | | |
| GD800-96-0400-4-MLR | 458 | 695 | 515 | 780 | | |
| GD800-96-0400-4-MRL | | | | | | |
| GD800-96-0500-4-MLR | 572 | 870 | 652 | 990 | 1450 | 96M2 |
| GD800-96-0500-4-MRL | | | | | | |
| GD800-96-0630-4-MLR | 720 | 1090 | 800 | 1210 | | |
| GD800-96-0630-4-MRL | | | | | | |
| GD800-96-0800-4-MLR | 916 | 1390 | 1030 | 1560 | | |
| GD800-96-0800-4-MRL | | | | | | |
| GD800-96-1000-4-MLR | 1080 | 1635 | 1200 | 1815 | 1950 | 96M3 |
| GD800-96-1000-4-MRL | | | | | | |
| GD800-96-1200-4-MLR | 1374 | 2085 | 1545 | 2340 | | |
| GD800-96-1200-4-MRL | | | | | | |
| Remark: | | | | | | |
| Parallel operation is available for the inverters above 380V-1200kW of Goodrive800-96 series. For example, two GD800-96-1000-4 inverters can be parallel-connected to use as one GD800-96-2000-4 inverter. | | | | | | |
| $U_N$ = 500 V | | | | | | |
| GD800-96-0075-5 | 92 | 105 | 110 | 125 | 360 | 26S1 |
| GD800-96-0090-5 | 110 | 125 | 130 | 150 | | |
| GD800-96-0110-5 | 130 | 150 | 158 | 182 | | |
| GD800-96-0132-5 | 158 | 182 | 190 | 220 | 520 | 26S2 |
| GD800-96-0160-5 | 190 | 220 | 220 | 255 | | |
| GD800-96-0200-5 | 240 | 275 | 262 | 302 | | |
| GD800-96-0250-5-MLR | 300 | 345 | 340 | 390 | 950 | 96M1 |
| GD800-96-0250-5-MRL | | | | | | |

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $Q_{lh}$ (kVA) | $I_{ih}$ (A) | $Q_l$ (kVA) | $I_i$ (A) | | |
| GD800-96-0315-5-MLR | 375 | 430 | 416 | 480 | | |
| GD800-96-0315-5-MRL | | | | | | |
| GD800-96-0400-5-MLR | 480 | 550 | 538 | 620 | | |
| GD800-96-0400-5-MRL | | | | | | |
| GD800-96-0500-5-MLR | 600 | 690 | 680 | 780 | | |
| GD800-96-0500-5-MRL | | | | | | |
| GD800-96-0630-5-MLR | 750 | 860 | 832 | 960 | 1450 | 96M2 |
| GD800-96-0630-5-MRL | | | | | | |
| GD800-96-0800-5-MLR | 960 | 1100 | 1076 | 1240 | | |
| GD800-96-0800-5-MRL | | | | | | |
| GD800-96-1000-5-MLR | 1125 | 1290 | 1248 | 1440 | | |
| GD800-96-1000-5-MRL | | | | | 1950 | 96M3 |
| GD800-96-1200-5-MLR | 1440 | 1650 | 1614 | 1860 | | |
| GD800-96-1200-5-MRL | | | | | | |

Remark:

Parallel operation is available for the inverters above 500V-1200kW of Goodrive800-96 series. For example, two GD800-96-1000-5 inverters can be parallel-connected to use as one GD800-96-2000-5 inverter.

$U_N$ = 660 V

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $Q_{lh}$ (kVA) | $I_{ih}$ (A) | $Q_l$ (kVA) | $I_i$ (A) | | |
| GD800-96-0075-6 | 86 | 75 | 103 | 90 | | |
| GD800-96-0090-6 | 103 | 90 | 125 | 110 | 360 | 26S1 |
| GD800-96-0110-6 | 125 | 110 | 152 | 132 | | |
| GD800-96-0132-6 | 152 | 132 | 185 | 160 | | |
| GD800-96-0160-6 | 185 | 160 | 212 | 185 | | |
| GD800-96-0200-6 | 230 | 200 | 255 | 220 | 520 | 26S2 |
| GD800-96-0250-6 | 286 | 250 | 326 | 285 | | |
| GD800-96-0315-6-MLR | 360 | 315 | 400 | 350 | | |
| GD800-96-0315-6-MRL | | | | | | |
| GD800-96-0400-6-MLR | 458 | 400 | 515 | 450 | 950 | 96M1 |
| GD800-96-0400-6-MRL | | | | | | |
| GD800-96-0500-6-MLR | 572 | 500 | 630 | 550 | | |
| GD800-96-0500-6-MRL | | | | | | |
| GD800-96-0630-6-MLR | 720 | 630 | 800 | 700 | | |
| GD800-96-0630-6-MRL | | | | | | |
| GD800-96-0800-6-MLR | 916 | 800 | 1030 | 900 | 1450 | 96M2 |
| GD800-96-0800-6-MRL | | | | | | |
| GD800-96-1000-6-MLR | 1144 | 1000 | 1260 | 1100 | | |
| GD800-96-1000-6-MRL | | | | | | |

| Model | Heavy overload application | | Light overload application | | Weight (kg) | Structure |
|---|---|---|---|---|---|---|
| | $Q_{Ih}$ (kVA) | $I_{ih}$ (A) | $Q_I$ (kVA) | $I_i$ (A) | | |
| GD800-96-1200-6-MLR | 1374 | 1200 | 1545 | 1350 | 1950 | 96M3 |
| GD800-96-1200-6-MRL | | | | | | |
| GD800-96-1500-6-MLR | 1716 | 1500 | 1890 | 1650 | | |
| GD800-96-1500-6-MRL | | | | | | |

Remark:

Parallel operation is available for the inverters above 660V-1500kW of Goodrive800-96 series. For example, two GD800-96-1000-6 inverters can be parallel-connected to use as one GD800-96-2000-6 inverter.

**Note:** In the light load application of GD800-96-0500-6, GD800-96-1000-6 and GD800-96-1500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

**Signs:**

| Typical capacity of heavy load application (150% overload capacity) | | Typical capacity of light application (110% overload capacity) | |
|---|---|---|---|
| $Q_{Ih}$ | Rated input capacity | $Q_I$ | Rated input capacity |
| $I_{ih}$ | Continuous valid input current | $I_i$ | Continuous valid input current |
| 1 minute overload operation (150% overload) in every 5 minutes is available. | | 1 minute overload operation (110% overload) in every 5 minutes is available. | |

**Note**: The power supply voltage will impact the continuous valid output current.

**Note**: The continuous valid output current and overload current is defined at 40℃. It will derate 2% for every additional 1℃ if the temperature is above 40℃ (the maximum temperature will not exceed 50℃).

### 3.4.7 Main parameters of Goodrive800-01 LCL PWM filter unit

| Model | $Q_h$(kVA) | $I_h$(A) | Air volume($m^3$/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|
| $U_N$ =380 V | | | | | |
| GD800-01-0250-4 | 326 | 495 | | | |
| GD800-01-0315-4 | 400 | 605 | 680 | 200 | 01A8 |
| GD800-01-0400-4 | 515 | 780 | | | |
| $U_N$ =500 V | | | | | |
| GD800-01-0250-5 | 340 | 390 | | | |
| GD800-01-0315-5 | 416 | 430 | 680 | 200 | 01A8 |
| GD800-01-0400-5 | 538 | 620 | | | |
| $U_N$ =660 V | | | | | |
| GD800-01-0315-6 | 480 | 350 | | | |
| GD800-01-0400-6 | 515 | 450 | 680 | 200 | 01A8 |
| GD800-01-0500-6 | 630 | 550 | | | |

**Note:** Be used with PWM rectification unit with same voltage, same power and same capacity.

**Note:** In the light load application of GD800-01-0500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

### 3.4.8 Main parameters of Goodrive800-02 series sine wave filter unit

| Model | $I_h$(A) | Air volume($m^3$/h) | Weight (kg) | Structure |
|---|---|---|---|---|
| $U_N$ =380 V | | | | |
| GD800-02-0250-4 | 480 | | | |
| GD800-02-0315-4 | 600 | 680 | 200 | 02A8 |
| GD800-02-0400-4 | 720 | | | |
| $U_N$ =500 V | | | | |
| GD800-02-0250-5 | 395 | | | |
| GD800-02-0315-5 | 510 | 680 | 200 | 02A8 |
| GD800-02-0400-5 | 620 | | | |
| $U_N$ =660 V | | | | |
| GD800-02-0315-6 | 350 | | | |
| GD800-02-0400-6 | 430 | 680 | 200 | 02A8 |
| GD800-02-0500-6 | 540 | | | |

**Note:** In the light load application of GD800-02-0500-6, it is necessary to reduce the environment temperature below 30 degree or the carrier frequency below 1.5k because of the heating-releasing limit when it runs continuously at full load.

### 3.4.9 Main parameters of Goodrive800-03 series bus capacitor energy storage / filter unit

| Model | C(mF) | $I_i$(A) | Air volume($m^3$/h) | Weight (kg) | Structure |
|---|---|---|---|---|---|
| $U_N$ =380 V | | | | | |
| GD800-03-0800-4 | 61.8 | 700 | 680 | 200 | 03A8 |
| GD800-03-1000-4 | 75 | 820 | | | |
| GD800-03-1200-4 | 90.5 | 960 | | | |
| $U_N$ =500 V | | | | | |
| GD800-03-0800-5 | Reserved | Reserved | Reserved | Reserved | Reserved |
| GD800-03-1000-5 | Reserved | Reserved | | | |
| GD800-03-1200-5 | Reserved | Reserved | | | |
| $U_N$ =660 V | | | | | |
| GD800-03-1000-6 | 27.5 | 468 | 680 | 200 | 03A8 |
| GD800-03-1200-6 | 33.4 | 560 | | | |
| GD800-03-1500-6 | 40.2 | 640 | | | |

**Note:** The bus capacitor energy storage / filter unit of 500V is reserved.

## 3.4.10 Model of Goodrive800 series control unit

### 3.4.10.1 Model of 380V control units

| Power code | 380V rectification control unit | 380V variable frequency control unit |
|---|---|---|
| 0004 | / | GD800-ICU-0004-4 |
| 05R5 | / | GD800-ICU-05R5-4 |
| 07R5 | / | GD800-ICU-07R5-4 |
| 0011 | / | GD800-ICU-0011-4 |
| 0015 | / | GD800-ICU-0015-4 |
| 0018 | / | GD800-ICU-0018-4 |
| 0022 | / | GD800-ICU-0022-4 |
| 0030 | / | GD800-ICU-0030-4 |
| 0030 | / | GD800-ICU-0037-4 |
| 0045 | / | GD800-ICU-0045-4 |
| 0055 | / | GD800-ICU-0055-4 |
| 0075 | GD800-RCU-0075-4 | GD800-ICU-0075-4 |
| 0090 | GD800-RCU-0090-4 | GD800-ICU-0090-4 |
| 0110 | GD800-RCU-0110-4 | GD800-ICU-0110-4 |
| 0132 | GD800-RCU-0132-4 | GD800-ICU-0132-4 |
| 0160 | GD800-RCU-0160-4 | GD800-ICU-0160-4 |
| 0200 | GD800-RCU-0200-4 | GD800-ICU-0200-4 |
| 0250 | GD800-RCU-0250-4 | GD800-ICU-0250-4 |
| 0315 | GD800-RCU-0315-4 | GD800-ICU-0315-4 |
| 0400 | GD800-RCU-0400-4 | GD800-ICU-0400-4 |
| 0500 | GD800-RCU-0500-4 | GD800-ICU-0500-4 |
| 0630 | GD800-RCU-0630-4 | GD800-ICU-0630-4 |
| 0800 | GD800-RCU-0800-4 | GD800-ICU-0800-4 |
| 1000 | GD800-RCU-1000-4 | GD800-ICU-1000-4 |
| 1200 | GD800-RCU-1200-4 | GD800-ICU-1200-4 |
| 1500 | GD800-RCU-1500-4 | GD800-ICU-1500-4 |
| 1600 | GD800-RCU-1600-4 | GD800-ICU-1600-4 |
| 2000 | GD800-RCU-2000-4 | GD800-ICU-2000-4 |
| 2400 | GD800-RCU-2400-4 | GD800-ICU-2400-4 |
| 2500 | / | / |
| 3000 | / | / |

4 sets of Goodrive800 series products (380V-2400kW) can be parallel-connected through master-slave control.

The master-slave function is optional. Please note when ordering.

### 3.4.10.2 Model of 500V control units

| Power code | 500V rectification control unit | 500V variable frequency control unit |
|---|---|---|
| 0004 | / | GD800-ICU-0004-5 |
| 05R5 | / | GD800-ICU-05R5-5 |
| 07R5 | / | GD800-ICU-07R5-5 |
| 0011 | / | GD800-ICU-0011-5 |
| 0015 | / | GD800-ICU-0015-5 |
| 0018 | / | GD800-ICU-0018-5 |
| 0022 | / | GD800-ICU-0022-5 |
| 0030 | / | GD800-ICU-0030-5 |
| 0030 | / | GD800-ICU-0037-5 |
| 0045 | / | GD800-ICU-0045-5 |
| 0055 | / | GD800-ICU-0055-5 |
| 0075 | GD800-RCU-0075-5 | GD800-ICU-0075-5 |
| 0090 | GD800-RCU-0090-5 | GD800-ICU-0090-5 |
| 0110 | GD800-RCU-0110-5 | GD800-ICU-0110-5 |
| 0132 | GD800-RCU-0132-5 | GD800-ICU-0132-5 |
| 0160 | GD800-RCU-0160-5 | GD800-ICU-0160-5 |
| 0200 | GD800-RCU-0200-5 | GD800-ICU-0200-5 |
| 0250 | GD800-RCU-0250-5 | GD800-ICU-0250-5 |
| 0315 | GD800-RCU-0315-5 | GD800-ICU-0315-5 |
| 0400 | GD800-RCU-0400-5 | GD800-ICU-0400-5 |
| 0500 | GD800-RCU-0500-5 | GD800-ICU-0500-5 |
| 0630 | GD800-RCU-0630-5 | GD800-ICU-0630-5 |
| 0800 | GD800-RCU-0800-5 | GD800-ICU-0800-5 |
| 1000 | GD800-RCU-1000-5 | GD800-ICU-1000-5 |
| 1200 | GD800-RCU-1200-5 | GD800-ICU-1200-5 |
| 1500 | GD800-RCU-1500-5 | GD800-ICU-1500-5 |
| 1600 | GD800-RCU-1600-5 | GD800-ICU-1600-5 |
| 2000 | GD800-RCU-2000-5 | GD800-ICU-2000-5 |
| 2400 | GD800-RCU-2400-5 | GD800-ICU-2400-5 |
| 2500 | / | / |
| 3000 | / | / |

4 sets of Goodrive800 series products (500V–2400kW) can be parallel-connected through master-slave control.

The master-slave function is optional. Please note when ordering.

### 3.4.10.3 Model of 660V control units

| Power code | 660V rectification control unit | 660V variable frequency control unit |
|---|---|---|
| 0004 | / | / |
| 05R5 | / | / |
| 07R5 | / | / |
| 0011 | / | / |
| 0015 | / | / |
| 0018 | / | / |
| 0022 | / | GD800-ICU-0022-6 |
| 0030 | / | GD800-ICU-0030-6 |
| 0030 | / | GD800-ICU-0037-6 |
| 0045 | / | GD800-ICU-0045-6 |
| 0055 | / | GD800-ICU-0055-6 |
| 0075 | GD800-RCU-0075-6 | GD800-ICU-0075-6 |
| 0090 | GD800-RCU-0090-6 | GD800-ICU-0090-6 |
| 0110 | GD800-RCU-0110-6 | GD800-ICU-0110-6 |
| 0132 | GD800-RCU-0132-6 | GD800-ICU-0132-6 |
| 0160 | GD800-RCU-0160-6 | GD800-ICU-0160-6 |
| 0200 | GD800-RCU-0200-6 | GD800-ICU-0200-6 |
| 0250 | GD800-RCU-0250-6 | GD800-ICU-0250-6 |
| 0315 | GD800-RCU-0315-6 | GD800-ICU-0315-6 |
| 0400 | GD800-RCU-0400-6 | GD800-ICU-0400-6 |
| 0500 | GD800-RCU-0500-6 | GD800-ICU-0500-6 |
| 0630 | GD800-RCU-0630-6 | GD800-ICU-0630-6 |
| 0800 | GD800-RCU-0800-6 | GD800-ICU-0800-6 |
| 1000 | GD800-RCU-1000-6 | GD800-ICU-1000-6 |
| 1200 | GD800-RCU-1200-6 | GD800-ICU-1200-6 |
| 1500 | GD800-RCU-1500-6 | GD800-ICU-1500-6 |
| 1600 | GD800-RCU-1600-6 | GD800-ICU-1600-6 |
| 2000 | GD800-RCU-2000-6 | GD800-ICU-2000-6 |
| 2400 | GD800-RCU-2400-6 | GD800-ICU-2400-6 |
| 2500 | GD800-RCU-2500-6 | GD800-ICU-2500-6 |
| 3000 | GD800-RCU-3000-6 | GD800-ICU-3000-6 |

4 sets of Goodrive800 series products (660V-3000kW) can be parallel-connected through master-slave control.

The master-slave function is optional. Please note when ordering.

# 3.5 Loss calculation of inverters

1. Total loss of the inverter = (Bridge rectifier loss + Conduction loss of the converter bridge + Switching losses of the converter bridge)* Inverter power.

2. Current coefficient: for the rectifier bridge, it corresponds to the rated input current of the inverter; for the converter bridge, it corresponds to the rated output current of the inverter.

3. The percentage in the table below corresponds to the rated power of the inverter.

4. The total loss of the inverter is ±10% of the actual loss.

5. 1k，2k，3k of the switching losses of the converter bridge is the carrier frequency of the converter bridge and the carrier loss which is not in the table can be calculated by linear interpolation.

For example, if the inverter is 380V, 400kW, the current coefficient is 1 and the switching losses of the converter are 2k:

Total loss of the inverter = (0.47%+0.72%+0.34%)*400000=6120(W) = 6.12(kW)

| Voltage degree | Current coefficient | Bridge rectifier loss | Conduction loss of the converter bridge | Switching losses of the converter bridge | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1k | 2k | 3k | 4k | 5k | 6k | 7k | 8k |
| 380V | 0.5 | 0.18% | 0.29% | 0.08% | 0.17% | 0.25% | 0.34% | 0.42% | 0.51% | 0.59% | 0.68% |
| | 0.55 | 0.20% | 0.32% | 0.09% | 0.19% | 0.28% | 0.37% | 0.47% | 0.56% | 0.65% | 0.75% |
| | 0.6 | 0.22% | 0.36% | 0.10% | 0.20% | 0.31% | 0.41% | 0.51% | 0.61% | 0.71% | 0.81% |
| | 0.65 | 0.25% | 0.40% | 0.11% | 0.22% | 0.33% | 0.44% | 0.55% | 0.66% | 0.77% | 0.88% |
| | 0.7 | 0.28% | 0.44% | 0.12% | 0.24% | 0.36% | 0.47% | 0.59% | 0.71% | 0.83% | 0.95% |
| | 0.75 | 0.31% | 0.48% | 0.13% | 0.25% | 0.38% | 0.51% | 0.64% | 0.76% | 0.89% | 1.02% |
| | 0.8 | 0.34% | 0.53% | 0.14% | 0.27% | 0.41% | 0.54% | 0.68% | 0.81% | 0.95% | 1.09% |
| | 0.85 | 0.37% | 0.57% | 0.14% | 0.29% | 0.43% | 0.58% | 0.72% | 0.86% | 1.01% | 1.15% |
| | 0.9 | 0.40% | 0.62% | 0.15% | 0.31% | 0.46% | 0.61% | 0.76% | 0.92% | 1.07% | 1.22% |
| | 0.95 | 0.43% | 0.67% | 0.16% | 0.32% | 0.48% | 0.64% | 0.81% | 0.97% | 1.13% | 1.29% |
| | 1 | 0.47% | 0.72% | 0.17% | 0.34% | 0.51% | 0.68% | 0.85% | 1.02% | 1.19% | 1.36% |
| | 1.05 | 0.51% | 0.77% | 0.18% | 0.36% | 0.53% | 0.71% | 0.89% | 1.07% | 1.25% | 1.42% |
| | 1.1 | 0.54% | 0.82% | 0.19% | 0.37% | 0.56% | 0.75% | 0.93% | 1.12% | 1.31% | 1.49% |
| | 1.15 | 0.58% | 0.87% | 0.19% | 0.39% | 0.58% | 0.78% | 0.97% | 1.17% | 1.36% | 1.56% |
| | 1.2 | 0.62% | 0.93% | 0.20% | 0.41% | 0.61% | 0.81% | 1.02% | 1.22% | 1.42% | 1.63% |
| | 1.25 | 0.66% | 0.99% | 0.21% | 0.42% | 0.64% | 0.85% | 1.06% | 1.27% | 1.48% | 1.70% |
| | 1.3 | 0.70% | 1.04% | 0.22% | 0.44% | 0.66% | 0.88% | 1.10% | 1.32% | 1.54% | 1.76% |
| | 1.35 | 0.75% | 1.10% | 0.23% | 0.46% | 0.69% | 0.92% | 1.14% | 1.37% | 1.60% | 1.83% |
| | 1.4 | 0.79% | 1.16% | 0.24% | 0.47% | 0.71% | 0.95% | 1.19% | 1.42% | 1.66% | 1.90% |
| | 1.45 | 0.84% | 1.23% | 0.25% | 0.49% | 0.74% | 0.98% | 1.23% | 1.48% | 1.72% | 1.97% |
| | 1.5 | 0.88% | 1.29% | 0.25% | 0.51% | 0.76% | 1.02% | 1.27% | 1.53% | 1.78% | 2.03% |
| | 1.55 | 0.93% | 1.35% | 0.26% | 0.53% | 0.79% | 1.05% | 1.31% | 1.58% | 1.84% | 2.10% |
| | 1.6 | 0.98% | 1.42% | 0.27% | 0.54% | 0.81% | 1.09% | 1.36% | 1.63% | 1.90% | 2.17% |
| | 1.65 | 1.03% | 1.49% | 0.28% | 0.56% | 0.84% | 1.12% | 1.40% | 1.68% | 1.96% | 2.24% |
| | 1.7 | 1.08% | 1.56% | 0.29% | 0.58% | 0.86% | 1.15% | 1.44% | 1.73% | 2.02% | 2.31% |
| | 1.75 | 1.13% | 1.63% | 0.30% | 0.59% | 0.89% | 1.19% | 1.48% | 1.78% | 2.08% | 2.37% |
| | 1.8 | 1.19% | 1.70% | 0.31% | 0.61% | 0.92% | 1.22% | 1.53% | 1.83% | 2.14% | 2.44% |
| | 1.85 | 1.24% | 1.78% | 0.31% | 0.63% | 0.94% | 1.25% | 1.57% | 1.88% | 2.20% | 2.51% |

| Voltage degree | Current coefficient | Bridge rectifier loss | Conduction loss of the converter bridge | Switching losses of the converter bridge | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1k | 2k | 3k | 4k | 5k | 6k | 7k | 8k |
| | 1.9 | 1.30% | 1.85% | 0.32% | 0.64% | 0.97% | 1.29% | 1.61% | 1.93% | 2.26% | 2.58% |
| | 1.95 | 1.36% | 1.93% | 0.33% | 0.66% | 0.99% | 1.32% | 1.65% | 1.98% | 2.31% | 2.65% |
| | 2 | 1.41% | 2.01% | 0.34% | 0.68% | 1.02% | 1.36% | 1.70% | 2.03% | 2.37% | 2.71% |
| 500V | 0.5 | 0.15% | 0.28% | 0.14% | 0.29% | 0.43% | 0.58% | 0.72% | 0.87% | 1.01% | 1.16% |
| | 0.55 | 0.17% | 0.31% | 0.16% | 0.32% | 0.48% | 0.64% | 0.80% | 0.96% | 1.11% | 1.27% |
| | 0.6 | 0.19% | 0.35% | 0.17% | 0.35% | 0.52% | 0.69% | 0.87% | 1.04% | 1.22% | 1.39% |
| | 0.65 | 0.21% | 0.39% | 0.19% | 0.38% | 0.56% | 0.75% | 0.94% | 1.13% | 1.32% | 1.51% |
| | 0.7 | 0.23% | 0.42% | 0.20% | 0.41% | 0.61% | 0.81% | 1.01% | 1.22% | 1.42% | 1.62% |
| | 0.75 | 0.25% | 0.46% | 0.22% | 0.43% | 0.65% | 0.87% | 1.09% | 1.30% | 1.52% | 1.74% |
| | 0.8 | 0.27% | 0.50% | 0.23% | 0.46% | 0.69% | 0.93% | 1.16% | 1.39% | 1.62% | 1.85% |
| | 0.85 | 0.29% | 0.55% | 0.25% | 0.49% | 0.74% | 0.98% | 1.23% | 1.48% | 1.72% | 1.97% |
| | 0.9 | 0.31% | 0.59% | 0.26% | 0.52% | 0.78% | 1.04% | 1.30% | 1.56% | 1.82% | 2.08% |
| | 0.95 | 0.34% | 0.64% | 0.28% | 0.55% | 0.83% | 1.10% | 1.38% | 1.65% | 1.93% | 2.20% |
| | 1 | 0.36% | 0.68% | 0.29% | 0.58% | 0.87% | 1.16% | 1.45% | 1.74% | 2.03% | 2.32% |
| | 1.05 | 0.38% | 0.73% | 0.30% | 0.61% | 0.91% | 1.22% | 1.52% | 1.82% | 2.13% | 2.43% |
| | 1.1 | 0.41% | 0.78% | 0.32% | 0.64% | 0.96% | 1.27% | 1.59% | 1.91% | 2.23% | 2.55% |
| | 1.15 | 0.43% | 0.83% | 0.33% | 0.67% | 1.00% | 1.33% | 1.67% | 2.00% | 2.33% | 2.66% |
| | 1.2 | 0.46% | 0.88% | 0.35% | 0.69% | 1.04% | 1.39% | 1.74% | 2.08% | 2.43% | 2.78% |
| | 1.25 | 0.48% | 0.93% | 0.36% | 0.72% | 1.09% | 1.45% | 1.81% | 2.17% | 2.53% | 2.90% |
| | 1.3 | 0.51% | 0.99% | 0.38% | 0.75% | 1.13% | 1.51% | 1.88% | 2.26% | 2.64% | 3.01% |
| | 1.35 | 0.53% | 1.04% | 0.39% | 0.78% | 1.17% | 1.56% | 1.95% | 2.35% | 2.74% | 3.13% |
| | 1.4 | 0.56% | 1.10% | 0.41% | 0.81% | 1.22% | 1.62% | 2.03% | 2.43% | 2.84% | 3.24% |
| | 1.45 | 0.59% | 1.15% | 0.42% | 0.84% | 1.26% | 1.68% | 2.10% | 2.52% | 2.94% | 3.36% |
| | 1.5 | 0.62% | 1.21% | 0.43% | 0.87% | 1.30% | 1.74% | 2.17% | 2.61% | 3.04% | 3.47% |
| | 1.55 | 0.65% | 1.27% | 0.45% | 0.90% | 1.35% | 1.80% | 2.24% | 2.69% | 3.14% | 3.59% |
| | 1.6 | 0.68% | 1.33% | 0.46% | 0.93% | 1.39% | 1.85% | 2.32% | 2.78% | 3.24% | 3.71% |
| | 1.65 | 0.71% | 1.40% | 0.48% | 0.96% | 1.43% | 1.91% | 2.39% | 2.87% | 3.34% | 3.82% |
| | 1.7 | 0.74% | 1.46% | 0.49% | 0.98% | 1.48% | 1.97% | 2.46% | 2.95% | 3.45% | 3.94% |
| | 1.75 | 0.77% | 1.53% | 0.51% | 1.01% | 1.52% | 2.03% | 2.53% | 3.04% | 3.55% | 4.05% |
| | 1.8 | 0.80% | 1.59% | 0.52% | 1.04% | 1.56% | 2.08% | 2.61% | 3.13% | 3.65% | 4.17% |
| | 1.85 | 0.83% | 1.66% | 0.54% | 1.07% | 1.61% | 2.14% | 2.68% | 3.21% | 3.75% | 4.29% |
| | 1.9 | 0.86% | 1.73% | 0.55% | 1.10% | 1.65% | 2.20% | 2.75% | 3.30% | 3.85% | 4.40% |
| | 1.95 | 0.90% | 1.80% | 0.56% | 1.13% | 1.69% | 2.26% | 2.82% | 3.39% | 3.95% | 4.52% |
| | 2 | 0.93% | 1.87% | 0.58% | 1.16% | 1.74% | 2.32% | 2.90% | 3.47% | 4.05% | 4.63% |
| 660V | 0.5 | 0.11% | 0.18% | 0.14% | 0.29% | 0.43% | 0.57% | 0.71% | 0.86% | 1.00% | 1.14% |
| | 0.55 | 0.12% | 0.21% | 0.16% | 0.31% | 0.47% | 0.63% | 0.79% | 0.94% | 1.10% | 1.26% |
| | 0.6 | 0.13% | 0.23% | 0.17% | 0.34% | 0.51% | 0.69% | 0.86% | 1.03% | 1.20% | 1.37% |
| | 0.65 | 0.15% | 0.26% | 0.19% | 0.37% | 0.56% | 0.74% | 0.93% | 1.11% | 1.30% | 1.49% |
| | 0.7 | 0.16% | 0.28% | 0.20% | 0.40% | 0.60% | 0.80% | 1.00% | 1.20% | 1.40% | 1.60% |
| | 0.75 | 0.17% | 0.31% | 0.21% | 0.43% | 0.64% | 0.86% | 1.07% | 1.29% | 1.50% | 1.71% |
| | 0.8 | 0.19% | 0.34% | 0.23% | 0.46% | 0.69% | 0.91% | 1.14% | 1.37% | 1.60% | 1.83% |

| Voltage degree | Current coefficient | Bridge rectifier loss | Conduction loss of the converter bridge | Switching losses of the converter bridge | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1k | 2k | 3k | 4k | 5k | 6k | 7k | 8k |
| | 0.85 | 0.20% | 0.37% | 0.24% | 0.49% | 0.73% | 0.97% | 1.21% | 1.46% | 1.70% | 1.94% |
| | 0.9 | 0.21% | 0.39% | 0.26% | 0.51% | 0.77% | 1.03% | 1.29% | 1.54% | 1.80% | 2.06% |
| | 0.95 | 0.23% | 0.42% | 0.27% | 0.54% | 0.81% | 1.09% | 1.36% | 1.63% | 1.90% | 2.17% |
| | 1 | 0.24% | 0.46% | 0.29% | 0.57% | 0.86% | 1.14% | 1.43% | 1.71% | 2.00% | 2.29% |
| | 1.05 | 0.26% | 0.49% | 0.30% | 0.60% | 0.90% | 1.20% | 1.50% | 1.80% | 2.10% | 2.40% |
| | 1.1 | 0.28% | 0.52% | 0.31% | 0.63% | 0.94% | 1.26% | 1.57% | 1.89% | 2.20% | 2.51% |
| | 1.15 | 0.29% | 0.55% | 0.33% | 0.66% | 0.99% | 1.31% | 1.64% | 1.97% | 2.30% | 2.63% |
| | 1.2 | 0.31% | 0.59% | 0.34% | 0.69% | 1.03% | 1.37% | 1.71% | 2.06% | 2.40% | 2.74% |
| | 1.25 | 0.33% | 0.62% | 0.36% | 0.71% | 1.07% | 1.43% | 1.79% | 2.14% | 2.50% | 2.86% |
| | 1.3 | 0.34% | 0.66% | 0.37% | 0.74% | 1.11% | 1.49% | 1.86% | 2.23% | 2.60% | 2.97% |
| | 1.35 | 0.36% | 0.70% | 0.39% | 0.77% | 1.16% | 1.54% | 1.93% | 2.31% | 2.70% | 3.09% |
| | 1.4 | 0.38% | 0.73% | 0.40% | 0.80% | 1.20% | 1.60% | 2.00% | 2.40% | 2.80% | 3.20% |
| | 1.45 | 0.40% | 0.77% | 0.41% | 0.83% | 1.24% | 1.66% | 2.07% | 2.49% | 2.90% | 3.31% |
| | 1.5 | 0.41% | 0.81% | 0.43% | 0.86% | 1.29% | 1.71% | 2.14% | 2.57% | 3.00% | 3.43% |
| | 1.55 | 0.43% | 0.85% | 0.44% | 0.89% | 1.33% | 1.77% | 2.21% | 2.66% | 3.10% | 3.54% |
| | 1.6 | 0.45% | 0.90% | 0.46% | 0.91% | 1.37% | 1.83% | 2.29% | 2.74% | 3.20% | 3.66% |
| | 1.65 | 0.47% | 0.94% | 0.47% | 0.94% | 1.41% | 1.89% | 2.36% | 2.83% | 3.30% | 3.77% |
| | 1.7 | 0.49% | 0.98% | 0.49% | 0.97% | 1.46% | 1.94% | 2.43% | 2.91% | 3.40% | 3.89% |
| | 1.75 | 0.51% | 1.02% | 0.50% | 1.00% | 1.50% | 2.00% | 2.50% | 3.00% | 3.50% | 4.00% |
| | 1.8 | 0.53% | 1.07% | 0.51% | 1.03% | 1.54% | 2.06% | 2.57% | 3.09% | 3.60% | 4.11% |
| | 1.85 | 0.55% | 1.12% | 0.53% | 1.06% | 1.59% | 2.11% | 2.64% | 3.17% | 3.70% | 4.23% |
| | 1.9 | 0.57% | 1.16% | 0.54% | 1.09% | 1.63% | 2.17% | 2.71% | 3.26% | 3.80% | 4.34% |
| | 1.95 | 0.59% | 1.21% | 0.56% | 1.11% | 1.67% | 2.23% | 2.79% | 3.34% | 3.90% | 4.46% |
| | 2 | 0.61% | 1.26% | 0.57% | 1.14% | 1.71% | 2.29% | 2.86% | 3.43% | 4.00% | 4.57% |

# Chapter 4 Electrical connection

## 4.1 Wiring diagram of Goodrive800-26, Goodrive800-96 and Goodrive800-56 series products
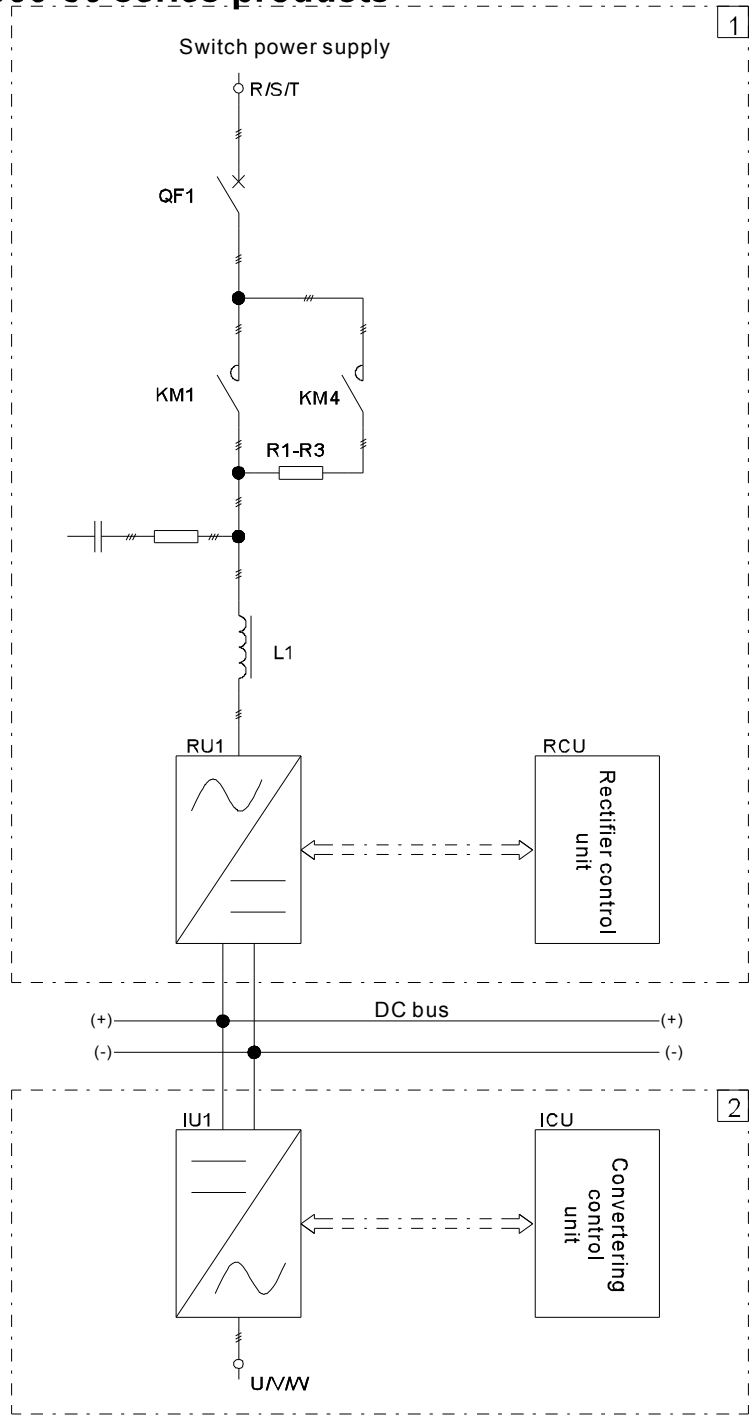


Electrical schematic diagram of the main circuit for Goodrive800-26 series 0075~0200-4, 0075~0200-5 and 0075~0250-6 is part 1 and 2 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-96 series 0075~0200-4, 0075~0200-5 and 0075~0250-6 is part 1 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-56 series 0132~0200-4, 0132~0200-5 and 0160~0250-6 is part 2 in the diagram.
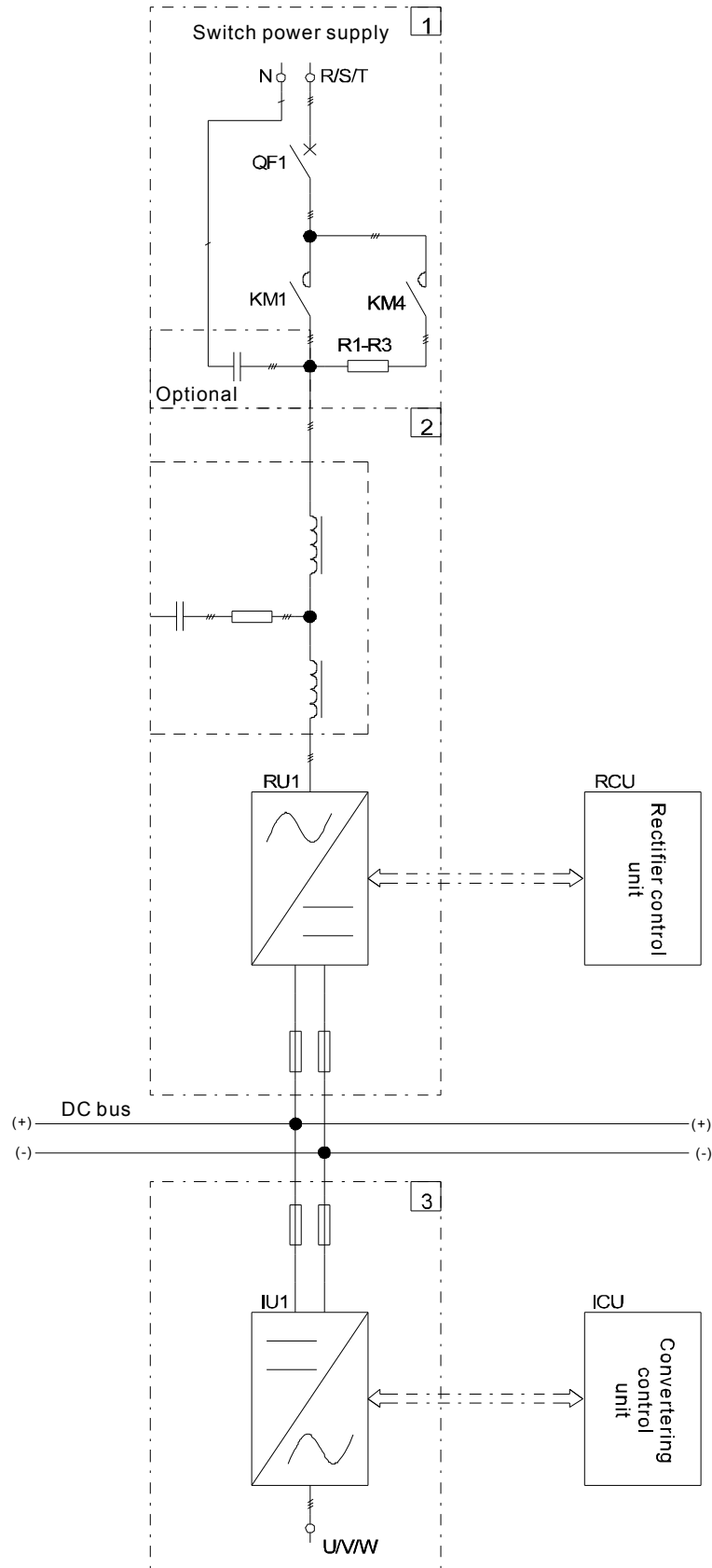
Switch power supply ☐1

N ○    ○ R/S/T

QF1

KM1        KM4

R1-R3

Optional

☐2

RU1                                    RCU

Rectifier control unit

(+) — DC bus                                    (+)
(-) —                                            (-)

☐3

IU1                                    ICU

Convertering control unit

U/V/W

Electrical schematic diagram of the main circuit for Goodrive800-26 series 0250~0400-4, 0250~0400-5 and 0315~0500-6 is part 1, 2 and 3 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-96 series 0250~0400-4, 0250~0400-5 and 0315~0500-6 is part 1 and 2 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-56 series 0250~0400-4, 0250~0400-5 and 0315~0500-6 is part 3 in the diagram.
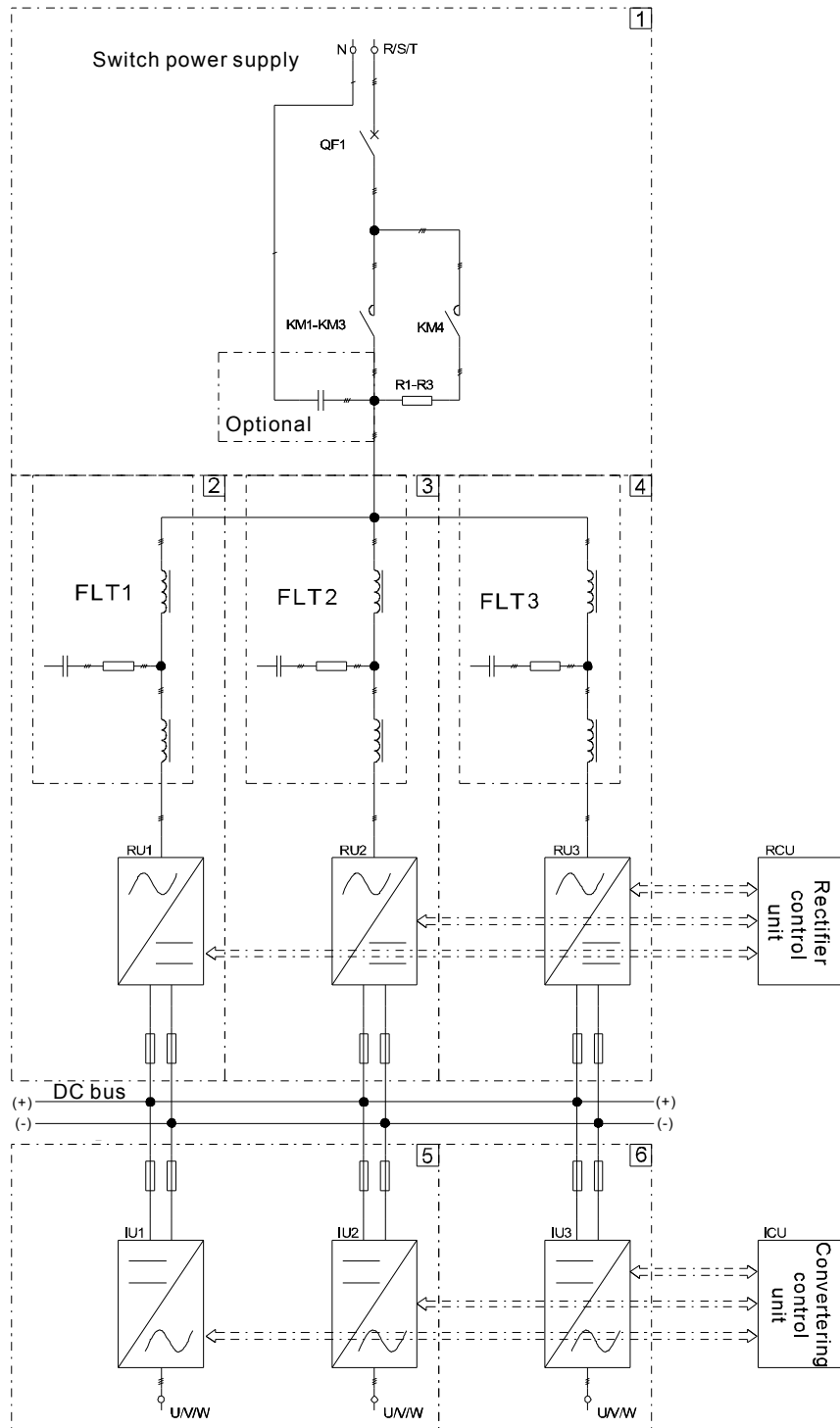
1

Switch power supply    N   R/S/T

QF1

KM1-KM3    KM4

R1-R3

Optional

2      3      4

FLT1      FLT2      FLT3

RU1      RU2      RU3      RCU Rectifier control unit

DC bus
(+)      (+)
(-)      (-)

5      6

IU1      IU2      IU3      ICU Convertering control unit

U/V/W    U/V/W    U/V/W

Electrical schematic diagram of the main circuit for Goodrive800-26 series 0500~0800-4, 0500~0800-5 and 0630~1000-6 is part 1, 2, 3 and 5 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-26 series 1000~1200-4, 1000~1200-5, 1200~1500-6 is part 1, 2, 3, 4, 5 and 6 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-96 series 0500~0800-4, 0500~0800-5 and 0630~1000-6 is part 1, 2 and 3 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-96 series1000~1200-4, 1000~1200-5 and 1200~1500-6 is part 1, 2, 3 and 4 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-56 series 0500~0800-4, 0500~0800-5 and 0630~1000-6 is part 5 in the diagram.

Electrical schematic diagram of the main circuit for Goodrive800-56 series1000~1200-4, 1000~1200-5 and 1200~1500-6 is part 5 and 6 in the diagram.

| Sign | Terminal function |
|---|---|
| R,S,T and N | Three-phase and four-wire AC input terminals<br>Connected to the grid,<br>N line is not available for connection |
| U,V and W | Three-phase AC output terminals<br>Generally connected to the motor,<br>Note: U, V and W terminals of 250~1200-4, 250~1200-5 and 315~1500-6 are the output terminals of power unit. |
| (+) and (-) | DC output if ① is rectifier unit<br>DC input if ② is inverter unit |
| PE | Grounding terminal<br>Each machine needs to be grounded |

## 4.2 Wiring diagram of Goodrive800-11 series inverter unit

### 4.2.1 Goodrive800-11 series 0004~0030-4 and 0004~0030-5
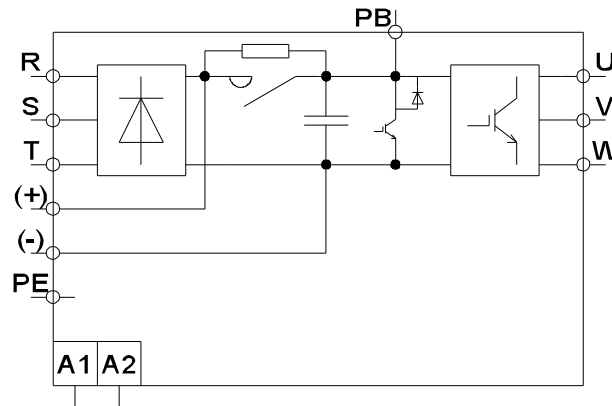


| Sign | Description |
|---|---|
| R, S and T | Three-phase AC input |
| U, V and W | Three-phase AC output |
| PB and (+) | External braking resistor terminal |
| (+) and (-) | DC bus output |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |

## 4.2.2 Goodrive800-11 series 0037~0110-4, 0037~0110-5 and 0022~0132-6
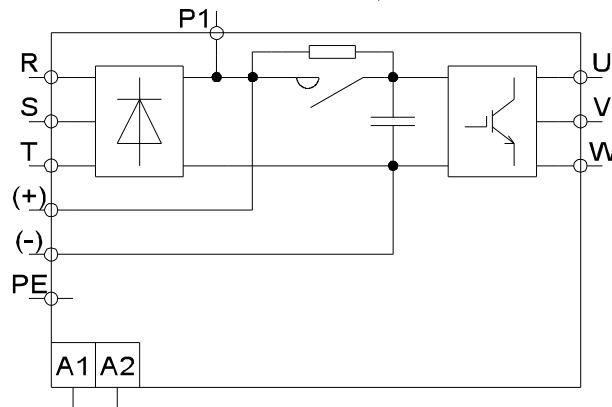


| Sign | Description |
|------|-------------|
| R, S and T | Three-phase AC input |
| U, V and W | Three-phase AC output |
| P1 and (+) | External DC reactor terminal |
| (+) and (-) | DC bus output |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |

## 4.2.3 Goodrive800-11 series 0132~0200-4, 0132~0200-5 and 0160~0250-6



| Sign | | Description |
|------|---|-------------|
| R1, S1 and T1 | | Three-phase AC input |
| R2, S2 and T2 | | Three-phase AC input |
| U, V and W | | Three-phase AC output |
| (+) and (-) | | DC bus output |
| PE | | Grounding terminal |
| XT | 1 | AC220V control power supply input L(red) |
| | 2 | AC220V control power supply input N(blue) |
| | 3 | Null |
| | 4 | NC contact input of reactor overtemperature. Short-connected in factory |
| | 5 | |
| TX | | Fiber sends data, connect to RX of the control unit |
| RX | | Fiber receives data, connect to TX of the control unit |

**Note:** R1 and R2, S1 and S2 and T1 and T2 are short-connected with capper bars in factory.

## 4.2.4 Goodrive800-11 series 0250~0400-4, 0250~0400-5 and 0315~0500-6
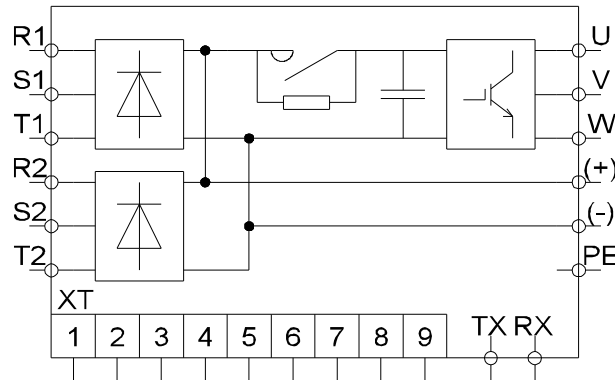


| Sign | | Description | Remark |
|---|---|---|---|
| R1, S1 and T1 | | Three-phase AC input | |
| R2, S2 and T2 | | Three-phase AC input | |
| U, V and W | | Three-phase AC output | |
| (+) and (-) | | DC bus output | |
| PE | | Grounding terminal | |
| XT | 1 | A phase of the power supply for AC380V fan (yellow) | Notice the sequence of the fan. The rotating direction is the same as the designated direction |
| | 2 | B phase of the power supply for AC380V fan (green) | |
| | 3 | C phase of the power supply for AC380V fan (red) | |
| | 4 | AC220V control power supply input L(red) | Can not be connected in reverse |
| | 5 | AC220V control power supply input N(blue) | |
| | 6 | Control power supply output L(connect to the A phase)(orange) | |
| | 7 | Control power supply output N(blue) | |
| | 8 | NC contact input of external fault. Short-connected in factory (black) | According to the application |
| | 9 | | |
| TX | | Fiber sends data, connect to RX of the control unit | |
| RX | | Fiber receives data, connect to TX of the control unit | |

**Note:** R1 and R2, S1 and S2 and T1 and T2 are short-connected with capper bars in factory.

## 4.3 Wiring diagram of Goodrive800-51 series convertering unit

### 4.3.1 Goodrive800-51 series 0075~0110-4, 0075~0110-5 and 0075~0132-6



| Sign | Description |
|------|-------------|
| U, V and W | Three-phase AC input if ① is the rectification unit<br>Three-phase AC output if ② is the convertering unit |
| (+) and (-) | DC bus output if ① is the rectification unit<br>DC bus input if ② is the convertering unit |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |
| TX | Fiber sends data, connect to RX of the control unit |
| RX | Fiber receives data, connect to TX of the control unit |

### 4.3.2 Goodrive800-51 series 0132~0200-4, 0132~0200-5 and 0160~0250-6



| Sign | | Description |
|------|------|-------------|
| U, V and W | | Three-phase AC input if ① is the rectification unit<br>Three-phase AC output if ② is the convertering unit |
| (+) and (-) | | DC bus output if ① is the rectification unit<br>DC bus input if ② is the convertering unit |
| PE | | Grounding terminal |
| XT | 1 | AC220V control power supply input L(red) |
| | 2 | AC220V control power supply input N(blue) |
| | 3 | Null |
| | 4 | NC contact input of external fault. Short-connected in factory (black) |
| | 5 | |
| TX | | Fiber sends data, connect to RX of the control unit |
| RX | | Fiber receives data, connect to TX of the control unit |

## 4.3.3 Goodrive800-51 series 0250~0400-4, 0250~0400-5 and 0315~0500-6
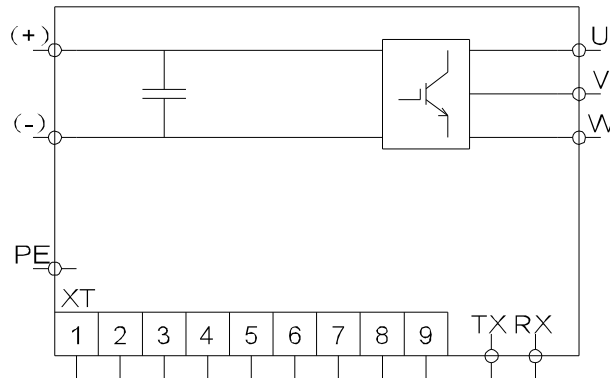


| Sign | | Description | Remark |
|---|---|---|---|
| U, V and W | | Three-phase AC input if ① is the rectification unit<br>Three-phase AC output if ② is the convertering unit | |
| (+) and (-) | | DC bus output if ① is the rectification unit<br>DC bus input if ② is the convertering unit | |
| PE | | Grounding terminal | |
| XT | 1 | A phase of the power supply for AC380V fan (yellow) | Notice the sequence of the fan. The rotating direction is the same as the designated direction |
| | 2 | B phase of the power supply for AC380V fan (green) | |
| | 3 | C phase of the power supply for AC380V fan (red) | |
| | 4 | AC220V control power supply input L(red) | Can not be connected in reverse |
| | 5 | AC220V control power supply input N(blue) | |
| | 6 | Control power supply output L(connect to the A phase)(orange) | Generally the control power input of filter unit |
| | 7 | Control power supply output N(blue) | |
| | 8 | NC contact input of external fault. Short-connected in factory | According to the application |
| | 9 | | |
| TX | | Fiber sends data, connect to RX of the control unit | |
| RX | | Fiber receives data, connect to TX of the control unit | |

## 4.4 Wiring diagram of Goodrive800-61 series diode rectification unit
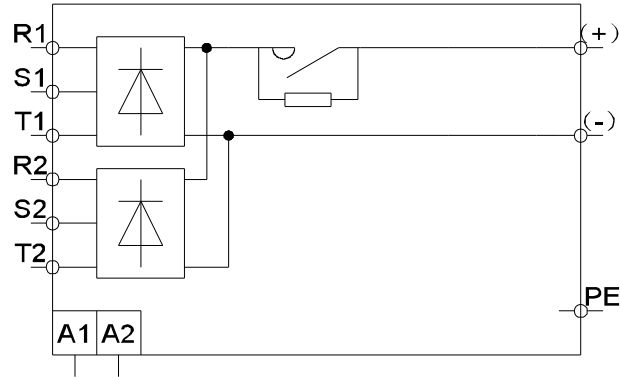


| Sign | Description |
|---|---|
| R1, S1 and T1 | Three-phase AC input |
| R2, S2 and T2 | Three-phase AC input |
| (+) and (-) | DC bus output |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |

**Note:** R1 and R2, S1 and S2 and T1 and T2 are short-connected with capper bars in factory.

## 4.5 Wiring diagram of Goodrive800-71 series silicon-controlled rectification unit
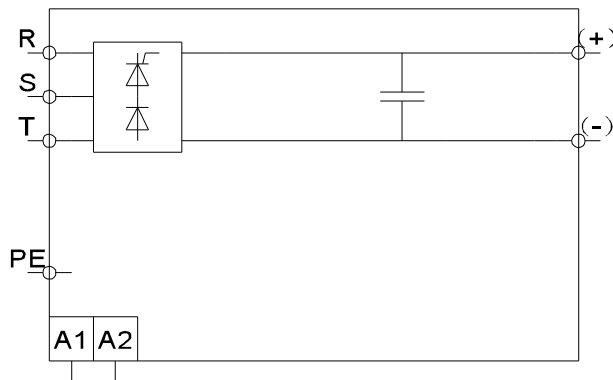


| Sign | Description |
|---|---|
| R, S and T | Three-phase AC input |
| (+) and (-) | DC bus output |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |

# 4.6 Wiring diagram of Goodrive800-81 series IGBT synchronous rectification unit
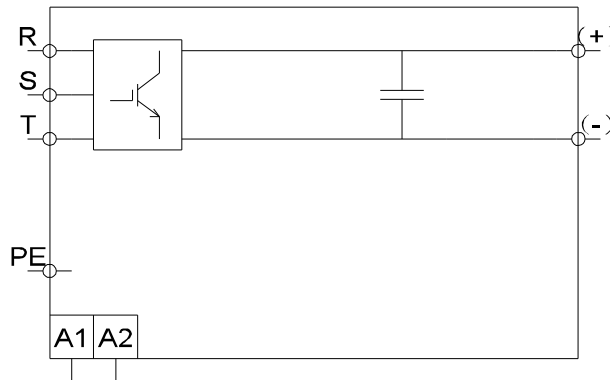


| Sign | Description |
|---|---|
| R, S and T | Three-phase AC input |
| (+) and (-) | DC bus output |
| PE | Grounding terminal |
| A1 | AC220V control power supply input L(red) |
| A2 | AC220V control power supply input N(black) |

# 4.7 Wiring diagram of Goodrive800-01 series LCL PWM filter unit
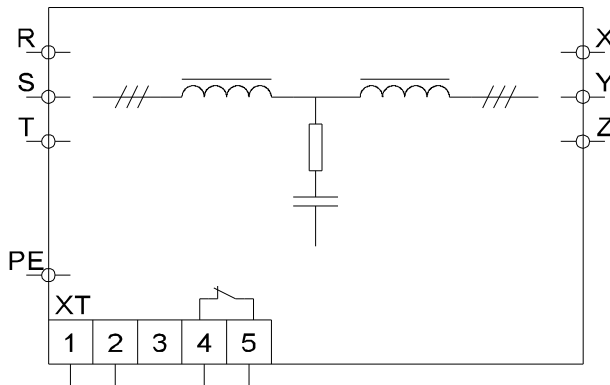


| Sign | | Description |
|---|---|---|
| R, S and T | | Reactor three-phase input at grid side |
| X, Y and Z | | Three-phase output at the rectification side |
| XT | 1 | AC220V control power supply input L(red) |
| | 2 | AC220V control power supply input N(blue) |
| | 3 | Null |
| | 4 | NC contact output of reactor overtemperature.(black) |
| | 5 | |

## 4.8 Wiring diagram of Goodrive800-02 series sine wave filter unit
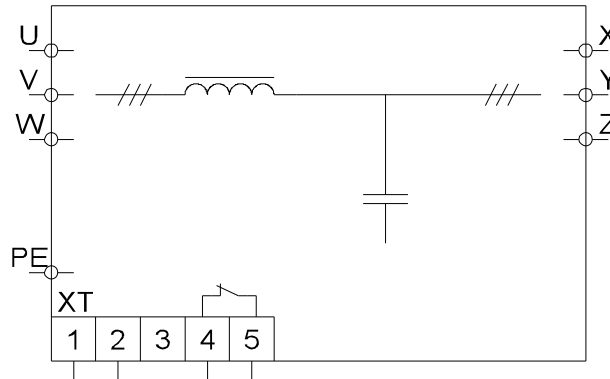


| Sign | | Description |
|------|------|-------------|
| R, S and T | | Reactor three-phase input at grid side |
| X, Y and Z | | Three-phase output |
| PE | | Grounding terminal |
| XT | 1 | AC220V control power supply input L(red) |
| | 2 | AC220V control power supply input N(blue) |
| | 3 | Null |
| | 4 | NC contact output of overtemperature.(black) |
| | 5 | |

## 4.9 Wiring diagram of Goodrive800-03 series bus capacitor energy storage/filter unit
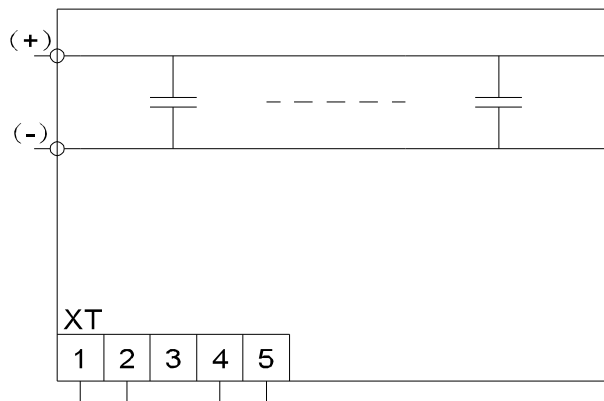


| Sign | | Description |
|------|------|-------------|
| (+) and (-) | | DC bus output |
| XT | 1 | AC220V control power supply input L(red) |
| | 2 | AC220V control power supply input N(blue) |
| | 3 | Null |
| | 4 | NC contact output of overtemperature.(black) |
| | 5 | |

## 4.10 Schematic diagram of Goodrive800 series control units
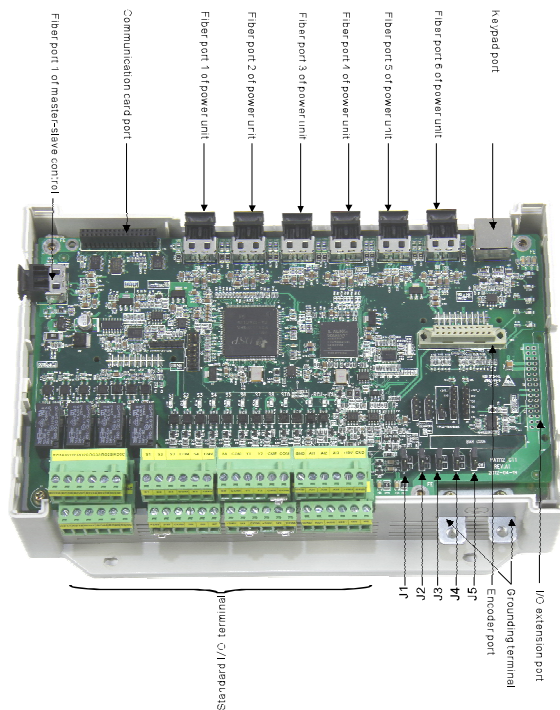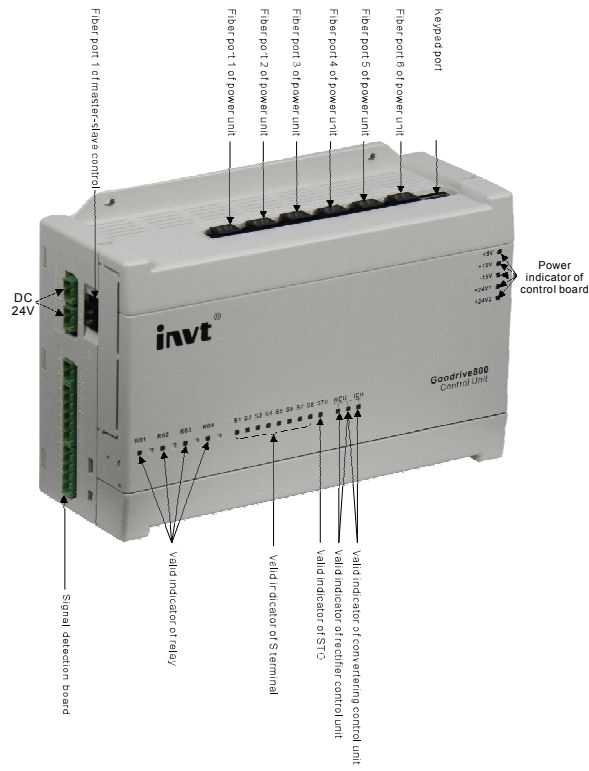


Note: The control board is installed in the control box.

## 4.10.1 Wiring of control circuit
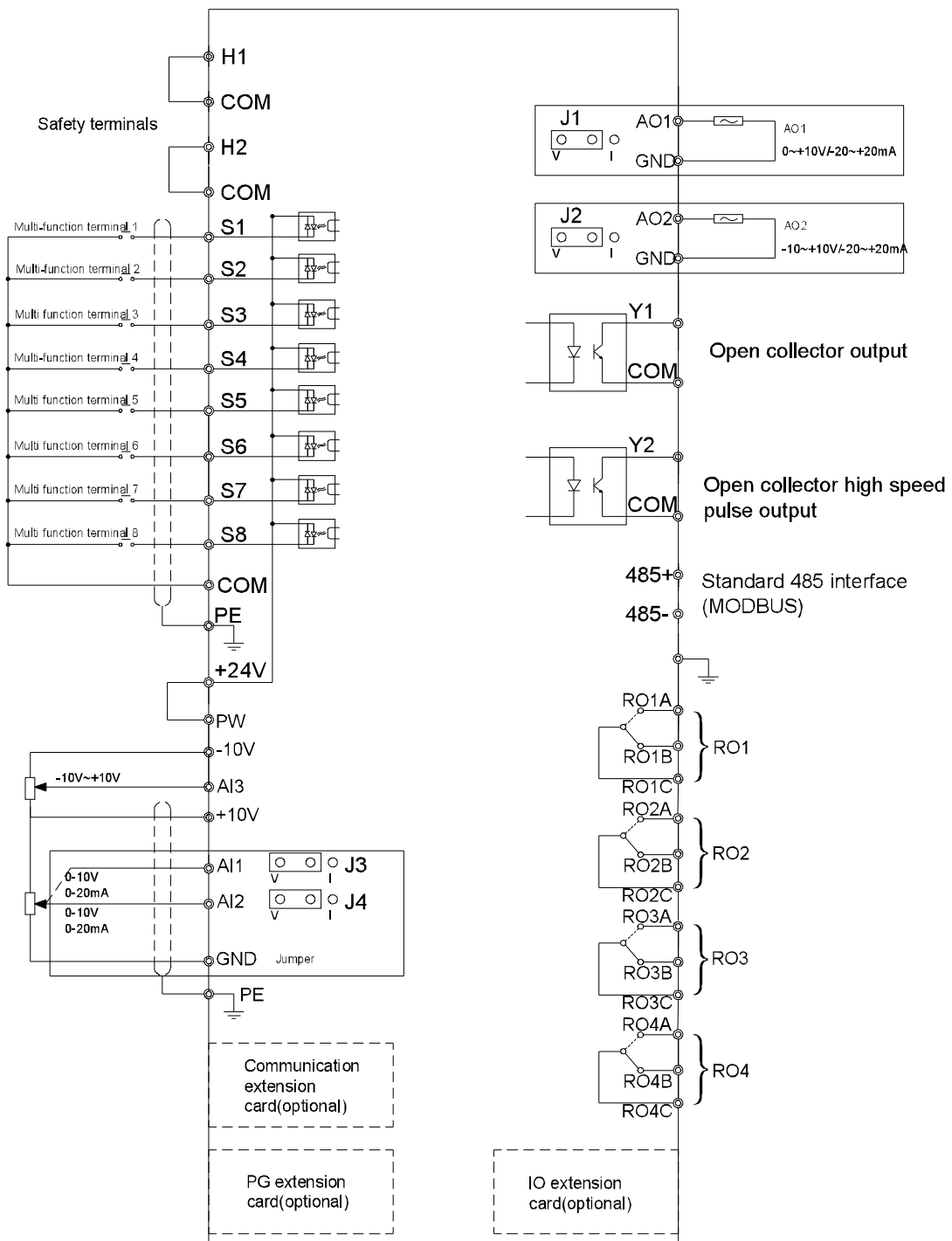


**Note:** Above terminals are not the terminals on extension card. It is necessary to select the communication extension card, IO extension card, PG card, RST detection board and temperature detection board according to actual requirement for Goodrive800 series products.

## 4.10.2 Control terminals

U-shaped tap between COM and CME

U-shaped tap between +24V and PW

U-shaped tap between COM and H1

U-shaped tap between COM and H2
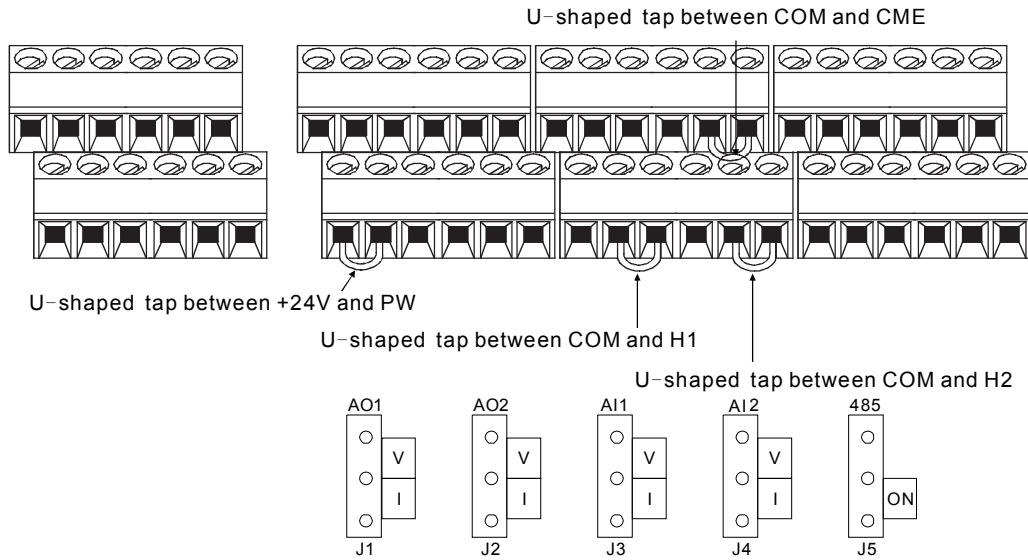


| AO1 | AO2 | AI1 | AI2 | 485 |
|------|------|------|------|------|
| J1 | J2 | J3 | J4 | J5 |

| RO2A | RO2B | RO2C | RO3A | RO3B | RO3C |
|------|------|------|------|------|------|
| RO1A | RO1B | RO1C | RO4A | RO4B | RO4C |

| S1 | S2 | S3 | COM | S4 | +24V | S8 | COM | Y1 | Y2 | CME | COM | GND | AI1 | AI2 | AI3 | +10V | GND |
|----|----|----|-----|----|------|----|-----|----|----|-----|-----|-----|-----|-----|-----|------|-----|
| +24V | PW | COM | S5 | S6 | S7 | +24V | H1 | COM | +24V | H2 | COM | GND | AO1 | AO2 | 485+ | 485- | PE |

| Type | Sign | Name | Function |
|------|------|------|----------|
| Power supply | +10V | 10V power supply | Local 10.5V reference power supply |
| | +24V | 24V power supply | 24V<br>Max. output current 200mA |
| | PW | External power supply | External power supply<br>Range: 12~24V |
| | GND | Ground | +10V reference zero potential |
| | COM | +24V common terminal | +24V common terminal |
| Analog input | AI1 | Analog input 1 | 1. Input range: 0~10V or 0~20mA<br>2. Input/current input is determined by J3 |
| | AI2 | Analog input 2 | 1. Input range: 0~10V or 0~20mA<br>2. Input/current input is determined by J4 |
| | AI3 | Analog input 3 | 1. Input range: -10~10V |
| Analog output | AO1 | Analog output 1 | 1. Input range: 0~10V or 0~20mA<br>2. Input/current input is determined by J1 |
| | AO2 | Analog output 2 | 1. Input range: 0~10V or 0~20mA<br>2. Input/current input is determined by J2 |
| Digital input | S1 | Digital input 1 | |
| | S2 | Digital input 2 | |
| | S3 | Digital input 3 | 1. Input impedance: 3.3kΩ |
| | S4 | Digital input 4 | 2. Voltage input range: 12~30V |
| | S5 | Digital input 5 | 3. Support NPN and PNP |
| | S6 | Digital input 6 | |
| | S7 | Digital input 7 | |

| Type | Sign | Name | Function |
|---|---|---|---|
| | S8 | Digital input 8 | Besides the function of S1~S7, it can be as the high frequency pulse input channel Maximum input frequency: 50kHz |
| Digital output | Y1 | Collector output 1 | 1.Switching capacity: 200mA/30V 2.Output frequency range: 0-1kHz |
| | Y2 | Collector output 2 | 1. Switching capacity: 1A /30V 2. Output frequency range: 0~50kHz |
| Safety function | H1 | Safe input 1 | Short-connected with COM terminal in factory. Remove the connection wires between H1 and COM, H2 and COM if safety input is used. |
| | H2 | Safe input 2 | |
| Relay output | RO1A | Relay 1 NO contact | |
| | RO1B | Relay 1 NC contact | |
| | RO1C | Relay 1 common contact | |
| | RO2A | Relay 2 NO contact | |
| | RO2B | Relay 2 NC contact | 1. Contact capacity: AC250V/3A，DC30V/1A 2. Can not be used as the high frequency switch output Note: If H1 or H2 input is valid for STO function, then RO4 is forced output and can be used as common relay. |
| | RO2C | Relay 2 common contact | |
| | RO3A | Relay 3 NO contact | |
| | RO3B | Relay 3 NC contact | |
| | RO3C | Relay 3 common contact | |
| | RO4A | Relay 4 NO contact | |
| | RO4B | Relay 4 NC contact | |
| | RO4C | Relay 4 common contact | |
| Communication | 485+ | 485 communication | 485 communication terminal Apply MODBUS protocol J5 can select whether to connect 120Ω terminal resistor |
| | 485- | | |

## 4.11 Goodrive800-51 series unit control board
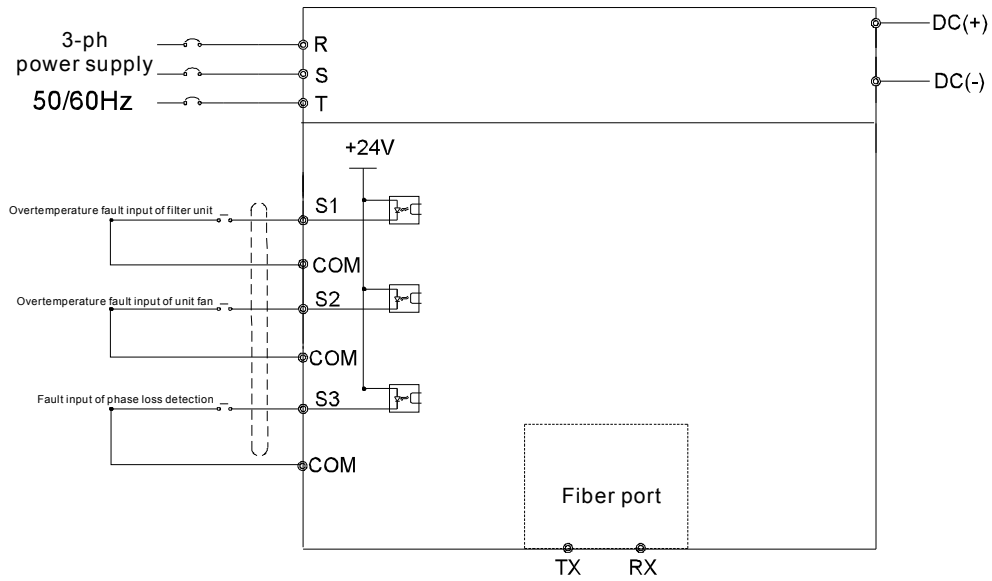


| Type | Sign | Name | Function |
|------|------|------|----------|
| Power supply | COM | +24V common terminal | +24V common terminal |
| Digital input | S1 | Analog input 1 | 1. Input impedance: 3.3kΩ |
| | S2 | Analog input 2 | 2. Voltage input range: 12~30V |
| | S3 | Analog input 3 | 3. No need to short-connected |

## 4.12 Goodrive800-61, Goodrive800-71, Goodrive800-81 and Goodrive800-91 series rectification control board
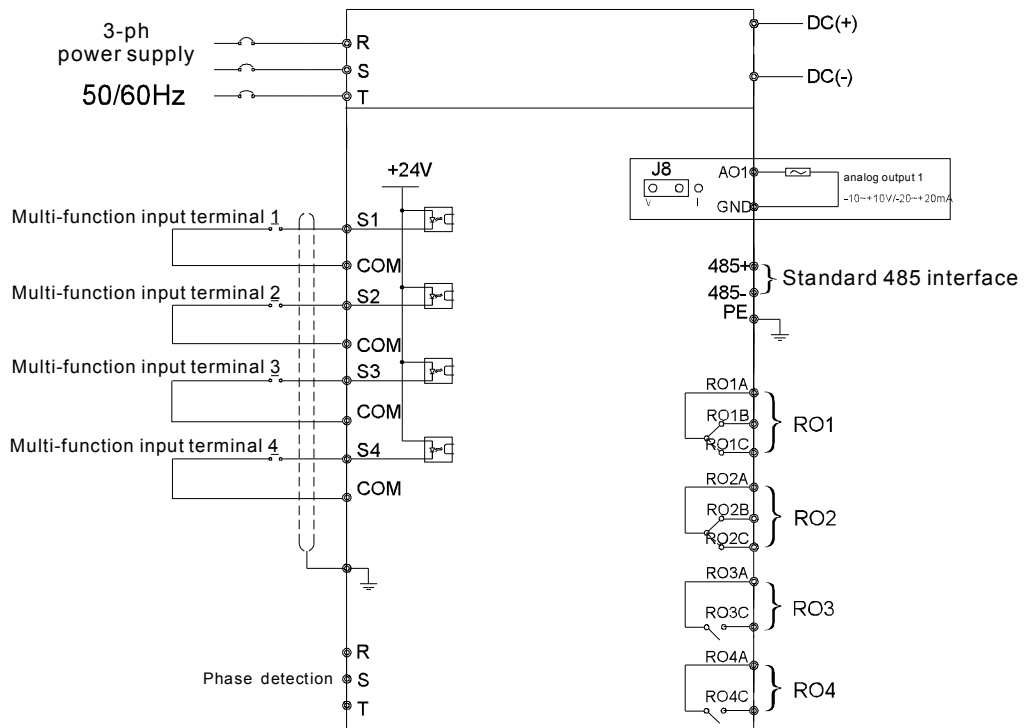
| Type | Sign | Name | Function |
|---|---|---|---|
| Analog output | AO | Analog output | 1. Output range: 0~10V or 0~20mA<br>2. The output is determined by J8 |
| Power supply | COM | +24V common terminal | +24V common terminal |
| | GND | Reference grounding | Reference grounding of AO |
| Digital input | S1 | Analog input 1 | 1. Input impedance: 3.3kΩ<br>2. Voltage input range: 12~30V |
| | S2 | Analog input 2 | |
| | S3 | Analog input 3 | |
| | S4 | Analog input 4 | |
| Relay output | RO1A | Relay 1 NO contact | 1. Contact capacity: AC250V/6A，DC30V/6A<br>2. Not used as high frequency switch output (pay attention to it) |
| | RO1B | Relay 1 NC contact | |
| | RO1C | Relay 1 common contact | |
| | RO2A | Relay 2 NO contact | |
| | RO2B | Relay 2 NC contact | |
| | RO2C | Relay 2 common contact | |
| | RO3A | Relay 3 NO contact | 1. Contact capacity: AC250V/6A<br>2. System control; RO3 is the control signal of main contactor<br>RO4 is the control signal of buffer contactor |
| | RO3C | Relay 3 common contact | |
| | RO4A | Relay 4 NO contact | |
| | RO4C | Relay 4 common contact | |
| Communication | 485+ and 485- | 485 communication | 485 communication terminal, apply MODBUS protocol |
| Phase detection | R, S and T | Phase detection | Phase detection function |

# Chapter 5 Configuration table of the cabinets

## 5.1 Configuration table of Goodrive800-26 series products

| Model | Rectification | | Convertering | |
|---|---|---|---|---|
| | Quantity | Specifications | Quantity | Specifications |
| $U_N$ = 380 V | | | | |
| GD800-26-0075-4 | GD800-96-0075-4 | 1 | GD800-51-0075-4* | 1 |
| GD800-26-0090-4 | GD800-96-0090-4 | 1 | GD800-51-0090-4* | 1 |
| GD800-26-0110-4 | GD800-96-0110-4 | 1 | GD800-51-0110-4* | 1 |
| GD800-26-0132-4 | GD800-96-0132-4 | 1 | GD800-51-0132-4* | 1 |
| GD800-26-0160-4 | GD800-96-0160-4 | 1 | GD800-51-0160-4* | 1 |
| GD800-26-0200-4 | GD800-96-0200-4 | 1 | GD800-51-0200-4* | 1 |
| GD800-26-0250-4 | GD800-96-0250-4 | 1 | GD800-56-0250-4 | 1 |
| GD800-26-0315-4 | GD800-96-0315-4 | 1 | GD800-56-0315-4 | 1 |
| GD800-26-0400-4 | GD800-96-0400-4 | 1 | GD800-56-0400-4 | 1 |
| GD800-26-0500-4 | GD800-96-0500-4 | 1 | GD800-56-0500-4 | 1 |
| GD800-26-0630-4 | GD800-96-0630-4 | 1 | GD800-56-0630-4 | 1 |
| GD800-26-0800-4 | GD800-96-0800-4 | 1 | GD800-56-0800-4 | 1 |
| GD800-26-1000-4 | GD800-96-1000-4 | 1 | GD800-56-1000-4 | 1 |
| GD800-26-1200-4 | GD800-96-1200-4 | 1 | GD800-56-1200-4 | 1 |
| $U_N$ = 500 V | | | | |
| GD800-26-0075-5 | GD800-96-0075-5 | 1 | GD800-51-0075-5* | 1 |
| GD800-26-0090-5 | GD800-96-0090-5 | 1 | GD800-51-0090-5* | 1 |
| GD800-26-0110-5 | GD800-96-0110-5 | 1 | GD800-51-0110-5* | 1 |
| GD800-26-0132-5 | GD800-96-0132-5 | 1 | GD800-51-0132-5* | 1 |
| GD800-26-0160-5 | GD800-96-0160-5 | 1 | GD800-51-0160-5* | 1 |
| GD800-26-0200-5 | GD800-96-0200-5 | 1 | GD800-51-0200-5* | 1 |
| GD800-26-0250-5 | GD800-96-0250-5 | 1 | GD800-56-0250-5 | 1 |
| GD800-26-0315-5 | GD800-96-0315-5 | 1 | GD800-56-0315-5 | 1 |
| GD800-26-0400-5 | GD800-96-0400-5 | 1 | GD800-56-0400-5 | 1 |
| GD800-26-0500-5 | GD800-96-0500-5 | 1 | GD800-56-0500-5 | 1 |
| GD800-26-0630-5 | GD800-96-0630-5 | 1 | GD800-56-0630-5 | 1 |
| GD800-26-0800-5 | GD800-96-0800-5 | 1 | GD800-56-0800-5 | 1 |
| GD800-26-1000-5 | GD800-96-1000-5 | 1 | GD800-56-1000-5 | 1 |
| GD800-26-1200-5 | GD800-96-1200-5 | 1 | GD800-56-1200-5 | 1 |
| $U_N$ = 660 V | | | | |
| GD800-26-0075-6 | GD800-96-0075-6 | 1 | GD800-51-0075-6* | 1 |
| GD800-26-0090-6 | GD800-96-0090-6 | 1 | GD800-51-0090-6* | 1 |
| GD800-26-0110-6 | GD800-96-0110-6 | 1 | GD800-51-0110-6* | 1 |

| Model | Rectification | | Convertering | |
|---|---|---|---|---|
| | Quantity | Specifications | Quantity | Specifications |
| GD800-26-0132-6 | GD800-96-0132-6 | 1 | GD800-51-0132-6* | 1 |
| GD800-26-0160-6 | GD800-96-0160-6 | 1 | GD800-51-0160-6* | 1 |
| GD800-26-0200-6 | GD800-96-0200-6 | 1 | GD800-51-0200-6* | 1 |
| GD800-26-0250-6 | GD800-96-0250-6 | 1 | GD800-51-0250-6* | 1 |
| GD800-26-0315-6 | GD800-96-0315-6 | 1 | GD800-56-0315-6 | 1 |
| GD800-26-0400-6 | GD800-96-0400-6 | 1 | GD800-56-0400-6 | 1 |
| GD800-26-0500-6 | GD800-96-0500-6 | 1 | GD800-56-0500-6 | 1 |
| GD800-26-0630-6 | GD800-96-0630-6 | 1 | GD800-56-0630-6 | 1 |
| GD800-26-0800-6 | GD800-96-0800-6 | 1 | GD800-56-0800-6 | 1 |
| GD800-26-1000-6 | GD800-96-1000-6 | 1 | GD800-56-1000-6 | 1 |
| GD800-26-1200-6 | GD800-96-1200-6 | 1 | GD800-56-1200-6 | 1 |
| GD800-26-1500-6 | GD800-96-1500-6 | 1 | GD800-56-1500-6 | 1 |

**Note:** The model marked with "*" means power unit+control unit.

For example "GD800-51-0075-4*" means GD800-51-0075-4+ GD800-ICU-0075-4

## 5.2 Configuration table of Goodrive800-96 series products

| Model | Rectification unit | | LCL Filtering unit | | Rectification control unit | |
|---|---|---|---|---|---|---|
| | Specifications | Quantity | Specifications | Quantity | Specifications | Quantity |
| $U_N$ = 380 V | | | | | | |
| GD800-96-0075-4 | GD800-51-0075-4 | 1 | / | | GD800-RCU-0075-4 | 1 |
| GD800-96-0090-4 | GD800-51-0090-4 | 1 | / | | GD800-RCU-0090-4 | 1 |
| GD800-96-0110-4 | GD800-51-0110-4 | 1 | / | | GD800-RCU-0110-4 | 1 |
| GD800-96-0132-4 | GD800-51-0132-4 | 1 | / | | GD800-RCU-0132-4 | 1 |
| GD800-96-0160-4 | GD800-51-0160-4 | 1 | / | | GD800-RCU-0160-4 | 1 |
| GD800-96-0200-4 | GD800-51-0200-4 | 1 | / | | GD800-RCU-0200-4 | 1 |
| GD800-96-0250-4 | GD800-51-0250-4 | 1 | GD800-01-0250-4 | 1 | GD800-RCU-0250-4 | 1 |
| GD800-96-0315-4 | GD800-51-0315-4 | 1 | GD800-01-0315-4 | 1 | GD800-RCU-0315-4 | 1 |
| GD800-96-0400-4 | GD800-51-0400-4 | 1 | GD800-01-0400-4 | 1 | GD800-RCU-0400-4 | 1 |
| GD800-96-0500-4 | GD800-51-0250-4 | 2 | GD800-01-0250-4 | 2 | GD800-RCU-0500-4 | 1 |
| GD800-96-0630-4 | GD800-51-0315-4 | 2 | GD800-01-0315-4 | 2 | GD800-RCU-0630-4 | 1 |
| GD800-96-0800-4 | GD800-51-0400-4 | 2 | GD800-01-0400-4 | 2 | GD800-RCU-0800-4 | 1 |
| GD800-96-1000-4 | GD800-51-0315-4 | 3 | GD800-01-0315-4 | 3 | GD800-RCU-1000-4 | 1 |
| GD800-96-1200-4 | GD800-51-0400-4 | 3 | GD800-01-0400-4 | 3 | GD800-RCU-1200-4 | 1 |
| $U_N$ = 500 V | | | | | | |
| GD800-96-0075-5 | GD800-51-0075-5 | 1 | / | | GD800-RCU-0075-5 | 1 |
| GD800-96-0090-5 | GD800-51-0090-5 | 1 | / | | GD800-RCU-0090-5 | 1 |
| GD800-96-0110-5 | GD800-51-0110-5 | 1 | / | | GD800-RCU-0110-5 | 1 |
| GD800-96-0132-5 | GD800-51-0132-5 | 1 | / | | GD800-RCU-0132-5 | 1 |
| GD800-96-0160-5 | GD800-51-0160-5 | 1 | / | | GD800-RCU-016 | 1 |

| Model | Rectification unit | | LCL Filtering unit | | Rectification control unit | |
|---|---|---|---|---|---|---|
| | Specifications | Quantity | Specifications | Quantity | Specifications | Quantity |
| | | | | | 0-5 | |
| GD800-96-0200-5 | GD800-51-0200-5 | 1 | / | | GD800-RCU-0200-5 | 1 |
| GD800-96-0250-5 | GD800-51-0250-5 | 1 | GD800-01-0250-5 | 1 | GD800-RCU-0250-5 | 1 |
| GD800-96-0315-5 | GD800-51-0315-5 | 1 | GD800-01-0315-5 | 1 | GD800-RCU-0315-5 | 1 |
| GD800-96-0400-5 | GD800-51-0400-5 | 1 | GD800-01-0400-5 | 1 | GD800-RCU-0400-5 | 1 |
| GD800-96-0500-5 | GD800-51-0250-5 | 2 | GD800-01-0250-5 | 2 | GD800-RCU-0500-5 | 1 |
| GD800-96-0630-5 | GD800-51-0315-5 | 2 | GD800-01-0315-5 | 2 | GD800-RCU-0630-5 | 1 |
| GD800-96-0800-5 | GD800-51-0400-5 | 2 | GD800-01-0400-5 | 2 | GD800-RCU-0800-5 | 1 |
| GD800-96-1000-5 | GD800-51-0315-5 | 3 | GD800-01-0315-5 | 3 | GD800-RCU-1000-5 | 1 |
| GD800-96-1200-5 | GD800-51-0400-5 | 3 | GD800-01-0400-5 | 3 | GD800-RCU-1200-5 | 1 |
| $U_N$ = 660 V | | | | | | |
| GD800-96-0075-6 | GD800-51-0075-6 | 1 | / | | GD800-RCU-0075-6 | 1 |
| GD800-96-0090-6 | GD800-51-0090-6 | 1 | / | | GD800-RCU-0090-6 | 1 |
| GD800-96-0110-6 | GD800-51-0110-6 | 1 | / | | GD800-RCU-0110-6 | 1 |
| GD800-96-0132-6 | GD800-51-0132-6 | 1 | / | | GD800-RCU-0132-6 | 1 |
| GD800-96-0160-6 | GD800-51-0160-6 | 1 | / | | GD800-RCU-0160-6 | 1 |
| GD800-96-0200-6 | GD800-51-0200-6 | 1 | / | | GD800-RCU-0200-6 | 1 |
| GD800-96-0250-6 | GD800-51-0250-6 | 1 | / | | GD800-RCU-0250-6 | 1 |
| GD800-96-0315-6 | GD800-51-0315-6 | 1 | GD800-01-0315-6 | 1 | GD800-RCU-0315-6 | 1 |
| GD800-96-0400-6 | GD800-51-0400-6 | 1 | GD800-01-0400-6 | 1 | GD800-RCU-0400-6 | 1 |
| GD800-96-0500-6 | GD800-51-0500-6 | 1 | GD800-01-0500-6 | 1 | GD800-RCU-0500-6 | 1 |
| GD800-96-0630-6 | GD800-51-0315-6 | 2 | GD800-01-0315-6 | 2 | GD800-RCU-063 | 1 |

| Model | Rectification unit | | LCL Filtering unit | | Rectification control unit | |
|---|---|---|---|---|---|---|
| | Specifications | Quantity | Specifications | Quantity | Specifications | Quantity |
| | | | | | 0-6 | |
| GD800-96-0800-6 | GD800-51-0400-6 | 2 | GD800-01-0400-6 | 2 | GD800-RCU-0800-6 | 1 |
| GD800-96-1000-6 | GD800-51-0500-6 | 2 | GD800-01-0500-6 | 2 | GD800-RCU-1000-6 | 1 |
| GD800-96-1200-6 | GD800-51-0400-6 | 3 | GD800-01-0400-6 | 3 | GD800-RCU-1200-6 | 1 |
| GD800-96-1500-6 | GD800-51-0500-6 | 3 | GD800-01-0500-6 | 3 | GD800-RCU-1500-6 | 1 |

## 5.3 Configuration table of Goodrive800-56 series products

| Model | IGBT | | Convertering control unit | |
|---|---|---|---|---|
| | Specifications | Quantity | Specifications | Quantity |
| $U_N$ =380 V | | | | |
| GD800-56-0132-4 | GD800-51-0132-4 | 1 | GD800-ICU-0132-4 | 1 |
| GD800-56-0160-4 | GD800-51-0160-4 | 1 | GD800-ICU-0160-4 | 1 |
| GD800-56-0200-4 | GD800-51-0200-4 | 1 | GD800-ICU-0200-4 | 1 |
| GD800-56-0250-4 | GD800-51-0250-4 | 1 | GD800-ICU-0250-4 | 1 |
| GD800-56-0315-4 | GD800-51-0315-4 | 1 | GD800-ICU-0315-4 | 1 |
| GD800-56-0400-4 | GD800-51-0400-4 | 1 | GD800-ICU-0400-4 | 1 |
| GD800-56-0500-4 | GD800-51-0250-4 | 2 | GD800-ICU-0500-4 | 1 |
| GD800-56-0630-4 | GD800-51-0315-4 | 2 | GD800-ICU-0630-4 | 1 |
| GD800-56-0800-4 | GD800-51-0400-4 | 2 | GD800-ICU-0800-4 | 1 |
| GD800-56-1000-4 | GD800-51-0315-4 | 3 | GD800-ICU-1000-4 | 1 |
| GD800-56-1200-4 | GD800-51-0400-4 | 3 | GD800-ICU-1200-4 | 1 |
| $U_N$ =500 V | | | | |
| GD800-56-0132-5 | GD800-51-0132-5 | 1 | GD800-ICU-0132-5 | 1 |
| GD800-56-0160-5 | GD800-51-0160-5 | 1 | GD800-ICU-0160-5 | 1 |
| GD800-56-0200-5 | GD800-51-0200-5 | 1 | GD800-ICU-0200-5 | 1 |
| GD800-56-0250-5 | GD800-51-0250-5 | 1 | GD800-ICU-0250-5 | 1 |
| GD800-56-0315-5 | GD800-51-0315-5 | 1 | GD800-ICU-0315-5 | 1 |
| GD800-56-0400-5 | GD800-51-0400-5 | 1 | GD800-ICU-0400-5 | 1 |
| GD800-56-0500-5 | GD800-51-0250-5 | 2 | GD800-ICU-0500-5 | 1 |
| GD800-56-0630-5 | GD800-51-0315-5 | 2 | GD800-ICU-0630-5 | 1 |
| GD800-56-0800-5 | GD800-51-0400-5 | 2 | GD800-ICU-0800-5 | 1 |
| GD800-56-1000-5 | GD800-51-0315-5 | 3 | GD800-ICU-1000-5 | 1 |
| GD800-56-1200-5 | GD800-51-0400-5 | 3 | GD800-ICU-1200-5 | 1 |
| $U_N$ =660 V | | | | |
| GD800-56-0160-6 | GD800-51-0160-6 | 1 | GD800-ICU-0160-6 | 1 |
| GD800-56-0200-6 | GD800-51-0200-6 | 1 | GD800-ICU-0200-6 | 1 |
| GD800-56-0250-6 | GD800-51-0250-6 | 1 | GD800-ICU-0250-6 | 1 |
| GD800-56-0315-6 | GD800-51-0315-6 | 1 | GD800-ICU-0315-6 | 1 |
| GD800-56-0400-6 | GD800-51-0400-6 | 1 | GD800-ICU-0400-6 | 1 |
| GD800-56-0500-6 | GD800-51-0500-6 | 1 | GD800-ICU-0500-6 | 1 |
| GD800-56-0630-6 | GD800-51-0315-6 | 2 | GD800-ICU-0630-6 | 1 |
| GD800-56-0800-6 | GD800-51-0400-6 | 2 | GD800-ICU-0800-6 | 1 |
| GD800-56-1000-6 | GD800-51-0500-6 | 2 | GD800-ICU-1000-6 | 1 |
| GD800-56-1200-6 | GD800-51-0400-6 | 3 | GD800-ICU-1200-6 | 1 |
| GD800-56-1500-6 | GD800-51-0500-6 | 3 | GD800-ICU-1500-6 | 1 |

# Chapter 6 Main components

## 6.1 Goodrive800 series cabinet products
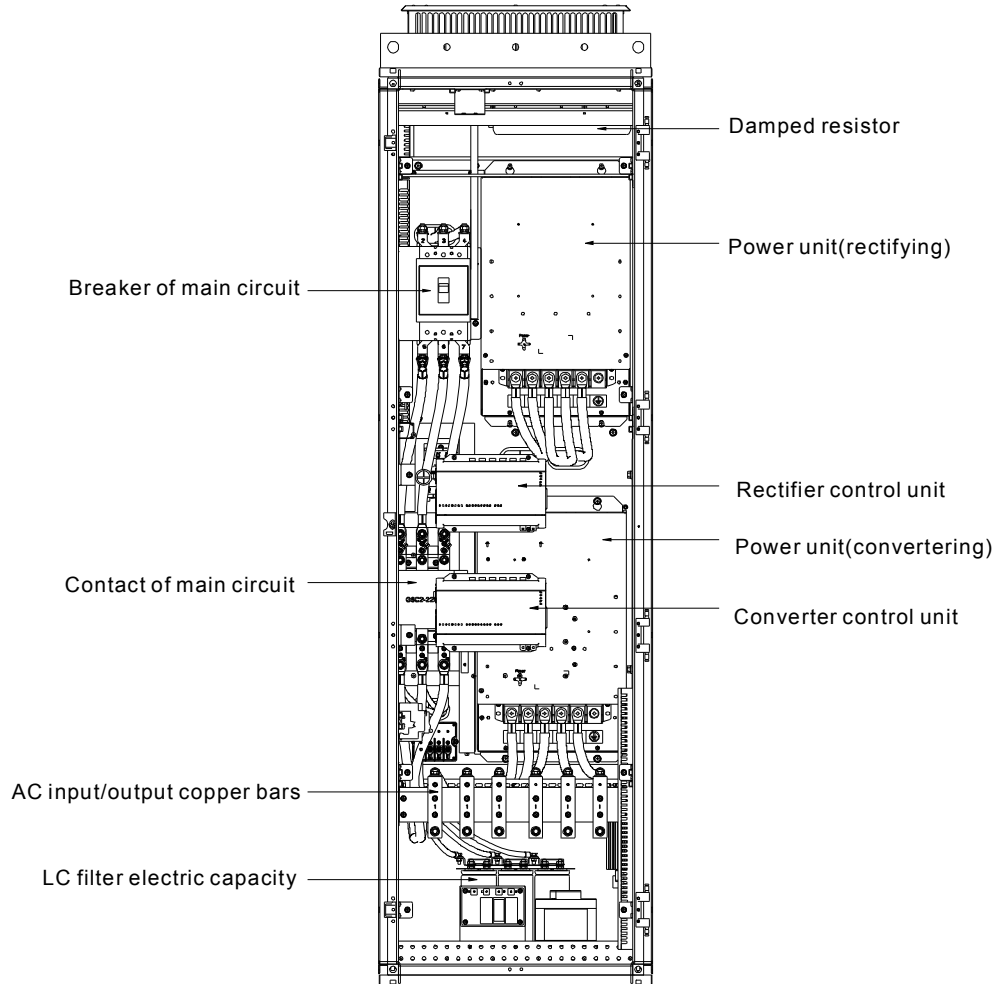


Components layout diagram of Goodrive800-26 series 0075~0110-4, 0075~0110-5 and 0075~0132-6

Components layout diagram of Goodrive800-96 series0075~0110-4, 0075~0110-5 and 0075~0132-6 is the diagram without IGBT, convertering control unit and AC output copper bars
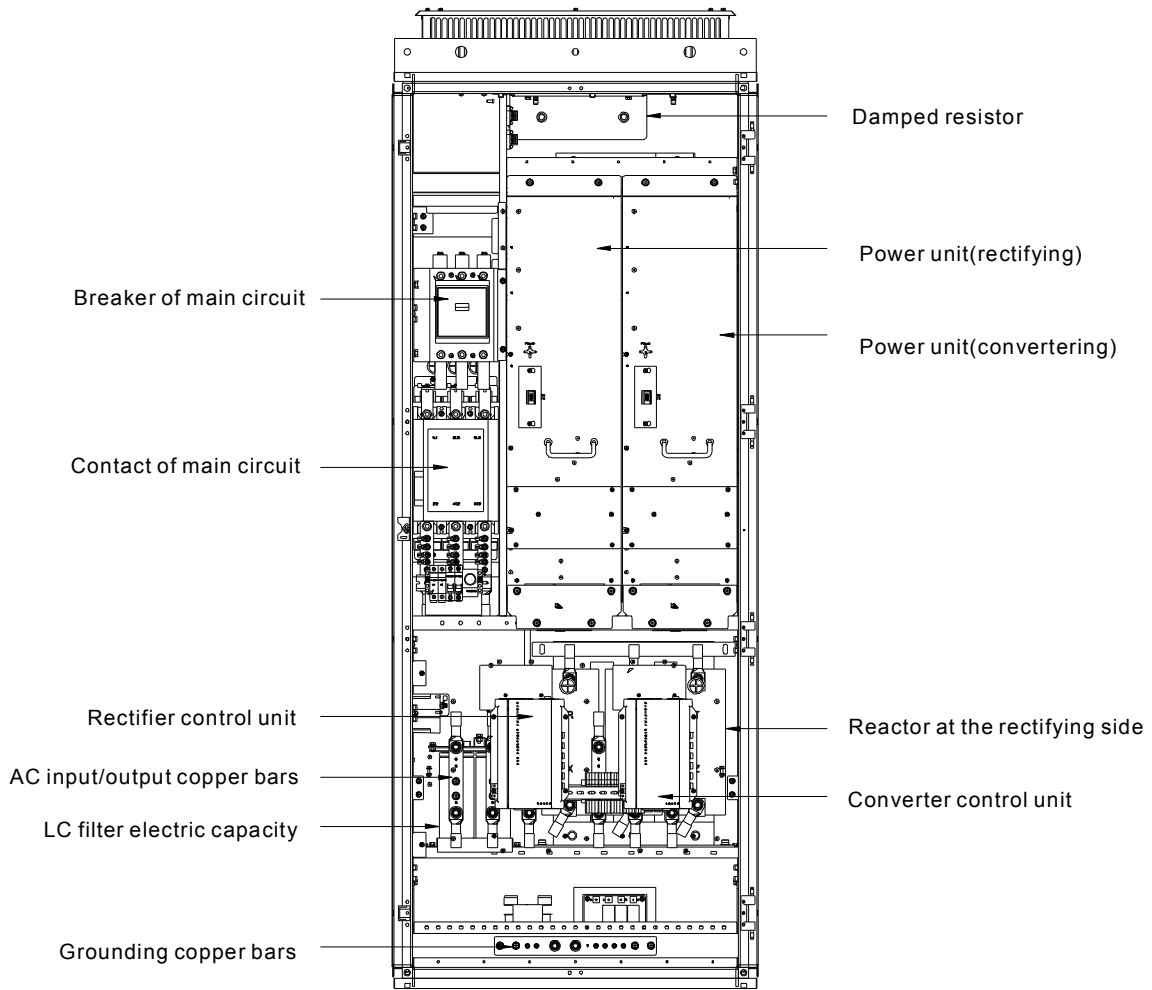
**Components layout diagram of Goodrive800-26 series 0132~0200-4, 0132~0200-5 and 0160~0250-6**

**Components layout diagram of Goodrive800-96 series 0132~0200-4, 0132~0200-5 and 0160~0250-6 is the diagram without power unit, convertering control unit and AC output copper bars.**

Breaker of main circuit

Filter unit

Power unit(rectifying)

Contact of main circuit

Rectifier control unit

Power unit(convertering)

Converter control unit

UVW output copper bars

RST input copper bars

Grounding copper bars

**Components layout diagram of Goodrive800-26 series 0250~0400-4, 0250~0400-5 and 0315~0500-6**

Goodrive800-95 series 0250~0400-4 (0315~0500-6)

Goodrive800-96 series
0250~0400-4 (0315~0500-6)

| Switch cabinet | Filter rectifying cabinet | 1unit convertering cabinet |

Breaker of main circuit

Contact of main circuit

Rectifier control unit

Converter control unit

RST input copper bars

Fuse

Filter unit

Power unit(rectifying)

Power unit(convertering)

UVW output copper bars

Grounding copper bars

**Components layout diagram of Goodrive800-26 series 0250~0400-4, 0250~0400-5 and 0315~0500-6**

**Components layout diagram of Goodrive800-96 series 0250~0400-4, 0250~0400-5 and 0315~0500-6 is the diagram without convertering cabinet and convertering control unit**

**Components layout diagram of Goodrive800-56 series 0250~0400-4, 0250~0400-5 and 0315~0500-6 is the diagram without filter rectifier cabinet and switch cabinet**
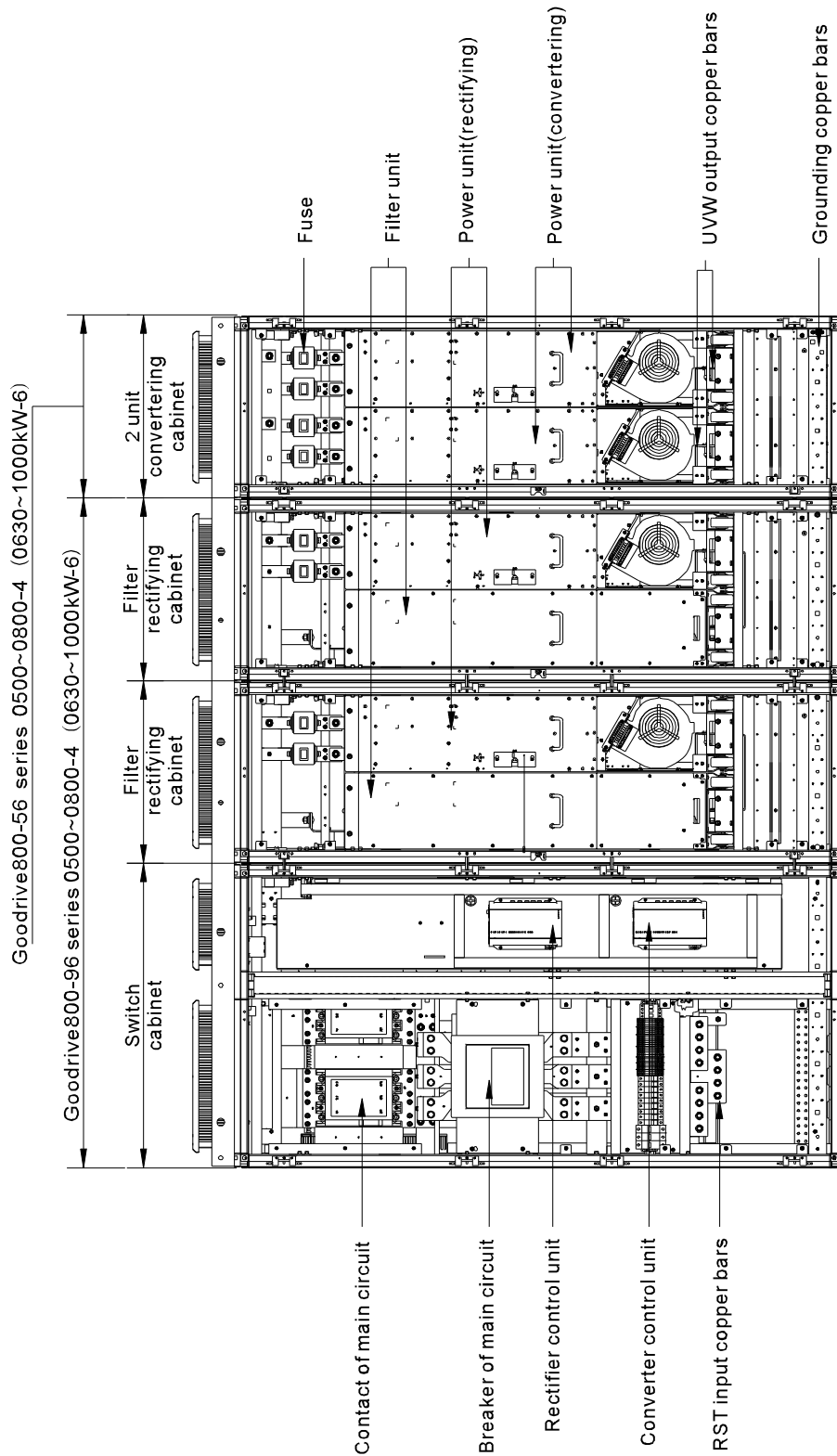
**Components layout diagram of Goodrive800-26 series 0500~0800-4, 0500~0800-5 and 0630~1000-6**

**Components layout diagram of Goodrive800-96 series 0500~0800-4, 0500~0800-5 and 0630~1000-6 is the diagram without convertering cabinet and convertering control unit**

**Components layout diagram of Goodrive800-56 series 0500~0800-4, 0500~0800-5 and 0630~1000-6 is the diagram without filter rectifier cabinet and switch cabinet**
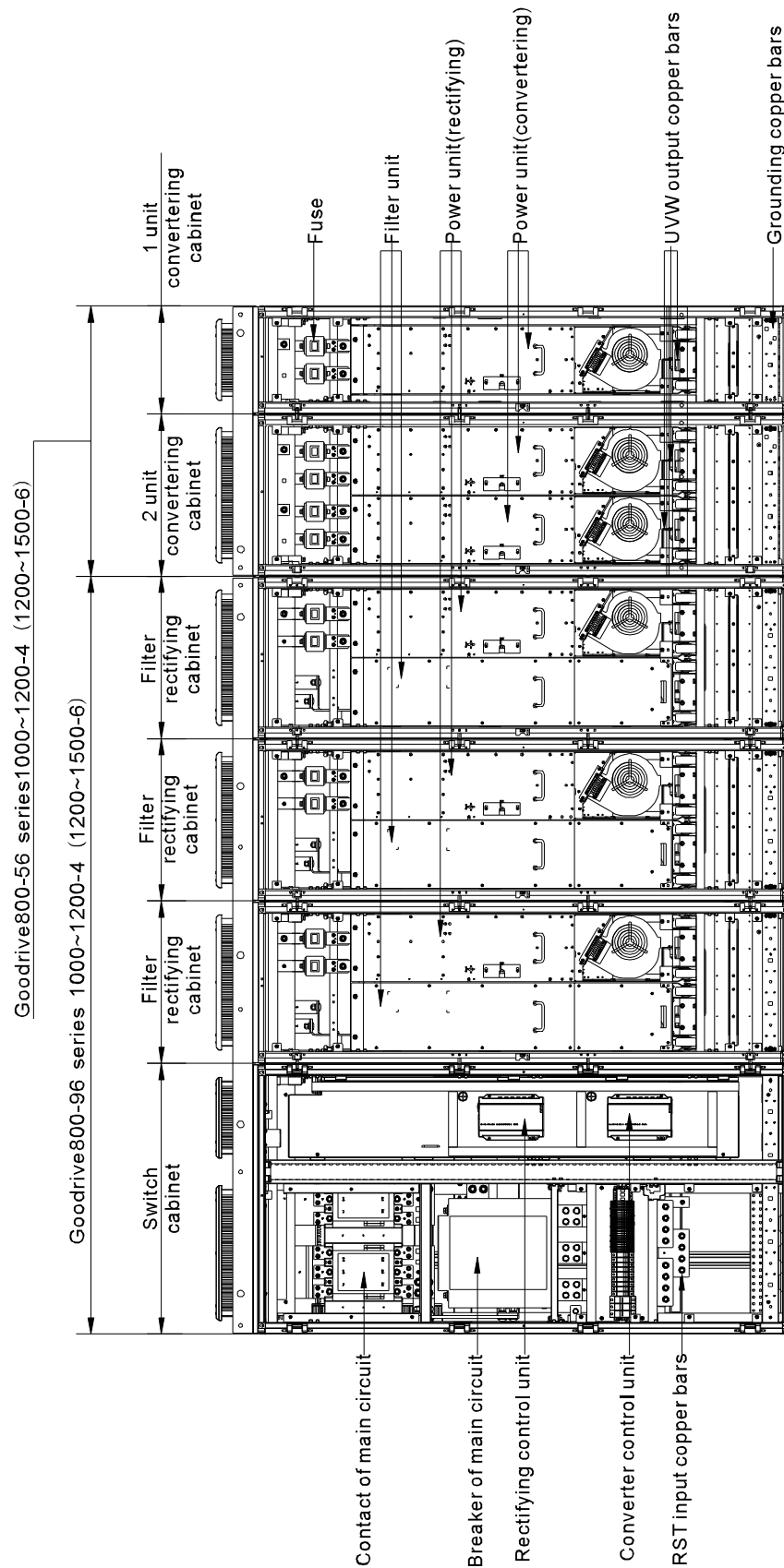
Components layout diagram of Goodrive800-26 series 1000~1200-4, 1000~1200-5 and 1200~1500-6

Components layout diagram of Goodrive800-96 series 1000~1200-4, 1000~1200-5 and 1200~1500-6 is the diagram without convertering cabinet and convertering control unit

Components layout diagram of Goodrive800-56 series 1000~1200-4, 1000~1200-5 and 1200~1500-6 is the diagram without filter rectifier cabinet and switch cabinet

## 6.2 Goodrive800 series control cabinets
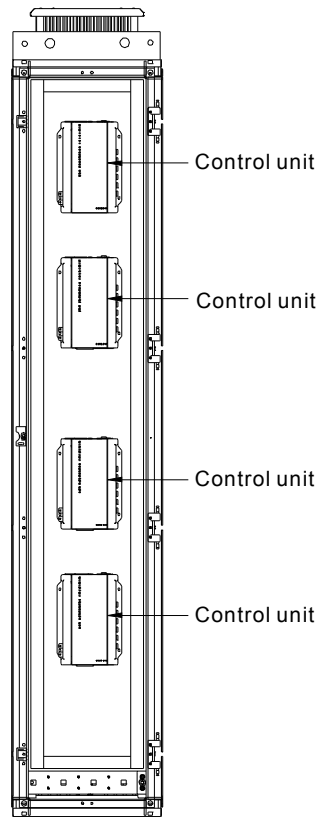


Goodrive800 series control cabinets are optional.

# Chapter 7 Dimensions

## 7.1 Dimension of Goodrive800-26, Goodrive800-96 and Goodrive800-56

### 7.1.1 26S1 dimensions
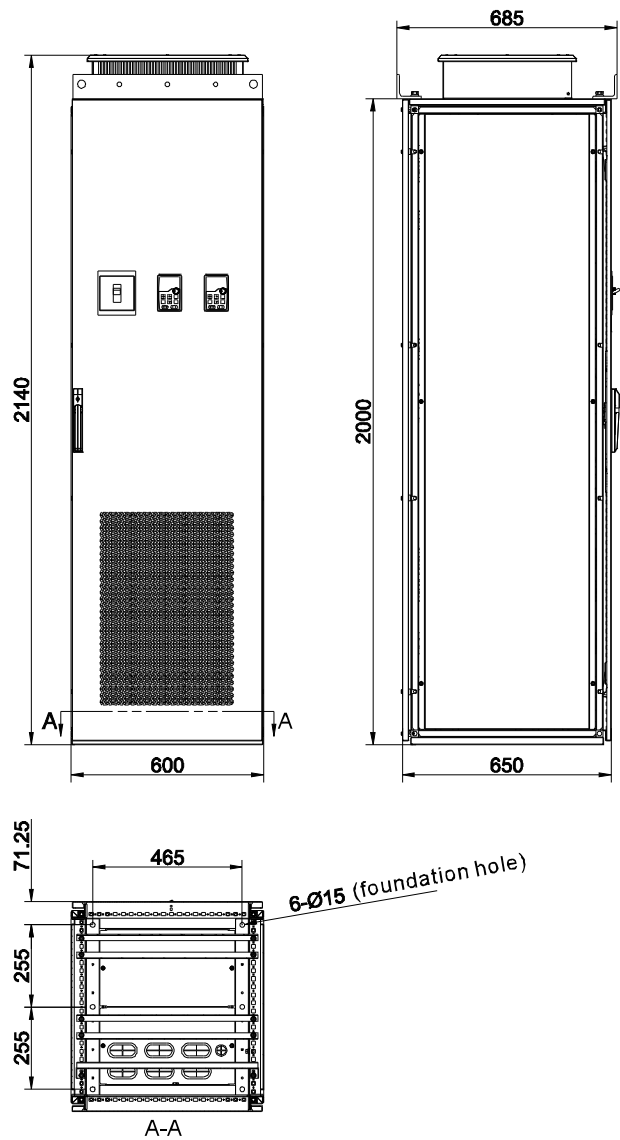
## 7.1.2 26S2 dimensions



A-A
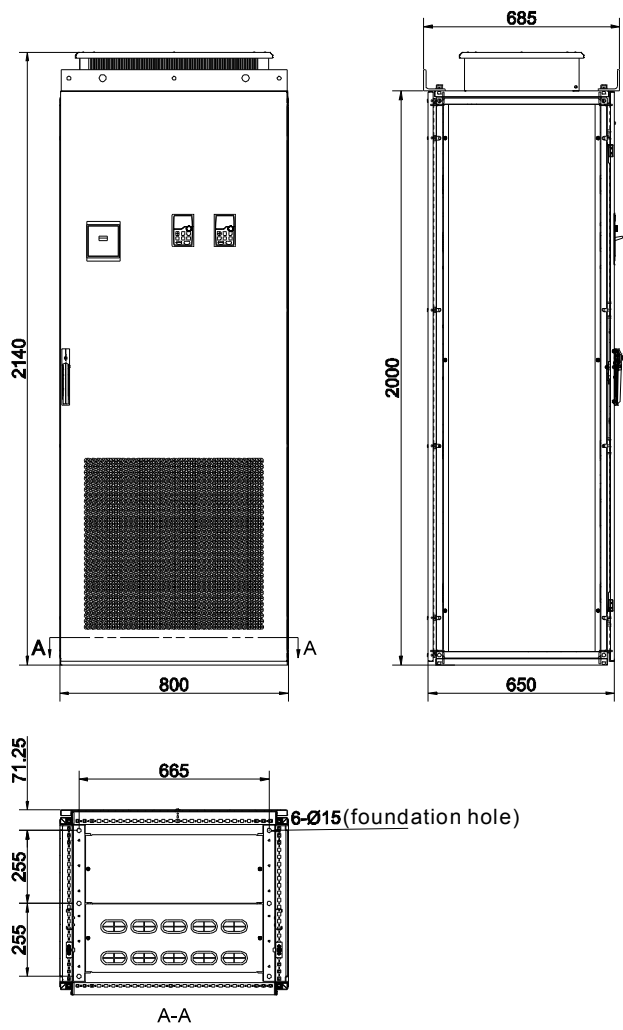
## 7.1.3 26S3 dimensions
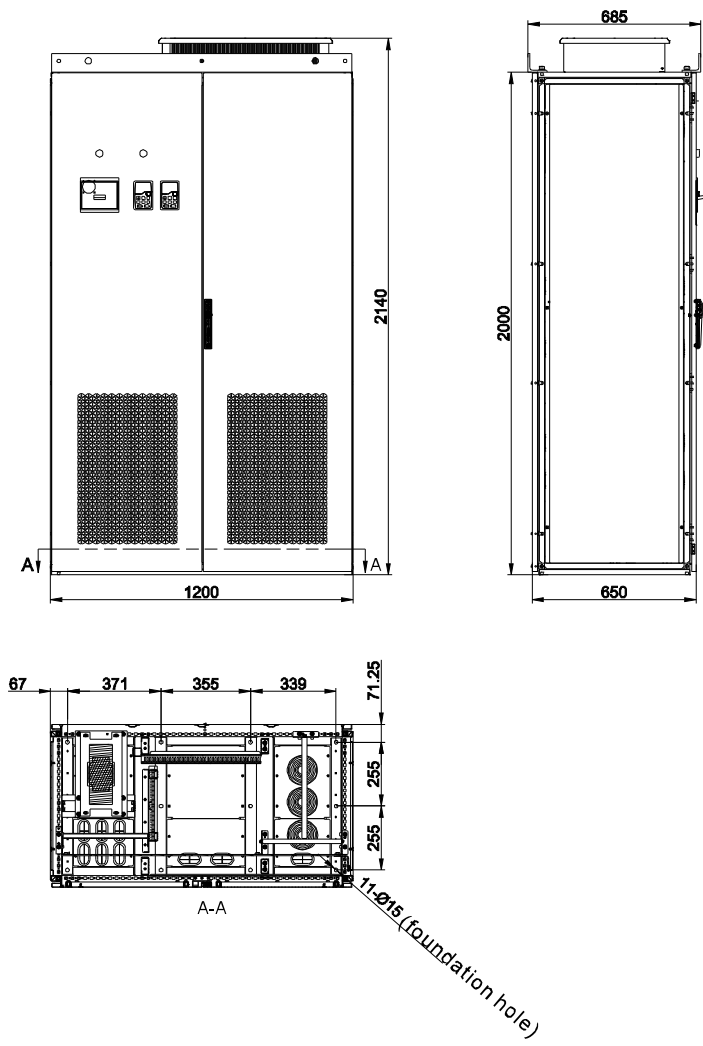
## 7.1.4 26M1, 56S1 and 96M1 dimensions
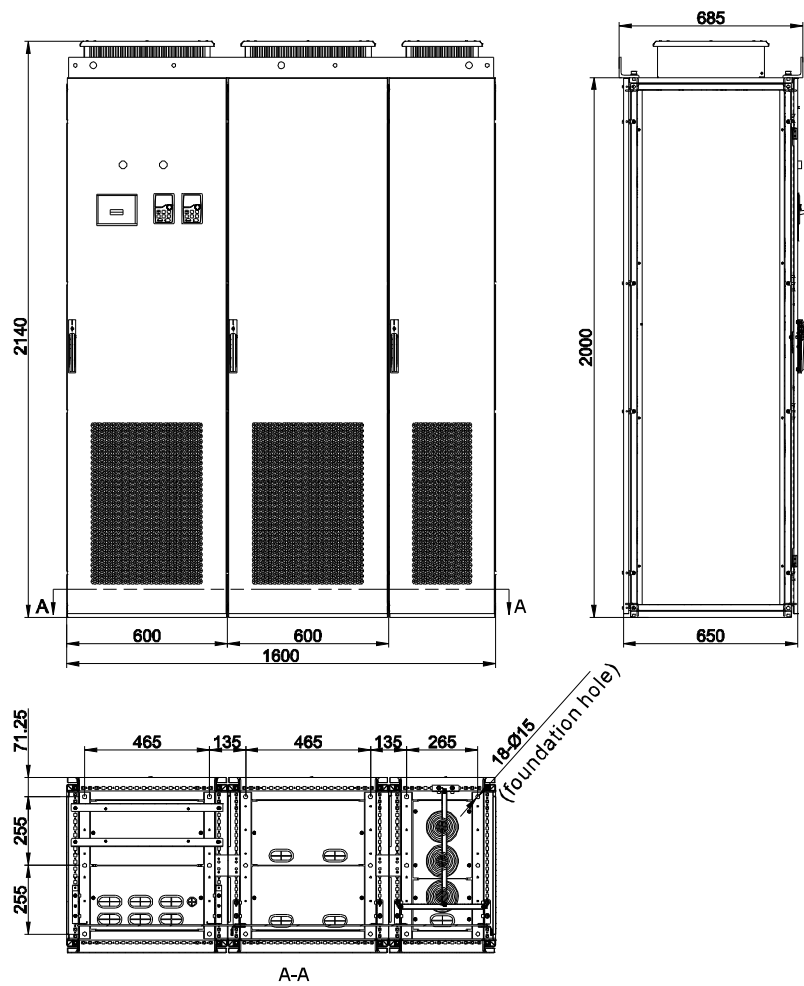


**26M1, 56S1 and 96M1 dimensions**

## 7.1.5 26M2, 56S2 and 96M2 dimensions
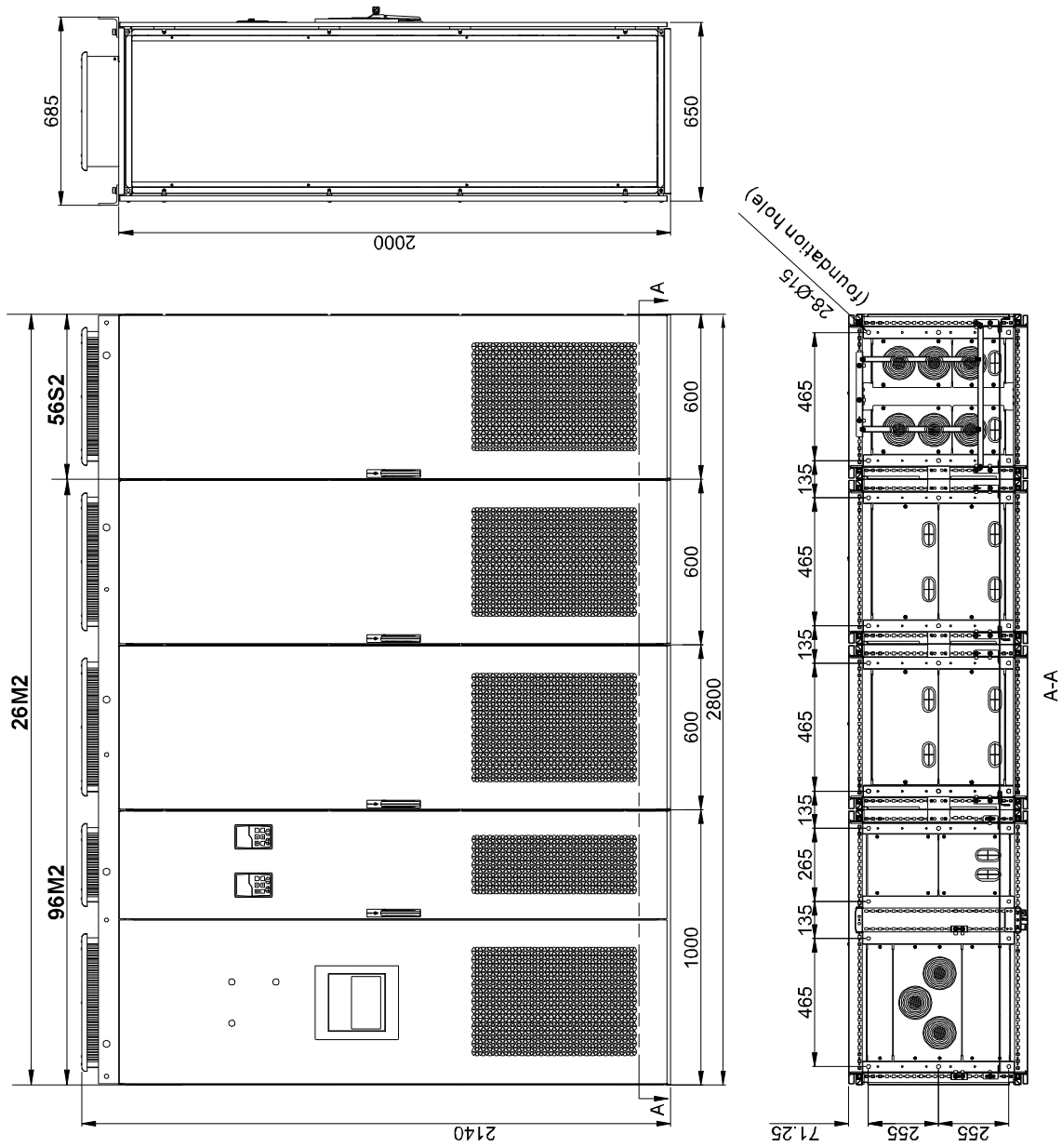


**26M2, 56S2 and 96M2 dimensions**

## 7.1.6 26M3, 56M1 and 96M3 dimensions
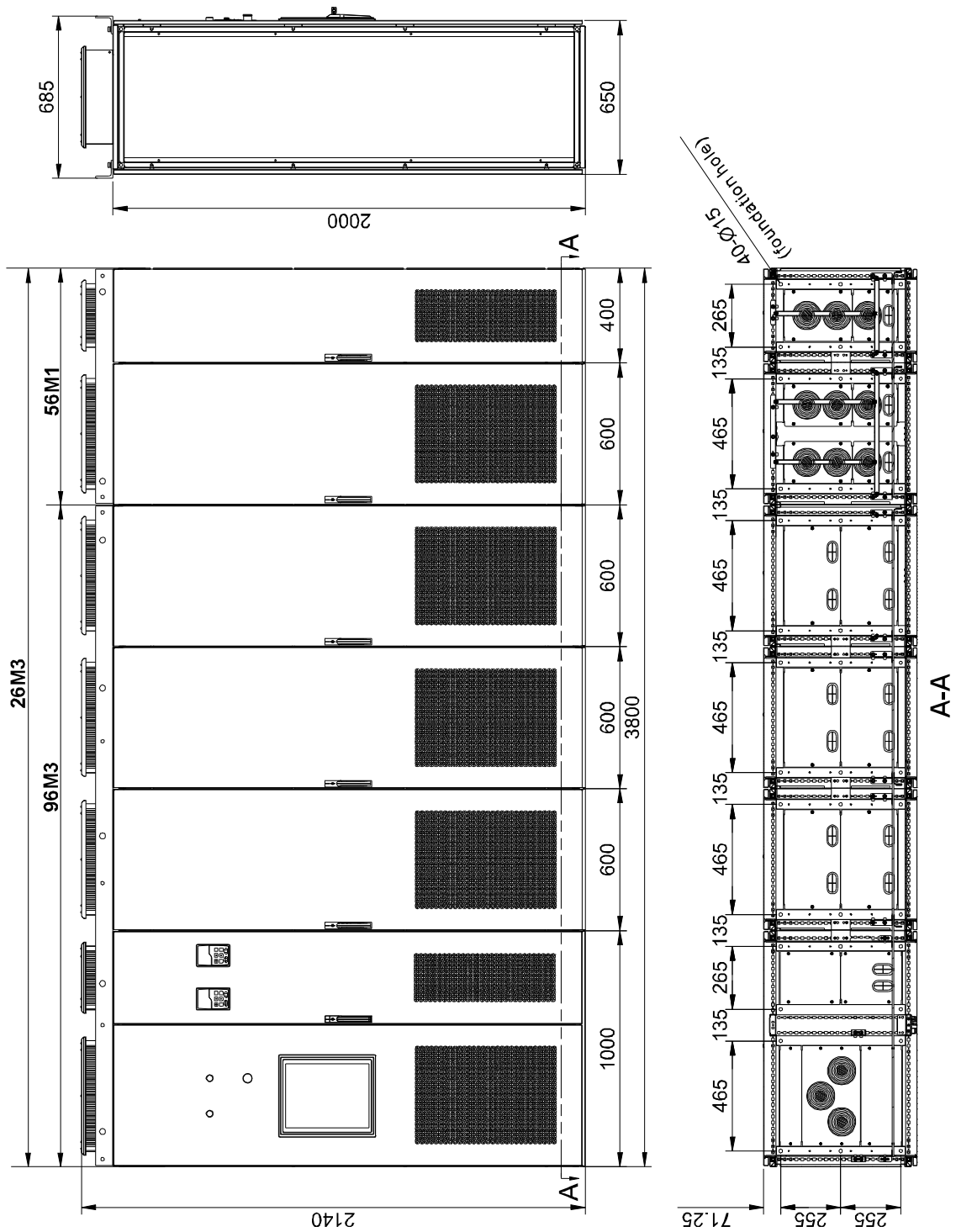


**26M3, 56M1 and 96M3 dimensions**

## 7.2 Goodrive800-11 series

### 7.2.1 Dimension of Goodrive800-11 series 11A1~11A6 for wall installation
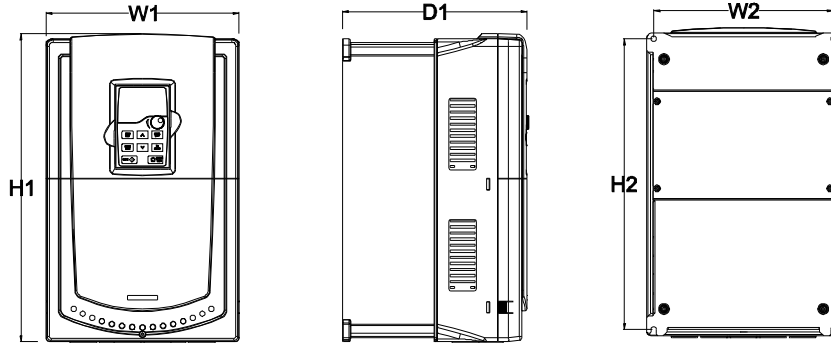


Dimension of wall installation for 11A1~11A4
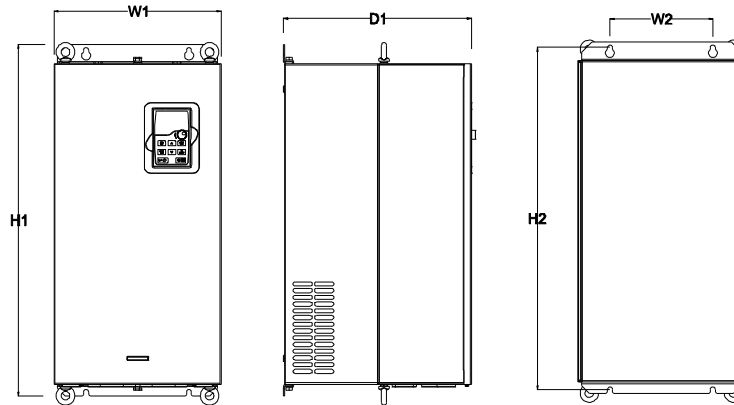


Dimension of wall installation for 11A5~11A6

Wall installation of 11A1~11A6

| Structure | W1 | W2 | H1 | H2 | D1 | Installation hole |
|---|---|---|---|---|---|---|
| 11A1 | 146 | 131 | 263 | 243.5 | 181 | 6 |
| 11A2 | 170 | 151 | 331.5 | 303.5 | 216 | 6 |
| 11A3 | 230 | 210 | 342 | 311 | 216 | 6 |
| 11A4 | 255 | 237 | 407 | 384 | 245 | 7 |
| 11A5 | 270 | 130 | 555 | 540 | 325 | 7 |
| 11A6 | 325 | 200 | 680 | 661 | 365 | 9.5 |

## 7.2.2 Dimension of Goodrive800-11 series 11A1~11A6 for flange installation
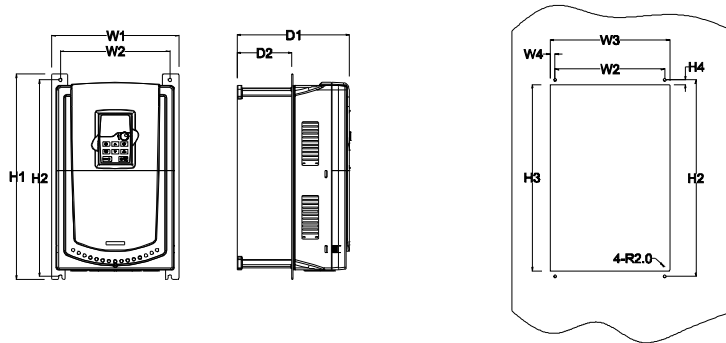


Flange installation of 11A1~11A4
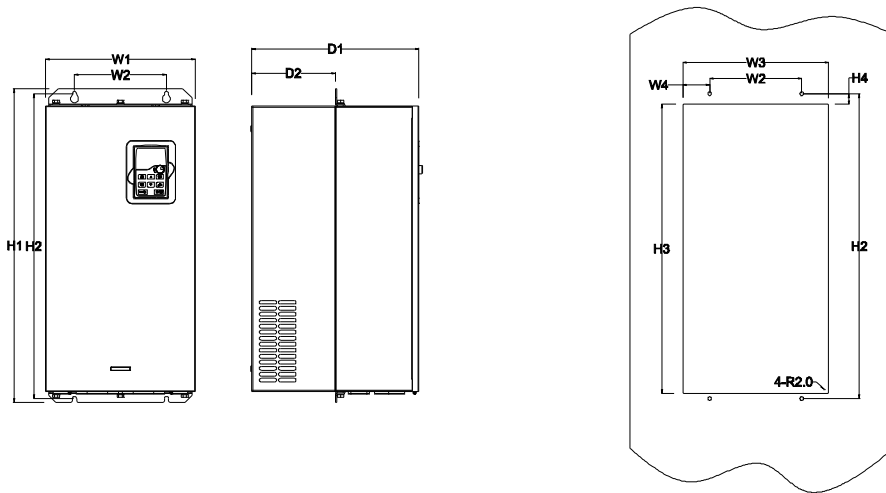


Flange installation of 11A5~11A6
Flange installation of 11A1~11A6

| Structure | W1 | W2 | W3 | W4 | H1 | H2 | H3 | H4 | D1 | D2 | Installation hole |
|-----------|-----|-----|-----|------|-----|-----|-----|----|-------|------|-------------------|
| 11A1 | 170 | 131 | 150 | 9.5 | 292 | 276 | 260 | 10 | 181 | 79.5 | 6 |
| 11A2 | 191 | 151 | 174 | 11.5 | 370 | 351 | 324 | 15 | 216.2 | 113 | 6 |
| 11A3 | 250 | 210 | 234 | 12 | 375 | 356 | 334 | 10 | 216 | 108 | 6 |
| 11A4 | 275 | 237 | 259 | 11 | 445 | 426 | 404 | 10 | 245 | 119 | 7 |
| 11A5 | 270 | 130 | 261 | 65.5 | 555 | 540 | 516 | 17 | 325 | 167 | 7 |
| 11A6 | 325 | 200 | 317 | 58.5 | 680 | 661 | 626 | 23 | 363 | 182 | 9.5 |

## 7.2.3 Dimension of Goodrive800-11 series 11A7
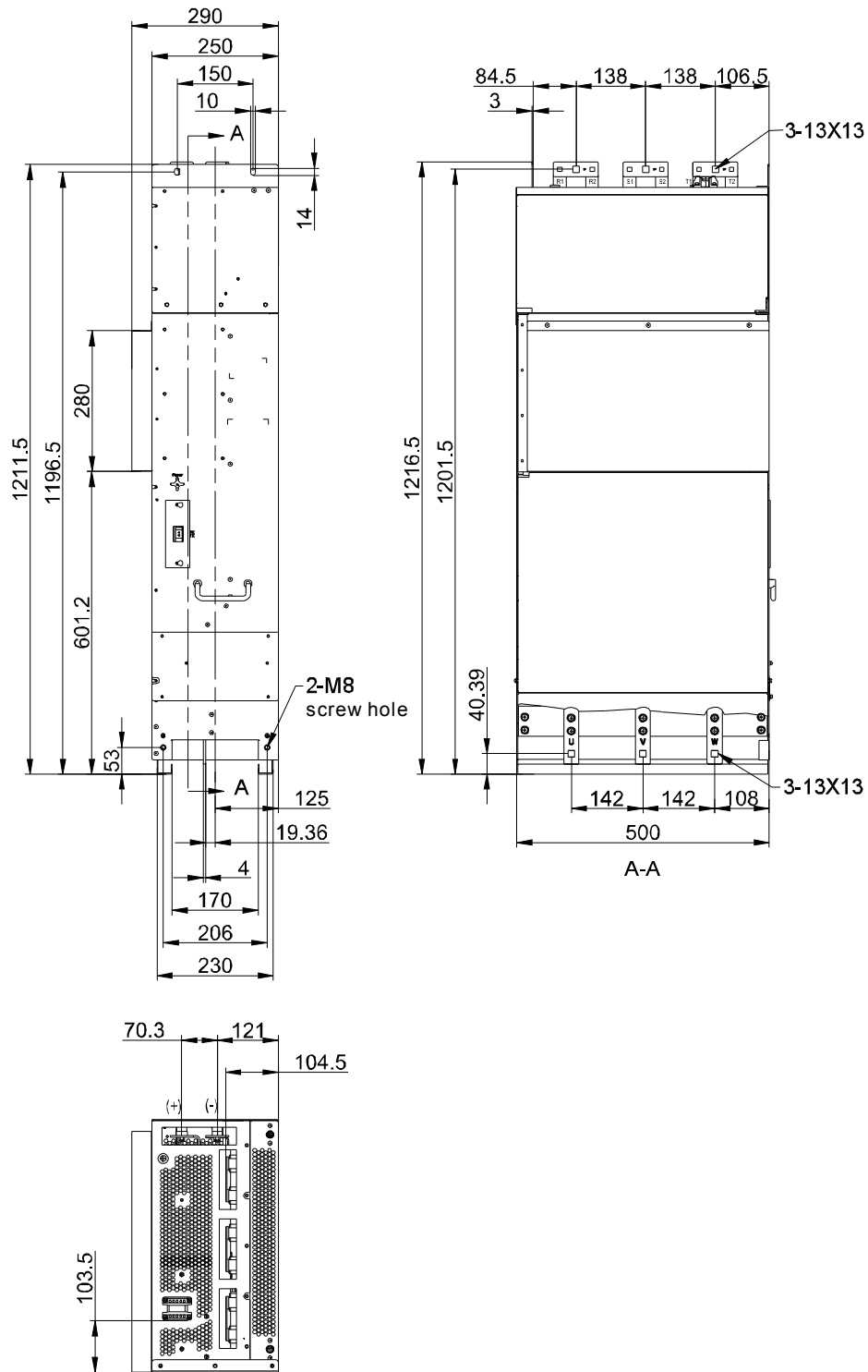
## 7.2.4 Dimension of Goodrive800-11 series 11A8



A-A
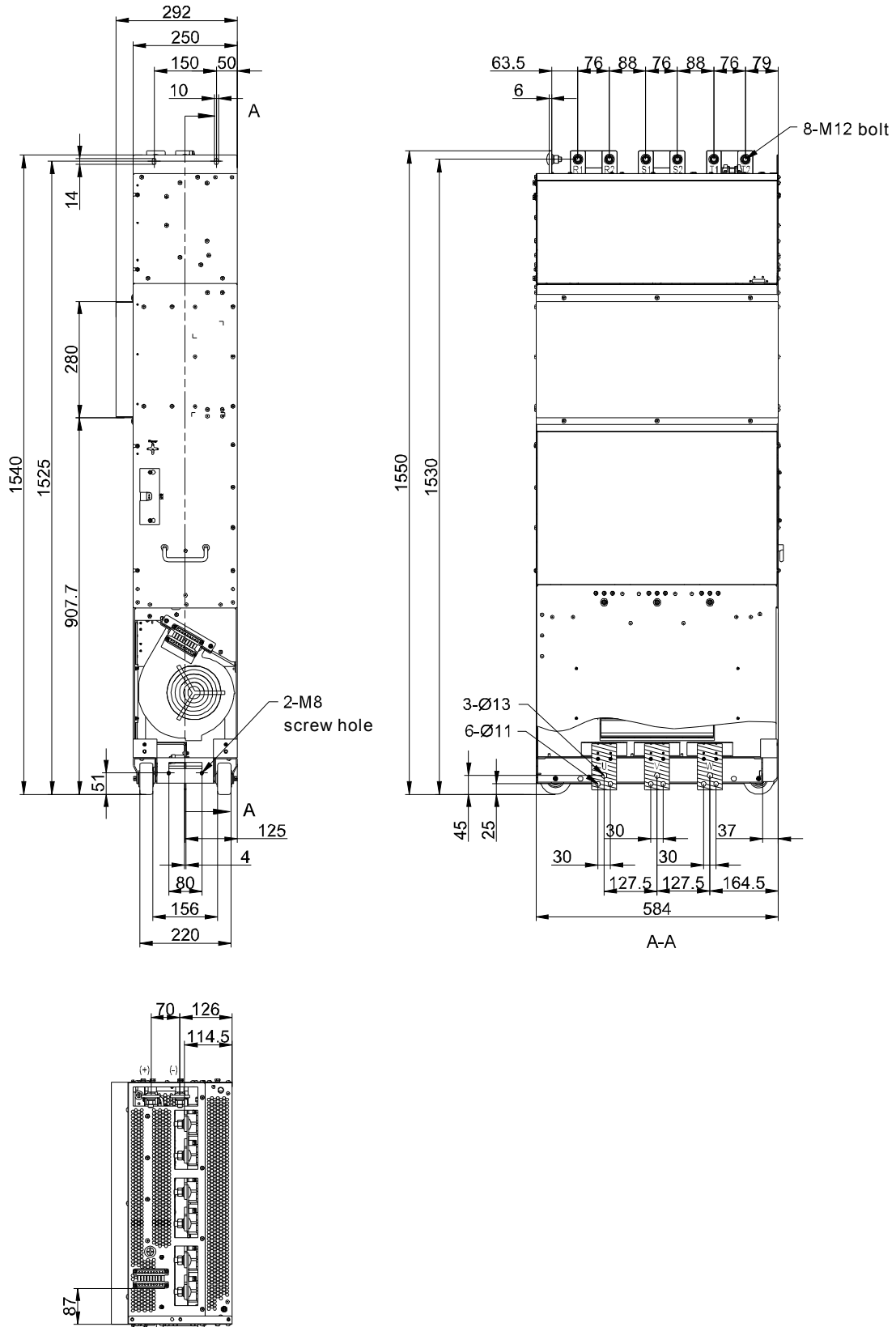
## 7.2.5 Dimension of Goodrive800-11 series 11B7~11B8
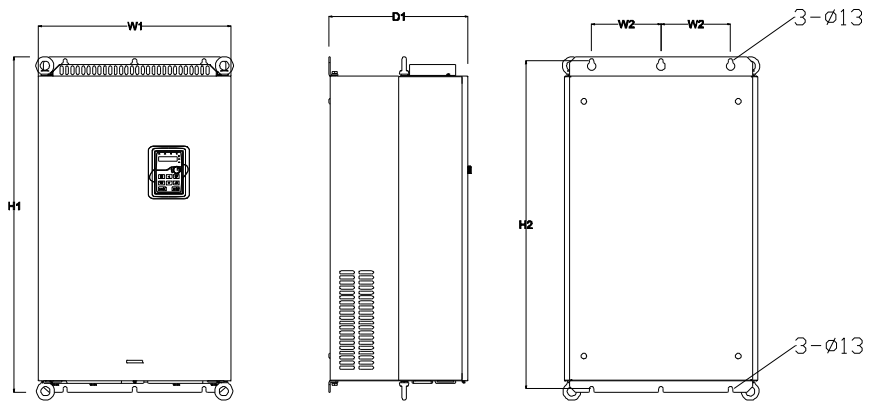


Wall installation of 11B7
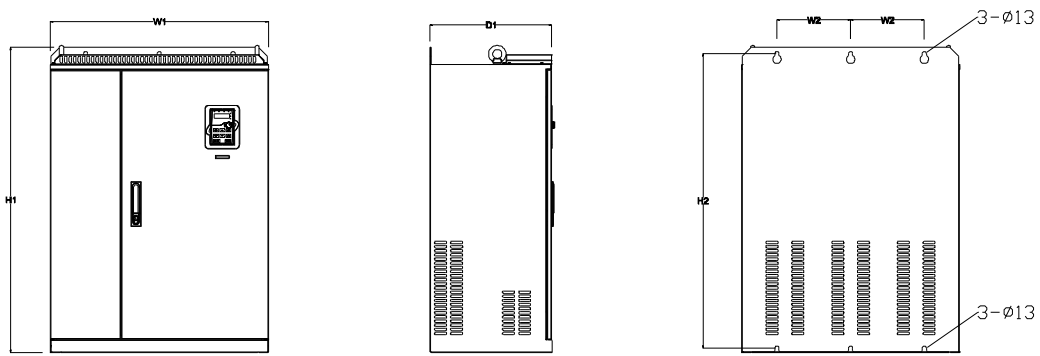


Wall installation of 11B8

Wall installation of 11B7~11B8 (unit: mm)

| Structure | W1 | W2 | H1 | H2 | D1 | Installation hole |
|-----------|-----|-----|-----|-----|-----|-------------------|
| 11B7 | 500 | 180 | 870 | 850 | 360 | 11 |
| 11B8 | 680 | 230 | 960 | 926 | 380 | 13 |

## 7.2.6 Dimension of Goodrive800-11 series 11B7
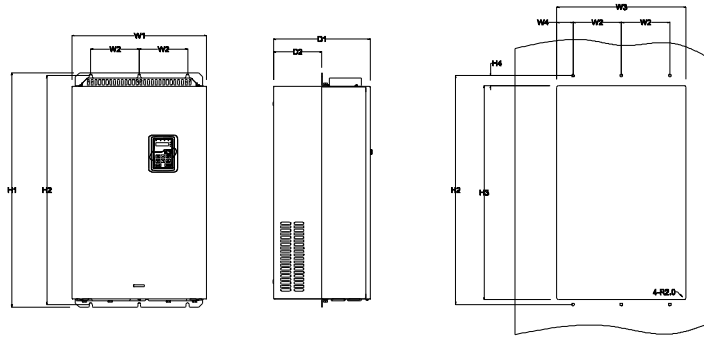


Flange installation of 11B7
Flange installation of 11B7 (unit: mm)

| Structure | W1 | W2 | W3 | W4 | H1 | H2 | H3 | H4 | D1 | D2 | Installation hole |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11B7 | 500 | 180 | 480 | 60 | 870 | 850 | 796 | 37 | 358 | 178.5 | 11 |

## 7.2.7 Dimension of Goodrive800-11 series 11B8~11B9
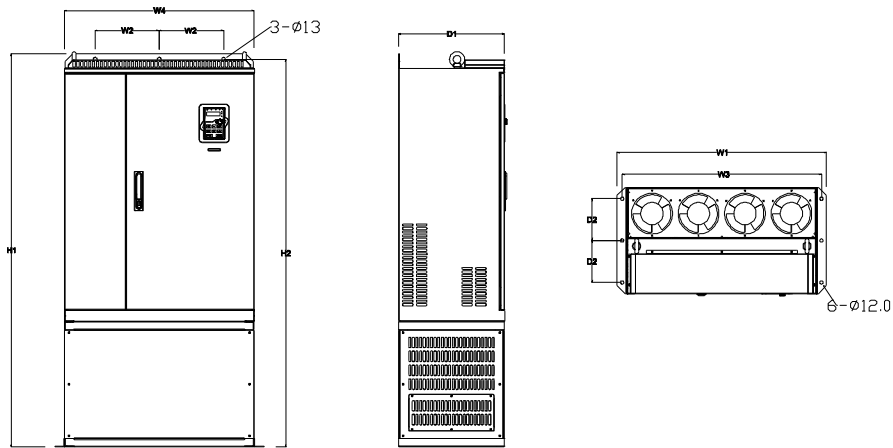


Floor installation of 11B8
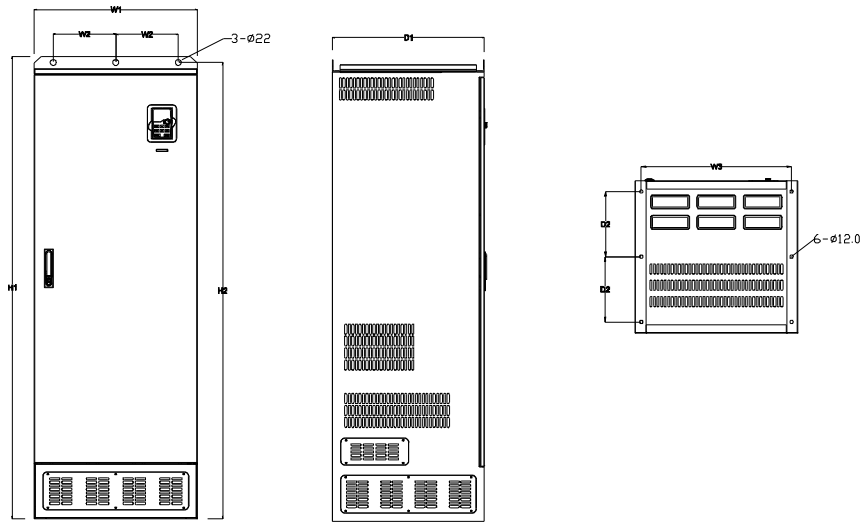


Floor installation of 11B9
Floor installation of 11B8~11B9

| Structure | W1 | W2 | W3 | W4 | H1 | H2 | D1 | D2 | Installation hole |
|---|---|---|---|---|---|---|---|---|---|
| 11B8 | 750 | 230 | 714 | 680 | 1410 | 1390 | 380 | 150 | 13\12 |
| 11B9 | 620 | 230 | 573 | \ | 1700 | 1678 | 560 | 240 | 22\12 |

## 7.3 Goodrive800-51 series

### 7.3.1 Dimensions of Goodrive800-51 series 51A5
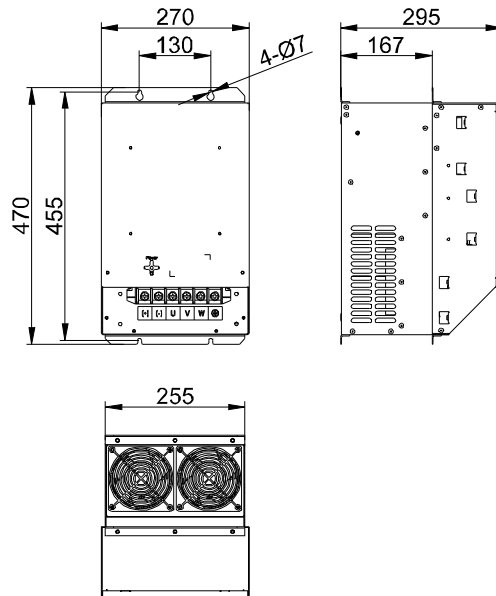


### 7.3.2 Dimensions of Goodrive800-51 series 51A6
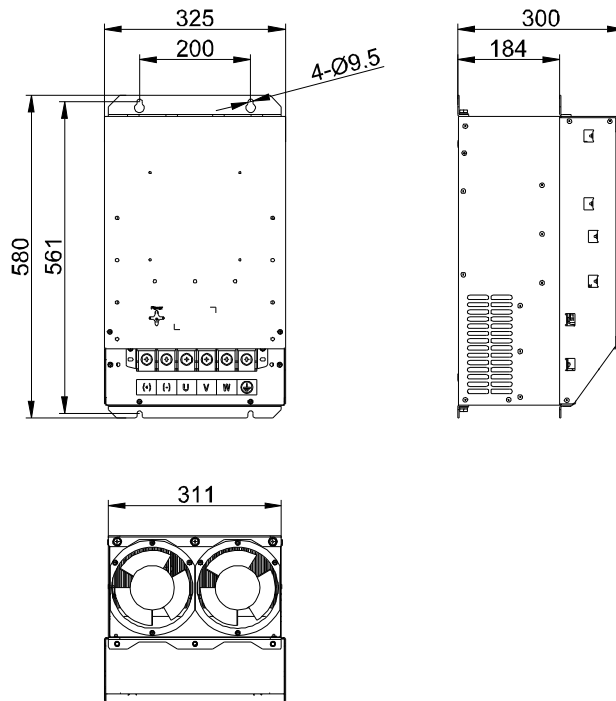
## 7.3.3 Dimensions of Goodrive800-51 series 51A7



A-A
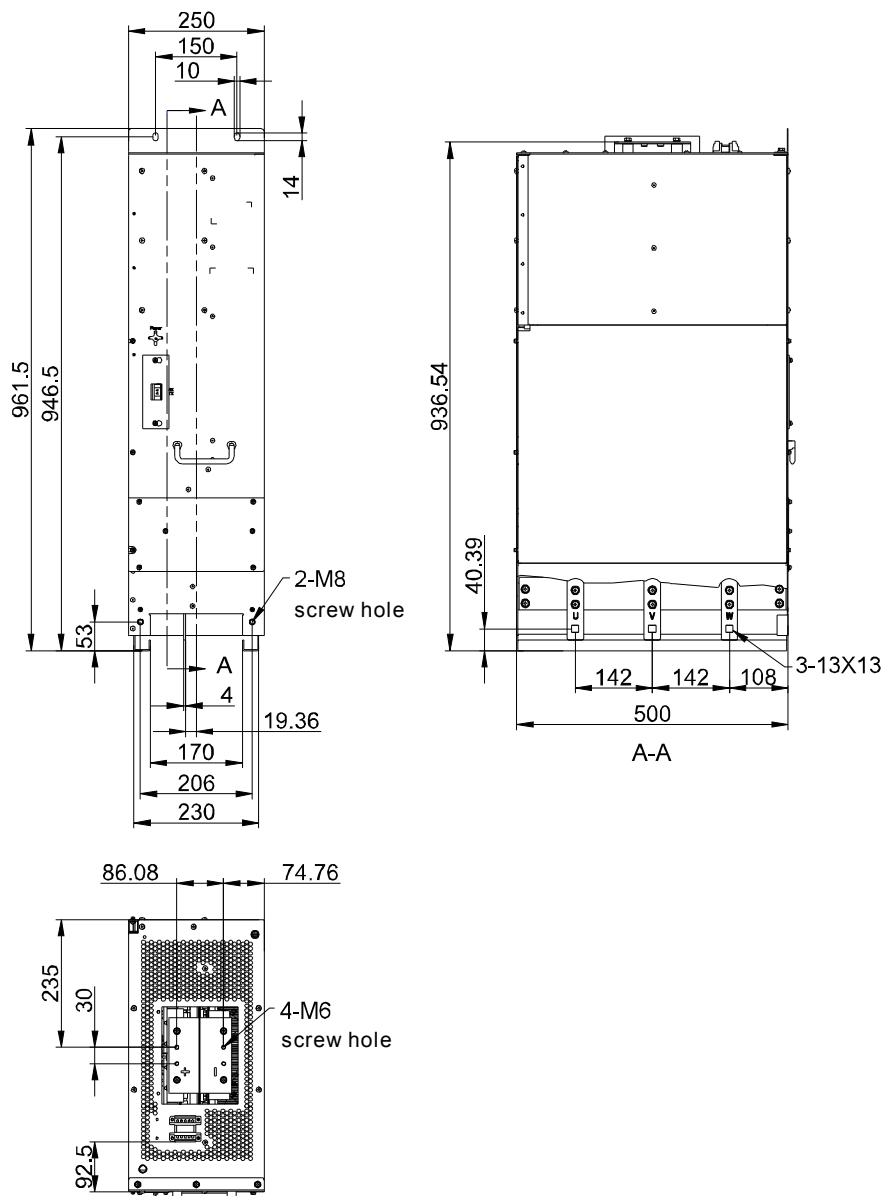
## 7.3.4 Dimensions of Goodrive800-51 series 51A8
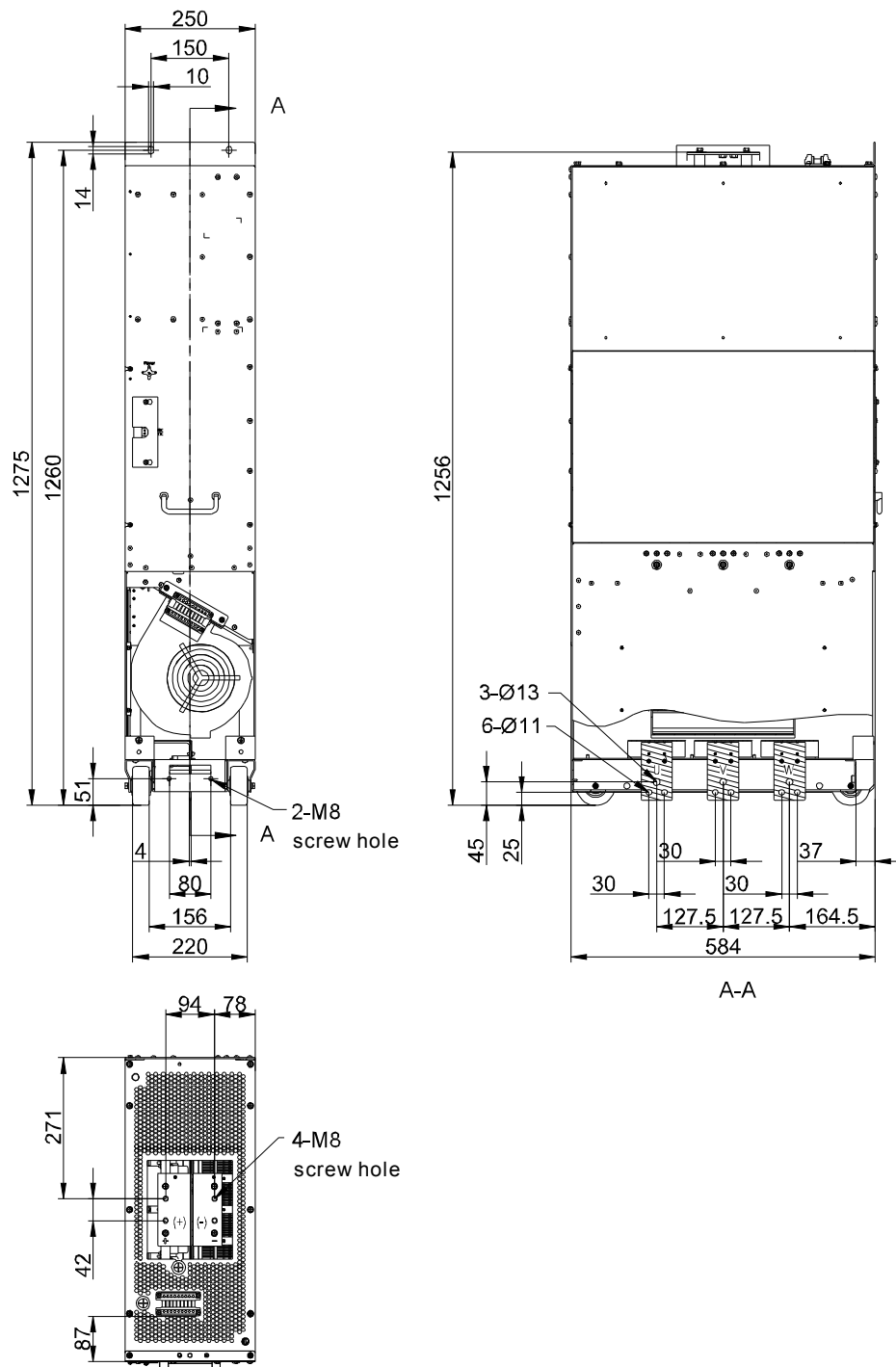
## 7.3.5 Dimensions of Goodrive800-51 series 51B7
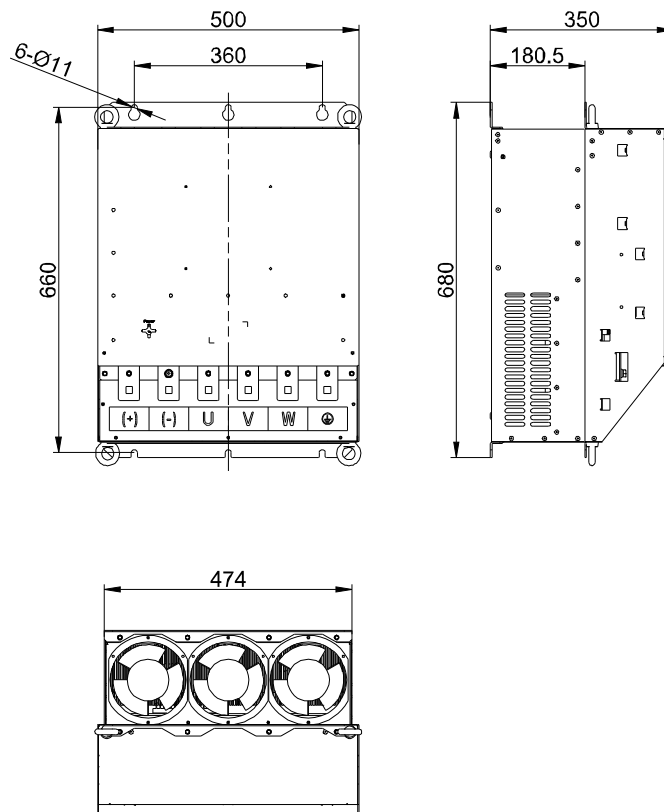
## 7.4 Goodrive800-61 series

### 7.4.1 Dimensions of Goodrive800-61 series 61A7
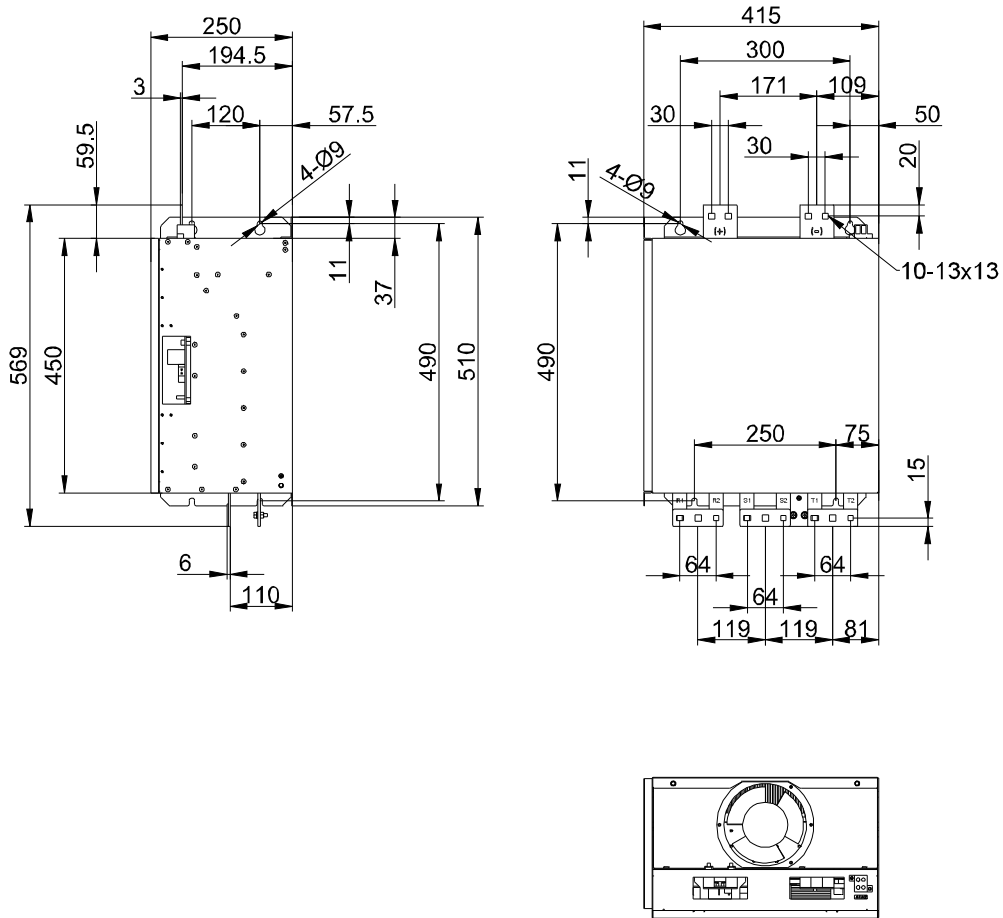


### 7.4.2 Dimensions of Goodrive800-61 series 61A8
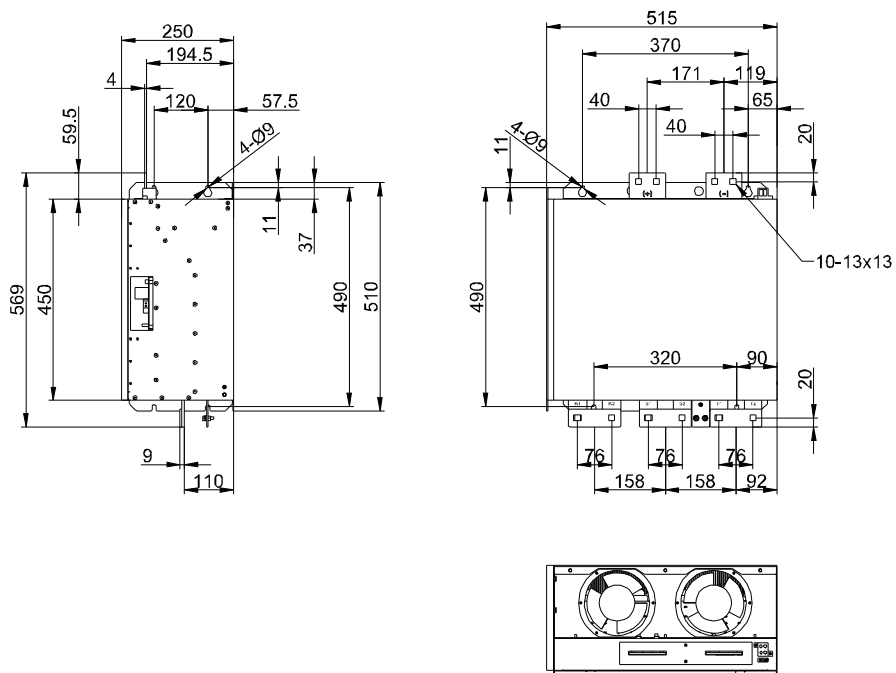
## 7.5 Goodrive800-01 series

### 7.5.1 Dimensions of Goodrive800-01 series 01A8
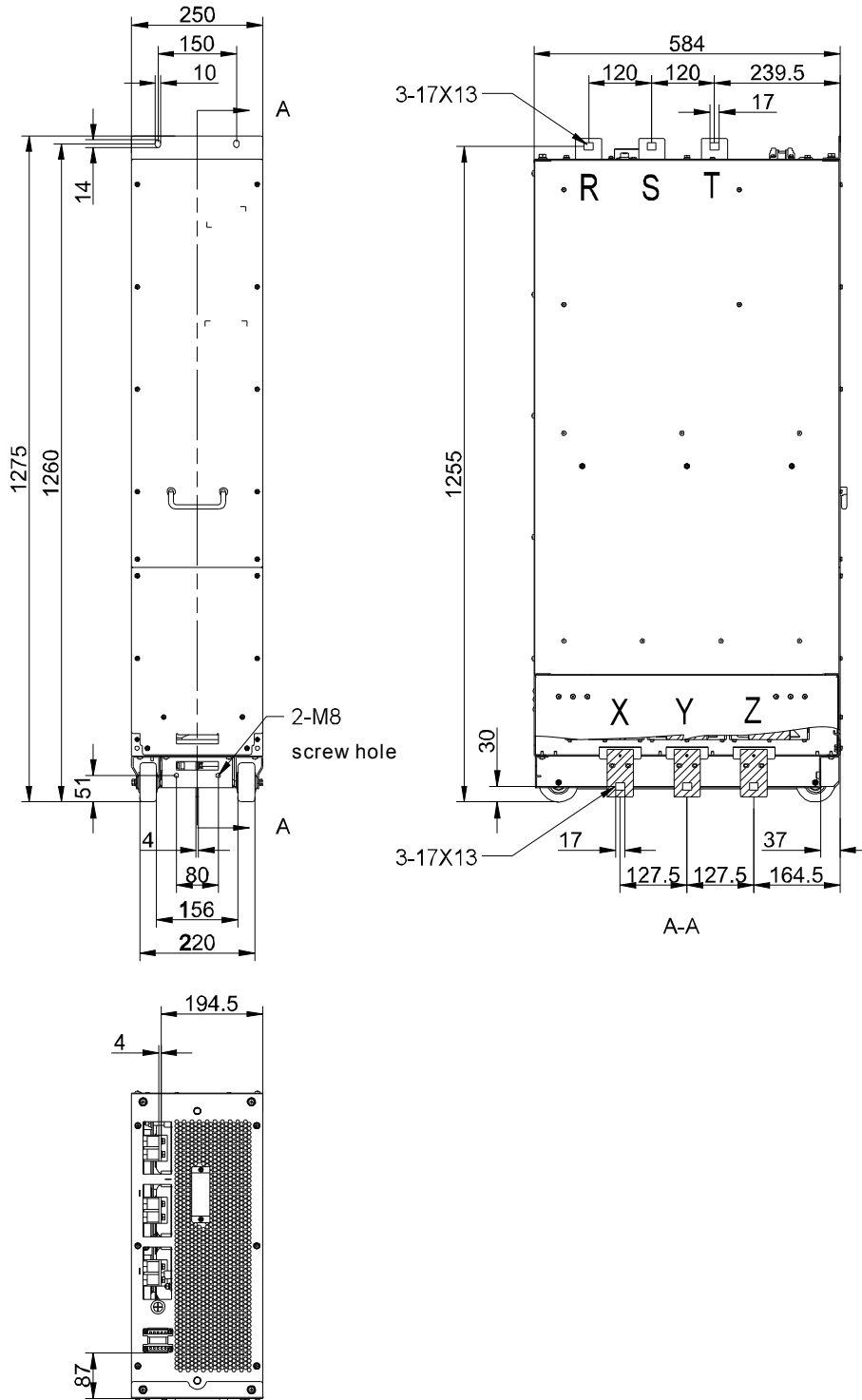
## 7.6 Goodrive800-02 series

### 7.6.1 Dimensions of Goodrive800-02 series 02A8
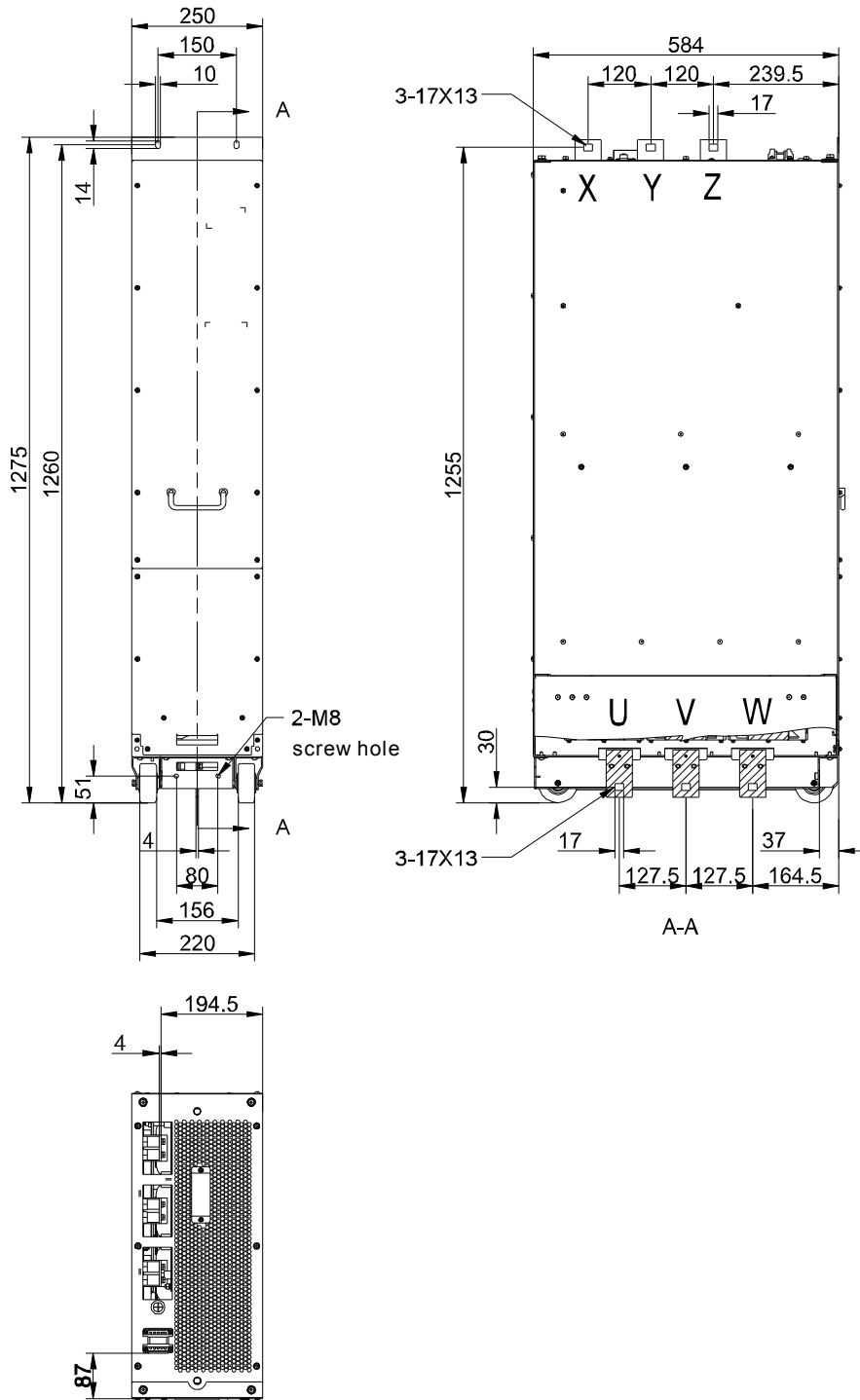
## 7.7 Goodrive800-03 series

### 7.7.1 Dimensions of Goodrive800-03 series 03A8

## 7.8 Goodrive800 series control cabinet

685

2140

2000

400

650

71.25

265

6-Ø15(foundation hole)

255

255

A-A
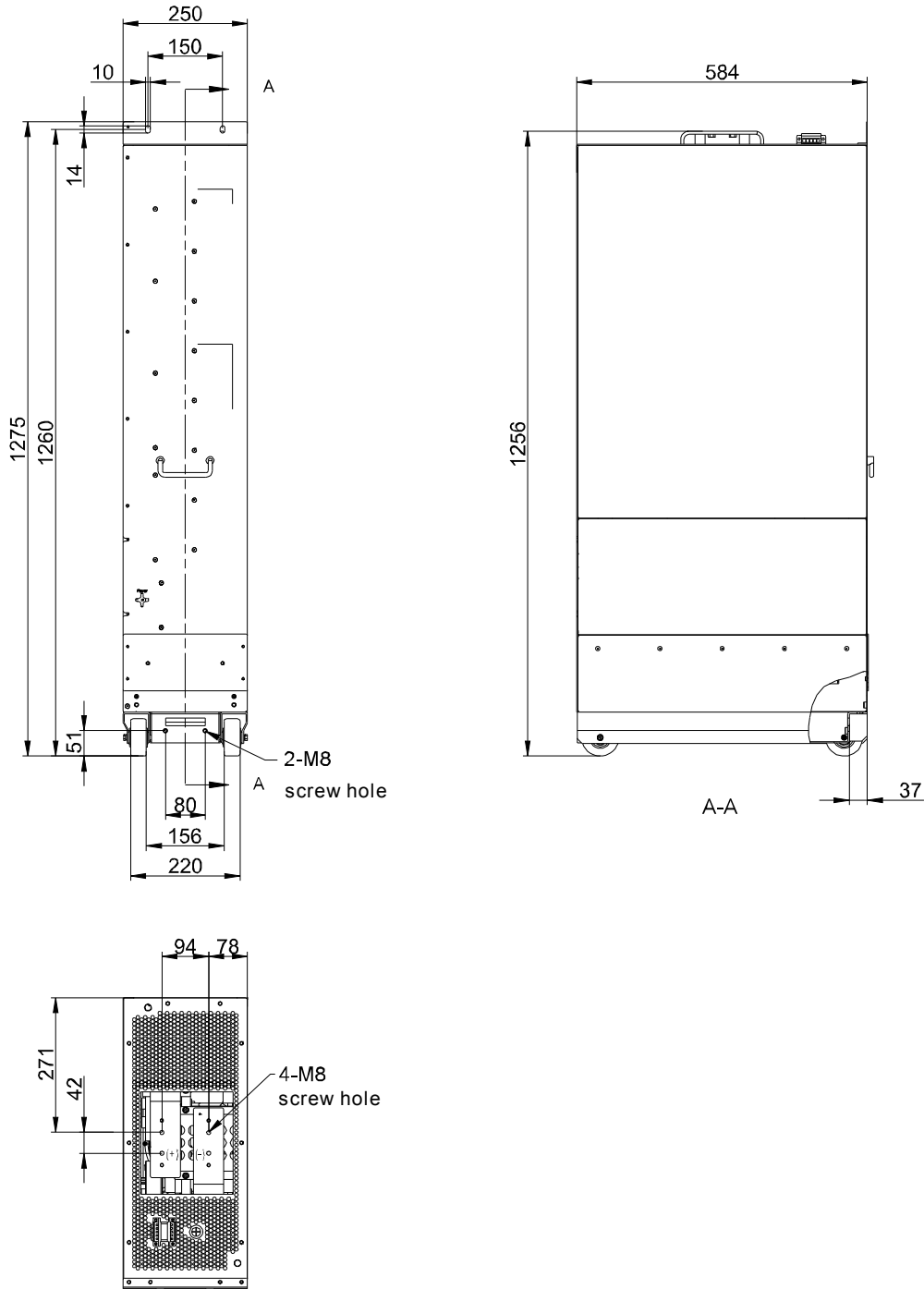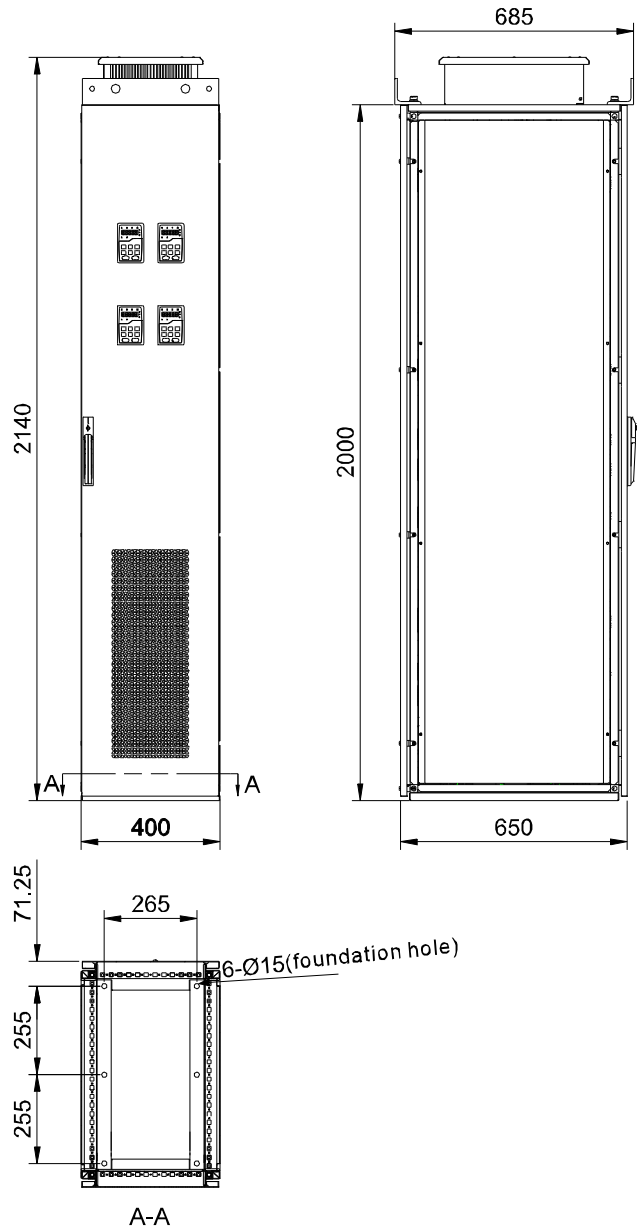
## 7.9 Goodrive800 series engineering IP20 standard cabinet

### 7.9.1 400mm standard cabinet
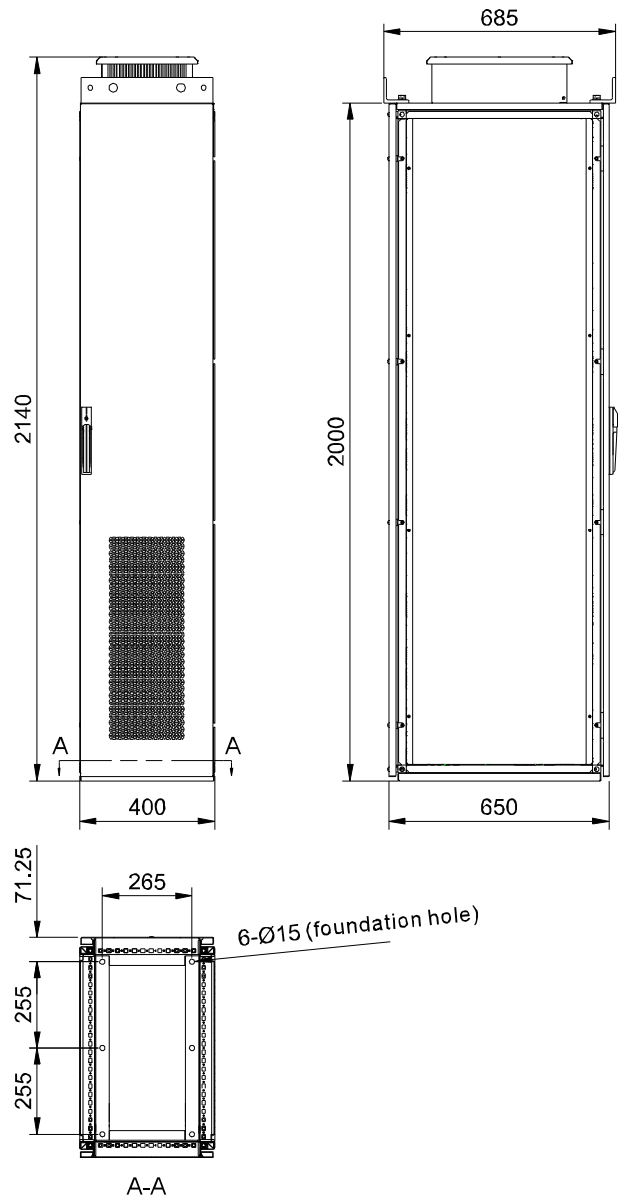
## 7.9.2 600mm standard cabinet
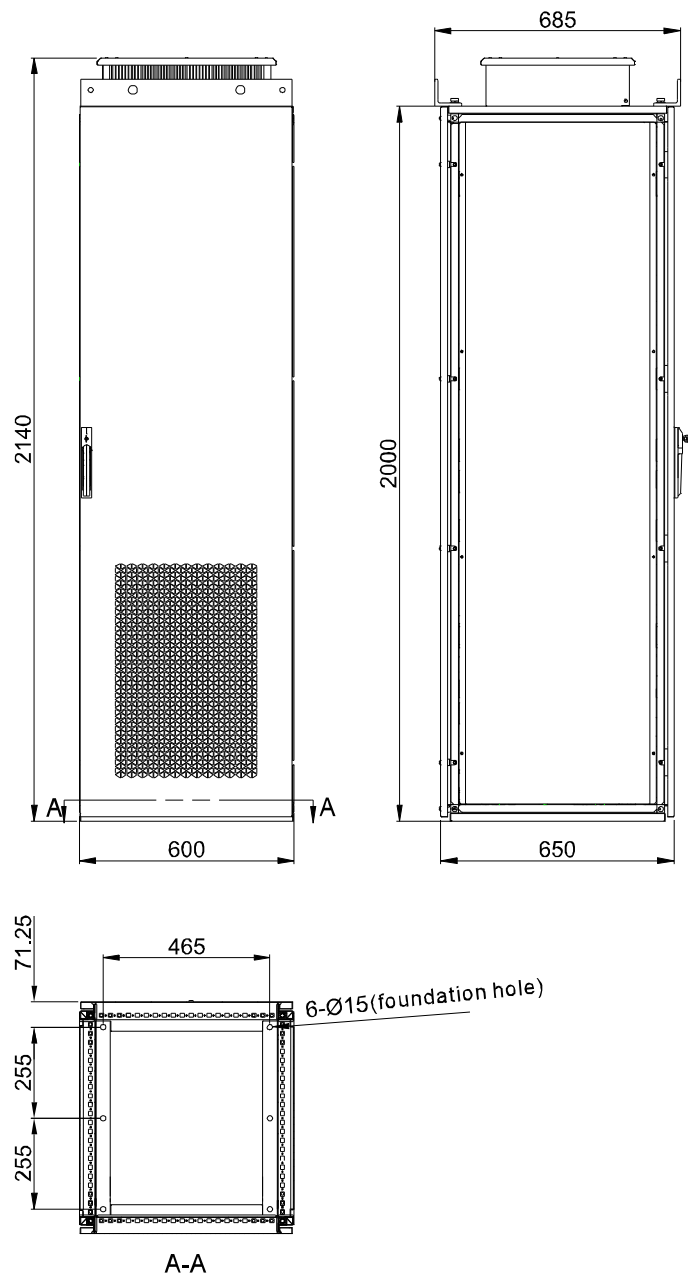
## 7.9.3 800mm standard cabinet



A-A

## 7.9.4 1000mm standard cabinet

685

2140

2000

1000

650

71.25

865

255

255

8-Ø15 (foundation hole)

A-A
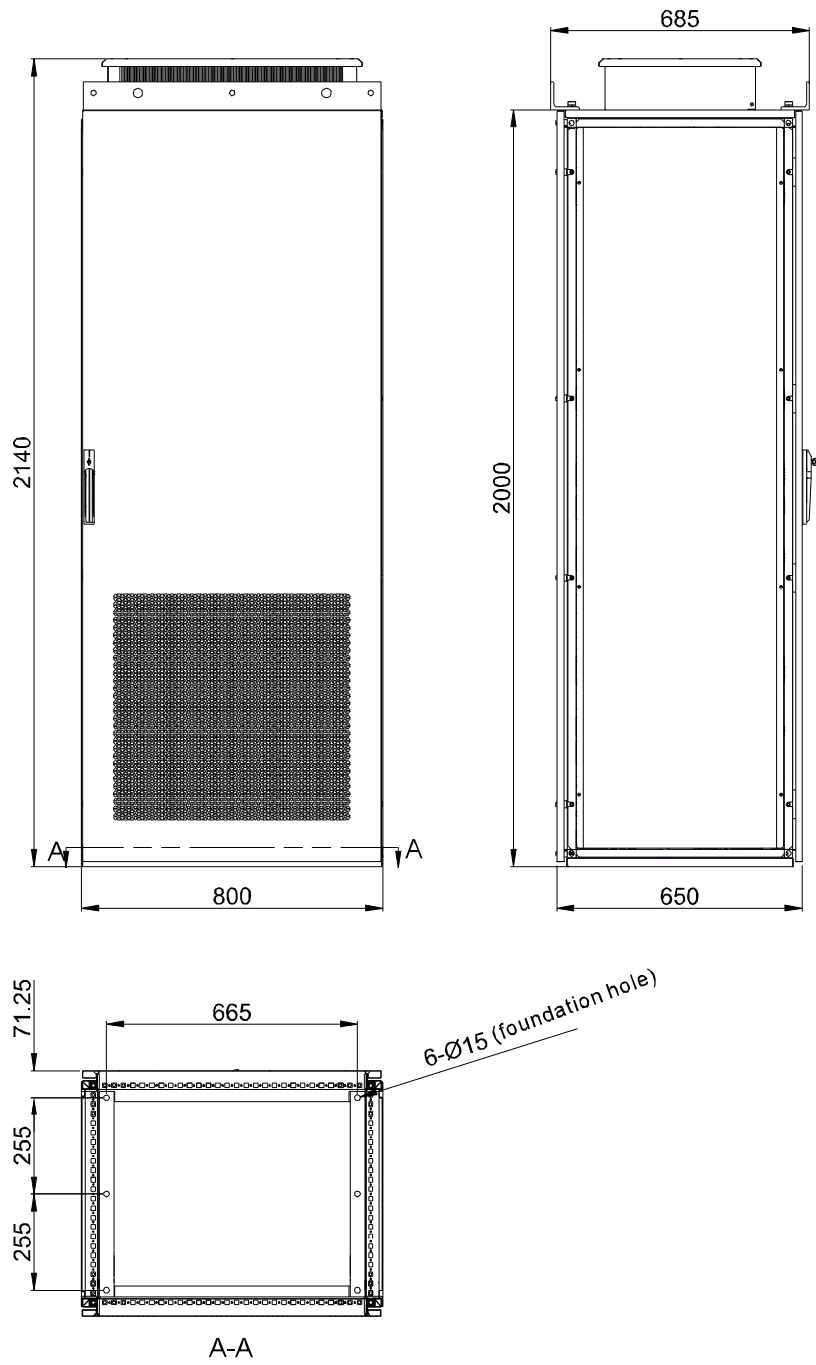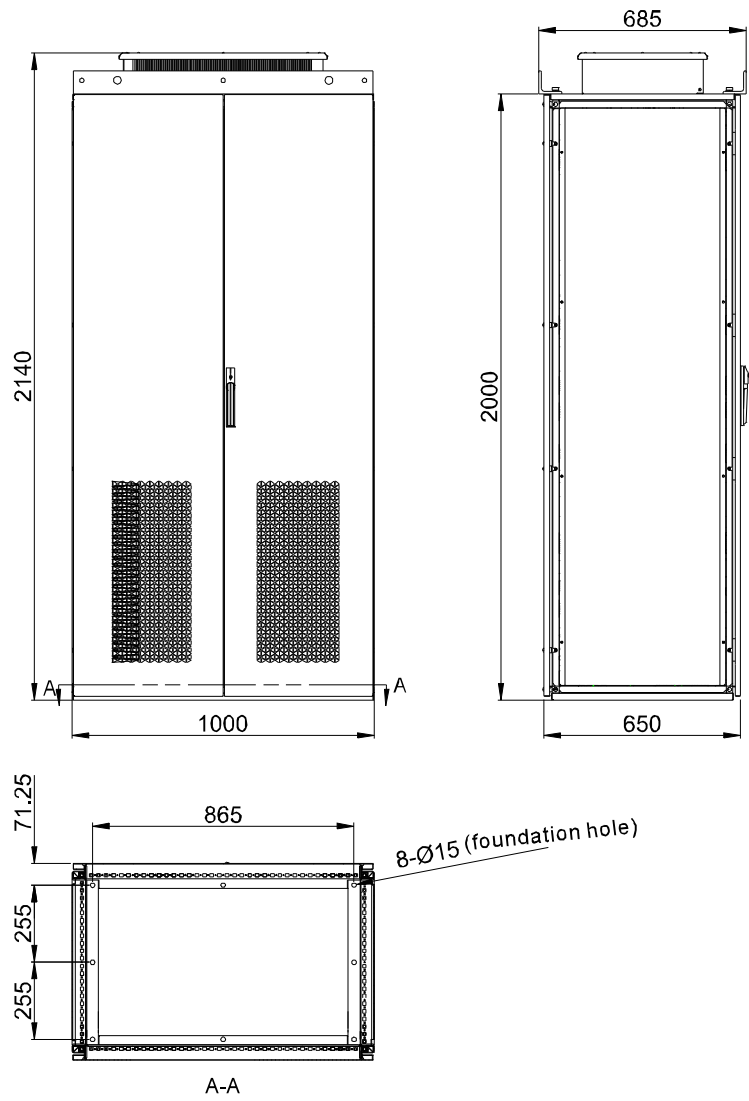
## 7.9.5 1200mm standard cabinet
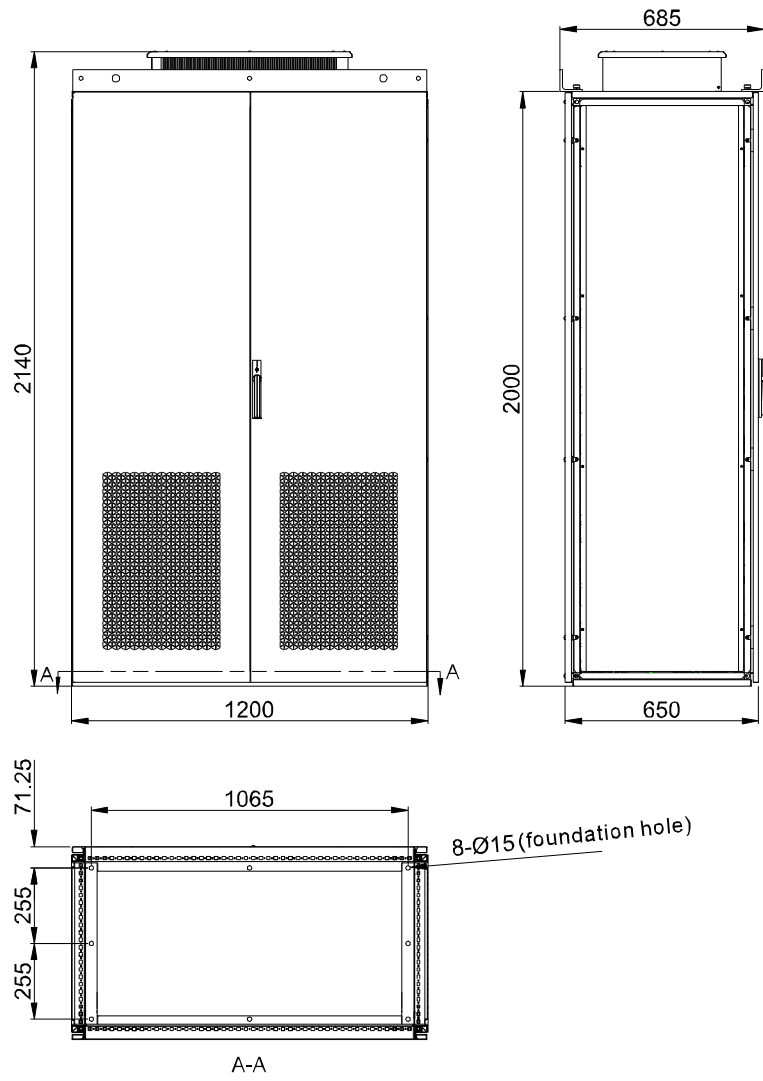
## 7.10 Goodrive800 series control unit
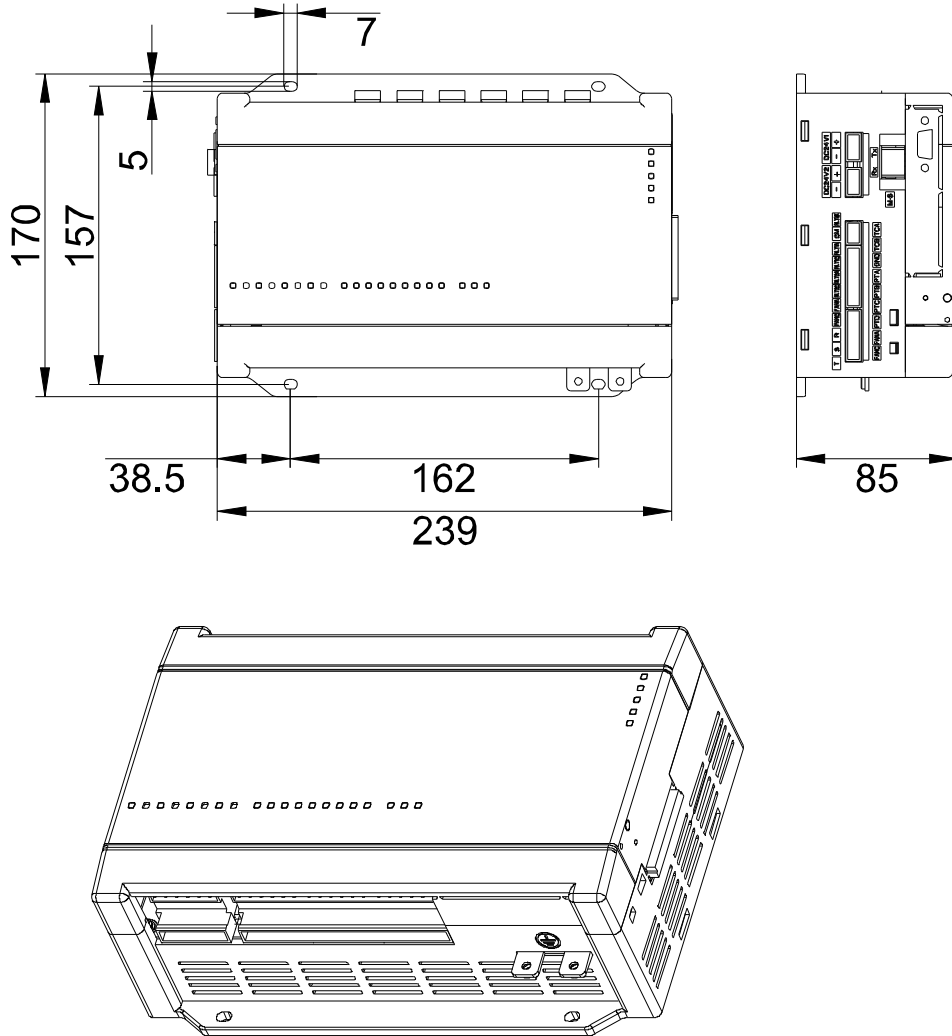
## 7.11 Goodrive800 series keypad



Hole size



2-M3X10
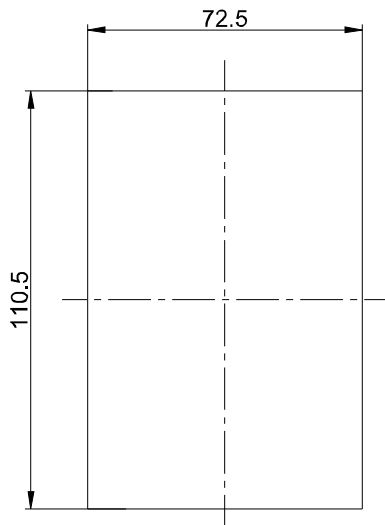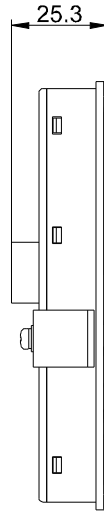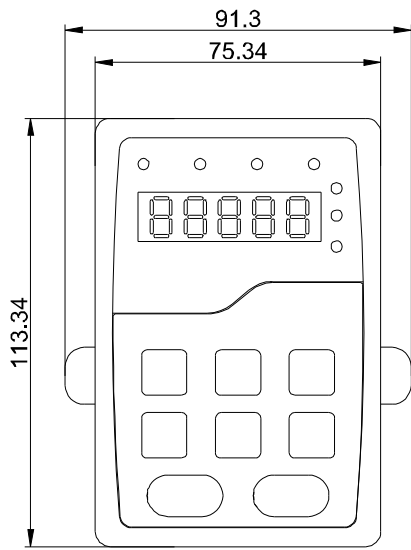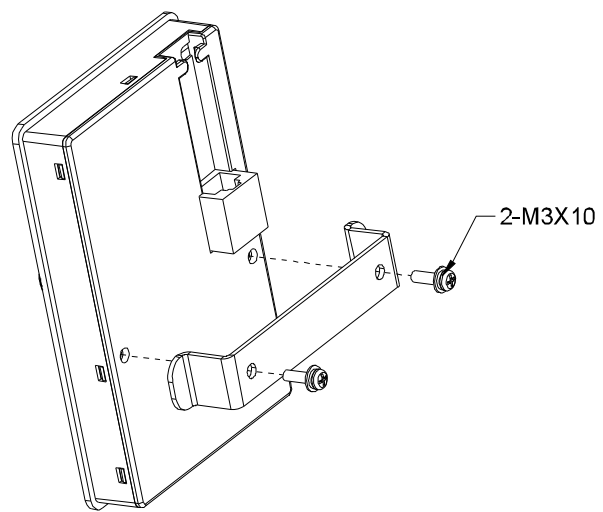
# Chapter 8 Peripheral options

## 8.1 Optional card

### 8.1.1 IO extension card (reserved)
### 8.1.2 Communication extension card

#### 8.1.2.1 Outline drawing
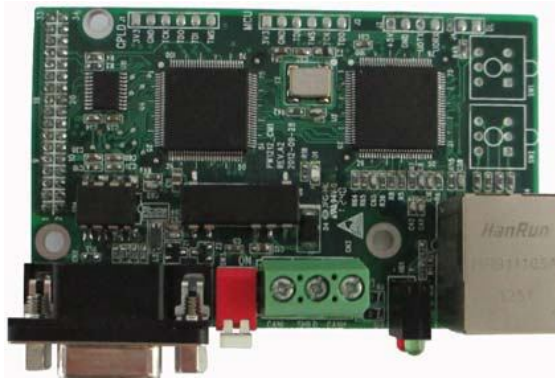


ETHERNET+ CANopen communication card
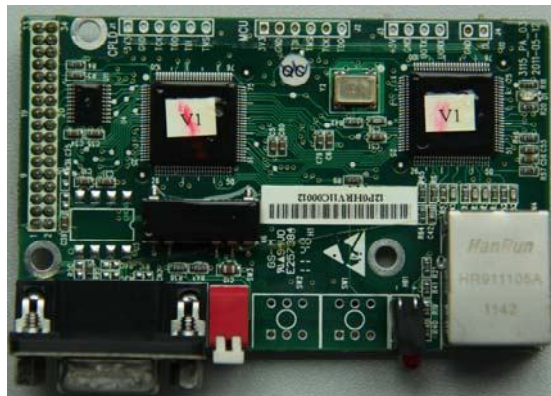


ETHERNET +PROFIBUS communication card

#### 8.1.2.2 Product name

# EC-TX 1 03
① ② ③ ④

| No. | Description | Details |
|-----|-------------|---------|
| ① | Product type | EC: Extension card |
| ② | Card type | TX: Communication card |
| ③ | Technology version | Odds such as 1,3,5,7 stands for the 1st, 2nd, 3rd,4th technical version |
| ④ | Difference | 03: PROFIBUS+ETHERNET communications card<br>04: ETHERNET+CANopen communications card |
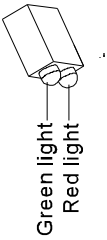
#### 8.1.2.3 Structure of EC-TX series communication card
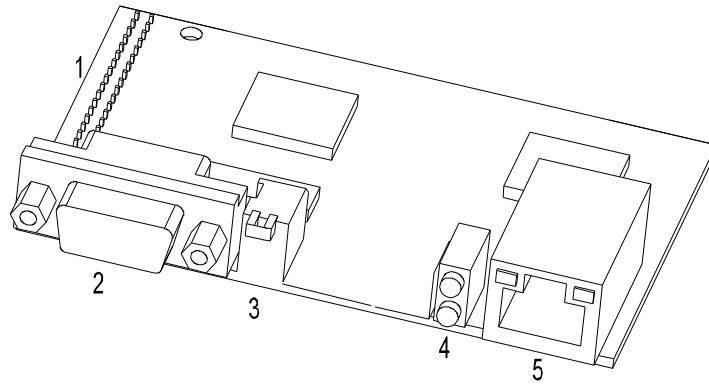
Outline drawing of EC-TX series communication card
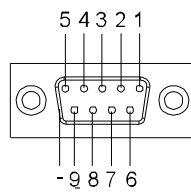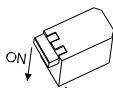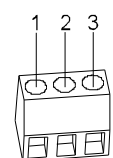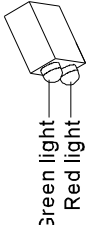
| Serial No. | Name | Description |
|---|---|---|
| 1 | Interface with the control board | Connected to the control board |
| 2 | Bus communication interface | Shielded twisted-pair copper wire is widely used for PROFIBUS and CAN transmission. Pin arrangements when PROFIBUS protocol is available: |

| Connector pins | | Description | Connector pins | | Description |
|---|---|---|---|---|---|
| 1 | - | Not used | 2 | - | Not used |
| 3 | B-Line | Positive data (twisted pair) | 4 | RTS | Send request |
| 5 | GND_BUS | Isolated ground | 6 | +5V BUS | Isolated 5V DC power supply |
| 7 | - | Not used | 8 | A-Line | Negative data (twisted pair) |
| 9 | - | Not used | Housing | SHLD | PROFIBUS shield cable |

Pin arrangements when CAN protocol is available:

| Connector pins | | Description | Connector pins | | Description |
|---|---|---|---|---|---|
| 1 | - | Not used | 2 | CANL | CAN Bus L signal |
| 3 | GNDBUS | Isolated ground | 4 | - | Not used |
| 5 | SHLD | Shield cable | 6 | GNDBUS | Isolated ground |
| 7 | CANH | CAN Bus H signal | 8 | - | Not used |
| 9 | - | Not used | Housing | SHLD | Shield cable |

| Serial No. | Name | Description |
|---|---|---|
| 3 | Bus terminator | For EC-TX103 and valid in PROFIBUS communication  There is a bus terminal in each heading and ending to avoid error during operation. The bus terminals can avoid the signal feedback from the bus cables. If the module is the first or last one in the internet, the bus terminal should be set as ON. Please disconnect EC-TX terminals when the PROFIBUS D-sub connector with internal |

| Serial No. | Name | Description | | | | |
|---|---|---|---|---|---|---|
| | | terminals is in use. | | | | |
| 5 | LEDs | Display faults | | | | |
| | | LED No. | | Name | Color | Function |
| | |  | Green light Red light | Online | Green | ON-module online and data can be exchanged. OFF-module is not in "online" state. |
| | | | | Offline/ Fault | Red | ON-module offline and data can not be exchanged. OFF-module is not in "offline" state. Flicker frequency 1Hz-configuration error: The length of user parameter data sets is different from that of network configuration process during module initialization process. Flicker frequency 2Hz-user parameter data error: The length or content of user parameter data sets is different from that of network configuration process during module initialization process. Flicker frequency 4Hz-communication ASIC initialization error. |
| 6 | ETHERNET interface | Connected to ETHERNET | | | | |

### 8.1.2.4 Structure of EC-TX105 series communication card



| No. | Name | Description | | | |
|---|---|---|---|---|---|
| A | CANopen communication interface (DB9 female) | Two interfaces: DB9 female(A) and a 3pin terminal (C) | | | |
| | | CANopen communication interface (DB9 female) | Pin | Function | Description |
| | | | 1 | - | |

| No. | Name | Description | | | |
|---|---|---|---|---|---|
| | |  | 4 | - | |
| | | | 5 | CAN_SHLD | CANopen bus shielding |
| | | | 6 | - | |
| | | | 7 | CAN_H | CANopen bus high level signal |
| | | | 8 | - | |
| | | | 9 | - | |
| | | | - | CAN_SHLD | CANopen bus shielding |

| No. | Name | Description | | | |
|---|---|---|---|---|---|
| B | CANopen terminal switch | The functions are as below: | | | |
| | | **Terminal switch** | **Position** | **Function** | **Description** |
| | |  | Up | OFF | No terminal resistor for CAN_H and CAN_L |
| | | | Down | ON | 120 ohm |

| No. | Name | Description | | | |
|---|---|---|---|---|---|
| C | CANopen communication terminals (3pin) | C Two interfaces: DB9 female(A) and a 3pin terminal (C) | | | |
| | | **3pin terminal** | **Pin** | **Function** | **Description** |
| | |  | 1 | CAN_L | CANopen bus low level signal |
| | | | 2 | CAN_SHLD | CANopen bus shielding |
| | | | 3 | CAN_H | CANopen bus high level signal |

| No. | Name | Description | | | | | |
|---|---|---|---|---|---|---|---|
| D | CANopen LEDs | Display faults | | | | | |
| | | **LED No.** | **Name** | **Color** | **Function** | **State** | **Description** |
| | |  | RUN LEDs | Green | Blink once and off | Stop | In stop state |
| | | | | | Blink | Pre-operation | In pre-operation state |
| | | | | | On | Operation | In operation state |
| | | | | | Off | Fault | Check the communication card and the power connection |
| | | | ERROE LEDs | Red | Off | No fault | In running state |
| | | | | | On | Bus off or inverter fault | Bus off or inverter fault |

| No. | Name | Description | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | Blink | Initialization error | Wrong address setting |
| | | | | | Blink once | Frame error | Frame loss error |
| E | ETHERNET interface | Connect to ETHERNET communication | | | | | |
| F | CANopen high address knob (spare) | **Note:** The two knobs are not installed. And the communication address is set by the function codes. | | | | | |
| G | CANopen low address knob (spare) | | | | | | |
| H | LEDs of the communication power supply | | | | | | |
| I | Control board port | Connect to the control board port | | | | | |

**8.1.2.5 Installation**

1. Insert the communication card into the designated position on the control board:
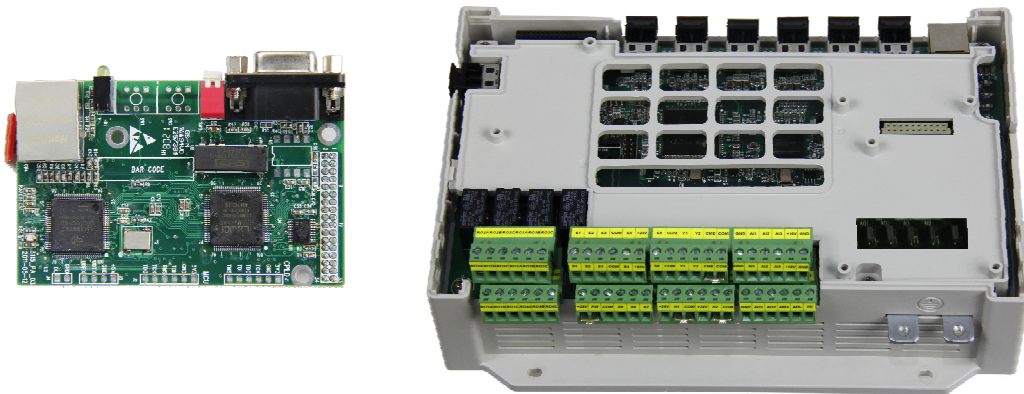


2 Fix it on the board:



**Note:**

Disconnect all power supplied before installation and wait at least 3 minutes until the capacitor is discharged enough. Disconnect the dangerous voltage of the unit input/output from external control circuit.

Some electronic components on the communication card are sensitive to electrostatic discharge. Do not touch the board with hand and do wear grounding wrist strap if inevitable operation is needed to the board.

## 8.1.3 PG extension card

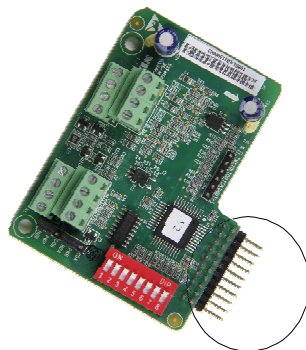### 8.1.3.1 Incremental encoder PG card

**(1) Model and specification**

$$\underset{①}{\underline{\text{EC-}}}\underset{②}{\underline{\text{PG}}}\,\underset{③}{\underline{1}}\,\underset{④}{\underline{01}}\,-\,\underset{⑤}{\underline{05}}$$

| No. | Sign | Example |
|---|---|---|
| ① | Product type | EC-extension card |
| ② | Card type | PG: P/G card |
| ③ | Technical versions | Odds such as 1, 3 and 5 stands for the $1^{st}$, $2^{nd}$ and $3^{rd}$ generation. |
| ④ | Code | 01: Incremental encoder PG card<br>02: Cosine encoder PG card<br>03: UVW encoder PG card<br>04: The resolver PG card |
| ⑤ | Power supply | 05: 5V<br>12: 12~15V<br>24: 24V |

**Technical specifications**

| Model | EC-PG101-12 | EC-PG101-24 |
|---|---|---|
| Output power supply | Support 11.75V~16V output, the factory value is 12V±5%, Max. Output current is 350mA. | 24V±5% output, Max. Output current is 300mA |
| Input signal | Support the differential open-collector push-pull encoder A, B, Z signal input, the response speed of 0 ~ 100kHz | Support the differential open-collector push-pull encoder A, B, Z signal input, the response speed of 0 ~ 100kHz |
| Output signal | Output frequency: 0~80kHz<br>Output: Differential output, push-pull output, open collector output, frequency division output<br>Range: 1~256<br>Output impedance :70Ω | Output frequency: 0~80kHz<br>Output: Differential output, push-pull output, open collector output, frequency division output<br>Range: 1~256<br>Output impedance :70Ω |

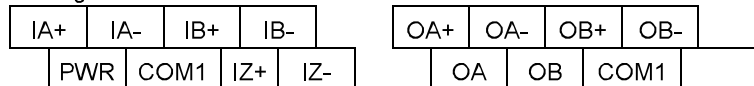**(2) Installation and dimension of incremental PG card**
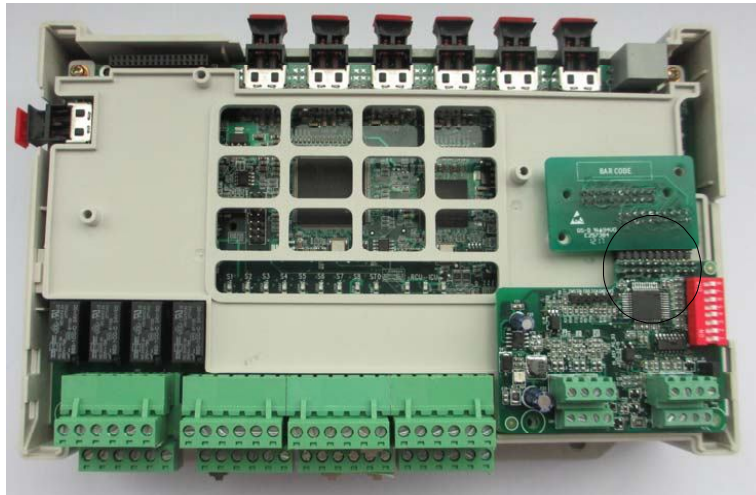
**Note:** CN3 lower pins are valid when use incremental encoder PG card.

**(3) Function**

It is necessary to select PG card in PG vector control. The function of the PG card includes processing circuits for two channels of orthogonal coder signals, being capable of receiving signals from differential output, open-circuit collector output and push-pull output encoders, coder power supply. In addition, it can output in frequency-division the inputted encoder signals (output are two channels of orthogonal signals). The user can select by J1 and J2 according to actual utilization.

**(4) Description of terminals and DIP switch**

There are 2 2*4P wiring terminal on the PG card.

| IA+ | IA- | IB+ | IB- | | OA+ | OA- | OB+ | OB- |
|-----|-----|-----|-----|---|-----|-----|-----|-----|
| PWR | COM1 | IZ+ | IZ- | | OA | OB | COM1 | |

Of which, PWR and COM1 are working voltage output for the encoder; IA+, IA-, IB+, IB-, IZ+ and IZ- are signal input terminals for the encoder; OA+, OA-, OB+ and OB- are output terminals for frequency-division signals; OA, OB and COM1 are the output terminal of frequency–division push–pull signal and open collector signal; the user can grounded the PG by themselves.

The frequency division factor is determined by the DIP switch on the card. The DIP switch consists of 8 bits. When the binary digits are displayed by DIP switch pluses 1, the relative value is frequency division factor. The bit marked as "1" on the DIP switch is the lower binary bit, while "8" is the higher binary bit. When the DIP switch is switched to ON, the bit is valid, indicating "1"; otherwise, it indicates "0".

| Decimal digit | Binary digit | Frequency division factor |
|---------------|--------------|---------------------------|
| 0 | 00000000 | 1 |
| 1 | 00000001 | 2 |
| 2 | 00000010 | 3 |
| … | … | … |
| m | … | m+1 |
| 255 | 11111111 | 256 |

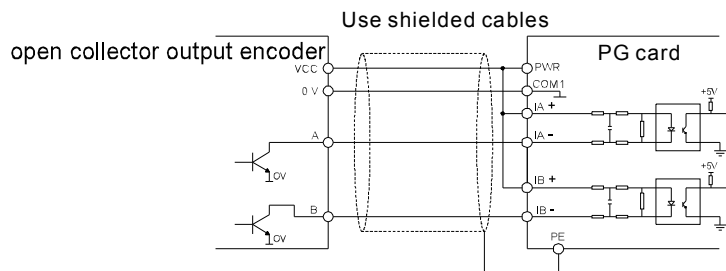**(5) Wiring diagram**
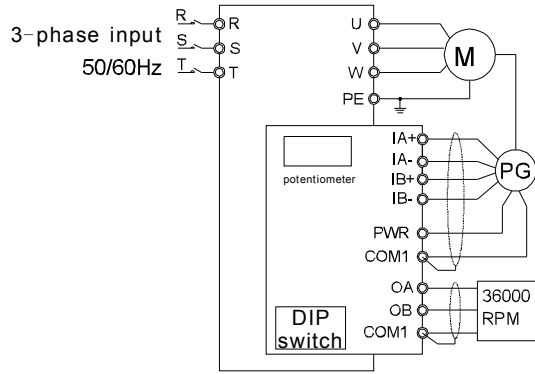
**(6) Wiring notes**

1. The signal line of PG card should be separated from the power line. Parallel wiring is forbidden.

2. Select shielded cables as the signal lines of PG card to prevent coder signals from disturbance.

3. The shielding layer of shielded cable of PG card should be grounded (such as terminal PE of the inverter), and furthermore, only one end is grounded, to prevent signal from disturbance.

4. If the frequency-division output of PG card is connected to the user power supply, the voltage should be less than 24V; otherwise, the PG card may be damaged.

5. The user can adjust 12~15V incremental encoder PG card potentiometer based on actual demand. Operate gently when setting the output voltage and rotating.

**(7) Input application connection**

① Wiring diagram of differential output encoder
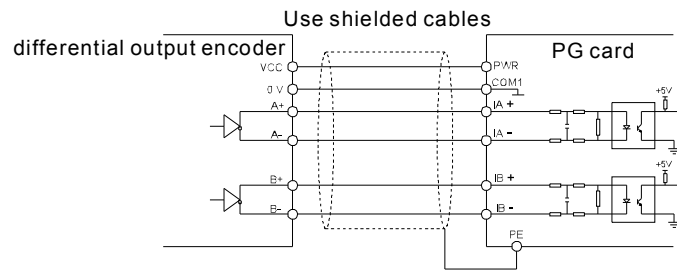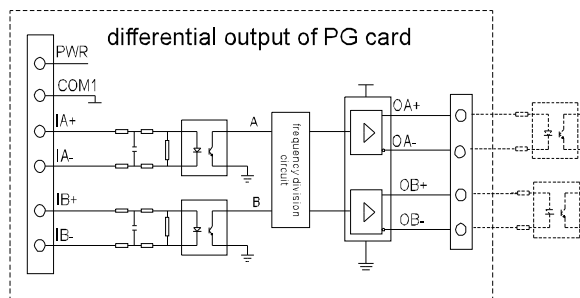


②Wiring diagram of open collector output encoder



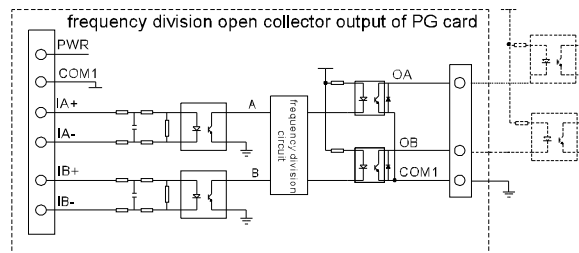③Wiring diagram of push-pull input encoder

Use shielded cables
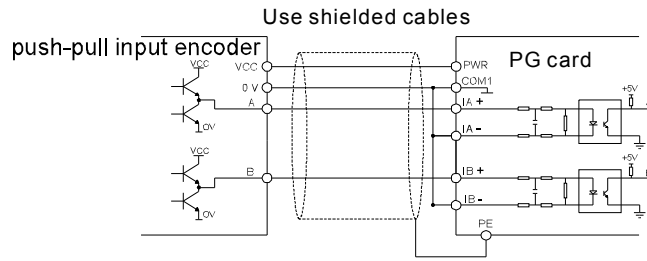


**Note:** Connect Z signal if supporting spindle positioning inverter, and the wiring is the same as A and B signal.

**(8) Output application connection**

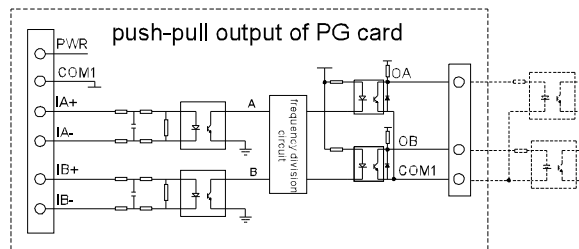① Wiring diagram of frequency division differential output of PG card



②Wiring diagram of frequency division open collector output of PG card



**Note:** PWR at J1 and J2 are short-connected with COA and COB in open collector output.

③Wiring diagram of push-pull output of PG card



**Note:**

① PWR is short-connected with HOA and HOB at J1 and J2 in pull-push output.

② Incremental encoder PG card is mainly used in asynchronous motor closed-loop vector control.

### 8.1.3.2 Cosine encoder PG card and UVW encoder PG card

**(1) Model and specifications**

The technical features are as below:

| Model | EC-PG102-05 | EC-PG103-05 |
|---|---|---|
| Frequency division factor | 1 (No DIP switch) | 1~256 (With DIP switch) |
| Output power supply | Voltage range: 4.75V~7V<br>Factory setting: 5V/±5%<br>Max. output current: 300mA | Voltage range: 4.75V~7V<br>Factory setting: 5V/±5%<br>Max. output current: 300mA |
| Output signal | Output: Two orthogonal frequency division differential output, open collector output<br>Open collector output impedance: 70Ω | Output: Two orthogonal frequency division differential output, open collector output<br>Open collector output impedance: 70Ω |

The user can select the output voltage according to actual working, and in long-distance transmission, the power voltage can be adjusted through potentiometer to prolong the wiring distance.

**(2) Dimensions and installation of UVW encoder PG card**

**Note:**

① The installation and position of UVW encoder PG card is the same as that of incremental encoder PG card, corresponds to two rows of 2×10 pins.

②The installation and position of cosine encoder PG card is the same as that of UVW encoder PG card, but there is no DIP switch and the position of potentiometer is R101.

**(3) Description of terminals and DIP switch**

There are 1 signal interface and 7 wiring terminals on UVW encoder PG card and cosine encoder PG card.
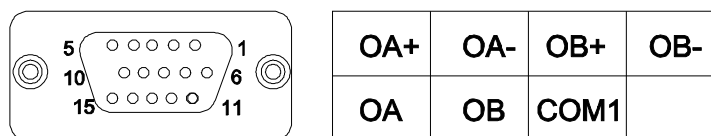


| OA+ | OA- | OB+ | OB- |
|---|---|---|---|
| OA | OB | COM1 | |

DB15                    Frequency division output interface

Figure E-12 Interfaces and wiring terminal of PG card

OA+, OA-, OB+ and OB- are the signal frequency division output terminals. OA, OB and COM1 are open collector output terminals.

**Note:** The PE terminal of PG Card has not been connected to the earth; the user must connect the card to earth by themselves.

DB15 is the port of the encoder input signal. The order of the ports signal is as follow:

| Ports | SIN/COS | UVW |
|---|---|---|
| 5 | A+ | A+ |
| 6 | A- | A- |
| 8 | B+ | B+ |
| 1 | B- | B- |
| 3 | R+ | Z+ |
| 4 | R- | Z- |
| 11 | C+ | U+ |
| 10 | C- | U- |
| 12 | D+ | V+ |
| 13 | D- | V- |
| 9 | PWR | PWR |
| 7 | GND | GND |
| 14 | Null | W |

| Ports | SIN/COS | UVW |
|---|---|---|
| 15 | Null | W– |
| 2 | Null | Null |

During the application of above PG cards, insert the corresponding connecting wires of the signal arrangement of SIN/COS or UVW encoder and the synchronous PG card into DB15.

The frequency division factor of UVW encoder PG card is the same as that of the incremental encoder. Please refer to table 1-3.

**Note: ：**

① SIN/COS or UVW encoder PG card are mainly used on the close loop vector control of SM.

② UVW encoder PG card can process the 5V incremental encoder signal and the wiring is the same as that of the incremental encoder. The main wiring ports are A, B, Z, PWR and GND on DB15.

## 8.1.4 RST signal detection board

**Note:** RST signal detection board is used in Goodrive800 series rectifier control units. The lot No. is 17001-01058(380V) and 17001-01077(660V).
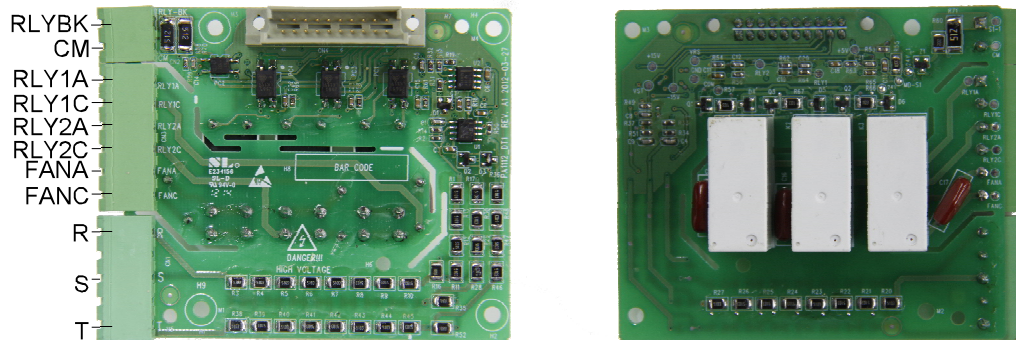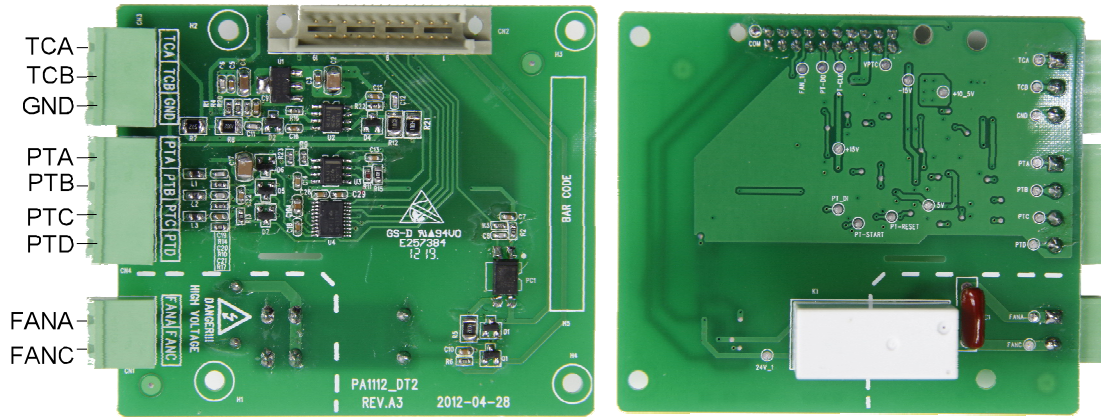


On the back of the control board.

Terminal structure:

| RLYBK | CM | RLY1A | RLY1C | RLY2A | RLY2A | FANA | FANC | R | S | T |
|---|---|---|---|---|---|---|---|---|---|---|

Terminal description:

| Sign | Description |
|---|---|
| R | Detect the input voltage R,S,T |
| S | |
| T | |
| FANA | External fan control |
| FANC | FANA NO, FANC common terminal |
| RLY1A | Main contact control |
| RLY1C | RLY1A NO, RLY1C common terminal |
| RLY2A | Buffer contact control |
| RLY2C | RLY2A NO, RLY2C common terminal |
| CM | Common feedback terminal of main contact |
| RLYBK | Feedback signal of main contact |

## 8.1.5 Temperature detection board

**Note:** Temperature detection board is used in Goodrive800 series inverter control units. The lot No. is 17001-01024.

On the back of the control board with the RST signal detection board.

Terminal structure:

| TCA | TCB | GND | PTA | PTB | PTC | PTD | FANA | FANC |
|-----|-----|-----|-----|-----|-----|-----|------|------|

Terminal description:

| Sign | Description |
|------|-------------|
| FANC | External fan control |
| FANA | FANA NO, FANC common terminal |
| PTA | |
| PTB | PT100 temperature detection signal input port |
| PTC | PTB, PTC and PTD connect to three-wire PT100 |
| PTD | |
| GND | Grounding reference |
| TCA | NTC,PTC temperature detection signal input port |
| TCB | |