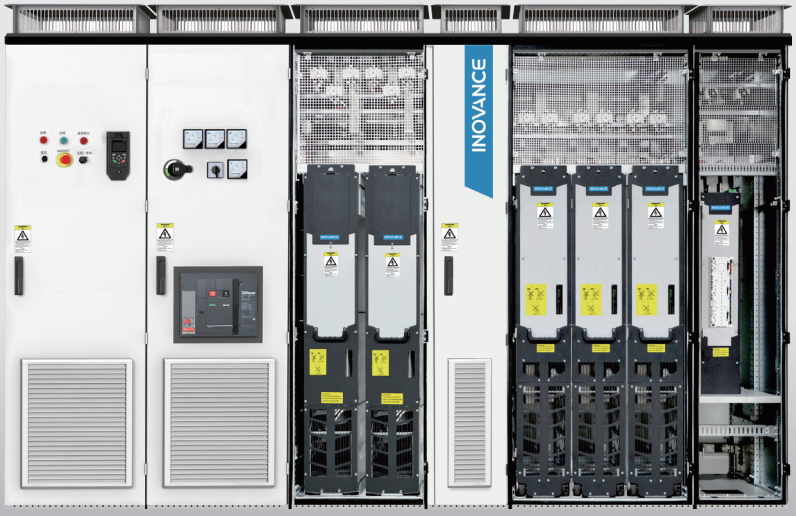
INOVANCE

FORWARD, ALWAYS PROGRESSING



MD880 Series Multi-Drive Cabinet

Mechanical Installation Guide

Industrial Automation | Intelligent Elevator | New Energy Vehicle | Industrial Robot | Rail Transit

Data code 19012266B01

Preface

Introduction

This guide describes how to properly install the MD880 multi-drive cabinet. Read through this guide before use (installation, operation, maintenance, inspection). Use the product after you fully understand the safety instructions.

All operations defined in the guide are required to be performed by professionals.

Note

- The drawings in this guide are shown for illustration only and may be different from the product. Actual products may vary.
- The user guide is subject to change due to product upgrade, specification modification as well as efforts to the accuracy and convenience of the guide.

More Documents

Document Name	Document Coding	Description
MD880 Series Multi-drive Cabinet Design and Maintenance Guide	19010782	Introduces the design and maintenance of the cabinet, including auxiliary cabinet, incoming cabinet, and basic rectifier cabinet, active/regenerative rectifier cabinet, and inverter cabinet.
MD880 Series Multi-Drive Cabinet Mechanical Installation Guide (This guide)	19010725	Introduces the installation dimensions, space design, specific installation steps, wiring requirements, routing requirements, option installation requirements, and common EMC troubleshooting suggestions.

Revision History

Revision date	Version	Description
March 2025	B01	Made minor corrections.
March 2023	B00	• Updated the section title "1.13.8 Interfaces of Connection Cabinets", certain subsection headers, and the content regarding the connection cabinet components as well as the cable inlet/outlet load interfaces of the power cabinet. • Updated the diagrams for the auxiliary cabinet and incoming cabinet in the "1.13.9 Dimensions of the Cabinet and Bottom Via Hole" section. • Optimized some details.
November 2020	A02	Made minor corrections.

Revision date	Version	Description
April 2019	A01	Changed the logo.
March 2018	A00	Initial release.

Access to the Guide

This guide is not delivered with the product. You can obtain the PDF version by the following methods:

- Do keyword search under Service and Support at *www.inovance.com*.
- Scan the QR code on the product with your smart phone.
- Scan the QR code below to install My Inovance app, where you can search for and download user guides.

Warranty Disclaimer

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is not caused by improper operation of the user. Maintenance will be charged after the warranty expires.

Within the warranty period, maintenance will be charged for the following damage:

- Damage caused by operations not following the instructions in the user guide
- Damage caused by fire, flood, or unusual voltage
- Damage caused by unintended use of the product
- Damage caused by use beyond the specified scope of application of the product
- Damage or secondary damage caused by force majeure (natural disaster, earthquake, and lightning strike)

The maintenance is charged according to the latest Price List of Inovance. If otherwise agreed upon, the terms and conditions in the agreement shall prevail.

Table of Contents

Preface 1
Safety Precautions 4
1 Mechanical Installation 10
1.1 Installation Environment 10
1.2 Required Tools 11
1.3 Tightening Torque 11
1.4 Post-delivery Inspection 12
1.5 Unpacking 13
1.6 Moving the Cabinet 14
1.7 Installation Procedure 15
1.8 Fixing the Cabinet 17
1.9 Joining Cabinet Sections Together 17
1.10 Connecting the PE Bus 18
1.11 Connecting the DC Bus 19
1.12 Cable Routing Requirements 21
1.13 Installation Instructions 22
1.13.1 Cabinet Structure 22
1.13.2 Placement of the Device 23
1.13.3 Grounding the Mounting Structure 23
1.13.4 Material and Connection of Busbar 23
1.13.5 Preventing Recirculation of Hot Air 23
1.13.6 Cabinet Heater 24
1.13.7 EMC Requirements 24
1.13.8 Single-Cabinet Type 25
1.13.9 Dimensions of the Cabinet and Bottom Via Holes 28
2 Appendix 46
2.1 Acronyms 46
2.2 Cabinet Model 46

Safety Precautions

Safety Disclaimer

- This chapter provides essential safety instructions for proper use of the product. Before using this product, read through the user guide, especially the safety instructions. Failure to observe the safety instructions may result in death, severe personal injuries, or equipment damage.
- "DANGER", "WARNING", and "CAUTION" in this guide only indicate some of the precautions that need to be followed; they just supplement the safety precautions.
- Use this product in environments meeting the design and specification requirements; otherwise, a fault may occur. Noncompliance-caused malfunction or damage to parts are not covered in product quality warranty.
- Inovance shall take no responsibility for any personal injuries or property damage caused by improper use.

Safety Levels and Definitions

	"DANGER" indicates that failure to comply with the notice can result in death or severe personal injuries.
	"WARNING" indicates that failure to comply with the notice may result in death or severe personal injuries.
	"CAUTION" indicates that failure to comply with the notice may result in minor or moderate personal injuries or equipment damage.

Safety Precautions

- Drawings in the guide are sometimes shown without covers or protective guards. Remember to install the covers or protective guards as specified first, and then perform operations in accordance with the instructions.
- Product illustrations in this guide are for reference only. Refer to the actual product for specific information.

Unpacking

• Do not install the equipment if you find damage, rust, or signs of use on the equipment or accessories upon unpacking. • Do not install the equipment if you find water seepage or missing or damaged components upon unpacking. • Do not install the equipment if you find the packing list does not conform to the equipment you received.



- Check whether the packing is intact and whether there is damage, water seepage, dampness, and deformation before unpacking.
- Unpack the package in sequence. Do not hit the package violently.
- Check whether there is damage, rust, or signs of bumping on the surface of the equipment and equipment accessories before unpacking.
- Check whether the package contents are consistent with the packing list before unpacking.

Storage and Transportation



- Large-scale or heavy equipment must be transported by qualified professionals using specialized hoisting equipment. Failure to comply may result in personal injuries or equipment damage.
- Before hoisting the equipment, ensure that components such as the front cover and terminal blocks are secured firmly with screws. Loosely-connected components may fall off and result in personal injuries or equipment damage.
- Never stand or stay below the equipment when the equipment is being hoisted by the hoisting equipment.
- When hoisting the equipment with a steel rope, ensure the equipment is hoisted at a constant speed without suffering from vibration or shock. Do not turn the equipment over or let the equipment stay hanging in the air. Failure to comply may result in personal injuries or equipment damage.



- Handle the equipment with care during transportation and mind your steps to prevent personal injuries or equipment damage.
- When carrying the equipment with bare hands, hold the equipment casing firmly with care to prevent parts from falling. Failure to comply may result in personal injuries.
- Store and transport the equipment based on the storage and transportation requirements. Failure to comply can result in equipment damage.
- Avoid storing or transporting the equipment in environments with water splash, rain, direct sunlight, strong electric field, strong magnetic field, and strong vibration.
- Avoid storing this product for more than three months. Long-term storage requires stricter protection and necessary inspection.
- Pack the equipment strictly before transportation. Use a sealed box for long-distance transportation.
- Never transport the equipment with other equipment or materials that may harm or have negative impacts on the product.

Installation



- Installation must be carried out by skilled personnel who have undergone specialized electrical training and possess comprehensive electrical expertise. Non-professionals are not allowed to install the equipment.



- Read through the guide and safety precautions before installation.
- Do not install the equipment in places with strong electric or magnetic fields.
- Before installation, check that the mechanical strength of the installation site can bear the weight of the equipment. Failure to comply will result in mechanical hazards.
- Do not wear loose clothes or accessories during installation. Failure to comply may result in electric shock.
- When installing the equipment in a closed environment (such as a cabinet or casing), use a cooling device (such as a fan or air conditioner) to cool the environment down to the required temperature. Failure to comply may result in equipment over-temperature or a fire.
- Do not retrofit the equipment.
- Do not fiddle with the bolts used to fix equipment components or the bolts marked in red.
- When the equipment is installed in a cabinet or final assembly, a fireproof enclosure providing both electrical and mechanical protections must be provided. The IP rating must meet IEC standards and local laws and regulations.
- Before installing equipments with strong electromagnetic interference, such as a transformer, install a shielding equipment for the equipment to prevent malfunction.
- Install the product on an incombustible object such as metal and do not touch or attach the product to combustibles. Failure to comply can result in fire accident.



- Cover the top of the equipment with a piece of cloth or paper during installation. This is to prevent unwanted objects such as metal chippings, oil, and water from falling into the equipment and causing faults. After installation, remove the cloth or paper to prevent over-temperature caused by poor ventilation due to blocked ventilation holes.
- Resonance may occur when the equipment operating at a constant speed switches to variable speed operations. In this case, install the vibration-proof rubber under the motor frame or use the vibration suppression function to reduce resonance.

Wiring



- Equipment installation, wiring, maintenance, inspection, or component replacement must be performed only by professionals.
- Before wiring, disconnect all the power supplies of the equipment. Wait for at least the time designated on the equipment warning label before further operations because residual voltage still exists after power-off. Measure the DC voltage of the main circuit and make sure that it is below the safety voltage. Failure to comply can result in electric shock.
- Do not perform wiring, remove the equipment cover, or touch the circuit board with power ON. Failure to comply can result in electric shock.
- Check that the equipment is grounded properly. Failure to comply can result in electric shock.



- Do not connect the input power supply to the output side of the equipment. Failure to comply can result in equipment damage or even a fire.
- When connecting a drive to the motor, check that the phase sequences of the drive and motor terminals are consistent to prevent reverse motor rotation.
- Cables used for wiring must meet cross sectional area and shielding requirements. The shield of the cable must be reliably grounded at one end.
- Tighten the terminal screws with the tightening torque specified in the user guide. Improper tightening torque may result in overheat, damage to the connecting parts, or a fire.
- After wiring is done, check that all cables are connected properly and no screws, washers or exposed cables are left inside the equipment. Failure to comply may result in electric shock or equipment damage.



- Follow the electrostatic discharge (ESD) procedure and wear an anti-static wrist strap to perform wiring. Failure to comply may result in damage to the equipment or to the internal circuit.
- Use shielded twisted pairs for the control circuit. Connect the shield to the grounding terminal of the equipment for grounding purpose. Failure to comply can result in equipment malfunction.

Power-on



- Before power-on, check that the equipment is installed properly with reliable wiring and the motor can be restarted.
- Check that the power supply meets equipment requirements before powering on to prevent equipment damage or a fire.
- When the equipment is powered on, do not open the cabinet door or protective cover, touch any wiring terminal, or disassemble any component of the equipment. Failure to comply can result in electric shock.



- Perform a trial run after wiring and parameter setting to ensure that the equipment operates safely. Failure to comply may result in personal injuries or equipment damage.
- Before powering on, check that the rated voltage of the equipment is consistent with that of the power supply. Failure to comply may result in a fire.
- Before power-on, check that no one is near the equipment, motor, or machine. Failure to comply may result in death or personal injuries.

Operation state



- The equipment must be operated only by professionals. Failure to comply can result in death or personal injuries.
- During operation, do not touch any connecting terminals or disassemble any component of the equipment. Failure to comply can result in electric shock.



- Do not touch the equipment enclosure, fan, or resistor with bare hands. Failure to comply may result in burns.
- During operation, prevent metal or other objects from falling into the equipment. Failure to comply may result in a fire or equipment damage.

Maintenance



- Equipment installation, wiring, maintenance, inspection, or component replacement must be performed only by professionals.
- Do not maintain the equipment with power ON. Failure to comply can result in electric shock.
- Before maintenance, disconnect all the power supplies of the equipment and wait for at least the time designated on the equipment warning label.
- When a permanent magnet motor is used, do not touch the motor terminals immediately after power-off because the motor terminals can generate induced voltage during rotation even after the equipment is powered off. Failure to comply can result in electric shock.



- Perform routine and periodic inspection and maintenance on the equipment in accordance with maintenance requirements and keep a maintenance record.

Repair



- Equipment installation, wiring, maintenance, inspection, or component replacement must be performed only by professionals.
- Do not repair the equipment with power ON. Failure to comply can result in electric shock.
- Before inspection and repair, cut off all the power supplies of the equipment and wait for at least the time designated on the equipment warning label.

WARNING

- Require for repair services in accordance with the product warranty agreement.
- When the fuse is blown or the circuit breaker or earth leakage current breaker (ELCB) trips, wait for at least the time designated on the equipment warning label before power-on or further operations. Failure to comply may result in death, personal injuries, or equipment damage.
- Troubleshooting and repair must be performed by professionals in accordance with the repair instructions, with repair records kept properly.
- Replace quick-wear parts of the equipment in accordance with the replacement instructions.
- Do not operate on damaged equipment. Failure to comply may result in death, personal injuries, or worse equipment damage.
- After the equipment is replaced, check the wiring and set parameters again.

Disposal

WARNING

- Dispose of retired equipment in accordance with local regulations and standards. Failure to comply may result in death, personal injuries, or property damage.
- Recycle retired equipment in accordance with industry waste disposal standards to avoid environmental pollution.

Safety Label

To ensure safe operations, comply with safety signs on the equipment and do not damage or remove the safety labels. See the following table for descriptions of the safety labels:

Safety Label	Description
	• Read through the safety instructions before operating the equipment. Failure to comply may result in death, personal injuries, or equipment damage. • Do not touch the terminals or remove the cover with power ON or within 15 min after power-off. Failure to comply will result in electric shock.

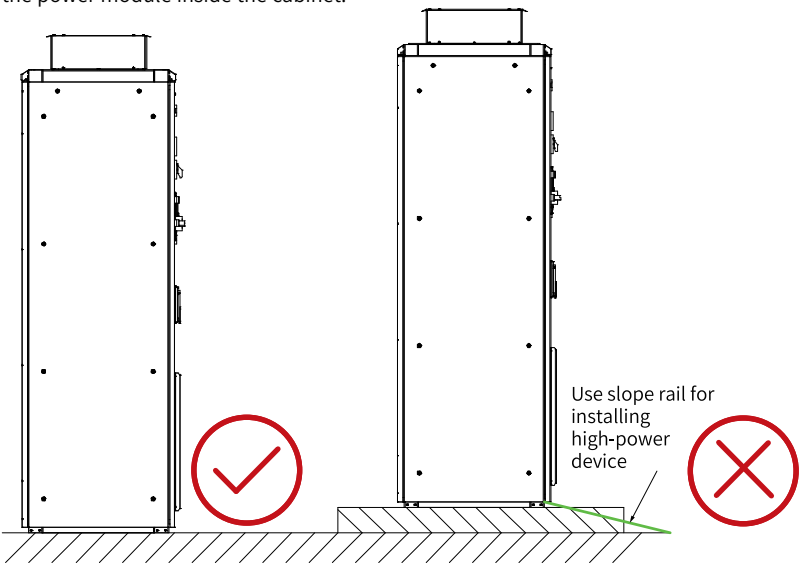
1 Mechanical Installation

1.1 Installation Environment

No.	Requirement
1	The installation site must be well ventilated or cooled to ensure proper heat dissipation.
2	The environment in which the drive cabinet is installed must meet the specifications.
3	The wall behind the drive cabinet must be made of non-flammable material.
4	Reserve enough space above the drive cabinet to allow the cooling air to circulate.
5	The floor that the drive cabinet is installed on is of non-flammable material, as smooth as possible, and strong enough to support the weight of the cabinet. Check the floor flatness with a spirit level. The maximum allowed deviation from the surface level is 5 mm (0.2 in) in every 3 meters (10 ft). Level the installation site, if necessary, as the cabinet is not equipped with adjustable feet. Level the installation site, if necessary, as the cabinet is not equipped with adjustable feet.

Caution

To facilitate maintenance, place the cabinet in a low position. If the cabinet is installed to a high position, the slope rail that comes with the module cannot be used when you replace the power module inside the cabinet.



1.2 Required Tools

The following tools are required to move the cabinet to its final position, fasten it to the floor and wall and tighten the fasteners.

- Crane, forklift or pallet truck (check the load capacity), iron bar, jacks and roller
- Pozidriv and Torx screwdrivers (2.5–6 mm)
- Torque wrench
- Set of wrenches or sockets

1.3 Tightening Torque

Always use the tightening torque specified by the manufacturer. If the tightening torque is not specified, see *"Table 1–1 " on page 12*, *"Table 1–2 " on page 12*, *"Table 1–3 " on page 12* and *"Table 1–4 " on page 12*.

Table 1–1 Electrical connection

Screw/Bolt	Property class	Max. torque (N·m)
M3	4.8	0.5
M4	4.8	1.2
M5	4.8	2.8
M6	4.8	4.8
M8	8.8	20
M10	8.8	40
M12	8.8	70
M16	8.8	200

Table 1–2 Mechanical connection

Screw/Bolt	Property class	Max. torque (N·m)
M5	4.8	2.8
M6	4.8	4.8
M8	8.8	20

Table 1–3 Insulator connection

Screw/Bolt	Property class	Max. torque (N·m)
M6	4.8	4.8
M8	8.8	9
M10	8.8	18
M12	8.8	31

Table 1–4 Cable connector

Screw/Bolt	Property class	Max. torque (N·m)
M8	8.8	15
M10	8.8	32
M12	8.8	50

1.4 Post-delivery Inspection

No.	Deliverables
1	Drive cabinet line-up
2	Optional module that installed onto HCU by default (if purchased)
3	Spare slope rail for high-power modules (if available)
4	Delivery documents

Check the equipment to make sure there is no sign of damage. Check the label contents on each of the drive cabinet before installation and operation to ensure the model of the drive delivered is correct.

1.5 Unpacking

Place the packed product inside an flat and empty production hall. Use a crowbar or similar to pry off the crate along the gap from the plate edge. Then remove the cover, side plates, and end plates.

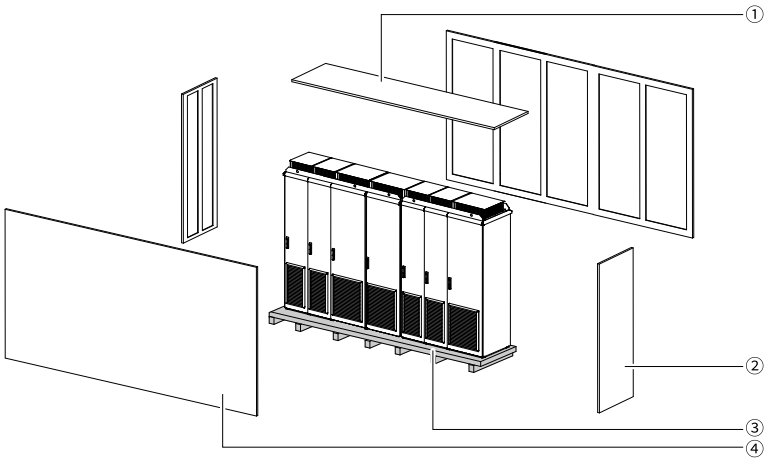


Figure 1-1 Unpacking diagram

No.	Name	No.	Name
①	Cover	③	Wooden pallet
②	End plate	④	Side plate

Caution

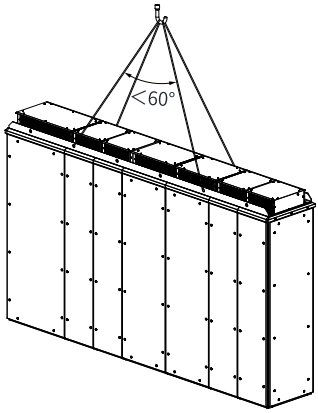
- During unpacking, put the crowbar into the crate as short as possible to avoid damaging the equipment.
- Take enough care during unpacking to avoid personal injury caused by iron nails.
- When removing the packing materials such as plastic film, do not use sharp tool to avoid scratching the equipment.
- Dispose of the packing materials according to local laws and regulations.

1.6 Moving the Cabinet

Keep the drive cabinet upright when moving. The cabinet has a high center of gravity. Take care to avoid tilting when moving.

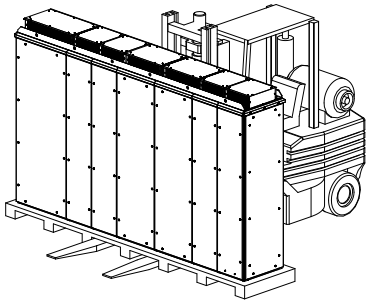
Using a crane

- Secure the lifting straps or slings to the lifting holes in the lifting beam on top of the cabinet.
- Maximum angle of the lifting strap: 60°.
- For cabinets compliant with IP23/IP43/IP54: Minimum allowable height of the lifting strap or sling is 2 m for cabinets with a fan on the top.



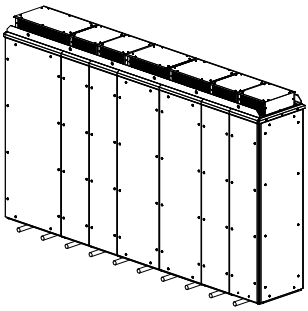
Using a forklift or pallet truck

When using a pallet truck, check the load capacity of the pallet truck before moving the cabinet.



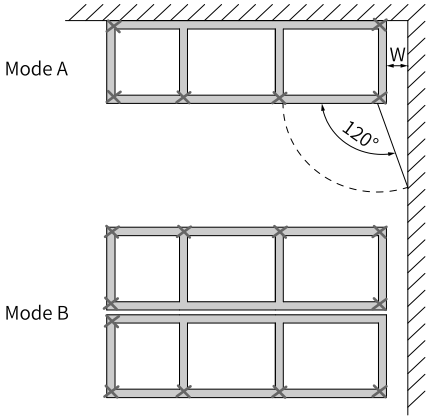
Using the roller

Remove the wooden board used for shipping. Place the cabinet on the rollers and move it carefully until it is close to the final installation position. Remove the rollers by lifting the unit with a crane, forklift, pallet truck or jack.



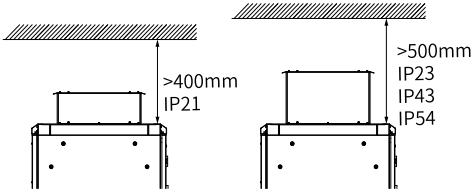
1.7 Installation Procedure

1. Fix the cabinet to the floor, wall or roof. The cabinet can be installed with its back against a wall (A), or back-to-back with another unit (B).

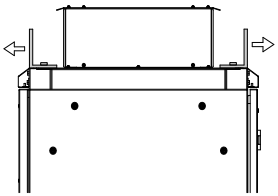


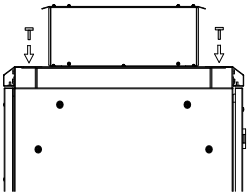
Caution

- Leave some space (w) at the side where the cabinet utmost hinges are to allow the doors to open sufficiently. The doors must open 120° to allow module replacement.
- Any height adjustment must be done before attaching the cabinet sections to the floor or to each other. For cabinets compliant with IP21, reserve a clearance of 400 mm (500 mm for those compliant with IP23/IP43/IP54) between the top of the cabinet and the roof for cooling purpose.

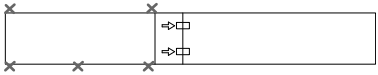


2. Remove the lifting beam. Remove the lifting beam after the cabinet is finally positioned. Tighten the bolts again to secure the cabinet.

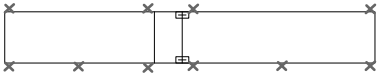




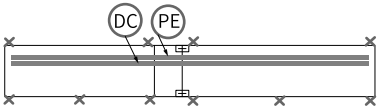
3. If the drive cabinet assembly consists of multiple cabinets, the second cabinet must be installed at the rear of the first cabinet and the two cabinets must be secured together.



4. Secure the second cabinet to the floor.



5. Connect PE and DC bus.

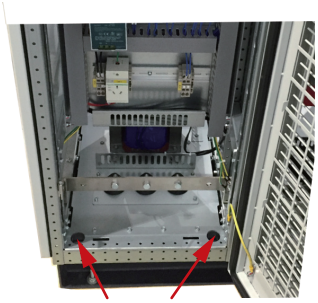


6. Repeat steps 3, 4, and 5 for the remaining cabinets.

1.8 Fixing the Cabinet

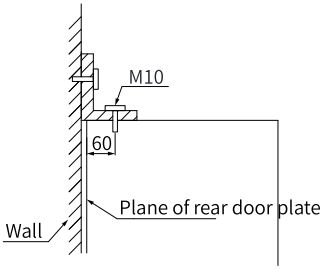
Fix the cabinet to the floor, wall or roof, and install the cabinet in an upright vertical position. Use bolts to secure the cabinet to the base through the inner holes.

1. Secure the cabinet to the floor with M10 bolts through the mounting holes in the bottom of the cabinet.



Fixing hole at the cabinet bottom

2. If the mounting hole at the back of the cabinet is not possible, attach the cabinet to the wall with L-brackets (not included in the delivery) bolted to the eyebolt. (Unit: mm)



1.9 Joining Cabinet Sections Together

Wide cabinet line-ups are delivered in multiple sections. Attach the adjacent sections to the joining cubicle at the end of each cabinet section. A plastic bag inside the cabinet contains special bolts used to fix the cabinet sections.

1. Remove all covers at the rear of the joining cubicle.
2. Attach the front and rear posts of the joining cubicle to the posts of the other section with 10 M8 screws.
3. Replace the cover after connecting the DC bus.

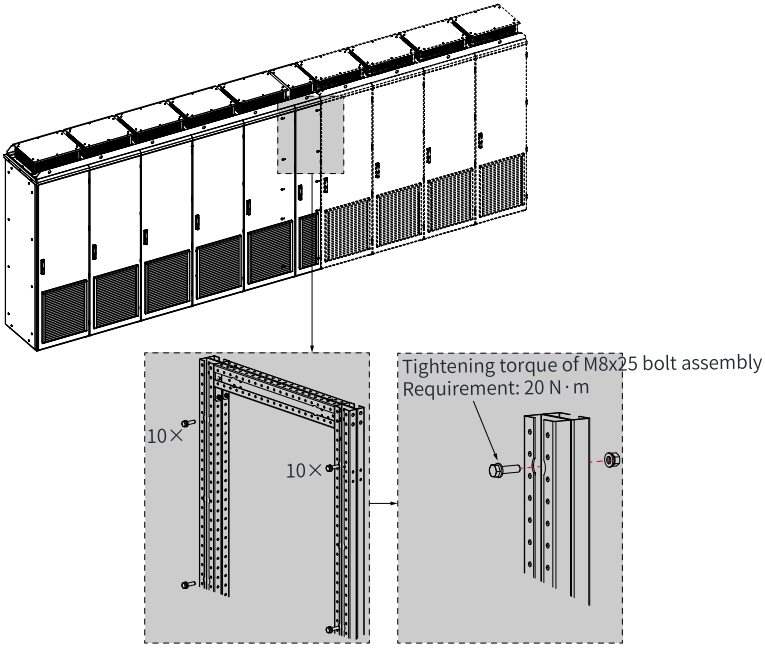


Figure 1-2 Diagram of the mounting of each cabinet section

1.10 Connecting the PE Bus

The M6 bolts used to connect the PE bus are enclosed in a plastic bag in the cabinet. Connect the PE bus with a tightening torque of 9 N·m, as shown below.

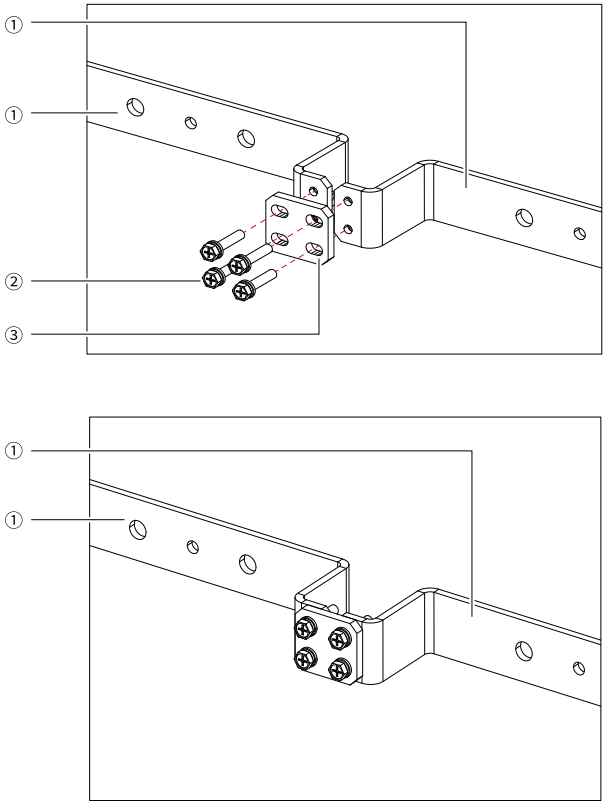
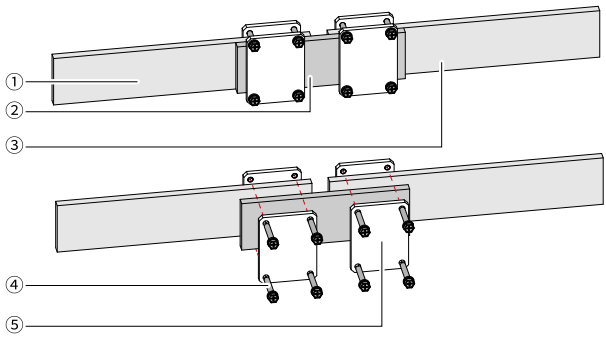


Figure 1-3 PE bus connection diagram

No.	Name	No.	Name	No.	Name
①	Cabinet-A grounding copper busbar	②	Four M6 x 25 bolts	③	Grounding copper busbar

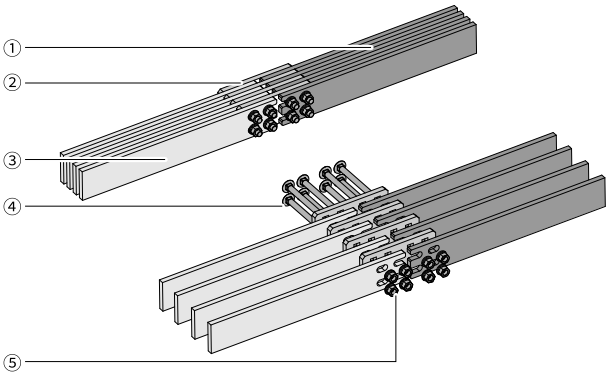
1.11 Connecting the DC Bus

- Connecting the single-layer busbar



No.	Name	No.	Name
①	Cabinet-A copper busbar	④	M6x40 bolt (tightening torque: 9 N·m)
②	Copper busbar	⑤	Clamp for copper busbar
③	Cabinet-B copper busbar	-	-

- Connecting the multi-layer (4 layers max.) busbar



No.	Name	No.	Name
①	Cabinet-B copper busbar	④	M10 square screw
②	Copper busbar	⑤	M10 nut, spring washer, flat washer assembly
③	Cabinet-A copper busbar	-	-

Warning

- Do not fit the spring washers with the connector. Replace with flat washers (galvanized and blue passivated). Direct contact of unpassivated zinc-plated spring washers with the connector will cause corrosion.
- Do not use any other fittings, bolts or washers other than those delivered with the drive cabinet. These materials are carefully selected to match the bus material. Other components/ materials may form an electrocoupling and cause corrosion.

1.12 Cable Routing Requirements

- The underground cable below the cabinet can be placed below the 480-mm wide cabinet in the middle. The cabinet weight lies on the two 60-mm wide cross sectional areas which the floor must carry.
- Prevent the cooling air from flowing into the cabinet through the baseplate after passing the cable duct. To comply with the IP rating for the cabinet, use the original bottom plates delivered with the cabinet.

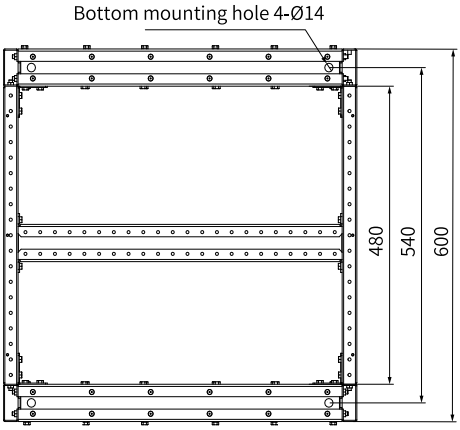


Figure 1-4 Routing requirements_1 (mm)

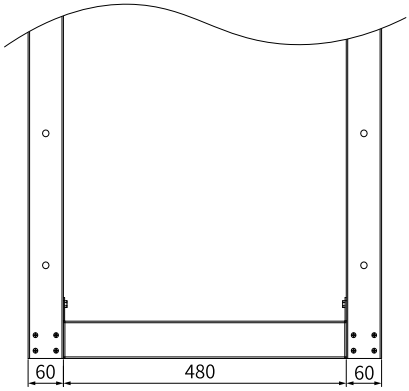


Figure 1-5 Routing requirements_2 (mm)

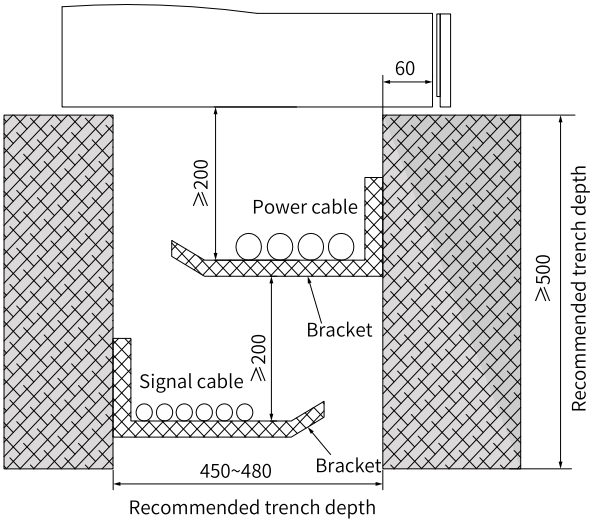


Figure 1-6 Routing requirements_3 (mm)

1.13 Installation Instructions

1.13.1Cabinet Structure

- The cabinet frame must be sturdy enough to carry the weight of the drive components, control circuit and other equipment installed in it.
- The cabinet must protect the power module against contact and meet the requirements for dust and humidity.

1.13.2Placement of the Device

It is recommended to leave sufficient space for installation and maintenance. Sufficient space must also be reserved for cooling air flow, necessary clearances, space required for cable and cable support structures.

Do not install the control board near the main circuit or high-temperature parts.

1.13.3Grounding the Mounting Structure

Make sure any cross-devices or frames on which components are mounted are properly grounded and the connecting surfaces are left unpainted.

Caution

Ensure that the module is grounded properly through the fixing points on the mounting baseplate.

1.13.4Material and Connection of Busbar

- It is recommended to use nickel plated copper or aluminum materials for the busbar.
- Before connecting the aluminum busbar, remove the oxide coating on the busbar and apply proper antioxidant joint compound.

1.13.5Preventing Recirculation of Hot Air

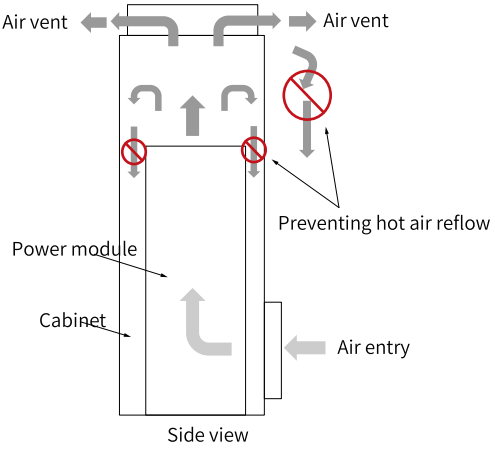


Figure 1-7 Air exhaust

Exterior of cabinet

Prevent the hot air outside the cabinet from entering air flow circulation by guiding the hot air away from the air inlet area. Some possible solutions include:

- Set grids for airflow guidance at the air inlet and outlet.
- Position the air inlet and outlet on different sides of the cabinet.
- Position the cooling air inlet below the front door and install additional blowers on top of the cabinet.

Interior of cabinet

Prevent the hot air from circulating inside the cabinet using a leak-proof air baffle at the location shown in the appropriate power module manual. Seal the baffle to the inner wall using a neoprene gasket or equivalent.

1.13.6Cabinet Heater

If there is a risk of condensation in the cabinet, use a cabinet heater. Although the heater is mainly used to keep the air dry, it can also be used for heating in low temperatures. When placing the heater, follow the instructions provided by the manufacturer.

Recommended: Siv HDJR-100L.

1.13.7EMC Requirements

- The fewer and smaller the holes in the cabinet, the better the anti-interference and anti-attenuation performance will be. The maximum diameter of a hole on the galvanic metal contact surface in the covered cabinet structure is 100 mm. Pay special attention to the size of the grid holes at the cooling air inlet and air outlet.
- Weld the steel panels together without holes to achieve the optimal electrical connection. If welding is not possible, do not paint the gap between panels. In this case, install special conductive EMC bars to realize galvanic connection. Generally, reliable conductive bars are made of flexible silicon with the surface covered by a metal mesh. Additional conductive gaskets are needed between metal surfaces to enhance the contact between them. The maximum distance between assembly screws is 100 mm.
- Make sure that a high-frequency multi-point grounding system has been established in the cabinet. This is to prevent voltage difference and to form structures that can shield against radiation. Use short and flat low-inductance copper braids to improve the performance of high-frequency grounding system. Do not use high-frequency one-point grounding due to the long distances in the cabinet.
- Conductive EMC shielding gaskets are not sufficient for protective grounding. A sturdy low-frequency grounding structure is required for electrical safety of the components. Follow local regulations to design protective grounding.
- Routing

- To enable the drive to comply with EMC requirements, a 360° high frequency grounding must be performed at the cable inlet of the motor and control cable shield (360° grounding is also recommended for the power supply cable.).
- For the input and output shielded power cables inside the cabinet, the shield must come into contact with the shield plate inside the cabinet through a large surface area to achieve a proper EMC shielding effect. The following figure shows the mounting mode.

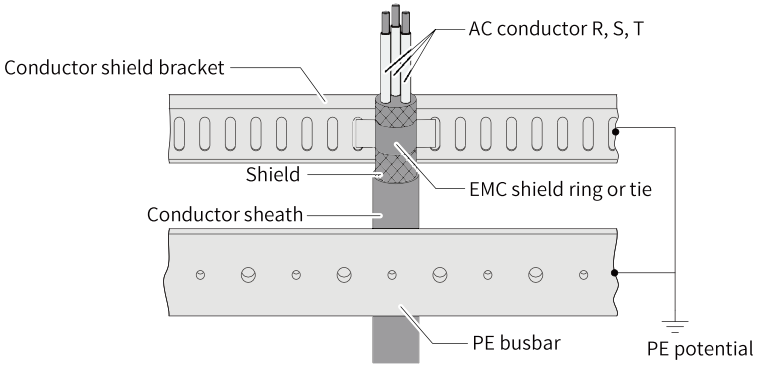


Figure 1-8 Connection of shielded power cables

1.13.8Single-Cabinet Type

Cabinet structure

Table 1–5 Cabinet structure and width (mm)

Name	300-mm wide	400-mm wide	600-mm wide	800-mm wide
Auxiliary Cabinet	-	400-mm wide (2 x HCU)	600-mm wide (4 x HCU)	800-mm wide (6 x HCU)
Incoming Cabinet	-	400-mm wide 6-pulse (630–1,600 A)	600-mm wide: 6-pulse (2,000–2,500 A) 12-pulse (2x630–2x1,000 A)	800-mm wide 6-pulse (3,200 A)
Basic Rectifier Cabinet	-	400-mm wide (1 x T2)	600-mm wide (2 x T2)	800-mm wide (3 x T2)
Active Rectifier Cabinet	-	-	600-mm wide (BLCL+H8)	800-mm wide (BLCL+2 x H8)
Regenerative Rectifier Cabinet	-	-	600-mm wide (L+H8)	800-mm (L+2 x H8)
H8 inverter cabinet	-	400-mm wide (1 x H8)	600-mm wide (2 x H8)	800-mm wide (3 x H8)
H7 inverter cabinet	-	400-mm wide (1 x H7)	600-mm wide (2 x H7)	800-mm wide (3 x H7)
H6 inverter cabinet	-	400-mm wide (1 x H6)	600-mm wide (2 x H6)	800-mm wide (3 x H6)

Name	300-mm wide	400-mm wide	600-mm wide	800-mm wide
H1 to H6 multi-function cabinet	-	400-mm wide (1 x H6) 400-mm wide (1 x H4) 400-mm wide (2 x H1 to H3)	600-mm wide (H6) 600-mm wide (H6+2 x H1 to H3) 600-mm wide (H4+2 x H1 to H3) 600-mm wide (2 x H4) 600-mm wide (4 x H1 to H3)	600-mm wide (2 x H6) 600-mm wide (H6+H4) 600-mm wide (H6+3 x H1 to H3) 600-mm wide (H4+3 x H1 to H3) 600-mm wide (5 x H1 to H3) 600-mm wide (3 x H4)
Braking Cabinet	-	-	600-mm wide	-
Connection Cabinet	300-mm wide	-	-	-

Note

H8, L, T2, and BLCL: The buffer or reactor is not included in H6/H7 inverter cabinet with a width of 600 mm or 800 mm.

Cable Inlet/Outlet Load Interfaces of the Power Cabinet

Specifications of cable inlet/output copper busbar and number of wiring holes						
Item	Cabinet type	Name	Current	Copper busbar (mm x mm)	Wiring hole	Recommended cable specification
1	Incoming Cabinet	LCU1-0630 x 6-pulse 400-mm wide	630 A	60 x 8	Φ13 x 4	4 x 150
2		LCU1-0800 x 6-pulse 400-mm wide	800 A			
3		LCU1-1000 x 6-pulse 400-mm wide	1,000 A	60 x 10		6 x 150
4		LCU1-1250 x 6-pulse 400-mm wide	1,250 A			4 x 240
5		LCU1-1600 x 6-pulse 400-mm wide	1,600 A	(60 x 6) x 2	Φ17 x 4	6 x 240
6		LCU2-2000 x 6-pulse 600-mm wide	2,000 A	(80 x 8) x 2	Φ17 x 5	8 x 240
7		LCU2-2500 x 6-pulse 600-mm wide	2,500 A	(80 x 10) x 2		10 x 240
8		LCU3-3200 x 6-pulse 800-mm wide	3,200 A	(100 x 8) x 3	Φ17 x 6	10 x 300
9		LCU2-0630 x 12-pulse 600-mm wide	630 A	50 x 6	Ø17	2 x 240
10		LCU2-0800 x 12-pulse 600-mm wide	800 A	(50 x 6) x 2	Φ17 x 2	4 x 240
11		LCU2-1000 x 12-pulse 600-mm wide	1000 A	(50 x 6) x 2	Φ17 x 2	4 x 240
12	Inverter cabinet	MD880-50M-0410-7	516 A	40 x 8	Φ13 x 2	3 x 95
13		MD880-50M-0639-4	639 A	40 x 8	Φ13 x 2	3 x 120
14		MD880-50M-0757-4	757 A	40 x 8	Φ13 x 2	4 x 120
15		MD880-50M-0900-4	900 A	40 x 8	Φ13 x 2	4 x 120
16		MD880-50M-0340-7	340 A	40 x 8	Φ13 x 2	2 x 70
17		MD880-50M-0410-7	410 A	40 x 8	Φ13 x 2	3 x 70
18		MD880-50M-0530-7	530 A	40 x 8	Φ13 x 2	3 x 95
19		MD880-50M-0600-7	600 A	40 x 8	Φ13 x 2	3 x 120
20		MD880-50M-0721-7	721 A	40 x 8	Φ13 x 2	2 x 150
21	Braking Cabinet	MD880-60M-0500-4	500 A	40 x 8	Φ13 x 6	3 x 75
22		MD880-60M-0750-4	750 A	40 x 8	Φ13 x 6	3 x 95
23		MD880-60M-0870-7	870 A	40 x 8	Φ13 x 6	3 x 95
24		MD880-60M-1300-7	1,300 A	40 x 8	Φ13 x 6	3 x 150

Note

- For details of the cabinet models, see *"2.2 Cabinet Model" on page 46*.
- For power interfaces of H1 to H7 invertercabinets, see *MD880-50 Series Inverter Module Hardware Guide*.

1.13.9Dimensions of the Cabinet and Bottom Via Holes

Auxiliary cabinet

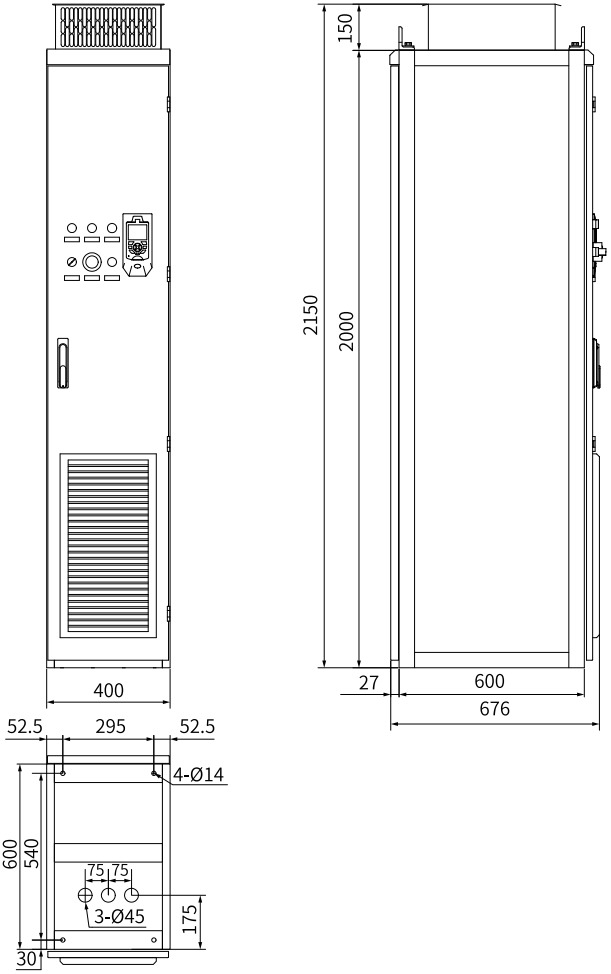


Figure 1-9 400-mm wide auxiliary cabinet (mm)

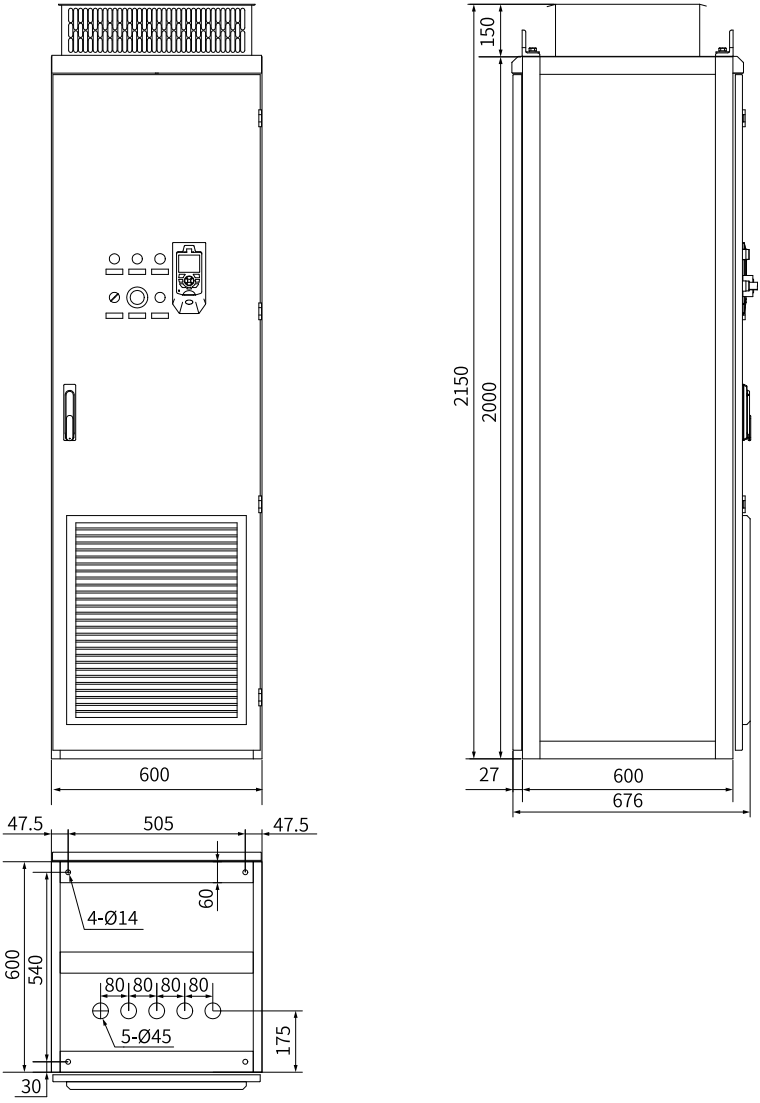


Figure 1-10 600-mm wide auxiliary cabinet (mm)

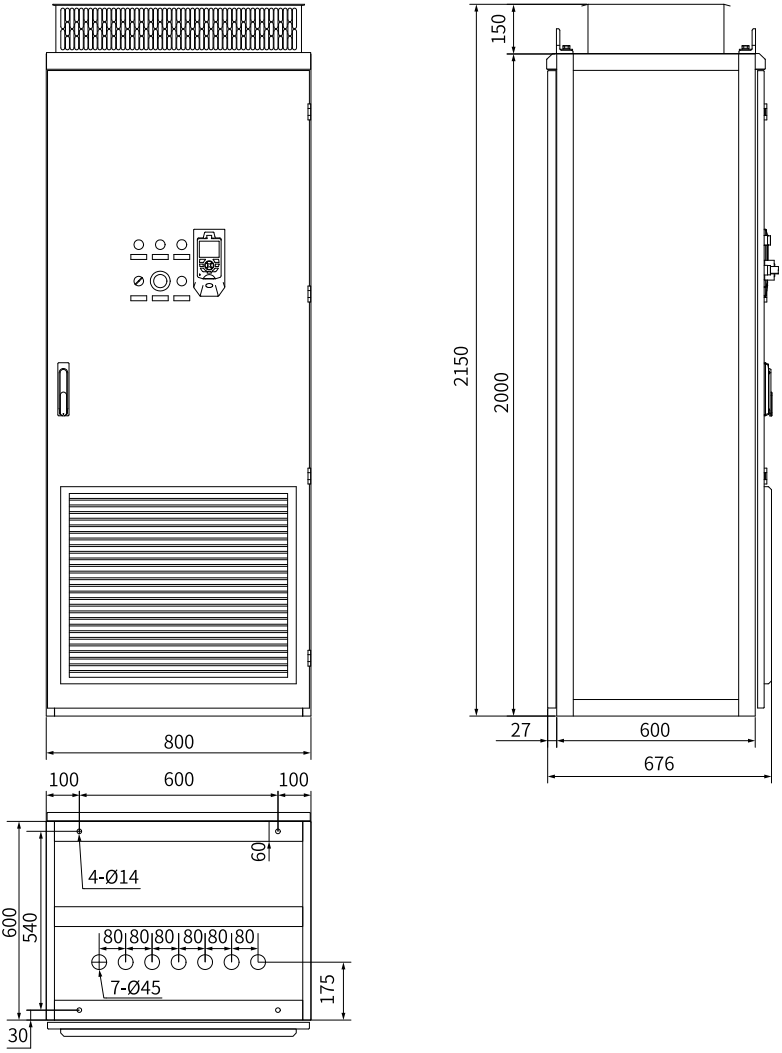


Figure 1-11 800-mm wide auxiliary cabinet (mm)

Incoming cabinet

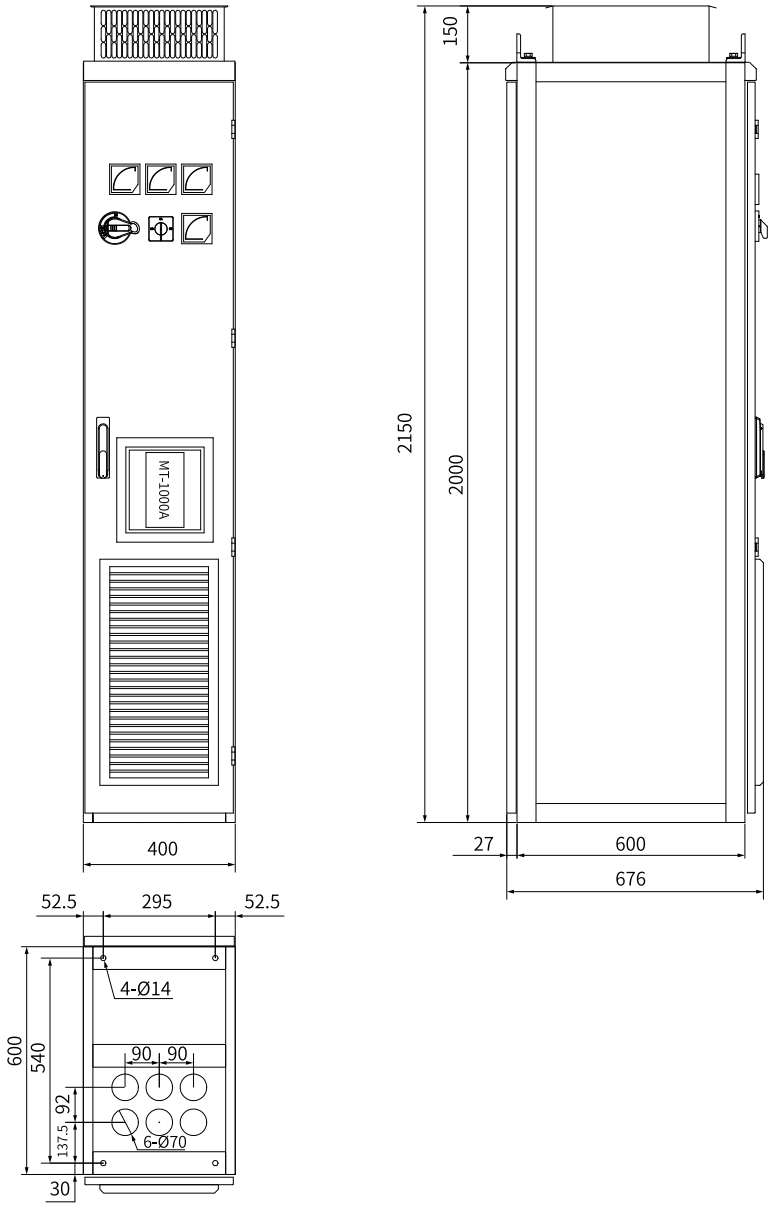


Figure 1-12 6-pulse 400-mm wide incoming cabinet (mm)

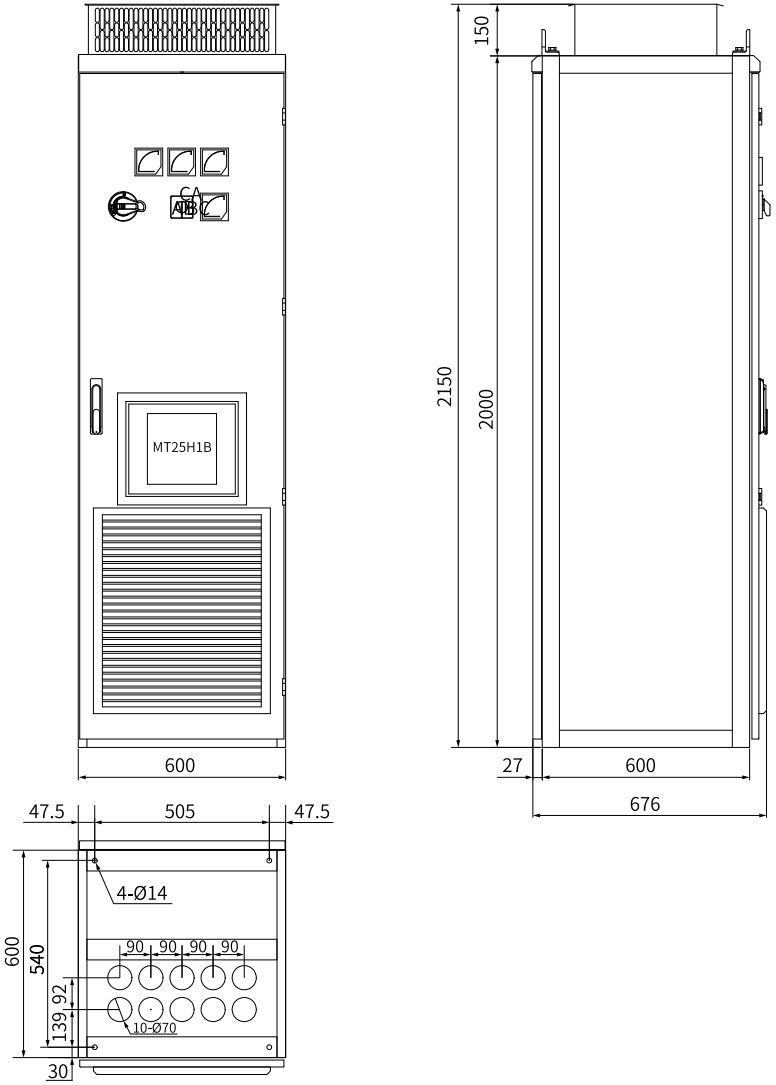


Figure 1-13 6-pulse 600-mm wide incoming cabinet (mm)

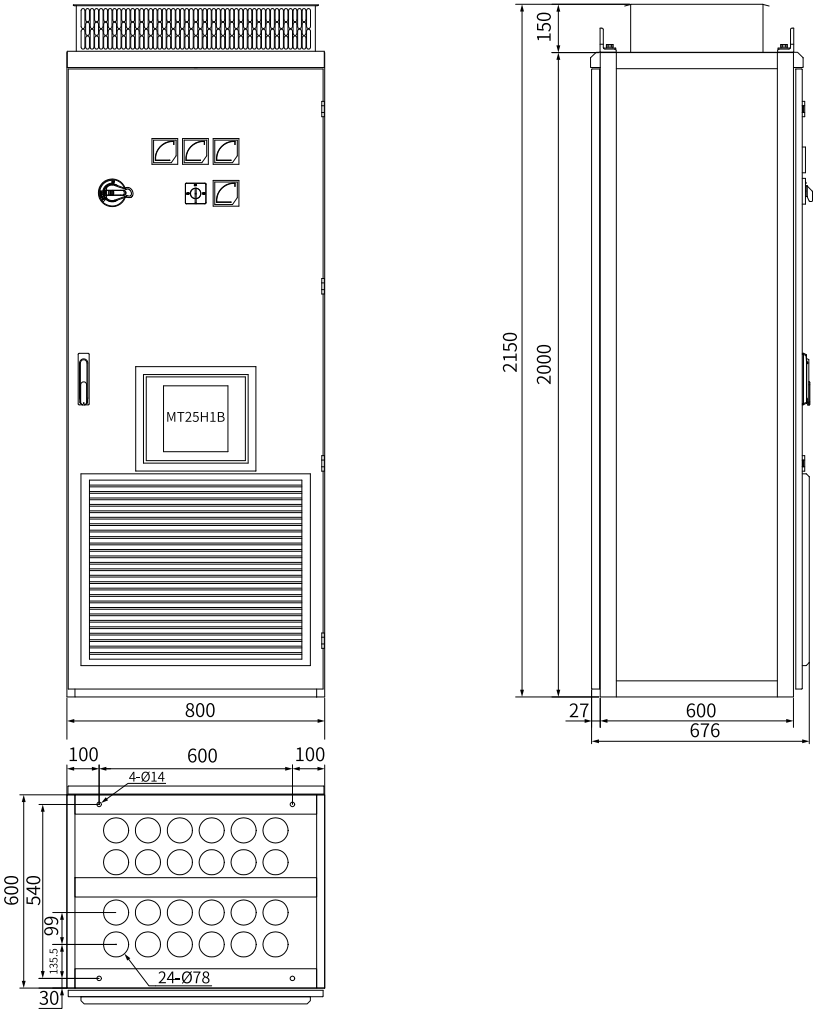


Figure 1-14 6-pulse 800-mm wide incoming cabinet (mm)

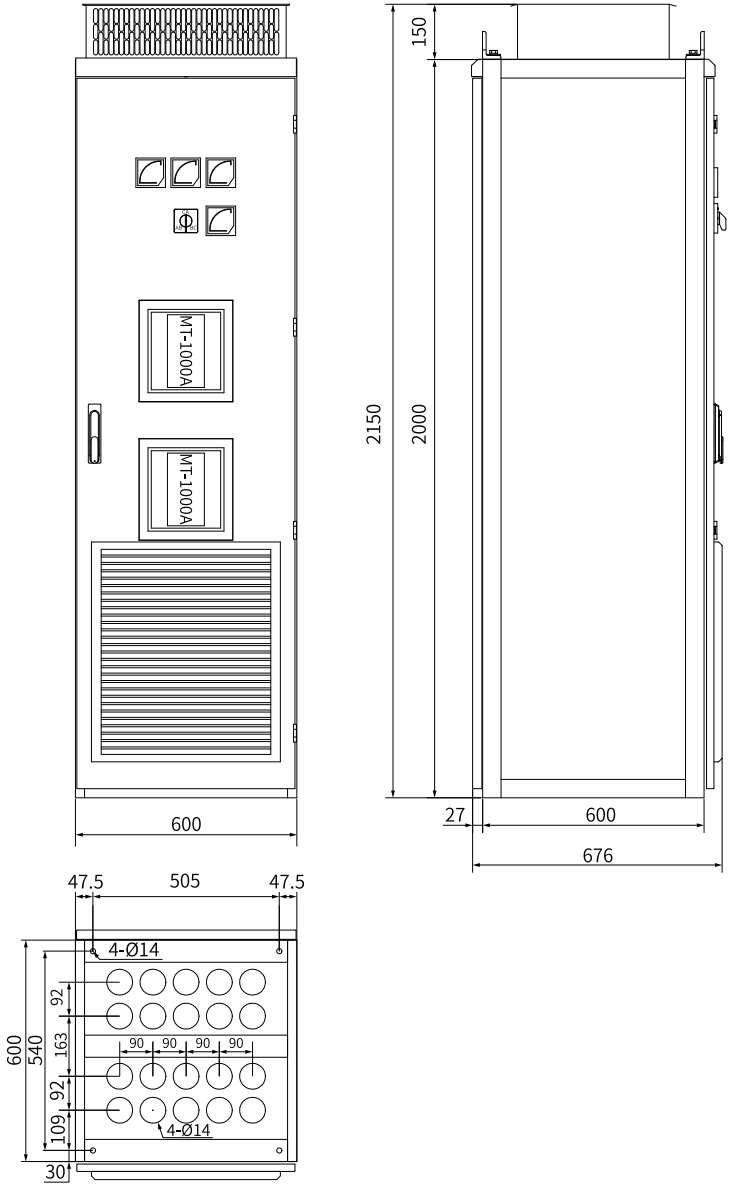


Figure 1-15 12-pulse 600-mm wide incoming cabinet (mm)

Rectifier cabinet

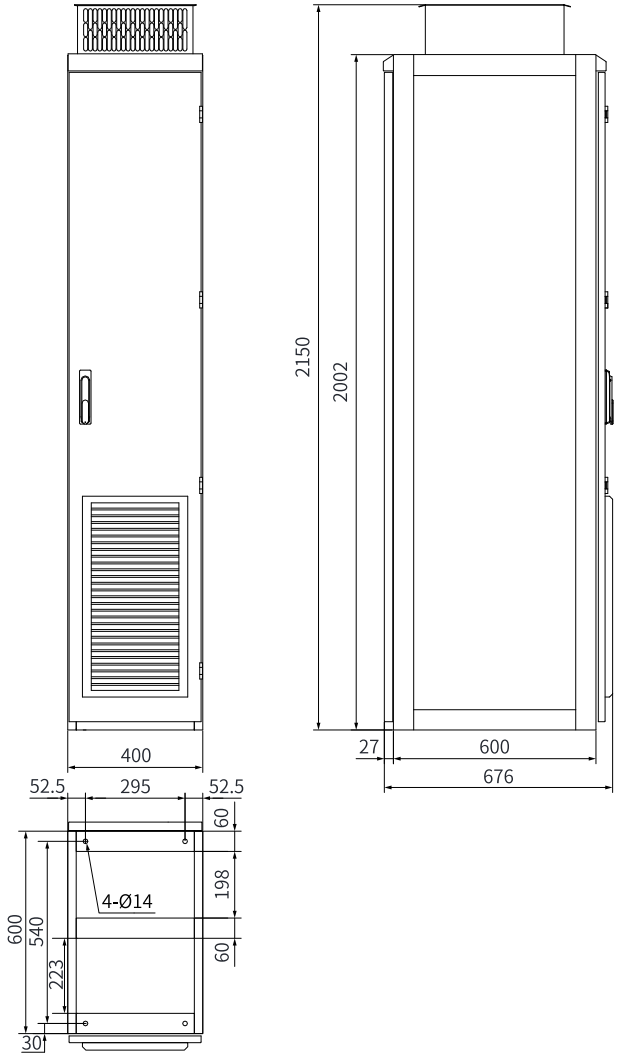


Figure 1-16 400-mm wide rectifier cabinet (mm)

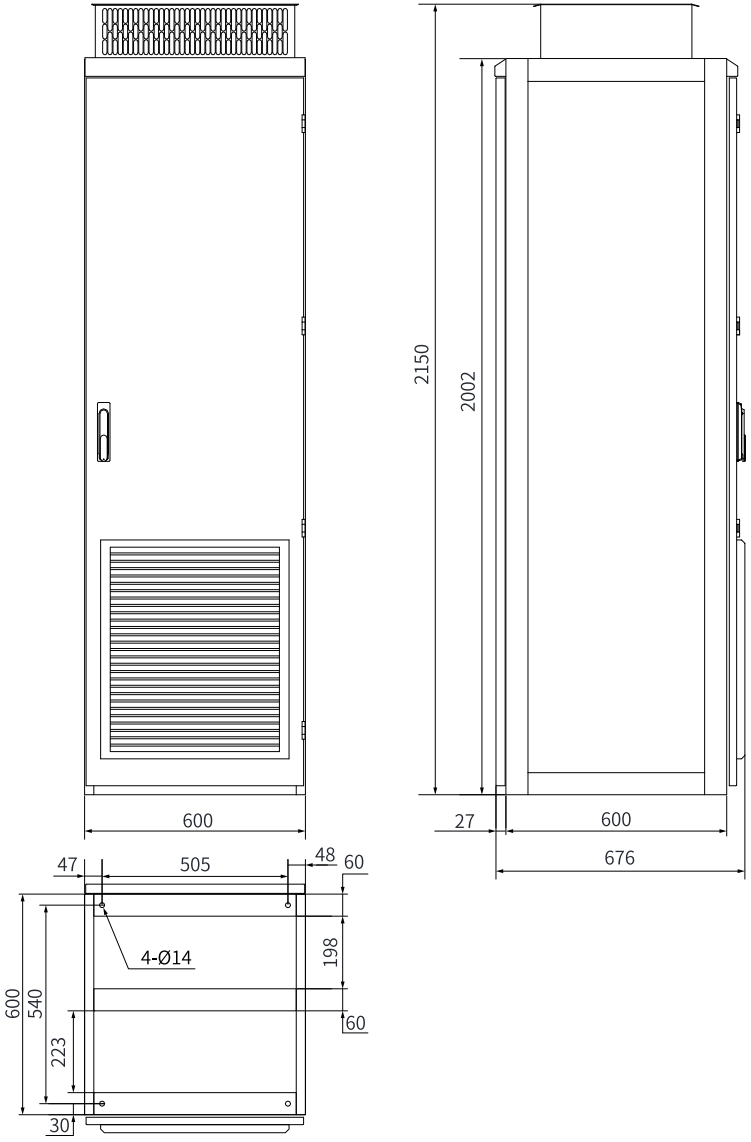


Figure 1-17 600-mm wide rectifier cabinet (mm)

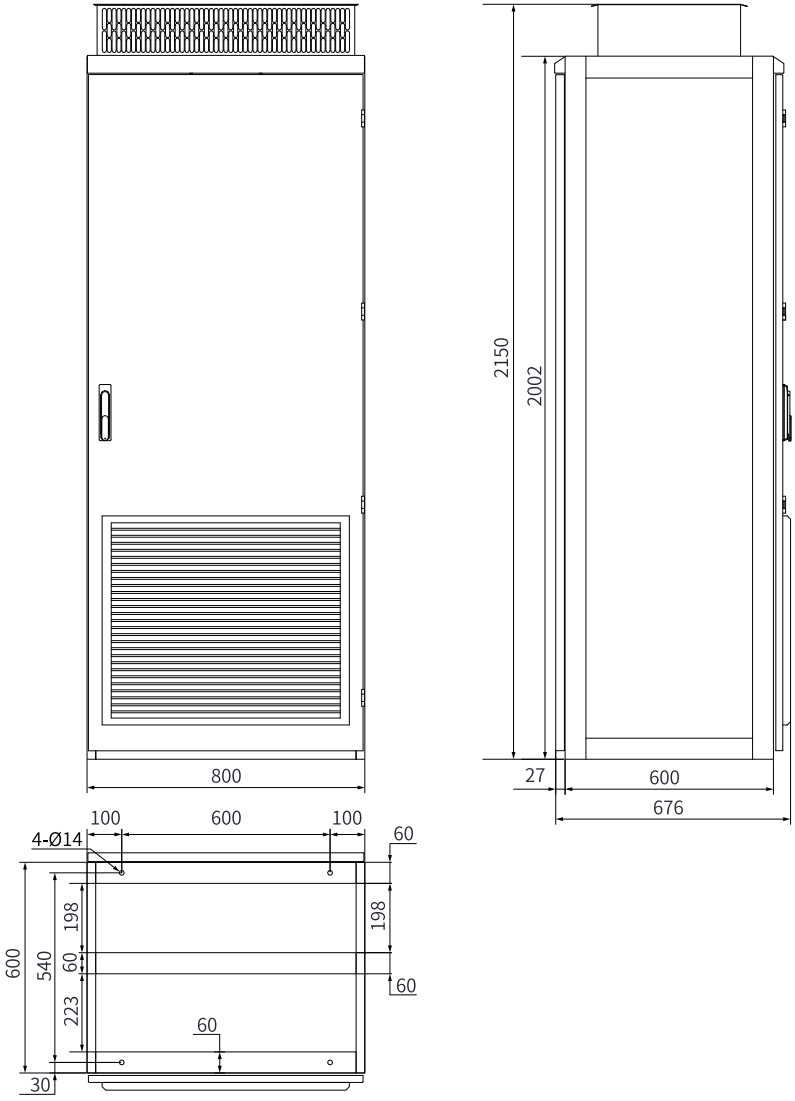


Figure 1-18 800-mm wide rectifier cabinet (mm)

Inverter cabinet

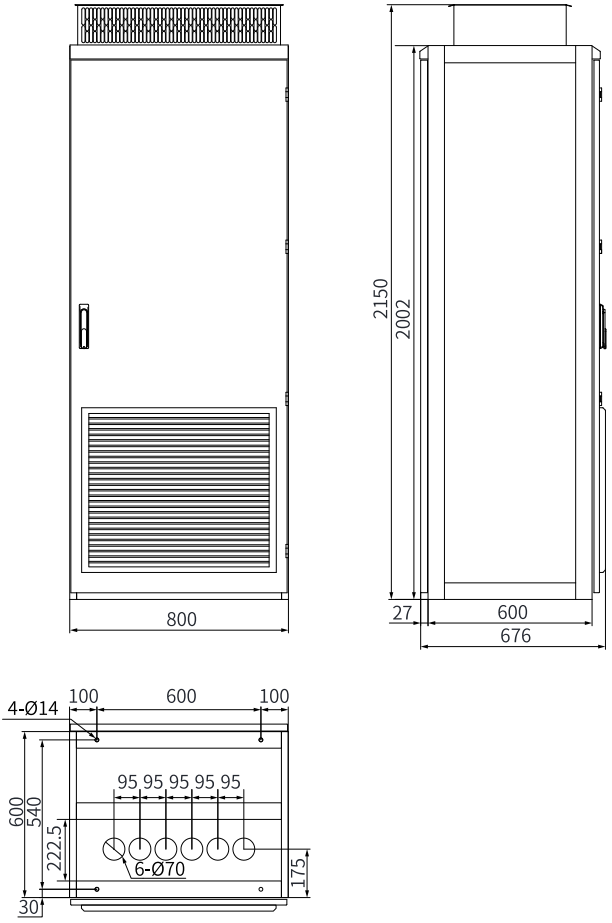


Figure 1-19 800-mm wide H1 to H6 inverter cabinet (mm)

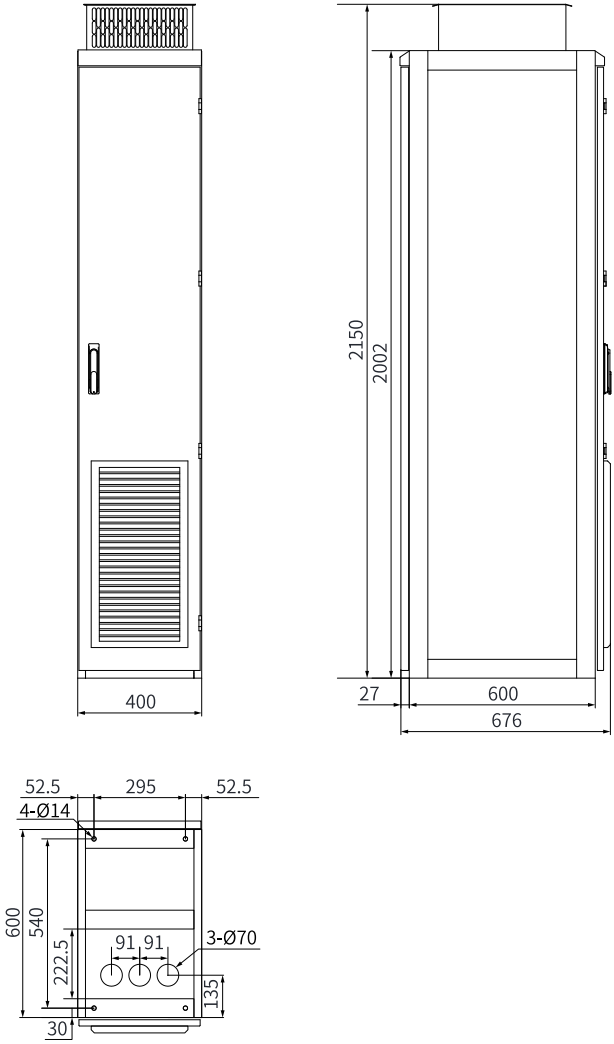


Figure 1-20 400-mm wide H6/H7 inverter cabinet (mm)

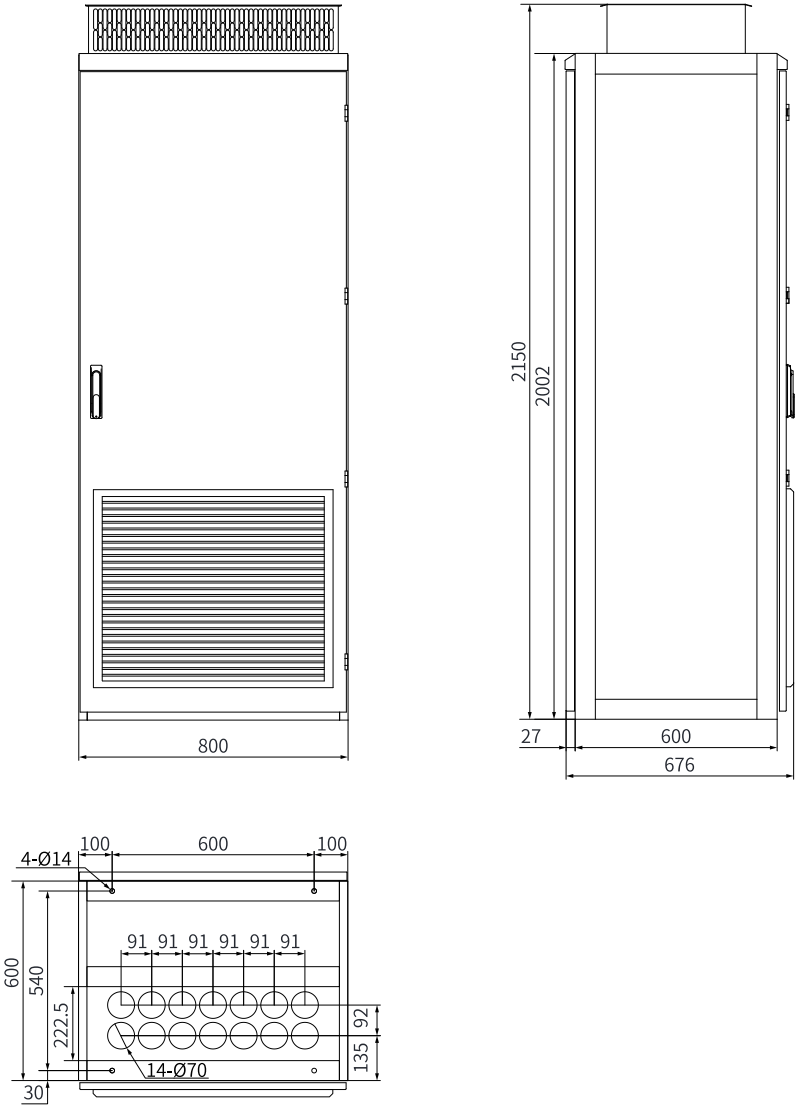


Figure 1-21 800-mm wide H6/H7 inverter cabinet (mm)

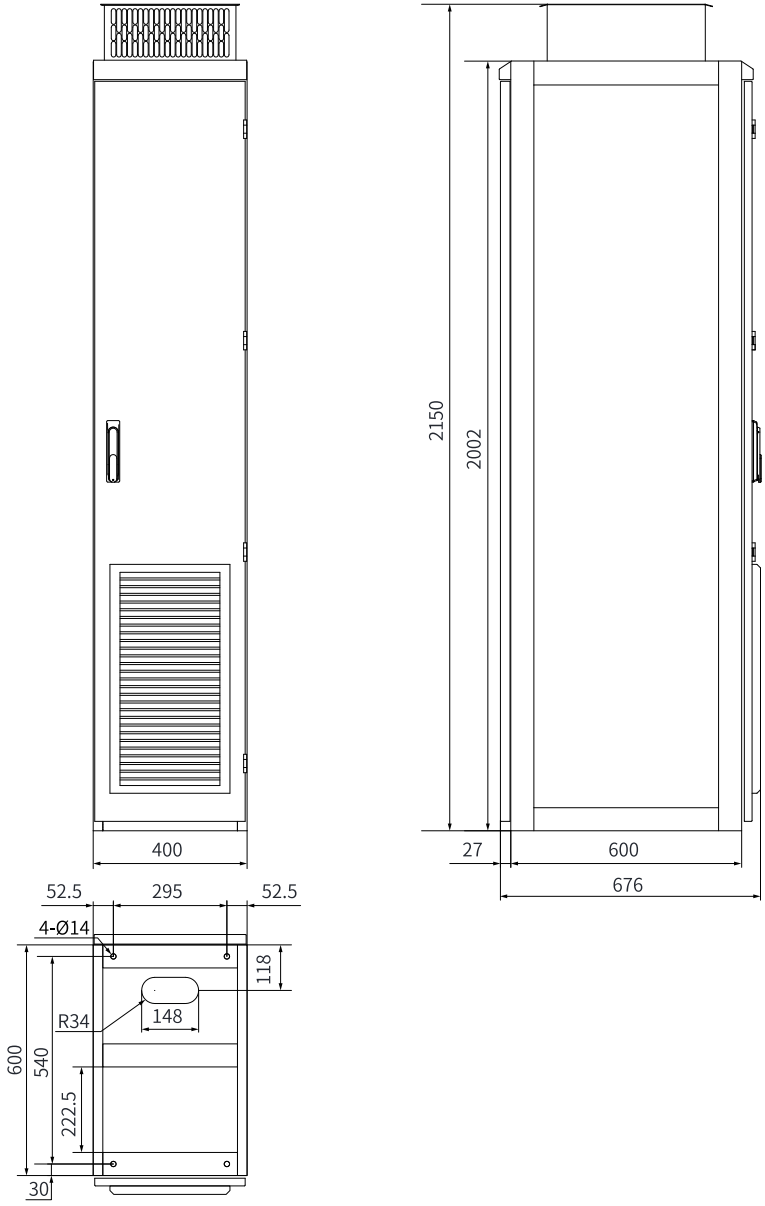


Figure 1-22 400-mm wide H8 inverter cabinet (mm)

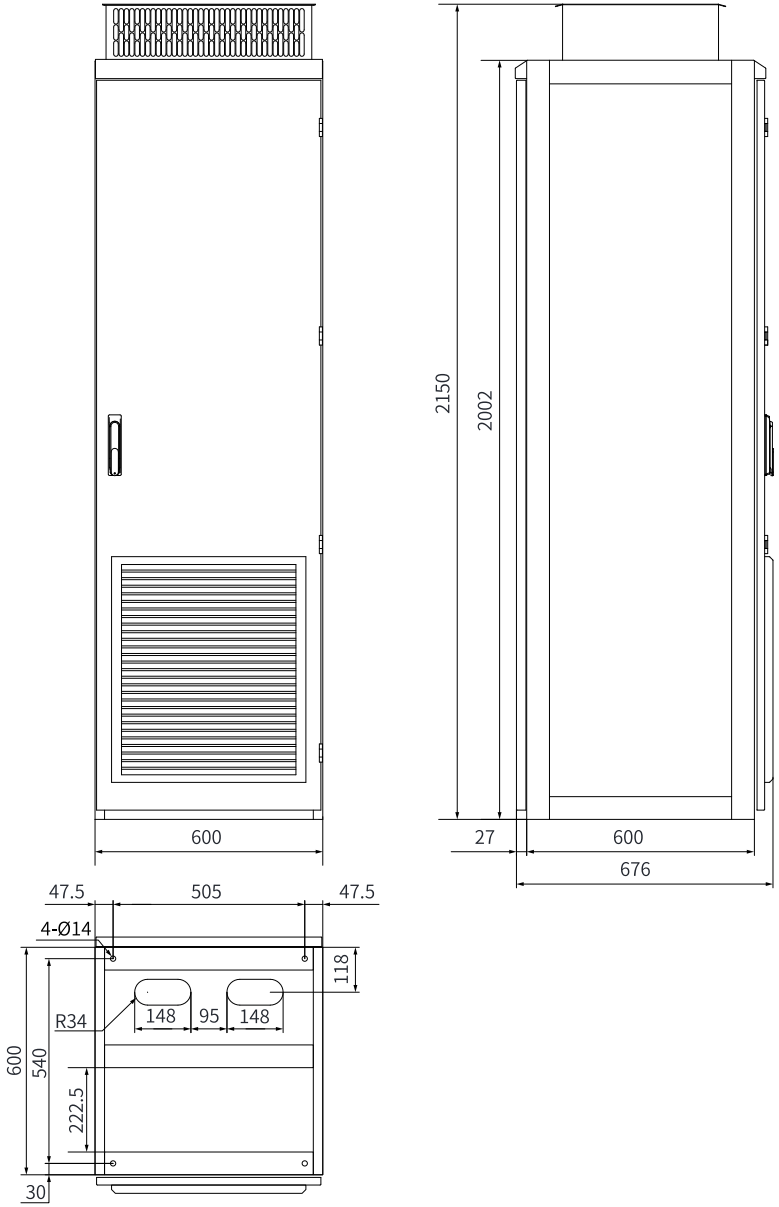


Figure 1-23 600-mm wide H8 inverter cabinet (mm)

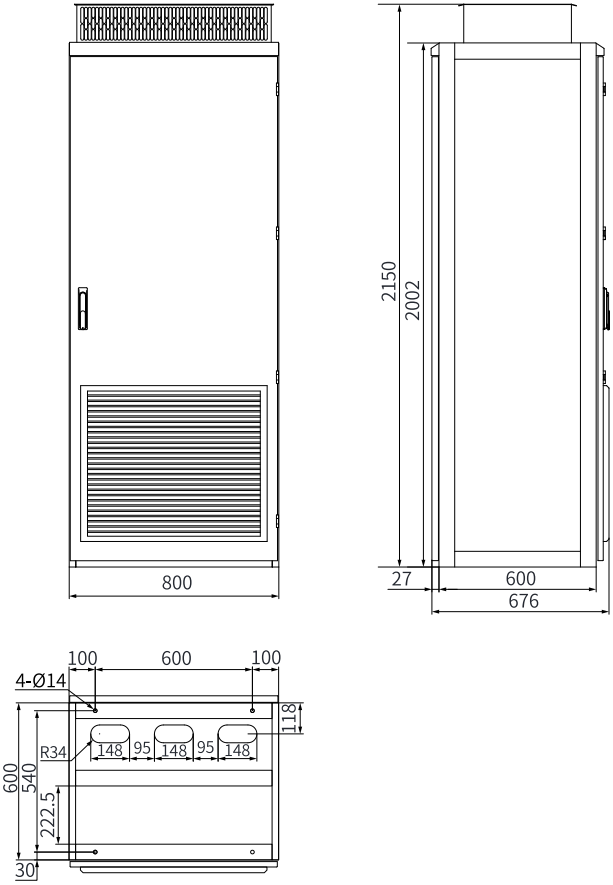


Figure 1-24 800-mm wide H8 inverter cabinet (mm)

Braking cabinet

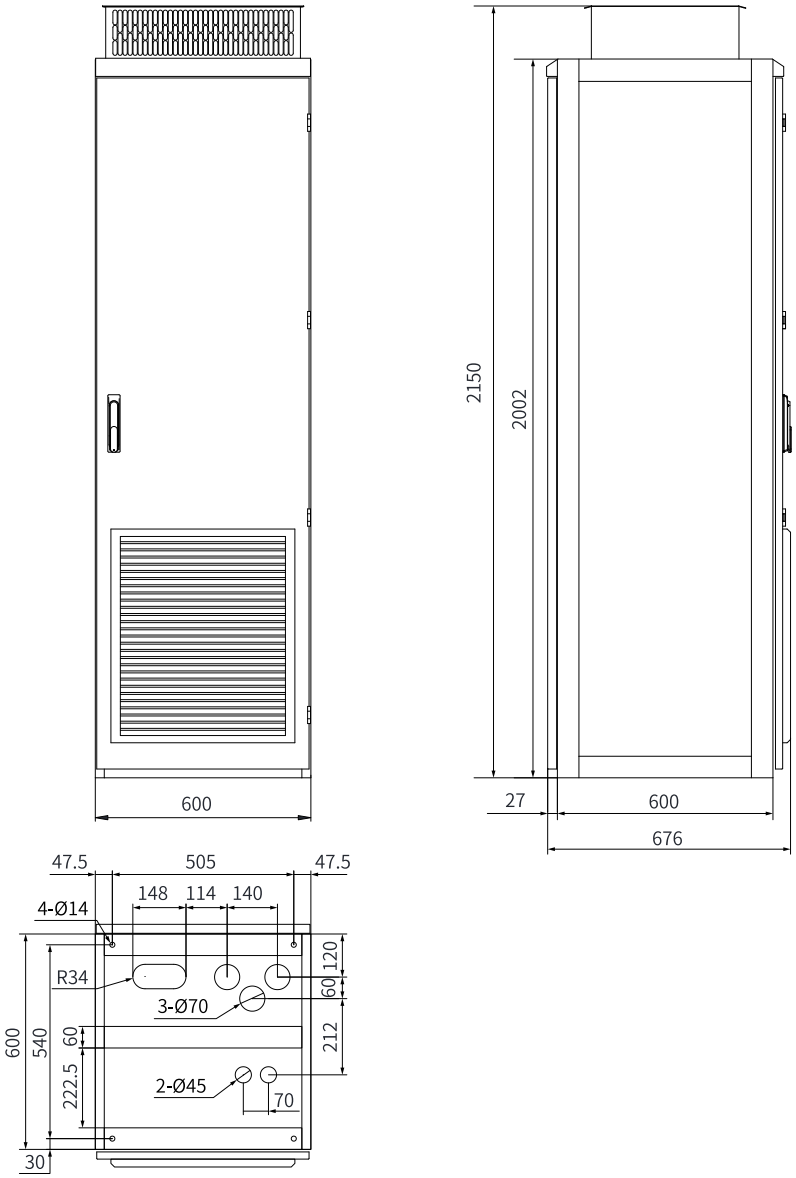


Figure 1-25 600-mm wide three-phase braking cabinet (mm)

Connection cabinet

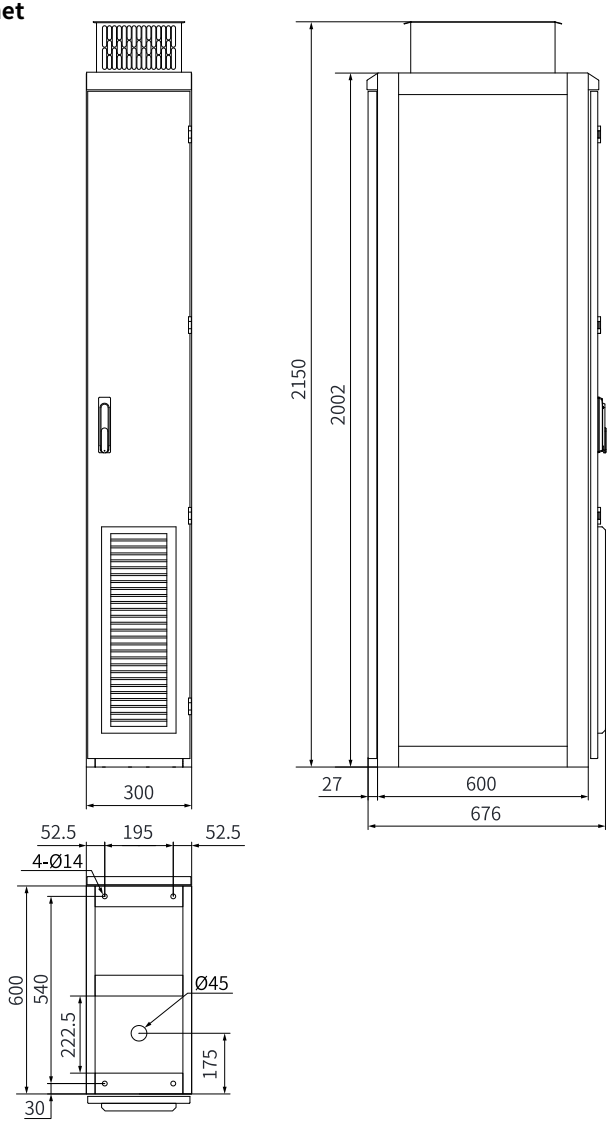


Figure 1-26 300-mm wide connection cabinet (mm)

2 Appendix

2.1 Acronyms

No.	Acronyms	Description
1	H1 to H7	Inverter module with different outline dimensions
2	H8	Indicates the inverter module in an inverter cabinet. Indicates an active rectifier module in an active rectifier cabinet. Indicates regenerative rectifier module in an regenerative rectifier cabinet.
3	T2	Basic rectifer module
4	HCU	Control module
5	BLCL	Active rectifier filter module
6	L	Regenerative rectifier filter module

2.2 Cabinet Model

MD880-50C-800-0800
① ② ③ ④

① **Product platform** MD880: MD880 series	③ **Cabinet width** 300: 300 mm 400: 400 mm 600: 600 mm 800: 800 mm
② **Product type** 01C: Auxiliary cabinet 11C: 6-pulse basic rectifier incoming cabinet 12C: 12-pulse basic rectifier incoming cabinet 13C: Regenerative/Active rectifier incoming cabinet 20C: Basic rectifier cabinet 30C: Regenerative rectifier cabinet 40C: Active rectifier cabinet 50C: Inverter cabinet 60C: Braking cabinet 70C: Connection cabinet	④ **Rated current of the incoming cabinet** 0630: 630 A 0800: 800 A 1000: 1000 A 1250: 1250 A 1600: 1600 A 2500: 2500 A 3200: 3200 A

Copyright © Shenzhen Inovance Technology Co., Ltd.

19012266B01

Shenzhen Inovance Technology Co., Ltd.

www.inovance.com

Add.: Inovance Headquarters Tower, High-tech Industrial Park,
Guanlan Street, Longhua New District,
Shenzhen 518000, P.R. China
Tel: (0755) 2979 9595 Fax: (0755) 2961 9897

Suzhou Inovance Technology Co., Ltd.

www.inovance.com

Add.: No.52, Tian E Dang Road, Wuzhong District,
Suzhou 215104, P.R. China
Tel: (0512) 6637 6666 Fax: (0512) 6285 6720