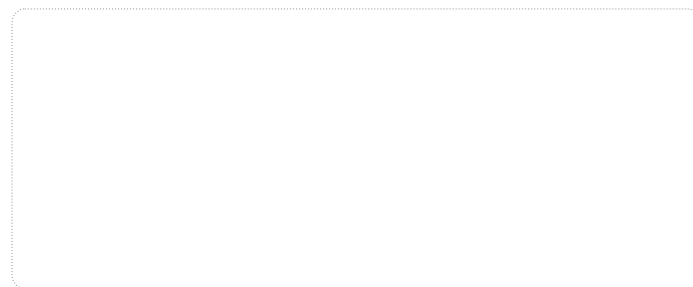


Goodrive300 Series

High Performance Vector Control Inverter

Your trusted industry automation solution provider



Service line:86-755-86312859 E-mail:overseas@invt.com.cn

SHENZHEN INVT ELECTRIC CO., LTD.

No. 4 Building, Gaofa Scientific Industrial Park, Longjing, Nanshan District, Shenzhen, China

- Industrial Automation:** ■ Frequency Inverter ■ Servo & Motion Control ■ Motor & Electric Spindle ■ PLC
 ■ HMI ■ Intelligent Elevator Control System ■ Traction Drive
- Electric Power:** ■ SVG ■ Solar Inverter ■ UPS ■ Online Energy Management System

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201308 (V3.0)



Brief introduction of Goodrive300 inverter

Goodrive300 series inverters are high performance open loop vector inverters for controlling asynchronous AC induction motors and permanent magnet synchronous motors. Applying the most advanced sensorless vector control technology which keeps pace with the leading international technology and DSP control system, the product enhances its reliability to meet the requirement of environment adaptability, customized and industrialized design with more optimized functions, more flexible application and more stable performance.

Ratings

3AC 380V: 1.5kW~500kW
3AC 660V: 22kW~630kW

Advantages

Combined Drive

Multi function with simple operation

Reliable quality certificated by TÜV SÜD

3 International Communication Protocols



| | |
|--|-----|
| Product Profile | 0 1 |
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Combined Drive



1. Compatible with multiple motors

Vector drive for asynchronous AC induction motors and permanent magnet synchronous motors. Reduce the inventory effectively without considering the motor compatibility.



Remarks:
 1. The traditional permanent magnet synchronous motor includes SPM and IPM.
 2. The variable frequency motor includes high speed spindle.

2. More Accurate Motor Autotuning

Correct rotating and static motor autotuning. Convenient debugging, easy operation.

| Rotating Autotuning | Static Autotuning |
|--|---|
| De-couple from the load Applied to the situation with high control accuracy | No need to de-couple from the load Applied when rotating autotuning is not available |

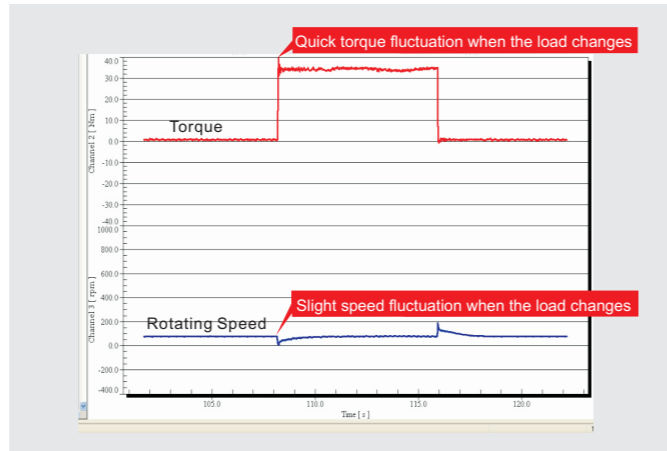
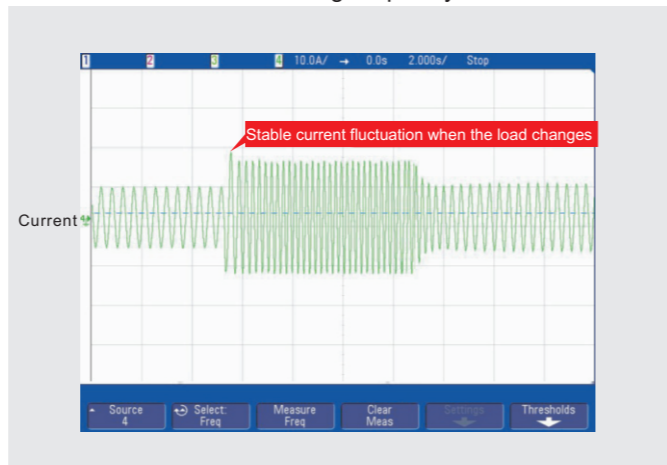
4. Advanced Open Loop Vector Control

(1) Asynchronous Motor

| Starting Torque | Dynamic Response | Speed Ratio | Steady Speed Accuracy |
|-----------------------------|------------------|-------------|-----------------------|
| 0.25Hz/150% of rated torque | <20ms | 1: 200 | ± 0.2% |

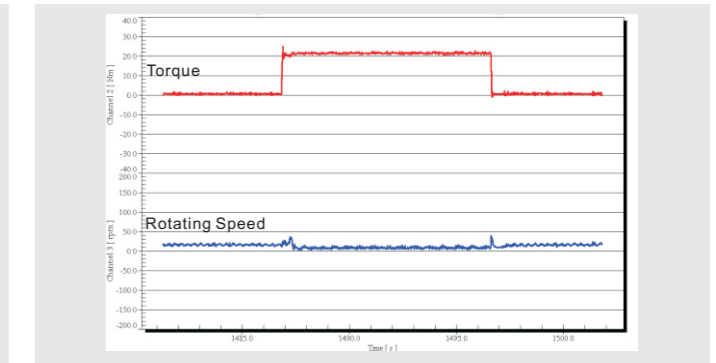
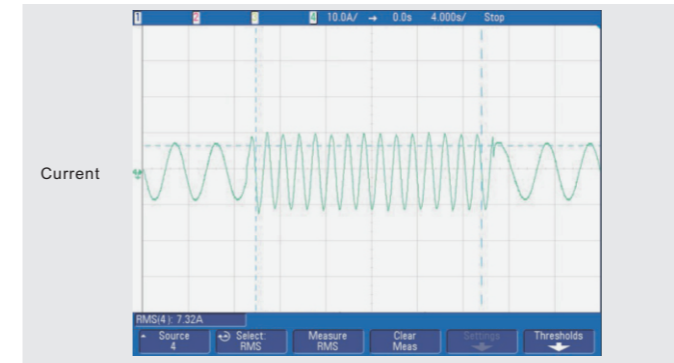
3. Optimized SVPWM Control

The current, torque and rotating speed waveforms when sudden loading or unloading in asynchronous motor SVPWM control mode with 2Hz running frequency and full load.

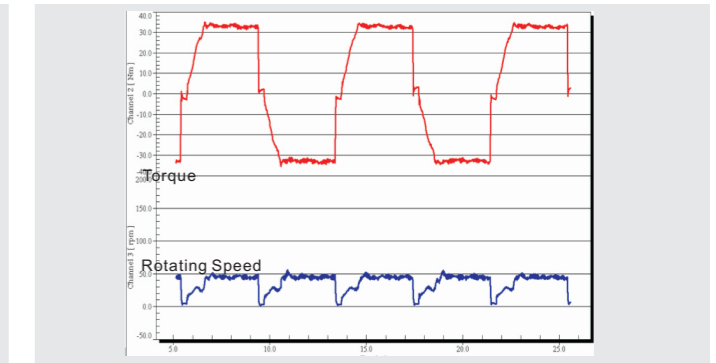
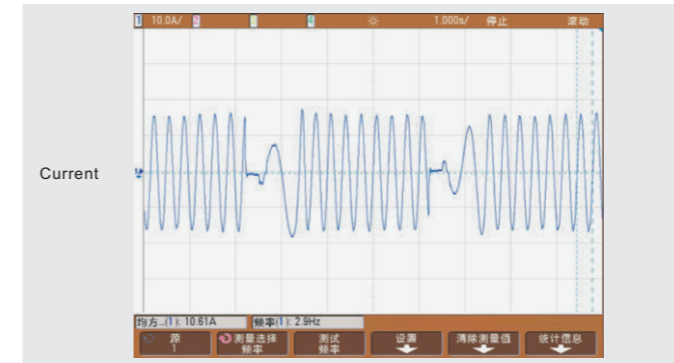


(2) Synchronous Motor

| Starting Torque | Dynamic Response | Speed Ratio |
|----------------------------|------------------|-------------|
| 2.5Hz/150% of rated torque | <40ms | 1: 20 |

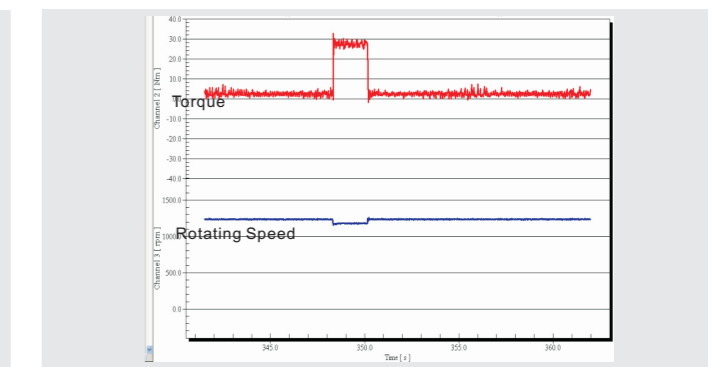
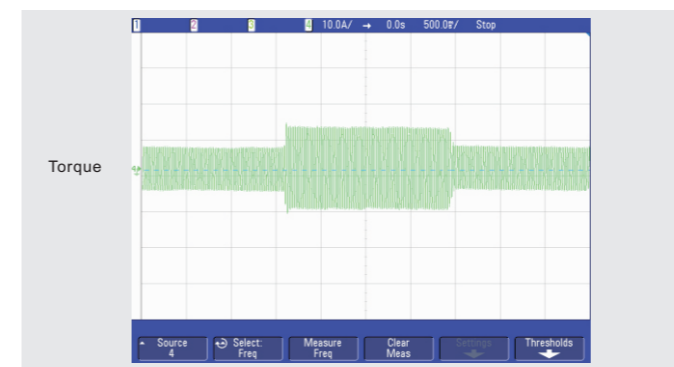


The current, torque and rotating speed waveforms when sudden loading or unloading in asynchronous motor open loop vector control mode with 0.25Hz running frequency and full load.

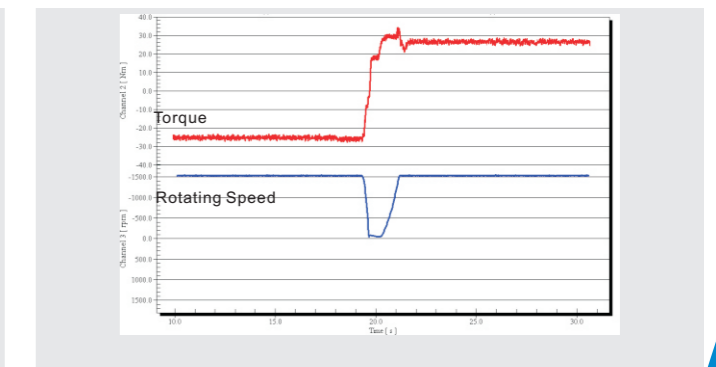
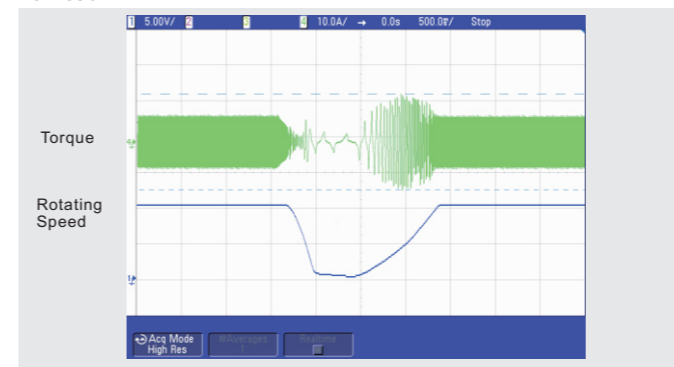


The current, torque and rotating speed waveforms when sudden loading or unloading in synchronous motor open loop vector control mode with 3Hz running frequency and full load.

5. Torque Control Mode (open loop)

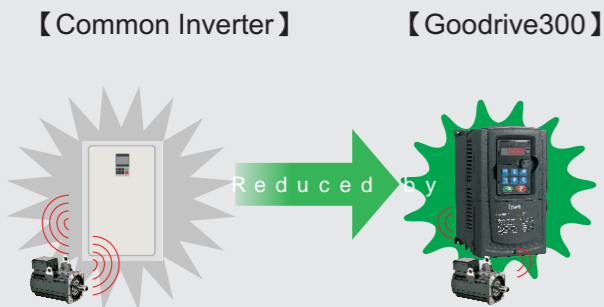


The current, torque and rotating speed waveforms when sudden loading or unloading in asynchronous motor torque control mode with full load.

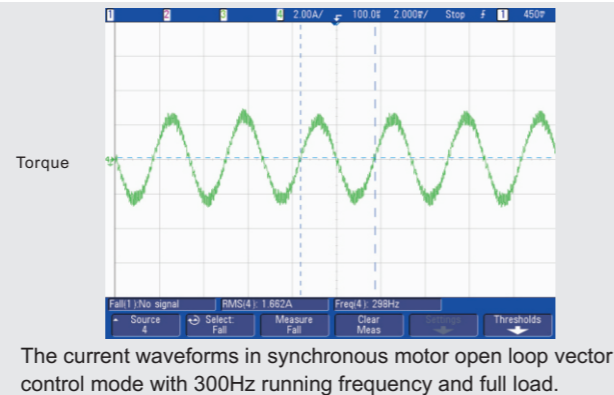


The FWD/REV current, torque and rotating speed waveforms in synchronous motor torque control mode with 100Hz running frequency and full load.

6. More smoother and more quieter running by applying advanced 3-phase modulation



7. Excellent performance on specific motors such as High speed spindle, Direct-control motor

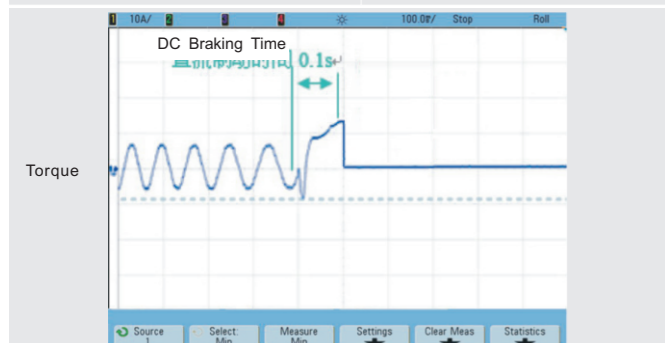


8. Perfect voltage and current control, reducing the fault protection times

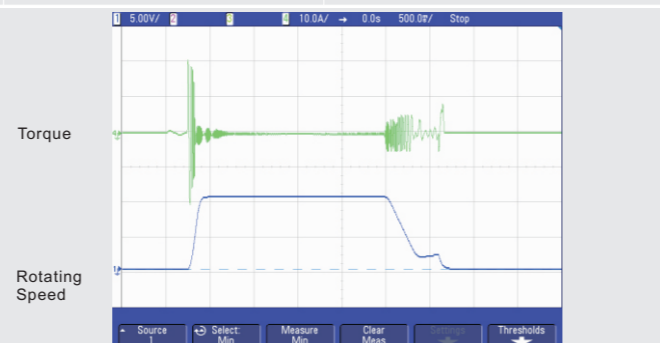
| OV Fault | OC Fault |
|--|--|
| Adjust the output frequency to avoid overvoltage of the DC bus during deceleration | Adjust the output frequency to avoid overcurrent of the inverter during acceleration |

9. Multiple braking modes and instant stopping

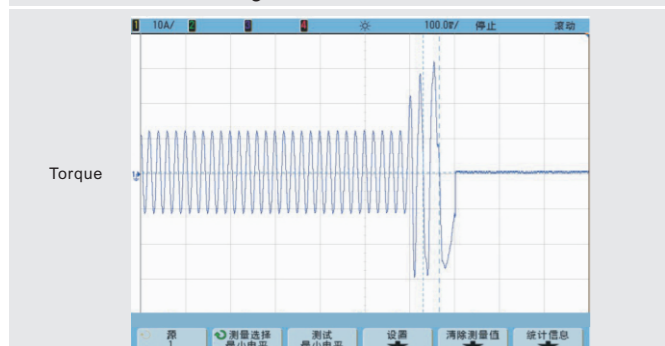
| Dynamic Braking | DC Braking | Flux Braking | Short Braking |
|---|---|--|---|
| Configure braking units and resistors | No need to configure braking units and resistors | No need to configure braking units and resistors | No need to configure braking units and resistors: quick braking |
| Available on the situation of big inertia load and frequent braking | Available on the situation when start the running motor after braking and the situation when keep the moment output after braking to zero speed | Available on the instant stopping situation with big inertia load and no frequent braking | Only available on quick braking of PM motor |
| Big braking torque and quick braking | Not available on the situation of big inertia load or instant stopping braking in high speed running | Not available on the situation of big inertia load and frequent braking(the energy consumed on the stator and its cooling is better than DC braking) | The energy consumed on the stator and its cooling is better than DC braking |



The current waveform in asynchronous motor SVPWM control mode with 100% braking current when the starting frequency is 10Hz and the braking time is 0.1s.



Short circuit braking waveform of synchronous motors. The acceleration time is 0.1s and the deceleration time is 0.4s(rated frequency:100Hz,braking frequency:20Hz,braking time:0.5s)



Flux braking current waveform when the running frequency is 50Hz, deceleration time is 0.1s with full load in asynchronous motor SVPWM control mode



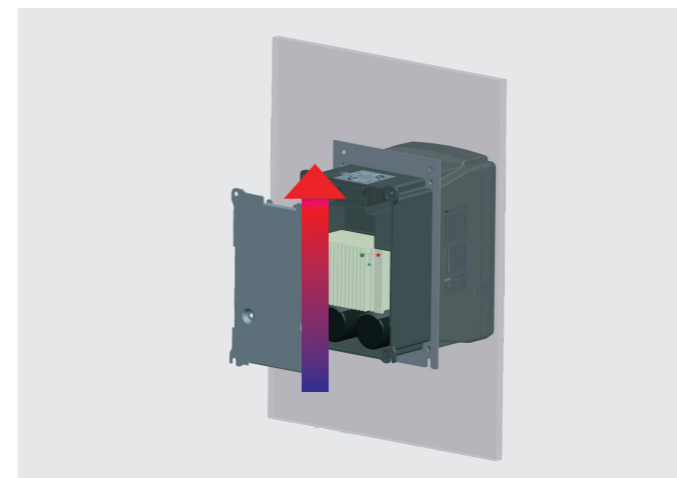
The inverter can keep running if the grid voltage drops and used in the situation with high requirement such as fiberic and textile production line.

Multi -function with simple operation



1. Separate Air-duct

The separate air duct prevents the contaminants into the electronic parts/components and greatly improves the protective effect of the inverter, as well as its reliability and service life, to adapt various complicated site environments. It can also facilitate the heat-releasing in control cabinets and the heat-releasing design of the customer.



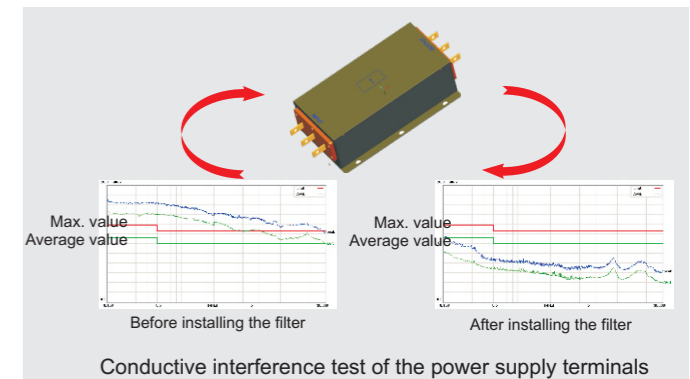
2. Multiple Installation Modes

Wall, flange and floor installation



3. C3 input filters (standard for 380V inverters) and C2 filters(optional for 380V inverters)

For 380V inverters, C3 input filter is embedded in the factory to meet different application requirements, save installation space and avoid the electromagnetic interference caused by incorrect selection and site installation.



Remarks:
 (1)C2 filter: EMC performance of the inverter achieves the limited usage requirement in civil environment.
 (2)C3 filter: EMC performance of the inverter achieves the limited usage requirement in industrial environment.

4. Book Structure

Parallel installation
 Little installation space with less cost and beautiful appearance.



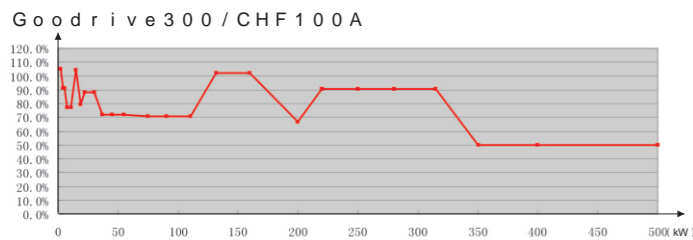
5. The rivet design ensures reliable integration connection

Greener Stronger corrosion-resistance Proper grounding Excellent EMC performance

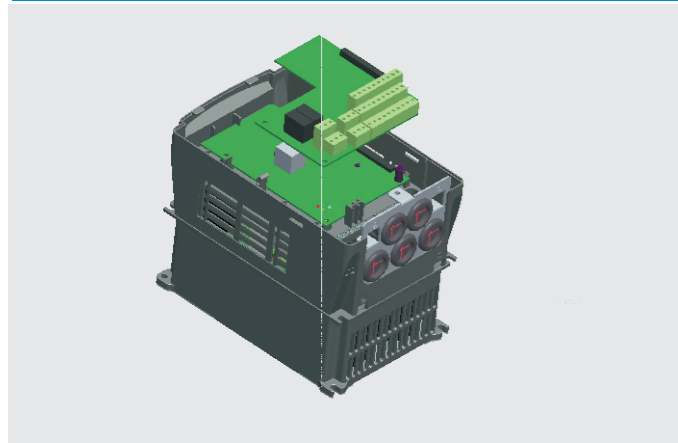


6. Smaller Size

Due to the thermal simulation and advanced modularized design, the size of our product is reduced greatly. The width ratio between Goodrive300 and CHF100A is shown in the figure below (the Max. percentage is 50%)

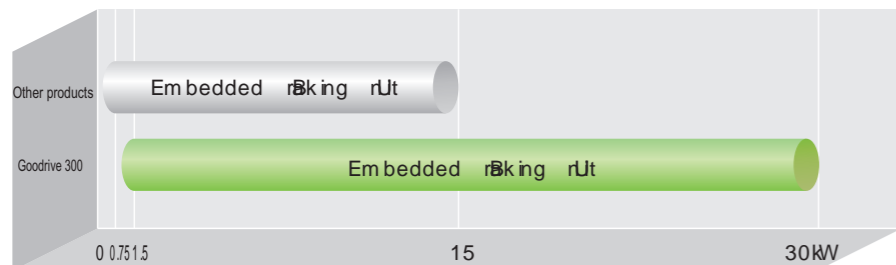


7. Various external interfaces and swappable terminal board convenient for replacement and maintenance



9. Embedded braking units of 1.5-30kW inverters

Reduce the occupied space and dynamic braking is available if install corresponding braking resistors.



Note: Only for 380V inverters.

| Terminals | Quantity | Features |
|------------------------|------------|-----------------------------|
| ON-OFF input | 8 channels | 1KHz NPN and PNP |
| High speed pulse input | 1 channel | 50KHz NPN and PNP |
| Analog input | 3 channels | 0~10V, 0~20mA, -10V~+10V |
| ON-OFF output | 1 channel | Max. output frequency:1KHz |
| High speed puls output | 1 channel | Max. output frequency:50KHz |
| Analog output | 2 channels | 0~10V, 0~20MA |
| Relay output | 2 channels | 3A/250DAC, 1A/30VDC, NO+NC |

8. High Performance Keypad

The standard LED keypad supports parameters loading and unloading with Max. length of 200m and digital potentiometer. The optional external LCD keypad supports parameters loading and unloading with displaying 10 lines and 10 rows of Chinese characters and several languages



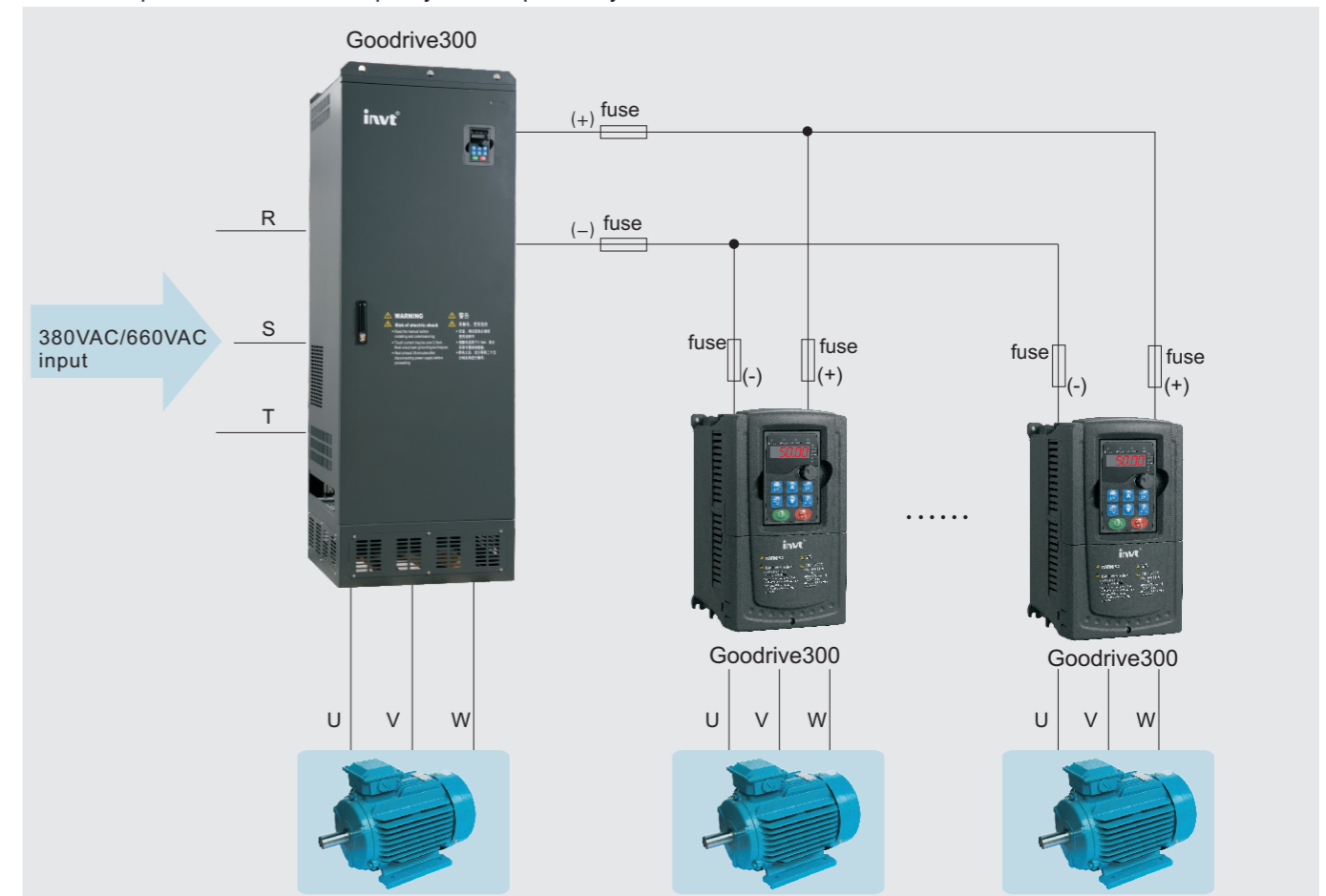
Standard LED Keypad



Optional LCD Keypad

10. Supporting common DC bus

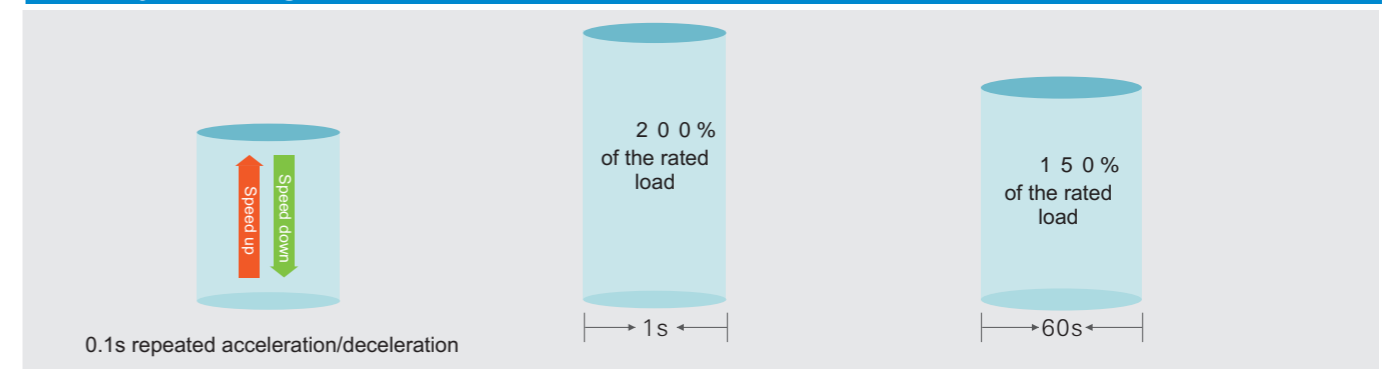
Reduce the power lost on DBR Note the impact current and the capacity of the input AC system



11. Available on DC power supply



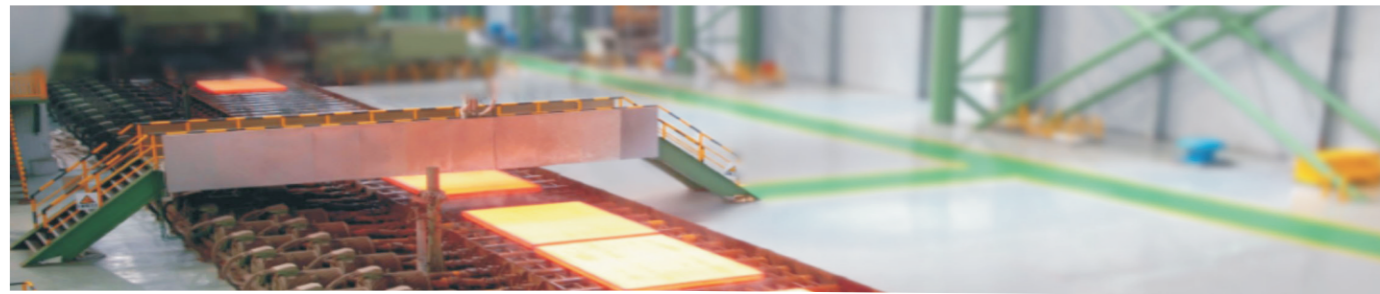
12. Heavy-load Design



13. Various Application Function

| Function | Effect |
|---|--|
| V-f separation setting | Meet the requirement of different power supplied and realize flexible setting to V/F curves |
| Two sets of motor parameters | Different motors can use the same inverter, reducing the cost, shifting between two motors making electrical control more convenient |
| Virtual terminal function | Make the middle variables as the local virtual I/O quantity, save the hardware configuration |
| Speed Tracking | Available on asynchronous motor and permanent magnet synchronous motor and the situation of big inertia load, reversal rotating during starting and continuous frequent shifting |
| Delay ON/OFF signal, high speed pulse and relay | Provide more programmable and control modes |
| Energy Displaying | Display the total consumed energy. No need to use the power meter |
| Stopping Delay | Ensure the motor is under control and stops safely |

Reliable quality certificated by TÜV SÜD

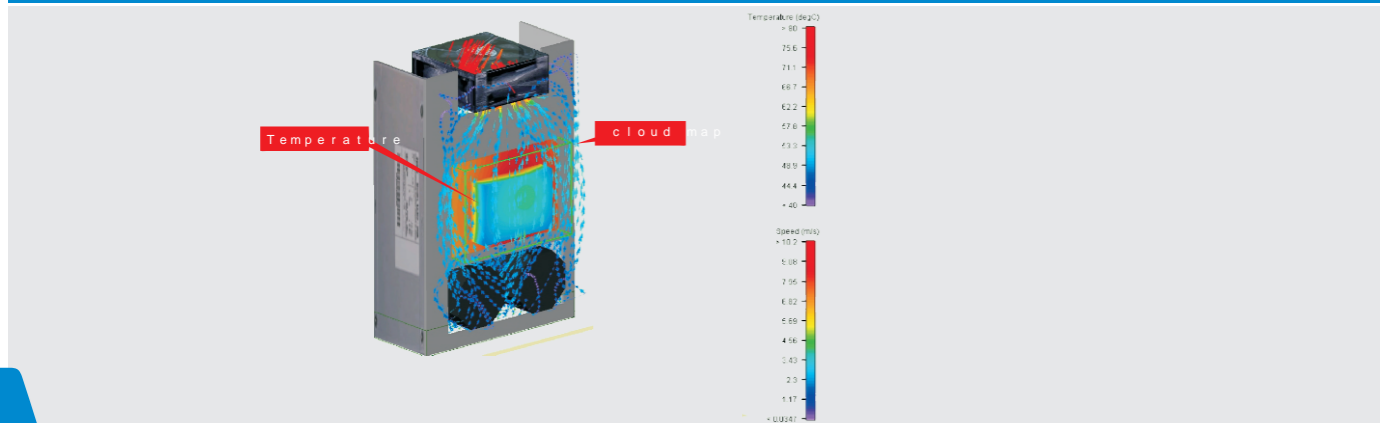


1.The product design follows IEC national standards and passes the CE test of international authority TÜV SÜD, INVT is the unique manufacturer having TÜV-MARK marks in Chinese industrial control field



Remarks: 1.Each Goodrive300 inverter has past the test certification.Only the inverters of 380V has passed CE certification and the inverters of 660V has no CE certification.
2.Visit http://www.tuev-sued.de/industry_and_consumer_products/certificates for the TUV certifications.

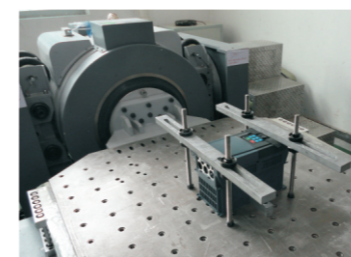
2. Advanced thermal technology makes exact thermal design



3. Perfect and reliable test system ensure products adapt complicated site environments and INVT is the only manufacturer achieved ACT certificate of TÜV SÜD

| Experiment Type | Experiment Name | Classification |
|--|--|---|
| Mechanical Reliability Experiments | Packaging Experiments | Package compression experiments |
| | | Package Resonance imaging and storage test |
| | | Package random vibration test |
| | | Package dropping test |
| | | Package rolling test |
| | | Package dumping test |
| | | Package inclined impact test |
| | Impact Test | Half-sine shock test(working and non-working state) |
| | | Trapezoidal wave impulse test(non-working state) |
| | Vibration Test | Sinusoidal vibration test(working state) |
| Random vibration test(working and non-working state) | | |
| Climatic Environmental Reliability Test | Temperature Experiment | Low temperature storage test |
| | | High temperature storage test |
| | | Low temperature experiments |
| | | High temperature experiments |
| | | Temperature gradient experiments |
| | | Temperature impact test |
| | Thermal Test | Constant thermal test |
| | | Alternation thermal test |
| | Salt Spray Test | Constant salt spray test |
| | | Alternation salt spray test |
| Low Air Pressure Test | Low temperature and low pressure test | |
| | High temperature and low pressure test | |

Remarks :
The full name of ACT is Acceptance of Client's Testing, which means the German TÜV SÜD admit the technology level of the lab and accept their separate testing data and test reports officially.



Electric Vibration System



Low Pressure Test Chamber
Constant temperature and humidity test chamber



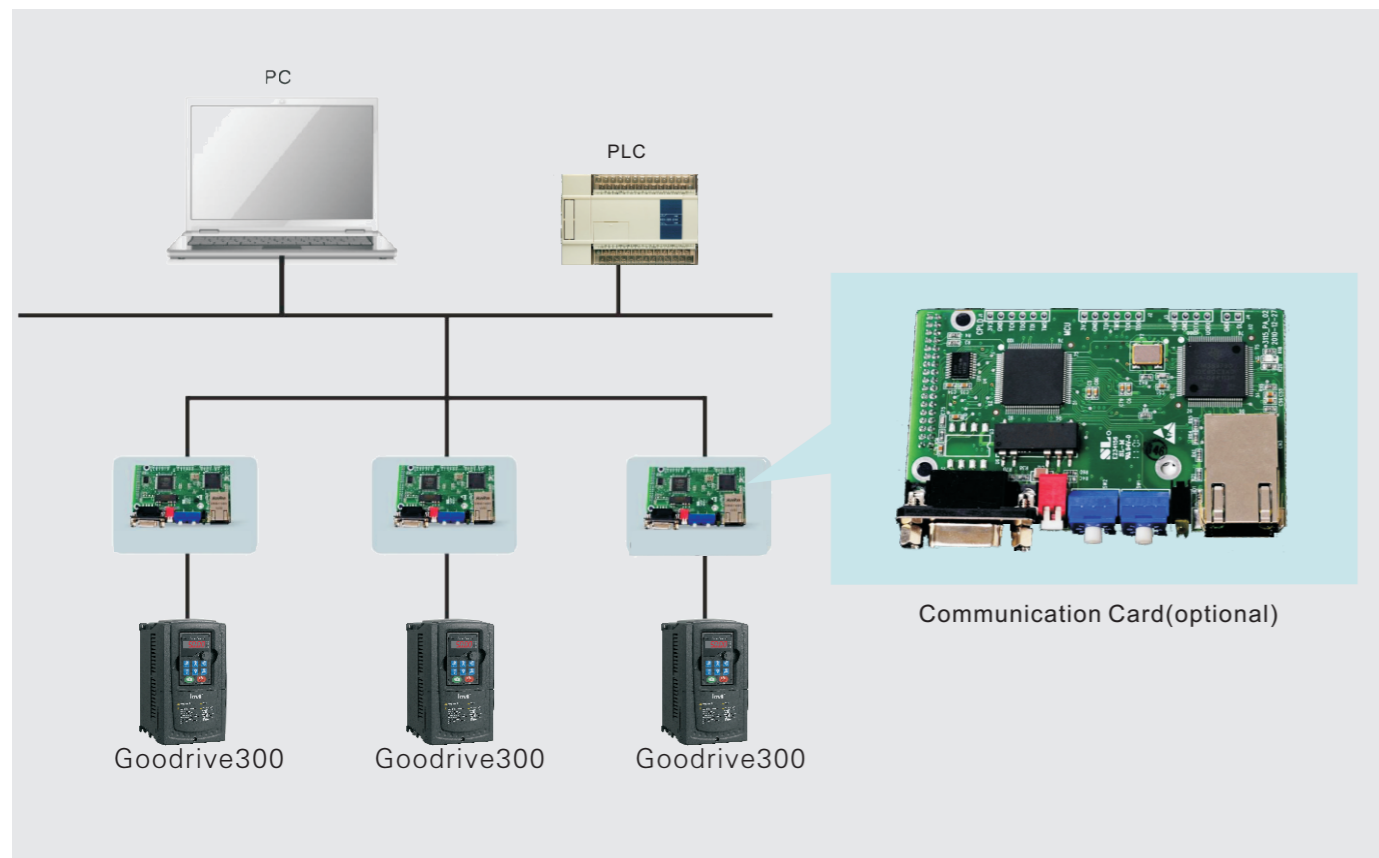
Natural Convection Test Chamber
Thermal Shock Test Chamber

3 International Communication Protocols



1. Various communication modes: MODBUS communication (standard), PROFIBUS+Ethernet and CANopen+Ethernet communication (optional)

- Following functions are available through communication cards:
- Send control commands (starting, stopping and fault reset) to the inverter
 - Send speed or torque reference signal to the inverter
 - Read the state and actual value from the inverter
 - Modify the parameters of the inverter

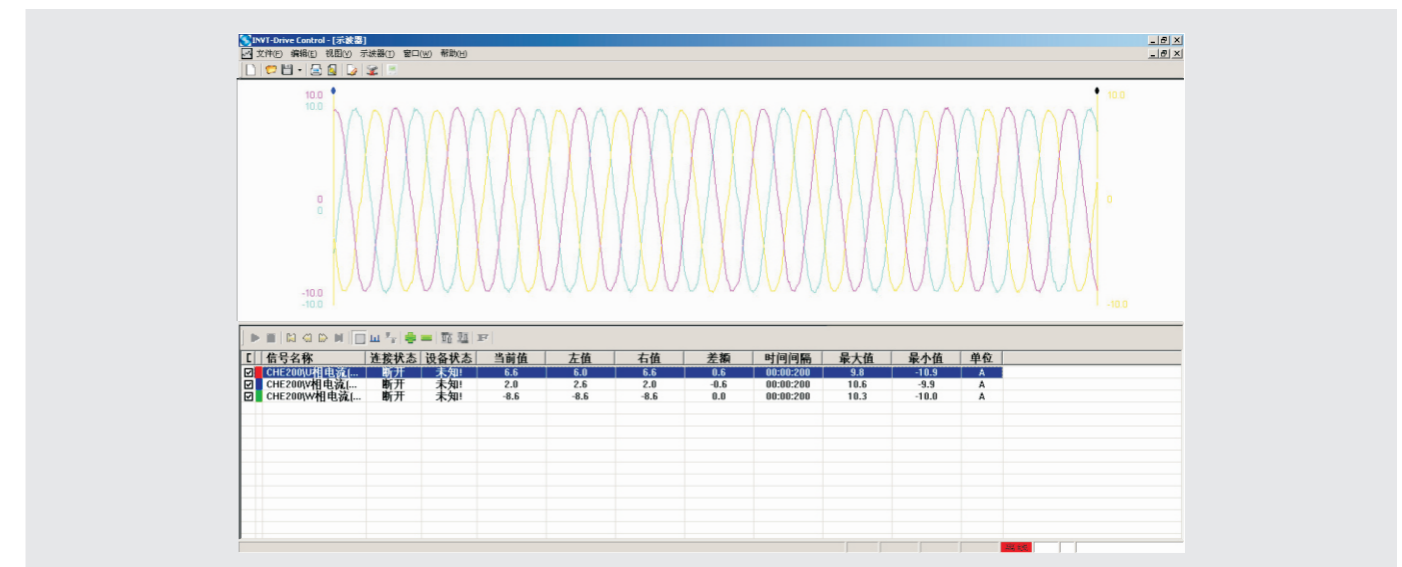


2. PC Software

The software carries out tracking and fault location with the function of oscilloscope, making more convenient debugging and programming and facilitating the current monitoring, back analysis and engineering management.



| 组别 | 名称 | 当前值 | 设备值 | 修改人 | 修改日期 | 单位 |
|------|-------|-------|-----|---------|------|----|
| 0000 | 基本功能组 | | | | | |
| P00 | 启动控制组 | | | | | |
| P01 | 启动控制组 | 0.0 | N/A | default | | % |
| P02 | 启动控制组 | 100.0 | N/A | default | | % |
| P03 | 启动控制组 | 0.00 | N/A | default | | % |
| P04 | 启动控制组 | 0.0 | N/A | default | | % |
| P05 | 启动控制组 | 0.00 | N/A | default | | % |
| P06 | 启动控制组 | 0.0 | N/A | default | | % |
| P07 | 启动控制组 | 0.00 | N/A | default | | % |
| P08 | 启动控制组 | 0.0 | N/A | default | | % |
| P09 | 启动控制组 | 0.0 | N/A | default | | % |
| P10 | 启动控制组 | 0.0 | N/A | default | | % |
| P11 | 启动控制组 | 0.0 | N/A | default | | % |
| P12 | 启动控制组 | 0.0 | N/A | default | | % |
| P13 | 启动控制组 | 0.0 | N/A | default | | % |
| P14 | 启动控制组 | 0.0 | N/A | default | | % |
| P15 | 启动控制组 | 0.0 | N/A | default | | % |
| P16 | 启动控制组 | 0.00 | N/A | default | | % |
| P17 | 启动控制组 | 0.0 | N/A | default | | % |
| P18 | 启动控制组 | 0.00 | N/A | default | | % |
| P19 | 启动控制组 | 0.0 | N/A | default | | % |
| P20 | 启动控制组 | 0.00 | N/A | default | | % |
| P21 | 启动控制组 | 0.0 | N/A | default | | % |
| P22 | 启动控制组 | 0.0 | N/A | default | | % |
| P23 | 启动控制组 | 0.0 | N/A | default | | % |
| P24 | 启动控制组 | 0.0 | N/A | default | | % |
| P25 | 启动控制组 | 0.0 | N/A | default | | % |
| P26 | 启动控制组 | 0.0 | N/A | default | | % |
| P27 | 启动控制组 | 0.0 | N/A | default | | % |
| P28 | 启动控制组 | 0.0 | N/A | default | | % |
| P29 | 启动控制组 | 0.0 | N/A | default | | % |
| P30 | 启动控制组 | 0.0 | N/A | default | | % |
| P31 | 启动控制组 | 0.0 | N/A | default | | % |



Applications

Goodrive300 Applications



Permanent Magnet Synchronous Motor

Screw oil pumps, water pumps, compressors, hoisting, chemical fabric devices, plastic machinery, wood processing machinery and machine tools and so on



Mine

Belt conveyors, air compressors, crushers, ball mills, centrifugal dehydrators and so on



Machines Tools

Lathes, wood processing machinery, drilling machines, grinding machines, milling machines and air compressors and so on



Textile

Carding machines, drawing machines, roving machines, ring spinning and winding machines, warping machines, circle machines, warp knitting machines, dyeing and finishing machines, shuttleless loom machines, non-woven production lines and draw texturing machines, industrial washing machines and so on



Oil

Oil pumps, water injection pumps, compressors and so on



Other Machineries

Hoisting, chemical, industrial, metal processing, EPS and constructive machines and so on

Technical Specifications

| Functions | | Specifications | |
|---------------------------------------|-------------------------|---|---|
| Power input | Input voltage(V) | Voltage degree Un=380V | Voltage degree Un=660V |
| | Input frequency(Hz) | 50Hz/60Hz Allowed range:47 ~ 63Hz | |
| Power output | Output voltage(V) | 0~input voltage | |
| | Output frequency(Hz) | Standard:0 ~ 400Hz;(380V Goodrive300 special inverters for medium-frequency:0 ~ 3200Hz) | |
| Technical control feature | Control mode | SVPWM and SVC | |
| | Motor type | Asynchronous and permanent magnet synchronous motors | |
| | Speed ratio | Asynchronous motor 1:200 (SVC) synchronous motor 1:20 (SVC) | |
| | Speed control accuracy | ± 0.2% (SVC) | |
| | Speed fluctuation | ± 0.3%(SVC) | |
| | Torque response | <20ms(SVC) | |
| | Torque control accuracy | 10%(SVC) | |
| | Starting torque | Asynchronous motor: 0.25Hz/150%(SVC) Synchronous motor: 2.5 Hz/150%(SVC) | |
| | Overload capability | 150% of rated current: 1 minute 180% of rated current: 10 seconds 200% of rated current: 1 second | |
| | Running control feature | Frequency setting | Digital setting, analog setting, pulse frequency setting, multi-step speed running setting, simple PLC setting, PID setting, MODBUS communication setting, PROFIBUS communication setting and CANopen communication setting. Switch between the combination and single setting channel. |
| Auto-adjustment of the voltage | | Keep constant voltage automatically when the grid voltage transients | |
| Fault protection | | Provide more than 30 fault protection functions: overcurrent, overvoltage, undervoltage, overheating, phase loss and overload, etc. | |
| Restart after rotating speed tracking | | Smooth starting of the rotating motor | |

Technical Specifications

| Functions | | Specifications |
|----------------------|--|--|
| Peripheral interface | Terminal analog input resolution | <20mV |
| | Terminal switch input resolution | <2ms |
| | Analog Input | 2 (AI1, AI2) 0~10V/0~20mA and 1 (AI3) -10~10V |
| | Analog output | 2 (AO1, AO2) 0~10V /0~20mA |
| | Digital input | 8 common inputs, the Max. frequency: 1kHz, 1 high speed input, the Max. frequency: 50kHz |
| | Digital output | 1 high speed pulse output, the Max. frequency: 50kHz; 1 Y terminal open collector output |
| | Relay output | 2 programmable relay outputs RO1A NO, RO1B NC, RO1C common terminal RO2A NO, RO2B NC, RO2C common terminal Contactor capability: 3A/AC250V,1A/DC30V |
| Others | Mountable method | Wall, flange and floor mountable |
| | Temperature of the running environment | -10~50°C derate above 40°C |
| | Protective degree | Ip20 |
| | Cooling | Air-cooling |
| | Brake unit | Built-in for inverters of 380V(≤30kW) External for others |
| | Braking resistor | Optional |
| | EMC filter | Built-in C3 filter: meet the degree requirement of IEC61800-3 C3 External filter: meet the degree requirement of IEC61800-3 C2 |

Power Ratings

| Model | Rated output power(kW) | Rated input power (A) | Rated output power (A) |
|----------------------|------------------------|-----------------------|------------------------|
| U _N =380V | | | |
| GD300-1R5G-4 | 1.5 | 5.0 | 3.7 |
| GD300-2R2G-4 | 2.2 | 5.8 | 5 |
| GD300-004G-4 | 4 | 13.5 | 9.5 |
| GD300-5R5G-4 | 5.5 | 19.5 | 14 |
| GD300-7R5G-4 | 7.5 | 25 | 18.5 |
| GD300-011G-4 | 11 | 32 | 25 |
| GD300-015G-4 | 15 | 40 | 32 |
| GD300-018G-4 | 18.5 | 47 | 38 |
| GD300-022G-4 | 22 | 56 | 45 |
| GD300-030G-4 | 30 | 70 | 60 |
| GD300-037G-4 | 37 | 80 | 75 |
| GD300-045G-4 | 45 | 94 | 92 |
| GD300-055G-4 | 55 | 128 | 115 |
| GD300-075G-4 | 75 | 160 | 150 |
| GD300-090G-4 | 90 | 190 | 180 |
| GD300-110G-4 | 110 | 225 | 215 |
| GD300-132G-4 | 132 | 265 | 260 |
| GD300-160G-4 | 160 | 310 | 305 |
| GD300-200G-4 | 200 | 385 | 380 |
| GD300-220G-4 | 220 | 430 | 425 |
| GD300-250G-4 | 250 | 485 | 480 |
| GD300-280G-4 | 280 | 545 | 530 |
| GD300-315G-4 | 315 | 610 | 600 |
| GD300-350G-4 | 350 | 625 | 650 |
| GD300-400G-4 | 400 | 715 | 720 |
| GD300-500G-4 | 500 | 890 | 860 |

| Model | Rated output power(kW) | Rated input power (A) | Rated output power (A) |
|----------------------|------------------------|-----------------------|------------------------|
| U _N =660V | | | |
| GD300-022G-6 | 22 | 35 | 27 |
| GD300-030G-6 | 30 | 40 | 35 |
| GD300-037G-6 | 37 | 47 | 45 |
| GD300-045G-6 | 45 | 52 | 52 |
| GD300-055G-6 | 55 | 65 | 62 |
| GD300-075G-6 | 75 | 85 | 86 |
| GD300-090G-6 | 90 | 95 | 98 |
| GD300-110G-6 | 110 | 118 | 120 |
| GD300-132G-6 | 132 | 145 | 150 |
| GD300-160G-6 | 160 | 165 | 175 |
| GD300-185G-6 | 185 | 190 | 200 |
| GD300-200G-6 | 200 | 210 | 220 |
| GD300-220G-6 | 220 | 230 | 240 |
| GD300-250G-6 | 250 | 255 | 270 |
| GD300-280G-6 | 280 | 286 | 300 |
| GD300-315G-6 | 315 | 334 | 350 |
| GD300-350G-6 | 350 | 360 | 380 |
| GD300-400G-6 | 400 | 411 | 430 |
| GD300-500G-6 | 500 | 518 | 540 |
| GD300-560G-6 | 560 | 578 | 600 |
| GD300-630G-6 | 630 | 655 | 680 |

Remarks:

- (1)The input current of the inverter 380V 1.5~315kW is tested when the input voltage is 380V and there is no DC reactor and output/input reactor.
- (2)The output current of the inverter 380V 350~500kW is tested when the input voltage is 380V and there is input reactor.
- (3)Rated output current of 380V inverters is defined when the rated output voltage is 380V.
- (4)The input current of the inverter 660V 22~350kW is tested when the input voltage is 660V and there is no DC reactor and output/input reactor.
- (5)The output current of the inverter 660V 400~630kW is tested when the input voltage is 660V and there is input reactor.
- (6)Rated output current of 660V inverters is defined when the rated output voltage is 380V.

Dimensions (unit: mm)

Installation size

■ Installation size for wall installation

| Inverter model | W1 | W2 | H1 | H2 | D1 | Installation hole |
|----------------------------|-----|-----|-------|-------|-------|-------------------|
| 380V voltage degree | | | | | | |
| 1.5kW~2.2kW | 126 | 115 | 193 | 175 | 174.5 | 5 |
| 4kW~5.5kW | 146 | 131 | 263 | 243.5 | 181 | 6 |
| 7.5kW~11kW | 170 | 151 | 331.5 | 303.5 | 216 | 6 |
| 15kW~18.5kW | 230 | 210 | 342 | 311 | 216 | 6 |
| 22kW~30kW | 255 | 237 | 407 | 384 | 245 | 7 |
| 37kW~55kW | 270 | 130 | 555 | 540 | 325 | 7 |
| 75kW~110kW | 325 | 200 | 680 | 661 | 365 | 9.5 |
| 132kW~200kW | 500 | 180 | 870 | 850 | 360 | 11 |
| 220kW~315kW | 680 | 230 | 960 | 926 | 380 | 13 |
| 660V voltage degree | | | | | | |
| 22kW~45kW | 270 | 130 | 555 | 540 | 325 | 7 |
| 55kW~132kW | 325 | 200 | 680 | 661 | 365 | 9.5 |
| 160kW~220kW | 500 | 180 | 870 | 850 | 360 | 11 |
| 250kW~350kW | 680 | 230 | 960 | 926 | 380 | 13 |

■ Installation size for flange installation

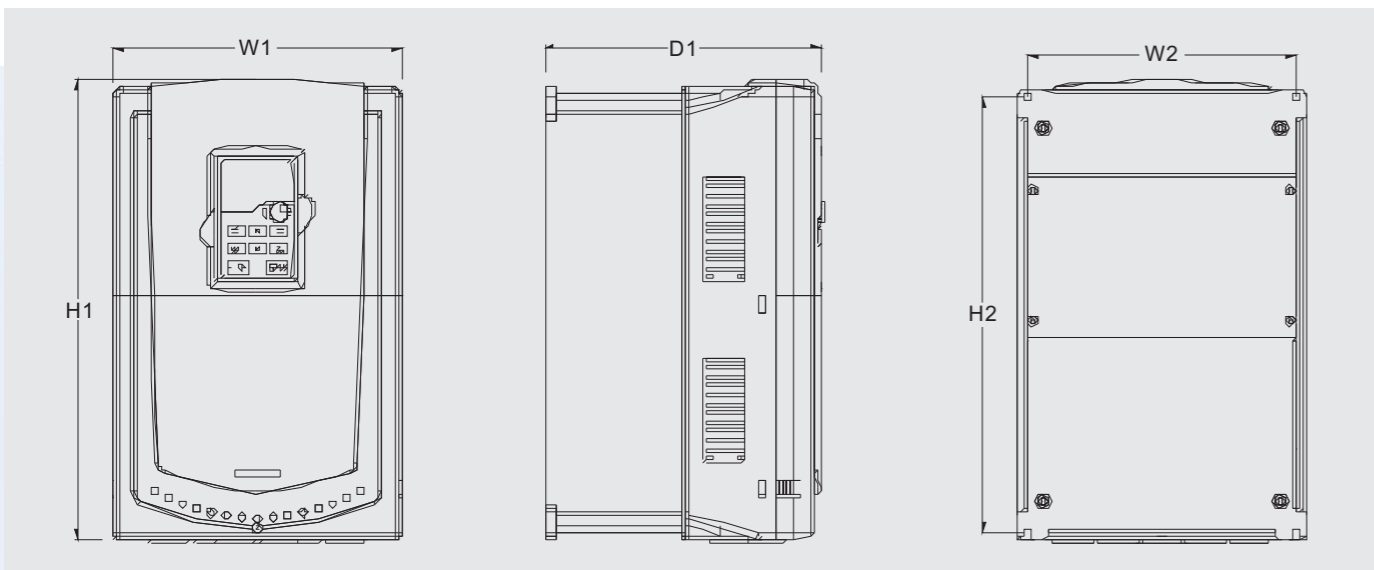
| Inverter model | W1 | W2 | W3 | W4 | H1 | H2 | H3 | H4 | D1 | D2 | Installation hole |
|----------------------------|-----|-----|-----|------|-----|-----|-----|------|-------|-------|-------------------|
| 380V voltage degree | | | | | | | | | | | |
| 1.5kW~2.2kW | 150 | 115 | 130 | 7.5 | 234 | 220 | 190 | 16.5 | 174.5 | 65.5 | 5 |
| 4kW~5.5kW | 170 | 131 | 150 | 9.5 | 292 | 276 | 260 | 10 | 181 | 79.5 | 6 |
| 7.5kW~11kW | 191 | 151 | 174 | 11.5 | 370 | 351 | 324 | 15 | 216.2 | 113 | 6 |
| 15kW~18.5kW | 250 | 210 | 234 | 12 | 375 | 356 | 334 | 10 | 216 | 108 | 6 |
| 22kW~30kW | 275 | 237 | 259 | 11 | 445 | 426 | 404 | 10 | 245 | 119 | 7 |
| 37kW~55kW | 270 | 130 | 261 | 65.5 | 555 | 540 | 516 | 17 | 325 | 167 | 7 |
| 75kW~110kW | 325 | 200 | 317 | 58.5 | 680 | 661 | 626 | 23 | 363 | 182 | 9.5 |
| 132kW~200kW | 500 | 180 | 480 | 60 | 870 | 850 | 796 | 37 | 358 | 178.5 | 11 |
| 660V voltage degree | | | | | | | | | | | |
| 22kW~45kW | 270 | 130 | 261 | 65.5 | 555 | 540 | 516 | 17 | 325 | 167 | 7 |
| 55kW~132kW | 325 | 200 | 317 | 58.5 | 680 | 661 | 626 | 23 | 363 | 182 | 9.5 |
| 160kW~220kW | 500 | 180 | 480 | 60 | 870 | 850 | 796 | 37 | 358 | 178.5 | 11 |

■ Installation size for floor installation

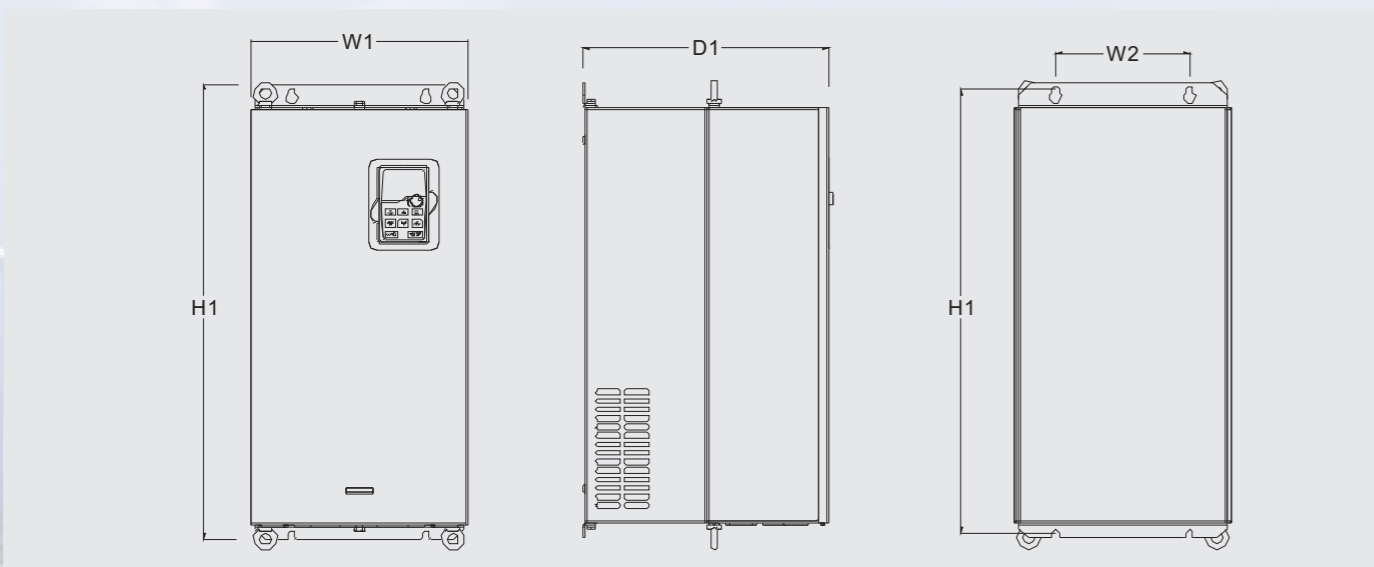
| Inverter model | W1 | W2 | W3 | W4 | H1 | H2 | D1 | D2 | Installation hole |
|----------------------------|-----|-----|-----|-----|------|------|-----|-----|-------------------|
| 380V voltage degree | | | | | | | | | |
| 220kW~315kW | 750 | 230 | 714 | 680 | 1410 | 1390 | 380 | 150 | 13\12 |
| 350kW~500kW | 620 | 230 | 573 | - | 1700 | 1678 | 560 | 240 | 22\12 |
| 660V voltage degree | | | | | | | | | |
| 250kW~350kW | 750 | 230 | 714 | 680 | 1410 | 1390 | 380 | 150 | 13\12 |
| 400kW~630kW | 620 | 230 | 573 | - | 1700 | 1678 | 560 | 240 | 22\12 |

Installation diagram

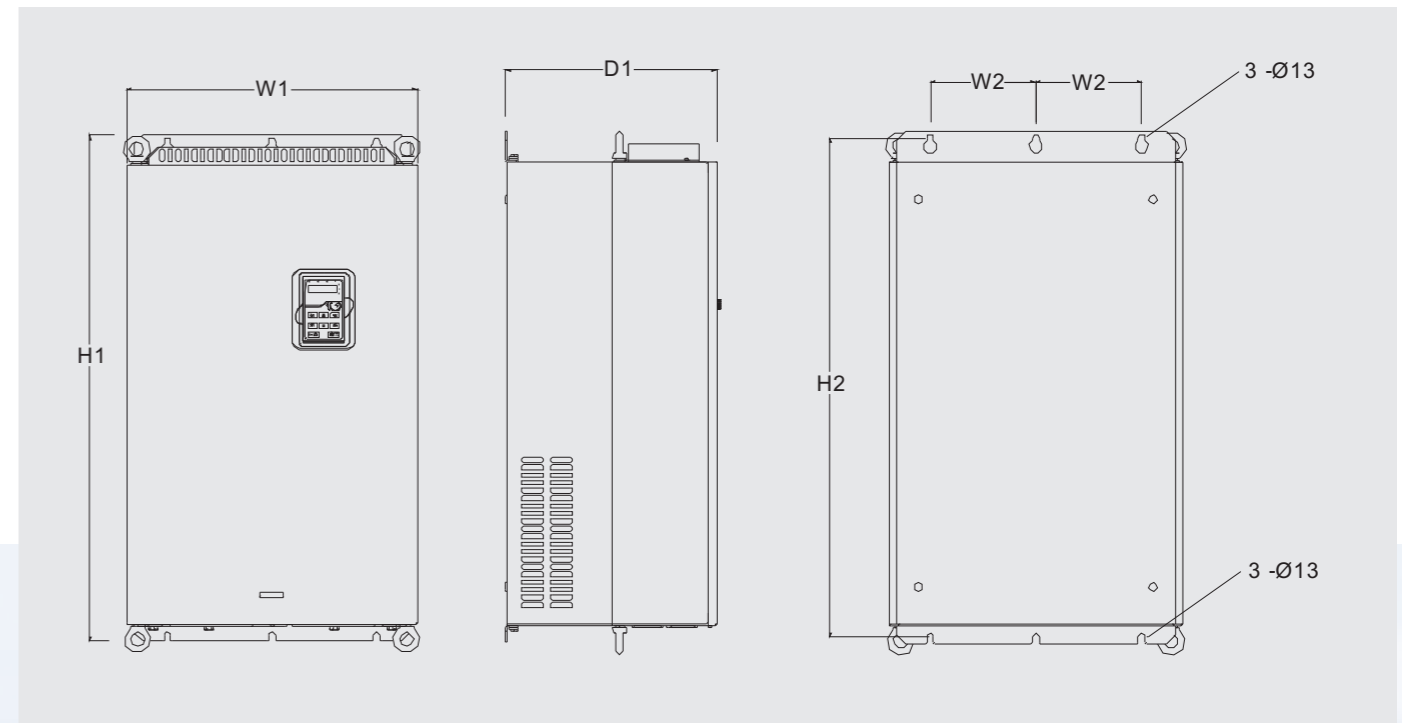
■ Wall installation diagram for inverters of 380V 1.5 ~ 30kW



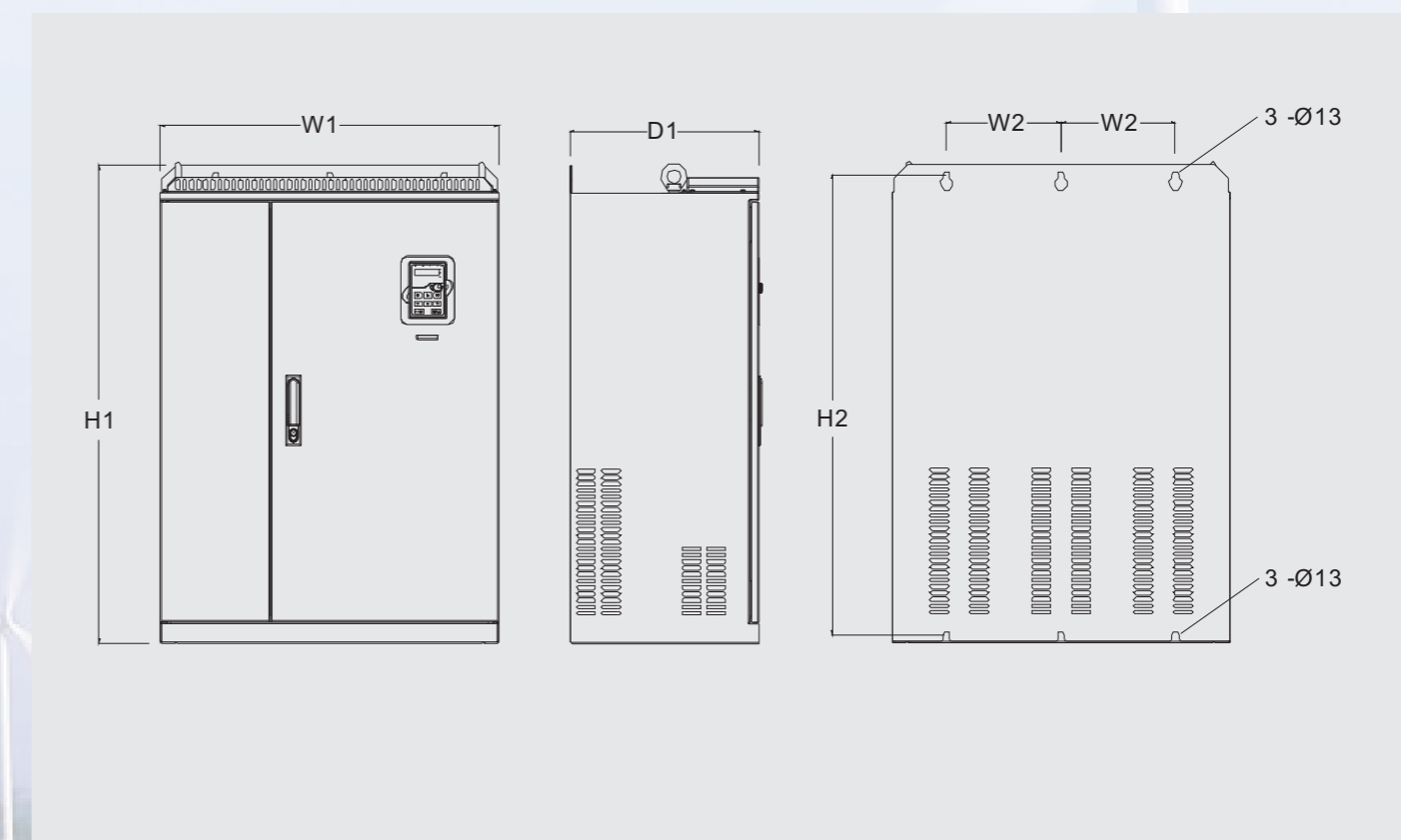
■ Wall installation diagram for inverters of 380V 37 ~ 110kW(660V 22 ~ 132kW)



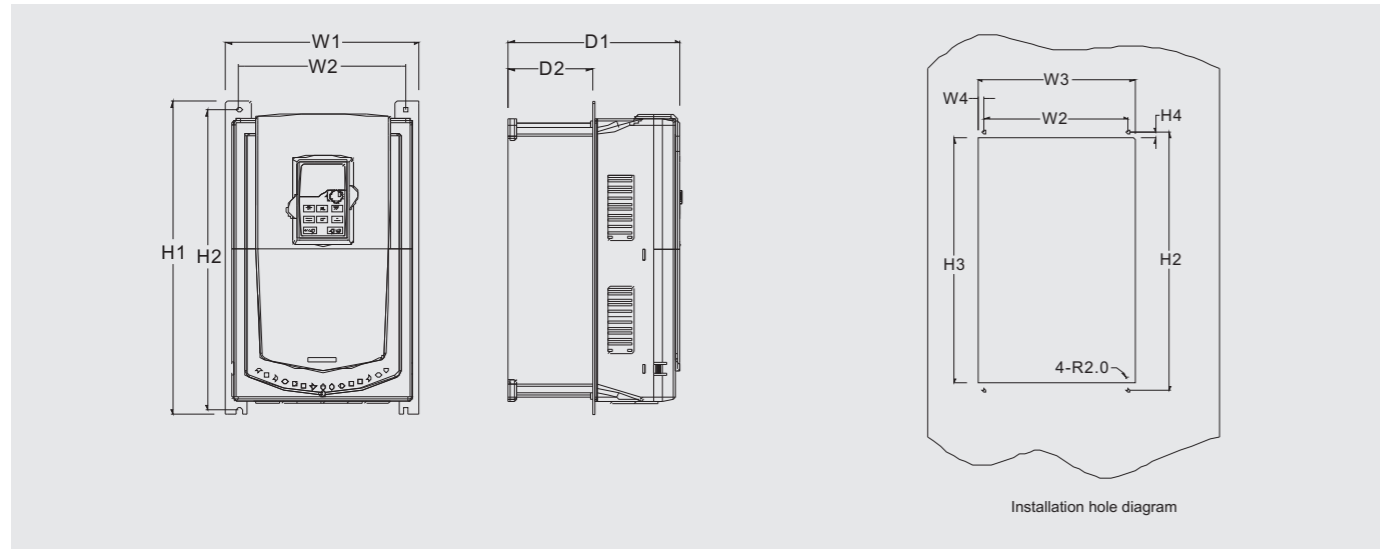
■ Wall installation diagram for inverters of 380V 132 ~ 200kW(660V 160 ~ 220kW)



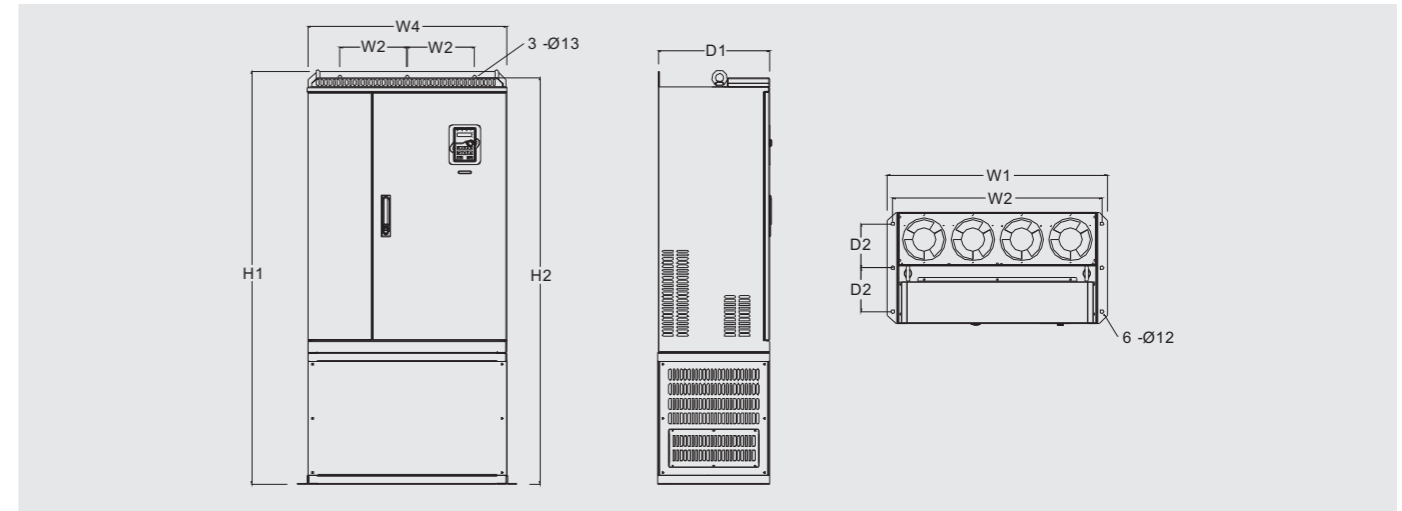
■ Wall installation diagram for inverters of 380V 220 ~ 315kW(660V 250 ~ 350kW)



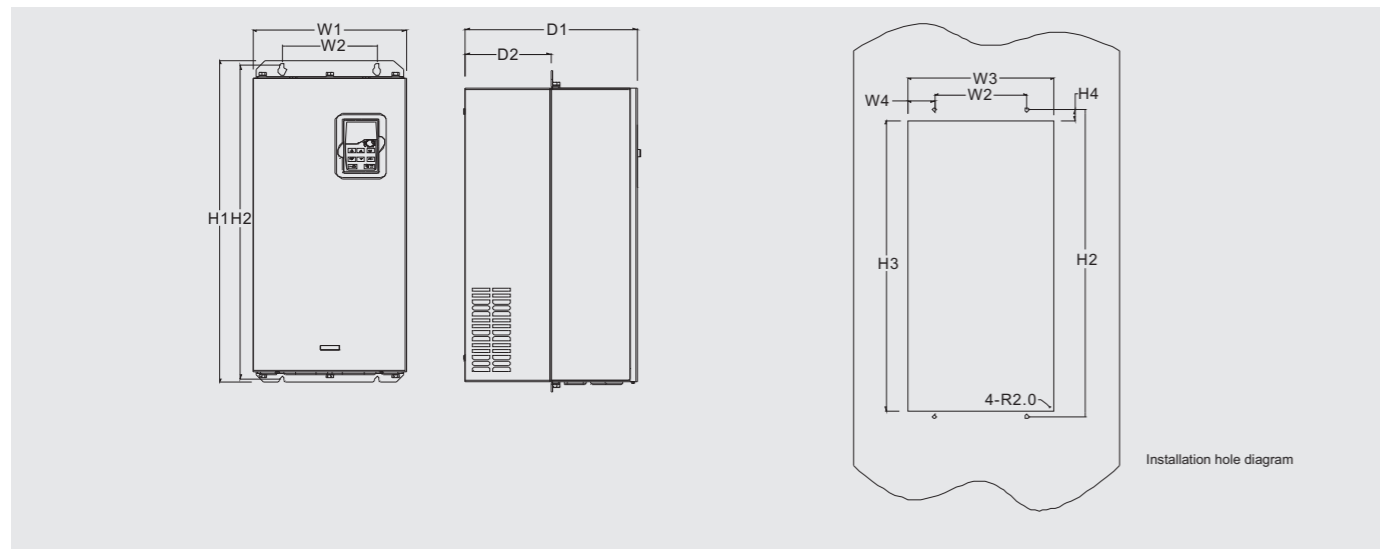
■ Flange installation diagram for inverters of 380V 1.5 ~ 30kW



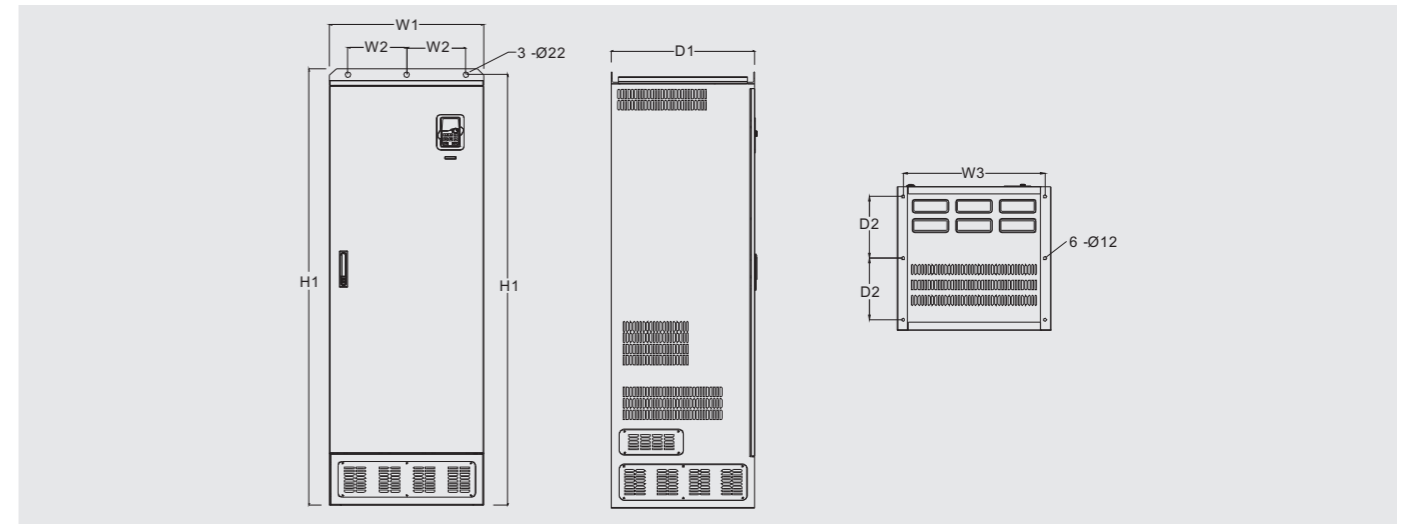
■ Floor installation diagram for inverters of 380V 220 ~ 315kW(660V 250 ~ 350kW)



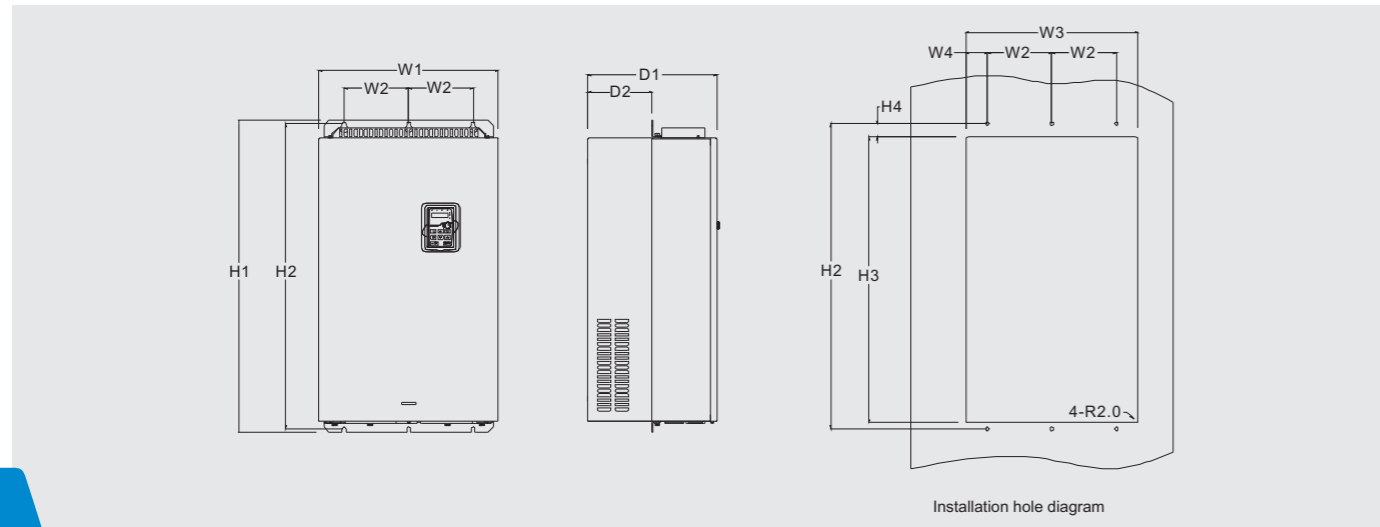
■ Flange installation diagram for inverters of 380V 37 ~ 110kW(660V 22 ~ 132kW)



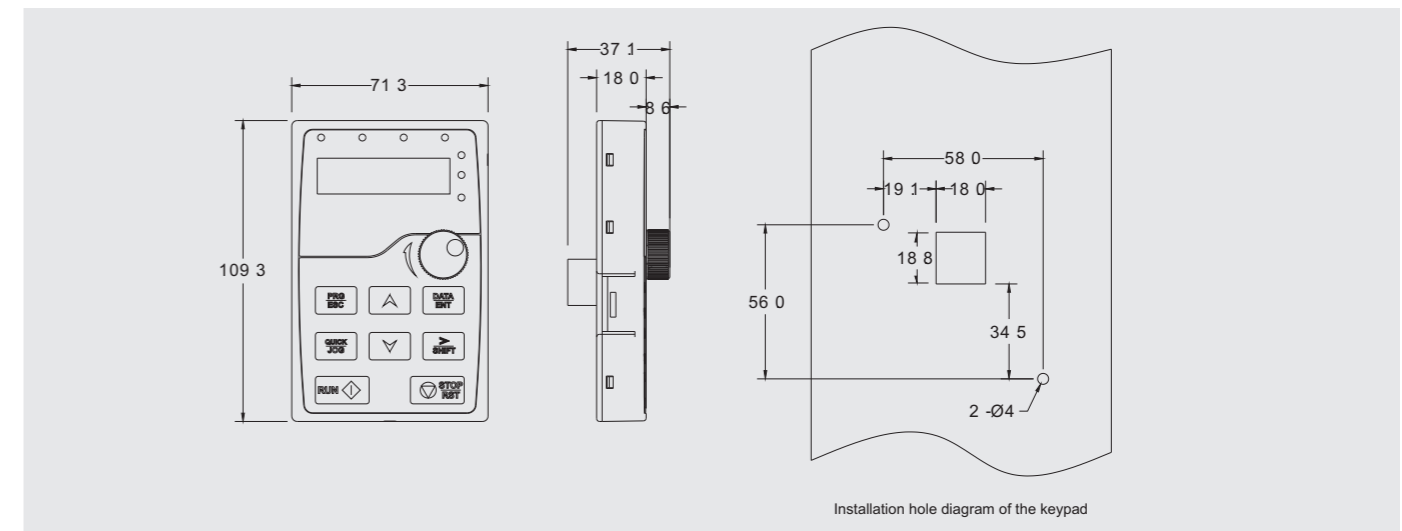
■ Floor installation diagram for inverters of 380V 350 ~ 500kW(660V 400 ~ 630kW)



■ Flange installation diagram for inverters of 380V 132 ~ 200kW(660V 160 ~ 220kW)



Keypad appearance diagram



Optional Parts

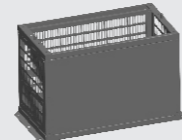
1. Flange Mounting Panel

Optional for inverters of 380V 1.5~30kW in flange installation; not optional for inverters of 380V 37~200kW(660V 22~220kW) in flange installation



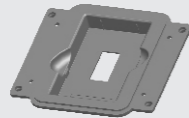
2. Installation Base

Only optional for inverters of 380V 220~315kW(660V 250kW~350kW) An input AC reactor (or DC reactor) and an output AC reactor can be embedded in the base



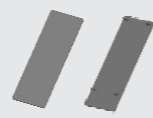
3. Installation bracket for the keypad

Use M3 screws or installation bracket to fix the keypad. The installation bracket of 380V 1.5~30kW inverters are optional, others are standard.



4. Heat-releasing Hole

Inverter needs to derate when selecting a cover Consult with the INVT technicians for the detailed information.



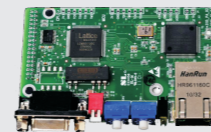
5. LCD keypad

10 rows of DH displaying Compatible with the LED keypad



6. Communication Card

PROFIBUS+Ethernet communication card
CANopen +Ethernet communication card



7. Assistant Power (AC single phase 220V)

Provide for a safer and more convenient inverter debugging when the main power supply is power off(note as non-standard assistant power supply)

8. Reactor

The inverters of 380V 37kW or above and 660V can be connected with DC reactors. The reactor can improve the power factor and avoid damage to the recitifier bridge caused by overcurrent and damage to the rectifier circuit by harmonic

| Model | Input reactor | DC reactor | Output reactor |
|----------------------------|---------------|------------|----------------|
| 380V voltage degree | | | |
| GD300-1R5G-4 | ACL2-1R5-4 | - | OCL2-1R5-4 |
| GD300-2R2G-4 | ACL2-2R2-4 | - | OCL2-2R2-4 |
| GD300-004G-4 | ACL2-004-4 | - | OCL2-004-4 |
| GD300-5R5G-4 | ACL2-5R5-4 | - | OCL2-5R5-4 |
| GD300-7R5G-4 | ACL2-7R5-4 | - | OCL2-7R5-4 |
| GD300-011G-4 | ACL2-011-4 | - | OCL2-011-4 |
| GD300-015G-4 | ACL2-015-4 | - | OCL2-015-4 |
| GD300-018G-4 | ACL2-018-4 | - | OCL2-018-4 |
| GD300-022G-4 | ACL2-022-4 | - | OCL2-022-4 |
| GD300-030G-4 | ACL2-030-4 | - | OCL2-030-4 |

| Model | Input reactor | DC reactor | Output reactor |
|----------------------------|---------------|-------------|----------------|
| 380V voltage degree | | | |
| GD300-037G-4 | ACL2-037-4 | DCL2-037-4 | OCL2-037-4 |
| GD300-045G-4 | ACL2-045-4 | DCL2-045-4 | OCL2-045-4 |
| GD300-055G-4 | ACL2-055-4 | DCL2-055-4 | OCL2-055-4 |
| GD300-075G-4 | ACL2-075-4 | DCL2-075-4 | OCL2-075-4 |
| GD300-090G-4 | ACL2-090-4 | DCL2-090-4 | OCL2-090-4 |
| GD300-110G-4 | ACL2-110-4 | DCL2-110-4 | OCL2-110-4 |
| GD300-132G-4 | ACL2-132-4 | DCL2-132-4 | OCL2-132-4 |
| GD300-160G-4 | ACL2-160-4 | DCL2-160-4 | OCL2-160-4 |
| GD300-200G-4 | ACL2-200-4 | DCL2-200-4 | OCL2-200-4 |
| GD300-220G-4 | ACL2-250-4 | DCL2-250-4 | OCL2-250-4 |
| GD300-250G-4 | ACL2-250-4 | DCL2-250-4 | OCL2-250-4 |
| GD300-280G-4 | ACL2-280-4 | DCL2-280-4 | OCL2-280-4 |
| GD300-315G-4 | ACL2-315-4 | DCL2-315-4 | OCL2-315-4 |
| GD300-350G-4 | Standard | DCL2-350-4 | OCL2-350-4 |
| GD300-400G-4 | Standard | DCL2-400-4 | OCL2-400-4 |
| GD300-500G-4 | Standard | DCL2-500-4 | OCL2-500-4 |
| 660V voltage degree | | | |
| GD300-022G-6 | ACL2-022G-6 | DCL2-022G-6 | OCL2-022G-6 |
| GD300-030G-6 | ACL2-030G-6 | DCL2-030G-6 | OCL2-030G-6 |
| GD300-037G-6 | ACL2-037G-6 | DCL2-037G-6 | OCL2-037G-6 |
| GD300-045G-6 | ACL2-045G-6 | DCL2-045G-6 | OCL2-045G-6 |
| GD300-055G-6 | ACL2-055G-6 | DCL2-055G-6 | OCL2-055G-6 |
| GD300-075G-6 | ACL2-075G-6 | DCL2-075G-6 | OCL2-075G-6 |
| GD300-090G-6 | ACL2-090G-6 | DCL2-090G-6 | OCL2-090G-6 |
| GD300-110G-6 | ACL2-110G-6 | DCL2-110G-6 | OCL2-110G-6 |
| GD300-132G-6 | ACL2-132G-6 | DCL2-132G-6 | OCL2-132G-6 |
| GD300-160G-6 | ACL2-160G-6 | DCL2-160G-6 | OCL2-160G-6 |
| GD300-185G-6 | ACL2-185G-6 | DCL2-185G-6 | OCL2-185G-6 |
| GD300-200G-6 | ACL2-200G-6 | DCL2-200G-6 | OCL2-200G-6 |
| GD300-220G-6 | ACL2-220G-6 | DCL2-220G-6 | OCL2-220G-6 |

| Model | Input reactor | DC reactor | Output reactor |
|----------------------------|---------------|-------------|----------------|
| 660V voltage degree | | | |
| GD300-250G-6 | ACL2-250G-6 | DCL2-250G-6 | OCL2-250G-6 |
| GD300-280G-6 | ACL2-280G-6 | DCL2-280G-6 | OCL2-280G-6 |
| GD300-315G-6 | ACL2-315G-6 | DCL2-315G-6 | OCL2-315G-6 |
| GD300-350G-6 | ACL2-350G-6 | DCL2-350G-6 | OCL2-350G-6 |
| GD300-400G-6 | Standard | DCL2-400G-6 | OCL2-400G-6 |
| GD300-500G-6 | Standard | DCL2-500G-6 | OCL2-500G-6 |
| GD300-560G-6 | Standard | DCL2-560G-6 | OCL2-560G-6 |
| GD300-630G-6 | Standard | DCL2-630G-6 | OCL2-630G-6 |

9 .Filter

| Model | Input filter | Output filter |
|----------------------------|---------------|---------------|
| 380V voltage degree | | |
| GD300-1R5G-4 | FLT-P04006L-B | FLT-L04006L-B |
| GD300-2R2G-4 | | |
| GD300-004G-4 | FLT-P04016L-B | FLT-L04016L-B |
| GD300-5R5G-4 | | |
| GD300-7R5G-4 | FLT-P04032L-B | FLT-L04032L-B |
| GD300-011G-4 | | |
| GD300-015G-4 | FLT-P04045L-B | FLT-L04045L-B |
| GD300-018G-4 | | |
| GD300-022G-4 | FLT-P04065L-B | FLT-L04065L-B |
| GD300-030G-4 | | |
| GD300-037G-4 | FLT-P04100L-B | FLT-L04100L-B |
| GD300-045G-4 | | |
| GD300-055G-4 | FLT-P04150L-B | FLT-L04150L-B |
| GD300-075G-4 | | |
| GD300-090G-4 | FLT-P04200L-B | FLT-L04200L-B |
| GD300-110G-4 | FLT-P04250L-B | FLT-L04250L-B |
| GD300-132G-4 | | |
| GD300-160G-4 | FLT-P04400L-B | FLT-L04400L-B |
| GD300-200G-4 | | |

| Model | Input filter | Output filter |
|----------------------------|----------------|----------------|
| 380V voltage degree | | |
| GD300-220G-4 | FLT-P04600L-B | FLT-L04600L-B |
| GD300-250G-4 | | |
| GD300-280G-4 | | |
| GD300-315G-4 | FLT-P04800L-B | FLT-L04800L-B |
| GD300-350G-4 | | |
| GD300-400G-4 | | |
| GD300-500G-4 | FLT-P041000L-B | FLT-L041000L-B |
| 660V voltage degree | | |
| GD300-022G-6 | FLT-P06050H-B | FLT-L06050H-B |
| GD300-030G-6 | | |
| GD300-037G-6 | | |
| GD300-045G-6 | FLT-P06100H-B | FLT-L06100H-B |
| GD300-055G-6 | | |
| GD300-075G-6 | | |
| GD300-090G-6 | FLT-P06200H-B | FLT-L06200H-B |
| GD300-110G-6 | | |
| GD300-132G-6 | | |
| GD300-160G-6 | FLT-P06300H-B | FLT-L06300H-B |
| GD300-185G-6 | | |
| GD300-200G-6 | | |
| GD300-220G-6 | FLT-P06400H-B | FLT-L06400H-B |
| GD300-250G-6 | | |
| GD300-280G-6 | | |
| GD300-315G-6 | FLT-P061000H-B | FLT-L061000H-B |
| GD300-350G-6 | | |
| GD300-400G-6 | | |
| GD300-500G-6 | FLT-P061000H-B | FLT-L061000H-B |
| GD300-560G-6 | | |
| GD300-630G-6 | | |

Remark:

- (1) Input EMI can meet C2 standard after installing input filters.
- (2) Above parts and options are external, so it is necessary to order.

10. Braking system

The inverters of 380V 30kW and below are embedded internal braking units and the inverters of 380V 37kW and above need external braking units, please select the braking units according to actual use. External braking unit is needed for inverters of 660V. Please select the braking resistor according to site operation and torque requirements.

| Model | Model of braking unit | Available braking resistor at 100% braking torque (Ω) | Dissipation power of braking resistor (kW) (10% braking) | Dissipation power of braking resistor (kW) (50% braking) | Dissipation power of braking resistor (kW) (80% braking) | Mini braking resistor (Ω) | |
|----------------------------|-----------------------|---|--|--|--|---------------------------|------|
| 380V voltage degree | | | | | | | |
| GD300-1R5G-4 | Internal braking unit | 326 | 0.23 | 1.1 | 1.8 | 170 | |
| GD300-2R2G-4 | | 222 | 0.33 | 1.7 | 2.6 | 130 | |
| GD300-004G-4 | | 122 | 0.6 | 3 | 4.8 | 80 | |
| GD300-5R5G-4 | | 89 | 0.75 | 4.1 | 6.6 | 60 | |
| GD300-7R5G-4 | | 65 | 1.1 | 5.6 | 9 | 47 | |
| GD300-011G-4 | | 44 | 1.7 | 8.3 | 13.2 | 31 | |
| GD300-015G-4 | | 32 | 2 | 11 | 18 | 23 | |
| GD300-018G-4 | | 27 | 3 | 14 | 22 | 19 | |
| GD300-022G-4 | | 22 | 3 | 17 | 26 | 17 | |
| GD300-030G-4 | | 16 | 5 | 23 | 36 | 17 | |
| GD300-037G-4 | | DBU100H-060-4 | 13 | 6 | 28 | 44 | 11.7 |
| GD300-045G-4 | | DBU100H-110-4 | 10 | 7 | 34 | 54 | 6.4 |
| GD300-055G-4 | | | 8 | 8 | 41 | 66 | |
| GD300-075G-4 | | | 6.5 | 11 | 56 | 90 | |
| GD300-090G-4 | DBU100H-160-4 | 5.4 | 14 | 68 | 108 | 4.4 | |
| GD300-110G-4 | | 4.5 | 17 | 83 | 132 | | |
| GD300-132G-4 | DBU100H-220-4 | 3.7 | 20 | 99 | 158 | 3.2 | |
| GD300-160G-4 | DBU100H-320-4 | 3.1 | 24 | 120 | 192 | 2.2 | |
| GD300-200G-4 | | 2.5 | 30 | 150 | 240 | | |
| GD300-220G-4 | DBU100H-400-4 | 2.2 | 33 | 165 | 264 | 1.8 | |
| GD300-250G-4 | | 2.0 | 38 | 188 | 300 | | |
| GD300-280G-4 | Two DBU100H-320-4 | 3.6*2 | 21*2 | 105*2 | 168*2 | 2.2*2 | |
| GD300-315G-4 | | 3.2*2 | 24*2 | 118*2 | 189*2 | | |
| GD300-350G-4 | | 2.8*2 | 27*2 | 132*2 | 210*2 | | |
| GD300-400G-4 | | 2.4*2 | 30*2 | 150*2 | 240*2 | | |
| GD300-500G-4 | Two DBU100H-400-4 | 2*2 | 38*2 | 186*2 | 300*2 | 1.8*2 | |

| Model | Model of braking unit | Available braking resistor at 100% braking torque (Ω) | Dissipation power of braking resistor (kW) (10% braking) | Dissipation power of braking resistor (kW) (50% braking) | Dissipation power of braking resistor (kW) (80% braking) | Mini braking resistor (Ω) |
|----------------------------|-----------------------|---|--|--|--|---------------------------|
| 660V voltage degree | | | | | | |
| GD300-022G-6 | DBU100H-110-6 | 55 | 4 | 17 | 27 | 170 |
| GD300-030G-6 | | 40.3 | 5 | 23 | 36 | 130 |
| GD300-037G-6 | | 32.7 | 6 | 28 | 44 | 80 |
| GD300-045G-6 | | 26.9 | 7 | 34 | 54 | 60 |
| GD300-055G-6 | | 22.0 | 8 | 41 | 66 | 47 |
| GD300-075G-6 | | 16.1 | 11 | 56 | 90 | 31 |
| GD300-090G-6 | | 13.4 | 14 | 68 | 108 | 23 |
| GD300-110G-6 | | 11.0 | 17 | 83 | 132 | 19 |
| GD300-132G-6 | DBU100H-160-6 | 9.2 | 20 | 99 | 158 | 17 |
| GD300-160G-6 | | 7.6 | 24 | 120 | 192 | 17 |
| GD300-185G-6 | DBU100H-220-6 | 6.5 | 28 | 139 | 222 | 11.7 |
| GD300-200G-6 | | 6.1 | 30 | 150 | 240 | |
| GD300-220G-6 | | 5.5 | 33 | 165 | 264 | |
| GD300-250G-6 | | 4.8 | 38 | 188 | 300 | |
| GD300-280G-6 | DBU100H-320-6 | 4.3 | 42 | 210 | 336 | 4.4 |
| GD300-315G-6 | | 3.8 | 47 | 236 | 378 | |
| GD300-350G-6 | | 3.5 | 53 | 263 | 420 | |
| GD300-400G-6 | DBU100H-400-6 | 3.0 | 60 | 300 | 480 | 2.2 |
| GD300-500G-6 | Two DBU100H-320-6 | 4.8*2 | 38*2 | 188*2 | 300*2 | |
| GD300-560G-6 | | 4.3*2 | 42*2 | 210*2 | 336*2 | 1.8 |
| GD300-630G-6 | | 3.8*2 | 47*2 | 236*2 | 378*2 | |

Sales Network



INVT Headquarters

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