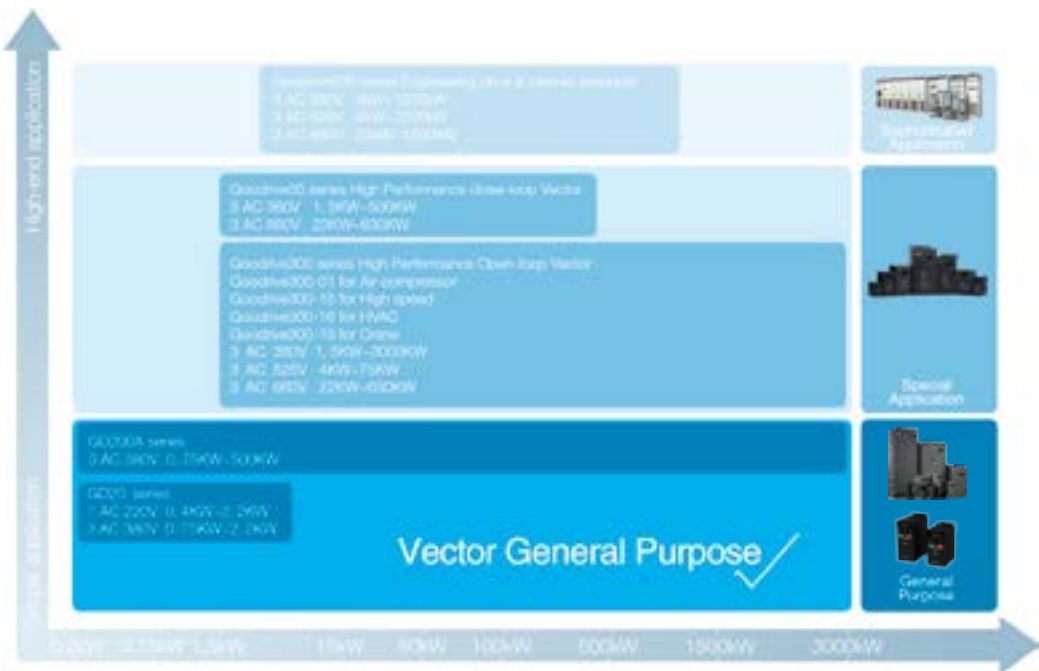


# GD20 Series

Vector General Purpose Inverter



## Low Voltage Goodrive Series Product Family Tree Diagram



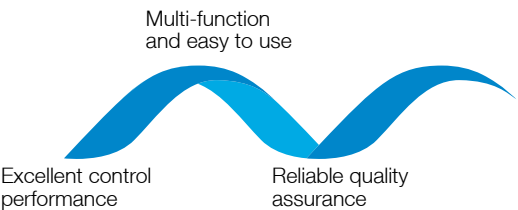
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## GD20 Series Vector General Purpose Inverter Product Instruction

GD20 series inverters are new generation product of the inverter, with rich product type and wide range of power, can be widely use to fan and water pump. Products based on the vector V/F control, and realize the accurate parameter of motor Auto-turning, high precision speed control. To effectively improve the reliability of the product and the environment.

At the same time, with more rich function and more flexible application, the series products can strengthen the customer's easy to use.

## Product Advantage





## GD20 Series Mini Vector Inverters Product Introduction

GD20 series mini type general vector inverter, positioned as using the high performance mini product of small power market; product using the leading international vector control algorithm, with excellent product features, compatible with wall and rail installation, and the product volume is smaller. Product widely used in Textile machinery, Food machinery, Plastic machinery, Printing and packaging, Environmental protection equipment, Ceramic equipment, Woodworking equipment, Conveying equipment and so on industries.

## Product Advantage

- Mini structure
- Easy maintenance
- Various installation ways
- Excellent performance
- Multi-function and easy to use



## Product Features

### New Structure Design

1 Mini design, smaller installation space



2 Compatible with rail and wall installation, flexible installation manner



3 Available multi-inverter in parallel installation, more effective space-saving



### Easy Maintenance

1 External keypad

The standard keypad is membrane keypad. Support external LED keypad. The LED keypad support parameter copy.

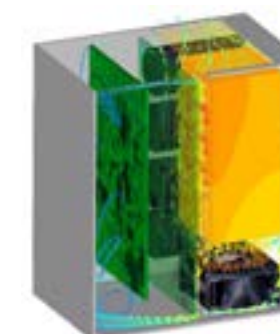


### Reliable QA

1 The product design strictly follows IEC international standards and passes the CE test



2 Advanced thermal technology makes exact thermal design



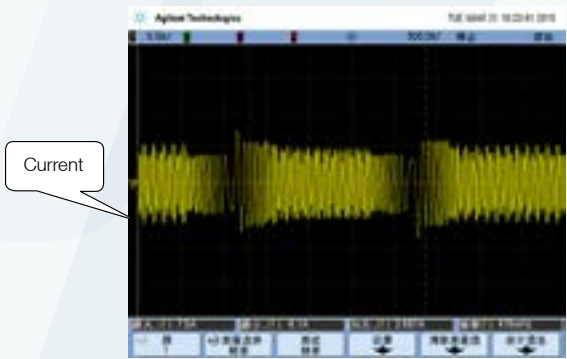
2 Plug cooling fan, easy maintenance





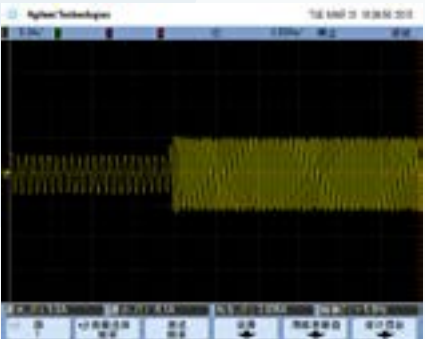
Excellent Performance

1 Excellent vector control performance

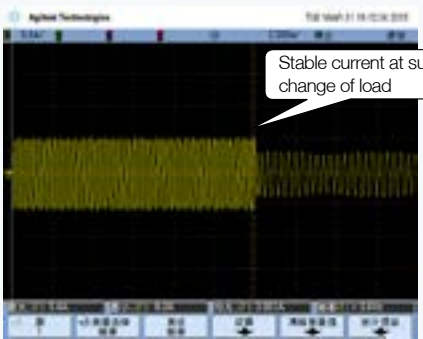


Current waveforms in vector control mode with 50Hz and full load

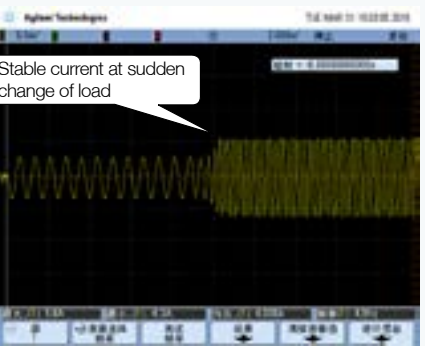
2 Excellent motor drive performance



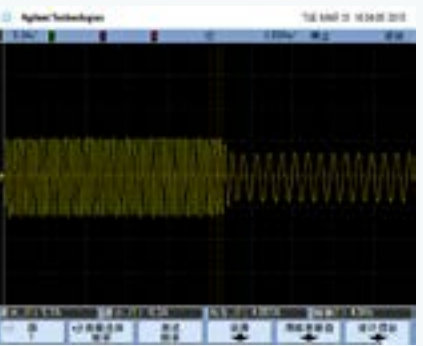
Current waveforms when sudden loading in V/F control mode with 2Hz and full load



Current waveforms when sudden unloading in V/F control mode with 2Hz and full load

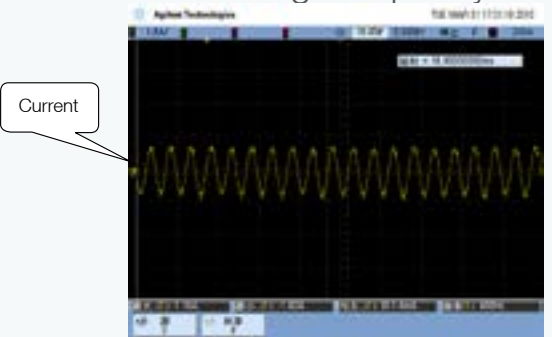


Current waveforms when sudden loading in vector control mode with 0.5Hz and full load

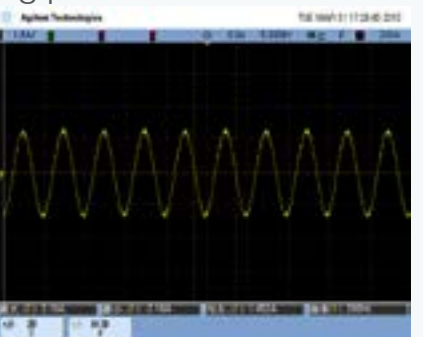


Current waveforms when sudden unloading in vector control mode with 0.5Hz and full load

3 Excellent high frequency running performance



Current waveforms when sudden loading in vector control mode with 0.5Hz and full load



Current waveforms when sudden unloading in vector control mode with 0.5Hz and full load

Multi-Function and Easy to Use

Name	Function	Illustration
485 communication interface	Connect with upper computer, read and modify parameters of the inverter, control running states of the inverter	Standard built-in 485 communication interface
PID	Carry out PID operation on feedback signals, control output frequency of the inverter and improve target accuracy and stability; apply to pressure, flow and temperature process control	Support PID output polarity switching
Motor autotuning	Carry out rotation or static autotuning, improve control accuracy and response speed	Include rotation autotuning and static autotuning
Simple PLC	Can change the running frequency and direction automatically according to the running time set by simple PLC to meet process requirements	Support multiple running modes
Multi-step speed control	Can meet the requirements of speed control in different periods of time via multi-step speed control	Max. available 16-step speed control
Multiple V/F curve settings	Meet the requirements of fans and water pumps in energy-saving operation and various variable frequency power supplies, adapt to different load applications	Linear, multi-dot, multi-power and V/F separation settings, realize flexible setting of V/F curves
Virtual terminals	Can take external signals as local virtual I/O to save hardware configuration	Enable the corresponding virtual terminal functions in communication mode
Delay switching on and off	Provide more programming and control modes	Max. switching on-off delay is 50s
Continuous running in instantaneous power off	Specially apply to the situations with high requirement of continuous operation, ensure the device does not stop in instantaneous power off	At transient voltage drop, the inverter can keep running by feedback energy without stop in valid time
Various protection functions	Provide overall fault protection functions	Protection functions such as overcurrent, overvoltage, undervoltage, overheating, overload, can save fault information
Optional braking modes	Provide multiple braking modes, satisfy accurate and quick stop under different loads	DC braking, flux braking, short-circuit braking
Battery capacity display	Can display the accumulative power consumption on the inverter in no need of watt-hour meter	Can check power consumption of the inverter

## Main Applications



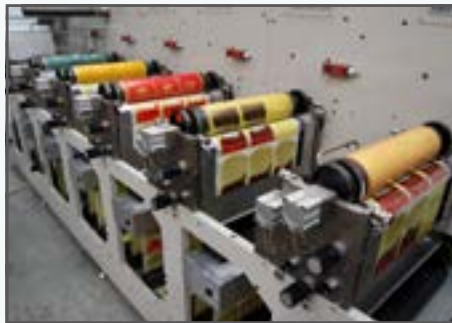
Textile machinery



Food machinery



Plastic machinery



Printing and packaging



Environmental protection equipment



Ceramic equipment



Woodworking equipment



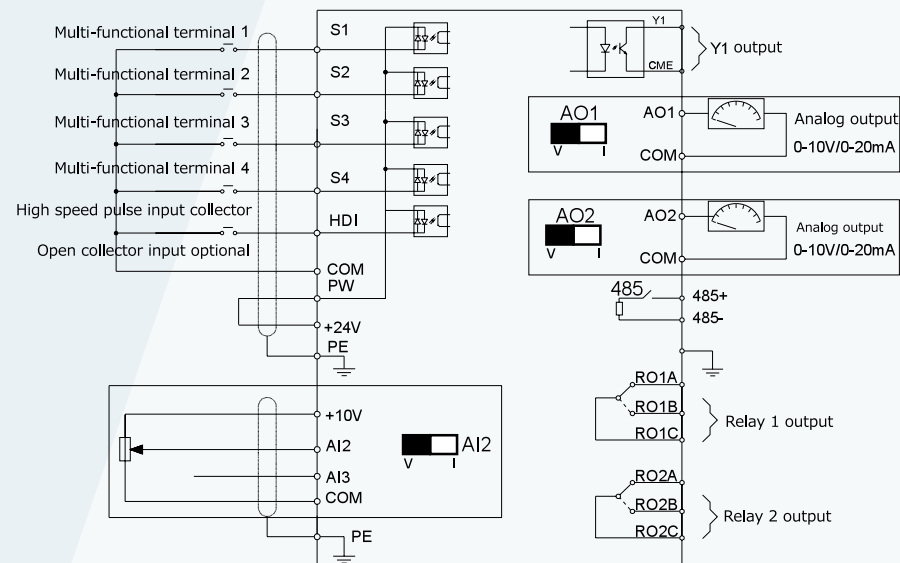
Conveying equipment

## Technical Parameters

Function		Specification
Power input	Input voltage (V)	1PH 220V (-15%)~240V(+10%) 3PH 380V (-15%)~440V(+10%)
	Input current (A)	Refer to the rated value
	Input frequency (Hz)	50Hz or 60Hz, allowed range: 47~63Hz
Power output	Output motor capacity (kW)	Refer to the rated value
	Output current (A)	Refer to the rated value
	Output voltage (V)	0-Input voltage, error<5%
Technical control feature	Control mode	SVPWM, SVC
	Adjustable-speed ratio	1:100
	Speed control accuracy	±0.2% (SVC)
	Speed fluctuation	± 0.3% (SVC)
	Torque response	<20ms (SVC)
	Torque control accuracy	10%
	Starting torque	0. 5Hz/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 method	Digital setting, analog setting, pulse frequency setting, multi-step speed running setting, simple PLC setting, PID setting, MODBUS communication setting
	Auto-adjustment of the voltage	Keep a stable voltage automatically when the grid voltage transients
	Fault protection	Provide comprehensive fault protection functions: overcurrent, overvoltage, undervoltage, overheating, phase loss and overload, etc.
Peripheral interface	Analog input	1 (AI2) 0~10V/0~20mA and 1 (AI3) -10~10V
	Analog output	2 (AO1, AO2) 0~10V/0~20mA
	Digital input	4 common inputs, the Max. frequency: 1kHz; 1 high speed input, the Max. frequency: 50kHz
	Digital output	1 Y terminal output; 2 programmable relay outputs
	Relay output	2 programmable relay outputs RO1A NO, RO1B NC, RO1C common terminal RO2A NO, RO2B NC, RO2C common terminal Contact capacity: 3A/AC250V
Others	Mountable method	Wall and rail mountable
	Braking unit	Embedded
	EMI filter	Optional filter: meet the degree requirement of IEC61800-3 C2, IEC61800-3 C3
	Temperature of the running environment	-10~50°C, derate above 40°C
	Altitude	<1000m If the sea level is above 1000m, please derate 1% for every additional 100m.
	Protective degree	IP20
	Safety	Meet the requirement of CE
	Cooling	Air-cooling

## Standard Wiring

Wiring diagram of control circuit



## Type Selection

Type designation key

**GD20-2R2G-4-UL**

①      ②      ③      ④

Key	No.	Detailed description	Detailed content
Abbreviation	①	Product abbreviation	GD20 is short for Goodrive20
Rated power	②	Power range+load type	2R2-2.2kW G: constant torque load
Voltage degree	③	Voltage degree	S2: AC 1PH 220V(-15%)~240V(+10%) 4: AC 3PH 380V(-15%)~440V(+10%)
Certification	④	Certification standards	Default: CE: Meet EU CE certification requirements UL: Meet American UL certification requirements

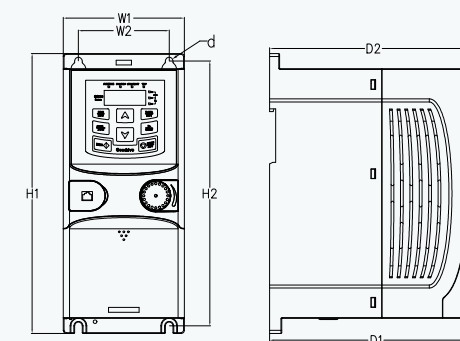
Power ratings

Key	Rated output power(kW)	Rated input current(A)	Rated output current(A)
GD20-0R4G-S2	0.4	6.5	2.5
GD20-0R7G-S2	0.75	9.3	4.2
GD20-1R5G-S2	1.5	15.7	7.5
GD20-2R2G-S2	2.2	24	10
GD20-0R7G-4	0.75	3.4	2.5
GD20-1R5G-4	1.5	5.0	3.7
GD20-2R2G-4	2.2	5.8	5.5

## Product Weight And Outer Packing Dimension

Model	Power	Gross weight(kg)	Net weight(kg)	Packing material	Outer packing size (mm)
GD20 1-phase 220v Series	0.4-0.75KW	1.1kg	0.9kg	Canton box	215mmx125mmx180mm
	1.5-2.2KW	1.5kg	1.2kg	Canton box	242mmx130mmx120mm
GD20 3-phase 380v Series	0.75-2.2KW	1.3kg	1.0kg	Canton box	242mmx130mmx120mm

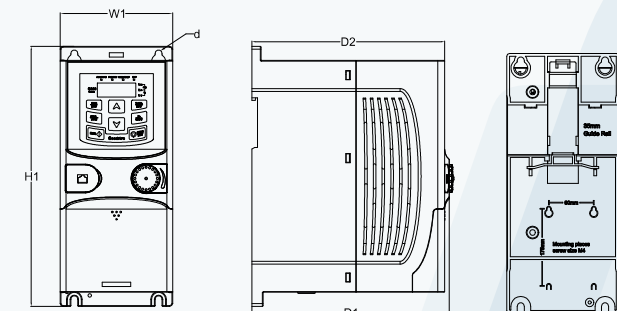
## Installation Dimension



Wall installation

Installation dimension (unit: mm)

Model	W1	W2	H1	H2	D1	D2	Installation hole (d)
GD20-0R4G-S2	80.0	60.0	160.0	150.0	123.5	120.3	5
GD20-0R7G-S2	80.0	60.0	160.0	150.0	123.5	120.3	5
GD20-1R5G-S2	80.0	60.0	185.0	175.0	140.5	137.3	5
GD20-2R2G-S2	80.0	60.0	185.0	175.0	140.5	137.3	5
GD20-0R7G-4	80.0	60.0	185.0	175.0	140.5	137.3	5
GD20-1R5G-4	80.0	60.0	185.0	175.0	140.5	137.3	5
GD20-2R2G-4	80.0	60.0	185.0	175.0	140.5	137.3	5



Rail installation

Installation dimension (unit: mm)

Model	W1	H1	H3	H4	D1	D2	Installation hole (d)
GD20-0R4G-S2	80.0	160.0	35.4	36.6	123.5	120.3	5
GD20-0R7G-S2	80.0	160.0	35.4	36.6	123.5	120.3	5
GD20-1R5G-S2	80.0	185.0	35.4	36.6	140.5	137.3	5
GD20-2R2G-S2	80.0	185.0	35.4	36.6	140.5	137.3	5
GD20-0R7G-4	80.0	185.0	35.4	36.6	140.5	137.3	5
GD20-1R5G-4	80.0	185.0	35.4	36.6	140.5	137.3	5
GD20-2R2G-4	80.0	185.0	35.4	36.6	140.5	137.3	5



## Sales Network



- INVT Sales & Service in 9 countries: Russia, India, Thailand, UAE, Italy, UK, Germany, Australia, Mexico
- Sales and Service Partners in 57 countries



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- |                               |  |                                       |                            |                                   |
|-------------------------------|--|---------------------------------------|----------------------------|-----------------------------------|
| <b>Industrial Automation:</b> | • Frequency Inverter                         | • Servo & Motion Control              | • Motor & Electric Spindle | • PLC                             |
|                               | • HMI  | • Intelligent Elevator Control System | • Traction Drive           |                                   |
| <b>Electric Power:</b>        | • SVG  | • Solar Inverter                      | • UPS                      | • Online Energy Management System |
|                               | • New Energy Vehicle Electric Control System |                                       |                            |                                   |

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