Your Trusted Industry Automation Solution Provider

invt

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 Contral System • Traction Drive

Electric Power: • SVG • Solar Inverter • UPS • Online Energy Management System
• New Energy Vehicle Electric Control System

Y07/1-01(V1.0)

Goodrive20 Series

Vector Control Inverter

Management Service

Features

Optimized structure design

Optimized spare utilization, models (≥18.5kW) is much smaller than existing inverters.

Size compared with GD200A

Power Rate	Size of GD20 (W*H*D)	Size of GD200A (W*H*D)	Size decreased than GD200A
18.5kW	200*340.6*184.3	230*342*216	26%
22kW	200*340.6*184.3	255*407*245	51%
30kW	250*400*202	255*407*245	21%
37kW	250*400*202	270*555*325	59%
45kW	282*560*238	270*555*325	23%
55kW	282*560*238	270*555*325	23%
75~110kW	338*554*329.2	325*680*365	24%

Mini design for inverters (≤ 2.2kW); abreast installation of multiple inverters, reducing installation space

Flexible installation ways

Inverters (≤ 2.2kW) support wall mounting and rail mounting.

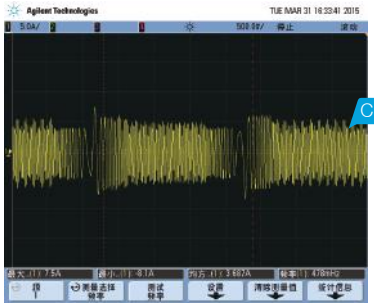
Rail mounting

Wall mounting

IInverters (≥4kW) support wall mounting and flange mounting.

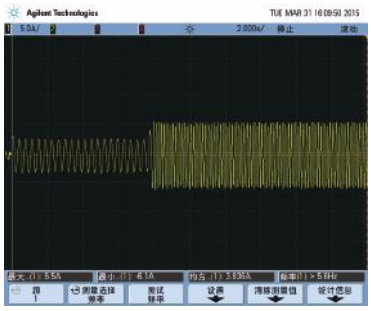
Excellent Performance

Excellent vector control performance

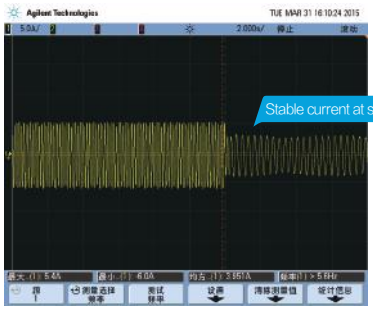


Current waveforms in vector control mode with 50Hz and full load

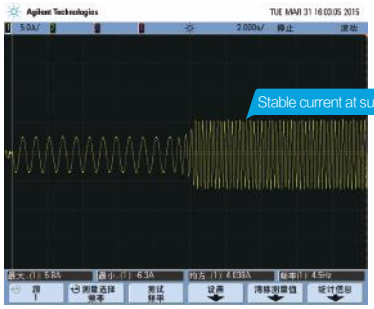
Excellent motor drive performance



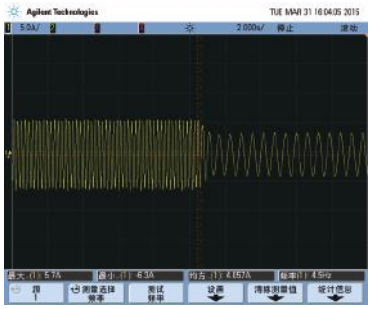
Current waveforms when sudden loading in V/F control mode with 2Hz and full load



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

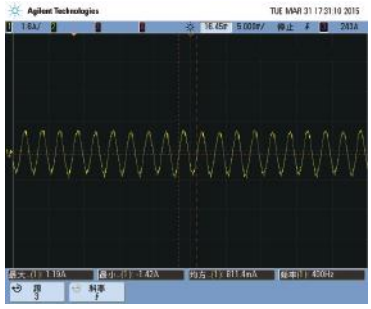


Current waveforms when sudden loading in vector control mode with 0.5Hz and full load

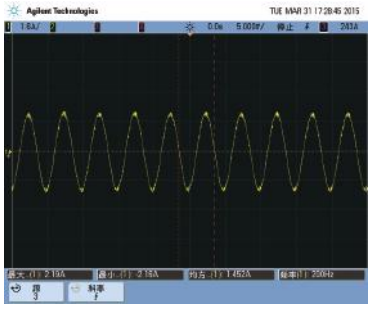


Current waveforms when sudden unloading in vector control mode with 0.5Hz and full load

Excellent high-frequency running performance



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



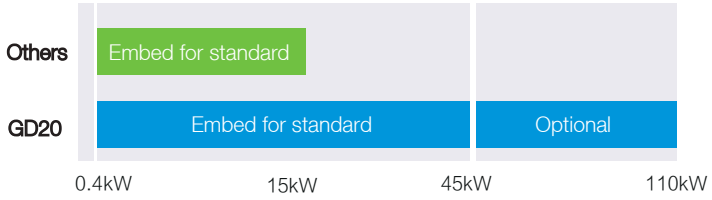
Current waveforms when sudden unloading in vector control mode with 0.5Hz and full load

Multi-function and easy to use

DC reactors are built-in inverters ⩾18.5kW

The braking unit is built-in and standard for inverters ⩽37kW but optional for inverters of 45-110kW.

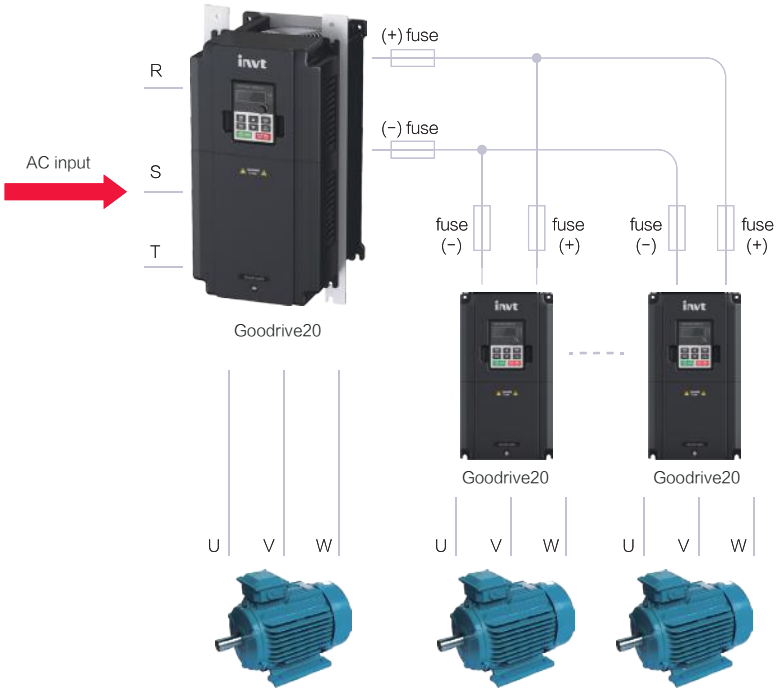
Dynamic braking can be implemented by only configuring braking resistors, reducing occupation space.



Compared about embedded braking unit

Inverters (380V; ⩾4kw) support the DC bus sharing solution.

Dynamic braking can be implemented by only configuring braking resistors, reducing occupation space.



Built-in Safety Torque Off function

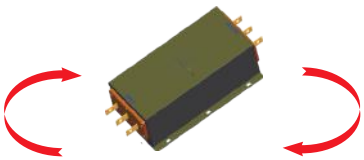
GD20 series inverter support Built-in Safety Torque Off function, and passed the certification as followed:

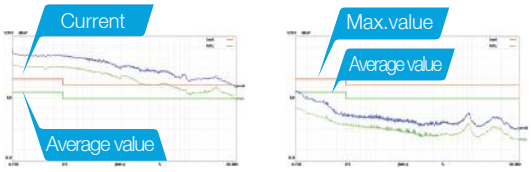
Model	Certification standard and grade					
	IEC 61508		EN/ISO 13849-1		EN954-1	
-S2:0.4~2.2kW -2:0.4~0.75kW -4:0.75~2.2kW	SIL	2	PL	d	Category	3
-2:1.5~7.5kW -4:4~110kW	SIL	3	PL	e	Category	3

C3 and C2 filters

C3 filters are built in inverters (3PH; 380V; ⩾4kW) and (3PH; 220V; ⩾1.5kW) by using J10 to determine the connection or disconnection. External C3 filters can be configured for inverters (1PH; 220V; ⩽2.2kW), (3PH; 380V; ⩽2.2kW) and (3PH; 220V; ⩽0.75kW).

External C2 filters are optional for all GD20 series inverters.





Before installing the filter　　After installing the filter

Conductive interference test of the power supply terminals

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

Support of external keypad

The membrane keypad are standard for inverters (380V; ⩽ 2.2kW), which also support external LED keypads. The keypads for inverters (3PH; 380V; ⩾4kW) can be used as external keypads.

GD20 series inverters can be configured with LED keypad which has the data copy function to upload or download the parameters.

Pluggable design for cooling fans, making maintenance easy

Abundant software functions

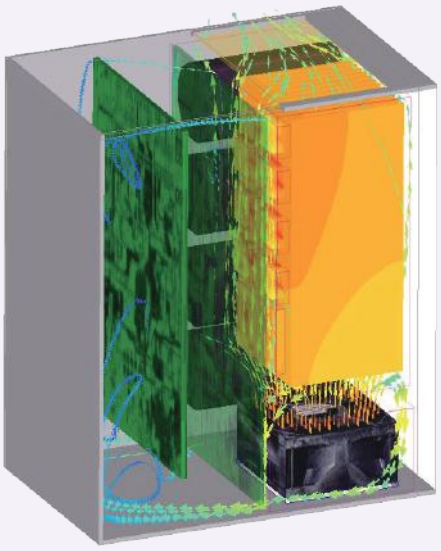
Function	Used to	Remarks
RS485 communication	Read and modify inverter parameters through connection to the upper computer so as to control inverter running status.	Configured with RS485 communication interface
PID	Carry out PID operation on feedback signals to control inverter output frequency and improve target accuracy and stability. Applicable to pressure, flow and temperature process control.	Supports PID output polarity switching.
Motor parameter autotuning	Carry out rotation or static autotuning, improving control accuracy and response speed.	Classified into rotation autotuning and static autotuning.
Simple PLC function	Change the running frequency and direction automatically according to the running time set by simple PLC to meet process requirements.	Supports multiple running modes.
Multi-step speed control	Meet the speed control requirements in different periods of time.	A maximum of 16 steps can be divided for multi-step speed control.
Multiple V/F curve settings	Meet the requirements of energy-saving operation for fans and water pumps and of various variable frequency power supplies; adapt to different load applications.	Linear, multi-dot, multi-power and V/F separation settings, implementing flexible setting of V/F curves.
Virtual terminals	Take external signals as local virtual I/O to reduce hardware configuration.	Corresponding virtual terminal functions must be enabled in communication mode.
Delay of switching on and off	Provide more programming and control modes	Max. switching on/off delay is 50s
Uninterrupted running in instantaneous power off	Ensure uninterrupted running in instantaneous power off. Especially applicable to the situations with high requirements on continuous operation.	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.	Various measures provided to protect against faults such as overcurrent, overvoltage, undervoltage, overheating, and overload, whose information can be saved.
Multiple braking modes available	Provide multiple braking modes, satisfying accurate and quick stop under different loads.	DC braking, flux braking, dynamic braking
Battery capacity display	Display the accumulative power consumption on the inverter without watt-hour meter.	Inverter power consumption can be queried.

Reliable QA

Goodrive20 is designed follow the IEC standards and passes the CE test.

CE

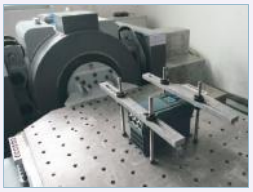
Exact thermal design is made based on advanced thermal technology.



Perfect and Reliable Test System Ensure Products Adapt Complicated Site Environments and Achieved ACT Certificate of TÜV SÜD

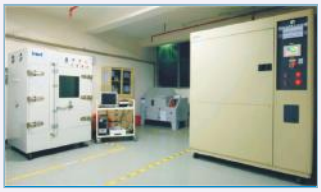
Experiment Type	Experiment Name	Classification
Mechanical Reliability Experiments	Packaging Experiments	Package compression experiments
		Package Resonance imaging and storage test
		Package random vibration test
		Package dropping test
		Package rolling test
		Package dumping test
		Package inclined 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 working test
		High temperature working test
		Gradient temperature change test
		Temperature impact test
	Temperature Humidity Test	Constant temperature & humidity test
		Alternation temperature & humidity test
	Salt Spray Test	Constant salt spray test
		Alternation salt spray test
	Low Air Pressure Test	Combined dry heat & low air pressure test
		Combined cold & low air 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 Prssure Test Chamber& Constant temperature and humidity test chamber



Faster temperature chamber& Thermal Shock Test Chamber

Applications

Textile machinery

Food machinery

Plastic machinery

Printing and packaging

Environmental protection equipment

Ceramic equipment

Woodworking equipment

Conveying equipment

Air compressor

Cable machinery