

# LOW VOLTAGE INVERTER

FGI SCIENCE AND TECHNOLOGY CO., LTD.

+86 0537 4922168

info@fgidrive.com

www.fgidrive.com

FGI Industrial Park, Jincheng Road  
Middle, Wenshang, Jining City, China



## Company Introduction

Founded in 1970, FGI Science and Technology Co., Ltd., is a leading national high-tech state-owned enterprise, specializing in the research, development, production, sales and service of frequency inverters, medium voltage drive, Static Var Generator (SVG), explosion-proof products (inverters & SVGs) and energy storage products.

As the core manufacturer of industrial automation products in China, FGI has established itself as a trusted manufacturer in the market. With over 900 dedicated professional staffs and a self-owned industrial park spanning 170,000m<sup>2</sup>, we proudly became a public listed company in 2021, further solidifying our commitment to excellence.

We look forward to the opportunity of working together and achieving mutual success.

### No.1

In 2023, FGI was honored by the Chinese Ministry of Industry and Information Technology (MIIT) as the 1st manufacturer of high-voltage Static Var Generators (SVGs) in China.



**170,000** m<sup>2</sup>

Covering an area of  
170,000 square meters.



**100,000** m<sup>2</sup>

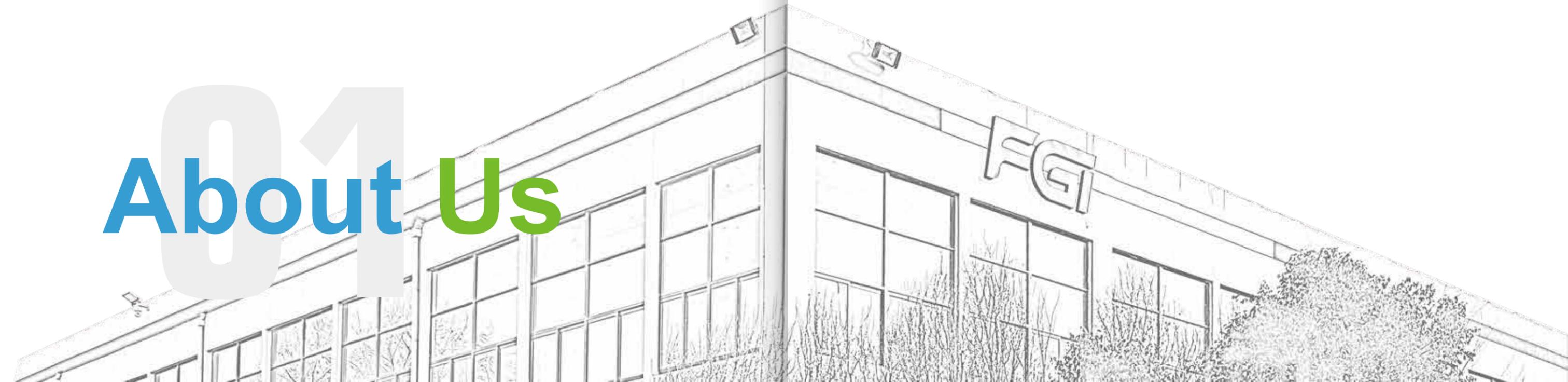
Factory building area  
100,000 square meters.



**200,000<sup>+</sup>** PCS

Annual production capacity  
of 200,000 PCS.

# About Us



# 04 Introduction of FD100A



The **FD100A** series uses DSP control system as the platform, current vector control technology, and multiple protection methods, which can be applied to asynchronous motors to provide excellent driving performance.

①

Book style structural design

②

60% year-on-year reduction in volume

③

Modular structural layout

④

Supports dual row display



Technical Specifications

4.1

Item	Technical Index	Specification
Basic Functions	Maximum Frequency	Vector Control: 0~599.9Hz V/F Control: 0~599.9Hz
	Carrier Frequency	0.5kHz~16kHz; the carrier frequency will be automatically adjusted according to the load characteristics.
	Input Frequency Resolution	Digital Setting: 0.1Hz Analog Setting: 0.01V corresponding maximum frequency ×0.1%
	Control Mode	Open Loop Vector Control(SVC); V/F Control
	Startup Torque	G Type: 0.5Hz/150%(SVC) P Type: 0.5Hz/100%
	Speed Range and Precision	1: 100(SVC); ±0.5%(SVC)
	Overload Capability	G Type: 150% rated current 60s 180% rated current 3s
	Torque Boost	0.1%~30.0%
	V/F Curve	Line Type、Square Type
	Acc. / dec Curve	Straight line or S curve acceleration and deceleration mode Acceleration and deceleration time range between 0.0 to 500.0s.
	DC Brake	DC Brake Frequency: 0.00Hz to maximum frequency. Brake time: 0.0s to 36.0s
	Multi-speed Running	It can realize at maximum of 8 segments speed running via the control terminal.
	Built-in PID	It is easy to realize process-controlled closed loop control system.
	Over-voltage/ current Stall Control	It can limit the running voltage/current automatically and prevent frequent over-voltage/current tripping during the running process.
	Motor Over-temperature Protection	Acceptable motor temperature sensor input (PT100, PT1000)
	Timing Control	Timing control function: set time range 0.0~6500.0Min
Bus Support	Support Site Bus: Modbus	

Item	Technical Index	Specification
Basic Functions	Protection Function	It can implement power-on motor short-circuit detection, output phase loss protection, over current protection, over voltage protection, under voltage protection, overheating protection and overload protection, which can be turned on or shielded as required.
Running	Running Command Source	Operation panel reference, control terminal reference, and communication reference
	Target Frequency Source	Digital reference, analog signal reference, multi-segment speed reference, PI control reference, and communication reference
Running	Control Signal Input Terminal	5 digital input; 2 analog input, support 0~10V、4~20mA、0~20mA、20~0mA、20~4mA and 10~0V signal
	Control Signal Output Terminal	1 relay output, 2 collector output; 2 analog output, support 0~10V、4~20mA、0~20mA、20~0mA、20~4mA and 10~0Vsignal
Environment	Using Place	Indoor, and be free from direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapor, drip or salt.
	Altitude	0~4000m; Derating use when more than 1000m (decrease by 1% per 100 meters)
	Ambient Temperature	-10 ℃ to +40 ℃ (Derating use when under ambient temperature of 40 ℃ to 50 ℃)
	Humidity	Less than 95%RH, without condensing
	Vibration	Less than 5.9m/s (0.6g)
	Storage Temperature	-20 ℃ ~ +60 ℃
	IP Level	IP20
	Pollution Level	PD2
	Power Distribution System	TN, TT

Product Model Description 4.2

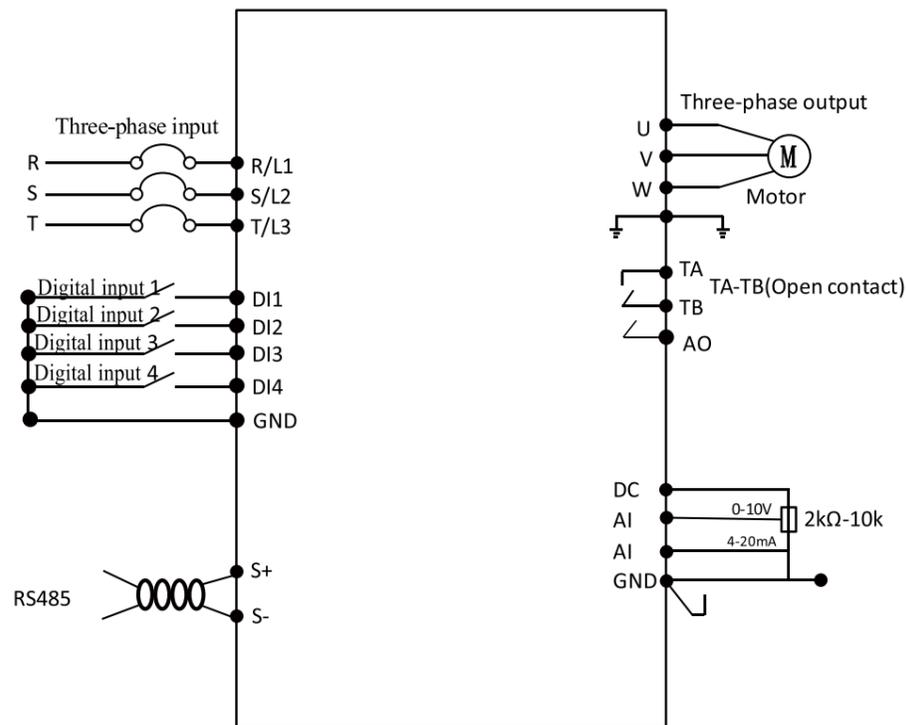
# FD100A – 090G – T4

①

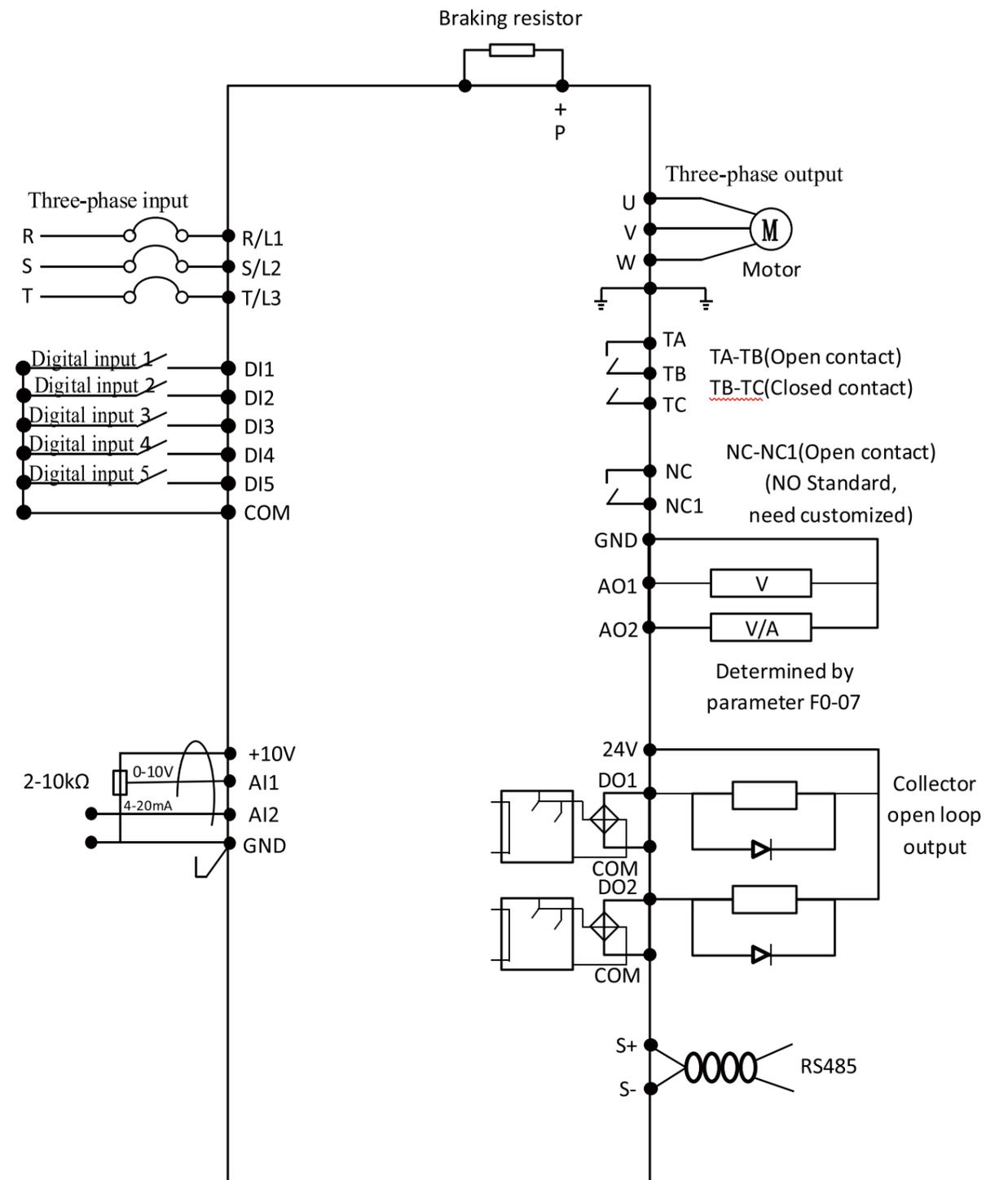
②

③

①	Series code	FD100A: High performance variable frequency drive
②	Rated power	90G: Constant torque load 90kW
③	Rated Voltage	S2: AC 1PH 220V(-15%) ~ 240V(+10%) T2: AC 3PH 220V(-15%) ~ 240V(+10%) T4: AC 3PH 380V(-15%) ~ 440V(+10%)



System Wiring 4.3



## Selection Guide

## 4.4

## 3AC 380V (-15%)~440V (+10%)

Power	Suitable Motor (kW)	Rated Output Current (A)
FD100A-0R7G-T4	0.75	2.5
FD100A-1R5G-T4	1.5	3.7
FD100A-2R2G-T4	2.2	5.1
FD100A-4R0G-T4	4	7.0
FD100A-5R5G-T4	5.5	8.5
FD100A-7R5G-T4	7.5	13
FD100A-011G-T4	11	16
FD100A-015G-T4	15	25
FD100A-018G-T4	18	32
FD100A-022G-T4	22	38
FD100A-030G-T4	30	45
FD100A-037G-T4	37	60
FD100A-045G-T4	45	75
FD100A-055G-T4	55	90
FD100A-075G-T4	75	110
FD100A-090G-T4	90	150
FD100A-110G-T4	110	170
FD100A-132G-T4	132	210
FD100A-160G-T4	160	250
FD100A-185G-T4	185	300
FD100A-200G-T4	200	380
FD100A-220G-T4	220	415
FD100A-250G-T4	250	470
FD100A-280G-T4	280	520
FD100A-315G-T4	315	600
FD100A-355G-T4	355	650
FD100A-400G-T4	400	725
FD100A-450G-T4	450	820
FD100A-500G-T4	500	980
FD100A-560G-T4	560	1080
FD100A-630G-T4	630	1200

## 1AC 220V~240V (±15%)

Power	Suitable Motor (kW)	Rated Output Current (A)
FD100A-0R7G-S2	0.75	4
FD100A-1R5G-S2	1.5	7
FD100A-2R2G-S2	2.2	10
FD100A-4R0G-S2	4	13
FD100A-5R5G-S2	5.5	25
FD100A-7R5G-S2	7.5	32
FD100A-011G-S2	11	45
FD100A-015G-S2	15	60
FD100A-018G-S2	18.5	75
FD100A-022G-S2	22	90
FD100A-030G-S2	30	110
FD100A-037G-S2	37	150
FD100A-045G-S2	45	170
FD100A-055G-S2	55	210
FD100A-075G-S2	75	300



LOW  
VOLTAGE  
INVERTER

External and Keypad Dimensions 4.5



Dimension (3AC 380V~440V)

Power (kW)	Outlook dimensions (mm)		
	H	W	D
0.75~2.2	123	153	86
4	132.8	170	86
5.5	156	188	96
7.5	166.3	201	106
11	186.2	228	114
0.75~2.2	141	170	86
0.4~5.5	171	188	96
7.5~11	192	228	114
15~18.5	182	290	160
22~30	217	328	193

Dimension (3AC 380V~440V)

Power (kW)	Outlook dimensions (mm)		
	H	W	D
37~45	223	344	228
55	238	490	327.5
75~93	279	528	300
110~132	360	690	370
160	358.5	724	428
200~220	358.5	794	453
250~315	392.5	1060	650
355~500	404.5	1361.5	818
560~630	410	1330	786

# 05

# Application Fields



> Petrochemical



> Urban substation



> Wood processing



> Power station



> Lithium current waterline



> Logistics transportation



> Food processing



> Metallurgy



> Packaging assembly line