

# ZEST



## Selection Manual

● ANHUI ZEST ELECTRIC CO.,LTD

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# About us

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## ZEST Electric

ZEST Electric is specialized in developing, manufacturing and selling industrial automatic products, and is committed to provide excellent integrated solutions!

ZEST takes up the mission of improving industry automation progress, upholds the design & development of Independent intellectual property rights, works hard at domestic market, establishes famous brand in this industry, and expands our business in international market. ZEST Electric is determined to be a reliable partner and constantly create value for customers & users.

Now the products are widely used in electric power, mining, metallurgy, petroleum, chemical, building materials, lifting, machine tools, textiles, paper, packaging and other industries.

"Customer comes first" is what we always insist, ZEST is committed to becoming one of the leading providers of industrial automation control products and system solutions.

# ZQ280/280A series

## Vector Frequency Inverter



### Product Features

#### Various selection

- Simple PLC , Multi-stage speed operation Built-in PID
- Optional local or remote keyboard
- RS485, Built-in brake unit (ZQ280A only)

#### Reliable protection

- Overcurrent, Overvoltage, Overload, Default Phase, Short circuit Protection
- High flame retardant material

#### Superior performance

- Vector control
- Strong EMC anti-interference capability
- Solar inverter MPPT control

#### Stable output

- AVR function
- Constant output voltage

#### Small volume

- Small size, saving installation space

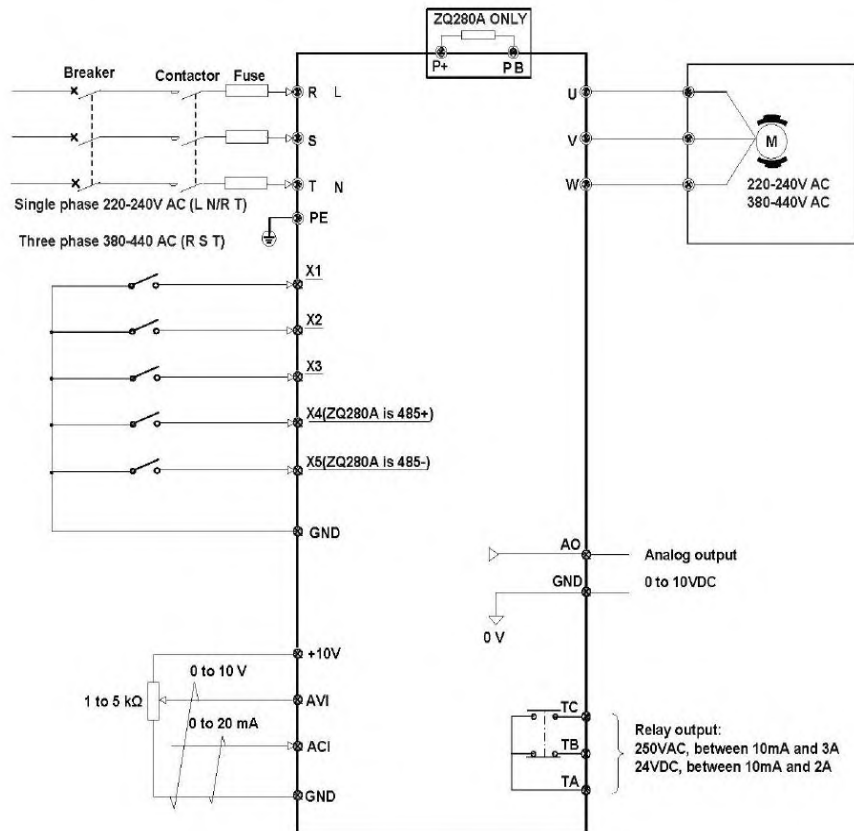
#### Low noise running

- Carrier frequency is continuously adjustable from 2 to 12 kHz

**External Dimensions**

Type	Power	Power Supply	Output Current	External Dimensions
ZQ280(A)S0D4	0.4KW	Single phase AC 220V-240V 50Hz/60Hz	2.3	186.5*86*143.5
ZQ280(A)S0D7	0.75KW		4	186.5*86*143.5
ZQ280(A)S1D5	1.5KW		7	186.5*86*143.5
ZQ280(A)S2D2	2.2KW		9.5	186.5*86*143.5
ZQ280(A)S3D	3KW		13	216*101*151
ZQ280(A)S4D	4KW		15	237*111*168
ZQ280(A)S5D5	5.5KW		20	237*111*168
ZQ280(A)T0D4	0.4KW	Three phase AC 380V-440V 50Hz/60Hz	1.5	186.5*86*143.5
ZQ280(A)T0D7	0.75KW		2.5	186.5*86*143.5
ZQ280(A)T1D5	1.5KW		4.1	186.5*86*143.5
ZQ280(A)T2D2	2.2KW		5.1	186.5*86*143.5
ZQ280(A)T3D	3KW		7.9	186.5*86*143.5
ZQ280(A)T4D	4KW		9.4	216.5*101*151
ZQ280(A)T5D5	5.5KW		12.6	216.5*101*151
ZQ280(A)T7D5	7.5KW		16.1	237*111*168

**Terminal Wiring Diagram**



# Operating Panel

## 1. Appearance of Keyboard panel

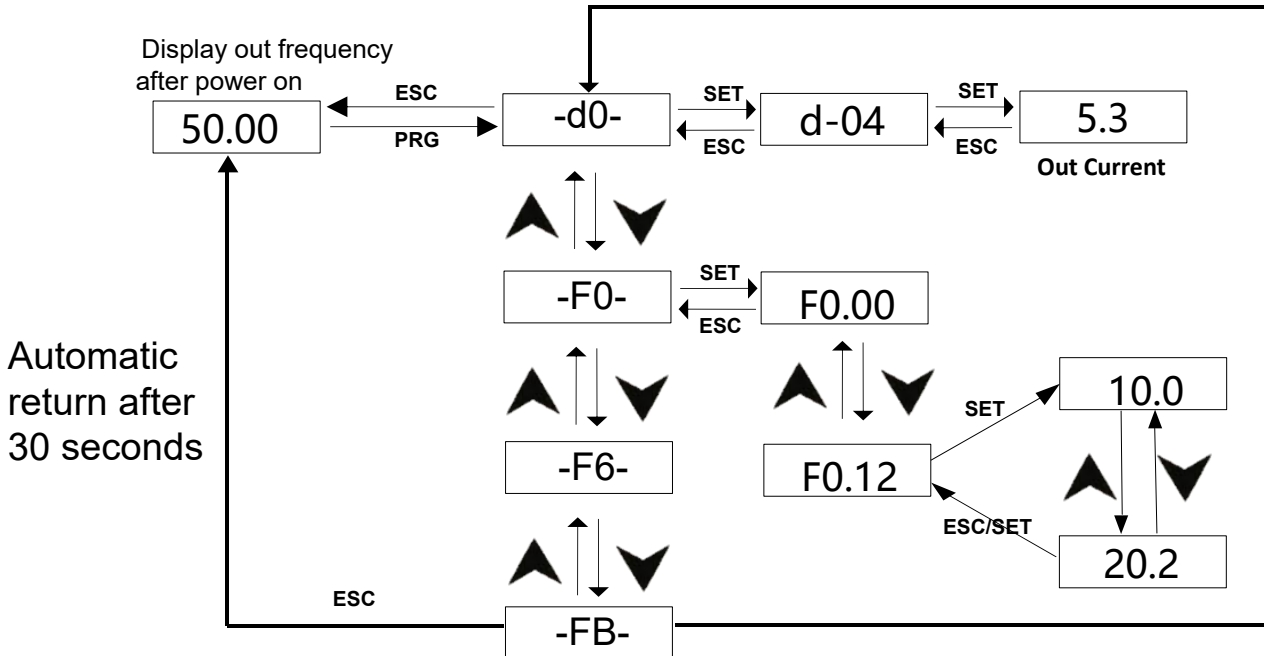


Item	Symbol	Function
Digital tube display		To display frequency or parameter etc using LED.
Parameter setting key		Used to read and modify each group of parameters, press to enter the parameter group or display the parameter value.
Jog and return keys		Used for VFD jog operation or parameter setting return
Increment		To increase parameter number or parameter set value
Decrement		To reduce parameter number or parameter set value
RUN		Start the VFD when using the operating panel control mode. It is inactive when using the terminal or communication control mode.
STOP		Stop the VFD when the drive is in the RUNNING status. Perform a reset operation when the drive is in the FAULT status.
Speed control knob		To adjust frequency

After setting the parameters, return to the original interface method:

1. After power off, power on again.
2. Select parameter d-00, and then press SET key.
3. Long press the SET button

## 2. Basic operation of panel



Use the RUN button to switch to display the units, tens, hundreds, and thousands of the digital tube.

## 3. VFD running command mode setting

The operation command mode of the VFD is set by parameter F0.02: there are three types of panel control start/stop, terminal control start/stop and communication control start/stop:

(1) Panel control start and stop: (set to panel start and stop F0.02=0)

To use the panel control to start and stop the VFD, press the green button on the panel to start, the red button to stop, the VFD starts by default forward rotation, and the forward and reverse rotation needs to be Set through input terminals X1-X5, (reverse setting is 2).

(2) Terminal start/stop: (set to terminal start/stop F0.02=1)

# ZQ310 series

**Variable Frequency Drive  
High Performance Solar Inverter**



## Product Detail



### Flame Retardant Plastic

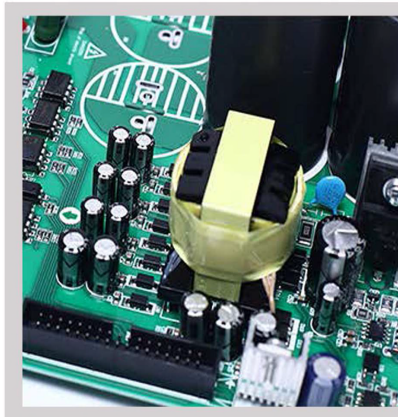
Industrial Flame Retardant ABS Plastics High

Impact Resistance

High Heat Resistance

High Flame Retardant

Good Comprehensive Performance



Low Loss High Frequency Transformer

Independent Bridge Wall

Power Supply Scheme

Power Abnormality Self-Check Function

### Operation Panel

Human-Machine Interactive Button Panel Design

Intelligent Control

Convenient Operation



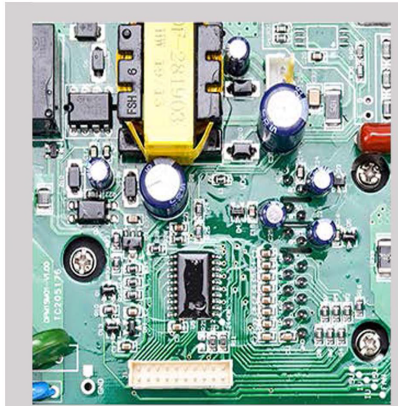
### Intelligent Fan Control

Strong Cooling Fan-improve Machine Stability

Intelligent Start and Stop Control

Greatly Reduce The Field Noise

And Improve The Service Life Of The Fan



Intelligent High-End Motherboard

Automatic Coating

Thicken The Three Anti - Paint Coating

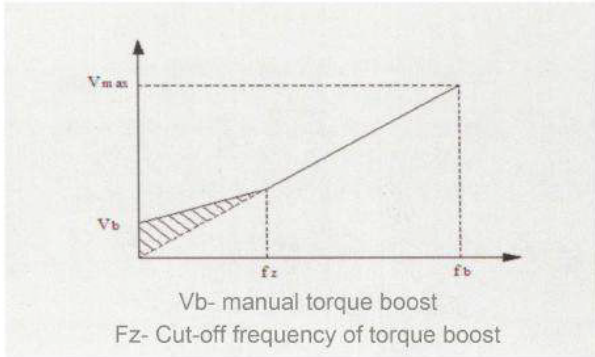
Resistant To Moisture, Corrosion And

Salt Spray

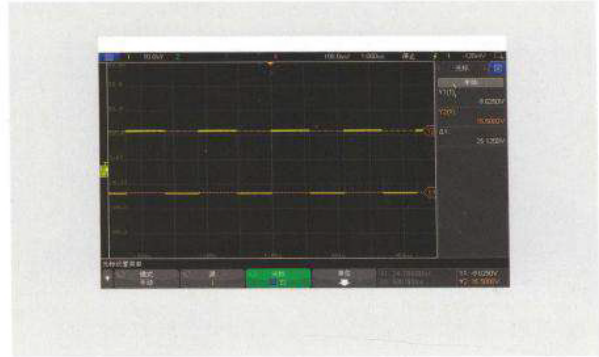


**Product Characteristics**

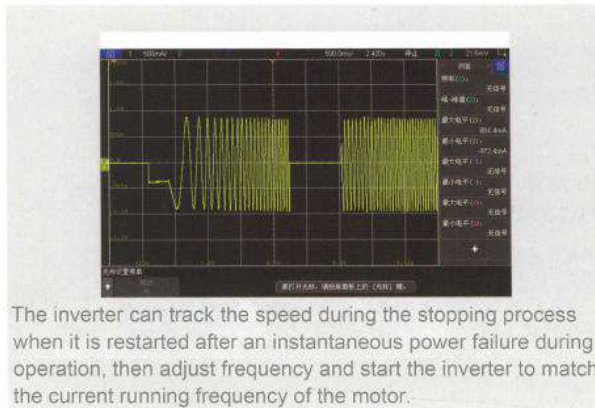
**Diagram Of Torque Boost**



**Drive Waveform**



**Speed Tracking**



The inverter can track the speed during the stopping process when it is restarted after an instantaneous power failure during operation, then adjust frequency and start the inverter to match the current running frequency of the motor.

**Superior performance at low frequency**

Vector control algorithm can realize high start torque and stable low-speed torque output

**Wide voltage range input**

Works well at voltage instability condition

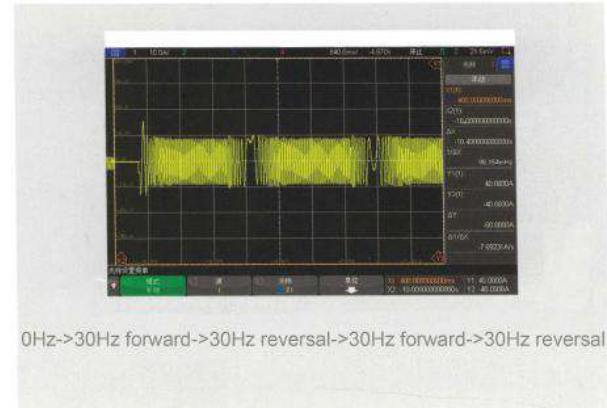
**Wide range of applications**

The integration of various kinds of industry application software functions can meet all on-site control needs

**Built-in brake unit**

Compact structure design, built-in brake unit (22kw and below)

**Forward & Reversal Waveform**



0Hz->30Hz forward->30Hz reversal->30Hz forward->30Hz reversal

**RS485 Modbus Communication**

This series is equipped with standard RS485 serial communication interface and adopts standard Modbus communication protocol

**Comprehensive protection**

Comprehensive protection function is easy to deal with load variations and harsh working environment

**High security**

This series adopts high flame-retardant materials and high-reliability main circuit connection to ensure the safety

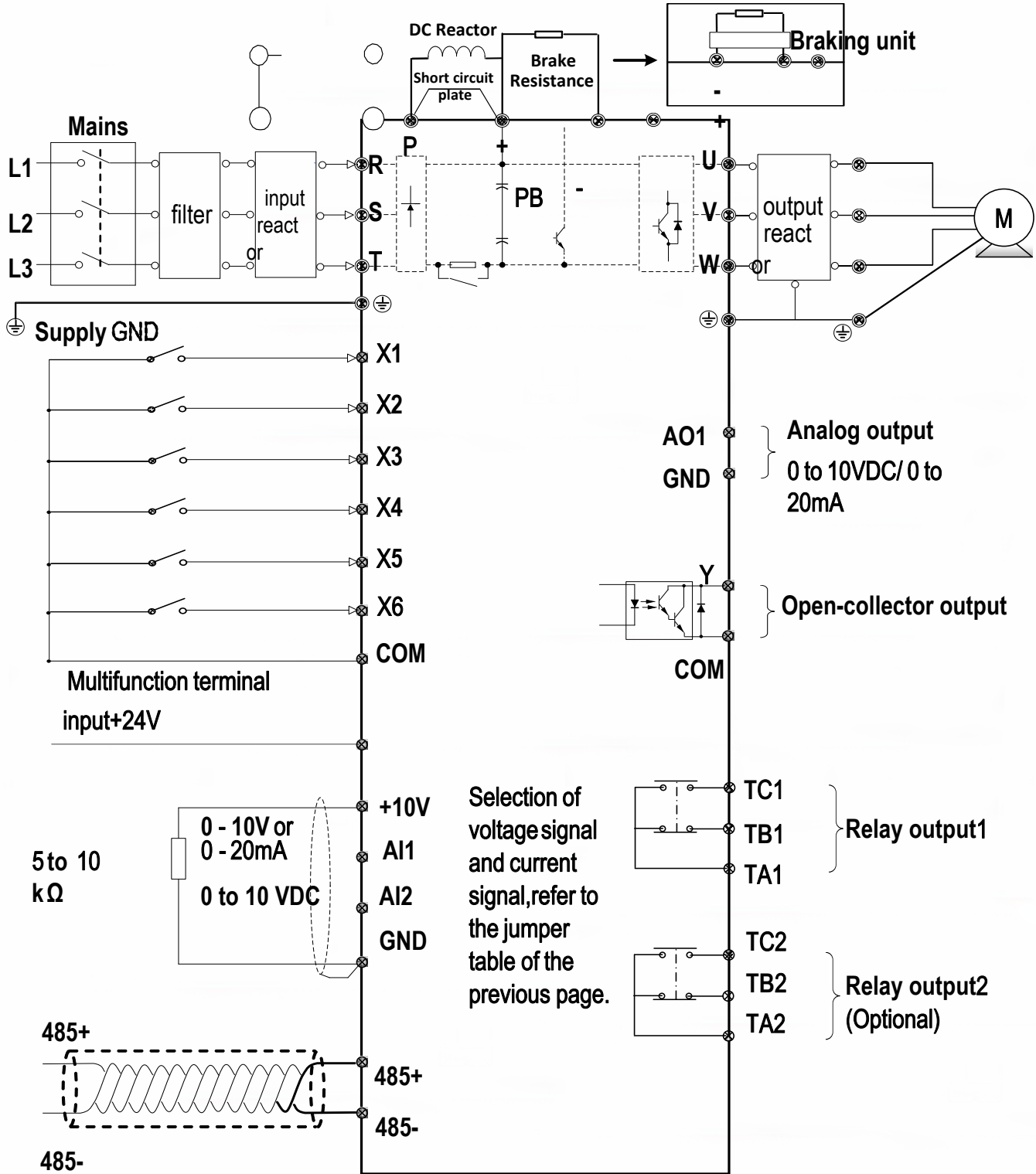
**Product Parameter**

Voltage	Model	Power (KW)	Rated Current	G.W. (KG/PC)	Product Size (MM)
220V Single Phase	ZQ310S0D7	0.75	4	1.35	166*109*146
	ZQ310S1D5	1.5	7		
	ZQ310S2D2	2.2	9.6		
	ZQ310S4D	4	17	3.8	249*143*181
	ZQ310S5D5	5.5	25		
220V Three Phase	ZQ310S0D7-P3	0.75	4	1.35	166*109*146
	ZQ310S1D5-P3	1.5	7		
	ZQ310S2D2-P3	2.2	9.6		
	ZQ310S4D-P3	4	17	3.8	249*143*181
	ZQ310S5D5-P3	5.5	25		
	ZQ310S7D5-P3	7.5	32	6.5	324*209*192
	ZQ310S11D-P3	11	45		
	ZQ310S15D-P3	15	60	14	408*288*209
	ZQ310S18D5-P3	18.5	75		
ZQ310S22D-P3	22	80			
380V Three Phase	ZQ310T0D7	0.75	2.1	1.35	166*109*146
	ZQ310T1D5	1.5	3.8		
	ZQ310T2D2	2.2	5.1		
	ZQ310T4D	4	8.5	2.8	215*131*174
	ZQ310T5D5	5.5	13		
	ZQ310T7D5	7.5	16	3.8	249*143*181
	ZQ310T11D	11	24		
	ZQ310T15D	15	32		
	ZQ310T18D5	18.5	36	6.5	324*209*192
	ZQ310T22D	22	44		
	ZQ310T30D	30	58	14	408*288*209
	ZQ310T37D	37	70		
	ZQ310T45D	45	90		
	ZQ310T55D	55	110	26	510*320*248
	ZQ310T75D	75	152		
	ZQ310T90D	90	172	47	655*377*267
	ZQ310T110D	110	205		
	ZQ310T132D	132	253		
	ZQ310T160D	160	304	75	750*495*325
	ZQ310T185D	185	340		
	ZQ310T200D	200	380	137	1005*632*440
	ZQ310T220D	220	426		
	ZQ310T250D	250	465		
	ZQ310T280D	280	520		
ZQ310T315D	315	585	212	1250*800*450	
ZQ310T355D	355	650			
ZQ310T400D	400	725			
ZQ310T450D	450	820			
ZQ310T500D	500	935			



# System wiring diagram

The wiring parts of VFD include major loop and control loop. Open the cover of I/O terminals, users can see the major loop terminal and control loop terminal, and must conduct the wiring according to the following diagram.



## Industry Application

Widely used in electric power, mining ,metallurgy ,petroleum, chemical, building materials, lifting, machine tools, textiles, paper, packaging, light-industry and various industrial automation products.



Petroleum



Water Treatment



Plastic Industry



Lifting Gear



Machine Tools



Transmission

# ZQ260G/300G series

## Frequency Inverter

Voltage	Model	Power (KW)	Rated Current(A)	G.W.(KG)	Product Size (MM)
ZQ260G Input 220v, output 380v	ZQ260GS0D7	0.75	2.5	1.35	150*115*150
	ZQ260GS1D5	1.5	4.1	1.4	150*115*150
	ZQ260GS2D2	2.2	5.8	1.5	150*115*150
	ZQ260GS3D	3	7.9	1.6	210*118*180
	ZQ260GS4D	4	9.4	1.7	210*118*180
ZQ300G High Performance Input 220v, output 380v	ZQ300GS5D5	5.5	13	3.8	249*143*177
	ZQ300GS7D5	7.5	16	6.5	320*205*205
	ZQ300GS11D	11	24	6.5	320*205*205



ZQ260G



ZQ300G

# ZQS580 Series

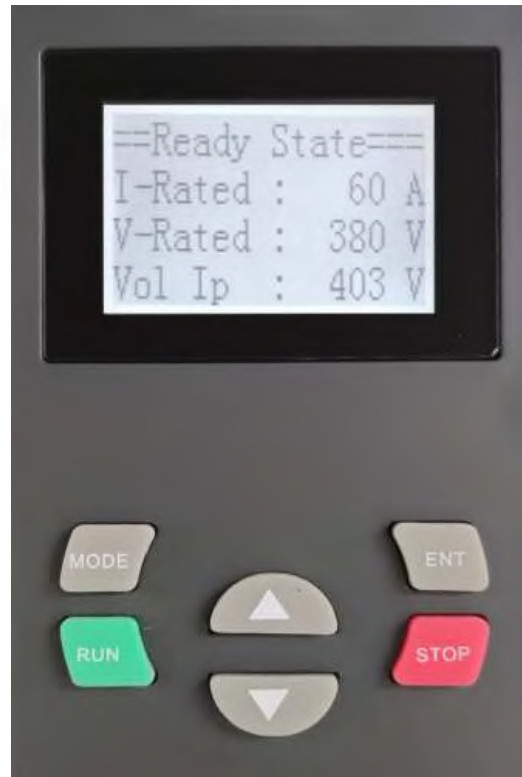
## Soft Starter



### Product Detail

Model	Rated current(A)	Application Motor(KW)	Product Size L*W*H(MM)
ZQS580-5D5	11	5.5	308*163*169
ZQS580-7D5	15	7.5	
ZQS580-11D	23	11	
ZQS580-15D	30	15	
ZQS580-18D5	37	18.5	
ZQS580-22D	45	22	
ZQS580--30D	60	30	
ZQS580-37D	75	37	
ZQS580-45D	90	45	
ZQS580-55D	110	55	
ZQS580-75D	150	75	
ZQS580-90D	180	90	
ZQS580-115D	230	115	
ZQS580-132D	264	132	
ZQS580-160D	320	160	
ZQS580-185D	370	185	
ZQS580-200D	400	200	604*292*258
ZQS580-250D	500	250	
ZQS580-280D	560	280	
ZQS580-320D	640	320	675*410*228
ZQS580-400D	800	400	
ZQS580-450D	900	450	
ZQS580-500D	1000	500	

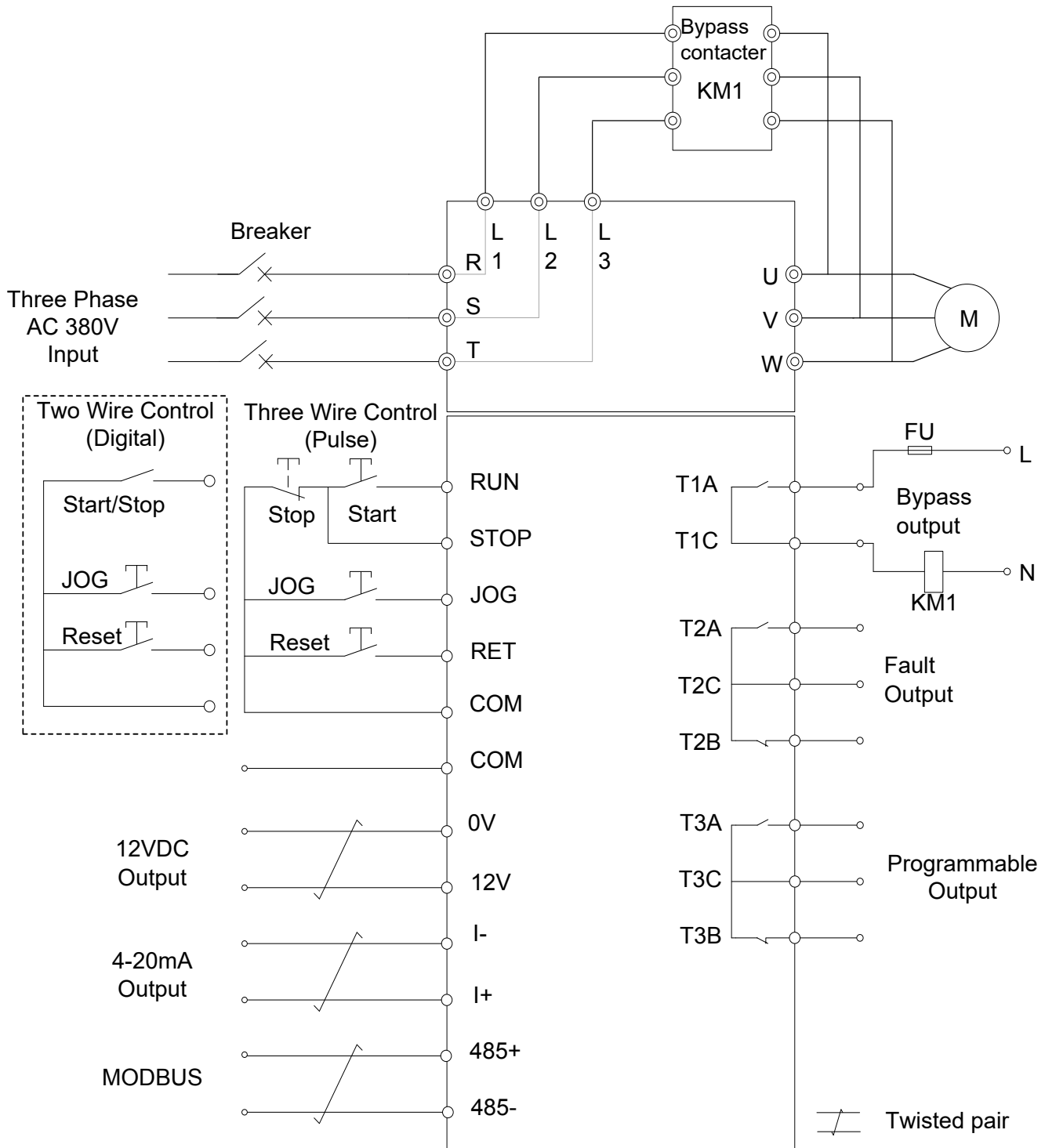
## Appearance of Keyboard panel



Key	Name	Function Description
<b>MODE</b>	Programming Escape key	Three-level menu operation mode: In the zero-level menu state, press this key to enter the level-1 menu. The non-zero level menu returns the previous level menu.
<b>ENTER</b>	Enter key	In level-1 and Level-2 menus, press this key to enter the next-level menu. Confirm setting parameters in three-level menu state.
<b>▲</b>	Increase key	Function code, menu group, or set parameter value increment
<b>▼</b>	Decrease key	Function code, menu group, or set parameter value decrement.
<b>RUN</b>	Run key	Enter into run mode under keypad model.
<b>STOP</b>	stop/reset key	Used for shutdown operation during operation; Reset operation key in fault alarm state.

# System wiring diagram

The wiring parts of soft starter include major loop and control loop. Open the cover of I/O terminals, users can see the major loop terminal and control loop terminal, and must conduct the wiring according to the following diagram.





## Application Introduction

Water pump-----Using the soft stop function, the water hammer of the pump is relieved when it stops, which saves the cost of system maintenance.

Ball mill ----- use voltage ramp to start, reduce the wear of gear torque, reduce maintenance workload, save time and cost.

Fan-----Reduce belt wear and mechanical impact, saving maintenance costs.

Compressor-----Using current limiting, realizes smooth start, reduces motor heating and prolongs service life.

Belt Conveyor-----Smooth and gradual starting process through soft start, avoiding product displacement and liquid spillage.

## Technical characteristics

Voltage: AC380V/440V(+10% ~-10%);

Current: 11A-1000A;

Frequency: 50Hz(±2%);

Soft-start rise time: 1~120S;

Soft stop time: 0~60S;

Current limit multiple: 0.5-5.0Ie;

Initial voltage: 0~80%Ue;

Cooling mode: bypass type for natural cooling;

Communication mode: RS485

## Installation Environment

Environment	Condition
Input power supply	Three phase 380VAC (-10%~+15%) , 50Hz;
Applicable motors	Squirrel cage three-phase induction/asynchronous motor.
Start frequency	No more than 6 times per hour
Ambient temperature	Working temperature: 0 - 50 ℃ Storage temperature: -25 - 70 ℃
Ambient humidity	93% no condensation or dripping
Maximum working height	1000m or less
Impact resistance	15g, 11ms
Vibration resistance	Below 3000m, the vibration is less than 0.5g;
Installation method	Wall-mounted
Cooling method	Natural air cooling



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