

S700 Series Water-cooled Inverter



The S700 series water-cooled inverter is a core driving equipment specially designed for magnetic levitation centrifugal units, providing high adaptability and strong performance to ensure stable operation of the units. Its output frequency covers 0~1000Hz, which can accurately match the speed requirements of the unit under different operating conditions, achieving seamless switching from low-speed start-up to high-speed operation. In terms of performance optimization, the inverter is equipped with multiple core technologies, and the product has been upgraded in reliability and practicality to adapt to various types of units.

Features

- ※ The output frequency ranges from 0 to 1000Hz.
- ※ The carrier frequency supports a wide adjustment range of 2 to 16kHz. A higher carrier frequency results in a smoother output waveform, effectively reducing motor noise and mechanical wear.
- ※ The main circuit is seamlessly integrated with the water-cooled cooling system, a standard feature across the entire product line. This design significantly outperforms traditional cooling methods, maintaining stable temperature levels even under highload conditions and extending the lifespan of core components.
- ※ All series come with standard DC reactors, paired with optimized driving algorithms to maintain high power factor, reduce grid harmonic interference, and minimize energy waste.
- ※ Features energy feedback during main circuit power failure or shutdown, enabling motor kinetic energy recovery to further enhance energy efficiency.
- ※ Enhanced driver protection ensures greater stability and reliability.
- ※ The integrated busbar function and compact design simplify system wiring while significantly reducing equipment size, freeing up more space for installation layouts and accommodating various generator sets.

Applications

- ※ Magnetic levitation compressor, magnetic levitation blower, magnetic levitation air compressor

Specifications

Input voltage (U1) Frequency	Three phase (4T#series) 380V ± 10% 50/60Hz
Output voltage (U2)	4T#series: 0~U1
Power range	110kW~450kW
Output frequency	0.0~1000.00Hz
Digital input	Standard configuration: 6 digital inputs (DI1 ~ Di6)
Digital output	Standard configuration: 3 digital outputs (DO1 ~ Do3)
Analog input	Standard configuration: Frequency input (Ai1); 0~20mA current input (Ai2). Standard expansion board: PT100 temperature detection input
Analog output	Ao1: Current signal output; Ao2: 0~10V analog output signal (can be configured to 0~20mA current output mode)
Contact output	Standard configuration includes two AC 250V/2A normally open and normally closed contacts
Monitoring output	One output for inverter operation signal and one output for inverter fault signal, facilitating external monitoring of inverter status.
Control method	Open-loop vector control, V/F control, etc.
485 communication	Standard configuration: 485 communication per channel
Starting torque	0 speed 180%
Speed range	1:100
Steady speed accuracy	± 0.5%
Frequency resolution	0.01Hz
Frequency accuracy	Digital setting--0.01Hz, Analog setting--maximum frequency × 0.1%
Load capacity	110%--long-term; 150%--60 seconds; 180%--5 seconds
carrier frequency	2kHz ~ 10kHz (carrier frequency varies with power level)
Acceleration	0.01~600.00Sec / 0.01~600.0Min
Startup frequency	0.0~50.0Hz
Feature	Fault self recovery, startup and operation enable, startup delay, overcurrent suppression, overvoltage/undervoltage suppression, analog input curve correction, wire breakage detection, temperature detection, macro parameters, strong starting torque
Power protection	Undervoltage protection, overvoltage protection
Operation protection	Overcurrent protection, inverter overheat protection, inverter overload protection, motor overload protection
Abnormal equipment	Abnormal current detection, EEPROM memory malfunction, control unit failure, motor overheating
Motor connection	Motor not connected, motor three-phase parameters unbalanced, parameter identification error
Expand protection	Scalable fault protection related to centrifuges; Can add clock chips to monitor fault alarm time
Installation environment	Indoor vertical installation, not exposed to direct sunlight, no dust, corrosive, flammable gases, no oil mist, water vapor, no dripping or salt content
Altitude	0~1000 meters. For every 1000 meters increase, the output current capacity decreases by 10%
Ambient temperature	Working environment temperature: -10 °C~+45 °C; Storage environment temperature: -20 °C~+60 °C
Humidity	Below 95%, no droplet condensation
Vibration	< 6m/s ²
Protection level	IP20
Guarantee	All product defects caused by quality issues are covered by free service from the date of sale, with a warranty period of 18 months. After 18 months, paid service is provided.

Model Table

Model	Code	General Load	
		Rated current (A)	Adapter motor (kW)
S700-4T1100	007M700431100	210	110
S700-4T1320	007M700431320	260	132
S700-4T1600	007M700431600	310	160
S700-4T1850	007M700431850	360	185
S700-4T2000	007M700432000	385	200
S700-4T2200	007M700432200	420	220
S700-4T2500	007M700432500	475	250
S700-4T2800	007M700432800	535	280
S700-4T3150	007M700433150	600	315
S700-4T3500	007M700433500	650	350
S700-4T4000	007M700434000	730	400
S700-4T4500	007M700434500	800	450

Installation Dimensions

1. Applicable Models: S700-4T2000~S700-4T3500

2. Applicable Models: S700-4T4000~S700-4T4500

