INOMAX

Build your trust of technology from China

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INOMAX

FREQUENCY INVERTER

CATALOG

SHENZHEN INOMAX TECHNOLOGY CO.LTD

www.inomaxtechnology.com

MAX Unparalleled Performance. Uncompromising Quality.

What is required of inverters in this constantly changing world?

At Inomax technology, we have pursued the answer to this question through constant innovation and evolution.

Introducing our extensive range of high-value,

next-generation inverters delivering outstanding drive performance in any environment,

and a wealth of functionality covering startup to maintenance.

Bulid your trust of technology,let's the world benefit from technology in China!

We are on the way!

Optimise system performance

- Onboard Advanced Motion Controller.
- 2 PID Control optional

Conform to safety standards

- Integrate directly with safety systems.
- Reverse and forward free switching
- Sleeping function

Flexible control systems

- Dual rated for HD & ND applications
- Tension control and torque mode control
- Up to 200% starting torque at 0hz
- Onboard PLC for logic programs.
- IEC61131-3 programming.

Flexible communications

- Modbus RTU/RS485 built in
- Profibus DP card optional
- Onboard web-server for flexible setup and monitoring.

Variants

- Motor Auto-tune (static and dynamic)
- Programmable delay unit

Maximise throughput

- High bandwidth motor control.
- Flexible speed & position feedback.

ADVANCED MOTOR CONTROL

0. 75KW-630KW | 220V/380V/690V

Class-leading Induction, Servo and PM Motor Performance.

Delivers high performance motor control for induction, permanent magnet & servo applications, plus onboard real-time Ethernet.

MAX500 variable frequency drives provides ultimate control flexibility to satisfy the requirements of machine builders and high specification industrial applications.

MAX500 Voltage and Power Rating Data

Type Designation:

MAX500 – 7R5G/011PT4
1 2 3 4 5 6

1&2- Product series
3- Power for heavy duty
4- Power for light duty
5- T for 3 phase, S for 1 phase

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor KW	Adaptable Motor HP	Product photos
Single-phase 200V-240V,50/60hz						
MAX300-0R4GS2	1	5.4	2.3	0.4	0.5	
MAX300-R75GS2	1.5	8.2	4	0.75	1	
MAX300-1R5GS2	3	14	7	1.5	2	
MAX300-2R2GS2	4	23	9.6	2.2	3	
3 phase 200V-240V,50/60hz						
MAX500-0R4GT2	1.5	3.4	2.1	0.4	0.5	
MAX500-R75GT2	3	5	3.8	0.75	1	
MAX500-1R5GT2	4	5.8	5.1	1.5	2	
MAX500-2R2GT2	5.9	10.5	9	2.2	3	
MAX500-3R7GT2	8.9	14.6	13	3.7	5	
MAX500-5R5GT2	17	26	25	5.5	7.5	
MAX500-7R5GT2	21	35	32	7.5	10	
MAX500-011GT2	30	46.5	45	11	15	
MAX500-015GT2	40	62	60	15	20	
MAX500-018GT2	57	76	75	18.5	25	
MAX500-022GT2	69	92	91	22	30	
MAX500-030GT2	85	113	112	30	40	
MAX500-037GT2	114	157	150	37	50	
MAX500-045GT2	134	180	176	45	60	
MAX500-055GT2	160	214	210	55	75	
MAX500-075GT2	231	307	304	75	100	



MAX500 Voltage and Power Rating Data

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor KW	Adaptable Motor HP	Product photos
3phase input & output 380V-480V, 50/60Hz						
MAX500-R75GT4	1.5	3.4	2.1	0.75	1	
MAX500-1R5GT4	3	5	3.8	1.5	2	
MAX500-2R2GT4	4	5.8	5.1	2.2	3	
MAX500-3R7G/5R5PT4	5.9	10.5	9	3.7	5	
MAX500-5R5G/7R5PT4	8.9	14.6	13	5.5	7.5	
MAX500-7R5G/011PT4	11	20.5	17	7.5	10	
MAX500-011G/015PT4	17	26	25	11	15	
MAX500-015G/018PT4	21	35	32	15	20	
MAX500-018G/022PT4	24	38.5	37	18.5	25	
MAX500-022/030PGT4	30	46.5	45	22	30	
MAX500-030G/037PT4	40	62	60	30	40	
MAX500-037G/045PT4	57	76	75	37	50	
MAX500-045G/055PT4	69	92	91	45	60	
MAX500-055G/075PT4	85	113	112	55	75	
MAX500-075G/090PT4	114	157	150	75	100	
MAX500-090G/110PT4	134	180	176	90	125	
MAX500-110G/132PT4	160	214	210	110	150	
MAX500-132G/160PT4	192	256	253	132	175	
MAX500-160G/185PT4	231	307	304	160	210	
MAX500-185G/200PT4	240	340	335	185	250	
MAX500-200G/220PT4	250	385	377	200	260	
MAX500-220G/250PT4	280	430	426	220	300	
MAX500-250G/280PT4	315	468	465	250	350	
MAX500-280G/315PT4	350	525	520	280	370	
MAX500-315G/355PT4	385	590	585	315	420	
MAX500-355G/400PT4	420	665	650	355	470	
MAX500-400G/450PT4	470	785	725	400	530	
MAX500-450G/500PT4	530	883	820	450	600	
MAX500-500G/560PT4	580	1000	930	500	660	
MAX500-560G/630PT4	630	1100	1080	560	750	
MAX500-630G/710PT4	710	1200	1120	630	850	



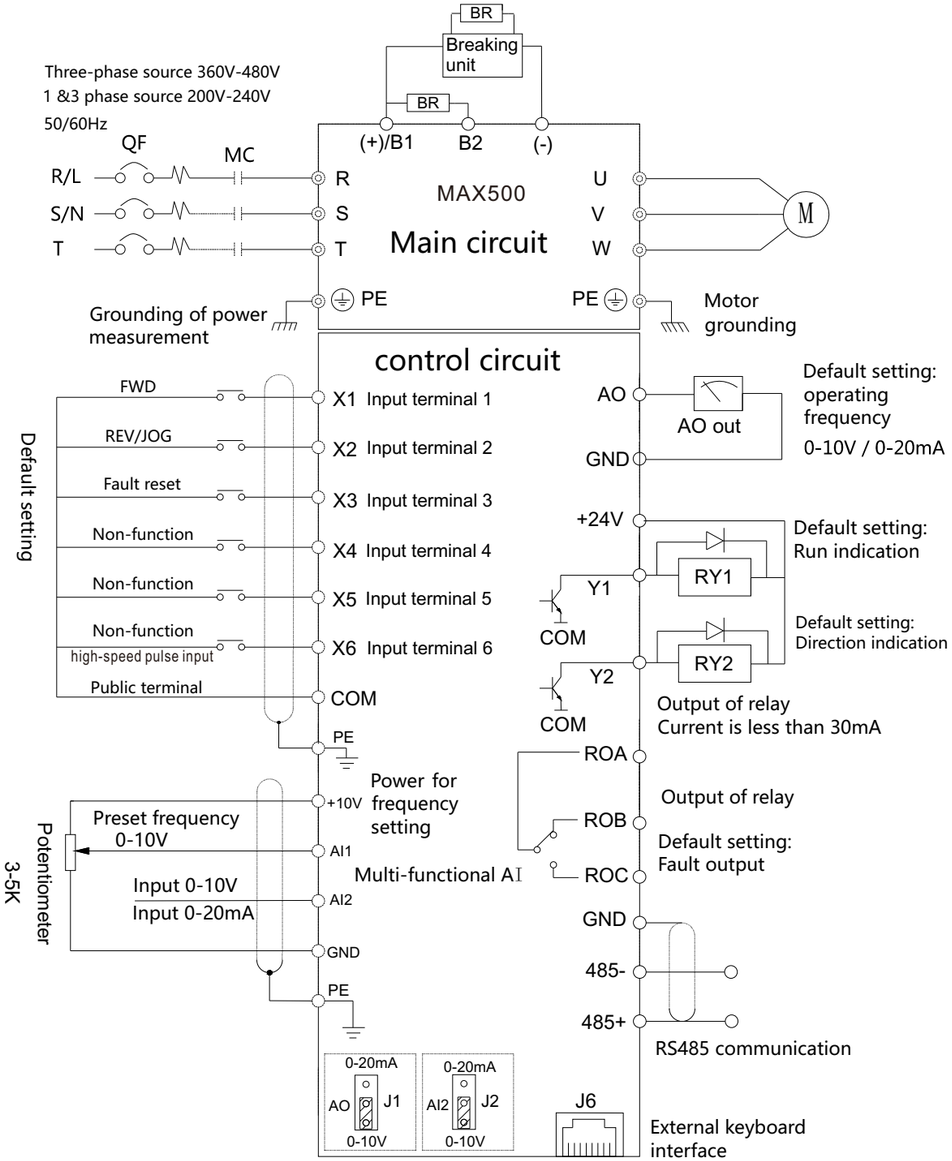
General Technical Data

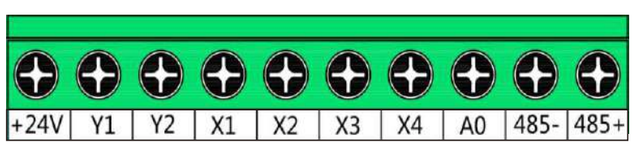
	Torque limit and control	(Excavator characteristics) It can limit the torque automatically and prevent frequently over current tripping during the running process. Torque control can be implemented in the VC mode.
Individualized functions	High performance	Control of asynchronous motor is implemented through the high-performance current vector control technology.
	Instant power not stop	The load feedback energy compensates the voltage reduction so that the frequency inverter can continue to run for a short time.
	Rapid current limit	To avoid frequently over current faults of the frequency inverter.
	Timing control	Time range: 0.0~6500.0 minutes
	Multiple communication protocols	Currently supports communication bus via Modbus-RTU and later will support PROFIBUS-DP, CANopen, etc.
	Motor overheat protection	The optional I/O extension card enables AI3 to receive the motor temperature sensor input (PT100, PT1000) so as to realize motor overheat protection.
	Multiple encoder types	It supports incremental encoder and encoder such as differential encoder, open-collector encoder, resolver, UVW encoder, and SIN/ COS encoder.
	Advanced background software	It supports the operation of frequency inverter parameters and virtualoscillograph function, by which the state of frequency inverter can be monitored.
Run	Running command giving	key panel Control terminals Serial communication port You can switch between these giving in various ways.
	Frequency giving	There are 10 kinds frequency giving: digital setting, analog voltage setting, analog current setting, pulse setting, serial communication port setting, panel potentiometer, etc. You can switch between these giving in various ways.
	Auxiliary frequency giving	There are 10 kinds auxiliary frequency giving. It can implement tiny tuning of auxiliary frequency and frequency synthesis.
	Input terminal	Standard: 6 digital input (DI) terminals, one of which supports up to 100 kHz high-speed pulse input 2 analog input (AI) terminals, support 0V~10 V voltage input or 0 mA~20 mA current input Expanding capacity: 6 DI terminals 1 AI terminal supports -10V~10 V voltage input.

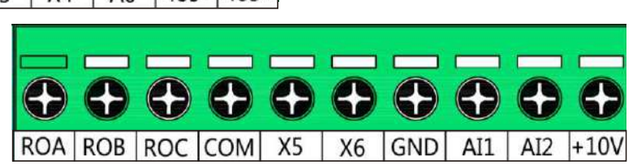
General Technical Data

Item		Specifications	
Standard functions	Maximum frequency	0~3200.00Hz	
	Carrier frequency	0.5–16 KHz(The carrier frequency is automatically adjusted based on the load features.)	
	Input frequency resolution	Digital setting: 0.01 Hz Analog setting: maximum frequency x 0.025%	
	Control mode	Sensor-less flux vector control (SFVC) Closed-loop vector control (CLVC) (+PG Card) Voltage/Frequency (V/F) control	
	Startup torque	G type: 0.3Hz/150% (SFVC) ; 0 Hz/180% (CLVC) P type: 0.5Hz/100%	
	Speed range	1: 200 (SFVC)	1:1000 (CLVC)
	Speed stability accuracy	± 0.5% (SFVC)	± 0.02% (CLVC)
	Torque control accuracy	±5% (CLVC)	
	Overload capacity	G type: 60s for 150% of the rated current, 3s for 180% of the rated current P type: 60s for 120% of the rated current, 3s for 150% of the rated current	
	Torque boost	Auto boost; Manual boost: 0.1%~30.0%	
	V/F curve	Straight-line V/F curve Multi-point V/F curve N-powerV/F curve (1.2-power, 1.4-power, 1.6-power, 1.8-power, square)	
	V/F separation	Two types: complete separation; half separation	
	Acceleration/deceleration curve	Straight-line ramp S-curve ramp Four groups of acceleration/deceleration time with the range of 0.00s~65000s	
Standard functions	DC braking	DC braking frequency: 0.00 Hz ~ maximum frequency Braking time: 0.0~100.0s Braking trigger current value: 0.0%~100.0%	
	JOG control	JOG frequency range: 0.00Hz~50.00 Hz JOG acceleration/deceleration time: 0.00s~65000s	
	Built-in PLC, multiple speeds	It realizes up to 16 speeds via the simple PLC function or combination of DI terminal states.	
	Built-in PID	It realizes closed loop control system easily.	
	Auto voltage regulation (AVR)	It can keep constant output voltage automatically when the mains voltage fluctuation.	
	Overvoltage/ Over current stall control	The current and voltage are limited automatically during the running process so as to avoid frequently tripping due to overvoltage/over current.	
	Rapid current limit function	It can auto limit running current of frequency inverter to avoid frequently tripping.	

Control Circuit and Main Circuit Wiring







Control Circuit terminal

Type	Terminal	Terminal Name	Description and default
Muti-input terminal	X1	Multi-function input terminal 1	Default: forward
	X2	Multi-function input terminal 2	Default: reverse
	X3	Multi-function input terminal 3	Default: No function
	X4	Multi-function input terminal 4	Default: No function
	X5	Multi-function input terminal 5	Default: No function
	X6	Multi-function input terminal 6	Default: No function, can be used as high-speed pulse input
	COM	Common terminal	Multi-function input common terminal, +24V power reference ground
Analog input	AI1	Analog input 1	0~10V input
	AI2	Analog input 2	0~10V/0~20mA input (J2 jumper is optional)
	+10V	Power supply for analog quantity setting	+10V DC 10mA (potentiometer 3~5K)
	GND	Analog reference ground	Analog input and output reference ground
Multi-function output	Y1	Multi-function output terminal 1	Default: running status
	Y2	Multi-function output terminal 2	Default: no output, can be used as high-speed pulse output
	ROA	Relay output ROA-ROB normally closed ROA-ROC normally open	Default: inverter fault output
	ROB		
	ROC		
Analog output	AO		0~10V/0~20mA output (J1 jumper is optional)
Input	+24V		GND is the reference ground
Communication	485+	Analog output terminal	+24V DC 100mA COM is the power ground.
	485-	+24V power supply	

MAX300 series small power drives

SMART

S Simple **M** Maintenance friendly **A** Affordable **R** Robust **T** Time to market

Product positioning

MAX300 series inverter is economical inverter specially for small scale processing and manufacturing automation control

Performance introduction

MAX300 series inverter is a high-quality and simple VF control inverter.It can run a wide range of speed in high precision by decoupling control of motor magnetic flex current and torque current torque:fast and accurately,High end hardware platforms,scientific production technology and complete testing equipment make the product more stable and reliable.

Technical features

1,Using DSP as the core of control unit to achieve high-speed and high-performance control
2,Motor parameter self-learning,intelligent setting to the optimal control model
3,High performance IPM module,protection function such as under voltage,overcurrent,overtemperaature,over the ground short circuit etc.
4,The unique EMC design minimizing the pollution to power.

Capacity range

Power range:0.4-3.7kw power range

Frequency range:0.00-400.00HZ

Voltage level: 1 &3 phase 220V,
3 phase 380V-480V

Application industry

Medicine,food,packaging,engraving,washing and other industries

Machinery equipment,a variety of small-scale machinery equipment.

Model and data of MAX300

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor KW	Adaptable Motor HP
Single-phase 200V-240V, 50/60Hz					
MAX300-0R4GS2	1	5.4	2.3	0.4	0.5
MAX300-R75GS2	1.5	8.2	4	0.75	1
MAX300-1R5GS2	3	14	7	1.5	2
MAX300-2R2GS2	4	23	9.6	2.2	3
Three-phase 380V-480V, 50/60Hz					
MAX300-R75GT4	1.5	3.4	2.1	0.75	1
MAX300-1R5GT4	3	5	3.8	1.5	2
MAX300-2R2GT4	4	5.8	5.1	2.2	3
MAX300-3R7GT4	5.9	10.5	9	3.7	5

Structure description

Shuttle keypad

- Shuttle keypad-high precision rotary encoder
- Spin around increasing and decreasing by degrees
- Highlight LED display information

Remote control interface

- Support Remote control within 100m
- Support standard Rs485 communication

Independent air duct structure

- Separating the radiator and the drive control module
- Capacitance isolation is installed on the duct
- Forced air cooling

Wire-in terminal entry

- Cover removable
- Wiring is simple,top down out
- Enhanced ABS flame retardant material

Control cable entry

- Compliance with the safety standards of machanical euipment and electrical facility standard
- Connecting the main loop terminal and controlling circuit terminal
- Shorten the cable connection and installation time

Capacitance isolation installation area

- Enhanced ABS flame retardant material
- Separating the capacitance from the other control panels
- Natural air cooling in air duct

Quick Debugging/Quick set up instructions

Start

↓ Select preset frequency (P0-01)

P0-01: 0: preset frequency 1: preset panel potentiometer 2: preset external Ai1 3: preset external Ai2

↓ Select running & control mode (P0-02)

P0-02: 0: keyboard control 1:Running by terminals, effective control by STOP Key 2: Running by terminals, ineffective

↓ Select starting mode(P2-00-04)

P2-00: 0: starting directly 1: starting after DC braking

↓ Sleect Acc-Dcc time (P0-04/P0-05)

↓ Select running direction (P0-06)

P0-06: 0: default direction 1: reverse direction

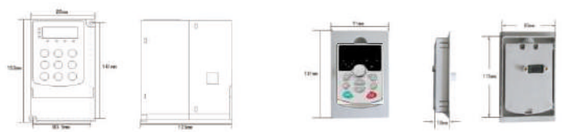
↓ Select halt mode (P2-05-08)

P2-05: 0: freely stopping 1: stopping by decelerating 2: Decelerating-DC

↓ Starting and Observing

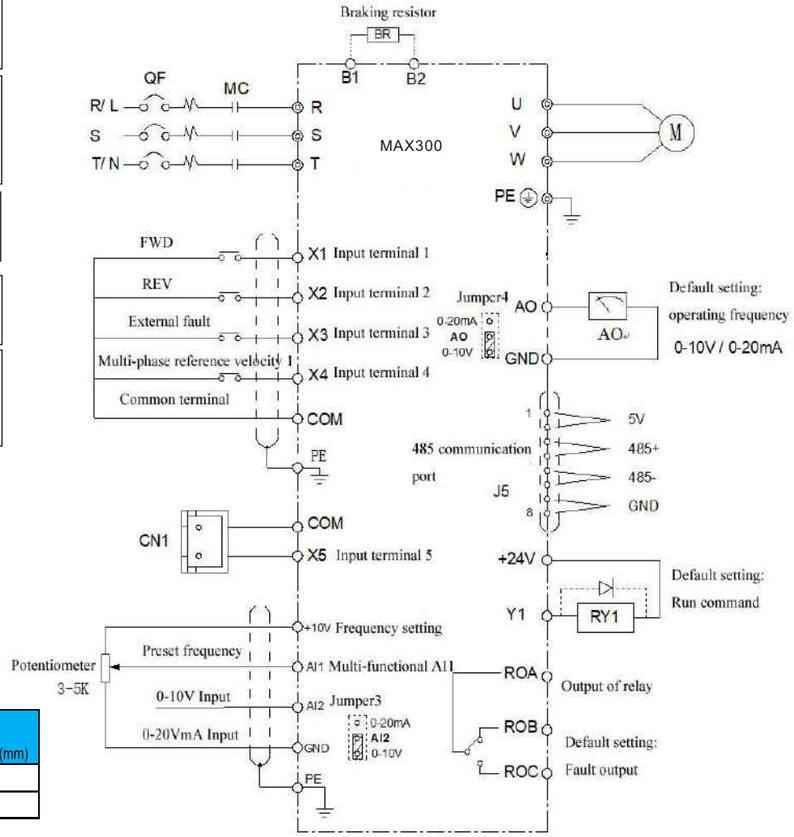
↓ Optimization of Parameters

Demension



Model	Mounting Dimension length(mm)	Mounting Dimension wide(mm)	Dimension length(mm)	Dimension wide(mm)	Dimension high(mm)	Pore Diameter(mm)
0.75kw-3.7kw	141	80.5	152	89	123	5.2
0.75kw-3.7kw keyboard installation dimension: length=115mm width=115mm						

Control Circuit and Main Circuit Wiring



Applications of Typical Industries

Electric Vehicle Drive

- Prominent structure design of high protection level, simple and convenient wiring
- Accurate torque control perfectly matches with engine working
- Energy saving mode, super battery endurance
- Professional built-in CAN-BUS adapter card of cars

Ceramics Machinery

- Strong adaptability of environmental temperature
- Professional solutions for anti-interference and lightning protection
- Reliable and stable operation, corrosion prevention
- Non-trip, reliable control and protection for power modules

Oil Field

- Special inverter for pumping unit, do not need energy feedback or dynamic braking
- Higher power saving effect, less harmonic and reactive current
- Select high quality Outdoor Control Cabinet Box products constant temperature control box can be long-term working reliably in the field of high and low temperature
- Rich and flexible monitoring function can wirelessly transmit inverter data or record data through relevant storage medium

Explosion-proof Products

- Passed National Detection and Testing Certificate
- Various voltage levels of products 200/400/690/1140V
- Wide operating voltage, continuously operating in low voltage and interference electricity, strong environmental adaptability
- Supporting automatic restart when power resume normal

Mine Winch

- Abundant experience in the renovation of winch, providing different types of winch renovation solutions
- Vector technology platform providing excellent control performance for the winch
- A variety of protection functions to ensure more secure and reliable system
- Intelligent fault diagnosis to reduce maintenance and repair work

Industry EPS

- Adopting digital control technology of DSP and CPLD and high efficiency technology of IGBT, higher reliability, lower loss
- Superior load characteristic, tracking synchronously, sinusoidal output, switching on line
- Man-machine interface of LCD, perfect function of protection, convenient to use
- Dynamic characteristics of high performance and the shortest switching time is less than 3ms

Injection molding industry

- There are 2 ways of solutions to be chosen: Integrated Energy-Saving Control Cabinet or specific inverter for Plastic Machine
- The motor drive solution can be chosen as optional: asynchronous servomotor solution or synchronous servomotor solution with double closed-loop control
- No high-pressure throttle and loss of overflowed energy, energy-saving rate can reach to 25%~70%
- Design of independent duct makes rear parts and top fan can be convenient to disassemble and easy to maintain; it has strong environmental adaptability and high protection level as well

Air Compressor Industry

- High precision vector frequency conversion; Closed-loop constant pressure control; Multi-machine networking control
- Energy saving rate can reach to 20%~50%; Intelligent sleeping and low voltage awakening
- Standard inverter solution, specific converter solution for air compressor, integrated cabinet solution for air compressor energy saving are optional

Textile industry

- Reducing the rate of breakage and improving the efficiency of production
- Specially made external heat radiator, cotton easy clean
- Unique function of swing frequency is suitable for equipment of yarn winding
- Rich indication signals: full indication, broken wire indication, power failure indication, etc.

Machine Tool Industry

- Supporting 1000Kbps high-speed communication
- Drive spindle 180 thousand rpm successfully to operate
- For the spindle closed-loop control: the inverter with orientation servo features
- For the spindle open-loop control: diversified vector control methods to adapt to various machine tools

Printing And Packaging Industry

- High performance vector control and torque control technology can achieve the constant linear speed control and constant tension control
- Applicable for devices of cutting machine, coating machine, paper-made machine, printing machine, compound machine, rolling dyeing machine, etc.
- Torque control without encoder speed feedback and it can replace torque motor widely

Municipal Engineering

- Central air conditioning/refrigeration house: for constant temperature control, high efficiency of energy-saving, and low noise
- Centralized water supply in constant pressure: Built-in one-for-all expansion card for water supply, multi-period water supply in constant pressure with timing loop, solving the phenomena of overflowing and water hammer in the switching process
- Sewage treatment: Built-in adaptive torque control in the main and auxiliary drive of centrifugal equipment for quick acceleration and deceleration, suitable for harsh environment
- Various fan drives: Designed for the fan, high efficiency of energy-saving, noise optimization, built-in automatic speed tracking function, maximum power up to 800kW

Crane

- Excelent torque control, reliable brake control sequence;
- Professional crane control functions: speed monitoring, torque monitoring, torque verification, power optimization, position processing, intelligent deceleration, etc.
- Extensively apply to: port, shipping, ocean engineering, mine, architecture, metallurgy, factory and various kinds of industries' lifting machines.

Stone Processing

- Simple and convenient operation, less connection line
- Smooth running curve to reduce the board damage rate, smooth starting to reduce mechanical damage and maintenance costs
- Providing the constant tension control for broken rope, main and auxiliary functions for frequency operation, safe stopping function, and alarm prompt function

Wood Processing

- Built-in technology algorithm of rotary cutting machine, rolling machine, peeling machine
- Wide voltage range, particularly suitable for harsh conditions in the rural power grid
- High precision and fast rotary cutting to increase the yield under the premise of keeping the uniformity of thickness for the wood veneer
- Stable and reliable work makes customers enjoy quality green power

AST

AST6100 Intelligent online soft starters

220V / 400V / 525V / 690V / 1140V
7.5KW-1000KW

Product Features

1,Six group parameters convenient in one soft starter to different power motors load.

2,Dynamic fault recording function and Inspecting motor feedback to realize closed loop control to give best motor start up in different conditions and different loads.

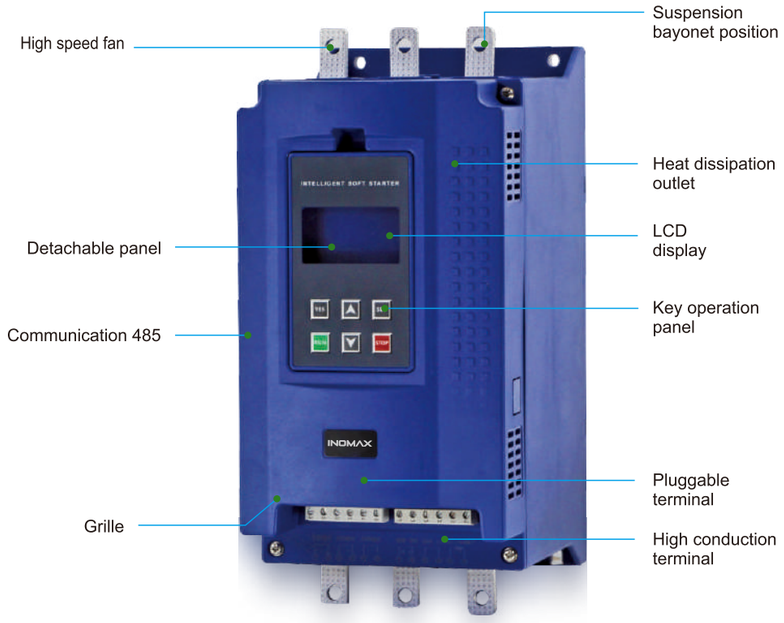
3,A variety of ways starting:voltage RAMP starting way can get the maximum output torque;Current limiting can Realize Biggest Limitations of the Start soft starting current.

4,Reliable quality Assurance:using computer simulation design;SMT Production process;Electromagnetic Compatibility Excellent Performance;High temperature aging,Vibration Test before Delivery of the machine.

5,Perfect and Reliable Protection function:Loss of Voltage,less Voltage,over Voltage Protection;Overheating,too long starting time;Input phase Lost,lost ouptput phase,three phase imbalance;starting over current,overload and load protection short circuit,etc.

6,Modbus monitoring dynamic control starter,easy networking.

7,LCD screen can display parameter code,state and error.



Starting function

- Current ramp starting mode
- Kick start

Stop function

- Slide soft stop

Operating panel

- Remote installation options
- Legible screen
- Multilingual selection

Protect

- Fully customizable protection
- Owe current
- Instantaneous overcurrent
- Radiator overheating
- Start time timeout
- Mains frequency
- Power circuit
- Electrical connection
- Rs485 malfunction
- Motor overload
- Current unbalance

General technical data

Model	Voltage	Power	Current	External Dimensions(mm)		
	(V)	(KW)	(A)	W	D	H
AST6100-S1-7.5-Z	380V-480V	7.5	15	150	202	330
AST6100-S1-11-Z	380V-480V	11	23	150	202	330
AST6100-S1-15-Z	380V-480V	15	30	150	202	330
AST6100-S1-18.5-Z	380V-480V	18.5	37	150	202	330
AST6100-S1-22-Z	380V-480V	22	45	150	202	330
AST6100-S1-30-Z	380V-480V	30	60	150	202	330
AST6100-S1-37-Z	380V-480V	37	75	150	202	330
AST6100-S1-45-Z	380V-480V	45	90	150	202	330
AST6100-S1-55-Z	380V-480V	55	110	150	202	330
AST6100-S1-75-Z	380V-480V	75	150	172	220	355
AST6100-S1-90-Z	380V-480V	90	180	210	253	394
AST6100-S1-115-Z	380V-480V	115	230	210	253	394
AST6100-S1-132-Z	380V-480V	132	260	490	295	608
AST6100-S1-160-Z	380V-480V	160	320	490	295	608
AST6100-S1-185-Z	380V-480V	185	370	490	295	608
AST6100-S1-200-Z	380V-480V	200	400	490	295	608
AST6100-S1-220-Z	380V-480V	220	450	490	295	608
AST6100-S1-250-Z	380V-480V	250	500	490	295	608
AST6100-S1-280-Z	380V-480V	280	560	490	295	608
AST6100-S1-320-Z	380V-480V	320	630	490	295	608
AST6100-S1-350-Z	380V-480V	350	700	680	408	840
AST6100-S1-400-Z	380V-480V	400	800	680	408	840
AST6100-S1-450-Z	380V-480V	450	900	680	408	840
AST6100-S1-500-Z	380V-480V	500	1000	680	408	840
AST6100-S1-630-Z	380V-480V	630	1200	680	408	840

Application industry