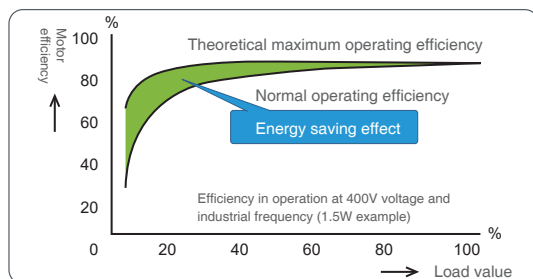


■ AS hoisting industry inverter performance characteristics

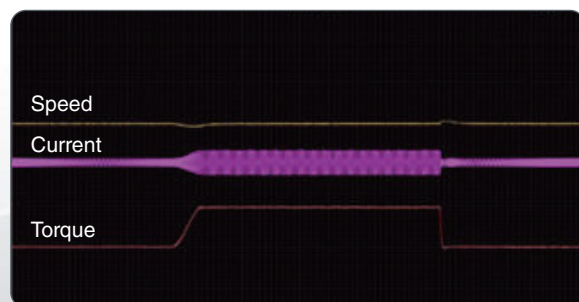
● Efficient and energy-saving operation mode

The high-efficiency driven energy-saving operation mode and new PWM dead zone compensation technique can effectively reduce the motor loss and maximize the power saving rate.



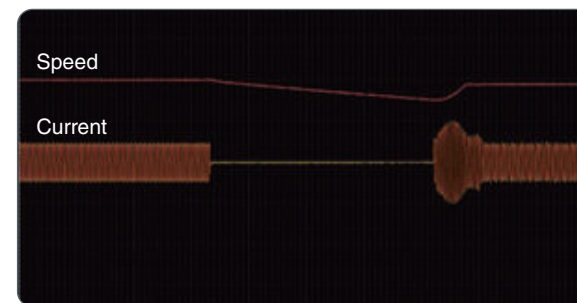
● Fast dynamic response

The advanced motor control mode can quickly respond to the sudden change in the load even if no PG card is available.



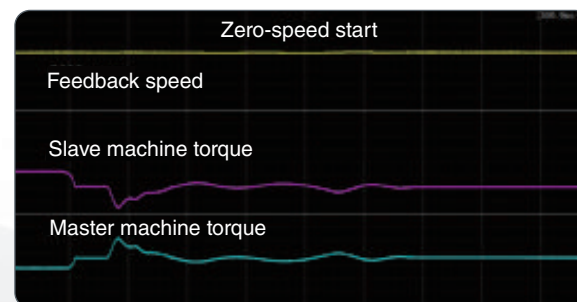
● Smooth tracking start

Perfectly achieve smooth start of the motor in rotation without impact at any time.



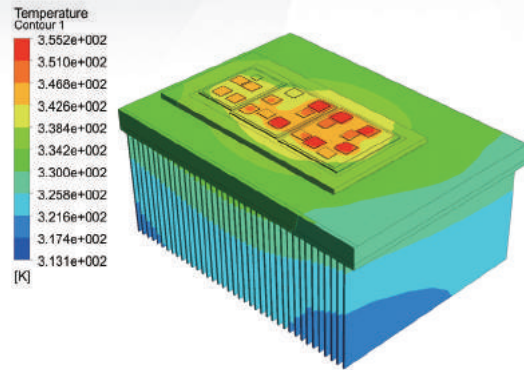
● Torque memory function

Record the output torque of the motor every time when the brake is closed. When the brake is open next time, output the memory torque last time to ensure that the heavy object does not slip from the hook. (Support closed-loop control only)

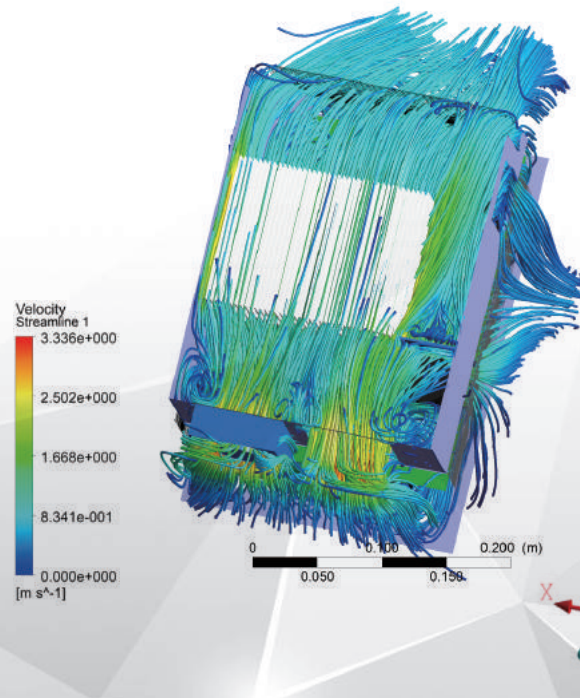


- Structure: reasonable and scientific

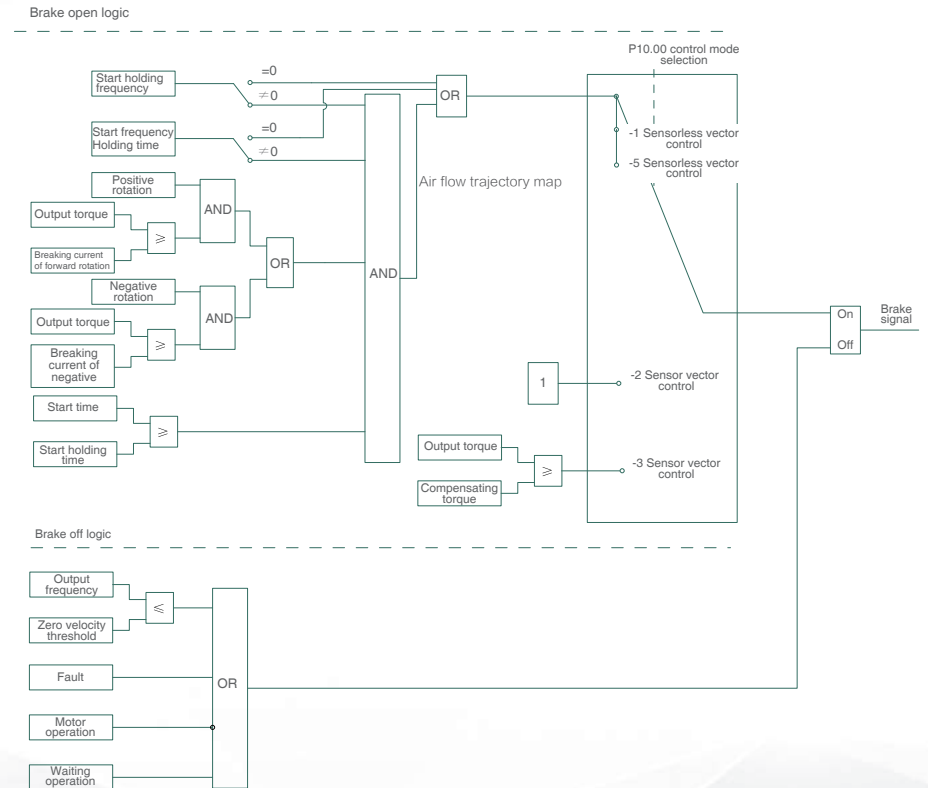
Unique air duct and compact thermal design, making the temperature rise far below the national standard



Thermal analysis of power device



- Brake logic: perfect, safe and reliable



Self-learning: rich and intelligent

To control the motor more accurately, the inverter may obtain relevant parameters of the motor by self-learning.

Self-learning: rich and intelligent

- Static self-learning of editor
- Static self-learning of motor
- Optimized self-learning of inverter
- Static advanced learning of motor
- Dynamic self-learning of editor

Protection functions: perfect, safe and reliable

Motor protection

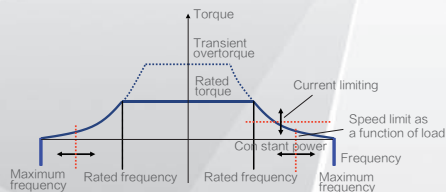
- Motor over-temperature protection (PTC)
- Locked rotor protection
- Motor overload protection
- Motor open-phase protection
- Speed limit

Inverter protection

- Output current limiting
- Inverter over-temperature protection
- I2t protection
- Heatsink OT protection
- Power supply fault
- IGBT over-temperature protection
- Analog input signal loss (speed reference value loss)
- Communication exception

Weakened flux and constant power function

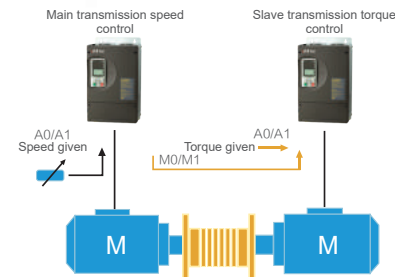
The inverter independently calculates the maximum speed (above base frequency) under the rated power to improve the equipment working efficiency.



Master-slave control functions

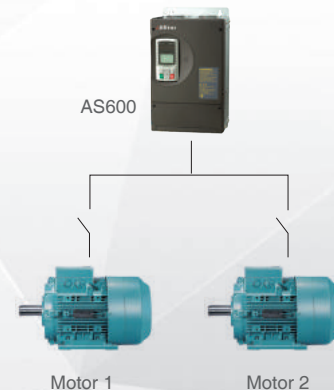
Rigid coupling

- The master drive unit is controlled by speed. The slave drive unit is controlled by torque.
- The torque analog of the master drive unit is output to the slave drive unit as the torque given signal.



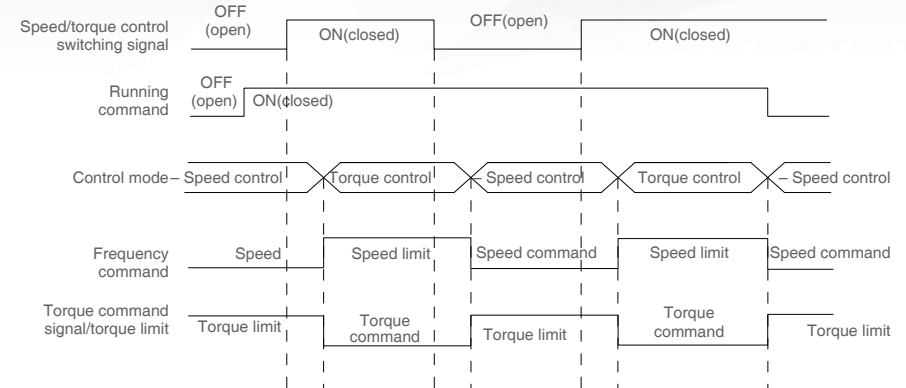
Motor parameter and operation curve switching function

One inverter is used to control 2 mechanisms by output contactor switching to reduce equipment input. The inverter completes the motor parameter and operation curve parameter switching immediately upon receipt of the switching signal to ensure normal equipment operation.



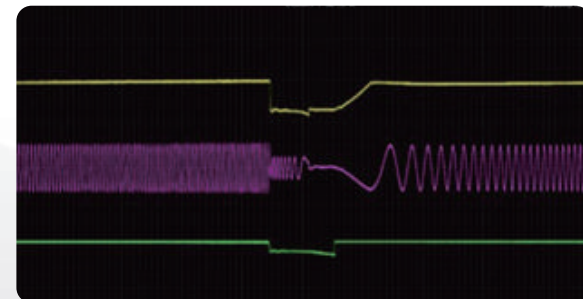
Static and dynamic speed and torque switching function

Achieve static and dynamic speed/torque switching



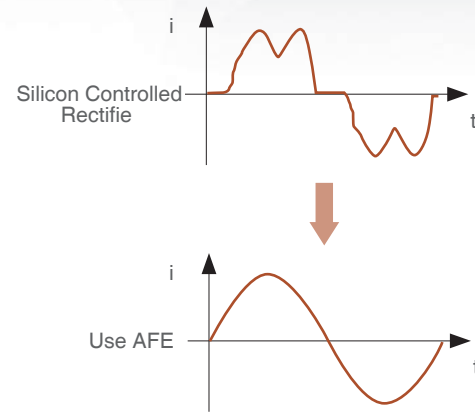
Strong grid adaptability

Automatic voltage regulation function: automatically keep the output voltage constant in case of change in the network voltage. The unique instant uninterrupted power function can keep the inverter running without shutdown in case of sudden power loss.

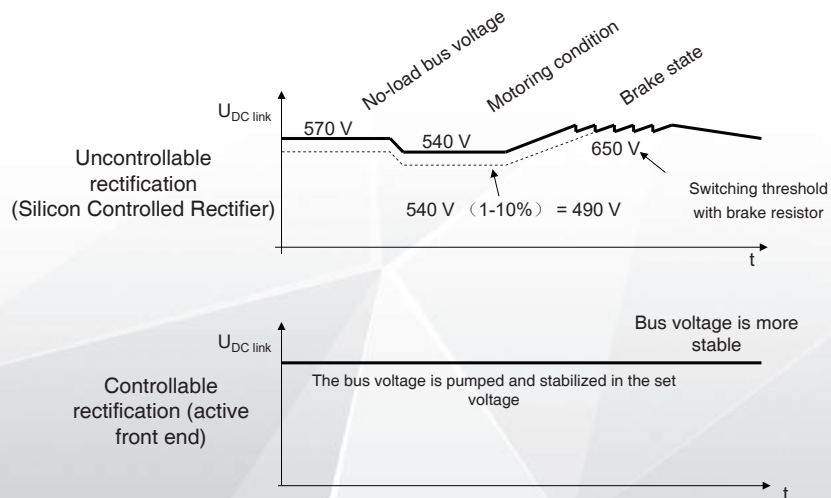


- Reduce reactive power and current harmonics

- $\cos \phi = 1$
- $\text{THDi} < 4\%$



- DC bus voltage is more stable



High Voltage
Inverter

Low Voltage
Inverter

Dedicated
Purpose
Inverter

Servo Drive
And Motor

■ AS600 special inverter for cranes

● Product introduction

AS600 special inverter for crane is designed for the industrial cranes, such as quayside container bridge crane, container gantry crane, portal crane and beam crane. With the use of advanced vector control technology and torque control technology, the product has the same excellent control performance with high-end international inverter and, combined with the application characteristics in the hoisting machinery industry, further strengthens the product output characteristics, reliability and environmental adaptation and can better meet various application requirements of the hoisting machinery.



● Technical features

High torque and high load capacity

- Support synchronous and asynchronous motors
- Perfect, safe and reliable brake logic
- Fast, preeminent and high adaptive dynamic response
- Smooth and shockless speed tracking start
- Support Profibus-DP and Modbus communication
- Perfect, safe and reliable motor inverter protection function
- Master and slave control func Weakened flux and constant power function
- Torque memory function
- Parameter and operation curve switching function of 2 sets of motors
- Static and dynamic speed and torque switching function
- Non-stop at instantaneous stop

● Application industries

- Harbor machinery: quayside container bridge crane, tyre crane and portal crane
- Standard lifting: bridge crane, portal crane, electric hoist, belt conveyor and winch
- Construction lifting: tower crane

● Product model

AS600		4T	0075
Model	Description	Code	Adaptive motor power
AS600	Lifting	0075	75kW
Code	Voltage class	Code	Voltage phase number
4	400V	T	Three-phase

● Model and technical data

Inverter model AS400 4T-	02P2	03P7	05P5	07P5	0011	0015	18P5	0022	0030	0037	0045		
Maximum power of adaptive motor (kW) (SHD)	1.1	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37		
Maximum power of adaptive motor (kW) (SHD)	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45		
Rated output current (A) (SHD)	3.5	6.2	11	15	21	27	34	41	52	65	80		
Rated output current (A) (SHD)	6.2	9	13	17	25	31	39	45	60	75	91		
Carrier frequency (kHz)	2-8kHz (modified in parameters)												
Inverter model AS600 4T-	0055	0075	0090	0110	0132	0160	0185	0200	0220	0250	0280	0315	0355
Maximum power of adaptive motor (kW) (SHD)	45	55	75	90	110	132	160	185	200	220	250	280	315
Maximum power of adaptive motor (kW) (SHD)	55	75	90	110	132	160	185	200	220	250	280	315	355
Rated output current (A) (SHD)	97	128	165	195	236	270	330	360	390	430	470	525	585
Rated output current (A) (SHD)	112	150	180	216	260	300	370	390	426	480	520	600	650
Carrier frequency (kHz)	2-8kHz (modified in parameters)						2-5kHz (modified in parameters)						
Supply voltage	AC 3-phase, 380-460V 50/60Hz												
Permissible power fluctuation	-15%-10% (interphase unbalance rate ≤3%, add the DC reactor to improve the power factor)												
Permissible frequency fluctuation	-5% 5%												
Instantaneous low voltage tolerance	Continue to run above 300V: continue to run 15ms when the rated voltage falls below 300V (test valve at 80% load)												

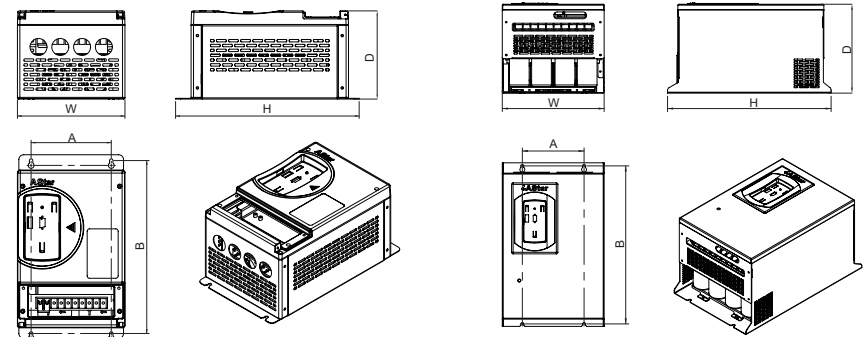
● Technical features

Power input	Input voltage	(380-460) V (-15%~+10%), three-phase supply, voltage unbalance <3%
	Input frequency	(45-65) Hz
	Instantaneous power drop	Undervoltage protection when the input voltage is less than AC300V in the power supply AC(380-460)V
Power output	Voltage	OVAC - input voltage
	Output frequency	V/F control: (0.00/300.00) Hz, vector control: (0.00-120.00) Hz
	Overload level	Heavy load: 150%, 60S; super-heavy load: 150%, 60S; 200%, 2S
Digital IO	Output frequency accuracy	±0.01% (digital command-10 ~ +45°C); ±0.1% (analog command 25 ± 10 °C)
	Opto-isolator input	7-channel, 24V active high and low settable and input functions definable
	Open collector output	2-channel, output functions definable
Analog input and output	Relay output	2-channel normally open, 2-channel normally open and normally closed contacts
	Analog voltage input	2-channel, voltage: (-10~+10) VDC or current: (0-20) mA optional signal
	Analog voltage output	2-channel, voltage: (-10~+10) VDC or current: (0-20) mA optional signal

Encoder input	PG card power	5V, 12V, 300mA		
	PG card signal	Open collector, push-pull, differential, SIN/COS incremental, Endat absolute value type, Resolver type, orthogonal open collector output and division factor 2/4/8/16/32/64/128 settable (optional)		
Control characteristics	Control mode	V/F control	Open-loop vector control	Closed-loop control
	Starting torque	2.50Hz, 150%	0.5Hz, 200%	0.00Hz, 200%
	Steady speed precision	± 2%	± 0.2%	± 0.02%
	Torque precision	5% (Closed-loop control)		
	Torque compensation	Automatic torque compensation and manual torque compensation		
	V/F curve	User-defined V/F curve, linear V/F curve and 3 reduced torque characteristic curves		
	Automatic voltage regulation (AVR)	Automatically adjust the duty cycle of PWM signal according to the bus voltage fluctuation		
	Non-stop at instantaneous stop	Achieve continuous operation through bus voltage control in case of instantaneous power failure		
	Dynamic braking capacity	Built-in brake unit and external brake resistor (optional) for the power 22kW and below External brake unit (optional) for the power above 22kW		
	DC braking capacity	Braking current: (0.0-120.0 % rated current)		
	Torque control function	Torque/speed control switching through terminals, many torque given modes		
	Zero servo and position control function	Achieve zero speed position lock, accurate positioning and position control		
	Common DC bus	The whole series may achieve power supply of many inverters by common DC bus		
Environmental conditions	Usage occasion	Keep out of direct sunlight, dust, corrosive gases, combustible gases, oil mist, water vapor or dropping water		
	Environment temperature	(-10~+40)℃		
	Altitude	<1000m		
	Environment humidity	(5-95)%, no condensation allowed		
	Vibration (installation)	2 ≤ f < 9Hz, 0.3mm; 9 ≤ f < 200Hz, 1m/s ²		
Others	Protection grade	IP20		
	Cooling mode	Forced air cooling		

Inverter size specification of A1 specification

Specification	Inverter model AS6000	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	Mounting hole diameter Φ (mm)	Installation			Fastening torque (Nm)	Mass (kg)
								Bolt	Nut	Washer		
A1	4T02P2	100	288.5	300	160	162	5.0	4M4	4M4	4Φ4	1.1	4.5
	4T03P7											
	4T05P5											

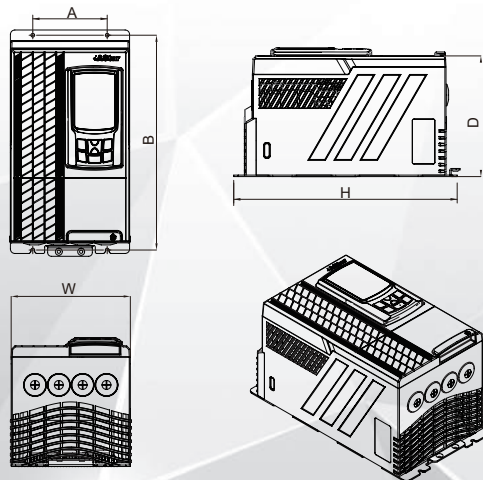


Inverter size diagram of A2-A3 specification

Inverter size diagram of A4-A9 specification

● Inverter size

Inverter size diagram of A1 specification



Inverter size specification of A2-A9 specification

Specification	Inverter model AS6000	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	Mounting hole diameter Φ (mm)	Installation			Fastening torque (Nm)	Mass (kg)
								Bolt	Nut	Washer		
A2	4T07P5	165.5	357	379	222	182	7.0	4M6	4M6	4Φ6	3.5	8
	4T0011											
	4T0015											
A3	4T18P5	165.5	392	414	232	182	7.0	4M6	4M6	4Φ6	3.5	10.3
	4T0022											
	4T0030											
A4	4T0037	200	512	530	330	288	9.0	4M8	4M8	4Φ8	9	29.5
	4T0045											
	4T0055											
A5	4T0075	320	718	750	430	350	13.0	4M12	4M12	4Φ12	29	79.5
	4T0090											
	4T0110											
A6	4T0132	320	768	800	430	350	13.0	4M12	4M12	4Φ12	29	81
	4T0160											
	4T0185											
A7	4T0200	374	844	880	500	352	13.0	4M12	4M12	4Φ12	29	106.5
	4T0220											
	4T0250											
A8	4T0280	374	844	880	500	52	13.0	4M12	4M12	4Φ12	29	112.5
	4T0315											
	4T0355											
A9	4T0315	500	997	1030	630	370	14.0	4M12	4M12	4Φ12	29	141
	4T0315											168
	4T0355											169

■ AS620 special inverter for construction lifts

● Product introduction

AS620 inverter is the latest inverter designed for the lift market and is also used for the lift driving occasions. With the use of the motor control technique fully synchronous with the international advanced technique, the product has the same excellent control performance with high-end international inverter and, combined with the application characteristics of the Chinese lifts, further strengthens the product reliability, environmental adaptation and custom and professional design and can well meet the application requirements of the building hoists.



Model and technical data

Inverter model AS620	Rated capacity	Rated output current (A)	Adaptive motor (kW)
4T05P5	9	13	5.5
4T07P5	13	18	7.5
4T0011	19	27	11
4T0015	24	34	15
4T18P5	29	41	18.5
4T0022	34	48	22
4T0030	45	65	30
4T0037	55	80	37
4T0045	68	97	45
4T0055	89	128	55
4T0075	115	165	75
4T0090	125	180	90
4T0110	150	216	110
4T0132	190	260	132
4T0160	240	302	160

● Technical features

- A variety of V/F curves, meeting various field usage requirements
- Positive and negative torque start and fixed torque start for better comfort
- Safe and reliable AFR function
- Brake control function to avoid absolute sliding
- Hopping frequency control function to effectively avoid the resonance point of mechanical load
- Automatic slip compensation to reduce the impact of load change on the motor speed
- New PWM dead zone compensation technology effectively reduces the motor loss

● Application industries

Target application object: building hoist



● Application industries

Target application object: building hoist

AS620		4T		0022	
Model	Description			Code	Adaptive motor power
AS620	Lifting			0022	22kW
Code	Voltage class			Code	Voltage phase number
4	400V			T	Three-phase

High Voltage
Inverter

Low Voltage
Inverter

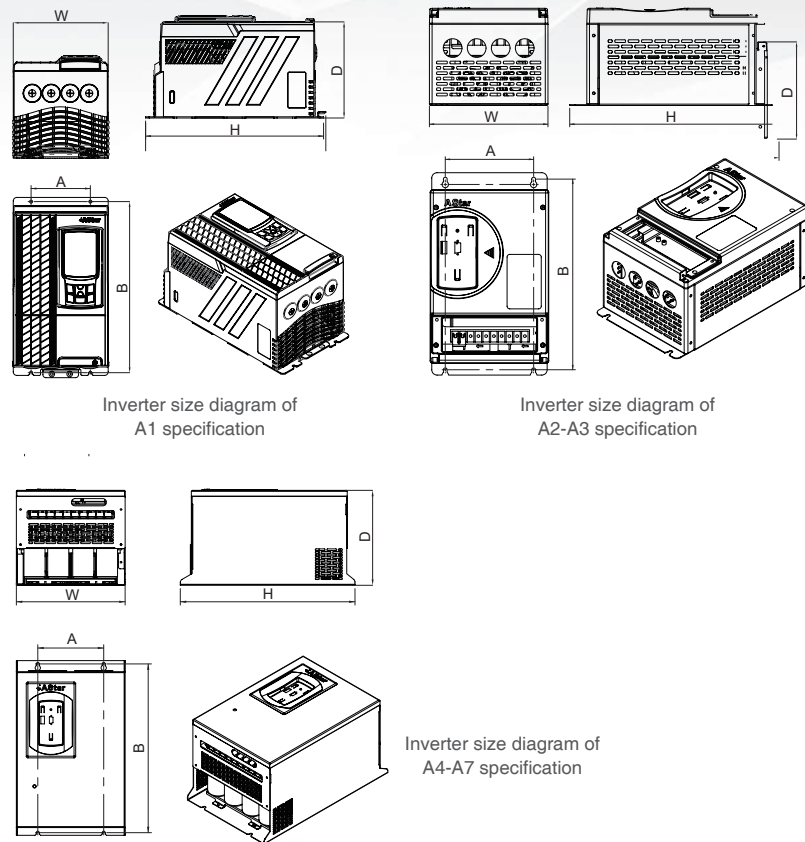
Dedicated
Purpose
Inverter

Servo Drive
And Motor

• New energy bus air conditioning

Power input	Input voltage	380-460V (-15%~+10%), three-phase supply, voltage unbalance <3%
	Input frequency	45-65Hz
	Instantaneous power drop	Undervoltage protection when the input voltage is less than AC300V in the three-phase power supply AC380-460V
Power output	Motor output voltage	OVAC - input voltage, three-phase supply
	Output frequency	V/F control: 0.00/300.00Hz
	Overload level	150%, 60s
Digital IO	Output frequency accuracy	0.01% (digital command- 10 - +45°C) ; 0.1% (analog command 25 10 °C)
	Opto-isolator input	8-channel, 24V active high and low settable and input functions definable
	Open collector output	4-channel, output functions definable
Analog input and output	Relay output	2-channel normally open, 2-channel normally open and normally closed contacts
	Analog voltage input	2-channel, 10~+10VOC or 0-10VDC precision 0.1%
	Potentiometer voltage	Provide +10VDC power supply (maximum 20mA) for the potentiometer set speed
Control characteristics	Control mode	V/F control
	Starting torque	2.50Hz 150%
	Steady speed precision	2%, obtain 0.5% precision in case of slip compensation
	Carrier frequency	2-8kHz; different default carrier frequency for different inverter power
	Frequency setting resolution	0.01Hz (digital command), 0.06Hz/120Hz (analog command 11bit unsigned)
	Torque compensation	Automatic torque compensation; manual torque compensation
	V/F curve	User-defined V/F curve, linear V/F curve and 5 reduced torque characteristic curves
	Automatic voltage regulation	Automatically adjust the duty cycle of PWM signal according to the bus voltage fluctuation
	Automatic frequency regulation	Automatically adjust the output frequency with the bus voltage fluctuation to maintain the torque constant
	Instantaneous stop processing	Achieve continuous operation through bus voltage control in case of instantaneous power failure
	Dynamic braking capacity	External brake resistor for the built-in brake unit at the power 75kW and below
	DC braking capacity	Braking current: 0.0-120.0% rated current
Environmental conditions	Common DC bus	The whole series may achieve power supply of many inverters by common DC bus
	Usage occasion	Keep out of direct sunlight, dust, corrosive gases, combustible gases, oil mist, water vapor or dropping water
	Environment temperature	-10~+40 °C
	Altitude	Less than 1000m
	Environment humidity	5~95%, no condensation allowed
	Vibration	3.5 m/s², 2~9Hz; 10 m/s², 9~120Hz
	Protection grade	IP20
Others	Cooling mode	Forced air cooling

• Inverter size



Inverter size diagram of A1 specification

Inverter size diagram of A2-A3 specification

Inverter size diagram of A4-A7 specification

Specification	Inverter model AS6000	A (mm)	B (mm)	H (mm)	W (mm)	D (mm)	Mounting hole diameter Φ (mm)	Installation			Fastening torque (Nm)	Mass (kg)
								Bolt	Nut	Washer		
A1	4T05P5	100	288.5	300	160	162	5.0	4M4	4M4	4 Φ4	2.5	4.5
A2	4T07P5	165.5	357	379	222	182	7.0	4M6	4M6	4 Φ6	3	8
A3	4T0011	165.5	392	414	232	182	7.0	4M6	4M6	4 Φ6	3	10.3
	4T0015											
	4T18P5											
A4	4T0030	200	512	530	330	288	9.0	4M8	4M8	4 Φ8	9	29.5
	4T0037											
A5	4T0045	200	587	610	330	310	9.0	4M8	4M8	4 Φ8	9	38
A6	4T0055	320	718	750	430	350	13.0	4M12	4M12	4 Φ12	18	79.5
	4T0075											
	4T0090											
	4T0110											
A7	4T0132	374	844	880	500	352	13.0	4M12	4M12	4 Φ12	29	106.5
	4T0160											