PRODUCT SAMPLE

—Electric Drive Products

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Company Profiles

Honwin Electric Technology Co.Ltd. was founded in the Guangming district in Shenzhen on November 2018 and awarded national high-tech enterprise on December 23, 2021. Our company focuses on motor driving, research and development of power electronic equipment, production, and marketing. The products include motor drivers and new energy products, such as photovoltaic energy storage, grid-connected inverter, new energy automobile driver, and DC/DC. Our company specializes in the provide professional services for middle and high-end equipment manufacturers and new energy vehicle manufacturers. We are building around the core of our sustainable innovation of motor drives and grid-connected inverter with independent intellectual property rights. We adhere to the growth of multi-win with customer value, supplier value, and enterprise value to achieve the goal of healthy and rapid development for industrial automation and the new energy industry chain in China.

Our company's core research and development group is deep in and committed to the power electronics and drive field. Based on building independent and mature product platform technology, we are continuously innovating and exploring new motor control and power electronics technology.

Index Catalogue

Series of Products Overview

H120 General Vector Series

Voltage Rating:380V

Power Rating:1.5-710kW

- Designed with CE Certification of Conformity EN61800-5-1.
- Low frequency large torque, open ring 0.05Hz stable large torque output, autonomous new generation of motor control algorithm.
- Fast dynamic response, fast acceleration and deceleration, to achieve better start and stop.
- Accurate magnetic flux follow and optimization technology, open-loop vector control comparable to closed-loop vector control, high precision, high responsiveness.
- Fast flow limiting technology ensures long drive operation.
- Modular design concept, high power density, save installation space, 160-710kW standard built-in DC reactor.
- Can drag various types of AC motor, asynchronous motor, permanent magnet synchronous motor, special motor.

Application areas:

Lifting, Machine Tools, Injection Molding Machines, Ceramics, Glass, Woodworking, Centrifuges, Food Processing, Textile Equipment, Printing and Packaging, Industrial Washing Machines, etc.

H600 High-End Engineering Series

Voltage Rating:380V

Power Rating:55-400kW

- Designed with UL standard : UL 61800-5-1
- Combination of light and heavy load (110% /120% light load, 150% heavy load), more flexible selection
- The whole series of products have built-in passive filters and DC reactors, which can more effectively suppress the influence of harmonics.
  Challenge the adaptability of harsh grids, resist EMC electromagnetic interference.
  And strengthen the design of anti-lightning (EMC circuit boards add varistors)
- The chemical environment design standard reaches 3C3,
  the circuit board strengthens the layer processing,
  challenges the limit of the harsh environment,
  no longer fears chemical corrosion (H_2S, Ozone, SO_2, saline and alkali),
  55° working temperature rated operation, no need to derating
- Long life design for more than 10 years
  The selection of materials are all international first-line quality components and materials to ensure long-term stable operation of the driver
- Perfect motor control performance, leading peers in the industry in terms of low-frequency torque, rapid acceleration and deceleration, and rapid over-current processing.
  It can drive various types of AC motors, asynchronous motors, permanent magnet synchronous motors, and special motors.

Application areas:

Iron and steel metallurgy, Rail transit, Shiping, Petrochemical, Natural gas, Coal mines, Wind power, Hydropower, Nuclear power, Airports and ports

V10 Exquisite Vector Series

Voltage Rating:380V

Power Rating:0.75-4kW

- The motor operation is more efficient with precise flux following and optimization technology.
- Fast current limiting technology allows the drive to run for a long time
- High power density can save the installation space
- Innovative drive design

Application areas: Machine tools, Woodworking, Fans, Treadmills, etc.

Series of Products Overview

H520 High-Speed Motor Driver Series

Voltage Rating：380V

Power Rating：1.5-710kW

- Designed with UL standard： UL508C.
- High-speed features leading industry peers, low loss, low noise, full load work efficiency up to 98.5%.
- 160kW-450kW water cooling, forced air cooling and refrigerant are optional, and the air cooling can cover the full power section.
- High-speed motor drivers are widely used in magnetic levitation and air suspension. The speed of the high-speed permanent magnet driver is 150,000 Rpm, the motor efficiencyis more than 97%, and the performance is in a leading position in the industry. High-speed motor drivers in refrigerators, fans, vacuum pumps, molecular pumps, centrifuges and other high-speed applications.
- The power segment of 250kW~630kW adopts advanced micro-channel refrigerant technology, which can directly obtain refrigerant (R134a) from the refrigerant unit to dissipate heat for the driver. The driver applies an all-in-one form with a built-in circuit breaker.
- Complete machine protection function, short circuit protection to the ground, output short circuit protection, and other all kinds of power short circuit protection.
- Wide voltage range design: Rated input three-phase AC 380~460V, wide voltage range up to 323v~528v.
- Perfect overexcitation function can effectively inhibit the rise of the bus voltage in the deceleration process and avoid frequent overvoltage faults.

Forced Air-Cooling High-Speed Motor Driver

1.5kW~710kW Forced air-cooling heat dissipation

High-Speed Motor Driver All-In-One Machine

Compatible with refrigerant (R134a) cooling and water cooling
Adopt the form of all-in-one, built-in circuit breaker, and DC reactor
(250kW~630kW built-in double DC reactor, lower harmonic current)

Water-Cooled High-Speed Motor Driver

18.5kW~450kW Apply water-cooling mode,
built-in DC reactor

H150 Industry Special Machine Drive Series

Voltage Rating：380V

Power Rating：1.5-710kW

- Advanced high-performance motor control algorithm: asynchronous motor VF control, asynchronous motor open loop vector control, asynchronous motor closed loop vector control, synchronous motor open loop vector control, synchronous motor closed loop vector control

Hw570 High-performance vector-type series

Voltage level: 380V

Power level: 1.5-710kW

- Wide voltage range design: rated input three-phase AC380-460V, wide voltage range up to 323V-528V.
- Built-in DC reactor: 160KW-450KW model built-in DC reactor.
- More complete built-in brake unit, built-in brake unit below 37KW, the 37KW-132KW internal brake unit is optional.
- Fast and smooth by wave flow limit function, to avoid frequent frequency converter overcurrent fault.
- Perfect overexcitation function can effectively inhibit the rise of the bus voltage in the deceleration process and avoid frequent overvoltage faults.
- Perfect whole machine protection function, short circuit protection to the ground, output short circuit protection, all kinds of power supply short circuit protection, etc.

Hw700 Industrial vector type series

Voltage level: 380V

Power level: 37-400kW

- Designed with CE standard： EN61800-5-1.
- Wide voltage range design: rated input three-phase AC360-460V, wide voltage range up to 323V-528V.
- Modular design concept, high power density, save installation space, 160-400KW standard built-in DC reactor.
- Fast current limiting technology to ensure the long time operation of the frequency converter.
- Fast dynamic response, fast acceleration and deceleration, to achieve better start and stop.

H120 Cabinet Machine Series

Voltage Rating：380V

Power Rating：450-710kW

- H120 series cabinet machine is compatible with asynchronous motors, permanent magnet synchronous motors, and special motors, that can drive various types of AC motors and have built-in DC reactor.

• With Touch Screen
(Selectable Accessories)

Optional touch screen for demand can achieve faster operation and a more intuitive comprehensive display

The design of a fully enclosed independent air duct gets strong environmental adaptability and other characteristics such as dust-proof, gas-proof and corrosion-proof.

• Standard Version

Product Series Model Instruction

H100 Fan Pump Model Description

H100 - 4 T 5.5X B

- drive series code
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 5.5X: X: G、L can be selected; 5.5G: 5.5kW general heavy load type; 5.5L: 5.5kW general light load type
- B: Default: No built-in braking unit; B: Built-in brake unit

H120 Universal Model Description

H120 - 4 T 5.5X B - X

- drive series code: Default: Asynchronous motor; S: Permanent magnet synchronization
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 5.5X: X: G, L can be selected; 5.5G: 5.5kW general heavy load type; 5.5L: 5.5kW general light load type
- B: Default: No built-in braking unit; B: Built-in brake unit
- X: Default: General series; TRA: With speed tracking card

H150 Industry Special Machine Drive Model Description

H150 - 4 T 5.5X B - X

- drive series code
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 5.5X: X: G, L can be selected; 5.5G: 5.5kW general heavy load type; 5.5L: 5.5kW general light load type
- B: Default: No built-in braking unit; B: Built-in brake unit
- X: Default: General series; ABZ: With Card for incremental encoder

H520 High-Speed Motor Driver Model Description

H520 - 4 T 55G B - X

- drive series code: Default: Asynchronous motor; S: Permanent magnet synchronization
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 55G: 55kW heavy load type
- B: Default: No built-in braking unit; B: Built-in brake unit
- X: Default: General series; ABZ: With Card for incremental encoder

H600 High-End Engineering Model Description

H600 - 4 T 90G/110L B - X

- drive series code: Default: Asynchronous motor; S: Permanent magnet synchronization
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 90G/110L: 90G: 90kW heavy load type; 110L: 110kW light load type
- B: Default: No built-in braking unit; B: Built-in brake unit
- X: Default: General series; ABZ: With card for incremental encoder

V10 Exquisite Vector Model Description

V10 - 4 T 1.5G/2.2L B

- drive series code
- 2: 220V / 4: 380V
- S: Single phase / T: Three phase
- 1.5G/2.2L: 1.5G: 1.5kW heavy load type; 2.2L: 2.2kW light load type
- B: Built-in brake unit

NOTICE: '**Default**' represent '**general series**' or '**no built-in braking unit**' and has no symbol present in the model instruction

Product Quality Overview

Honwin technology team believes that product quality is the life of our company and should cherish and defend product quality as much as we treat our life. One of our most important missions is to provide our customers with high-quality products, and we adhere to the following principles and directions:

Scheme design

Scheme design is the source of product quality, Honwin technology team always insists to the impeccable quality as the primary goal, and constantly design better scheme and iteration, to ensure the stability of the source.

Material Selection

Drive all important materials and core materials are from the international famous brands, to ensure the uniformity of products and lasting bionergy.

Process

From the supplier processing process to the company's internal processing process, we adhere to the strict control of every detail, and constantly refine the motor driver process standards.

Infineon(German)/Fuji(Japan) Electric Power IGBT

PELKO(America)/SZHXHT Fan

Texas Instruments/Onsemi (America) DSP and Analog Chips

CapXon(Taiwan)/CECTN Capacitor

HONGFA Relay

TAMURA(Japan)/avadi Hall Sensor

Notice: The selection of the above components is only for H120 and H600 series

H100, H120, H150 Series Universal Vector Drive

H100, H120, H150 Series Drive Model and Specification

Item		Specification															
H120-4TXXXG(B)		1.5	2.2	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Adaptive Motor Power (kW)		1.5	2.2	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Input	Rated Input Current(A)	4.6	6.3	11.4	16.7	21.9	32.2	41.3	49.5	59.0	57.0	69.0	89.0	106.0	139.0	164	196
Output	Rated Output Current (A)	3.8	5.1	9.0	13.0	17.0	24.0	32.0	37.0	45.0	60.0	75.0	90.0	112	150	180	210
	Output Voltage	3-phase 0V~rated input voltage															
	Maximum Output Frequency	300.00Hz(changeable by parameters)															
	Carrier Frequency	1.0kHz~16.0kHz(carrier frequency adjustable according to the load characteristics)															
	Overload capacity	150% rated current 60s; 180% rated current 10s; 200% rated current 0.5s															
High Frequency Leakage Current Countermeasures	DC Reactor	External optional accessories										Internal optional accessories					
Brake Function	Brake Unit	Standard built-in										Optional built-in					
Power Supply	Rated Voltage Rated Frequency	AC : three-phase 380V~460V 50Hz/60Hz															
	Permissible Range of Voltage Fluctuation	-15%~10% , actual permissible range: AC 323V~528V															
	Permissible Range of Frequency	±5%															
	Power Capacity (kVA)	5.0	6.7	12	17.5	22.8	33.4	42.8	45	54	52	63	81	97	127	150	179

Technical Specification of H100, H120, H150 Series Drive

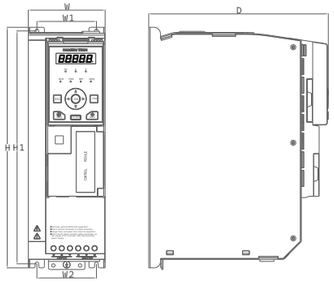
Item		Technical Specification	
Basic Functions	Input Frequency Resolution	Digital setting: 0.01Hz Analog setting: maximum speed×0.025%	
	Control Mode	Advanced scalar control Sensorless vector control (SVC) Vector control (VC)	
	Starting Torque	SVC: 0.25Hz 150% VC: 0.00Hz 180%	
	Speed Adjustable Range	SVC: 1: 200	VC: 1: 1000
	Steady Speed Accuracy	SVC: ±0.5%	VC: ±0.2%
	Torque Control Accuracy	SVC: Above 5Hz ±5%	VC: Above 5Hz ±3%
	Torque Reentry Accuracy	≤0.5% rated torque of motor	
	Torque Response Time	SVC: ≤ 10ms (Rated torque of motor)	VC: ≤ 5ms (Rated torque of motor)
	Torque Boost	Function of automatic torque boost ; manual torque boost 0.1%~30.0%	
	V/F Curves	Straight line, multi-power curve, multi-point curve, V/F separation	
	Acceleration and Deceleration Curves	Straight line, fold line, S-curve	
	DC Brake	DC braking start frequency: 0.00~300.00Hz; DC braking current: constant torque 0.0~120.0%; Variable torque 0.0~90.0% DC braking time: 0.0~30.0s; no waiting time for DC braking start to achieve fast braking	
	Inching Control	Inching frequency range: 0.00Hz~50.00 Hz Inching acceleration/deceleration time range: 0.0s~3600.0s	
	Built-in PID	Easy realization of the Proportion Integral Differential (PID)closed-loop control system	
	Simple PLC, Multi-stage Instructions	Up to 16 speeds are achieved by built-in simple PLC or X terminal	
	Automatic Voltage Regulation	Automatic output voltage stabilization in case of grid voltage fluctuations	
	Overcurret and Overvoltage Stall Control	Automatic limiting of current and voltage during running to prevent frequent tripping due to overcurrent or overvoltage	
	Automatic Fast Current Limiting	Minimize overcurrent fault and protect the normal drive operation	
	Torque Limit and Control	"Excavator" feature, automatic torque limit during running to prevent frequent tripping due to overcurrent; torque control can be achieved during vector control	

* : Carrier frequency adjustable according to the load characteristics

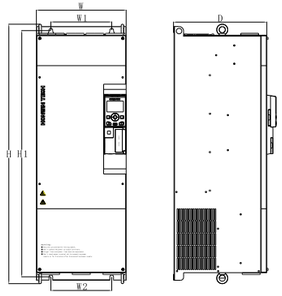
Item		Technical Specification															
H120-4TXXXG (B)		132	160	185	200	220	250	280	315	355	400	450	500	560	630	710	
Motor Power (kW)		132	160	185	200	220	250	280	315	355	400	450	500	560	630	710	
Input	Rated Input Current (A)	240	287	326	365	410	441	495	565	617	687	782	835	920	1050	1180	
Output	Rated Output Current (A)	260	305	350	377	426	465	520	585	650	725	810	900	1020	1100	1300	
	Output Voltage	3-phase 0V~ rated input voltage															
	Maximum Output Frequency	300.00Hz (changeable by parameters)															
	Carrier Frequency	1.0kHz~16.0kHz (*)						1.0kHz~8.0kHz (*)									
	Overload Capacity	150% rated current 60s; 180% rated current 10s; 200% rated current 0.5s															
High Frequency Leakage Current Countermeasures	DC Reactor	Internal Optional Accessories	Standard Built-in Note: (315KW-450KW standard external)														
Brake Function	Brake Unit	Built-in Optional	External Optional Accessories														
Power Supply	Rated Voltage Rated Frequency	AC: three-phase 360V-460V 50Hz/60Hz															
	Permissible Range of Voltage Fluctuation	-15%~10%, actual permissible range: AC 323V~528V															
	Permissible Range of Frequency	±5%															
	Power Capacity (kVA)	220	263	304	334	375	404	453	517	565	629	716	769	861	969	1092	

Item		Technical Specification
Individualized Functions	Nonstop Even Upon Power Failure	Compensate voltage reduction by load feedback energy upon instantaneous power failure to keep the drive running in a short period of time
	Fast Current Limiting	Avoid frequent overcurrent failures of the drive
	Timing Function	To achieve the timing control of the drive
	Motor Overheat Protection	Convenient motor temperature detection through external sensors
	Parameter Copying	Upload and download of parameters, and quick setting of parameters
	Dual-port Modbus	Dual ports support the Modbus protocol to achieve the simple networking function
	Power-on for Short-to-ground Detection	Power on to automatically complete the short-to-ground detection
	Magnetic Flux Brake	Faster deceleration and stop with magnetic flux braking
Run	Run Commands	Keypad command, terminal command, communication command; can switching in many ways
	Main Speed Commands	12 given mode of main speed commands, switching in many ways
	Auxiliary Speed Commands	9 methods of giving auxiliary speed commands, flexible to realize auxiliary speed fine adjustment and synthesis
	Input Terminals	— 7 X-terminals, One of them supports high-speed pulse input — 3 AI terminals, with 1 supporting only 0~10V voltage signals, and 2 supporting 0~10V voltage signals or 0~20mA current signals — One channel of 5V differential encoder interface
	Output Terminals	— 2 relay outputs — 2 transistor outputs, with one supporting the high-speed pulse output — 2 AO outputs, both support 0~10V voltage signals and 0~20mA current signals
Human-Machine Interaction	LED Display	LED operation keypad
	LCD Display	LCD operation keypad
	Key Lock Function	All or partial key locking to prevent misoperation of the keypad
	Keypad Emergency Shutdown	Reduce operation risks with the keypad shutdown key to enable shutdown from any command sources
Protection Function	Short-circuit Protection	Output phase short circuit protection, output-to-ground short circuit protection
	Overcurrent Protection	Shutdown protection when exceed the drive rated current by 2.2 times
	Overvoltage Protection	Shutdown if the DC bus voltage of the main circuit is greater than 800V
	Undervoltage Protection	Shutdown if the DC bus voltage of the main circuit is smaller than 360V
	Overload Protection	Shutdown after 60s when running at 150% rated current
	Overheat Protection	Overheat protection for the IGBT module of the drive
	Phase Loss Protection	Phase loss protection for three-phase input and output
Environment	Places of Use	Indoors, free from direct sunlight, dust, corrosive gases, flammable gases, oil mist, water vapor, water droplets and salts, etc.
	Altitude	No reduction for 1000m or below, 1% reduction for every 100m above 1000m, and the maximum altitude should not exceed 3000m

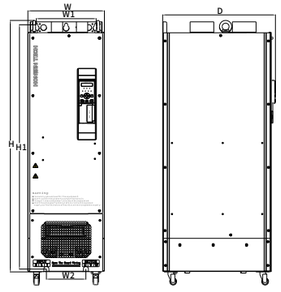
H100,H120, H150 Series Appearance and Installation Dimensions



H120-4T1.5G B~H120-4T15G B power



H120-4T18.5G B~H120-4T200G power



H120-4T220G B~H120-4T280G power

Drive Model	Appearance and Mounting Dimensions(mm)							
	W	H	D	W1	W2	H1	Mounting Hole Diameter	Electric Reactor
H120 - 4T 1.5G B	81	237	173	68	57	225	4.5	Selective Configuration
H120 - 4T 2.2G B								
H120 - 4T 4G B								
H120 - 4T 5.5G B								
H120 - 4T 7.5G B	95	297	222	74	74	288	6	
H120 - 4T 11G B								
H120 - 4T 15G B								
H120 - 4T 18.5G B	185	440	249	140	140	428	7	
H120 - 4T 22G B								
H120 - 4T 30G B								
H120 - 4T 37G	239	605	270	180	149	580	9.5	
H120 - 4T 45G								
H120 - 4T 55G	265	690	323	200	200	674	9.5	
H120 - 4T 75G								
H120 - 4T 90G	295	834	339	200	200	810	12	
H120 - 4T 110G								
H120 - 4T 132G								
H120 - 4T 160G	399	950	407	265	265	927	14	Standard Built-in
H120 - 4T 185G								
H120 - 4T 200G								
H120 - 4T 220G	339	1105	498	265	175	1082	14	
H120 - 4T 250G								
H120 - 4T 280G								
H120 - 4T 315G	660	990 Note: Optional seat of 350	392	600	550	962 Note: Optional seat of 350	14	Standard external
H120 - 4T 355G								
H120 - 4T 400G								
H120 - 4T 450G								
H120 - 4T 500G	850	1600	600	—	—	—	16	Standard Built-in
H120 - 4T 560G								
H120 - 4T 630G								
H120 - 4T 710G								

* The number contains the height of optional seating plane(350mm)

Attach the dimension of 315kW-715kW cabinet machine series model

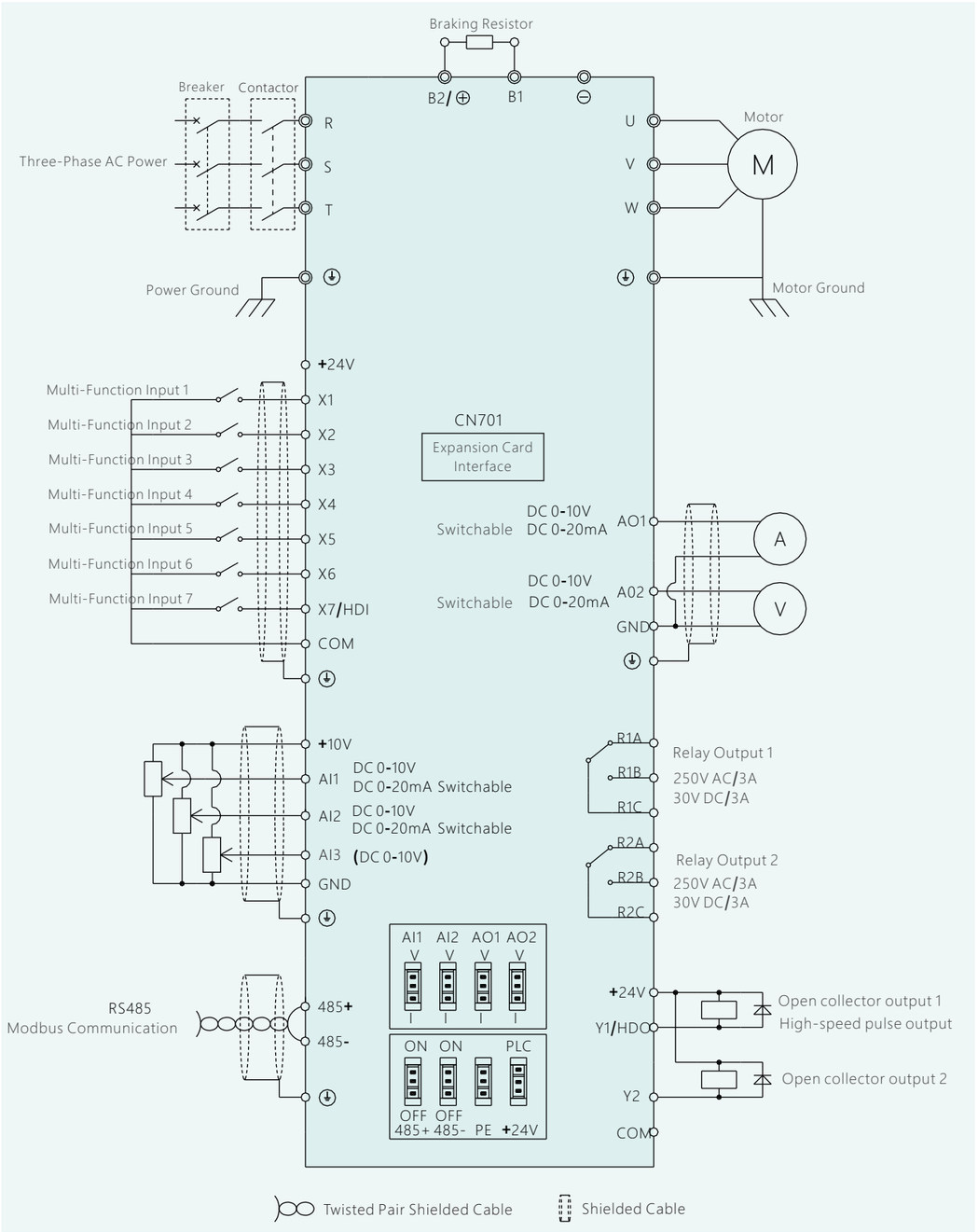
Drive Model	Appearance and Mounting Dimensions(mm)							
	W	H	D	W1	W2	H1	Mounting Hole Diameter	Electric Reactor
H120 - 4T 315G	850	1600 Note: Optional seat of 350	600	—	—	—	16	Standard Built-in
H120 - 4T 355G								
H120 - 4T 400G								
H120 - 4T 450G								
H120 - 4T 500G								
H120 - 4T 560G								
H120 - 4T 630G								
H120 - 4T 710G								

* The number contains the height of optional seating plane(400mm)

H100,H120, H150 Series Peripheral Device Selection, Terminal Screws, and Wiring Specifications

Drive Model	Circuit Breaker (A)	Contactor (A)	Power Terminal			Grounding Terminal		
			Screw	Tightening Torque (N.m)	Wiring Specifications (mm^2)	Screw	Tightening Torque (N.m)	Wiring Specifications (mm^2)
H120 - 4T 1.5G B	10	9	M4	1.2~1.5	2.5	M3	0.5~0.6	2.5
H120 - 4T 2.2G B	16	12	M4	1.2~1.5	2.5	M3	0.5~0.6	2.5
H120 - 4T 4G B	20	18	M4	1.2~1.5	4	M3	0.5~0.6	4
H120 - 4T 5.5G B	32	32	M5	2.5~3.0	4	M5	2.5~3.0	4
H120 - 4T 7.5G B	32	32	M5	2.5~3.0	6	M5	2.5~3.0	6
H120 - 4T 11G B	50	50	M5	2.5~3.0	6	M5	2.5~3.0	6
H120 - 4T 15G B	63	50	M5	2.5~3.0	6	M5	2.5~3.0	6
H120 - 4T 18.5G B	80	65	M6	4.0~5.0	10	M6	4.0~5.0	10
H120 - 4T 22G B	100	80	M6	4.0~5.0	16	M6	4.0~5.0	16
H120 - 4T 30G B	125	95	M6	4.0~5.0	25	M6	4.0~5.0	16
H120 - 4T 37G B	160	125	M8	9.0~10.0	25	M8	9.0~10.0	16
H120 - 4T 45G B	200	150	M8	9.0~10.0	35	M8	9.0~10.0	16
H120 - 4T 55G B	225	185	M8	9.0~10.0	50	M8	9.0~10.0	25
H120 - 4T 75G B	250	225	M10	17.6~22.5	60	M8	9.0~10.0	35
H120 - 4T 90G B	315	265	M10	17.6~22.5	70	M8	9.0~10.0	35
H120 - 4T 110G B	350	330	M10	17.6~22.5	100	M8	9.0~10.0	50
H120 - 4T 132G B	400	400	M10	17.6~22.5	120	M8	9.0~10.0	70
H120 - 4T 160G B	500	400	M12	31.4~39.2	150	M12	31.4~39.2	95
H120 - 4T 185G B	500	500	M12	31.4~39.2	150	M12	31.4~39.2	95
H120 - 4T 200G B	630	500	M12	31.4~39.2	185	M12	31.4~39.2	95
H120 - 4T 220G B	630	630	M12	31.4~39.2	185	M12	31.4~39.2	120
H120 - 4T 250G B	800	630	M12	31.4~39.2	120×2	M12	31.4~39.2	120
H120 - 4T 280G B	800	800	M12	31.4~39.2	150×2	M12	31.4~39.2	150
H120 - 4T 315G B	800	800	M12	31.4~39.2	185×2	M12	31.4~39.2	95×2
H120 - 4T 355G B	1000	800	M12	31.4~39.2	240×2	M12	31.4~39.2	120×2
H120 - 4T 400G B	1250	1000	M12	31.4~39.2	240×2	M12	31.4~39.2	120×2
H120 - 4T 450G B	1250	1000	M12	31.4~39.2	300×2	M12	31.4~39.2	150×2
H120 - 4T 500G B	1600	1250	M12	31.4~39.2	300×2	M12	31.4~39.2	150×2
H120 - 4T 560G B	1600	1250	M12	31.4~39.2	400×2	M12	31.4~39.2	185×2
H120 - 4T 630G B	2000	1600	M12	31.4~39.2	400×2	M12	31.4~39.2	185×2
H120 - 4T 710G B	2000	1600	M12	31.4~39.2	400×2	M12	31.4~39.2	185×2

Standard Wiring Diagram



Control Terminal Position & Function Description

STO	COM	485+	485-

Direction: from left to right CN3

R1A	R1B	R1C	R2A	R2B	R2C	Y1/HDO	Y2

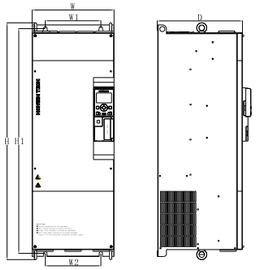
Direction: from top to bottom CN2

+10V	AI1	AI2	AI3	GND	AO1	AO2	COM	COM	X1	X2	X3	X4	X5	X6	X7/HDI	+24V

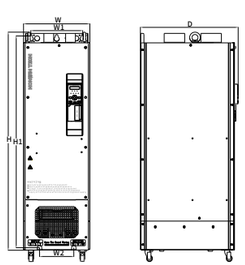
Direction: from top to bottom CN1

Analog Input	+10V	Analog Input Reference Voltage	10V ±1%, internal circuit isolated from COM
			The maximum output current : 20mA
	GND	Analog Ground	Internal circuit isolated from COM
	AI1/AI2	Analog Input Channel 1/2	0~10V: Input impedance 22kΩ
			0~20mA: Input impedance 500Ω
			To switch between 0~10V and 0~20mA analog input quantity through the jumper terminal, and factory default the voltage input
	AI3	Analog Input Channel 3	0~10V: Input impedance 22kΩ
Analog Output	AO1/AO2	Analog Output 1/ Output 2	0~10V: Impedance required ≥10kΩ
			0~20mA: Impedance required 200Ω~500Ω
			To switch between 0~10V and 0~20mA analog input quantity through the jumper terminal, and factory default the voltage input
	GND	Analog Ground	Internal circuit isolated from COM
Digital Input	+24V	+24V	24V±20%, internal circuit isolated from GND
			Maximum load 200mA
	COM	+24V Ground	Internal circuit isolated from GND
	X1~X7	Multi-Function Input Terminals 1~7	Input specification: 24VDC, 5mA
			Frequency range: 0~200Hz
			Voltage range: 24V±20%
	X7/HD1	Multi-Functional Input/ Pulse Input	Multi-functional input: the same as X1~X7
			Pulse input: 0.1Hz~50kHz; voltage range: 24V±20%
Digital Output	Y1/HDO	Open Collector Iutput/ Pulse Output	Open collector output: 1. Voltage range: 0~24V; 2. Current range: 0~50mA
			Pulse output: 0~50kHz
	Y2	Open Collector Output	Open collector output: 1. Voltage range: 0~24V; 2. Current range: 0~50mA
	COM	Open Collector Output Public Port	Internal circuit isolated from GND
Relay 1 Output	R1A/R1B/R1C	Relay Output 1	R1B-R1C: normally open
			R1A-R1C: normally closed
			Contact capacity: 250VAC/3A, 30VDC/3A
Relay 2 Output	R2A/R1B/R1C	Relay Output 2	R2B-R2C: normally open
			R2A-R2C: normally closed
			Contact capacity: 250VAC/3A, 30VDC/3A
Terminal STO/485	STO	Safe Torque Off	Enable STO when the motor is at rest can prevent the still motor from accidentally starting; Enable STO when the motor is rotating can let the motor continue to rotate by inertia until still. If the motor has a band-type brake, the brake will close immediately.
	COM	Safe Torque Off Public Port	Internal circuit isolated from GND
	485+	485 Differential Signal Positive	Rate: 4800/9600/19200/38400/57600/115200 bps Maximum distance of 500m (standard twisted pair shielded cable)
	485-	485 Differential Signal Negative	
Expansion Card Interface	CN701	Expansion Card Interface	

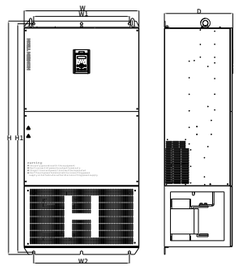
H600 Series Appearance & Installation Dimensions



H600-4T37G/45L~H600-4T200G/220L Power



H600-4T220G/250L~H600-4T280G/315L Power

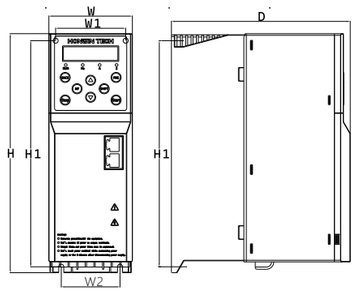


H600-4T220G/250L~H600-4T315G/450L Power

Drive Model	Appearance and Mounting Dimensions(mm)						
	W	H	D	W1	W2	H1	Mounting Hole Diameter
H600-4T37G/45L	265	690	323	200	200	674	9.5
H600-4T45G/55L							
H600-4T55G/75L							
H600-4T75G/90L							
H600-4T90G/110L	295	834	359	200	200	810	12
H600-4T110G/132L							
H600-4T132G/160L							
H600-4T160G/185L	399	950	407	265	265	927	14
H600-4T185G/200L							
H600-4T200G/220L							
H600-4T220G/250L	339	1113	547	265	175	1082	14
H600-4T250G/280L							
H600-4T280G/315L							
H600-4T315G/355L	660	990 Note: Optional seat of 350	392	600	550	962 Note: Optional seat of 350	14
H600-4T355G/400L							
H600-4T400G/450L							
H600-4T450G/500L							

* The number contains the height of seating plane(350mm)

V10 Series Appearance and Installation Dimensions



V10-4T0.75G/1.5LB~V10-4T3.7G/5.5LB Power

Drive Model	Appearance and Mounting Dimensions(mm)						
	W	H	D	W1	W2	H1	Mounting Hole Diameter
V10 -4T0.75G/1.5LB	75	211	158	62	52	200	4.5
V10 - 4T 1.5G/2.2LB							
V10 - 4T 2.2G/4LB							
V10 - 4T 4G/5.5LB							

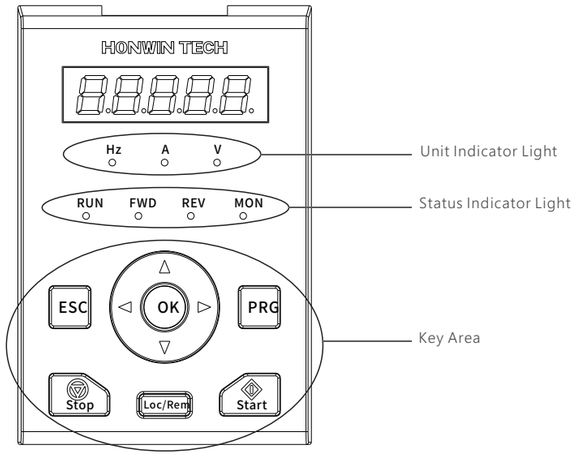
Three Selectable Pannels

- The same machine can equip with multiple operation panels, supports LED and LCD display, and operations of knobs and buttons, to provide users more diverse and precise choices.
- The ergonomic button design with RJ45 connection makes the operation more efficient.

LED Display Operation Panel

LCD Operation Panel

LED Operation Panel with Knob



Operation Keypad Diagram

Symbol	Explaination
Hz	Frequency Indicator Light
A	Current Indicator Light
V	Voltage Indicator Light
Hz+A	Speed Indicator Light
A+V	Percentage Indicator Light
Hz+V	Power Indicator Light
Hz+V+A	Time Indicator Light | Dimensionless Indicator Light
RUN	Running Status Indicator Light
FWD	Forward Turn Indicator Light
REV	Revers Turn Indicator Light
MON	Run Command Given Mode Indicator Light
ESC	Return/Enter the First-Level Menu Key
OK	Comfirm Key
PRG	Programming Key
Stop	Stop Key
Loc/Rem	Local/Remote Key
Start	Run Key
▲	Increment Key
▼	Reduction Key
◀	Left Shift Key
▶	Right Shift Key

Brake Resistor Selection (for General Application)

Drive Model	Brake Unit	Brake Resistance		
		Standard Power	Standard Resistance	Minimum Limit Resistance
H120-4T1.5G B	Standard Built-in	260W	400Ω	100Ω
H120-4T2.2G B		320W	250Ω	100Ω
H120-4T4G B		800W	150Ω	66.7Ω
H120-4T5.5G B		1600W	100Ω	40Ω
H120-4T7.5G B		1600W	75Ω	40Ω
H120-4T11G B		2000W	50Ω	25Ω
H120-4T15G B		2000W	40Ω	25Ω
H120-4T18.5G B		4800W	32Ω	20Ω
H120-4T22G B		4800W	27.2Ω	20Ω
H120-4T30G B		6000W	20Ω	14Ω
H120-4T37G	Built-in Optional	9600W(Total power)	15Ω (Total resistance)	12Ω
H120-4T45G		9600W(Total power)	15Ω (Total resistance)	12Ω
H120-4T55G		15000W(Total power)	12Ω (Total resistance)	10Ω
H120-4T75G		20000W(Total power)	8Ω (Total resistance)	5Ω
H120-4T90G		28800W(Total power)	5Ω (Total resistance)	4Ω
H120-4T110G		30000W(Total power)	5Ω (Total resistance)	4Ω
H120-4T132G		35000W(Total power)	5Ω (Total resistance)	4Ω

Notice : V10 standard built-in brake unit.

Common Application Industries Brake Resistor Power Value

Common Application	Lifting	Accidental Load Braking	Elevator	Centrifuge	General Application
Brake Resistor Power Value	100%~200%	50%	200%-300%	100%-200%	100%

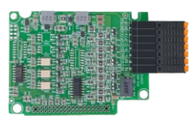
Purchase of Accessories

Name	Model	Functional Description
Keypad	HW—LCD—H	Finished H-Series LCD keypad assembly
	HW—LED—H	Finished H-Series LED keypad assembly
	HW—LED—RP	Finished H-Series LED knob keypad
Expansion Card	HW—PG—ABZ	Card for incremental encoder
	HW—PG—UVW	Card for position encoder
	HW—PG—FP	Frequency division output edition
	HW—TRA	Speed tracker expansion card
	HW—REL	Extended relay card
	HW—PROG	Serial port monitoring card
	HW—ANA	Analog acquisition card (Flow detection card)
	HW—PG—RB	Card for rotary encoder
	HW—PROFINET	PROFINET communication card
	HW—CANopen	CANopen communication card
	HW—EtherCAT	EtherCAT communication card

Partially Optional Accessories

- Low-voltage drive in Series H120, H150, H520, and H600 has flexible configurations and multiple functions. All products use modularize design. Honwin Technology make partial unnecessary functions as choosable modules to ensure our customer can have the most cost-effective products and solutions.
  (NOTICE: Series H120 only support Functional and Communication expansion card)
- The optional remote monitoring accessories are aimed to partial application.
- Customer can only select the appropriate accessories as needed, partial expansion card as present:

Encoder Expansion Card

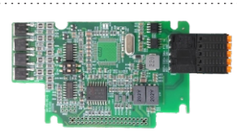


HW-PG-ABZ Card for Incremental Encoder

- Type of Encoder：A/B/Z difference type
- Supply Voltage：+5V/+12V
- Mode of Connection: Terminal connection

HW-PG-RB Card for Rotary Encoder

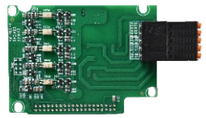
- Appled for rotary transformer
- Support motor temperature detection (PT100/PT1000)
- Mode of Connection: Terminal connection



Functional Expansion Card

HW-ANA Analog Acquisition Card (Flow Detection Card)

- Analog Quantity Input: Voltage/Current can be chose, range of input current: 0~1A
- Mode of Connection: Terminal connection



HW-PG-TRA Speed Tracker Expansion Card

- Support output voltage detection, achieve speed tracking
- Mode of Connection: Terminal connection

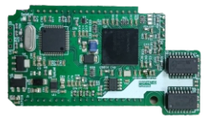
HW-REL Extended Relay Card

- Extended relay card can add five channels except the original two channels to get a total of seven channels including the control board
- Mode of Connection: Terminal connection

HW-PG-FP Frequency Division Output Edition

- Support two-frequency and four-frequency divison output
  Voltage : 12V/24V can be selected
- Mode of Connection: Terminal connection

Communication Expansion Card



HW-ProfiNet Communication Card

- Support ProfiNET communication

HW-Ether CAT Communication Card

- Support EtherCAT communication

HW-CANopen Communication Card

- Support CANopen communication
- CAN2.0format communication with standard ISO 11898
- Mode of Connection: Terminal connection

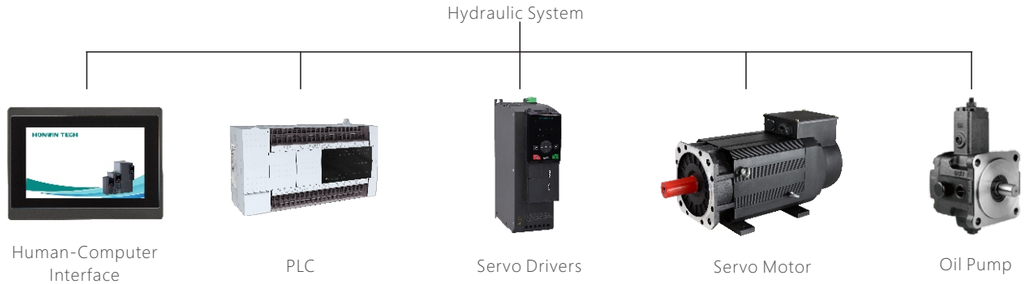
Characteristic Application Fields

High-Speed Motor Application

- High-speed motor drivers are widely use in magnetic levitation and air-suspending relevant area. High-speed permanent magnet drive speed up to 150,000Rpm, electric efficiency above 97%, the performance take the leading position in the industry.
- The product cover include air-cooled, water-cooled, refrigerant, integrated machine and multi types of products. Our company with the most abundant product types in the field of high-speed motor application.

Hydraulic Servo System Supporting

- It is aimed to hydraulic servo system solutions. The complete sets of system has supporting applications (servo drive, servo motor, PLC, human-computer interface, and oil pump)
- There is a solution for asynchronous/synchronous servo system at present. The system has fast response, stable pressure, and easy maintenance with complete national service network.



Tension Control Unwinding & Rewinding / flying shear control

- The accuracy and fast response are better than the domestic first-tier brands, safe and reliable, open loop torque response <10ms, and precision of steady speed of 0.2%.
- Multiple communication wiring: the 485 of the upper computer connects to the 485 terminal of the driver, and multiple drivers behind can be cascaded with network cables
- Unique PID algorithm, stable start running, smooth shutdown, and no run-off of acceleration and deceleration.

Fuel Cell / New Energy Vehicle Motor Drive

- Fuel cell high-speed motor drive: the product covers a high voltage 600V platform to a low-pressure 80V, applied to new energy commercial vehicles and forklifts, rotary speed can achieve 150,000 Rpm.
- New energy vehicle motor drive and DCDC: Applied to commercial vehicles, high efficiency, high torque, and fast torque response

Reliable

Strong Applicability

High Integration

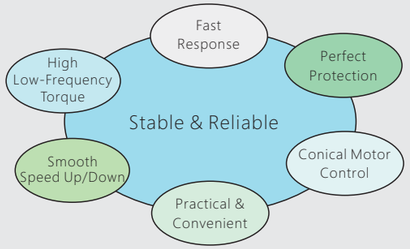
High Response Speed

High Speed Computation

Convenient Modular Structure

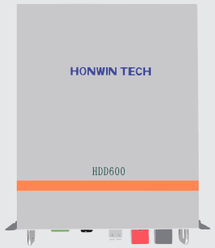
Lifting

- General application scenarios such as gantry crane, ship crane, bridge crane, shaft hoist, portal crane, harbour portal crane/tyre crane, tower crane, electric hoist, single/double girder crane



Photovotaic / Energy Storage DCDC

- All grid-connected inverters adopt level topology, THD achieves 1%, efficiency above 98.6%, multichannel MPPT, DC overmatch 1.5 times, DC wide voltage range. Multiple monitoring options are available.
- Energy storage bidirectional DCDC adopts multi-stage step-down technology. LLC resonance + bidirectional BUCK/BOOST is used in topology to reduce ripple and improve battery life. A variety of batteries are available.
- The energy storage DCDC technology combined with motor control in a leading position, is the earliest forerunner application of the industry.



Typical Industry Applications

New Energy and Automobile

Textile

Municipal Work

Metallurgy and Chemical Industry

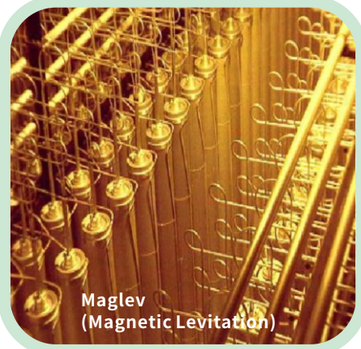
Lifting

Energy Storage

Hydraulic System

High-Speed Compressor

Printing and Packaging Cutting



Maglev
(Magnetic Levitation)

Machine Tool