

HEDY



HD710 AC Drive

Guangzhou HEDY Industrial Automation CO., Ltd.

Service Address:



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Company Profile



HEDY GROUP headquarters is located at Yunpu Industry Park, Huangpu District, Guangzhou. It covers an area of nearly 133,334 square meters with a floor area of 200,000 square meters. It is one of the best electronic industrial park in China.

HEDY GROUP is a diversified group company that sets up a number of subsidiaries, operating different types of products: industrial automation, IT, household appliance, real estate, hotel, medicine and so on. Its subsidiary "HEDY Holding Co., Ltd." listed in 2004.

Guangzhou HEDY Industrial Automation CO., Ltd. (HDIAC) is professional at R&D, manufacture and sales of industrial automation control equipments. We have an extremely comprehensive and quality guaranteed producing chain which includes the molding, punching, injecting, coating, AI, SMT, assembling and so on.

Theory of business: global synchronic research and development, total design and manufacture, and international brand operation.

Vision: We have dedicated ourselves to be one of the world's top industrial control equipment suppliers.

Mission: We have made great efforts to focus on the needs of customers, provide competitive solutions and services, continue to create the maximum profit for the customers and make contributions to our national electrical automation industry.



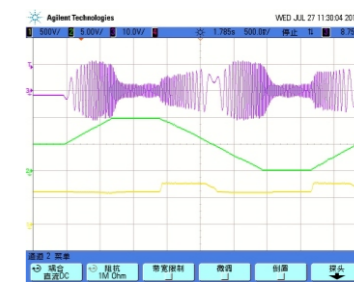
Product Outlook

Performance Features

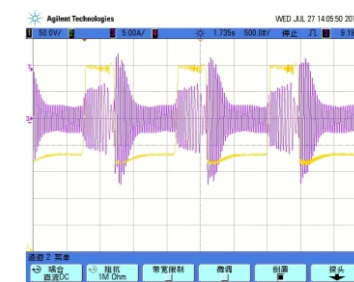
- Advanced motor control algorithm
- High performance open loop vector control
- Optimal V/F mode
- Excellent ramp slope control
- Fast autotune (less than one minute)
- Overload: 150% rated output current, one minute
- Low frequency torque:
 - 0.5Hz: 100% rated torque
 - 1Hz: 150% rated torque

The Main Hardware Features

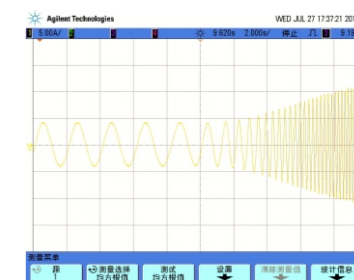
- Dual CPU processing, more precise control
- Using the latest generation IGBT
- With internal brake unit
- Inner EMC filter with breakpoint design, convenient for access and disconnection, meet different application requirements
- PCBA coating process, increase environment adaptability
- Unique control terminals: simple electronic switch set to complete the conversion between source and sink of I/O terminals
- Reference (current) loose, trip or not could be selected
- IGBT thermal design
- Wireless fan block design, easy to replace or maintain
- Connecting auxiliary fan makes the drive suitable for worse environment



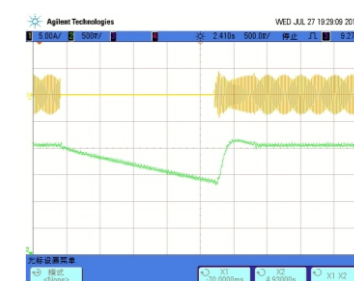
0.1s urgent Acce. & Dece. running



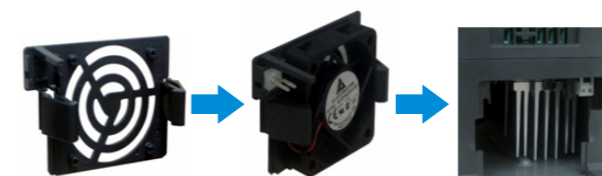
Excellent voltage and current control



0.5Hz urgent full load operation in V/F mode



Excellent spinning



Product Outlook

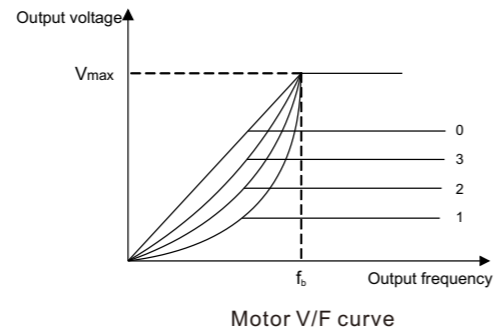
The Main Function Features

- Simple parameters, easy to use
- Low DC voltage operation mode(400V)
- AVR
- Switching frequency automatic adjustment
- Catch spinning function
- DC injection braking
- Jump frequency control function
- Powerful electronic potentiometer function, adjust reference conveniently
- Standard MODBUS-RTU
- The comprehensive protection function:
Fast protection for output shortage, over current, over load, over voltage, under voltage, phase loss, over heat (heatsink and junction), external trip, etc.
- 4 preset speeds (decided by control terminals)

V/F selection:

- User defined
- 1.2 law ramp
- 1.7 law ramp
- 2.0 law ramp

Bias performance can be achieved by related terminals.



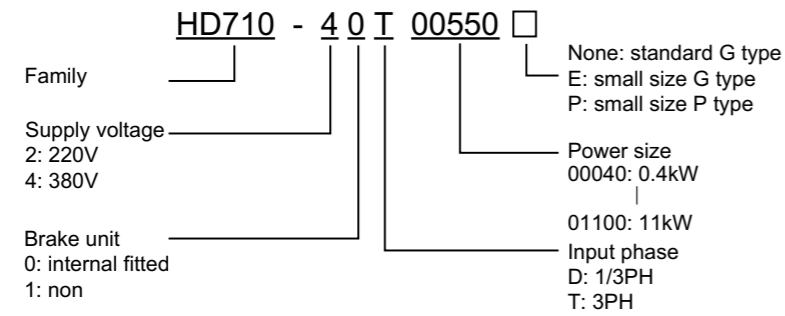
General Technical Data

Input power	Input voltage U_n	200V (-10%)~240V (+10%) 1/3PH 380V (-10%)~480V (+10%) 3PH
	Input frequency	50Hz/60Hz (± 2 Hz)
	Maximum supply imbalance	$\leq 3\%$
Power output	Output voltage	$0V \sim U_n$
	Output frequency	0Hz~300Hz
Main performance function	Voltage control	V/F, open loop vector control
	Switching frequency	1kHz~15kHz
	Adjust speed range	Open loop vector -1:100, V/F mode -1:50
	Start torque	0.5Hz: 100% rated torque, 1Hz: 150% rated torque
	Torque accuracy	7%
	Reference resolution	Digit- 0.01Hz, Analogue- 0.1%×Max. frequency
	Accel. & Decel. rate	0.1s~3600s
	Voltage boost	0.1%~30.0%
	Overload	Standard type, E type: 150% rated output current, 1 minute P type: 110% rated output current, 1 minute

General Technical Data

Main performance function	V/F	4 types: V/F (user can program) and ramp (2.0 power, 1.7 power, 1.2 power)
	DC braking	Injection frequency: 0.0%~100.0% Max. frequency Injection current: 0.0%~300.0% rated current Injection time: 0.00s~60.00s
	Dynamic brake	Brake rate: 0.0%~100.0%
	Jog	Jog frequency: 0.00Hz~50.00Hz Jog acceleration and deceleration rate: 0.1s~60.0s Jog interval time: 0.1s~60.0s
	Preset	4 preset (decided by control terminals)
	AVR	Maintain the rated output voltage when the input power supply voltage changed.
Control terminal	Reference source	Digit: keypad, motorized pot (E-Pot), comms. Analogue: AI1: 0V~10V, 0(4) mA~20mA
	Operating mode	Keypad, control terminal, serial comms.
	Digital input terminals	DI1~DI3: programmable terminals
	Digital output terminal	DO1: programmable terminal, maximum output current: 50mA
	Analogue output terminal	AO1: programmable terminal, 0V~10V
	Status relay	1 programmable relay, contactor data: AC250V/2A (COS $\phi = 1$) AC250V/1A (COS $\phi = 0.4$) DC30V/1A
Comms.	Connector	RJ-45 port
	Protocol	Modbus RTU
Environment	Altitude	1000m rated 1000m~3000m, 1% current derating
	Operating temperature	-10°C~+40°C
	Max. humidity	$\leq 90\%$ RH, no-condensing
	Vibration	$\leq 5.9m/s^2$ (0.6g)
	Storage temperature	-40°C~+70°C
	Running environment	Indoor, non-flammable, no corrosive gasses, no contamination with electrically conductive material, avoid dust which may restrict the fan.
Options		LED keypad, HDOM-232, HDOM-USB, keypad pallet, PCTools, etc.
Protection		Output shortage, over current, over load, over voltage, under Voltage, phase loss, over heat (heatsink and junction), external trip, etc.
Efficiency		1.5kW and below: $\geq 89\%$ 2.2kW~7.5kW: $\geq 93\%$
Mounting method		Surface mounting, through hole
Enclosure		IP20, IP21 (by adding option device)
Cooling method		220V/ 0.4kW model is nature cool, others are forced air cool

Model Reference



Power size of HD710 is referred to the standard 4 poles induction motor at rated voltage.
 Overload :
 Standard type, E type: 150% rated output current, 1 minute
 P type: 110% rated output current, 1 minute

220V Rating Data

Power supply: 200V~240V, 50Hz/60Hz, single/three phase

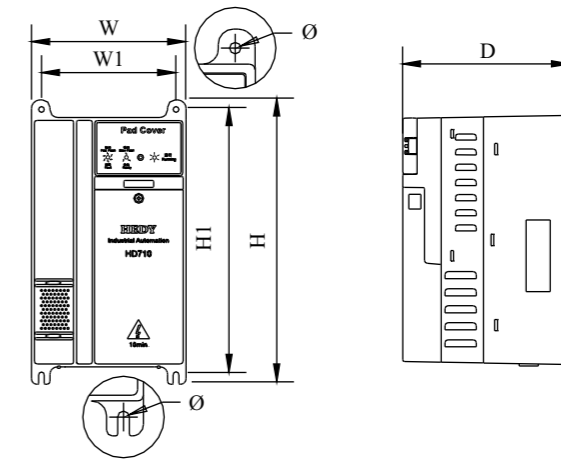
Model name	Drive power size (kVA)	Rated input current (A)		Rated output current (A)	Motor power (kW)	Size
		1/3PH				
HD710-20D00040	1.1	7.1/4		2.8	0.4	A
HD710-20D00075	1.9	12.8/7.1		5	0.75	A
HD710-20D00150	3.0	20.5/11.3		8	1.5	A
HD710-20D00220	4.2	24/14.5		11	2.2	B
HD710-20D00400	6.7	16.5		17.6	4	C

380V Rating Data

Power supply: 380V~480V, 50Hz/60Hz, three phase

Model name	Drive power size (kVA)	Rated input current (A)	Rated output current (A)	Motor power (kW)	Size
HD710-40T00075	1.7	3.6	2.5	0.75	A
HD710-40T00150	2.8	5.7	4.2	1.5	A
HD710-40T00220E	3.4	6.1	5.2	2.2	A
HD710-40T00220	3.8	8.3	5.8	2.2	B
HD710-40T00400	6.3	13.2	9.5	3.7	B
HD710-40T00550E	8.6	14.3	13	5.5	B
HD710-40T00550P	8.6	14.3	13	5.5	B
HD710-40T00550	8.6	12.4	13	5.5	C
HD710-40T00750	11	16.1	17	7.5	C
HD710-40T01100P	15.2	21	23	11	C

Mechanical Dimension And Mounting



Mechanical Dimension

Size	Model name	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	Mounting hole Ø (mm)	Weight (kg)
A	HD710-20D00040	97.4	80	202.4	190	148.8	5	1.4
	HD710-20D00075							
	HD710-20D00150							
	HD710-40T00075							
	HD710-40T00150							
B	HD710-20D00220E	142.4	123.5	220.4	208	155.5	5	2.2
	HD710-20D00220							
	HD710-40T00220							
	HD710-40T00400							
	HD710-40T00550E							
C	HD710-40T00550P	163.1	142	300	280	176.8	6	4.7
	HD710-20D00400							
	HD710-40T00550							
	HD710-40T00750							
	HD710-40T01100P							

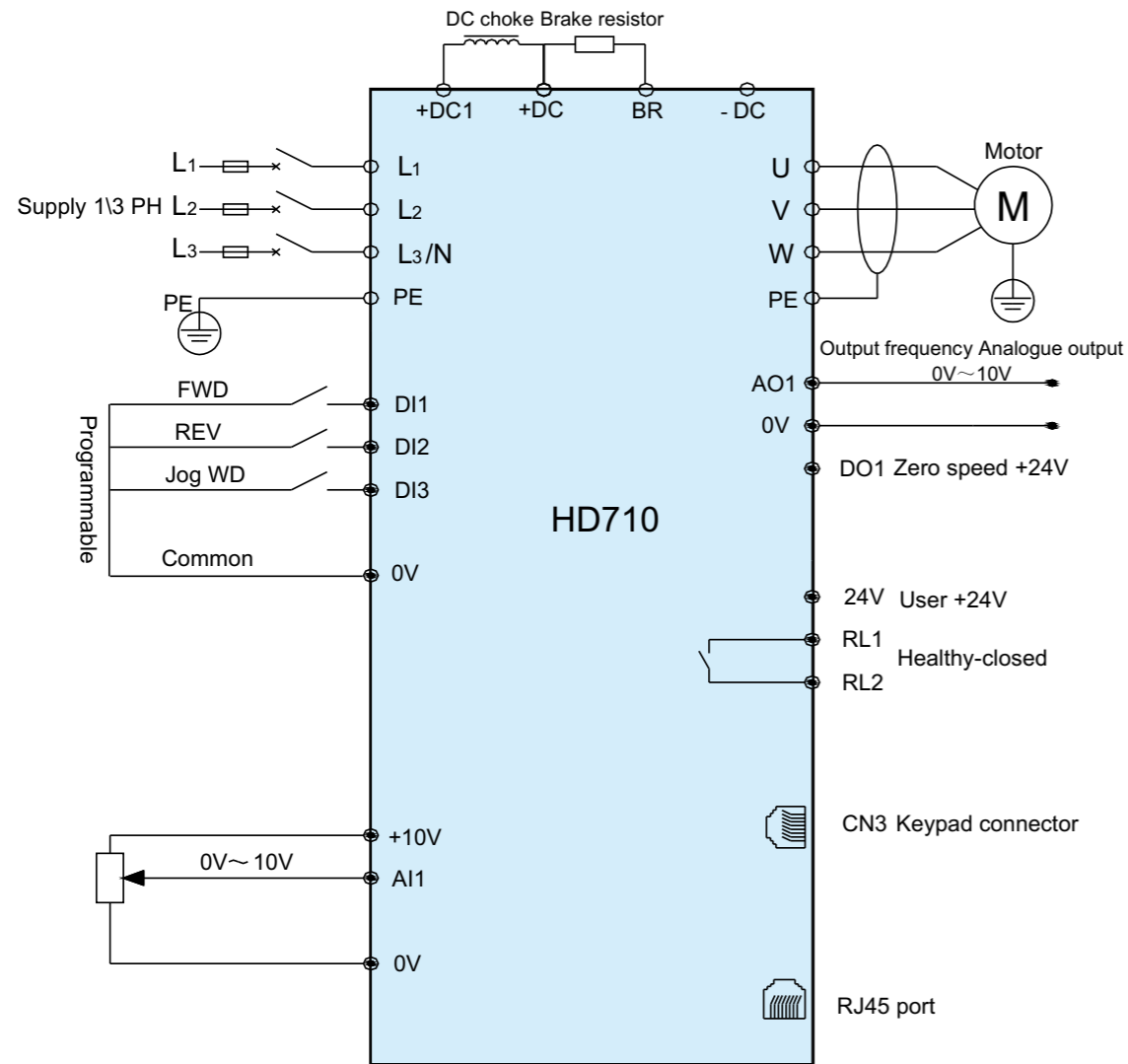


Automatic DT test platform

Automatic PCBA ATE test platform

Automatic FLASH test platform

Typical Cabling



NOTE:

1. All the programmable control terminal functions are factory default set.
2. For control wire, recommend using unshielded twisted pair, shielded cable or shielded twisted pair.
3. 5.5kW~11kW models (including 220V/4kW), DC Choke is fitted.



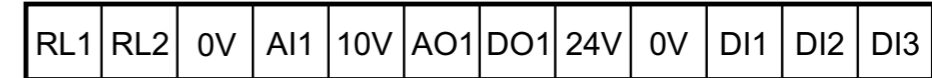
Soak test

Module assembly

Drying

Control Terminal And Cabling

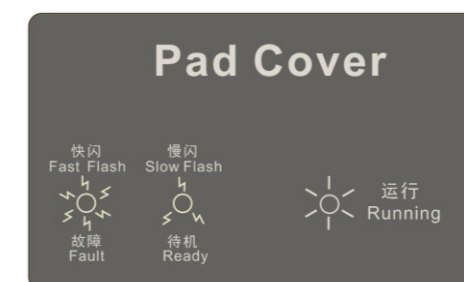
Control Terminal Diagram






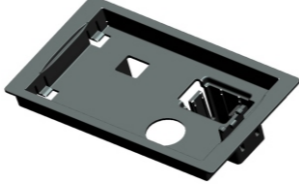


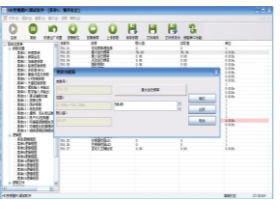
Control Terminal And Comms. Port

Type	Terminal name	Function	Technical specification
Serial Comms.	RS485	RJ45 port	Two lines, Modbus RTU protocol
Digital input terminal	DI1~DI3	Programmable digital input terminals	The common can be 0V or 24V by setting P04.01 (default is 0V). Input resistance: 10kΩ High logic threshold: 10V±1V Sampling period: 1ms
Digital output terminal	DO1	Programmable digital output terminal 1	Output voltage: 24V, maximum output current: 50mA Update rate: 20ms
Analogue input and output terminals	AI1	Programmable analogue input 1	0V to 10V, input resistance: 100kΩ 0 (4) mA to 20mA, load resistance: 188Ω Minimum potentiometer resistance: 0.5kΩ Resolution: 0.1%, Accuracy: 2% Sampling period: 5ms
	AO1	Programmable analogue output 1	0V to 10V, maximum output current: 5mA Resolution: 0.4% Accuracy: ±5% Update rate: 5ms
Rail supply and relay	10V	Analogue reference rail	Accuracy: 2%, maximum output current: 20mA
	24V	User supply	Accuracy: ±15%, maximum output current: 100mA
	0V	Common	Common connection for all external devices
	RL1, RL2	Programmable relay 1 output contactors	Contacting rating: 250VAC/2A (cos φ=1) 250VAC/1A (cos φ=0.4) 30VDC/1A Update rate: 5ms Default: closed when powered and healthy.

Display Panel



Options

			
LED keypad	Remote keypad	Profibus module (SELV)	Keypad pallet
			—
HDOM-232 (SELV)	HDOM-USB (SELV)	HDCOMMS (PCTools)	—

Quality Assurance & Reliability (CEUL Certification)

Meet the following standard requirements:

- IEC/EN 61800-5-1 **Adjustable speed electrical power drive systems** - Part 5-1: Safety requirements- Electrical, thermal and energy
 - IEC/EN 61800-3 **Adjustable speed electrical power drive systems** - Part 3: EMC requirements and specific test methods
 - UL 508C Power Conversion Equipment
 - GB/T 12668.2 **Adjustable speed electrical power drive systems** - part 2: General requirements- Rating specifications for low voltage adjustable frequency a.c. power drive systems
 - GB 12668.3 **Adjustable speed electrical power drive systems** - part 3: EMC product standard including specific test methods
 - IEC 60529 Degrees of protection provided by enclosures (IP Code)
- Meet C3 without external EMC filter.



Service Items

1. Global warranty service
2. Field maintenance or Carry-in Service
3. Convenient and fast spare parts localization supply services
4. 24 hours technical consulting hot-line service
5. The expert site technical support service
6. Industry system solutions support service
7. Professional technical training service



Service Net



Certificates



OHSMS Certificate



Environment Management System Certificate



Quality Management System Certificate



Quality Management System Certificate (HDIAC)