



# **ALL FOR AUTOMATION**

**HNC ELECTRIC LIMITED**



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# HSR-BR/JR SERIES ROBOT



Product model		HSR-BR604/606/609	HSR-BR610	HSR-BR616	HSR-BR5110	HSR-JR603	HSR-JR605	HSR-JH605	HSR-JM612	HSR-JR612	HSR-JR620L	HSR-JR630	HSR-JR650L/680	
Degree of freedom		6	6	6	5	6	6	6	6	6	6	6	6	
Payload		4 / 6 / 9kg	10kg	16kg	110kg	3kg	5kg	5kg	12kg	12kg	20kg	30kg	50 / 80kg	
Maximum moving radius		1402/1222/1042mm	1310mm	1599.6mm	2400mm	571.5mm	746mm	1441mm	1405mm	1555mm	1848mm	1701mm	2400 / 2200.4mm	
Repeat positioning accuracy		± 0.06 / ± 0.05mm	± 0.05mm	± 0.05mm	± 0.2mm	± 0.02mm	± 0.02mm	± 0.06mm	± 0.06mm	± 0.06mm	± 0.06mm	± 0.05mm	± 0.08 / ± 0.07mm	
Range of motion	J1	± 155°	± 155°	± 154°	± 180°	± 180°	± 200°	± 150°	± 170°	± 170°	± 160°	± 160°	± 180°	
	J2	-178° / -2°	-178° / -2°	-178° / -2°	-180° / +80°	-160° / +10°	-180° / 0°	-145° / +65°	-170° / +75°	-170° / +75°	-175° / +75°	-175° / +75°	-160° / 70°	
	J3	+141.5° / +398.5°	+120° / +420°	+103° / +437°	+20° / +330°	-25° / +235°	+80° / +240°	+35° / +265°	+40° / +265°	+40° / +265°	+40° / +265°	+40° / +265°	+10° / 265°	
	J4	± 90°	± 190°	± 360°	± 120°	± 180°	± 180°	± 120° ( ± 150° )	± 180°	± 180°	± 180°	± 180°	± 360°	
	J5	± 96.5°	± 150°	± 161°	± 360°	± 105°	± 115°	± 105°	± 125°	± 108°	± 125°	± 125°	± 110°	
	J6	± 360°	± 360°	± 360°	-	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°	
Rated speed	J1	240° /s, 4.18rad/s / 240° /s, 4.18rad/s / 222° /s, 3.87rad/s	204° /s, 3.56rad/s	157° /s, 2.73rad/s	85° /s, 1.48rad/s	262.5° /s, 4.58rad/s	222° /s, 3.87rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	99° /s, 1.73rad/s	99° /s, 1.73rad/s	85° /s, 1.48rad/s	
	J2	200° /s, 3.48rad/s / 200° /s, 3.48rad/s / 175° /s, 3.05rad/s	175° /s, 3.05rad/s	145° /s, 2.52rad/s	78° /s, 1.35rad/s	262.5° /s, 4.58rad/s	180° /s, 3.14rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	87° /s, 1.52rad/s	87° /s, 1.52rad/s	85° /s, 1.48rad/s	
	J3	240° /s, 4.18rad/s / 240° /s, 4.18rad/s / 198° /s, 3.45rad/s	240° /s, 4.19rad/s	178° /s, 3.10rad/s	70° /s, 1.22rad/s	262.5° /s, 4.58rad/s	225° /s, 3.93rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	148° /s, 2.58rad/s	144° /s, 2.51rad/s	144° /s, 2.51rad/s	104° /s, 1.81rad/s	
	J4	300° /s, 5.23rad/s / 300° /s, 5.23rad/s / 225° /s, 3.92rad/s	314° /s, 5.48rad/s	221° /s, 3.85rad/s	187.5° /s, 3.27rad/s	262.5° /s, 4.58rad/s	235° /s, 4.1rad/s	225° /s, 3.93rad/s	360° /s, 6.28rad/s	360° /s, 6.28rad/s	180° /s, 3.14rad/s	180° /s, 3.14rad/s	177° /s, 3.08rad/s	
	J5	300° /s, 5.23rad/s / 300° /s, 5.23rad/s / 225° /s, 3.92rad/s	240° /s, 4.19rad/s	180° /s, 3.14rad/s	225° /s, 3.93rad/s	262.5° /s, 4.58rad/s	222° /s, 3.87rad/s	225° /s, 3.93rad/s	180° /s, 3.93rad/s	225° /s, 3.93rad/s	180° /s, 3.14rad/s	180° /s, 3.14rad/s	155° /s, 2.7rad/s	
	J6	480° /s, 8.37rad/s / 480° /s, 8.37rad/s / 360° /s, 6.28rad/s	480° /s, 8.38rad/s	360° /s, 6.28rad/s	-	420° /s, 7.33rad/s	360° /s, 6.28rad/s	225° /s, 3.93rad/s	360° /s, 6.28rad/s	360° /s, 6.28rad/s	225° /s, 3.92rad/s	225° /s, 3.92rad/s	187° /s, 3.26rad/s	
Maximum speed	J1	300° /s, 5.23rad/s	240° /s, 4.19rad/s	236° /s, 4.12rad/s	128° /s, 2.23rad/s	375° /s, 6.54rad/s	370° /s, 6.45rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	148° /s, 2.59rad/s	148° /s, 2.59rad/s	127.5° /s, 2.22rad/s	
	J2	250° /s, 4.36rad/s	250° /s, 4.36rad/s	217° /s, 3.78rad/s	116° /s, 2.03rad/s	375° /s, 6.54rad/s	300° /s, 5.23rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	109° /s, 1.9rad/s	109° /s, 1.9rad/s	127.5° /s, 2.22rad/s	
	J3	360° /s, 6.28rad/s	300° /s, 5.23rad/s	357° /s, 6.23rad/s	105° /s, 1.84rad/s	375° /s, 6.54rad/s	375° /s, 6.54rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	198.35° /s, 3.44rad/s	172° /s, 3.01rad/s	172° /s, 3.01rad/s	104° /s, 1.81rad/s	
	J4	450° /s, 7.85rad/s	392° /s, 6.84rad/s	443° /s, 7.72rad/s	225° /s, 3.93rad/s	375° /s, 6.54rad/s	391.6° /s, 6.83rad/s	450° /s, 7.86rad/s	600° /s, 10.47rad/s	600° /s, 10.47rad/s	300° /s, 5.23rad/s	300° /s, 5.23rad/s	177° /s, 3.08rad/s	
	J5	375° /s, 6.54rad/s	300° /s, 5.23rad/s	360° /s, 6.28rad/s	300° /s, 5.23rad/s	375° /s, 6.54rad/s	370° /s, 6.45rad/s	450° /s, 7.86rad/s	300° /s, 6.54rad/s	375° /s, 6.54rad/s	300° /s, 5.23rad/s	300° /s, 5.23rad/s	155° /s, 2.7rad/s	
	J6	600° /s, 10.46rad/s	600° /s, 10.46rad/s	720° /s, 12.56rad/s	-	600° /s, 10.46rad/s	600° /s, 10.46rad/s	450° /s, 7.86rad/s	600° /s, 10.47rad/s	600° /s, 10.47rad/s	375° /s, 6.54rad/s	375° /s, 6.54rad/s	187° /s, 3.26rad/s	
Allowable moment of inertia	J6	0.15kgm <sup>2</sup>	0.15kgm <sup>2</sup>	0.15kgm <sup>2</sup>	-	0.05kgm <sup>2</sup>	0.1kgm <sup>2</sup>	0.035kgm <sup>2</sup>	0.17kgm <sup>2</sup>	0.17kgm <sup>2</sup>	0.8kgm <sup>2</sup>	0.8kgm <sup>2</sup>	25kgm <sup>2</sup>	
	J5	0.23kgm <sup>2</sup>	0.42kgm <sup>2</sup>	0.85kgm <sup>2</sup>	11.31kgm <sup>2</sup>	0.05kgm <sup>2</sup>	0.36kgm <sup>2</sup>	0.3kgm <sup>2</sup>	1.2kgm <sup>2</sup>	1.2kgm <sup>2</sup>	3.3kgm <sup>2</sup>	3.3kgm <sup>2</sup>	32.7kgm <sup>2</sup>	
	J4	0.42kgm <sup>2</sup>	0.42kgm <sup>2</sup>	0.99kgm <sup>2</sup>	45.77kgm <sup>2</sup>	0.05kgm <sup>2</sup>	0.5kgm <sup>2</sup>	0.3kgm <sup>2</sup>	1.2kgm <sup>2</sup>	1.2kgm <sup>2</sup>	8.7kgm <sup>2</sup>	8.7kgm <sup>2</sup>	32.7kgm <sup>2</sup>	
Allowable torque	J6	12.7Nm	12.7Nm	12.7Nm	-	6.4Nm	8Nm	15Nm	15Nm	15Nm	30.7Nm	30.7Nm	330Nm	
	J5	16.5Nm	20.4Nm	28.0Nm	327.89Nm	6.4Nm	16Nm	35Nm	35Nm	35Nm	73.4Nm	73.4Nm	340Nm	
	J4	20.4Nm	20.4Nm	34.0Nm	707.92Nm	12.7Nm	18Nm	35Nm	35Nm	35Nm	140.4Nm	140.4Nm	400Nm	
Applicable environment	Temperature	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 40° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	0° C ~ 45° C	
	Humidity	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	20% ~ 80%	
Teacher cable length		8m	8m	8m	8m	8m	8m	8m	8m	8m	8m	8m	8m	
Body-cabinet connection line length		3m	3m	3m	8m	3m	3m	5m	6m	6m	6m	6m	8m	
I/O parameters		Digital quantity: 32 input, 31 output			Digital quantity: 32 input, 32 output		Digital quantity: 32 input, 32 output		Digital quantity: 32 input, 31 output					
Battery capacity		2.6kVA	3kVA	4.3kVA	17kVA	0.8kVA	1.5kVA	2.5kVA	3.8kVA	3.8kVA	5.6kVA	5.6kVA	7.5kVA	
Rated power / voltage / current		2.1kW / 220V / 11.3A	2.4kW / 220V / 13A	3.2kW / 220V / 17.1A	14kW / 380V / 20.77A	0.6kW / 220V / 3.2A	1.2kW / 220V / 6.5A	2kW / Single 220V / 10.8A	3kW / 380V / 5.4A	3kW / 380V / 5.4A	4.5kW / 380V / 8.1A	4.5kW / 380V / 8.1A	6kW / 380V / 10.8A	
Protection level		IP54	IP54, The front of the arm IP67	IP67	IP50	IP54	IP54	IP54	IP54 / IP65(wrist)	IP54 / IP65(wrist)	IP54	IP54	IP54 / IP65(wrist)	
Installation method		Ground/upside down/side mount/Install in any direction			Ground mounts		Ground/upside down/side mount/Install in any direction		Ground/Side mount/Inverted installation		Ground/Side mount/Inverted installation		Ground/Inverted installation	
Body weight		52 / 50 / 48kg	61kg	128kg	980kg	27kg	55kg	196kg	217kg	196kg	305kg	305kg	720kg	

Product	Matched machine tool	Basic parameter	Features	Smart function
 <p>■ HNC-808 series</p>	<p>Matched machine tool</p>  <p>CNC lathe, machining center</p>	<p>2-4 axis control 10.4" color LCD screen</p>	<ul style="list-style-type: none"> <li>• Supporting NCUC, EtherCAT bus protocol</li> <li>• Supporting 16,000,000PPR high-precision encoder</li> <li>• Supporting high-speed asynchronous motor\permanent magnet synchronous spindle motor</li> <li>• 8000rpm high-speed rigid tapping (permanent magnet synchronous spindle motor)</li> <li>• Supporting bidirectional 20000 points pitch error compensation (optional)</li> <li>• Customization (optional)</li> <li>• Supporting TCP\IP, Ethernet communication protocols</li> </ul>	<ul style="list-style-type: none"> <li>• Big data of CNC machine tool</li> <li>• Broken tool inspection</li> <li>• Machine health protection</li> <li>• Technological process optimization</li> <li>• Mobile terminal NC</li> <li>• Cloud service</li> <li>• Temperature compensation</li> </ul>
 <p>■ HNC-818 series</p>	<p>Turning center, high speed machiningcenter, lathe mill combo, gantry machiningcenter, grinder, horizontal machining center, glass cutting machine, high gloss machine</p> 	<p>2-32 axis control (optional) 2-channel (optional) 8.4" , 12.1" color LCD screen</p>	<ul style="list-style-type: none"> <li>• High-speed high-precision control</li> <li>• Max. acceleration rate is 1.8G (3G when linear motor is mounted)</li> <li>• Dual channel control (optional)</li> <li>• Dual-axis synchronization control</li> <li>• Full-closed loop control (optical grating, magnetic grating)</li> <li>• Supporting bidirectional 20000 points pitch error compensation</li> <li>• Auto measurement</li> <li>• Supporting a variety of sensor interfaces</li> <li>• Machine assembly quality analysis software (optional)</li> <li>• Customization</li> <li>• Touch screen (optional)</li> </ul>	
 <p>■ HNC-848 series</p>	<p>Five-axis machine, heavy-duty machine, lathe mill</p> 	<p>5-32 axis control; 17" color LCD screen</p>	<ul style="list-style-type: none"> <li>• Large circular interpolation</li> <li>• Hyperbolic interpolation</li> <li>• 5-axis orientation machining</li> <li>• Synchronization control</li> <li>• Errorcompensation</li> <li>• Directdrive</li> <li>• Intelligent control</li> <li>• Lathe-mill combination</li> <li>• Multi-channel control</li> <li>• Seamless integration of CAM software</li> <li>• Touch screen</li> <li>• Backlash elimination for multiple motors</li> </ul>	

Full range of models, more stable performance

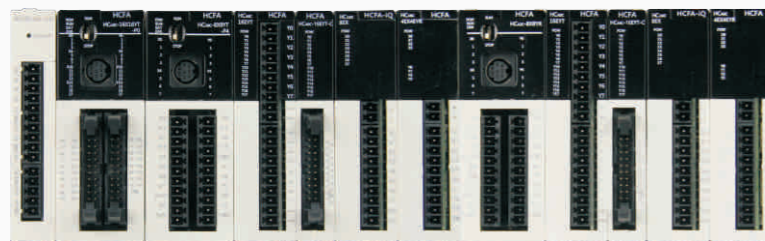
Advanced processing speed, greater memory capacity

Powerful functions, such as Logic, Analog, Communication and Positioning



PLC New Product

	A1P	A2P / A2C	A8P / A8C
Control points	30	128	256
Command speed	0.5/3.7us	0.5/3.7us	0.05/0.6us
BUS speed	None	2byte/ms	20byte/ms
Control axis	2 axes	2+32 axes	4+32+32 axes
Motion control	Not provided	Not provided	Provided
ETHERCAT	Not provided	Not provided	Provided
IEC61131-3	Not provided	Not provided	Not provided



Extension Devices

Conversion blocks	Left-side extension blocks		Right-side extension blocks				
● Conversion blocks	● Communication blocks	● Temperature input	● Analog blocks	● Special extension blocks	● Input extension blocks	● Output extension blocks	● I/O extension blocks
HCABC-CNVTX2N needed for HCAB /TX2N series blocks	HCABC-C24-ADP	HCABC-4PT-4DP HCABC-4PNK-ADP	HCABC-4AD-ADP HCABC-4DA-ADP HCABC-3A-ADP	HCABC-4AD HCABC-4DA HCABC-4PT HCABC-4TC HCABC-4WK HCABC-2HC	HCABC-8EX HCABC-16EX HCABC-16EX-C	HCABC-8EYR HCABC-8EYT HCABC-8EYT-C HCABC-16EYR HCABC-16EYT HCABC-16EYT-C	HCABC-8EX8EYR HCABC-8EX8EYT HCABC-4EX4EYR HCABC-4EX4EYT HCABC-8EX8EYT-C

Performance

ARM A83352, Higher performance, 50% improved compared to last generation products

Easy-to-use

New configuration software-HCT Designer, make the operation easier



TP2507

TP2000

Meet your needs in more applications

All-new, more elegant product appearance, more stable performance, more functions to meet customers' requirements in different applications.

Ethernet

communication port, USB and SD card supported



TP2504

Size

Full range of sizes, exquisite appearance and easy to install



TP2510

## HV480

- HV 480
- High performance sensorless vector control VFD
- 220V ~ 460V / 0.4kw ~ 200kw
- PC software / CanOpen, Profibus, EtherNet, DeviceNet/ Longlife design / Multi-EMC-Solution

## HV500P

- Solar pump VFD solution up to 315kw
- 220V & 400V output.
- On-line & Off-line solution.
- Suitable for all application that is with no stable power such as agricultural irrigation.

## HV390

- MINI Design VFD up to 5.5kw for microautomation.
- 220V ~ 400V / 0.4kw ~ 5.5kw
- Vector control / MODBUS

## HMV1000

- High performance medium voltage drive.
- 3.3kV to 13KV / 500kw to 25MW
- Two quadrant & Four quadrant solution.
- Multi-Level / Three-Level solution

## HV380S

- Single phase output VFD up to 4kw.
- Suitable for all 220V single phase motor

## HMS

- Medium Voltage Soft Starter.
- 3.3KV ~ 10KV, up to 10MW.
- Customizable panel

## HV610

- High performance close loop vector control VFD
- 220V ~ 460V / 0.4kw ~ 630kw
- PC software / CanOpen, Profibus, EtherNet, DeviceNet/ Longlife design / Multi-EMC-Solution
- Multi encoder feedback / Synchronous motor control

## HHS

- 220V ~ 400V on-line soft starter, up to 400kW.





■ HV180AD

■ GEARBOX

■ HMS220

■ HSD3

■ HMS380

■ HSD2

■ HV180AS

## HSD3

- High performance servo with 23bit absolute encoder and multi communication control.
- EtherCat / Can-Open / Mod-bus / MECHATROLINK
- 220V and 400V model, 200W to 15kW
- Widley used in Motion Control / CNC / Robot

## HSD2

- General servo proposal with 2500ppr encoder feedback.
- High stability with low failure rate.
- Single-phase or three-phase 220V power supply, up to 5.5kw.
- Customizable motor type

## HV180AD/AS

- High power Servo solution, 400V up to 45kW
- Widely used in huge machines.
- Special type for CNC Spindle servo motor proposal

## GEARBOX

- Gearbox
- High precision Planetary gear.
- International standard flange interface.
- 40mm to 160mm flange.
- 3:1 to 200:1 gear ratio option.
- Customizable input and output

## HSM 220

- Permanent magnet synchronous servo motor.
- 0.6Nm to 48Nm with 3-phase 220V power supply
- 2500PPR/17bit/23bit encoder/ resolver are available to adapt different applications
- High response and accuracy
- Low noise & low temperature rise
- Various frame installation size
- Full-closed design in Ip65
- Flexible customization is available

## HSM 380

- Permanent magnet synchronous servo motor.
- 15Nm to 2500Nm with 3-phase 380V power supply.
- Compact size, high speed & high torque with high dynamic response feature
- 2500PPR/17bit/23bit encoder/ resolver are available to adapt different applications
- Low noise & low temperature rise
- High reliability makes less maintenance work
- Flexible customization is available

## GM 7

- AC Asynchronous spindle servo motor, 2.2kw to 75kw with 3-phase 380V power supply.
- Could be used on both open-loop and closed-loop system.
- Compact design, smaller body, lighter weight, high energy density
- Special design for electronics-magnet vibration, low noise, high rotation resolution, enough constant speed range and constant power range
- Low inertia high response
- Even air-gap, high balancing resolution, low torque wave
- Full sealed design, Protection Class : Ip54

## ▼ Rotary Encoder



## ▼ Proximity/Photoelectric Sensor



## ▼ Area Sensor



**HNC ELECTRIC LIMITED** is a company dedicated to the development and production of intelligent industrial automation solutions based on national strategic needs. Supported by its outstanding electrical and electronic technology and strong control technology, it provides control, display, drive and system solutions and other related products and services to customers worldwide. With 25 years of hard work, we have developed and produced professional CNC systems, industrial robots, servo drives, servo motors, reducers, inverters, PLCs, HMIs, etc. In more than 50 countries and regions around the world, we have established a comprehensive agent system and after-sales service system. In the future, we will, as always, provide more professional services for global industrial automation.