

## R-SERIES

### MULTI-AXIS INDUSTRIAL ROBOTS



### COMPACT MULTI-AXIS INDUSTRIAL ROBOTS FOR COMPLEX PROCESSING TASKS

Reduce  
Manufacturing Costs

Improve  
Production Time

Increase  
Throughput

Engineering  
Support Available

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# Automation Solutions

## HIGH-SPEED ARTICULATED ROBOT

- Multiple installation configurations (floor, ceiling, and walls) - base stand available
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all 6 axes
- IP32 – IP65 and Clean Room Class 2 – ISO14644 Available



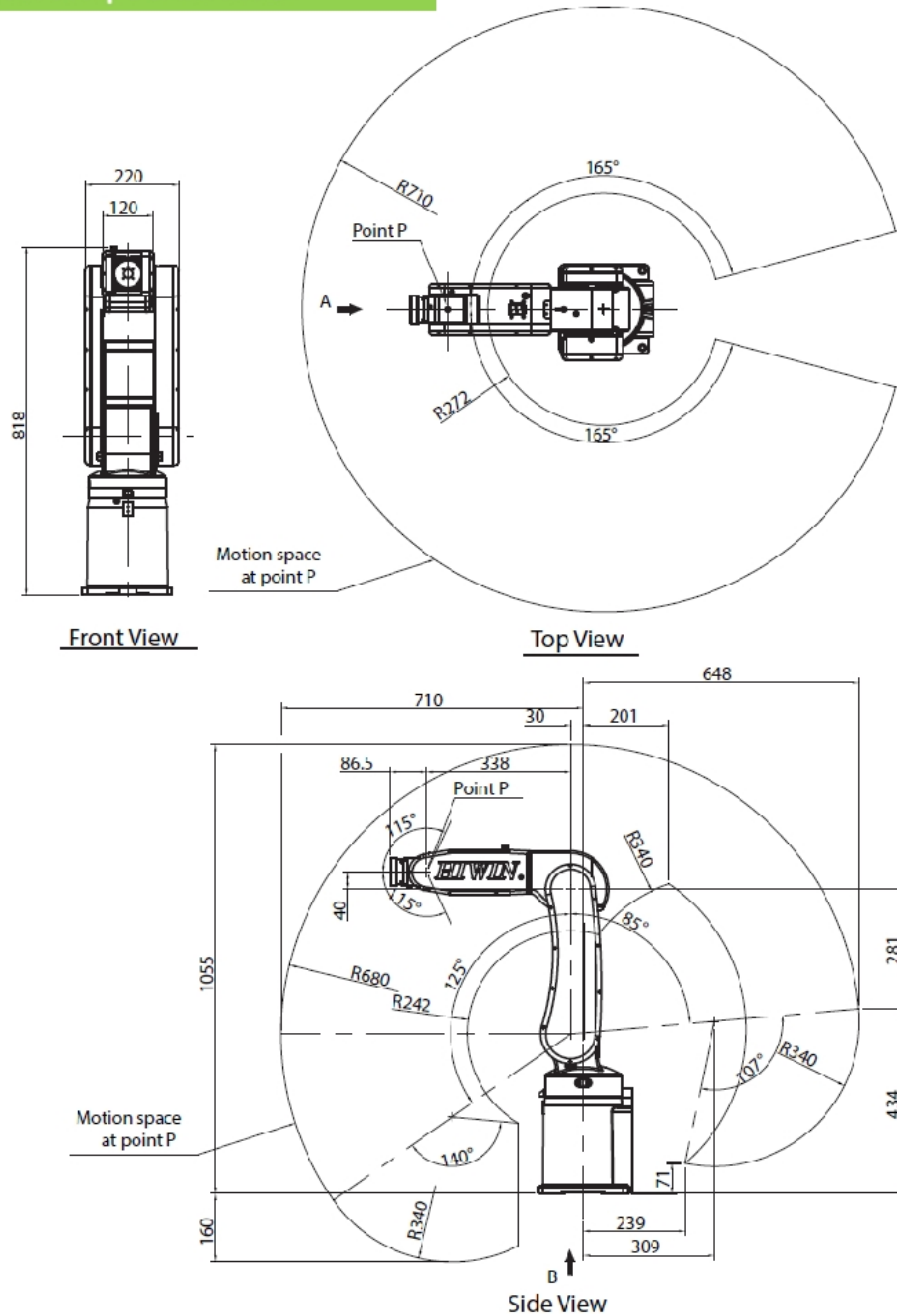
## RA-605

PICK AND PLACE | ASSEMBLY | LIGHT MACHINING | INSPECTION | SCANNING

### RA-605 SPECIFICATIONS

Model	Units	RA605-710
Degrees of Freedom		6
Nominal Load Capacity	kg	5
Maximum Reach Radius	mm	710
Operating Range	J1	-165 ~ +165
	J2	-125 ~ +85
	J3	-55 ~ +185
	J4	-190 ~ +190
	J5	-115 ~ +115
	J6	-360 ~ +360
Maximum Speed	J1	375
	J2	300
	J3	375
	J4	370
	J5	375
	J6	600
Standard Cycle Time*	sec	0.50
Position Repeatability	mm	±0.02
Allowable Load Moment at Wrist	J4	8.46
	J5	8.46
	J6	5.60
Allowable Load Inertia at Wrist	J4	0.35
	J5	0.35
	J6	0.14
Electric Wrist Line		6 Inputs & 4 Outputs
Pneumatic Wrist Line		3 Inputs & 3 Outputs
Controller		RCA605
Weight	kg	40

\*Movement Profile is 25-300-25 with 1kg load



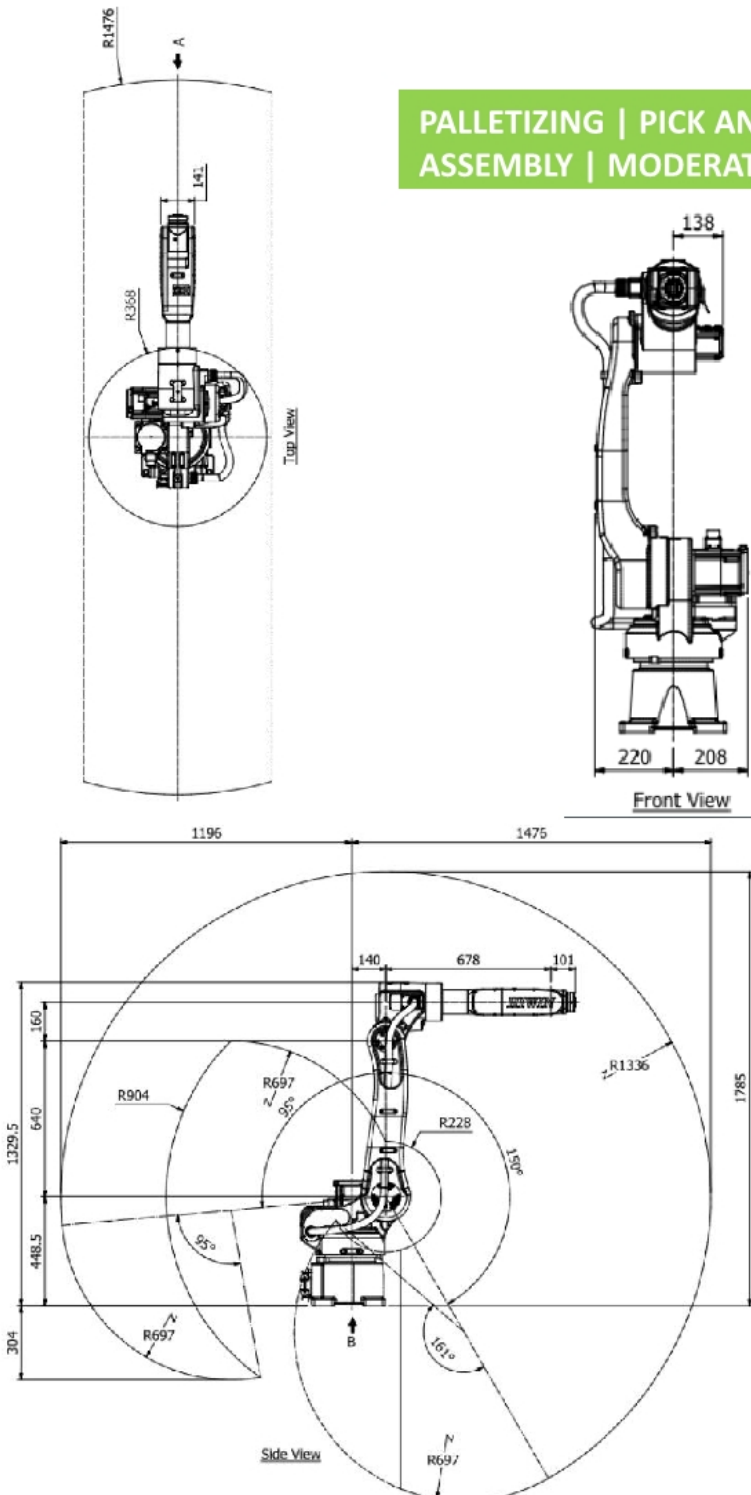
## MEDIUM PAYLOAD ARTICULATED ROBOT

- Multiple installation configurations (floor, ceiling, and walls)
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all axes
- Wrist (J5-J6): IP65 -- Arm (J1-J4): IP54



## RA-610

PALLETIZING | PICK AND PLACE | LARGE ASSEMBLY | MODERATE MACHINING | SCANNING



### RA-610 SPECIFICATIONS

Model	Units	RA610-1476
Degrees of Freedom		6
Nominal Load Capacity	kg	10
Maximum Reach Radius	mm	1476
Operating Range	J1	-170 ~ +170
	J2	-150 ~ +95
	J3	-85 ~ +185
	J4	-190 ~ +190
	J5	-135 ~ +135
	J6	-360 ~ +360
Maximum Speed	J1	192
	J2	206
	J3	219
	J4	450
	J5	450
	J6	720
Standard Cycle Time*	sec	1.00
Position Repeatability	mm	±0.05
Allowable Load Moment at Wrist	J4	16.9
	J5	16.9
	J6	11.0
Allowable Load Inertia at Wrist	J4	1.07
	J5	1.07
	J6	0.49
Electric Wrist Line		6 Inputs & 4 Outputs
Pneumatic Wrist Line		3 Inputs & 3 Outputs
Controller		RCA610-GB
Weight	kg	147

\* Movement Profile is 25-300-25 with 10kg load

# Automation Solutions

## MEDIUM PAYLOAD ARTICULATED ROBOT

- Multiple installation configurations (floor, ceiling, and walls)
- Multiple electric and pneumatic ports w/solenoids
- Motors w/ Brakes and Absolute Encoders on all axes
- Wrist (J5-J6): IP65 -- Arm (J1-J4): IP54



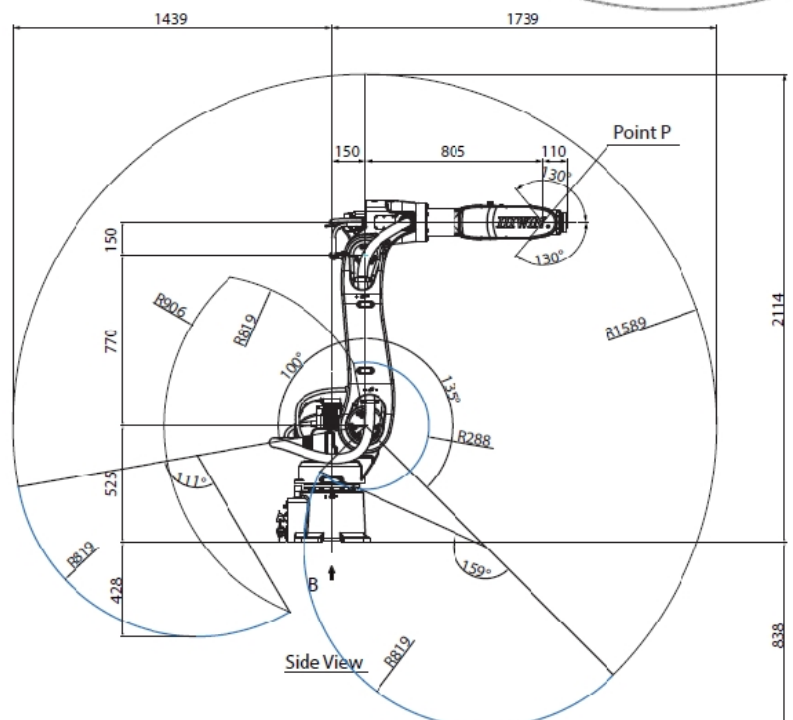
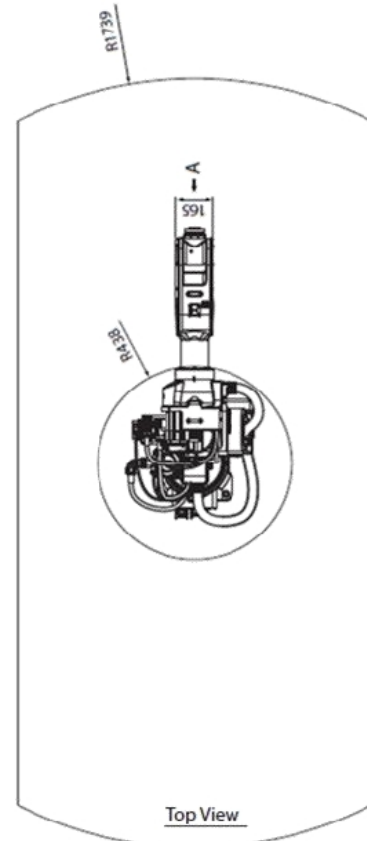
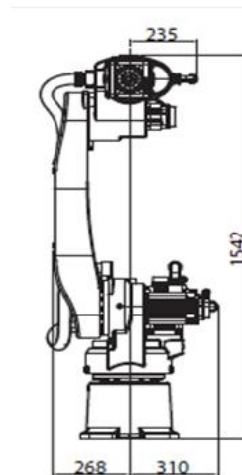
## RA-620

PALLETIZING | PICK AND PLACE | LARGE ASSEMBLY | MODERATE MACHINING | SCANNING

### RA-620 SPECIFICATIONS

Model	Units	RA620-1740
Degrees of Freedom		6
Nominal Load Capacity	kg	20
Maximum Reach Radius	mm	1739
Operating Range	J1	-180 ~ +180
	J2	-135 ~ +100
	J3	-80 ~ +190
	J4	-200 ~ +200
	J5	-130 ~ +130
	J6	-360 ~ +360
Maximum Speed	J1	204
	J2	186
	J3	182
	J4	360
	J5	420
	J6	720
Standard Cycle Time*	sec	0.80
Position Repeatability	mm	±0.06
Allowable Load Moment at Wrist	J4	34.2
	J5	34.2
	J6	22.3
Allowable Load Inertia at Wrist	J4	1.35
	J5	1.35
	J6	0.60
Electric Wrist Line		6 Inputs & 4 Outputs
Pneumatic Wrist Line		3 Inputs & 3 Outputs
Controller		RCA620-GB
Weight	kg	240

\* Movement Profile is 25-300-25 with 20kg load





## ULTRA HIGH-SPEED/ACCURACY DELTA ROBOT

- Top mounted installation
- Multiple electric and pneumatic ports w/ solenoids
- Motors w/ Brakes and Absolute Encoders on all axes
- IP Protection: IP40



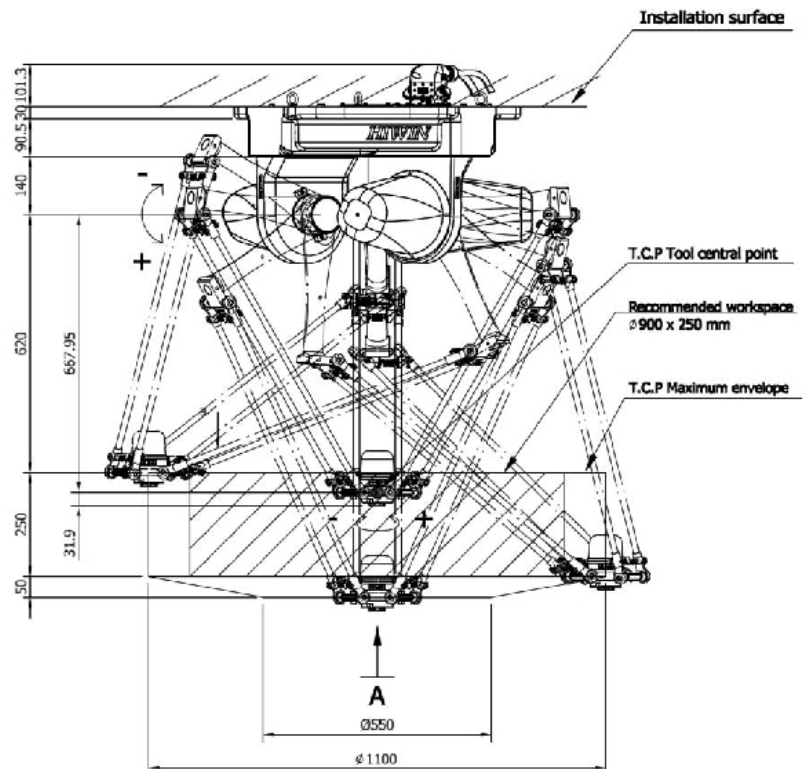
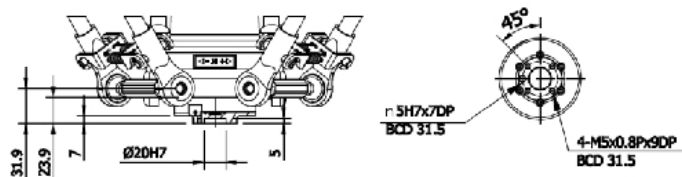
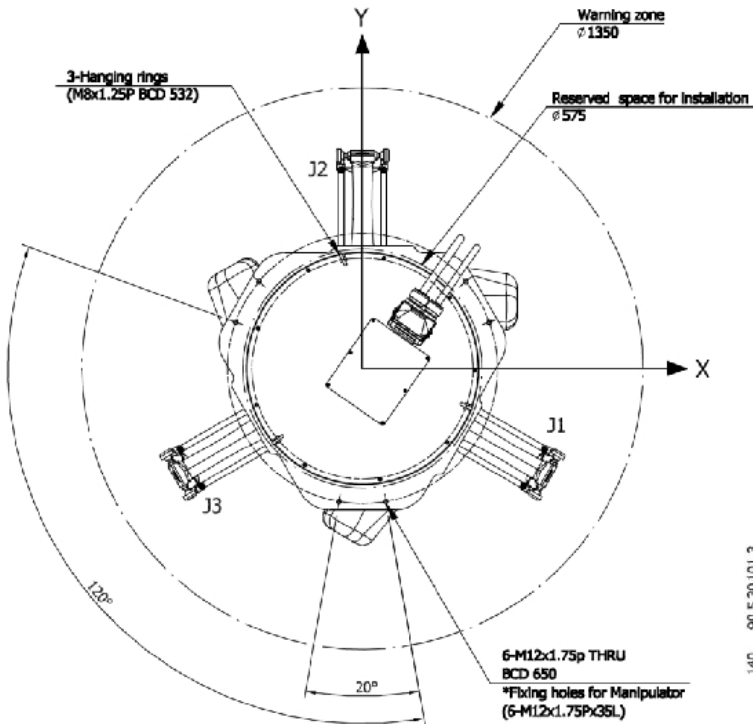
# RD403

PICK AND PLACE | PACKAGING | ASSEMBLY

## RD403 SPECIFICATIONS

Model	Units	RD403-1100-GB
Degrees of Freedom		4
Nominal Load Capacity	kg	3
Motion Range	Horizontal Stroke	1100
	Vertical Stroke	300
Standard Cycle Time*	sec	0.3 - 0.4 (w/3kg)
Position Repeatability	mm	±0.1
IP Rating		40
Controller		RCD403-GB
Weight	kg	95

\* Movement Profile is 25-300-25 with 0.1kg load



# Automation Solutions

## ERGONOMIC LARGE SCREEN TEACHING PENDANT

- Jog directions (forward, backward, left right) based on operator position relative to robot
- Integrated emergency stop to immediately cut power
- 3 position Dead-Man switch protects users and equipment while teaching

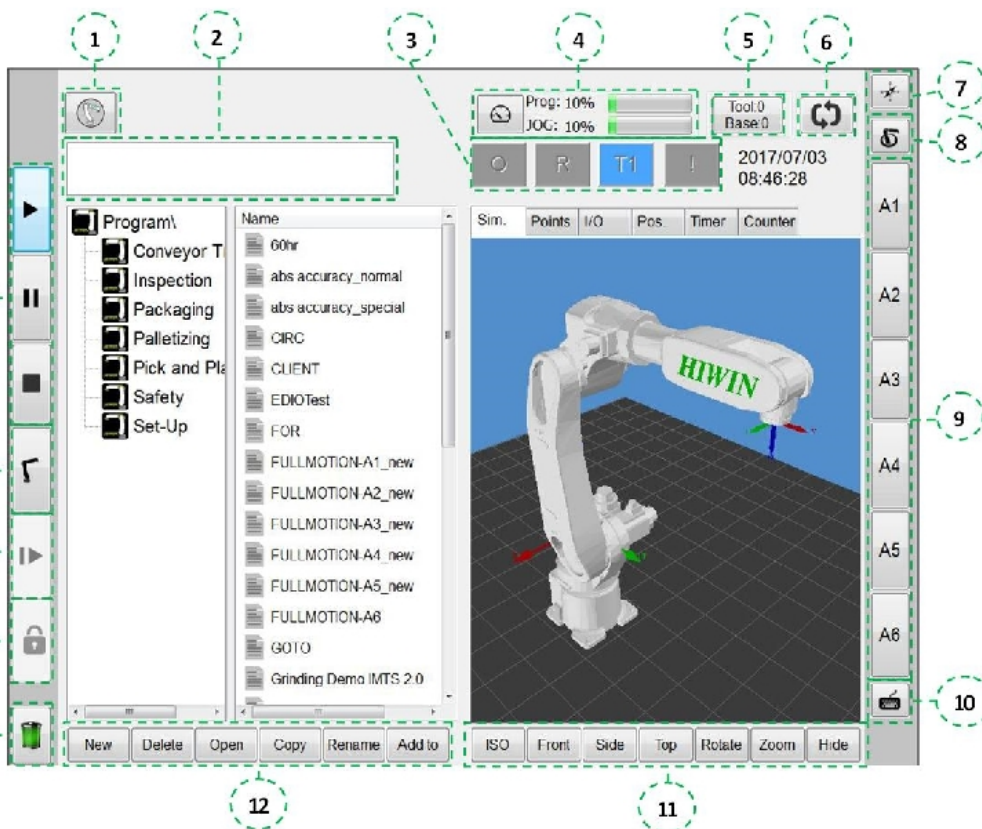


## TEACH PENDANT

ERGONOMIC | INTEGRATED SAFETY FEATURES



1. Key with three positions: Lock, Auto, and Manual
2. Emergency Stop
3. Axis Jog Buttons
4. Velocity Adjustment
5. Perspective Jog Buttons
6. 3 Position Dead-Man Switch



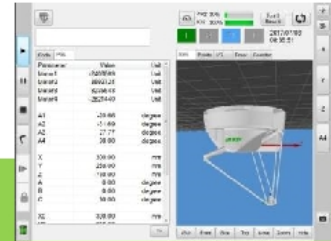
1. Main Menu
2. Error Information Window
3. Status Bar
4. Program and Jogging Speed
5. Current Tool and Base
6. Step Motion
7. Teach Pendant Configuration
8. Coordinate Select
9. Axis Run Buttons
10. On Screen Keyboard
11. Simulation View Adjustment
12. Status Buttons
13. Battery
14. Lock Button
15. Next Step Motion Button
16. Home Button
17. Run Control Buttons

## SIMPLE, INTUITIVE PROGRAMING LANGUAGE

- Joint, Cartesian or Tool Jogging
- Linear, Circular or PTP movements with integrated path blending
- Offline version available for program verification and simulation
- Built-in conveyor tracking

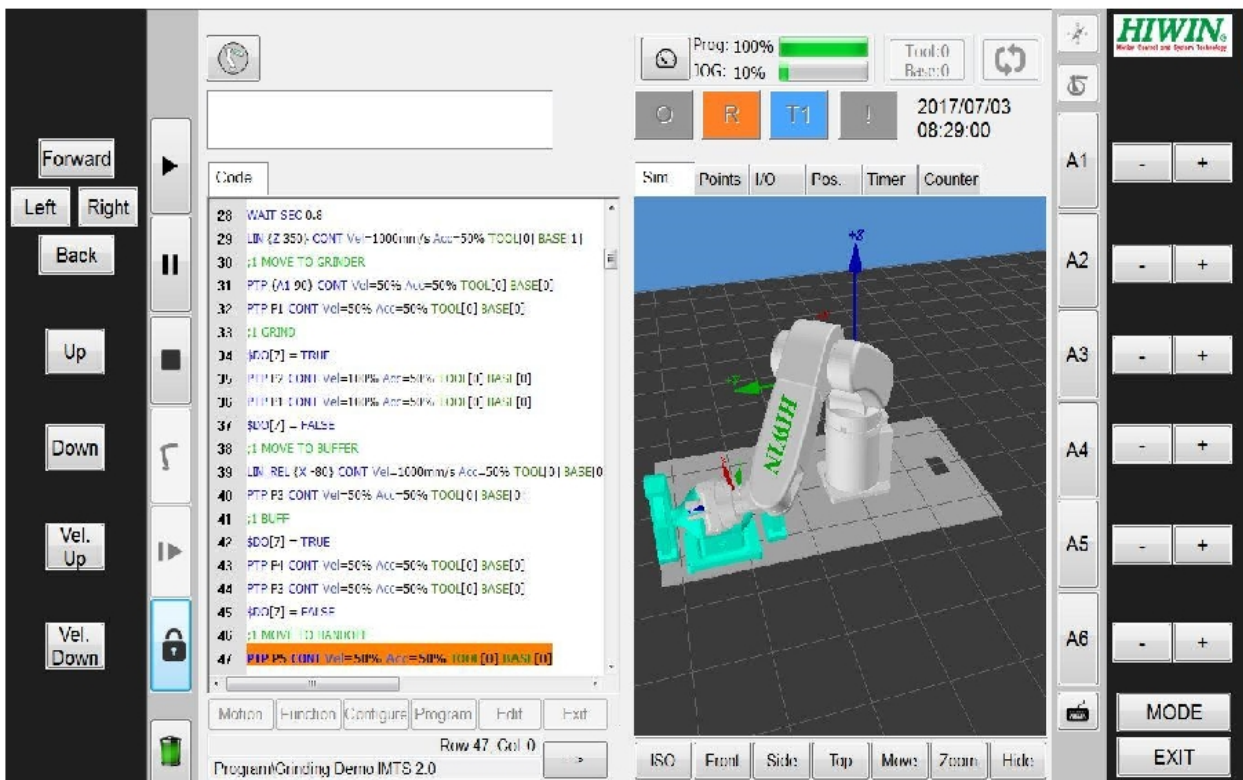
# HRSS SOFTWARE

HIWIN ROBOT SYSTEM SOFTWARE



## SOFTWARE FEATURES

- Jogging with joint, Cartesian coordinates, or tool coordinates
- Input or measure multiple tool and base coordinate systems
- Linear, circular or point-to-point (PTP) motion
- Motion planning and blending options for faster cycle times
- Accurately predict speed and movement by inputting payload, 3D models of tools and surrounding parts
- Safety features can be programmed into software through digital inputs
- Simultaneously view I/O's, points, positions, program, and/or simulation
- Easily program logic functions (If, While, Wait, For, GOTO, etc.) with the press of a button
- Offline PC programming available





# Automation Solutions

## HIWIN MULTI-AXIS CONTROLLER

- Digital, Function, Safety and Robot integrated I/O's
- USB, Serial/RS232, and Ethernet communication
- Easily integrates with light curtains and other safety devices

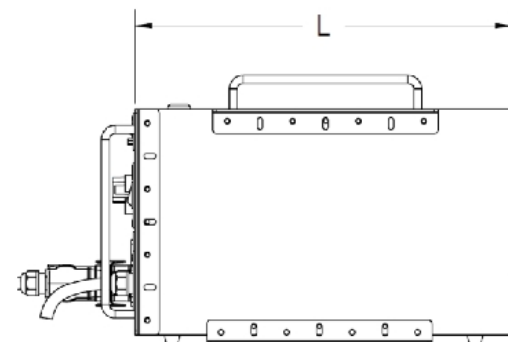
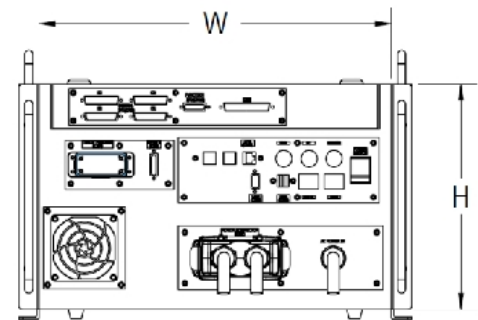


# CONTROLLER

## 4 AND 6 AXIS ROBOT CONTROLLER

### CONTROLLER SPECIFICATIONS

Model		Units	RCA605	RCA610-GB	RCA620-GB	RCD403-GB
Control Axis			6			4
Control Mode			PTP (Point-to-Point) CP (Continuous Path)			
Control System			AC Servo Control			
Language			HRSS			
Memory Capacity	Fixed Point		1,000	5,000		
	Step No		1,000	10,000		
Instruction			Remote, MDI			
Comm Interface	RS232		1			
	Ethernet		1	2	1	
	USB		2		1	2
External I/O	Digital I/O		Input: 24 (48 Max) Output: 24 (48 Max)		Input: 16 (32 Max) Output: 16 (32 Max)	
	Robot I/O (Body)		Input: 6 (8 Max) Output: 4 (8 Max)			
	Safety I/O		Input: 1 Output: 1			
	Function I/O		Input: 8 Output: 8			
Power	Input Power	VAC	Single-phase 200-240	Three-phase 200-240		Single-phase 200-240
	Power Cap	KVA	3.3	3.1	3.5	4.4
	Power Freq	Hz	50/60			
	Voltage Drop	msec	≤10			
	Current Out	A	15	10	20	20
Dimensions	mm <sup>3</sup>	430W X 460L X 275H	530W X 555L X 2290H	550W X 530L X 872H	430W X 460L X 275H	
Weight	kg	30	48	80	34	
IP Grade		20	20	54	20	
Workplace Temp Range	°C	0-40				
Relative Humidity	%RH	45-85				
Grounding	Ω	<100				





# ACCESSORIES

## 2 FINGER, PARALLEL ELECTRONIC GRIPPER

- Adjustable gripping force, position, velocity
- Easily grip deformable parts, rubber, glass, etc. w/o damage
- Compact size with high speed, accuracy and stiffness

## XEG SERIES GRIPPERS

ELECTRONIC GRIPPER w/ EXTERNAL CONTROLLER



### GRIPPER SPECIFICATIONS

Model		Units	XEG-16	XEG-32	XEG-64
Full Stroke		mm	16	32	64
Gripping Force		N	25~50	60~150	180~450
Max Gripping Weight		kg	0.5	1.5	4.5
Repeatability		mm	±0.01		
Speed	Motion	mm/s	1~60	1~80	1~100
	Gripping		1~20	1~20	1~20
Weight		kg	0.4	0.7	1.9



XEG-16



XEG-32



XEG-64

### DRIVER SPECIFICATIONS

Model		Units	XEG-C1
Number of Points			30 points + original
External I/O	Input		5 points: command point setting 1 point: command input
	Output		6 points: control output
Serial Communication			USB
Power Supply		V	DC24V±10%
Total Current		A	3A MAX
Weight		kg	0.15



Driver XEG-C1

HIWIN CAN PROVIDE COMPLETE INDUSTRIAL ROBOT SOLUTIONS WITH ROBOT, CONTROLLER, GRIPPERS, TRANSFER UNIT, ADAPTER PLATE AND/OR BASE.

- CONTACT US FOR DETAILS -

# Automation Solutions

## 2 AND 3 FINGER ELECTRONIC GRIPPERS

- Integrated controller – Plug and Play
- Programming software not required
- Grip deformable parts, rubber, glass, etc. w/o damage
- Compact size with high speed, accuracy and stiffness
- High efficiency clamping

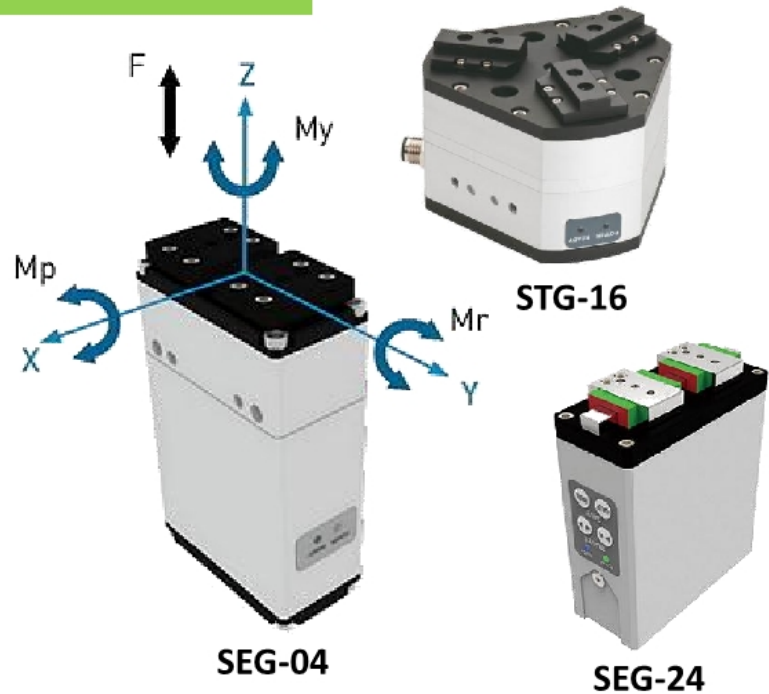


## SEG SERIES GRIPPERS

ELECTRONIC GRIPPER w/ INTEGRATED CONTROLLER

### GRIPPER SPECIFICATIONS

Model		Unit	SEG-04	SEG-24	STG-16
Fingers			2	2	3
Performance Specifications	Stroke Per Finger	mm	2	12	8
	Gripping Force	N	8	35	30
	Gripping Speed	mm/s	45	15 (60)	30
	Repeatability	mm		±0.1	
Power Specifications	Input Voltage	V	24±10%		
	Current	A	Max 1		
Load Specifications	Mr	N-m	2.6	11.76	1
	Mp	N-m	2.3	7.35	4.5
	My	N-m	2.3	7.35	4.5
	F	N	108.9	254.8	196
Hardware Specifications	Weight	kg	0.2	0.7	
	Length	mm	81	105.5	72.3
	Width	mm	49	88	100
	Height	mm	25	38	100



## RJ-30 ROTARY JOINTS

### SPECIFICATIONS

Model	Units	ERJ30	PRJ30
Max Fz	N	50	
Max Mxy	N-m	6	
Max Velocity	RPM	150	120
Initial Torque	N-m	0.5	
Constant Torque	N-m	0.4	

- Eliminates wire interference and damage at end effector
- Reduces application time
- Compact design minimizes load requirement and increases reach
- Electric (24v/2A) and Pneumatic (145psi) options

## COMPLETE AUTOMATION SYSTEMS

- Multi-system integration through programmable I/O Ports
- Plug-and-play with robot friendly machines
- Built-in conveyor tracking
- Standard Adapter plates for connecting HIWIN products

## INTEGRATED SOLUTIONS

ROBOT TRANSFER UNITS | INSPECTION CELLS |  
AUTOMATED PACKAGING AND ASSEMBLY STATIONS

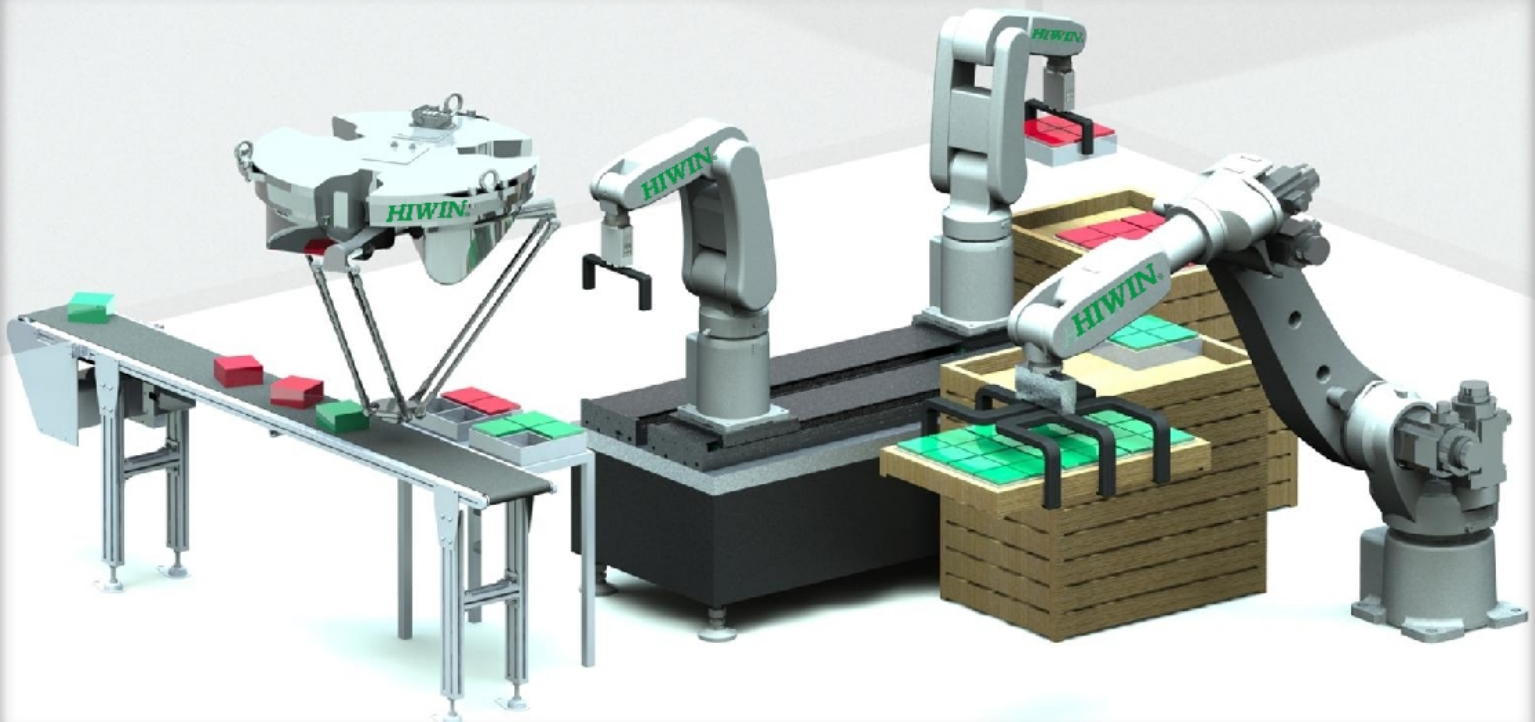


## HIWIN COOPERATIVE TECHNOLOGY

HIWIN offers the widest range of motion products in the industry and can provide all the major component systems of an integrated automation solution. Simple I/O port communication between systems allows systems to work interactively for cost effective, “lights-out” operation.

### HIWIN Motion Systems Include:

- Linear Motors
- Torque Motors / Rotary Tables
- Single Axis Mechanical Stages
- Linear Motors
- Electric Grippers



**HIWIN CAN PROVIDE COMPLETE INDUSTRIAL ROBOT SOLUTIONS WITH ROBOT, CONTROLLER, GRIPPERS, TRANSFER UNIT, ADAPTER PLATE AND/OR BASE.**

**- CONTACT US FOR DETAILS -**



# Automation Solutions



## COMING SOON FROM HIWIN EXTENDED REACH/PAYLOAD OPTIONS



### OPTIONS FOR ANY APPLICATION

- Increased arm lengths for larger work area
- Increase payload with reduced arm lengths
- Optimize performance for specific applications

Model		Units	RA605-910	RA610-1355	RA610-1672	RA610-1869	RA620-1621	RA620-1936	RA620-2134	
Degrees of Freedom			6							
Nominal Load Capacity		kg	5	12	10	7	30	20	14	
Maximum Reach Radius		mm	910	1355	1672	1869	1621	1936	2134	
Operating Range	J1	deg	-165 ~ +165 (330)		-170 ~ +170 (340)		-180 ~ +180 (360)			
	J2		-125 ~ +85 (210)		-150 ~ +95 (245)		-135 ~ +100 (235)			
	J3		-55 ~ +185		-85 ~ +185 (270)		-80 ~ +190 (270)			
	J4		-190 ~ +190 (380)		-190 ~ +190 (380)		-200 ~ +200 (400)			
	J5		-115 ~ +115 (230)		-135 ~ +135 (270)		-130 ~ +130 (260)			
	J6		-360 ~ +360 (720)		-360 ~ +360 (720)		-360 ~ +360 (720)			
Maximum Speed	J1	deg/ sec	375		192		204			
	J2		300		206		186			
	J3		375		219		182			
	J4		370		450		360			
	J5		375		450		420			
	J6		600		720		720			
Standard Cycle Time		sec	0.5	0.60	0.60	0.60	0.80			
Position Repeatability		mm	±0.02	±0.05	±0.06		±0.06	±0.07		
Allowable Load Moment at Wrist	J4	N-m	8.46		16.9		34.2			
	J5		8.46		16.9		34.2			
	J6		5.6		11.0		22.3			
Allowable Load Inertia at Wrist	J4	kg-m <sup>2</sup>	0.35		1.07		1.35			
	J5		0.35		1.07		1.35			
	J6		0.14		0.49		0.60			

### OTHER AUTOMATION SOLUTIONS

HIWIN offers a wide selection of automation solutions and positioning systems.

- Ballscrew Driven Stages
- Belt Driven Stages
- Linear Motor Stages
- Direct Drive Rotary Motors
- Positioning Tables

