

Product		i4-650H		i4-750H		i4-850H	
Quill Length		210 mm	410 mm	210 mm	410 mm	210 mm	410 mm
Number of Axes		4					
Reach		650 mm		750 mm		850 mm	
Maximum Payload*1		15 kg					
Repeatability at 100% speed	XY	±0.015 mm					
	Joint 3	±0.01 mm					
	Joint 4	±0.005°					
Joint Range	Joint 1	±152°					
	Joint 2	±140°					
	Joint 3	210 mm (Standard Quill), 410 mm (Long Quill)					
	Joint 4	±360°					
Inertia Moment (Max.)	Joint 4	0.5 kg-m <sup>2</sup>					
Maximum push force - downward, no load*2	Joint 3	588 N					
Joint Speeds	Joint 1	450 deg/s					
	Joint 2	720 deg/s					
	Joint 3	1583 mm/s					
	Joint 4	2400 deg/s					
Cycle Times*3,*4	Burst*5	0.41 s		0.39 s		0.39 s	
	Sustained	0.45 s		0.46 s		0.50 s	
	Blended Burst*5	0.32 s		0.31 s		0.31 s	
Power Requirements	DC	24 VDC ±10%, 8 A max.					
	AC	200 to 240 VAC, 50/60 Hz, Single Phase, 12.0 A max.					
Protection	IP20	IP20 / NEMA Type 1					
	IP65	IP65 / NEMA Type 4, Food Grade Lubrication NSF H1, ISO 21469 certified					
	Food Grade	NEMA Type 1, Food Grade Lubrication NSF H1, ISO 21469 certified					
	Electrostatic Discharge	Conductive and grounded external surfaces					
	Cleanroom	ISO 4 / Class 10					
Mounting		Table, Inverted, Wall					
Environment Requirements	Ambient Temperature	0° to 40°C					
	Humidity Range	5% to 90% non-condensing					
Weight	IP20 Models	50.4 kg	50.8 kg	50.9 kg	51.3 kg	51.6 kg	52.0 kg
	IP65 / Cleanroom Models	52.9 kg	53.3 kg	53.4 kg	53.8 kg	54.1 kg	54.5 kg
On-board I/O	Inputs	12 Sinking / Sourcing (XIO), 5 Sinking (TIO), 0 to 30 VDC					
	Outputs	12 Sourcing, 24 VDC ±10%, 0.7 A per output 1.5 A max. @ 25°C for all circuits					
Tool network connection (Ethernet/EtherCAT)		1 (4 pin, M12 female)					
Electrical pass-through ports		2 (19 pin, M23 male)					
Pneumatic ports		8 (6 mm, push-type fittings) max. pressure 0.55 Mpa					
Vacuum ports (Cleanroom Models)		2 (10 mm push-type fittings) 0.14 m <sup>3</sup> /minute min., 81 mm water vacuum					

<b>Belt Encoder</b>	2 line driver inputs (A, B, and Z)
<b>RS-232C serial communication ports</b>	1 (troubleshooting information only)
<b>Programming Software</b>	Sysmac Studio / ACE Version 4*6
<b>IPC Application Manager</b>	Robot Vision Manager, PackManager
<b>Controller</b>	NJ501-R Series (Integrated Control robots only)

\*1 Payload includes any object(s) attached to a robot link or tool flange, including end-effectors, tooling, valves, grippers, and objects being handled by the robot.

\*2 At a duty cycle of 3 seconds pushing and then 2 seconds not pushing.

\*3 Cycle times may increase by up to 15% when operating in ambient temperatures above 20° C.

\*4 Cycle time is defined as a continuous path with straight-line motion in which the robot tool moves up 25 mm, laterally 305 mm, down 25 mm, and then back along the same path (not achievable over all paths in the robot working envelope). Values listed are with no joint 4 rotation, at 20°C ambient with a 2.0 kg payload. Blended Burst cycle uses the same criteria with arc motion.

\*5 Burst and Blended Burst cycle times may increase by up to 15% when bellows are present.

\*6 Use Sysmac Studio for Integrated Control robots. Use ACE Version 4 for Standard Control robots.