



i4H SCARA Robot

# Experience the new i4H

## SCARA robots from Omron



The i4H is a high-performance series of SCARA robots designed to tackle today's demanding manufacturing needs. Available in reaches with two quill length, every model is capable of handling payloads of 15kg (which is among the highest in the industry for a SCARA robot) enabling users to automate applications more easily and with heavier tooling than typically possible. Applications that require special protection are no problem for the i4H series. All sizes are available in either, IP20, IP65 with food grade lubricant, or clean room with ESD protection allowing the i4H to be used in a wide range of application environments. Additionally, uptime and throughput can be maximized with easy to use software, integrated vision capabilities and a first ever on-board LCD display that communicates system health. For applications where the i4H is part of a larger automation system, the i4H can also be seamlessly integrated with the main Omron machine automation controller (PLC) to provide a high-performance, easy to use, fully integrated solution. So no matter what industry or application, the i4H is ready to take on whatever comes its way.

OMRON i4H-650H



OMRON i4-750H



OMRON i4-850H



# Enhanced mechanical design

## for demanding tasks

Achieve improved production throughput with a high payload and fast cycle times

With high duty rated motors and a robust industrial design, the i4H series can deliver reliable high-performance operation to meet your production needs.

- High payloads up to 15kg
- High-speed cycle times
- Highly rigid and robust mechanical design
- Built-in tools to monitor system health



# Maximize uptime



## Discover OMRON's unique additions to the SCARA lineup

OMRON has added a few first ever features that will help reduce downtime, prevent accidents, and make maintenance an easier process.

- First ever on-board display for troubleshooting, maintenance, and visual inspections
- World's first robot health lighting indicator

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### i4 ROBOT STATUS LIGHT CODES

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● Off	24V Not present
○ Solid White	System initializing
● Solid Blue	System booting
⦿ Blinking Blue	Idle, 24V present
⦿ Blinking Green	Operational, Servo enabled
● Solid Red	FPGA Communication loss
⦿ Blinking Red	ESTOP or ERROR

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# Seamless integration

## Getting started with the i4H has never been easier

The i4H offers unrivaled versatility with several methods for programming and integration available. Users have the option to program the i4H with traditional “robot code” within Omron’s ACE programming package, that also provides integrated vision and process control. For users more experienced with ladder logic, the ePLC function enables programming and control of the i4H via Omron and 3rd party PLCs. For the ultimate integrated solution, the i4H can be controlled directly from an Omron NJ5 series PLC and programmed within Omron’s Sysmac Studio platform. This not only controls all connected automation devices, but also allows users to use a single program for all devices, providing ease of use and performance capabilities not found elsewhere.

- Ability to program in ACE, ePLC or Sysmac Studio
- Support for integrated vision and process-oriented programming
- Deterministic operating system and EtherCAT network communications
- Single automation platform architecture support with ability to share a common program

**SYSMAC**  
One controller. One Connection. One Software.



# The i4H Food Grade Edition

## Tackle your food and beverage needs

Automating food handling applications has never been easier. The i4H series has models in both IP20 and IP65 protections that include the use of food grade lubricants. These lubricants were specially developed for the grease lubrication of machinery in the food & beverage industry and are NSF H1 registered and ISO 21469 certified so i4H users can rest assured that the robot will not introduce harmful contamination into sensitive food handling processes.

### Benefits include:

- Allows use in food and beverage packaging and processing applications
- Eliminates the need to implement special handling or storage containment of replacement lubricants
- Helps protect and extend life of robot
- Advanced seal technology to reduce possible oil leaking condition in IP65 versions
- Excellent water resistance for IP65 versions
- Available in all i4H sizes and configurations
- Same top performance & repeatability as i4H variants with standard lubricants





# The i4H with ESD/Cleanroom protection

## Automate sensitive applications with confidence

Controlling the environment and keeping it free from contamination is critical for sensitive applications in the Semiconductor and Life Sciences industries. To address sensitive applications, the i4H series are available in Clean Room versions rated for Class 4 protection that also include protection against electrostatic discharge (ESD). Additionally, users can enjoy the same performance and capability as the other versions of i4H to meet their process demands while having the confidence that the robot will not introduce any unwanted contamination.

### Benefits include:

- Cleanroom rated for Class 4 (ISO Standard 14644)
- ESD rated to prevent unwanted electric damage into environment
- Available in multiple configurations
- Enables use for applications in Semiconductor, Electronics, and Life Science industries



# Automate

## your full production line with Omron

### Discover the Omron automation difference

In addition to industrial, collaborative, and mobile robot product lines, Omron also offers a complete portfolio of industrial automation products. From relays, sensors and timers to vision systems, PLCs and safety devices, Omron's full line of automation solutions enables users to build entire automation systems unlike any other company. In addition, Omron products are designed to work together, and with the Sysmac platform, can be programmed together seamlessly in the same environment, providing superior performance and capabilities compared to non-integrated solutions. So no matter the industry or application, Omron's complete portfolio of automation solutions are ready to take your manufacturing to the next level.





# Technical details

## i4H Series

The i4H SCARA (Selective Compliance Assembly Robot Arm) is a 4-axis robot with 3 rotational axes and one translational/linear axis, ideal for high-speed repeatable applications

**Available Reaches:** 650mm, 750mm, and 850mm

**Available Quill Lengths:** 210mm Standard, 410mm Long Quill

**Available Protections:** IP20, IP20 with food grade lubricant, IP65 with food grade lubricant, Clean room with ESD

**Controller/Amplifier:** Built-in amplifiers and controller in the base (No additional controller required for stand-alone mode. Integrated mode requires additional NJ5-Rxxx series PLC.)

**Max Payload:** 15kg (all versions)

**Mounting:** floor/table, wall, or ceiling (Wall mounting required used of optional bracket. Special variant needed for ceiling mounting.)

**Communications:** RS-232, Ethernet, Ethernet/IP, PROFINET, EtherCAT (EtherCAT only for connection to NJ5-Rxxx series PLCs)

Product		i4-650H	i4-750H	i4-850H
Reach		650mm	750mm	850mm
Maximum Payload		15kg		
Quill Length		210 / 410mm	210 / 410mm	210 / 410mm
Repeatability	XY (mm)	±0.015	±0.025	±0.025
	Z (mm)	±0.01	±0.01	±0.01
	Theta (deg)	±0.005	±0.005	±0.005
Cycle Times <sup>1</sup>	Burst (s)	0.44	0.44	
	Sustained (s)	0.48	0.54	0.54
	Blended Burst (s) <sup>2</sup>	0.37	0.37	0.37

1. Adept cycle, in mm 25/305/25 (seconds, at 20C ambient) with 2.0kg payload
2. Fast cycle, in mm (25/305/25) (seconds, at 20C ambient) with 2.0kg payload but with arc motion



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