



Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

Content

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

■ Introduction to Ecostruxure machine	page 2 and 3
■ Presentation	
□ Applications	page 4
□ Specifications.....	page 4
□ Characteristics	page 4
□ Implementation	page 4
□ Communication protocols	page 4
□ Certifications	page 4
□ Benefits	page 5
□ Green Premium.....	page 5
■ Integrated SCARA offer	page 6
■ Description.....	page 7
■ Selection guide.....	page 8
■ References	page 10
■ Product reference index.....	page 11

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots



Lexium SCARA robots provide precise and high-speed in Electronics, Packaging and Assembly applications.



Packaging application



Electronics application

Presentation

Applications

Schneider Electric is expanding its industrial robotic automation portfolio with the ultra-compact Lexium SCARA (Selective Compliance Articulated Robot Arm), a high-speed industrial robot with high movements accuracies, designed to improve productivity and efficiency in manufacturing and assembly processes.

Lexium SCARA excels in the following applications

- Assembly
- Loading/unloading
- Pick-and place
- Packaging
- Material handling

Lexium SCARA is relevant in the following industries

- Food & Beverage
- Life Sciences
- Battery manufacturing
- Electronics assembly
- Logistics
- Warehousing

It seamlessly integrates into unified control solution, enabling centralized control of multiple robots, fostering synchronization and collaborative data flow for addressing the demands of smarter, more flexible, and sustainable manufacturing.

Specifications

- Four-axis manipulation
- Three sizes of robot arms are available, giving up to three ranges of working areas, 500 mm (19.68 in), 600 mm (23.62 in) up to 700 mm (27.55 in), and two stroke lengths: 200 mm (7.87 in) and 300 mm (11.81 in).
- Max. payload capacity: 6 kg (13.23 lb)
- Rated payload: 2 kg (4.41 lb)
- Position repeatability (ISO 9283) of ± 0.02 mm (± 0.0007 in)
- IP20 Protection Class, and up to IP65 with accessories

Characteristics

- Power supply: 170 to 250 Vac; no derating
- Power supply: 100 to 170 Vac; derating of ~15%
- Rated/Max. power: 0.9 kW/2 kW
- Environmental:
 - Ambient temperature: 0 to 40°C (32 to 104°F),
 - Humidity: 10 to 80% (non - condensing)

Implementation

- Lexium SCARA robots are floor mounting robots. They integrate the robotic controller and the motors.
- They are equipped with one functional cable grouping the pneumatic and electrical circuits for the power, the I/Os, the Communication protocols.
- They are configurable by EcoStruxure Machine Expert, when integrated into a Schneider motion solution.

Note: Lexium SCARA robots are delivered without gripper. Grippers can be ordered by specialist manufacturers.

Embedded Industrial Ethernet Communication Protocols

- Sercos 3

Certifications

Lexium SCARA robots comply with the following certifications.

- CE Markings
- UKCA Markings

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

Presentation (continued)

Benefits

Ultra-compact, high-speed, and precise robots

- > The Lexium SCARA, with its built-in controller and precise tracking mechanisms, offers an all-in-one ultra-compact, high-speed, and precise robotic system.
- > It seamlessly integrates into existing machines or production systems with minimal downtime. Using a single motion controller, it also enhances the synchronization of several SCARA or other robots.
- > Robotic systems can be virtually designed and tested when combined with digital twin solutions, reducing costs and preventing project budget overruns.

Large workspace within a small footprint

- > The Lexium SCARA boasts one of the largest work areas within a small er SCARA robot footprint.
- > It maximizes floor space, minimizes mounting space and electrical cabinet, and provides high speed and accuracy, leading to cost savings and reduced need for facility modifications.
- > Arm length is up to 700 mm, and z-stroke is up to 300 mm

Simple compact all-in-one solution

- > With integrated motors and a built-in controller, the Lexium SCARA simplifies installation, reduces wiring, saves space, and improves performance.
- > It also facilitates easy integration without requiring specialized robotics knowledge, allowing operators to change settings easily.

Easy upgrade to IP65 with accessories

- > Specific accessory kits enable easy upgrading to IP65 protection where there is exposure to dust, moisture, or the need for regular washdowns. This offers flexibility and cost efficiency without the need to purchase a separate IP65 version upfront, potentially reducing costs.

Fully seamless integration

- > The Lexium SCARA seamlessly integrates into a unified control system, encompassing various smart automation products and enabling precise tracking mechanisms and multi-robot orchestration.
- > Digital twin technology allows virtual design and testing before real-world implementation.

Robust support ecosystem

- > Comprehensive service contracts ensure optimal performance, minimize downtime, and provide worldwide access to skilled service technicians and spare parts.
- > The offering includes preventive maintenance, on-site support, remote technical assistance, spare parts management, extended warranty, and training programs.
- > With over 30 years of expertise in industrial robotics and automation and a network of experienced integrators, Schneider is dedicated to delivering top-quality integrated robotic solutions.

Green Premium™

Green Premium™ is the only label that allows you to develop and promote an environmental policy effectively while preserving your business efficiency.

Lexium SCARA's offer is Green Premium, designed to limit its carbon footprint:

- > Transparent environmental information about Schneider Electric products is available digitally 24/7
- > Minimal use of hazardous substances in, and beyond, compliance with regulations (RoHS and REACH)
- > Environmental Disclosure such as Product Environmental Profiles (PEP) to provide robust environmental information.
- > Circularity Profiles guides responsible product end-of-life treatments along with circular value propo-sitions.

Experience our offer on se.com/green-premium



Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

Presentation (continued)

Integrated SCARA offer

- Adding integrated robotics and advanced mechatronics allows OEMs to respond to the demands of their market by increasing machine throughput, simplifying machine design, and including advanced automation into their machine concepts
- Lexium SCARA is part of a complete motion control solution:
 - monitored by LMC Pro2 motion controllers on a Sercos bus
 - configured with Ecostruxure Machine software
 - combined with Cartesian robots (Linear and multi-axis systems), Delta robots, Cobot robots, and Multicarrier Systems.

Apps, Analytics & Services

AVEVA

Engineering, Operations, Performance



[AVEVA™ Insight](#)

Make decisions with complete visibility of your operations and assets in the cloud



[Extended Reality \(XR\) Solutions](#)

It incorporates Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) into a single industrial software

Edge control



[PacDrive LMC Pro2](#)

Motion controller for automating machines/lines



[Modicon TM5](#)

Safety logic controller



[EcoStruxure Machine Expert](#)

Software for developing, configuring, and commissioning the entire machine



[EcoStruxure Machine Expert Twin](#)

Scalable digital twin software suite

Ethernet/IP

Sercos

Connected products



[Lexium 32](#)
Servo drive



[Lexium 62](#)
Multi axis servo drive system



[Lexium 52](#)
Stand alone servo drive system



[Lexium Cobot](#)
Cobot Compact Controller



[Lexium SCARA](#)
Ultra-compact, high-speed and precise industrial robots



[Lexium PAS.PAD](#)
Linear axes



[Lexium MAX](#)
Multi-axes system for 3 dimensional positioning solutions



[Lexium T.Lexium P](#)
Delta robot



[Lexium MC12](#)
Modular Multicarrier System



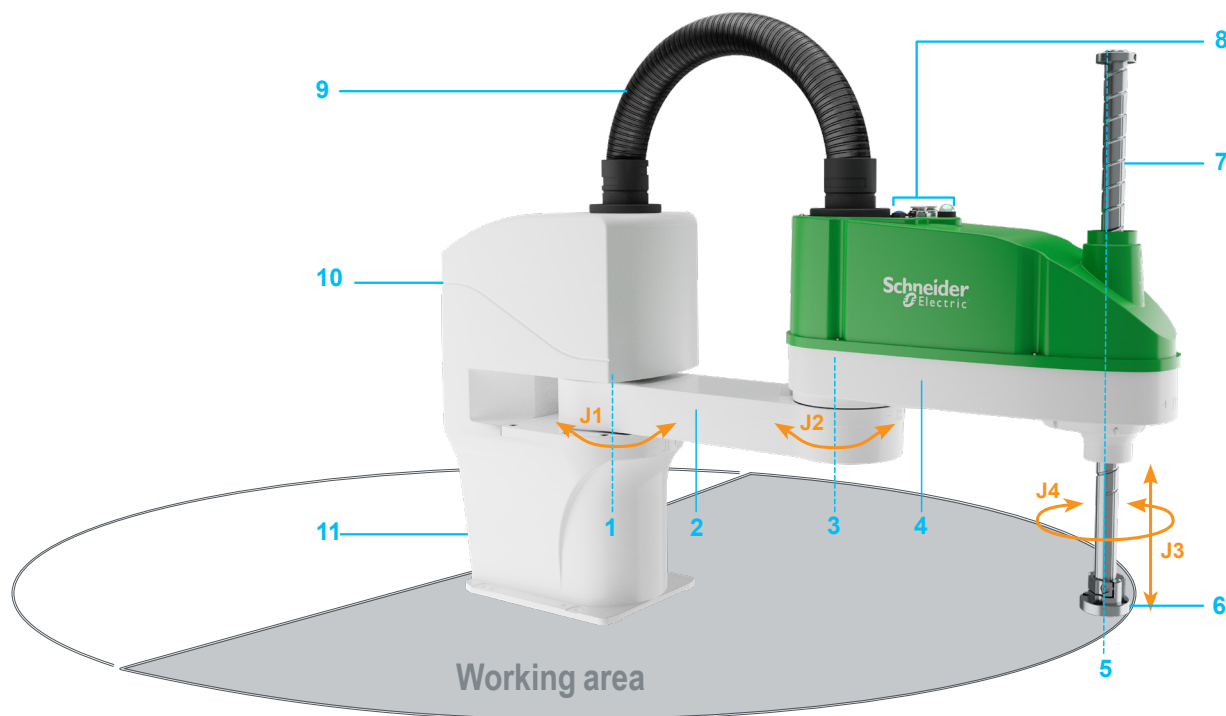
[Lexium Cobot](#)
Collaborative robot

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

Description

The SCARA robot is mainly composed of a base, two mechanical arms (inner link and outer link), an upper control cabinet, a spline shaft, a tool flange, and a corrugated pipe (including cables).










- 1 Axis **J1**: Horizontal movement (including motor)
- 2 First robotic arm (Inner link)
- 3 Axis **J2**: Horizontal movement (including motor)
- 4 Second robotic arm (Outer link) (including motor)
- 5 Axis **J3**: vertical movement, Ball screw extension and retraction control
Axis **J4**: Horizontal movement of the tool flange rotation
- 6 Tool flange (Gripper holder)
- 7 Ball screw
- 8 Status LED, brake release button and arm interface panel
- 9 Flexible tube (including cables between the interface panels, pneumatic between the interface panels, and motor control wiring)
- 10 Upper control unit with interface panel (including controller, drive, and motor)
- 11 Base equipped with connectors for power supply, a status display light, and a safety connection.
 - Six through-holes for floor mounting
 - Two dial-pin holes to position the robot accurately.

NOTE: **J1**, **J2**, **J3**, and **J4** labels help in programming and controlling the robot's movements accurately.
The working area depends on the model (arm size) please refer to the Hardware guide Ref. EIO0000005360.00.

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots

Application		High-speed and precision industrial robots for pick & place, assembly and material handling					
							
Axis		4					
Max. Payload		6 kg (13.23 lb)					
Rated payload		2 kg (4.41 lb)					
Arm Length	J1+J2	500 mm 19.68 in		600 mm 23.62 in		700 mm 27.55 in	
	J1	225 mm 8.85 in	225 mm 8.85 in	325 mm 12.79 in	325 mm 12.79 in	425 mm 16.73 in	425 mm 16.73 in
	J2	275 mm 10.82 in	275 mm 10.82 in	275 mm 10.82 in	275 mm 10.82 in	275 mm 10.82 in	275 mm 10.82 in
Working Range	J1	± 130 deg	± 130 deg	± 130 deg	± 130 deg	± 130 deg	± 130 deg
	J2	± 129 deg	± 129 deg	± 148 deg	± 148 deg	± 149 deg	± 149 deg
	J3 (Stroke length)	200 mm 7.87 in	300 mm 11.81 in	200 mm 7.87 in	300 mm 11.81 in	200 mm 7.87 in	300 mm 11.81 in
	J4	± 360 deg	± 360 deg	± 360 deg	± 360 deg	± 360 deg	± 360 deg
Repeatability	J1+J2	± 0.02 mm	± 0.02 mm	± 0.02 mm	± 0.02 mm	± 0.02 mm	± 0.02 mm
	J3	± 0.01 mm	± 0.01 mm	± 0.01 mm	± 0.01 mm	± 0.01 mm	± 0.01 mm
	J4	± 0.01 deg	± 0.01 deg	± 0.01 deg	± 0.01 deg	± 0.01 deg	± 0.01 deg
Allowable Moment of Inertia	Rated (J4)	0.01 kg/m²	0.01 kg/m²	0.01 kg/m²	0.01 kg/m²	0.01 kg/m²	0.01 kg/m²
	Max. (J4)	0.12 kg/m²	0.12 kg/m²	0.12 kg/m²	0.12 kg/m²	0.12 kg/m²	0.12 kg/m²
Mounting		Floor mounting					
Configuration software		EcoStruxure Machine Expert					
Reference		LXMRSP0650200	LXMRSP0650300	LXMRSP0660200	LXMRSP0660300	LXMRSP0670200	LXMRSP0670300
page		10					

Lexium SCARA

Ultra-compact, high-speed and precise industrial robots



LXMSP0650●●●



LXMSP0660●●●



LXMSP0670●●●

References

Common values

Number of axes	4
Max. payload	6 kg (13.23 lb)
Rated payload	2 kg (4.41 lb)
Repeatability	<div>J1 + J2</div> <div>J3</div> <div>J4</div>
Allowable Moment of inertia	<div>J4</div> <div>Rated: 0.01 kg/m² (0.002 lb/ft²)</div> <div>Max: 0.12 kg/m² (2.46 lb/ft²)</div>

Detailed values

Working area			Working Range				Reference	Weight
J1 + J2	J1	J2	J1	J2	J3	J4		
mm in	mm in	mm in	deg	deg	mm in	deg		kg lb
500 19.68	225 8.85	275 10.82	± 130	± 129	200 7.87	± 360	LXMSP0650200	27.0 59.525
					300 11.81	± 360	LXMSP0650300	27.0 59.525
600 23.62	325 12.79	275 10.82	± 130	± 148	200 7.87	± 360	LXMSP0660200	28.0 61.729
					300 11.81	± 360	LXMSP0660300	28.0 61.729
700 27.55	425 16.73	275 10.82	± 130	± 149	200 7.87	± 360	LXMSP0670200	29.0 63.934
					300 11.81	± 360	LXMSP0670300	29.0 63.934

Complimentary offers

EcoStruxure Machine Expert configuration software	DIA3ED2180701EN
EcoStruxure Machine Expert Twin, Scalable Digital Twin software suite	DIA3ED2211202EN
PacDrive LMC Eco/Pro2 Motion controllers for automating machines/lines	DIA7ED2160303EN
Lexium 62 Multi axis servo drives and servo motors	DIA7ED2160305EN
Modicon TM5 High-Performance and Safe IP20 Modular I/O system	DIA3ED2131204EN
Lexium T, P Delta 2 and Delta 3 robots for pick & place solutions	DIA3ED2160307EN
Lexium Cobot, Collaborative robots	DIA7ED2220801EN
Lexium MC12, Multi carrier system	DIA7ED2210701EN
Lexium Cartesian Robots: Portal axes, Linear tables, Cantilever axes, Multi axes systems	DIA7ED2210101EN

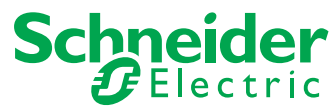
Lexium SCARA

Ultra-compact, high-speed and precise
industrial robots

Product reference index

LXM	
LXMRSP0650200	10
LXMRSP0650300	10
LXMRSP0660200	10
LXMRSP0660300	10
LXMRSP0670200	10
LXMRSP0670300	10

Life Is On



Learn more about our products at
www.se.com

Design: Schneider Electric
Photos: Schneider Electric

Schneider Electric Industries SAS

Head Office
35, rue Joseph Monier - CS 30323
F-92500 Rueil-Malmaison Cedex
France

DIA7ED2240302EN
October 2024 - V1.0