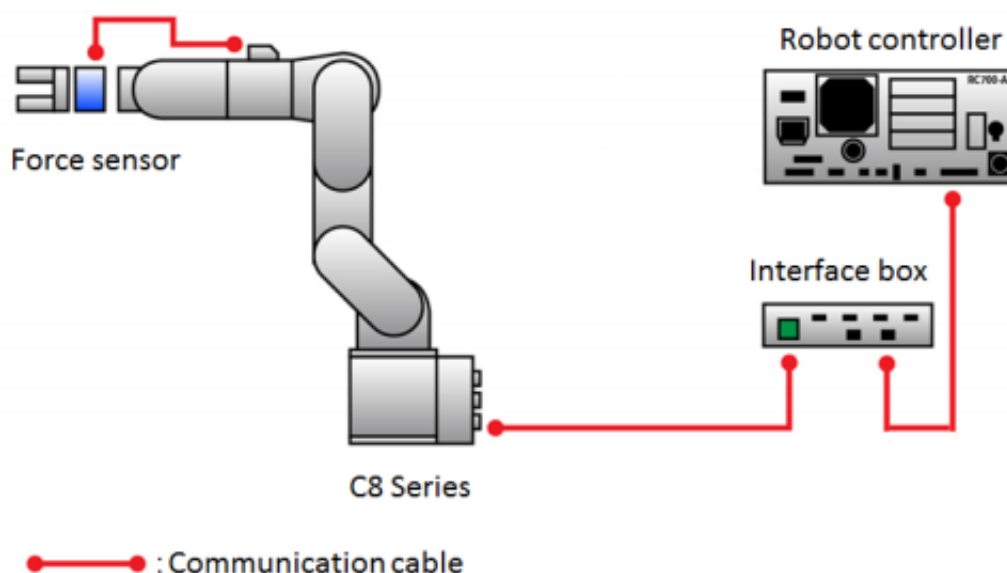


# New Epson robot force sensors enable automation of difficult tasks

June 2 2016

---

Image of force sensor attached to a C8 series robot



Credit: Epson

Seiko Epson Corporation today announced the development of its S250 series of high-precision force sensors. The S250 series, which will be rolled out worldwide from early June, will be available as an option for the company's six-axis and SCARA robots. Employing Epson's proprietary piezoelectric quartz sensing technology, the new force sensors are durable and sensitive, allowing them to accurately and

consistently sense minimal amounts of force in six directions. This will allow customers to automate complex manufacturing tasks and will improve productivity. Epson also provides robot operation commands with the sensor, allowing customers to easily introduce the system.

Many manufacturers are turning to robots as labor shortages and falling birth rates and aging populations hit companies in the world's leading economies, and the trend to reshoring continues in regions like Europe and North America. Epson's innovative new force sensors answer these needs and are a significant step forward in achieving the company's mission of using robots to improve the way products are manufactured. The S250 series enables robots to feel force as limited as 0.1 N, allowing the robots to automate complex tasks such as precisely assembling delicate components. The sensors can also be used on tasks that formerly relied on human sensory perception such as polishing and deburring, freeing people from repetitive manual work.

"The new [force sensors](#) are a significant development for Epson and for the manufacturing industry in general," said Yoneharu Fukushima, COO of Epson's Robotics Solutions Operations Division. "As a company dedicated to manufacturing innovation, the new sensors help to expand the applications for robots, and bring us a step further towards achieving our goal of creating a world in which robots support people in a wide variety of situations."

### Product specifications

Product model number	S250N	S250L	S250P	S250H	S2503, S2506, S25010
Robot series	C4 Series	C8 Series	C8 Supporting IP	N Series* <sup>1</sup>	G Series, RS Series
Outer dimensions	ø80 × H49 mm	ø88 × H49 mm	ø88 × H66 mm	ø80 × H49 mm	ø80 × H52 mm
Weight* <sup>2</sup>	460 g	520 g	680 g	460 g	640 g
Measured degree of freedom	6-Axis: x, y, z-Axis force (Fx, Fy, Fz), moment (Tx, Ty, Tz)				
Rated load	Fx, Fy, Fz: 250N, Tx, Ty, Tz: 18Nm				
Overload capacity	Fx, Fy, Fz: 1000N, Tx, Ty, Tz: 36Nm				
Measured resolution	Fx, Fy, Fz: ±0.1N or less, Tx, Ty, Tz: ±0.003 Nm				
Measured accuracy	±5% R.O. or less				
Bundled items	Interface box "FS1", communication cables, robot mounting flange				

Provided by Epson

Citation: New Epson robot force sensors enable automation of difficult tasks (2016, June 2) retrieved 25 April 2024 from

<https://phys.org/news/2016-06-epson-robot-sensors-enable-automation.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.