ABB Integrated Force Control sensors allow robots to operate with the dexterity of the human hand

ABB’s Integrated Force Control uses real-time tactile sensor feedback to handle process variations with the sensitivity of the human hand while shortening programming time as much as 70 percent.

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- **Integrated force sensors**: Fully integrated into ABB’s control system, supporting the majority of ABB robots
- **Tactile sensing**: Robot reacts to surroundings in real-time, can adjust path and speed based on sensor input
- **Search patterns**: Can mimic motions of a human arm to find the correct position to assemble a part
- **Reduced failures**: Edges and contours are followed precisely regardless of work piece orientation
- **Easy to program**: Tactile sensing reduces programming time and can eliminate advanced fixtures
- **Quick installation**: Short programming time and less complex tooling results in quicker installation

From machining to small parts assembly, dexterous handling of work piece and tools is of the utmost concern. Small variations in the manufacturing phase can mean the difference between success and failure. To help deal with these issues, **ABB Integrated Force Control** technology makes robots more intelligent and able to handle variations in the process with real-time external inputs—much like a human would when handling a delicate item or precise dimensions.

The ABB force control sensors are: fully integrated into ABB’s hardware and software; protected against overload and EMC; certified to IP65; and suitable for high precision robotic applications with a compact and lightweight design. ABB’s offering includes three different types of integrated sensors which are compatible with most industrial robot models, from IRB 140 to IRB 6700. Sensors range in capacity from between 165 N/15Nm and 2500 N/400 Nm.

“Integrated Force Control opens up the possibility to automate tasks that have not been possible using traditional robot automation,” says ABB Product Manager Andreas Eriksson. “Compared with expensive, hard automation, robotic solutions equipped with integrated sensors are less expensive and require a greater degree of flexibility.”

Conventional robotic solutions are controlled by predefined paths and speeds. However, with **ABB Integrated Force Control**, the robot reacts to its surrounding and can deviate from its programmed path or speed based on feedback from the force sensor. It is possible to automate complex tasks which previously required skilled personnel and advanced fixed automation.

“When combined with vision guided robotics, like ABB Integrated Vision, **ABB Integrated Force Control** also allows for new ways of thinking about a myriad of other robotic automated functions that previously required skilled personnel,” adds Eriksson.

All ABB Robotics’ products are fully supported by the ABB Robotics’ global sales and service organization in 53 countries and over 100 locations.

Visit [www.abb.com/robotics](http://www.abb.com/robotics) for further information.

**Further information for editors:**
ABB (www.abb.com) is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 145,000 people.

ABB Robotics is a leading supplier of industrial robots - also providing robot software, peripheral equipment, modular manufacturing cells and service for tasks such as welding, handling, assembly, painting and finishing, picking, packing, palletizing and machine tending. Key markets include automotive, plastics, metal fabrication, foundry, electronics, machine tools, pharmaceutical and food and beverage industries. A strong solutions focus helps manufacturers improve productivity, product quality and worker safety. ABB has installed more than 200,000 robots worldwide.

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