

**FANUC America Introduces  
Dual Check Safety (DCS)  
Fenceless Zones at IMTS 2014**

**For Immediate Release**

**ROCHESTER HILLS, Mich., Sept. 8, 2014** – FANUC America Corporation today introduced its new Dual Check Safety (DCS) Fenceless Zones at IMTS 2014, Sept. 8-13, at McCormick Place, Chicago, booth #S-8919.

At the show, attendees will be able to safely approach and interact with a FANUC LR Mate 200iD robot in the DCS Fenceless Zones demonstration. The LR Mate 200iD operates with no safety fences surrounding it. Instead, it uses DCS and a series of area scanners to safely monitor robot motion area and speed, and any intrusions into each zone surrounding the robot.

The LR Mate 200iD robot equipped with FANUC *iRVision*<sup>®</sup> performs a simple pick and place operation of six randomly oriented parts. The robot uses a two-part vision cycle to locate and pick parts: First, the robot uses *iRVision* 2D to locate six parts on one tray. Next, the automatic teach and calibration feature for the vision camera mounted on the robot tool allows the robot to handle different part styles with no calibration or frame teaching required. The robot locates, picks and places each part in a uniform orientation on a second tray.

In the new DCS Fenceless Zones, the robot moves at normal speed when no operator is in the monitored zones. If an operator approaches the “slow down zone,” area sensors detect the intrusion and the robot slows down. If the operator enters the robot motion area or “stop zone,” the robot comes to a complete stop.

“The area sensors surrounding the platform create a virtual wall around the robot, allowing an operator to load or unload parts to the part tray,” said Greg Buell, product manager, FANUC America. “This allows for convenience of easy part changeover and interaction between the operator and robot without the need for safety fences.”

**FANUC LR Mate 200iD Robots**

The family of LR Mate 200iD robots is a versatile solution for a wide range of manufacturing operations that require access into small spaces. A very slim arm about the same size as a human arm, and a bottom cable exit option minimize interference with peripheral devices. The LR Mate 200iD robots offer a “best in class” work envelope for both upright and invert mount installations.

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The LR Mate 200iD robots are also available with ISO Class 4 clean-room and food-grade variants for primary (unwrapped) food handling and healthcare packaging applications.

**LR Mate 200iD Features and Benefits**

- Slim arm and compact foot print minimizes interference to peripheral devices in narrow spaces.
- Four to seven kg wrist load capacity with six-axis articulation.
- Best in class work envelope simplifies system layout.
- Fastest joint axes speeds maximize system throughput.
- Integrated 24VDC power, signal and air for easy end-of-arm-tool connection.
- Integrated thru-arm cable option for iRVision, force sensing, Ethernet and auxiliary axes.
- Flexible mounting (upright, invert, angle).
- High rigidity and the most advanced servo technology enable smooth motion at high speeds.
- Easy integration into machines.
- Features lightest mechanical unit in its class.
- IP67 rating allows operation in factory environments with dust and oil mist.
- New LR Mate 200iD/4SC clean-room model is ISO Class 4 (Class 10) clean-room certified for electronics, pharmaceutical and food applications. It features a white FDA compliant coating, stainless steel wrist, and NSF-H1 grade grease on all joints to provide reliable performance in demanding production environments, including rigorous sanitation procedures.

**Dual Check Safety (DCS) Speed and Position Check Software**

Prior to the application of safety rated robot software, all safeguarding of the robot needed to be external, and required a safety rated limit switch or cam system, safety rated area scanners, or other devices to limit robot travel or enhance protection. DCS safety rated robot software allows the safety design of the robot system to use the robot itself for some of the safety functions.

The most significant benefit of DCS Speed and Position Check is in applications where the travel of the robot needs to be restricted due to floor space or process limits that are less than the full reach of the robot. Restricting the robot motion in Cartesian space means the robot can be restrained to exactly the area in which it works; something that is not possible with the current systems that limit robot motion externally using limit switches.

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“By moving some of the safety functions to within the robot, customers will realize significant savings in floor space, flexibility in system layout, reduced hardware costs, and improved reliability,” said Claude Dinsmoor, general manager, material handling segment, FANUC America.

In addition, safe "zones" can be enabled and disabled from an external source such as a safety PLC (based on the cell design). Designing a system with multiple zones and appropriate guarding means an operator can safely enter and leave the workspace of the robot.

“This streamlines the design of robot cells because it prevents the robot from entering the load area when an operator is present,” added Dinsmoor. This type of application is possible with existing technology, but it is typically difficult to setup, expensive to implement, and requires more floor space than a system using DCS.”

### **Next Generation R-30iB Mate Controller**

The FANUC R-30iB Mate Controller uses high-performance hardware and the latest advances in network communications, integrated *iR*Vision, and motion control functions. The R-30iB Mate Controller features FANUC’s exclusive and easy-to-use *i*Pendant with 4D graphics. The *i*Pendant displays process information and the actual process path directly on the *i*Pendant screen, enabling easier setup and troubleshooting.

Based on the latest FANUC Series 30iB CNC Controller, the R-30iB Mate Robot Controller is compact, providing customers a significant space savings. The R-30iB Mate Controller, available with a compact rack-style open-air controller cabinet or an industrial grade standard Mate cabinet, is very energy efficient and requires less power consumption due to its availability in both single-phase and three-phase versions.

### **About FANUC America Corporation**

FANUC America Corporation is a subsidiary company of FANUC Corporation in Japan, and provides industry-leading CNC systems, robotics, and ROBOMACHINEs. FANUC’s innovative technologies and proven expertise help manufacturers in the Americas maximize efficiency, reliability and profitability.

For more information about FANUC America Corporation, please call: 888-FANUC-US (888-326-8287) or visit our website: [www.fanucamerica.com](http://www.fanucamerica.com). Also, connect with us on [YouTube](#), [Twitter](#), [Facebook](#), [Google+](#) and [LinkedIn](#). FANUC America is headquartered at 3900 W. Hamlin Road, Rochester Hills, MI 48309, and has facilities in:

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Atlanta; Boston; Charlotte; Chicago; Cincinnati; Cleveland; Dallas; Indianapolis; Los Angeles; Minneapolis; Montreal; Pine Brook, NJ; San Francisco; Toronto; Buenos Aires, Argentina; Sao Paulo, Brazil; and Aguascalientes, Mexico City and Monterrey, Mexico.

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