

SPS IPC Drives 2015 (Hall 7, Stand 391)

Safer and more productive interaction between humans and robots enabled by MELFA SafePlus and safety sensor technology

Nuremberg, Germany, SPS IPC Drives, 24-26 November 2015

At SPS IPC Drives 2015, Mitsubishi Electric, together with its system partner MH Elektro-Steuerungstechnik, are presenting an industrial robot that enables humans and robots to work together more safely and effectively during large batch production within closely confined work cells. In order to do that, an industrial robot from the MELFA F series of Mitsubishi Electric has been equipped with its MELFA SafePlus safety technology along with a special safety scanner in the robot base by system partner MH Elektro-Steuerungstechnik. The scanner technology detects movements in two predefined zones within the operating environment of the industrial robot and transmits the information to the MELFA SafePlus safety system. A predefined reduced operating speed or a movement stop is then assigned to the robot in real time, thus enabling operators to work in close proximity to the moving industrial robot without a safety cage. As a result, humans and robots are able to work “hand in hand” within an environment where the risk of danger is significantly reduced.

As a first step, Mitsubishi Electric and MH Elektro-Steuerungstechnik are demonstrating the combination of the MELFA F series with safety scanner and MELFA SafePlus in a work cell solution that monitors the

operator's front action radius first of all. "The objective of further development is to adapt to the robot's application environment in accordance with safety requirements in such a way that no protection zones are required within the robot's range of movement and operating environment", explains Peter Grigori, Sales and Project Manager at MH Elektro-Steuerungstechnik.

Oliver Giertz, Product Manager Servo/Motion/ Robots, Factory Automation - European Business Group Mitsubishi Electric Europe B.V., says: "Together with MH Elektro-Steuerungstechnik, we are delighted to be able to offer our customers an intelligent automation solution that sets new standards for occupational safety. Man and machine can now work together even more safely and productively wherever simple, manual movement sequences need to be automated for the purpose of handling large batches. Based on their idea of an integrated safety scanner, the designers from MH Elektro-Steuerungstechnik logically developed the benefits of our MELFA SafePlus safety solution. The result: greatly improved collaboration between man and machine and significantly reduced robot downtimes. Besides the effective utilisation of space and cost efficiency along with increased productivity, the scanner means that we are now also able to offer our customers greatly improved safety in the workplace."

If the scanner registers a person within either of the two predefined safety zones, the robot's F series controller switches to safety mode automatically. The zones as well as the intended speed are stored in the MELFA SafePlus safety system beforehand. Speed reduction limits the maximum speed of the robot, allowing the device to carry on working at a moderate speed, or stops all movement if required.

Besides speed reduction, the MELFA SafePlus system has two further safety mechanisms. Limited range control prevents the robot from

entering the part of the work cell accessed by the operator. To do that, the system monitors the position of four reference points on the robot arm and ensures that none of them go beyond a predefined area. Torque monitoring controls the speed and movement of the robot, at the same time permanently monitoring the torque in the robot's joints. If certain limit values are exceeded, the robot stops automatically in order to avoid potential collisions with operators, robots or other parts of the equipment.

You can see examples of Mitsubishi Electric's solutions and talk to experts at SPS IPC DRIVES, (Nuremberg, Germany 24.-26.11.2015, Hall 7 – Stand 391).

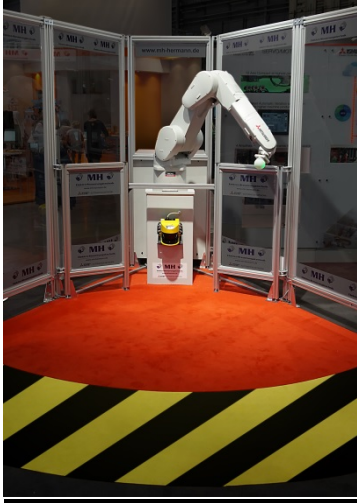
Plus you can see Mitsubishi Electric on the Eplan stand, a partner of the e-F@ctory Alliance, Hall 6 - Stand 210.

Note:

¹ See how Mitsubishi Electric is able to respond to today's automation demands:

eu3a.mitsubishielectric.com/fa/en/solutions

Image caption:



Picture 1: With the "MELFA SafePlus" safety solution and an integrated safety scanner, Mitsubishi Electric's F series robots and operating personnel are able to work together more safely within closely confined spaces.

[Source: Mitsubishi Electric Europe B.V.]

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Note to Editor: if you would like the text in another language please contact Philip Howe at DMA Europa – philip@dmaeuropa.com.

About MH Elektro-Steuerungstechnik

MH Elektro-Steuerungstechnik based in Bad Friedrichshall (Baden-Württemberg) was founded in 1994. Right from the start, the medium-sized business has focused on providing electrical engineering, switchgear construction and hardware planning services for various branches of industry, in particular the automotive industry, materials handling and special machine construction. With Mitsubishi Electric as a system partner, MH Elektro-Steuerungstechnik has been able to add robot technology to its range of process automation services since the start of 2015. In connection with this, the company has also expanded its workforce to include specialists in robotics, system technology and software. Customers of the company benefit from both the extensive technical know-how of its personnel and the latest developments in robotic technology by Mitsubishi Electric. As a result, MH Elektro-Steuerungstechnik is able to find optimum solutions even for highly complex technical requirements.

About Mitsubishi Electric

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 129.000 employees the company recorded consolidated group sales of 36,0 billion US Dollar* in the fiscal year ended March 31, 2015.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe B.V., Factory Automation European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

**Exchange rate 120 Yen = 1 US Dollar, Stand 31.3.2015(Source: Tokyo Foreign Exchange Market)*

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Press contact:

Mitsubishi Electric Europe B.V.

Factory Automation European Business Group

Monika Torkel

Expert Marketing Communications

Mitsubishi-Electric-Platz 1

40882 Ratingen, Germany

Tel.: +49 (0)2102 486-2150

Fax: +49 2102 486 7780

Monika.Torkel@meg.mee.com

PR agency:

DMA Europa Ltd.

Mr. Roland Renshaw

Europa Building, Arthur Drive, Hoo Farm Industrial

Estate, Kidderminster, Worcestershire, UK

Tel.: +44 (0)1562 751436

Fax: +44 (0)1562 748315

roland@dmaeuropa.com

www.dmaeuropa.com