



## WITTENSTEIN motion control's fully scalable servo actuator platform unveiled

November 25, 2015

### Premiere for "premo"

**"premo", the fully scalable servo actuator platform, from WITTENSTEIN motion control GmbH will make its debut at the upcoming SPS/IPC/DRIVES exhibition in Nuremberg (November 24 to 26, 2015). Motors and gearheads with scalable features depending on the application can be configured in a modular way to obtain bespoke motor-gearhead units. Behind this enormous flexibility lies an ingenious system construction kit with novel design principles, which sets new benchmarks in terms of size and power density. Various feature packages meet the most diverse automation and integration needs. They will be joined mid-way through next year by industry-specific premo variants for complex target applications with special performance and environmental demands.**

High-tech products made by WITTENSTEIN fly into space and win Formula One races. Intelligent drive systems – from the world's smallest high-performance servo drive to the latest state of the art in medical technology – are developed, produced and marketed by a team of around 1900 employees. With a blend of dedication and enthusiasm, we set benchmarks – every day – worldwide.

Maximum design flexibility, double the usual power density in a very small space, more productivity and optimized energy efficiency thanks to the digital single-cable technology – in many respects WITTENSTEIN motion control's premo platform represents a completely new generation of servo actuators with a design that is just as stunning as the engineering.



Now fully scalable: the new "premo" servo actuator platform from WITTENSTEIN motion control (three different variants illustrated here)

### Bespoke configurations based on a modular system

The strictly modular platform concept and the system of flexible modules – a genuine first in the world of servo actuators – enable motor-gearhead units to be configured with unprecedented scalability using a special construction kit. In practice, premo servo actuators can be manufactured and shipped rapidly and efficiently in line with each customer's requirements. Even in the standard version, the three product lines currently available – base line, advanced line and high line – provide exact-fit configurations whatever the application. If necessary, they can be individually upgraded with a whole series of optional features. The numerous possible gearhead outputs and encoder variants result in unique flexibility when it comes to mechanical and electrical integration. premo thus assures extensive

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design freedom for a wide range of applications – without a separate customized solution.

### **Less space, more performance**

The servo actuators belonging to the premo platform were explicitly designed to save space. Their short overall length considerably simplifies installation in confined areas as robots, automatic handling systems, machine tools and filling and packaging lines become more and more compact. Together with the 750 V DC link voltage which is now available, this means not only twice the power density but also a gain in performance – for even more dynamics and productivity despite the very small footprint.

### **Integrated energy efficiency**

Finely scalable planetary gearheads with up to 97 percent efficiency in combination with up to 92 percent efficient servo motors – the premo platform leverages WITTENSTEIN motion control's longstanding experience in the design of energy efficient motor-gearhead units. Intrinsic moments of inertia are reduced to a minimum because the premo servo actuators dispense with a shaft coupling, so that optimal energy efficiency is guaranteed irrespective of the scale. What's more, the digital single-cable technology which is used to supply power and transfer data between the motor and the controller makes do with just one connector and one connecting cable. This halves the amount of wiring that is required and can often lead to a lower mass or weight for mobile drives, for example if premo is integrated in a robot or non-stationary machine architectures. The bottom line: less kinetic energy and more energy efficiency in the entire drive train.

### **Added value in terms of machine safety**

The premo servo actuator is also state of the art as regards functional safety: the digital encoders support EnDAT 2.2, DRIVE-CLiQ and HIPERFACE DSL<sup>®</sup> and hence meet the safety requirements for applications up to SIL2 as defined by IEC 61508. Machine manufacturers and end users profit from the reduced failure risk of the new encoder technology and know they are on the safe side with premo. The higher holding torque is a further safety aspect: it shortens the emergency stopping distance and ensures greater

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operating reliability, for instance if the servo actuators are installed in vertical axes or the lining of a holding brake is corroded.

### **Industry-specific add-ons in mid-2016**

premo's modular concept enables an efficient response to individual customer requirements. Industry-specific packages scheduled for release in mid-2016 will additionally allow the servo actuators to be adapted to their operating environment. Applications in the food processing, filling and packaging industries, amongst others, will benefit from the optional washdown version because increased stability is specified for servo actuators in high pressure equipment using cleaning chemicals and disinfectants, e.g. in the form of a corrosion resistant housing with no sharp angles or edges or the best possible IP protection. There will likewise be an industry package for automated guided vehicle (AGV) systems, with a plug & play drive unit featuring an ultra-flat design and integration directly in the driven wheels. More special packages can also be developed for other target applications such as robotics and handling solutions, machine tools or packaging machines

### **Photos:**

1. Now fully scalable: the new "premo" servo actuator platform from WITTENSTEIN motion control (three different product lines illustrated here: "base line", "advanced line" and "high line")
2. "base line" servo actuator under the new "premo" platform
3. "advanced line" servo actuator under the new "premo" platform
4. "high line" servo actuator under the new "premo" platform

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Texts and photographs in printable quality can be downloaded from [presse.wittenstein.de](http://presse.wittenstein.de).

**WITTENSTEIN AG – one with the future**

With around 1900 employees worldwide and sales of approximately €276 million in 2014/15, WITTENSTEIN AG enjoys an impeccable reputation for innovation, precision and excellence in the field of mechatronic drive technology – not just in Germany but internationally. The group comprises eight pacesetting Business Units with separate subsidiaries for servo gearheads, servo actuator systems, medical technology, miniature servo units, innovative gearing technology, rotary and linear actuator systems, nano technology and electronic and software components for drive technologies. Through its 60 or so subsidiaries and agents in approximately 40 countries, WITTENSTEIN ([www.wittenstein.de](http://www.wittenstein.de)) is additionally represented in all the world's major technology and sales markets.

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