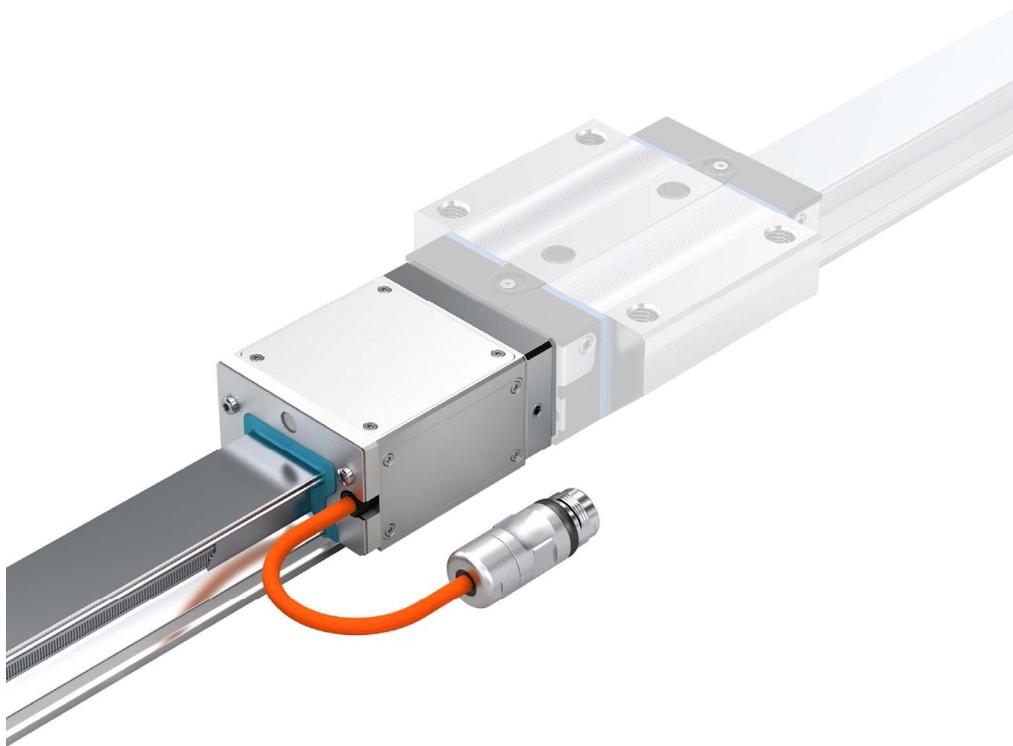


Press Release

IMS-I Integrated Measuring System From Rexroth: Precise, Robust, and Compact

Fully integrated and just as accurate as a glass scale

PI 021/14
2014-04-04



Insensitive to dirt and interference fields: IMS-I integrated measuring system for rail system configurations.

The more advanced and further developed IMS-I integrated measuring system from Rexroth also achieves maximum positioning accuracy in heavily contaminated work environments. The compact solution for ball and roller rail systems is inductive by design and offers repeat accuracy performance that rivals that of a glass scale. The incremental IMS-I records measuring distances of up to 4,500 mm. Several runner blocks can be positioned independently of each other on the same rail.

Whenever cooling lubricant and chips are introduced in the working environment or strong electric and magnetic fields disrupt sensor operation, designers and engineers require a travel measuring system that is just as robust as it is accurate. The more advanced IMS-I integrated measuring system from Rexroth, which is rated for a repeat positioning accuracy of 0.25 μm , now offers a compact alternative.

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Press Release

PI 021/14
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Integrated and precise

The integrated measuring system features a high-precision pitch etched into a steel strip. The scale is integrated into the profiled rail and protected by a tightly welded stainless steel strip across the entire sectional length. A connection such as this is capable of resisting extreme vibrations and impacts of up to 10 g. Rexroth also integrates a highly sensitive evaluation electronics system in the runner blocks to facilitate position sensing close to the tool center point. Additional, external attachment parts are not needed, which allows the integrated measuring system to follow the trend toward space-saving constructions and be installed in tight spaces with minimal outlay. This, in turn, makes it possible to realize straightforward machine designs that take up as little space as possible.

In advancing the design of the IMS-I, Rexroth optimized the distance between the sensor and scale to further improve the system's inherently high tolerance of chips, dust, dirt, and contamination. The inductive measuring system operates without physical contact and is therefore a wear-free assembly. Travel paths of up to 4,500 mm can also be measured with ease, whereby the user can position several runner blocks independently of each other on a single profiled rail and the system will detect each position and approach it with exacting precision.

As accurate as a glass scale

Repeat accuracy levels attain 0.25 μm and scale precision is $\pm 3 \mu\text{m}/\text{m}$, both of which allow the IMS-I to offer almost identical performance to that of a glass scale. Unlike the latter, however, the IMS-I with IP 67 protection does not require any sealing or buffer air with a micro-fine filter and compatible hose line and reduces system and operating costs as a result.

Rexroth integrates the entire IMS-I sensor system in the ball and roller rail systems of all variants to minimize assembly and servicing outlay. Thanks to the interchangeable design realized by Rexroth, all runner blocks of corresponding sizes and configurations can also be mounted to profiled rails of different accuracy classes together with the IMS-I. Not only does this simplify the logistics of the commissioning process, but also facilitates exchange and replacement in the event of a service call.

The high level of accuracy and robust design of the IMS-I lend the system to a wide range of applications, including those that involve positioning laser cutters, synchronizing ram or plunger units in presses, extracting PET bottles

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at high speeds, and assisting with woodworking tasks as well as 3D printer processes that produce abrasive dust. The IMS-I comes preconfigured for direct connection to IndraDrive servo drives from Rexroth and all other common servo drive assemblies available on the market.

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Economical, precise, safe, and energy efficient: drive and control technology from Bosch Rexroth moves machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, Factory Automation, and Renewable Energies to develop innovative components as well as tailored system solutions and services. Bosch Rexroth offers its customers hydraulics, electric drives and controls, gear technology, and linear motion and assembly technology all from one source. With locations in over 80 countries, roughly 36,700 associates generated sales revenue of approximately 5.7 billion euros in 2013.

To learn more, please visit www.boschrexroth.com

The Bosch Group is a leading global supplier of technology and services. According to preliminary figures, its roughly 281,000 associates generated sales of 46.4 billion euros in 2013 (Note: due to a change in the legal rules governing consolidation, the 2013 figures can only be compared to a limited extent with the 2012 figures). Its operations are divided into four business sectors: Automotive Technology, Industrial Technology, Consumer Goods, and Energy and Building Technology. The Bosch Group comprises Robert Bosch GmbH and its more than 360 subsidiaries and regional companies in some 50 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. In 2013, Bosch applied for some 5,000 patents worldwide. The Bosch Group's products and services are designed to fascinate, and to improve the quality of life by providing solutions which are both innovative and beneficial. In this way, the company offers technology worldwide that is "Invented for life."

Additional information is available online at www.bosch.com, www.bosch-press.com and <http://twitter.com/BoschPresse>

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