

Hard on the outside, smart on the inside: igus develops world's first intelligent plain bearing

New smart plastics polymer bearing indicates its degree of wear in good time and prevents machine and equipment failure

Plain bearings often have to withstand considerable adverse influences such as abrasive dust, high speeds or chemicals. To enable indication of the degree of wear of such plain bearings in good time, igus has now developed the world's first intelligent bearing with iglidur high-performance plastics. This warns of imminent failure in good time. Machine and equipment operators can plan maintenance, repairs and part replacement in advance.

If a building machine fails, packaging equipment comes to a standstill or a wind turbine no longer turns due to a bearing failure, this causes a lot of trouble for the operators of such machines and equipment. igus has therefore added the world's first intelligent plain bearing to its range of smart plastics products. It detects wear in extremely stressful applications in advance and sends a signal to the user in good time if the bearing threatens to fail. Maintenance work can therefore be planned and operators of agricultural machines, for example, are not surprised during the harvest season. "We have primarily developed smart iglidur for difficult-to-access bearing points and for applications where no regular maintenance intervals have been planned", explains Stefan Loockmann-Rittich, Head of the Business Unit iglidur Plain Bearings at igus GmbH.

Smart plain bearings individually designed

The body of the new smart iglidur plain bearing consists of two components: the internal, lubrication-free iglidur material and an outer hard polymer shell that protects the bearing. "The customer can choose the material that is most suitable for his application. The complete range of iglidur materials is available to him", says Loockmann-Rittich. In order to measure the amount of wear, an intelligent sensor is used between the two components. The measured data of the sensor can be integrated by the machine and equipment operators in their

systems in different ways. For example, it is possible to inform the operator about the plain bearing's wear by means of a warning light, where an automatic cut-off is also a possibility for integrated use of the sensor data. For high-end applications, the data can be sent directly to a control system, which, after their analysis, passes the data on to a customised web interface via the icom communication module for the purposes of maintenance and repair. In this way, the user can plan maintenance and replacement by means of a terminal device of his choice.

Caption:



Picture PM2919-1

Detect wear with the world's first smart and lubrication-free plain bearing from igus. (Source: igus GmbH)

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ABOUT IGUS:

igus GmbH is a globally leading manufacturer of energy chain systems and polymer plain bearings. The Cologne-based family business has offices in 35 countries and employs around 4,150 people around the world. In 2018, igus generated a turnover of 748 million euros with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain-systems", "e-ketten", "e-kettensysteme", "e-skin", "flizz", "igear", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBeL", "speedigus", "triflex", "robolink", and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.