

Fast and safe in Industry 4.0: with smart igus energy supply on long travels

New: smart plastics EC.T sensor monitors the condition of five times more abrasion-resistant high-speed polymer glide bars in e-chains

High speeds on long travels are special challenges for energy chain systems on machines and plants. Therefore, igus has now developed a new glide bar made of high-performance plastics with a five times longer service life. To monitor the wear-resistant rail, users now have the smart plastics EC.T sensor. This provides regular information about the condition of the rail and sends important technical information to the maintenance engineer in good time.

In order to make the industry capable of producing more efficiently, economically and competitively, the requirements in mechanical engineering are increasing with ever faster systems with travels of 200 metres or more and with higher fill weights. This development brings with it new challenges - not only for the energy chain and cables - but also for the glide bar in the energy supply system. Rolling energy chains have been performing these tasks for a long time without problems, but are more expensive. In order for the energy chain used in a guide trough to be able to move in a wear-resistant manner over long distances despite the demanding conditions, glide bars made of a long-lasting material are needed. Therefore, with the backing of its years of expertise in the field of wear-resistant plain bearing technology, the motion plastics specialist igus has now developed a new highly abrasion-resistant high-performance plastic, especially for high speeds of over 5 m/s. The glide bar made from the new high-performance polymer has already proven its credentials in the company's own 3,800 square metre igus test laboratory with a five times longer service life than the previously used profile. The wear-resistant rail is designed in such a way that it works gently against the energy chain. In order to permanently monitor the condition of the glide bar, igus has also developed the EC.T sensor.

The new EC.T sensor measures the condition and gives maintenance recommendations

The new EC.T sensor is cast directly into the new high-speed rail. The sensor works wirelessly and is battery powered. At regular intervals, it sends a signal about its condition to the communication module icom. This prepares the data of all igus isense sensors and offers the option of integration in any desired maintenance tool. If there is an interruption of the conductor loop in the sensor, the service life algorithms can be used to predict the number of days until the next maintenance using the maintenance tool. The new glide bars with the sensor are used, for example, on linear robots in automotive production, on gantries in machine tool construction or on the 7th axis of industrial robots.

Rolling energy chains for travels with 1000 metres and more

Travels up to 1000 metres or more are implemented by igus with its rolling energy chains. Users can rely on a long-lasting and intelligent solution offered by the latest generation of P4.1 rolling chains. This is because a sensor is available for the plain bearings used, which ensure the lubrication-free mounting of the individual chain links. This informs about the condition of the sliding element. Additional sensors which provide information about the condition of the data and power cables, the abrasion of the energy chain or even measure push and pull forces, are also available for all igus energy chains. In combination with our own guaranteed and tested chainflex Ethernet, Profinet, servo, hybrid and fibre optic cables, igus offers state-of-the-art machine components that are equipped for all requirements in Industry 4.0.

Caption:



Picture PM4419-1

To monitor the new glide bar made of an abrasion-resistant high-performance polymer, igus now relies on the smart plastics sensor EC.T. It regularly sends information about the technical condition of the long-lasting rail. (Source: igus GmbH)

PRESS CONTACT:

Harish Bhooshanan
Product Manager
E-ChainSystems®

igus (India) Private Limited
36/1, Sy. No. 17/3
Euro School Road,
Dodda Nekkundi Industrial Area - 2nd
Stage
Mahadevapura Post
Bangalore - 560048
Phone : +91-80-49127809 (Direct)
Harish@igus.in
Visit us on www.igus.in

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", "e-spool", "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.