World's first at SPS IPC Drives: The first intelligent bus cable for safe automation

CF.D enables monitoring of highly dynamic e-chain cables in the Smart Factory, thus reducing disruption to production operations

At the 2018 SPS IPC Drives, igus presented a novel and globally unique concept for the intelligent monitoring of bus cables in e-chain systems. Thanks to early alerts, even in case of the slightest changes in transmission characteristics, the CF.D system detects imminent plant shutdowns in good time. In this way, the high costs for unplanned production losses can be avoided.

The mechanical loads in energy chains eventually change the transmission characteristics of bus cables. As well as linear travels, this also applies to three-dimensional movements, for example in the case of dress packs on robots. The result is disruptions in data transmission or even unforeseen plant failures. The globally unique concept presented by motion plastics specialist igus at this year's SPS IPC Drives detects the impairment of the chainflex bus cable used in advance. The intelligent system consists of an evaluation unit and a response module. These are integrated at the beginning and end of the moving bus cable. The evaluation unit is usually placed in the switch cabinet on the fixed end side, and the response module in the distribution box on the moving end side. Between the two, special data packs are transmitted for measurement purposes and the cable quality is permanently evaluated by means of the increasing number of lost or damaged packs. If a predefined value is exceeded, the customer is alerted via a yellow LED and the switching of a contact. This alert threshold can also be queried via the connected network and the current situation can be displayed in a web browser. Exceeding a second alert threshold is signaled via red LED and indicates a failure of the bus transmission, so that the error can be quickly located by taking a look at the switch cabinet.

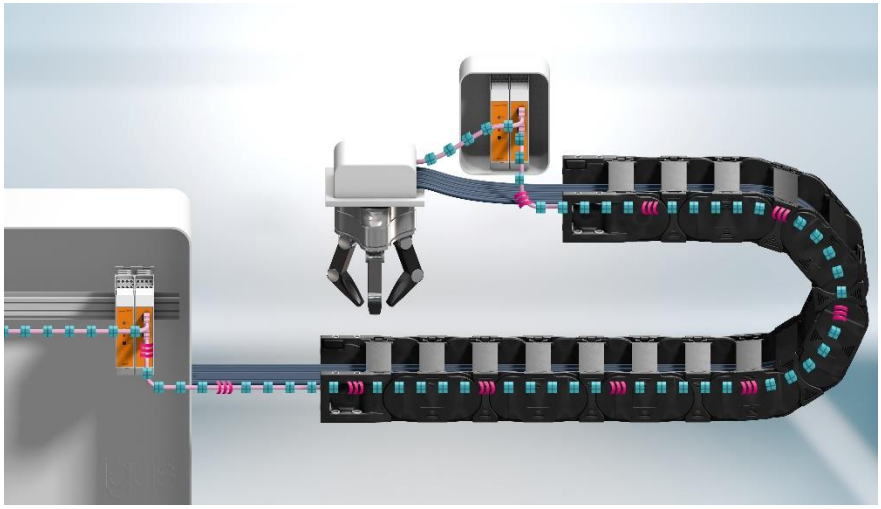
smart plastics range continues to grow

For the first time, the innovative system enables the monitoring of a cable in dynamic operation, without additional measuring wires or sacrificial cables.

CF.D integrates itself into the isense environment for predictive maintenance. igus has been developing a family of products since 2016 under this heading, where various sensors and monitoring modules add intelligence to motion plastics products such as energy chains, cables, linear guides and slewing ring bearings. They measure among other things the wear during the operation and alert the user early enough to plan repair or replacement. By networking using the igus communication module (icom), the online status and alert display, for example via a PC, tablet or smartphone, is just as possible as a direct integration into the customer's infrastructure. These smart plastics are already predicting the service life of numerous customer applications, such as in the automotive industry.

The next step of development is the increasing integration of the planned components, such as the integration of the receiver in a connector housing. Interested beta testers can contact igus at smartplastics@igus.net.

Caption:



Picture PM7518-1

Intelligent cable monitoring in the Smart Factory: The CF.D system from igus provides timely information on changes in the transmission characteristics of bus cables. (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 3.800 people around the world. In 2017, igus generated a turnover of 690 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.