igus GmbH (2005-12-12)

Data transmission now wireless too

At SPS/IPC/Drives igus, an expert in energy supply systems, presented four new concepts for machine and plant engineering

The tried-and-tested copper wire method? Or glass FOC? Data modulation or even wireless? At the SPS/IPC/Drives show in Nuremberg, igus demonstrated how wirless data transmission in machine and plant engineering could work in the future with the aid of an extensive test structure. The Cologne-based company presented trade visitors with four solutions. Frank Blase, CEO at igus, says: "We are demonstrating what can be achieved technically today with very little or even no cabling at all. But we also have figures showing the comparative disadvantages, particular with interference immunity and data rates."

The limits of conventional solutions

The situation at the moment is that most data transmission in machine and plant engineering takes place using conventional copper data cables or a bus cable. This technology has been established for years: there are an infinite number of interfaces, and no specialist knowledge of connection technology is required. The disadvantages, however, remain unsolved - relatively low transmission rates and lengths as well as only moderate EMC safety.

Four ideas suitable for industry

igus has four new application-specific solutions to offer, for wherever transmission paths based on copper are not ideal. First own wireless solutions will be tested in the near future by renowned industrial customers.

New: low-cost FOC-copper interface reduced expenditure

Solution number one is "Chainflex" bus cables from igus, which use special materials that have been proving their worth for years in energy chain applications. Solution two is fibre optic cables, which allow significantly higher data rates and cable lengths and have extended EMC safety to a maximum, even where especially tight bending radii are involved. They are already being used successfully in energy chains and have been for more than ten years. They dominate crane engineering and transport technology, with around an 80% share, but - as igus reports - they are also becoming more and more popular in machine and plant engineering.

With a new, modular FOC-copper interface, safe data transmission will become straightforward and economical for popular field bus systems or even Ethernet with 100 MBit/s. The user has a conventional copper data cable through to the igus interface, where the transmission to FOC is accomplished. Specialist knowledge and complex connection technology are no longer required.

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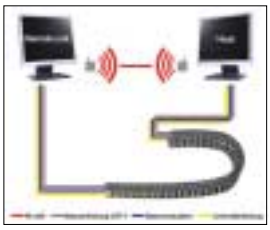
New: data modulation and wireless transmission in a test with industrial customers

Thirdly, igus now provides an additional new, pioneering possibility in the form of data modulation to power cables. This solution has the advantage of a reduced power level. igus explains: "With a new way of thinking in planning connection and terminal units - in terms of hardware," the necessary interfaces and cabling efforts could be significantly reduced by means of data modulation.

igus now also provides solutions which go beyond the energy chain/power concept. The fourth possibility, the first wireless developments, will shortly be entering the customer test phase, which will then demonstrate the advantages: less cabling effort, a more straightforward installation. The new tests will clearly demonstrate the measured limits of wireless solutions in industrial applications, such as lower interference immunity, or lower numbers of participants and transmission rates.

The future of data transmission

Offer what is already possible



Cable and wireless

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