Due to increasing automation in production processes on the path to Industry 4.0, the data rates that need to be transmitted between individual stations are also increasing. Movement plays an increasingly more significant role. This is why we specifically need to rethink Ethernet-based communication technology. Secure and durable data cables are absolutely essential here to ensure error-free operation. In situations where cables are laid as permanent installations, relatively affordable Ethernet cables get the job done. But these cables are not designed for moving applications. Their service life is, therefore, severely restricted under such conditions. Specifically for moving applications in energy chains, igus® offers a wide variety of bus cables for the field level and a vast selection of Ethernet cables for movement. We are continuously expanding this product range and have recently developed the very first robot cable in accordance with the CAT7 standard suitable for the most complicated movements as well as the highest data volumes. It reflects the knowledge we have gained as a cable manufacturer with 25 years of development experience. To this day, we have developed and tested more than 1,040 energy chain cables.

If you have any requests or suggestions, would like some samples or have any technical questions, just give me a call.

Yours truly

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Product Manager for chainflex® Cables
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The world's first twistable cables up to CAT7 standard

This year at SPS IPC Drives, igus® is presenting the world’s first twistable cables in accordance with the CAT6A and CAT7 standards. The cables from the CFROBOT product range from igus® guarantee reliability and fast transmission for the user even under the toughest possible mechanical operating requirements such as supplying data to industrial robots. igus® will showcase the new chainflex® CFROBOT8.050 (CAT6A) and chainflex® CFROBOT8.052 (CAT7) cables at SPS IPC Drives in Hall 4, Booth 310. Visit us at the igus® stand.

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- The world’s first twistable cables up to CAT7 standard
- Testing, testing, testing
- Testing is good, inspection is better!
- 27 Ethernet cables for movement
- Special cables for reliable data transmission
- Flexible high-performance cabling systems pass the toughest tests

chainflex® CFROBOT8.052 is the very first robot cable in accordance with the CAT7 standard
Testing, testing, testing – Why we test so stringently especially when it comes to bus cables

Bus cables are like the ‘lifeline of the machine’. They transmit incredible volumes of data. If a malfunction occurs here, a lot of time and effort has to go towards troubleshooting. And if cables move, the inside of the cables moves as well, which leads to a slow decrease in the quality of the data transmission. That’s why we at igus® research this process of deterioration at our in-house test lab covering 1,750 square metres and try to minimise its effect. Our specially designed AutODMS system guarantees continuous measuring of the resistance value during movement. This allows us to perform measurements on the tests in real time. 24 hours a day, 365 days a year. But to ensure good design, bus transmission also has to be inspected on a regular basis. Our bus cables are always optimised for movement to provide the highest possible transmission properties. When it comes to our chainflex® cables, the designs of shielding, wires, stranding the very first robot cable in accordance with the CAT7 standard. Because each application has different requirements, movements can be unusual and the ambient conditions on site can be quite unfavourable. A large selection is, therefore, necessary to ensure optimum savings. Solutions for the widest variety of Ethernet derivatives, such as Ethernet, Sercos, Profinet or Ethercat, for your specific machine requirements can help you. We fabricate your cables according to your individual needs: anything from high-end to economy. Or you can calculate your cables’ service life at:

www.igus.eu/cf-lifetime

Largest selection creates savings – 27 Ethernet cables for movement

Igus® offers you the world’s largest selection of Ethernet cables specifically designed for the use in energy chains. The product range comprises 27 different cables in seven different price categories. Starting at the affordable chainflex® CF888 all the way to the new chainflex® CFROBOT8.052, the very first robot cable in accordance with the CAT7 standard. Because each application has different requirements, movements can be unusual and the ambient conditions on site can be quite unfavourable. A large selection is, therefore, necessary to ensure optimum savings. Solutions for the widest variety of Ethernet derivatives, such as Ethernet, Sercos, Profinet or Ethercat, for your specific machine requirements can help you. We fabricate your cables according to your individual needs: anything from high-end to economy. Or you can calculate your cables’ service life at:

www.igus.eu/cf-lifetime

Special cables for reliable data transmission

The extensive data cable product range from igus® is complemented by special solutions and brought together under the name CFSPECIAL. CFSPECIAL.045 was originally developed for applications in high-rack facilities with racks up to 100 metres high, for example. At this height, standard cables can develop problems with data transmission since the cable’s dead weight can cause the wires and shielding to shift or even destroy. Laboratory tests at igus® have shown that, in the tensile test, the special cable performs about 15,000 percent above the required standard (DIN VDE 0298). Tightened at a torque of 2,919 newtons, the cable does not break and the data transmission remains in place for the long term. The outer jacket is its special feature. It is made from a low-adhesion, highly abrasion-resistant PUR mixture with an embedded aramid/kevlar fibre which absorbs all external forces.

www.igus.eu/CFSPECIAL.045
Flexible high-performance cabling systems pass the toughest tests

Guest contribution by Annalena Behr, Key Account Manager
DataVoice Industry, Telegärtner Karl Gärtner GmbH

igm® and Telegärtner have joined forces to test the behaviour of a fabricated cabling system under highly challenging operating conditions. For the extensive tests, the companies relied on the expertise of both of their laboratories. Ethernet and PROFINET cables with highly-flexible conductors (19-strand litz wires) were tested - the type frequently used in automation technology. The tests showed that the connection cables, consisting of a MFP8 RJ45 plug connection and chainflex® cables, provided first-class transmission properties even after millions of movement cycles. Since then, the field-assembly MFP8 RJ45 connector series has been expanded with the addition of two versions. With its MFP8-4x90, Telegärtner’s portfolio now includes an angled, field-assembly RJ45 connector. It features a 90-degree cable outlet which can be fabricated in four different outlet directions (up, down, right, left). The innovative cable gland is one of the most significant features of MFP8 IE, the newest member of the MFP8 product family. Now, cables with a diameter of up to 10 mm can be used. Applications such as WiFi AccessPoints, production systems or manufacturing monitoring with high-resolution cameras, closed-circuit television (CCTV) or passenger information systems (PIS) can now be realised. This makes the plug connectors from the MFP8 product family the perfect solution when it comes to using high-quality cables for installation and repair in modern industrial networks since the long-term resilience offered by their physical design gives them a slightly larger diameter.

If you would like to learn more about the world’s largest selection of Ethernet cables for moving applications, simply order our new Ethernet flyer or download it:

► www.igus.eu/downloads

*Now with service-life information for every cable!

Additional information and service

Would you like some free samples, catalogues or other information? If so, call us or send us an e-mail.

► www.igus.eu/catalogue
► Phone +49 2203 9649-800
► E-mail: elektro-news@igus.de
► Fax +49 2203 9649-222

Is there anyone else on your team we should send the Electro newsletter to?