

Munich, October 27, 2022

Press Release

Electromechanics: Key components for industry and the automotive sector

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- **Continuous, ethernet-based IP network infrastructure through SPE**
- **Electromechanical relays indispensable for the energy transition and for electric mobility**
- **Hygienic switches and buttons for health care**

Electromechanical components are indispensable for a variety of applications in nearly all branches of industry. The sub-area of electrical engineering covers an enormous range of components, from relays and actuators to switches and connection systems to housing technology. At **electronica 2022**, leading companies from the industry will present the entire spectrum of electromechanics in Halls A2, B2 and B3. On **November 16, 2022**, the **Electrical Connectors Forum** will revolve around the **Single Pair Ethernet (SPE)**.

Disrupted supply chains, scarce raw materials, high energy costs – this also affects the manufacturers of electromechanical components. On the other side the COVID-19 pandemic has increased the need for digital solutions in many areas of the business and the everyday. The manufacturing industry has long since been a part of this trend. So far, however, there has been no satisfactory solution for the field level, where thousands of sensors and actuators are currently connected via a complex and expensive Ethernet structure.

Change through Single Pair Ethernet (SPE)

A change in technology is now on the horizon in the form of the Single Pair Ethernet (SPE). Switching from two- or four-pair cabling to one-pair cabling creates a consistent, Ethernet-based IP network infrastructure that saves space,

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weight and costs. SPE has already become indispensable in the automotive industry. Broadcom's BroadR Reach enabled in-vehicle systems to simultaneously access information over single-twisted pair cables for the first time. Combined with the switch technology according to IEEE 802.3, it is possible to transmit up to 100 Mbit/s. In addition to the reduction of material, installation space and costs, as well as consistent real-time communication, SPE also opens the door to factory, process and building automation. Experts describe it as a key technology for the IIoT.

According to a recent study by The Insight Partners, the global SPE market will grow from \$1.90 billion to \$3.60 billion by 2028 at a CAGR of 9.6 percent. A broad SPE portfolio already exists. Companies such as Amphenol, Harting, Phoenix Contact, Telegärtner and Würth Elektronik will be presenting related products at electronica. And there will be expert knowledge on the Single Pair Ethernet on November 16, 2022 at the Electrical Connectors Forum in Hall B3 from 10:00 a.m. to 1:00 p.m.

Electromechanical relays for all cases

The situation is almost the opposite with electromechanical relays (EMR). They continue to resist solid state relays (SSR) with characteristics such as low power consumption, low cost, long life and easy maintenance. For example, electromechanical circuit board relays are still used in almost all building automation systems. However, building technology is not the only source of growth. Automation, the use and generation of alternative energies, and changing mobility are also continuing to help the market for electromechanical relays to generate good sales. Analysts at Infogence Global Research see the global electromechanical relay market growing from \$5.94 billion this year to \$7.25 billion by 2027, at a CAGR of 4.07 percent. Manufacturers such as Omron, Panasonic, Phoenix Contact and Weidmüller are showing electromechanical relays at the trade fair that cover an enormous number of applications – ranging from controllers, sensors and actuators to light control devices, motors and timers to access controls.

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HMI with switches and buttons

Electromechanical input systems such as switches, buttons and keyboards are not going out of fashion either. Manufacturers experienced lower demand from the electronics and automotive industries due to the pandemic. However, this was partly offset by the healthcare sector, as, against the background of the pandemic, governments invested heavily in struggling healthcare systems. In addition, operating elements for hygienic applications generated additional sales. According to Global Market Insights, the market surpassed the 13 billion mark in sales in 2021 and will grow at a CAGR of around 6 percent until 2030. The analysts see excellent market opportunities through the introduction of industrial automation technologies such as IIoT, AI and robotics. In addition, electromechanical switches in modern vehicle cabins are increasingly optimizing comfort, safety and access to a wide range of functionalities. At electronica, companies such as Bopla, C&K Components, Georg Schlegel, Kundisch, Panasonic, Rafi and Schurter will present the entire range of electromechanical control elements.

You can find this press release for download including press pictures at the [electronica newsroom](#).

About electronica

electronica is the most important international meeting place for the electronics industry. The world's leading trade fair covers the entire electronics spectrum from components to systems, applications and services. The extensive supporting program highlights the automotive, embedded, semiconductors and wireless – and networks startups with the industry. In 2018, over 81,000 visitors and more than 3,100 exhibitors attended electronica, and 8,253 people took part in electronica virtual in November 2020. The next electronica will be held from November 15 to 18, 2022 at the Messe München Exhibition Center.

electronica worldwide

In addition to electronica, Messe München organizes electronica China, electronica South China, electronica India, the SmartCards Expo and electronicAsia. The network of electronics trade fairs also includes productronica in Munich, productronica China, productronica South China, productronica India and LOPEC.

Messe München

Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies. Every year, a total of over 50,000 exhibitors and around three million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München, the Conference Center Nord and the MOC Veranstaltungszentrum München as well as abroad. Together with its subsidiary companies, Messe München organizes trade shows in China, India,

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Brazil, South Africa and Turkey. With a network of associated companies in Europe, Asia, Africa and South America as well as around 70 representations abroad for over 100 countries, Messe München has a global presence.