

Kistler launches world's first charge amplifier with IO-Link technology

A new flexible, miniature charge amplifier with IO-Link, a world first from Kistler, complies with industrial communications networking standard (IEC 61131-9) and combines analogue and digital communication technology to pave the way for Industry 4.0. The new charge amp is ideal for applications over a wide range of industry sectors, including robotics, packaging, food and beverage, as well as OEM's. Its small size L 38mm x W 25mm x H 31.4mm including the output connections and its low weight of only 30g means that the amplifier can be installed where space is at a premium, such as robotic heads and other moving parts.

The 5028A charge amplifier is the first of its type to use IO-Link technology where analogue output signals from piezoelectric sensors sends digital communications data. The new amp delivers digital data that is resistant to interference from disturbance variables and end-to-end communication all the way through to sensor level. IO-Link technology opens the way to highly reliable, predictive maintenance allowing maintenance tasks to be initiated automatically when data is regularly outside a setpoint range.

When the IO-Link component is replaced, the new parameters are transferred automatically.

By incorporating a digital interface into the 5028A charge amplifier, Kistler is taking another step towards the fully networked factory in keeping with the goals of Industry 4.0. Users receive reliable data for immediate process evaluation as the raw analogue signal is digitized in the amplifier. The disturbance variables that occur in conventional analogue systems due to inductive or capacitive couplings are avoided and the need for complex and costly individual cabling for analogue and control signals is eliminated. The charge amp is equally suitable for use as an analogue charge amplifier with reset/operate input, it delivers proven performance for controlling fast processes with low latency and jitter. The 5028A charge amplifier is the world's first amplifier for measurement data from piezoelectric sensors with communication based on IO-Link. This device will fit easily into almost any industrial application that calls for small, lightweight components and simple solutions.

Standard interfaces ensure flexible use

As well as its extended functional scope, the 5028A charge amplifier offers customers another decisive benefit; the interfaces with the upstream sensor as well as the customer's downstream system are compliant with industrial standards. This means that the charge amplifier can be integrated into any existing network that supports IO-Link. This advantage guarantees easy, cost-efficient installation – and users can be sure that data is transmitted reliably and securely. Kistler is thus taking another step towards the harmonization of proprietary connector types according to commonly used standards making the products easier to use. Even on the smallest of Kistler's amplifiers, customers themselves can now adjust the settings in line with their own requirements. This innovation is Kistler's response to an industry-wide trend for more flexible use of components in different systems.

Much valuable space can be saved thanks to the compact dimensions of the 5028A charge amplifier, which can easily be positioned on robot heads or other moving parts. The new

device can be used generally in mechanical engineering applications and is also suitable for sectors such as medical technology, because it allows verification of changes to settings at any time. This product's favorable cost-to-benefit ratio underscores the economic advantages of IO-Link technology – an aspect that is also highlighted by the IO-Link Consortium.

About the Kistler Group

Kistler is the global leader in dynamic measurement technology for measuring pressure, force, torque and acceleration. Cutting-edge technologies provide the basis for Kistler's modular solutions.

Customers in industry and science benefit from Kistler's experience as a development partner, enabling them to optimize their products and processes so as to secure a sustainable competitive edge. The owner-managed Swiss company's unique sensor technology plays a key role in the evolution of automobile development and industrial automation, as well as in numerous emerging sectors. With a broad knowledge of applications and an absolute commitment to quality, Kistler is making an important contribution to the further development of current megatrends. This includes topics such as electrified drive technology, automated and connected driving, emission reduction and Industry 4.0.

Some 2 200 employees at more than 60 locations worldwide are dedicated to developing new solutions and offer customized service for individual applications. Since its founding in 1959, the Kistler Group has grown along with its customers, generating sales of CHF 466 million in 2019. Approximately 8% of this went back into research and technology and thus into achieving better results for all our customers.

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