



Press Release

Safecontrol 4.0 increases machine safety and process reliability

Digital measuring and control of pull forces

Weinstadt, xx/04/2023 – By digitally measuring pull forces, machine manufacturers and users can ensure reliable production processes. With Safecontrol 4.0, system manufacturer KELCH GmbH offers a digital measuring system that has a measuring range of 2 to 100 kN and can be intelligently integrated into a network with a mobile device and a corresponding app. The system records the pull forces on the machine spindle and on extensions, reducers and zero point clamping systems. With the free app, users can create their own set of machines and identify them with QR codes.

“Safecontrol 4.0 is ready for the smart factory and offers a valuable contribution to quality assurance, process reliability and health & safety in production,” says Viktor Grauer, Deputy General Manager and Head of Information Management at KELCH. Safecontrol 4.0 allows machine manufacturers to carry out measurements quickly and reliably immediately after clamping in the machine spindle. An integrated position orientation sensor ensures convenient readout in any clamping situation.

Preventing damage in time

When machine owners notice that the pull force of the machine spindle is decreasing after an extended period of use, they can contact the manufacturer as a preventive measure and avoid any impending damage in time. When the pull force decreases, there is a risk of the tools no longer running true. This can result in, for example, unwanted vibrations and a deteriorating surface quality of the workpieces. If the user does not notice in time that the pull force is less than the specified value for the machine tool, tools can be ejected from the machine during machining and pose a risk to workers, the machine and the materials. This would result in substantial costs for repairs and potentially a new machine spindle, a production stop and delivery delays.



One of a kind

The force sensing bar covers a measuring range of 2 to 100 kN with a measuring deviation of only 0.2 per cent of the upper range value, making Safecontrol 4.0 the only system of this kind in the world. Other manufacturers offer up to four different basic devices for the range from 2 to 100 kN, which requires more expenditures with regard to investment, handling and organisation. With Safecontrol 4.0, companies only need the easy-to-use, robust basic device equipped with the corresponding adapters. The appropriate test adapters are available for all common interfaces (SK, BT, HSK, PSC). Adapters for zero point clamping systems are also possible, for example. A supplementary free tablet app supports the high level of process reliability of this application.

Safe processes with the app

With the intuitive Safecontrol 4.0 app, users can create a set of machines quickly, easily and cost-effectively and identify the machines with a QR code. Just one QR code for each spindle is needed. This code is scanned by the camera of the mobile device and assigned to a machine spindle. Once the spindle has been assigned, the user only has to scan the QR code before starting the measurement. The associated machine is selected automatically and the system is ready for the measurement. The data is transmitted from the force sensing bar to the mobile device by Bluetooth. The measured value is displayed on the force sensing bar and in the app and can be saved for the stored machine at the press of a button. The measured values recorded for each spindle can be displayed in the app as a table or as a diagram. A log of the measured values can also be obtained without a mobile device: To do this, the measurement is stored in the internal memory and then conveniently read out on the PC workstation using a USB connection.

3.914 Zeichen (inkl. Leerzeichen)

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KELCH GmbH, based in Weinstadt near Stuttgart, offers peripherals and services for manufacturers and users of machine tools for cutting processes. With over 100 employees, the company generates annual revenue of approx. €13 million. As a fully owned subsidiary of Harbin Measuring & Cutting Tool Group Co., Ltd. (HMCT), Harbin/China, KELCH is part of the China General Technology (Group) Holding Co., Ltd. (Genertec), Beijing. Genertec is represented in 100 countries worldwide, with 45,000 employees in 51 companies. KELCH GmbH acts as the technology centre for the international business group in Europe. KELCH develops, manufactures and markets tool holders, cleaning devices, shrinking devices, presetters, as well as measuring machines, and also offers tool management services. More information at www.kelch.de

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