Operation & Monitoring

KeTop
Smart HMI solutions for machine tools
The future of your machine tool HMI starts now

Greater differentiation of your machine with new, tailor-made visualization

Standalone, customized visualization highlights your machine tool’s unique strengths and improves its usability.

The KeStudio View configuration software makes it possible to create a visualization application on top of NC visualization, no matter what control system you are using. Order management, machine state overviews, tool management, performance evaluations, and much more can be easily implemented in the user interface and implemented according to your very own corporate design.

Why should I switch to a new HMI?

The advancement of CAD/CAM integration is further pushing workshop programming for the production of serial parts into the background. With that, the keyboards and special buttons for the creation of NC programs on the HMI of the machine tool are also disappearing. Using the unique RealTime Multitouch and the associated RealTime Widgets, axis movements are safely and directly translated into machine movements via multitouch. This means that a new HMI can be realized with almost no mechanical buttons by using a virtual MCP, which is directly integrated in the user interface. This allows you to switch to a new and intelligent HMI solution without traditional buttons and thus remain flexible when it comes to different machine variants and options.

The operator takes center stage

The operator is in direct contact with your machine via the HMI. It is at this critical interface that your machine may or may not be perceived as intuitive, high-performance, and well-designed. Together with you, our usability experts will swiftly develop the new user interface for your machine. User-orientated interfaces are created with the help of user-centered designs. New technologies, such as realtime-capable multitouch, haptic feedback, and the fully-adaptive KeWheel make entirely new operating concepts possible. Using these promising technologies, unexpected innovation potential will be realized on your machine, regardless of which NC control you use.
Top support – from concept to series production

Our decades of experience in the creation of HMI solutions for series machine manufacturing will benefit the implementation of your unique needs. With our innovations like RealTime Multitouch, Force Feedback, and KeWheel, you are one step ahead of the competition and optimally equipped to be successful on the global market. Our goal is to develop an economically feasible and future-proof HMI solution for your machine tool. Our experienced staff will support you through the entire development process, from concept to series production.

Your long-term partner for any visualization project

A successful implementation at KEBA starts with the creation of a user-centered concept by our experienced design experts, using personas, use cases, and the derived wireframes. After the successful prototype stage, the new HMI moves into the joint implementation phase. The visual implementation based on your corporate design is created at the same time. Even after a successful test phase and commissioning, the project is not yet completed for KEBA. After completing the project successfully, a new phase begins in which we support you with continuous improvements, product life cycle management, and monitoring of the latest HMI trends.
Together, we can shape the future

Our R&D aims to give us an edge through bold innovations. Our innovations solve specific customer problems. Our experts offer the best possible support during every stage of the project and will develop the ideal HMI for your machine tool together with you. You will be ready for the present and future with innovations such as RealTime Multitouch, KeWheel, and Force Feedback.

Machine operation with virtual MCP/MPP

A virtual MCP/MPP can be created on the touch surface with the realtime-capable RealTime Multitouch. This enables maximum flexibility in the software while standardizing the hardware at the same time. The realtime-capable multitouch is able to transmit operator interactions directly to the control in real-time via a real-time fieldbus, such as PROFINET. This means that mechanical buttons are largely a thing of the past.

Simply projecting instead of programming

With the intuitive HMI designer, ready-made widgets are compiled into finished visualization screens using drag & drop, without needing to program a single line of code. The WYSIWYG editor shows you what your finished application will look like at all times.

Nothing stands in the way of expanding the existing functions to your heart’s desire by freely programming within the source code. This means total freedom for you with the implementation of your corporate design and your ideas on differentiation.
Blind operation thanks to Force Feedback Touch

Until now, HMIs were always separated into monitors for displaying information and buttons for controlling elements. By pressing a button, it was immediately clear that an action was set. Functionalities and design variations can be created more flexibly with modern multitouch panels, but the haptic feedback gets lost. To compensate for this shortcoming, we have developed an operating panel with force feedback capability.

Different feedback patterns allow operators to feel pressure points and the positions of buttons in the user interface. This haptic feedback is accompanied by a click sound, providing the operator with active, haptic, and acoustic feedback during interactions, even when the user looks away from the control panel. This position and activation threshold recognition allows safe blind operation with the operator fully focused on the process.

The active, haptic feedback of the force feedback touch is perfectly combinable with the realtime capability of our multitouch panels. This also facilitates the complete replacement of mechanical buttons by using software.
Reach in just once – and control your machine instantly

KeWheel – the adaptive MRF* rotary push button combines all functions into one operating element

With the fully adaptive rotary push button KeWheel as the main operating element, entry options, such as for overrides, hand wheels, mode-selection switches, axis travel buttons, and the user interface, can be combined in a single device. The KeWheel provides the operator with additional information about the condition of the machine through wide-ranging haptic feedback.

Blind operation and staying focused on the process is supported through haptic feedback. Due to the magnetorheological fluid used in the KeWheel, various, sensory effects and holding torques can be generated with a response time in the millisecond range.

Wide range of haptic feedback through MR technology

The use of magnetorheological (MR) liquid, as used, for example, in vehicle shock absorbers, allows for the implementation of improved use cases on the HMI. The response speed of the MR technology allows for various feedback patterns, such as ripples, stiffness, or stops. As a result, different mechanical properties can be combined in just one operating element.

The possibilities of this new patented technology comprise KeWheel modes such as overrides for rapid traverse, forward feed, spindle, different hand wheels, user interface input options, hold to run buttons, and many more.

The KeWheel and all its functions can be easily integrated via a real-time fieldbus, such as PROFINET. The MR technology opens up new possibilities which were previously unavailable.

* MRF = magnetorheological fluid
Adaptive hand wheel
- Different haptic elements
- Force feedback function
- Blocking at critical positions
- Combinable with push functions

Dynamic override function
- Change rapid traverse / forward feed / spindle
- Set override position
- Reset of end stops
- Combinable with push function

User interface selector
- Operating mode selection
- Scroll through / select NC programs
- Scroll through alarm list
- Combinable with push function
One software for everything

Using KeStudio View visualization software, user interfaces can be implemented with minimal effort and in no time. What makes it unique is that you only need one software to create as many user interfaces as you wish for all your operating devices, whether mobile or stationary.

Enhance your machine with useful applications

KeStudio View allows the easy integration of the process user interfaces offered by NC controls, either natively or via VNC. Already developed software components can also be integrated into the new operating concept. With KeStudio View, important application components such as dashboards, file, program, and order management, recording of process data and alarms, language switching as well as user management, can be created quickly.
Many customization options for hardware and software

The challenges in the machine tool market are manifold and require a deep understanding of the needs and adaptations of the respective machine tool. Gradual adaptation guarantees ideal orientation to the respective needs. The options range from simple adjustments of colors and logos to specially developed panel components that seamlessly integrate into existing machine concepts.

Everything for a new human-machine interaction

Ergonomics and an intuitive user interface are key factors for efficient operation and monitoring. In order to increase efficiency and optimally reduce errors during operation, a given process requires a perfectly matched user interface. This requires hardware that is optimized for the industrial environment and software that is easy to adapt dependent on the process and user.

Perfect adaptation to any application

The powerful Multitouch control panel in sizes 15.6” - 24” can be mounted on standardized or machine-specific support arm and pedestal systems. The panel, which is fully IP65-protected, can be equipped with optional components such as EKS modules, enabling switches, external USB, or Ethernet sockets.
Transparent manufacturing processes and process monitoring

Industry 4.0 requires perfect networking that is optimized for the process and the people working with it. There are many efficient individual solutions, but they are not networked to the extent they could be. Standardized, open interfaces as well as processes that create trust and security for all other participants, are required for seamless networking.

In the future, orders are transferred to a machine park directly without manual input. This reduces the number of errors, increases productivity, and simplifies the overview in real-time. This makes manufacturing processes more transparent, as data such as progress or scheduling are also immediately available directly from the machine in the MES (Manufacturing Execution System) or ERP (Enterprise Resource Planning).

The smart machines are connected via a control desk and optimize their own processes, everything is automatically re-configured, and if faults or failures do occur, the process is to lead the operator to a solution in the best case scenario.

Middleware and OPC UA as basis for communication between HMI/MES/ERP and NC control

Our middleware and various NC control adapters form the basis for networking the machines. The middleware allows various control types to be mapped via an abstract machine model, thus creating the necessary standardization of the communication between HMI and the NC control. This means that data with a higher-level MES or ERP can be exchanged via the middleware with OPC UA.
KeTop stands for **quality**, **robustness** and **ergonomics**

Our sturdy top-quality products are perfectly designed for use in industrial environments. Furthermore, KeTop devices have undergone extensive testing at the in-house, certified EMC lab and therefore fulfill all relevant standards and directives. High-quality materials and processing complement the well-designed solutions for every situation.

**Maximum ergonomics improve operating efficiency**

Fatigue-free operation is the prerequisite for the operator to concentrate on their work and handle it error-free and is consequently cost-effective. This enables maximum operating efficiency and minimizes the signs of fatigue and the risk of operator error. We endeavor to optimally combine robustness and ergonomics into one product.
Fit for the future with KEBA.

Founded in 1968, KEBA AG is an internationally successful electronics company based in Linz/Austria with subsidiaries around the world.

In line with its credo, "Automation by innovation", KEBA has been developing and producing inventive, top-quality automation solutions for almost 50 years for industrial, banking, services and energy automation branches. Indeed, as a result of competence, experience and courage, KEBA is the technology and innovation leader in its market segments. Extensive development and production expertise represents a guarantee for the highest quality.

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