



The customer-specific multi-touch Control Panel in an aluminum housing blends seamlessly into the corporate design of the Blister Express Center BEC 500 from Uhlmann.

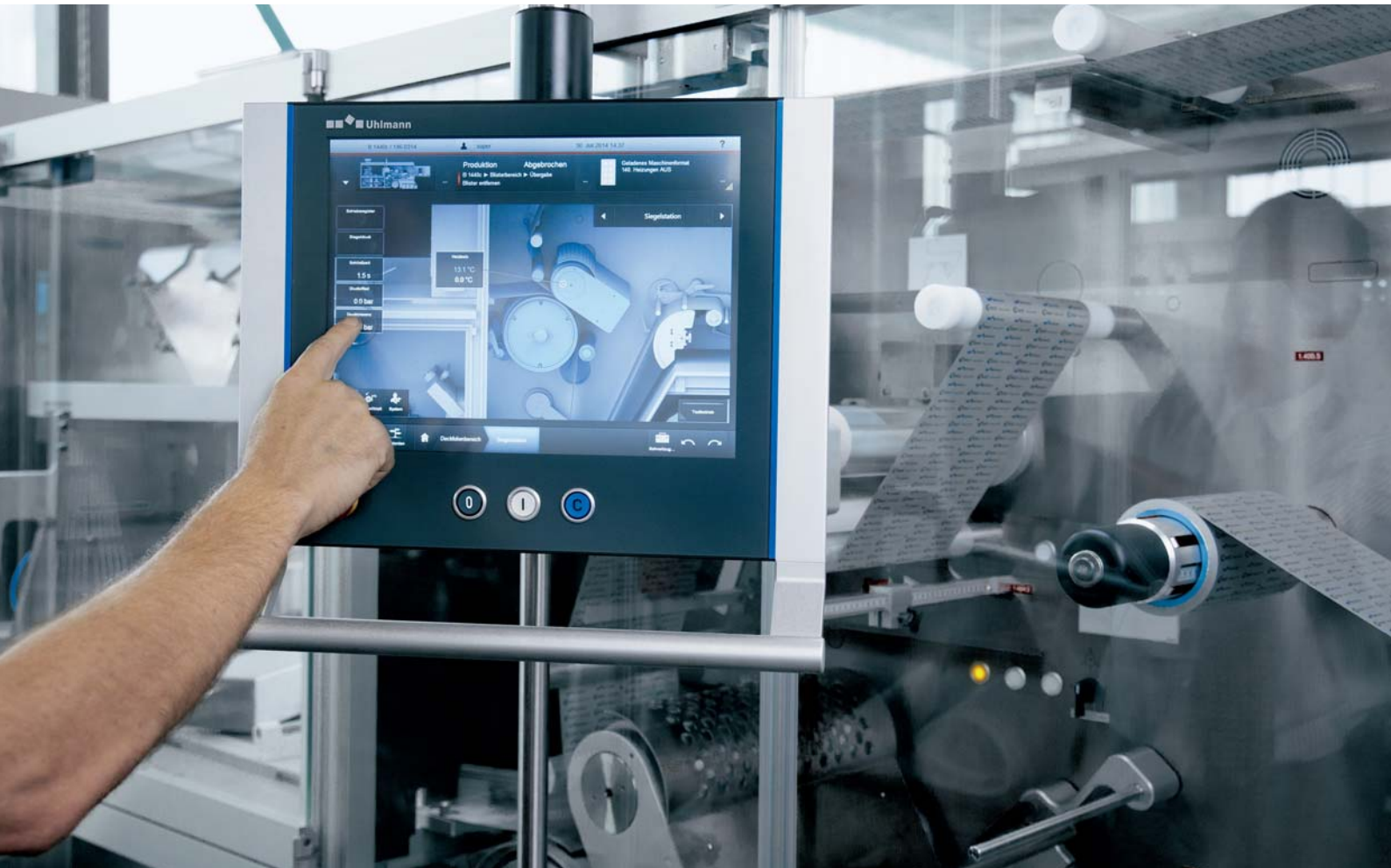
Customer-specific multi-touch Control Panel for pharmaceutical packaging lines

Modern machines provide added value through high operating convenience and top quality design

In the packaging industry, top speed and quality is widely demanded for all machines and plants. Pharmaceutical packaging innovator, Uhlmann provides a considerable level of added value in terms of production efficiency in their packaging lines: performance combines with sophisticated design – highlighted by the customer-specific control panels they utilize, sourced from Beckhoff.

Over a period of more than 65 years, Uhlmann Pac-Systeme GmbH & Co. KG of Laupheim, Germany, has been established as a leader in packaging solutions for the pharmaceutical industry. Their range of solutions extends “from the tablet to the pallet”, as Uhlmann’s head of electrical engineering, Jörg Riekenbrauck explains: “We offer complete, turnkey packaging concepts, consisting of blister packaging machines or bottle fillers, cartoners, bundlers, case packers, and palletizers. In addition, we offer complete IT infrastructure – found, for example, in our Scada and track and trace systems.”

A prime example is the Blister Express Center BEC 500, designed for maximum flexibility and efficiency. Conceived as a two-track packaging line, it integrates a blister and cartoner module over a plant length of less than 10 meters. Up to 500 blister packs and up to 450 folding cartons can be processed per minute. Jörg Riekenbrauck comments: “These capabilities, added to low acquisition and operating costs and high process reliability, position the Blister Express Center BEC 500 as the ideal line for the economic processing of all common solid products and types of films with medium batch sizes.”



The machine parameters can be changed very simply and intuitively with the swipe functions implemented in SmartControl.



At a glance

Solutions for the packaging industry

Individual operating unit for blister packaging machines

Customer benefit

Operating convenience, plus high design appeal

Applied PC control

- 15-inch Control Panel: modern multi-touch technology fitting the corporate design
- C6930 control cabinet IPC: high computing power in a compact design
- CP-Link 4: One-cable Panel connection with less installation work and costs

Operating convenience in a sophisticated design

Extremely simple and intuitive handling is among the many benefits enjoyed by Uhlmann end users. This feature set is made possible by the new SmartControl operating system, which consists of an operator interface specifically designed by Uhlmann and a customer-specific Control Panel from Beckhoff. Jörg Riekenbrauck explains the importance of appealing design here: "Control Panel construction is design-oriented at Uhlmann, because the aesthetics make the operation attractive and reliable; take, for example, the machine's slender operating terminal and smooth surface. The name SmartControl alone is suggestive of a modern, smartphone-based design, with a transition from the touchscreen to the Control Panel that is seamless. The terminal is intended to appear so appealing and light that it virtually floats, fastened to a mounting arm in front of the machine. All of this is flawlessly implemented into the Beckhoff multi-touch Control Panel. The panel won both the Red Dot Award and the iF Design Award in 2014, as well as the German Design Award in 2015, clearly indicating the level of sophistication and quality in the device." In addition, pharmaceutical industry users require the operating terminal to be easy to clean, so the smooth, jointless surface is ideal for this type of application.



The new operating panel in the company's corporate design is used also with the Case Packaging Center 10 from Uhlmann.

The advantages of the Control Panel are so convincing that Uhlmann uses it as a standard for all new machines and plants, as well as for retrofits. Jörg Riekenbrauck sees particular advantages in the swipe functions from multi-touch technology. These are optimally implemented in SmartControl, leveraging the Control Panel's high-performance Projective Capacitive Touchscreen (PCT) technology, which operates with a high density of touch points. For example, the machine speed can be changed very simply and intuitively via the on-screen representation of a rotary control.

Customer-specific operating terminal based on standard panel format

As the basis for SmartControl, Uhlmann selected a panel variant from the wide range of Beckhoff multi-touch panels that was ideal in terms of technical features and design: a 15-inch touchscreen in the 4:3 format. Jörg Riekenbrauck explains: "We preferred the aesthetics of the 4:3 format better than a wide-screen panel, especially as our corporate logo matches it very well in terms of the language of forms. The iPad-compatible resolution of the touchscreen proved to be a positive side effect. It allows the visualization to be operated by tablet if necessary, without having to modify the applications."

The 15-inch display size has also proven to be ideal for the packaging lines, because larger panels often get in the way, obscuring the view of processes. Smaller touchscreens, conversely, would limit the display options. Documents, circuit diagrams, and logs should also be comfortably legible in the visualization. Jörg Riekenbrauck continues: "Apart from that, 15-inch operating units have already been used for many years in our packaging machines. In the future, if the widescreen formats are demanded more by users, or if higher screen resolutions are required, we can absolutely implement them through the wide range of multi-touch panels from Beckhoff. The impressive support offered by Beckhoff engineers – i.e. being highly responsive to customer-specific requests and contributing their own ideas – has already been proven with SmartControl."

According to Michael Schäfer, project manager at Uhlmann, PC-based technology is indispensable for compliance with regulatory requirements in the pharmaceutical industry. "The numerous industry guidelines require that thorough electronic documentation be kept throughout the process; separate databases and additional control systems were required for this previously. Now, this data can be efficiently gathered, tracked, and stored with streamlined IPC technology.



Two of the new operating units are used in the 10-meter long, two-track Blister Express Center BEC 500.



The C6930 control cabinet IPC – with Intel® Core™ i5 processor, SSD, and integrated UPS with additional 24 V battery pack – is connected to the operating panel via CP-Link 4.

The high computing power and compact design in particular led us to choose the IPCs from Beckhoff," Schäfer elaborates.

The Blister Express Center BEC 500 uses a C6930 control cabinet PC equipped with an Intel® Core™ i5 processor for the two control terminals, an SSD, and a UPS with an additional 24 V battery pack. Sufficient computing power is available for smooth operation of the SmartControl visualization and its many graphic and swipe elements. A server solution was created for the visualization, which can be accessed, in principle, by any number of operating panels.

Further advantages through CP-Link 4 connection technology

In Jörg Riekenbrauck's view, the use of a Control Panel instead of a Panel PC offers advantages, especially with regard to continuity and flexibility: "It is important to us that the design elements stay the same over time. The demands placed on the Industrial PC can change quickly, with regard to processor performance, memory expansion, and optional plug-in cards. By separating the Panel and the IPC, we can now use the operating terminal unchanged for the foreseeable future, while using an IPC solution scaled to current needs in the control cabinet."

A further advantage is offered by the CP-Link 4 one-cable connection technology from Beckhoff, with which video signal, USB 2.0, and power supply can be transmitted over distances of up to 100 meters using one standard CAT.6a cable. Jörg Riekenbrauck explains the practical advantages: "In our plants, the control

cabinet is up to 10 meters away from the operating panel, which is mounted on a slender mounting arm. The installation benefits from the fact that, in particular, a rigid DVI cable with its large plug connectors no longer has to be laid. With CP-Link 4, a simple and flexible standard Ethernet cable is sufficient, reducing installation costs."

The connection solution in the Uhlmann packaging machines is implemented on the IPC side via the C9900-E276 PCIe plug-in module. The multi-touch Control Panel already provides CP-Link 4 as an integrated interface, and the DVI and the USB 2.0 signals are transmitted together. Conventional operating buttons and emergency stop are used as methods of operating different generations of controllers.

Further information:

www.uhlmann.de

www.beckhoff.com/Multitouch

www.beckhoff.com/CP-Link4