In its large multi-touch panel portfolio, Beckhoff offers a wide variety of designs for both control panels and panel PCs.

Interview on 10 years of Beckhoff multi-touch Control Panels and Panel PCs

Multi-touch device series: A prime example of how automation and IT can be converged

As a pioneer of PC-based automation, Beckhoff has always examined new technologies – be they from an industrial environment or the world of IT – for their potential industrial application, and adapted, optimized and integrated them as appropriate. A prime example is the implementation of advanced multi-touch technology in the CP2xxx and CP3xxx series of Control Panels and Panel PCs, which have been successful on the market for the past ten years. Roland van Mark, Senior Product Manager Industrial PC, reveals interesting facts about this product anniversary in the following interview.

As one of the first suppliers of industrial control panels, Beckhoff has consistently invested in multi-touch technology, from as early on as 2012. At that time, what were the reasons for this decision?

Roland van Mark: That was very much in line with the Beckhoff philosophy of assessing technologies from other areas – such as the consumer and IT worlds – for their potential use in industrial applications. The multi-touch concept was widely used on smartphones and tablets, so we had to answer two initial questions: Does this function offer an advantage in industrial application and can it be implemented in specific products to meet our high standards regarding industrial suitability? Both questions were answered with a resounding yes, because at the time we already wanted to develop a new – in other words advanced – panel series which featured more robust and cost-effective touch technology with additional display sizes.

How has the range of multi-touch control panels and panel PCs developed since then and what is special about Beckhoff devices?

Roland van Mark: To the best of our knowledge, Beckhoff offers the broadest portfolio on today's market, with a wide variety of display sizes, numerous electronic module variants from passive control panels to high-performance panel PCs, as well as various aluminum housing versions milled from a solid block (including for hazardous areas) or as stainless steel versions in a hygienic design. A special feature is certainly the appealing, timeless and high-quality design, which, despite the capacitive touch technology, works perfectly with an extremely narrow edge. What's more, we benefit from in-depth expertise which extends to electronic modules developed in-house and manufactured in Germany. This is the only way to achieve such a broad portfolio in terms of computing power, format and long-term availability. When it comes to multi-touch functionality, a high level of expertise in electronics development is key. After all, a display which operates on touch for up to 10 fingers is highly sophisticated technology and must function perfectly even under harsh industrial or EMC conditions.

To what extent are today's customers already using the multi-touch functionality and do you see any further potential?

Roland van Mark: To put it simply, all our customers benefit from the multi-touch device series through the mechanical, design and cost advantages that it offers, and this is irrespective of the extent to which the multi-touch function is actually being used. However, we do have countless customers who opt on programming a state-of-the-art HMI, who have specifically chosen to use multi-touch features and who therefore benefit from better user interfaces. However, taking this approach means increased engineering expenses, which is not something that every machine builder wants or can afford. Nevertheless, the multi-touch design offers considerable added value – for example, in terms of faster data storage, and more efficient and error-free machine operation.

What role do the multiple customer-specific device options play?

Roland van Mark: The option of adapting the panels to suit customer-specific requirements with little effort was taken into account right from the start. The housing shape, for example, offers sufficient options for integrating push-button extensions, internal connectors also provide interface options, and the landscape or portrait orientation offers additional design freedom. Possible customizations range from individually printed housings and push-button extensions that can be configured by customers when they place an order, right the way up to special housings based on a customer's CI standards. On the one hand, this is possible because we have created a modular system with our own standardized electronic modules and maximum flexibility to the outside through connectivity. On the other hand, it also requires a lot of application expertise and understanding of customer applications.

Whether control panels or panel PCs, the multi-touch devices are high-quality and long-term available operating units that form the reliable and attractive centerpiece of our machines and systems. Can they also be used without PC-based control technology from Beckhoff?

Roland van Mark: As a matter of fact, yes. With all the aforementioned advantages, the devices are modern and elegant operating units which can also be used without our control technology. For example, we have agreed a global IPC partnership with the BMW Group up to 2030, where Beckhoff PC technology will be used globally by the BMW Group. The CP29xx multi-touch Control Panels and CP32xx Panel PCs will be used – both with new plants and plant retrofits – for linking machines, controlling access, acquiring data, visualizing and other PC-based tasks.

This interview was conducted by Stefan Ziegler, Editorial Management PR, Beckhoff Automation

Roland van Mark, Senior Product Manager Industrial PC, Beckhoff Automation

As Beckhoff recently demonstrated with many different examples at Hannover Messe 2022, the multi-touch devices can also be customized according to individual requirements in a wide variety of applications.