Multi-touch technology combined with format variety:

The customer has the choice

Interview with Roland van Mark on the new Panels and Panel PCs

Roland van Mark, Product & Marketing Management Industrial PCs, Beckhoff

Almost all panel providers today use multi-touch technology and widescreen formats. Beckhoff is a leader in developing this trend, although the new panel and Panel PC generation was developed with innovative as well as conservative customers in mind. Flexibility is, of course, paramount. In an interview with Inge Hübner, Editor of Open-automation, Roland van Mark, Product & Marketing Management Industrial PCs, explains the latest product strategies.

"Widescreen formats and multi-touch technology are the current hot trends in the panel market. However, this does not mean that all customers want to be limited to such devices," said Roland van Mark. Instead, many customers still prefer the traditional 4:3 format and single-touch operation. "That's why we deliberately designed our new Panel PC and Control Panel series for a wide range of customer needs."

With the two new series, CP2xxx and CP3xxx, Beckhoff complements its successful Control Panel series, which was introduced in 1998. The CP2xxx and CP3xxx series have new designs and enable conventional and innovative operating concepts via different display options. The highly customizable model range is a result of numerous discussions with Beckhoff customers. Roland van Mark: "It became clear that the essential requirement for customers is the ability to select the most expedient solution for their application. They don't want to depend on a single solution specified by us." As an example Roland van Mark mentioned a customer who was keen to have the new, more compact device design, but didn't need multi-touch-functionality. For another customer the price was the decisive criterion. "With the new Control Panel and Panel PC series we are able to cover all these different requirements with targeted solutions," said the IPC Product Manager.

The right solution for each customer

In terms of display sizes and formats, users can choose between 4:3 formats and widescreen displays. Single- or multi-touch operation is available. "Our widescreen display sizes range from 7, 15.6 and 18.5-inches up to 24-inches. In the 4:3 format range we offer displays with 12, 15 and 19-inch screens," said Roland van Mark. He explains the reason why the new panel generation doesn't replace the 4:3 formats with 16:9 as follows: "We don't think that

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Push-button extension for built-in multi-touch panels and multi-touch panels with mounting arm

widescreen panels will replace the established panel formats in the foreseeable future. We believe that both formats will coexist in parallel in the market for some time."

Beckhoff is also going its own way in terms of the number of widescreen display sizes announced at the outset. Many medium-sized competitors initially announced one or two models in sizes from 21-inches. With four versions from 7 to 24-inches the question therefore was: Are Beckhoff customers more innovative, or is Beckhoff more willing to take risks? "With the proliferation of multi-touch technology in the industry, our customers will want to use them consistently: from small displays installed in machine cabinets to large mounting arm units. Accordingly, we expect high demand for the 7-inch devices," said Roland van Mark. On the other hand, he doesn't think it is right to start development only once there is demand: "This approach isn't customer-oriented enough." He sees large multi-touch widescreen displays only covering a small proportion of the possible range of applications. He doesn't dismiss the notion that large displays offer more options. "Zooming or the ability to display additional information, such as manuals, offer added customer benefits," he said. Important decision criteria for the 7-inch versions are gesture recognition and the creation of a more "conscious" machine operator behavior. "Today, many users operate the display with one finger, while keeping an eye on the machine," said the IPC specialist. "Multi-touch may force the operator to use two hands if desired, so that the panel automatically requires his full attention." Safety can be enhanced as a result.

16:9 or 4:3 – The customer has the choice

Some providers regard widescreen formats only as meaningful in conjunction with multi-touch technology. Roland van Mark disagrees: "Many machines are better suited to visualization in the 16:9 format. However, until a few years ago such industrial displays were not available. Customers now have the option of optimum machine visualization without changing their habits." Although this changeover requires reprogramming of the visualization, ease of operation is improved. "Many customers regard this as worthwhile," said Roland van Mark based on discussions with customers. And he added: "It is quite rare that a customer chooses a widescreen display for reasons of technical innovation but continues to run the existing visualization on new hardware and adapts the software later." HMI and machine design have become increasingly important in recent years. Users simply won't accept "black bars" on the display these days. "Not least in view of the fact that there are no financial incentives: With our current pricing model, a 15-inch built-in panel is around 28 % less expensive than the comparable previous device," he said and concluded: "For customers who simply want a new panel in the established 4:3 format, our new series offer cost optimization with advanced technology there as well."

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For other device options the price is reduced between 10 % and 25 % compared with the previous list price. This benefit is essentially achieved through the modular system: All Beckhoff device versions are equipped with the same electronics. The varied model range results in a high purchase volume, which in turn makes the competitive price possible.

In this context Roland van Mark regards it as important to point out that the lower price does not compromise quality. For example, all technical attributes such as extended temperature range, vibration resistance and shock resistance, remain the same. The high quality aluminum housing is also retained. "Aluminum as a base material offers thermal benefits and ensures functional reliability in EMC-challenged machine environments. In addition, aluminum has significant benefits in terms of stability. Accuracy and repeatability are key benefits during processing of this material," said the expert and added: "The fact that we don't need punching tools, molds or similar tools makes our production very flexible when it comes to custom adaptations." In addition, the specialists regard it as very important that the glass plate is not glued to the housing, but securely inserted. This protects the glass from damage, e.g. caused by lateral impact from a suspended cordless screwdriver.

LED and PCT as standard

All devices in the new CP2xxx and CP3xxx series are equipped with LED backlight technology. This is one of the factors that enable Beckhoff widescreen panels to be used in landscape or portrait format. In the previous tube models portrait format was problematic. "In tubes that are oriented vertically the illumination will change over time due to gravity. With LED this problem no longer exists," said Roland van Mark. He mentions low power consumption as another benefit of LED illumination. Previous critical aspects, such as poor temperature resistance, are no longer an issue today. The flexibility to switch between landscape and portrait format opens up new options for customers. "With the portrait format the user can continue to use the 4:3 visualization and program a new visualization for the lower part of the screen," said the IPC specialist as an example.

PCT technology (Projected Capacitive Touch) is standard in the new series. "We tested different technologies and chose PCT because it enables a good price/performance ratio," said Roland van Mark. He dismisses the alleged disadvantage that such devices cannot be operated with gloves: "It is absolutely possible to operate the devices with thin work or Latex gloves. In addition, we expect that trends from the consumer market will open up further options." As an example Roland van Mark mentions gloves, in which fine wires are woven into the fingertip areas. We have seen a similar development in ski gloves, in order to enable touch screen operation of smartphones. In addition, the sensitivity of the touch surface can be programmed individually. For certain industries this is an interesting feature.

Availability and potential

In the first step the new series cover three different device types: Built-in panels, mounting arm panels and built-in Panel PCs. The CP2xxx Built-in panel series is implemented with IP 65 protection at the front and IP 20 at the rear. The CP3xxx Control Panels for mounting arm installation feature all-round IP-65 protection. Starting in summer 2012 the built-in panels of the CP29xx series and the Control Panels of the CP39xx series will be available with DVI/USB extended interface from 15 to 24-inch as standard; 7 and 12-inch models will follow in due course. These two device versions can be operated at a distance of up to 50 m from the PC. "With the remote panels data can now also be transferred via USB 2.0," said Roland van Mark. The USB interface can be used for connecting USB devices such as bar code scanners and for data backup, without the need to access the control cabinet.

The CP22xx series makes the built-in displays available in the form of full Panel PCs. "The devices will feature our new motherboard series, which is equipped with Intel Celeron Core i3, i5 or i7 processors," said Roland van Mark. In autumn 2012 this new motherboard generation will also be available in the CP32xx series in the form of an all-round IP-65 rated Panel PC.

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Further Information:
www.beckhoff.com/multitouch

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