

Industrial PCs with high performance and functionality
for the smallest, most compact applications

New entry-level class for cost-effective PC-based control technology

PC-based control technology from Beckhoff can be finely scaled both in terms of hardware and software, with solutions tailored precisely to the application. Three entry-level Industrial PCs (IPCs) are now available for the cost-sensitive lower and medium performance ranges. The C6905 control cabinet PC and the CP6706 Panel PC for Intel® Atom™ multi-core CPUs with one, two or four processor cores, as well as the CP6606 Panel PC for ARM Cortex™ A8 processors form the new entry-level class for PC control. Robustness, open compatibility and long-term availability are just a few of the key benefits for broad industrial use.



The Beckhoff CP6706 Panel PC and C6905 control cabinet PC tap into the computing power of the Intel® Atom™ multi-core processors for cost-sensitive applications.

The C6905 control cabinet IPC and the CP6606 and CP6706 7-inch built-in Panel PCs form the entry-level IPC class for low and medium computing power applications. As the lowest cost device, the CP6606 is equipped with an ARM Cortex™ A8 processor and represents the starting point of the fully-scalable IPC product range. The C6905 and CP6706, with higher performance Intel® Atom™ processors (up to four cores), ideally complement the entry-level of the product portfolio. These devices are particularly suitable for use as small and medium-sized machine controllers, for implementation in motion applications or in more elaborate, graphics-intensive applications. This completes the already excellent scalability of Beckhoff's Industrial PC family. Completely new, price-sensitive market segments can now be addressed as a result. With a large number of devices introduced within a very short period of time, the CP6606 represents the beginning of a success story that continues unabated through the new CP6706 and the C6905 offerings.

Focus on flexibility and reduced complexity

The new entry-level IPC class pares down the usual variety of different panel types within a series. The focus is placed instead on elaborate, variable housing constructions and a nearly infinite variety of extensions. In particular, these devices are focused on simplicity and easy integration of standard components. If unique application requirements need to be addressed, such as additional interfaces, special keys or housing-specific adaptations – the existing 100 % scalable Industrial PC portfolio comes into play. However, the products from the new entry-level IPC class are ideal for small and medium control, HMI or motion applications without special requirements. The reduction of complexity and variants makes it possible for high-quality Industrial PC solutions to optimally address the most cost-sensitive applications.



Entry-level class of Industrial PCs: still industrial-grade

The housing concept comprises minimally reduced variants of the existing Industrial PC series, relying primarily on durable metal components instead of plastic components. Beckhoff thus stands for high-quality, robust and industrial-grade housing designs, including in the entry-level product lines. The aluminum/steel housings employed for the two fanless Panel PCs have been redeveloped and designed for protection class IP 54. Also worth highlighting is the housing concept of the fanless C6905 IPC, which slots perfectly into the well-known C69xx series. Somewhat smaller than the previous smallest C69xx device (the C6915), the C6905 still features easy-to-access components, such as mainboard battery and storage media, which are freely accessible simply by removing four screws. The housing concept becomes less complex by reducing the number mechanical pieces, while continuing to provide accessibility to the internal components.

Highly-integrated 3½-inch motherboards

Proven motherboards are used in the new device class – in a condensed, but dependable form. The interfaces and functions of existing 3½-inch motherboards are tailored exactly to the corresponding range of uses. The devices still offer a comprehensive basic configuration: the C6905 and the CP6706 include 2 GB DDR3L-RAM (expandable ex works to 8 GB), onboard dual-Ethernet adapter with 2 × 100/100BASE-T connector, 4 GB CFast card with high-quality SLC flash, four USB 2.0 ports, a DVI-I connector and an optional third Ethernet port. Additionally, the CP6606 is designed for even more compact applications with 1 GB DDR3-RAM, an Ethernet adapter with 10/100BASE-T connector, an EtherCAT adapter and a MicroSD card that can range from 512 MB to 8 GB.

Both 7-inch Panel PCs are equipped with resistive single-touch and 800 × 480 WVGA TFT display.

C6905 and CP6706 – powerful processors, flexible choice of operating system

The bottom end of the entry-level IPC class for cost-sensitive control applications includes the CP6606 built-in Panel PC and the CX9020 Embedded PC. Both are equipped with an ARM-Cortex™ A8 CPU and Windows Embedded Compact 7. The higher computing power of the Intel® Atom™ processors in the C6905 and the CP6706 enables more sophisticated control, motion and visualization applications in the same price segment. At the same time a broader range of operating systems can be used: Windows Embedded Standard 7 and Windows 10 can be used in addition to Windows Embedded Compact 7.

100 % scalable – including TwinCAT software

Not only is the hardware 100 % scalable, the TwinCAT automation software enables users to install only the truly necessary features through its modular design. Starting from a simple PLC runtime, for example on a CP6606, up to a complex CNC or XFC controller with maximum performance, a fully-scalable software system is available in the TwinCAT platform. The highly-affordable TwinCAT licence costs are based on the performance level of the hardware device used. Beckhoff thus offers ideally-matched TwinCAT software components for each respective Industrial PC product – even at the entry level.

Industrie 4.0 implementation with entry-level products

The new entry-level IPC class not only fully meets the requirements for a true



The C6905 Industrial PC is designed for control cabinet installation and is equipped with a 3½-inch motherboard that features an Intel® Atom™ CPU (up to four cores).



The CP6606, equipped with an ARM Cortex™ A8 processor, forms the new lower end of Beckhoff's fully-scalable Industrial PC product range.



Beckhoff Industrial PC product, it also fits in with the future direction of PC-based control technology. With up to three Ethernet adapters in the C6905 and CP6706, integration of the devices into existing IT systems is easy. The linking of IT and control technology, as required by Industrie 4.0, is already possible with the entry level Beckhoff hardware. As the heart of PC-based control hardware, the Industrial PC is ideally equipped for Industrie 4.0, even in the lower price/performance segment. The use of various cloud services through TwinCAT, or the operation of the CP6606 as a Web client in the field, demonstrate just some of the real-world applications that have already been implemented.

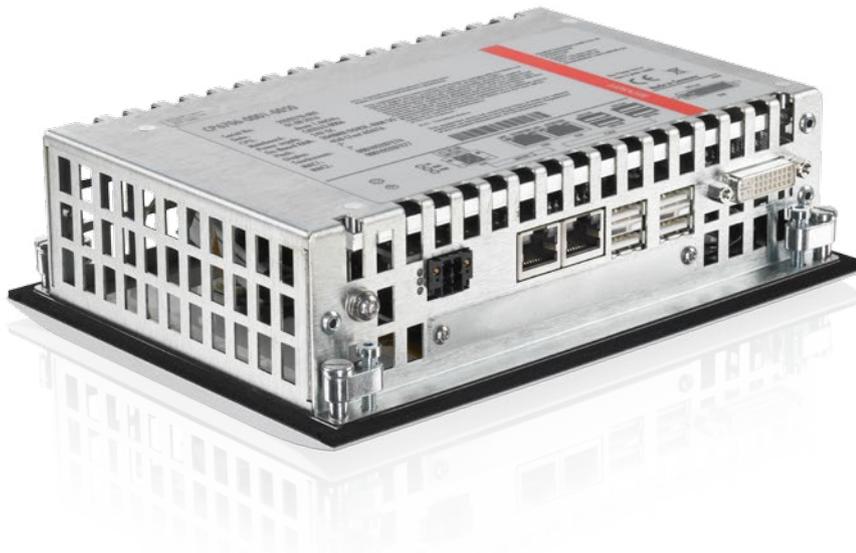
An ideal Industrial PC for every application

Beckhoff has introduced three robust, industrial-grade devices to the market with the new entry-level Industrial PCs. Through simplification and streamlining, PC-based control technology from Beckhoff becomes more affordable and functional for the most cost- and space-constrained applications. Beckhoff makes the most compact PC-based controllers possible through maximum utilization of limited space. Reducing the number of interfaces on proven motherboards and fundamentally revising the housing concepts result in significant cost savings in direct comparison even with comparable performance classes. Compared to the somewhat more flexible devices in the same performance class – the C6915 and CP6707 – the C6905 and the CP6706 bring cost reductions of approximately 13 % and 20 %, respectively. The CP6606 sets entirely new standards and brings PC-based control, with integrated display and touchscreen operation, proven Beckhoff quality and with long term availability and industrial compatibility, into the most compact and price-sensitive applications. In addition to the finely scalable hardware, the equally scalable

TwinCAT automation software rounds off the product of solutions. Performance class, operating system, and a combination of TwinCAT licences are specified depending on the application. In conclusion, Beckhoff provides an Industrial PC that perfectly suits every conceivable application.



Felix Wildemann, Industrial PC
Product Management, Beckhoff



The CP6706 built-in Panel PC is designed for installation in the front panel of a control cabinet and is ideally suited for use in machines or plants with its integrated 3½-inch motherboard.

Further information:

www.beckhoff.com/ipc-entry-level