Efficient user interface engineering directly in Visual Studio®

Simple, open and HTML5-based: TwinCAT HMI

The new TwinCAT HMI ushers in a paradigm shift in the field of HMI software. Instead of the proprietary systems for engineering and communication and their use on certain operating systems, Beckhoff employs IT standards such as Microsoft Visual Studio® for the engineering, HTML5 for the design and Websockets and HTTPS for the secure communication. The user interface can be executed on any HTML5-capable browser, irrespective of the operating system, resolution or display. Beckhoff has thus created a future-proof, open and high-performance solution for Industry 4.0 HMI concepts.

What does the HMI solution of the future look like? How can the all-important user interface be given industry-spanning design in the future to ensure optimum efficiency and maximum user comfort? TwinCAT HMI from Beckhoff serves as the answer and a first step toward the next generation of HMI, as it integrates the Human Machine Interface directly in the familiar Visual Studio® environment. Programming is not required, as the graphic editor comfortably handles configuration. As simple as the configuration is, the handling is equally adaptable: this web-based solution, which is based on HTML5 and JavaScript, acts “responsively”, irrespective of the operating system, browser or device.

The powerful basic architecture facilitates numerous application scenarios: from the local panel solution to multi-client, multi-server and multi-runtime concepts. Individual extensions can quickly be implemented via defined interfaces; the mix of standard graphic

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controls and custom design elements enables a high degree of individualisation.

Depending on experience and application, the HMI logic can be implemented on the client side in JavaScript or as a so-called server extension. The server extension offers the possibility to write extensions in .NET or C++. A high degree of intellectual property (IP) protection can be achieved as a result.

Beckhoff offers a scalable hardware and software portfolio for flexible operator interface concepts in TwinCAT HMI and the extensive product range of Control Panels and Panel PCs.

The highlights at a glance:

– Visual Studio® integration
– future-proof and open, thanks to HTML5 and JavaScript
– separation of design and logic
– displays in any browser, including on mobile devices
– multi-client and multi-server architecture
– modular expandability

➔ **www.beckhoff.com/TwinCAT-HMI**

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TwinCAT HMI makes it fast and easy to create individualised user interfaces through integration in Visual Studio®. Irrespective of the display device and operating system, the HMI can be directly configured in a familiar engineering environment without programming.

Text and picture:

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