

# Process Automation with Beckhoff

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As conventional DCS's and Industry 4.0 PLC based automation systems are getting closer and closer to each other well known requirements like explosion safety, HART communication, FDT/DTM support and redundancy meet the needs for extreme fast communication and high flexibility. Besides that the worldwide control of distributed plants through a central control center requires connectivity functions and interoperability of different architecture layers as well as interoperability of different DCS through well-defined standard protocols.

EtherCAT as a world leading fieldbus system offers highspeed communication, top notch synchronization and an intuitive diagnosis. ELX terminals with inbuilt safety

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barrier functionality combine the advantages of EtherCAT with intrinsically safe I/O on an extreme compact footprint.

This leads to reduced costs and space requirements and ensures a straight forward installation, maintenance and fault finding. By offering a broad signal portfolio almost all instruments can be directly integrated into the modern automation system architecture. Up to 4 intrinsically safe sensors and 2 actuators can be connected to a 12 mm wide and 100 mm high DIN-rail mounted I/O terminal.

The software system TwinCAT 3 allows an easy system engineering with one single tool. One platform will offer the built of a system architecture, the DCS

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programming interface as well as all necessary functions to create a process visualization. In addition TwinCAT offers the direct integration of HART enabled field devices through FDT/DTM by its inbuilt FDT-container.

If there is a need to integrate a TwinCAT controlled sub-process into any other DCS this can be done by the TwinCAT CommDTM or Protocols like MQTT or OPC UA. Furthermore it offers a full visualization platform and IoT functions for a worldwide control of processes. This enables end users to decrease costs of operation by reducing the personal onsite and reduce plant downtime and increase efficiency and process safety through deep analysis of process data.

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To control and visualize the process within hazardous locations CPX Control Panels and Panel PCs can be installed in directly Zone 2/22 and come up with state of the art multitouch-technology within aluminum enclosures for an attractive and technically top notch visualization platform. Control Panels and Panel PCs will be available as a stand-alone as well as a built-in version each in three different sizes, 15", 19" and 21".