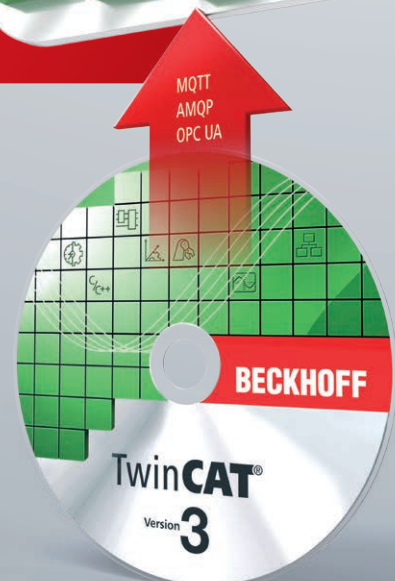
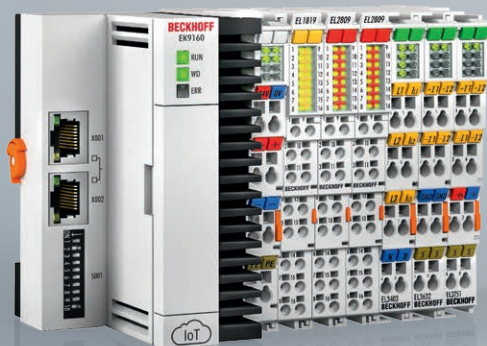


News | 05'2016



NEWS



i C6905-0010 | “Economy” control cabinet Industrial PC

Intel® Atom™ with up to four cores



With the C6905 “Economy” control cabinet PC the C69xx series has been supplemented by a device for applications in the compact and medium performance class. The fanless C6905 Industrial PC has been designed for control cabinet installation. The compact aluminium housing comes equipped with a 3½-inch motherboard with Intel® Atom™ with up to four cores. All PC connections are located at the front of the housing.

► www.beckhoff.com/C6905

News | Industrial PC

i CP6706 | 7-inch “Economy” Panel PC

Intel® Atom™ with up to four cores



With its highly integrated 3½-inch motherboard, the CP6706 built-in Panel PC is ideally suited for use in machine construction and plant engineering, for example with the TwinCAT automation software under Windows Embedded Compact 7 or Windows Embedded Standard 7. The CP6706 is conceived for installation in the front of a control cabinet and has a 7-inch touch screen display. Equipped with an Intel® Atom™ with up to four cores and a CFast card the CP6706 contains no rotary components. The CP6706 is supplied with a 24 V power supply unit. The CFast card and the lithium battery of the system clock are accessible from the rear in the connector bracket.

► www.beckhoff.com/CP6706

i Industrial PCs with sixth-generation Intel® Core™ i3, i5 and i7

The new Intel® Pentium® and Core™ i3, i5, i7 processors of the sixth generation are making inroads into industrial PC-based control technology. An Intel® Pentium® processor is used on the new Beckhoff CB1064 industrial ATX motherboard at basic PC equipment level, while Intel® Core™ i3, i5 and i7 processors are offered as an option. Like for the fourth

generation, the operating systems Windows 7 Professional, Ultimate and Embedded Standard in 32-bit and 64-bit versions and Windows 10 IoT Enterprise 64-bit are being supported for the sixth generation as well.

► www.beckhoff.com/IPC



i CX8190 | Embedded PC for Ethernet

The CX8190 is a controller with two Ethernet ports, one of which is switched to two RJ45 sockets. It supports protocols such as:

- real-time Ethernet
- ADS UDP/TCP
- EtherCAT Automation Protocol (EAP)

K-bus or E-bus terminals can be attached as required; the CX8190 automatically recognises the type of I/O system connected during the start-up phase. The control system is programmed with TwinCAT 3 via the fieldbus interface or the additional Ethernet interface.

► www.beckhoff.com/CX8190

EtherCAT P | Ultra-fast communication and power in one cable

EtherCAT P combines communication and power in a single 4-wire standard Ethernet cable. The 24 V DC supply of the EtherCAT P slaves and of the connected sensors and actuators is integrated: U_s (system and sensor supply) and U_p (peripheral voltage for actuators) are electrically isolated from each other and can each supply a current of up to 3 A to the connected components.

At the same time, all the benefits of EtherCAT, such as freedom in topology design, high speed, optimum bandwidth utilisation, telegram processing on-the-fly, highly precise synchronisation, extensive diagnostics functionality, etc. are all retained.

Accessories for EtherCAT P components include pre-assembled cables, cables sold by the metre and connectors for assembly in the field.

► www.beckhoff.com/EtherCATP

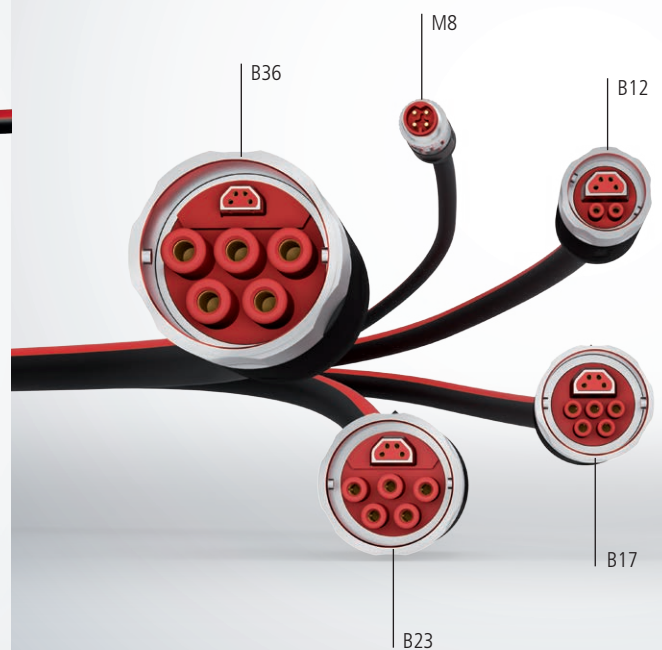
Highlights

- One Cable Connection: EtherCAT and 2 x 24 V DC (U_p , U_s) on just 4 wires
- daisy-chained power supply through EtherCAT P devices
- reduced material and assembly costs
- minimised installation space for drag-chains, control cabinets and machine footprint
- scalable connector family from 24 V to 600 V and up to 64 A
- lowered connection costs with outstanding EtherCAT performance
- flexible network topology of EtherCAT is retained

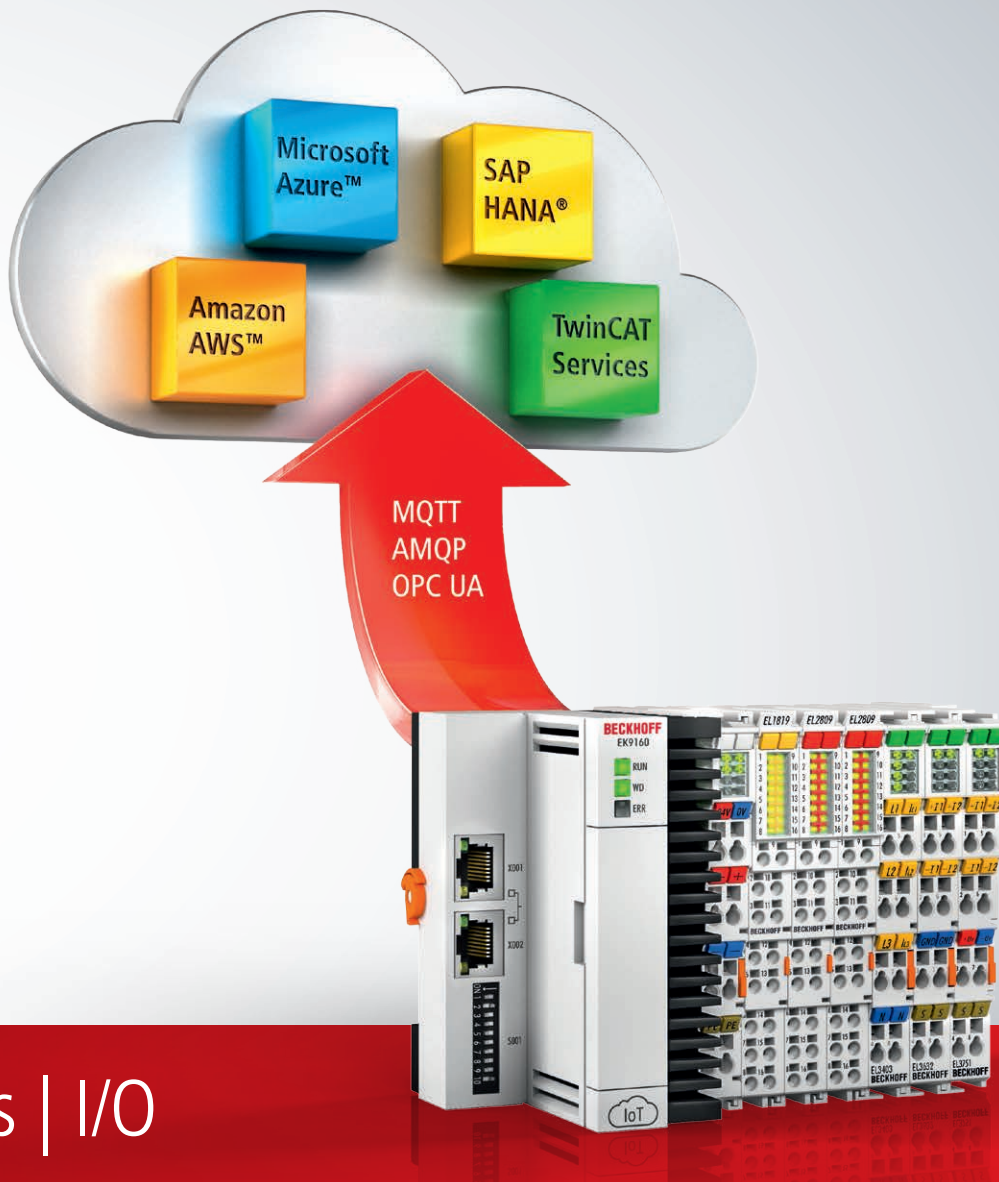


News | I/O





The different sizes of the connector family cover all applications from the 24 V I/O level to drives with 400 V AC or 600 V DC and a current of up to 64 A.



News | I/O

i EK9160 | IoT Coupler

The EK9160 Coupler links EtherCAT I/Os from Beckhoff directly with the Internet of Things (IoT) by translating the E-bus signal representation to IoT protocols like MQTT or AMQP as well as Microsoft Azure or Amazon Web Services™ (AWS) cloud services. An IoT coupler station consists of an EK9160 and any number of powerful and ultra-fast EtherCAT Terminals. The data can be translated into any user-specific format via JSON. Data encryption is also possible. The Ethernet connection runs over RJ45.

► www.beckhoff.com/EK9160

EL3751 | 1-channel multi-functional input for measurement technology, 24 bit, 10 ksp/s

The EL3751 analog input terminal is part of the new generation of analog EtherCAT measurement terminals. The nominal measuring range of the input channel can be comprehensively parameterised, both electrically and on the software side:

- voltage measurement: $\pm 5 \text{ mV}$ to $\pm 30 \text{ V}$ (incl. $\pm 10 \text{ V}$), $0 \dots 10 \text{ V}$, $0 \dots 5 \text{ V}$
- current measurement: $\pm 20 \text{ mA}$, $4 \dots 20 \text{ mA}$, $0 \dots 20 \text{ mA}$, NAMUR NE43
- resistance measurement: $0 \dots 5 \text{ k}\Omega$
- electrical resistance R in 2-/3-/4-wire connection
- RTD measurement in 2-/3-/4-wire connection
- strain gauge/load cell: $\frac{1}{4}$ bridge ($350 \Omega + 120 \Omega$), $\frac{1}{2}$ bridge ($\pm 16 \text{ mV/V}$) and full bridge ($\pm 32 \text{ mV/V}$) with integrated supply in 2-/3-/4-/5-/6-wire connection
- potentiometer: min. $1 \text{ k}\Omega$

► www.beckhoff.com/EL3751



0.01 %
24 bit
10,000 samples/s



i EPPxxxx | EtherCAT P Box modules in IP 67

The EtherCAT P Box modules cover the typical range of requirements for IP 67 I/O signals: digital inputs with different filters (3.0 ms or 10 μs), digital outputs with 0.5 A output current, combination modules with digital inputs and outputs, analog inputs and outputs with 16-bit resolution, as well as thermocouple and RTD inputs.

In addition, various EtherCAT P Box modules are available for system tasks such as encoder inputs or serial interfaces.

The new EPPxxxx-006x EtherCAT P Box modules with dimensions of only 30 mm x 86 mm x 26.5 mm (W x H x D) are suitable for use in applications where there is very little space available.

- EPP1004-0061 | 4 digital inputs, 24 V DC, 3.0 ms
- EPP2334-0061 | 4 digital inputs, 24 V DC, 3.0 ms, or outputs 24 V DC, $I_{\text{MAX}} = 0.5 \text{ A}$
- EPP9001-0060 | EtherCAT P/EtherCAT, ECP/EC connector with power transmission
- EPP9022-0060 | 2 x diagnostics (U_s , U_p)

► www.beckhoff.com/EtherCATP

i EtherCAT plug-in module range is continuously expanded

In combination with the wide range of available motors and gears the EJ7xx EtherCAT plug-in modules enable the implementation of compact and affordable drive solutions for standard applications with medium and high volume production.

- EJ7047 | Stepper motor module
- EJ7211-0010 | Servomotor module
- EJ7342 | 2-channel DC motor output

Further new EtherCAT plug-in modules:

- EtherCAT Coupler with external plugs, power supply module and optional ID switches
- input module, 5 V DC
- SSI encoder interface
- power supply modules
- TwinSAFE modules
 - with safe inputs and/or outputs
 - TwinSAFE Logic

► www.beckhoff.com/EtherCAT-plug-in-modules



News | I/O

i EL72xx-9014 | Servomotor terminals with OCT and STO

With the STO input of the new EL72xx-9014 servomotor EtherCAT Terminals, an STO (Safe Torque Off) can be realised according to DIN EN ISO 13849-1:2008 (Cat 3, PL d). The terminals offer high servo performance in a very compact design. The fast control technology, based on field-oriented current and PI speed control, supports fast and highly dynamic positioning tasks.

The monitoring of numerous parameters, such as overvoltage and undervoltage, overcurrent, terminal temperature or motor load via the calculation of a I^2T model, offers maximum operational reliability. The latest power semiconductors guarantee minimum power loss and enable feedback into the DC-Link when braking.

► www.beckhoff.com/EL7201-9014



i AS20xx | Stepper motors

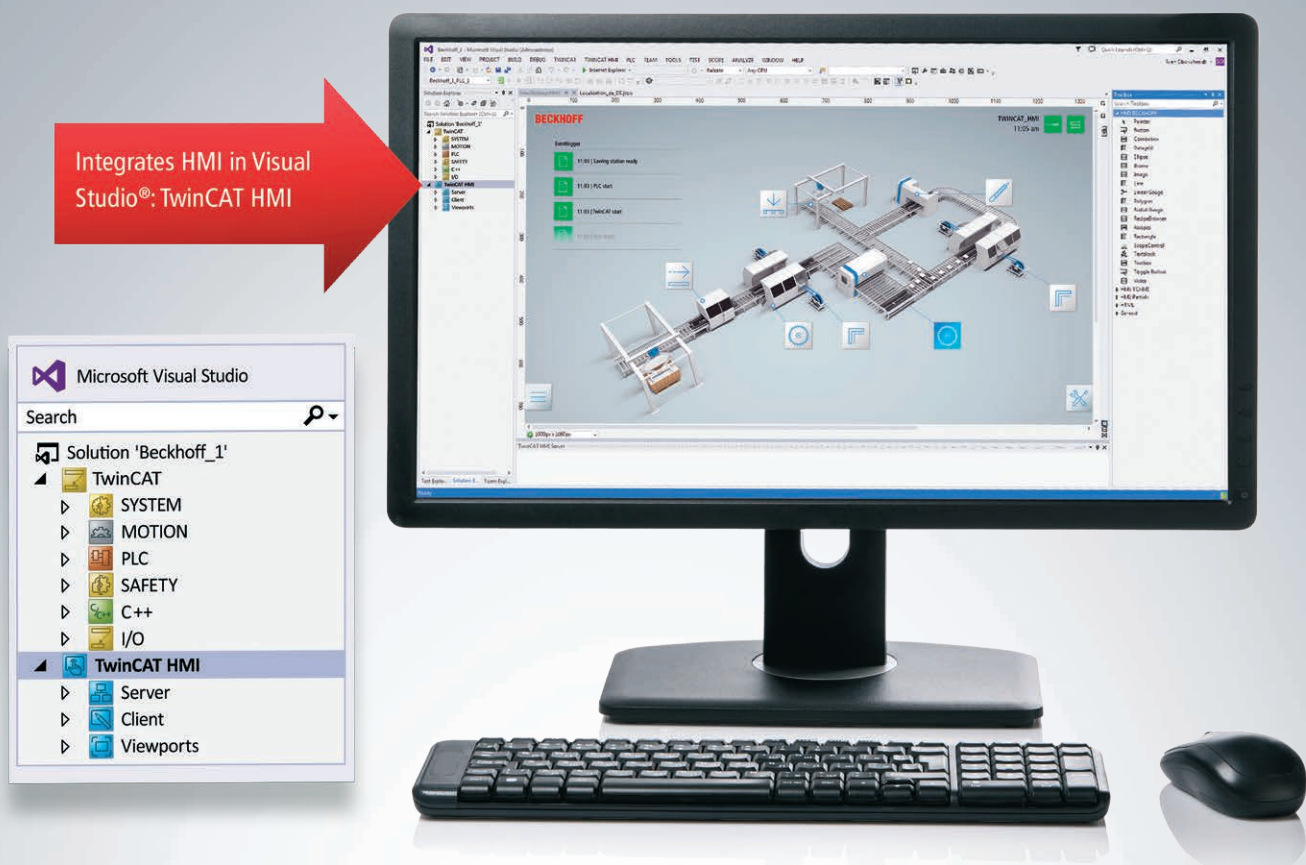
The new AS2000 stepper motors in IP 54 protection shrink the gap to the AM8000 high-performance servomotor. The four models with a performance range from 0.6 to 5 Nm comply with international standards (NEMA 23 and NEMA34) and offer improved scalability and an ideal dimensioning of the stepper motor axis.

- scalable series: 4 motors with a performance range from 0.6 up to 5 Nm
- flange sizes F2 (NEMA23) and F4 (NEMA34)
- use under harsh environmental conditions (IP 54)
- high-power M12 screwtype connector for easy, standardised cabling
- torsion-proof, integrated encoder (1024 inc/rev) for closed-loop/vector control
- ideal dimensioning with the TC3 Motion Designer
- plug-and-play: easy commissioning with the TC3 Drive Manager
- plug-and-play also for accessories: matching cables, gears, flanges

► www.beckhoff.com/AS2000



News | Motion



News | Automation

i TwinCAT HMI: Simple, open and extensible

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

- efficient engineering, integration in Visual Studio®
- platform-independence
- web-based (HTML5, JavaScript)
- powerful architecture
- modular expandability
- high-level programming language integration (C++, .NET)
- TE1200 | TC3 HMI
- TF2000 | TC3 HMI Server

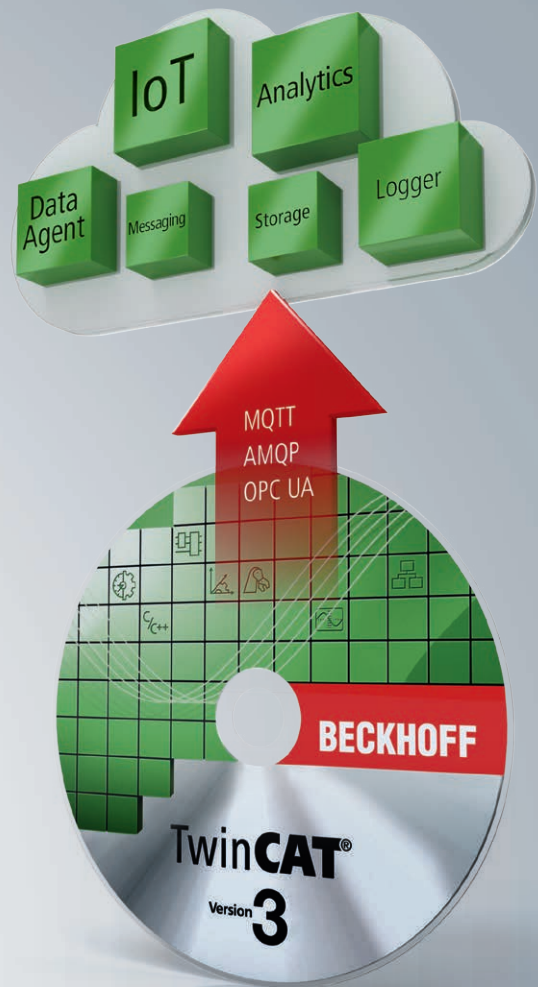
► www.beckhoff.com/TwinCAT-HMI

i TwinCAT Analytics for Industrie 4.0

TwinCAT Analytics saves the process data locally, on the server or in the cloud in synchronisation with the machine cycle. All data are recorded and serve as the basis for extensive analyses; this enables new predictive maintenance technologies and minimises machine downtimes.

- online and offline state analysis
- predictive maintenance
- pattern recognition
- machine optimisation
- long-term archiving
- TE35xx | TC3 Analytics Workbench
- TF3500 | TC3 Analytics Logger
- TF3510 | TC3 Analytics Library

► www.beckhoff.com/TwinCAT-Industrie40



Windows Azure™
Amazon Web Services™
Beckhoff Cloud Services

MQTT
AMQP
OPC UA



I/O Signals, Fieldbus

i TwinCAT IoT

The TwinCAT 3 IoT products within the TwinCAT Connectivity product family provide the user with various functions for exchanging process data over standardised communication protocols and for the targeted access to the data and communication services of cloud service providers.

- TF6701 | TC3 IoT Communication (MQTT)
- TF6720 | TC3 IoT Data Agent
- TF6730 | TC3 IoT Communicator
- TF6735 | TC3 IoT Communicator App

► www.beckhoff.com/TwinCAT-IoT

This flyer gives a short overview of the new products; for further information see the Beckhoff News catalog 05'2016 or

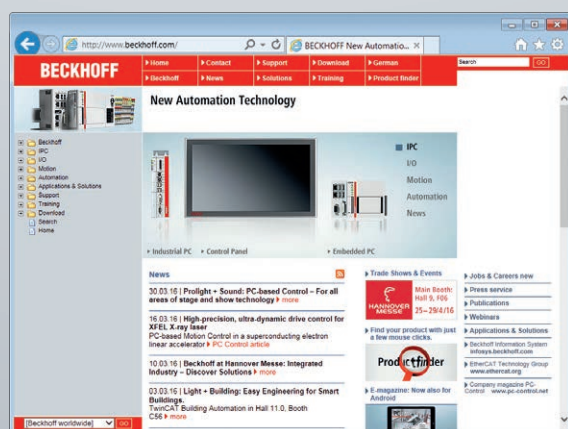
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Products online

At www.beckhoff.com you can get detailed information on the range of products from Beckhoff. Animations, videos and interactive online presentations supplement the large variety of information.

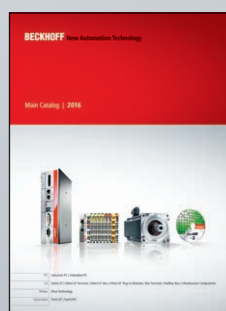
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Main catalog



PC Control magazine

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