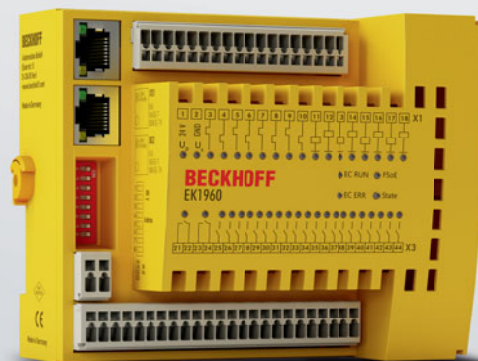


**BECKHOFF** New Automation Technology

News | 01'2013



# NEWS





## **i** Multi-touch Control Panel CP2xxx and CP3xxx

With Windows 7 the multi-finger touch screen is becoming popular at PCs. Industrial applications are using the projected capacitive multi-touch technology. An anti-reflective glass plate forms the display front. The operation with hand gloves is possible. Five fingers are detected separately even if the distance between the fingers is only 1 cm. The multi-touch Control Panels are conceived both for control

cabinet installation and for the mounting arm installation. The CP29xx built-in Panel series is implemented with IP 65 protection at the front and IP 20 at the rear. The CP39xx Control Panels for mounting arm installation feature all-round IP 65 protection. The panels with DVI/USB Extended interface can be operated up to 50 m away from the Industrial PC.

### **New: Mounting arm adapter for multi-touch Control Panel**

The mounting arm adapter for the Panels from the CP3xxx series is rotatable and can be tilted forward and backward by 20°. Standard mounting arm systems with 48-mm tube can be connected to the adapter. The mounting arm can optionally be mounted from above (C9900-M750) or from below (C9900-M751).

## News | Industrial PC



Built-in Control Panel CP29xx,  
rear view



Control Panel CP39xx with  
mounting arm adapter  
C9900-M750 and USB socket  
C9900-E274

Modern, elegant device design

Multi-touch for 5-finger touch

Vertical or horizontal variants (portrait/landscape)

Use of aluminium for extremely robust design

Continuous glass surface – highest resistance to environmental influences

Display formats 4:3, 5:4 or wide-screen 16:9

LED backlight

Narrow housing edges

High protection class IP 65

Push-button extension with emergency stop, also in customer-specific design



Beckhoff offers the following display sizes:  
Widescreen (16:9)

- 7-inch, resolution of 800 x 480
- 15.6-inch, resolution 1366 x 768
- 18.5-inch, resolution 1366 x 768
- 21.5-inch, full HD resolution of 1920 x 1080
- 24-inch, full HD resolution of 1920 x 1080

Further display sizes

- 12-inch, resolution of 800 x 600 (4:3)
- 15-inch, resolution 1024 x 768 (4:3)
- 19-inch, resolution 1280 x 1024 (5:4)

With the option C9900-M575 all of the displays are also available in portrait format.

Customer-specific adaptations for a push-button extension individualise the multi-touch Control Panel series.

- [www.beckhoff.com/CP29xx](http://www.beckhoff.com/CP29xx)
- [www.beckhoff.com/CP39xx](http://www.beckhoff.com/CP39xx)
- [www.beckhoff.com/Multitouch](http://www.beckhoff.com/Multitouch)

## **i** IPCs with third-generation Intel® Core™ i5 and i7

The new Intel® Core™ i5 and Core™ i7 processors of the third generation are making inroads into the Industrial PC-based control technology from Beckhoff. The clock rate has been increased and the performance of the graphics processor has been improved. The multi-core processors can be used exceptionally well in combination with TwinCAT 3, which was specifically developed for use with multi-core processors.



► [www.beckhoff.com/IPC](http://www.beckhoff.com/IPC)

We reserve the right to make technical changes.

## **i** Control Panel with high performance: CP77xx Panel PC with Intel® Celeron®



Control Panel with high computing power and low energy consumption: The robust CP77xx Panel PC series from Beckhoff integrates a TFT display and a PC in a slimline, water- and dust-proof aluminium housing with IP 65 protection. The new Panel PCs of the CP77xx-xxxx-0040 series are now also equipped with an Intel® Celeron® processor ULV, single-core (800 MHz).

► [www.beckhoff.com/CP77xx](http://www.beckhoff.com/CP77xx)

**BECKHOFF** New Automation Technology



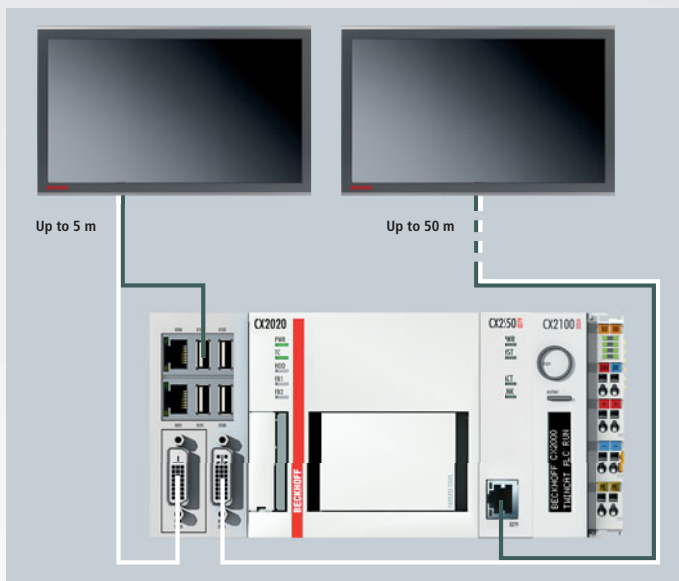
## **i** Fieldbus modules for new CX2000 Embedded PCs

The CX2000 Embedded PC series offers high flexibility on the DIN rail with multi-core processors and modular PC and I/O interfaces. As new items fieldbus modules extend the CX2000 series. The PROFIBUS and CANopen interfaces in master or slave variant are connected to the CPU module via PCI Express. The parallel operation of several identical or different masters is possible. In the case of mixed operation of master and slave connections, CX systems act as intelligent gateways between different fieldbuses.

► [www.beckhoff.com/CX2000](http://www.beckhoff.com/CX2000)



## News | Embedded PC



### **i** CX2000: Multi-option interface with two DVI ports

As a new option for the multi-option interface of a CX2020, CX2030 or CX2040 CPU, the CX20x0-N010 extension offers a second DVI port for the connection of a further display to these controllers. In conjunction with the CX2550-0179 or CX2550-0279 USB extensions, both DVI interfaces are equally suitable for enabling connection to Beckhoff Control Panels of the CP69xx/79xx or CP29xx/39xx (multi-touch) series over a distance of up to 50 m.

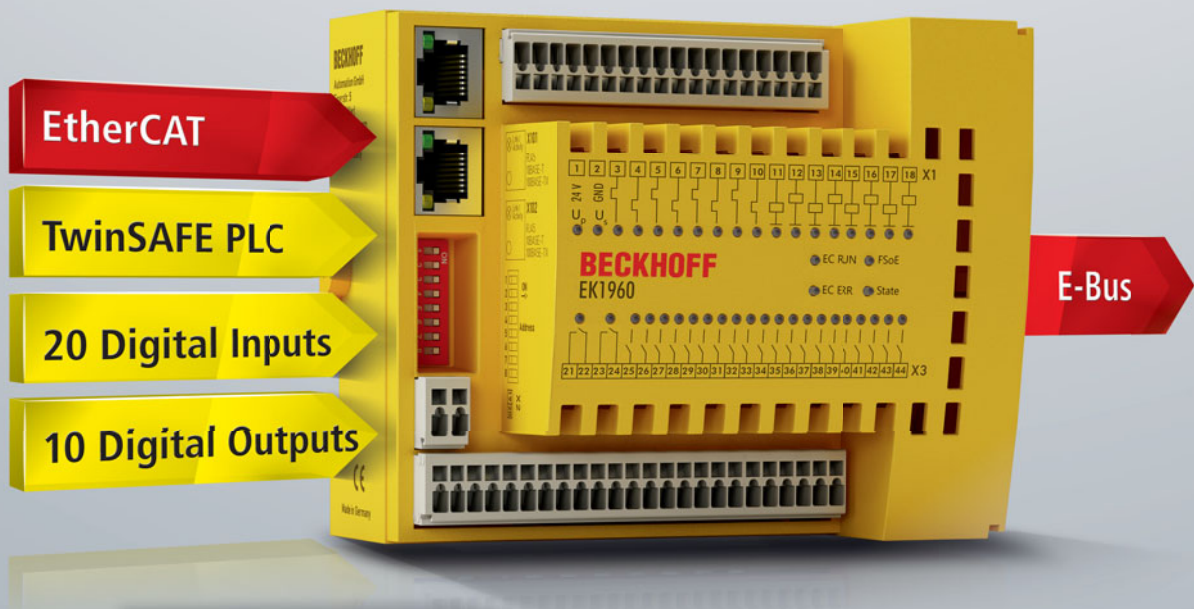
► [www.beckhoff.com/CX2000](http://www.beckhoff.com/CX2000)

## **i** TwinSAFE Controller integrates safety functions in a compact housing

The new EK1960 TwinSAFE Controller integrates a complete safety controller including numerous I/O channels in a compact design. It combines an EtherCAT Coupler, TwinSAFE PLC, digital inputs and outputs. Primarily designed for applications with a small and medium scope of safety, the EK1960 can be used as an autonomous controller or as a decentralized controller. The EK1960 integrates:

- EtherCAT Coupler incl. E-bus interface
- TwinSAFE PLC
- 20 safe digital inputs (24 V DC)
- 8 safe digital outputs (24 V DC)
- 2 safe digital outputs (potential-free contact)
- for small to medium applications up to SIL 3 according to IEC 61508 and DIN EN ISO 13849 PLc

► [www.beckhoff.com/EK1960](http://www.beckhoff.com/EK1960)



## News | TwinSAFE

### **i** Standard and safety I/O in compact coupler

Optimised for applications with only a few I/O points and cramped spatial conditions, the EK1914 EtherCAT Coupler offers four digital inputs and outputs as well as two fail-safe inputs and outputs.

► [www.beckhoff.com/EK1914](http://www.beckhoff.com/EK1914)



### **i** Extended TwinSAFE I/O range

The TwinSAFE I/O range is extended with further digital input/output terminals. The EL1908 8-channel digital input terminal has eight fail-safe inputs. The EL2901 potential supply terminal enables the setting up of TwinSAFE groups with safe power supply (24 V DC, up to 10 A).

► [www.beckhoff.com/EL1908](http://www.beckhoff.com/EL1908)  
 ► [www.beckhoff.com/EL2901](http://www.beckhoff.com/EL2901)



# Reduced material and commissioning costs: Servo terminal supports One Cable Technology

The servo terminals from the EL7201 series for the Beckhoff EtherCAT I/O system integrate a complete servo amplifier for motors up to 200 W in a standard HD terminal housing. The new EL7201-0010 servo terminal extends the modular compact drive system even further with more flexible options. The new version supports the "One Cable Technology" (OCT) with absolute feedback equipped on the AM8100 servomotor series instead of the traditional resolver inter-

face. OCT combines power and feedback signals in one standard motor cable. Material and commissioning costs can be significantly lowered as a result. The OCT variant of the servo terminal supports the direct connection of the new servomotors: AM8121 (0.5 Nm), AM8122 (0.8 Nm) and AM8131 (1.13 Nm).

► [www.beckhoff.com/EL7201-0010](http://www.beckhoff.com/EL7201-0010)



## **i** New EtherCAT and Bus Terminals

Beckhoff is continually expanding its extensive range of I/O terminals. The new items:

### EtherCAT Terminals

- EL2595 | 1-channel LED constant current terminal
- EL2828 | 8-channel digital output, 24 V DC, 2 A
- EL5032 | EnDat 2.2 interface
- EL6652-0010 | EtherNet/IP slave

### Bus Terminals

- KL2828 | 8-channel digital output, 24 V DC, 2 A
- KL6831, KL6841 | SMI terminals

► [www.beckhoff.com/EtherCAT-Terminal](http://www.beckhoff.com/EtherCAT-Terminal)

► [www.beckhoff.com/BusTerminal](http://www.beckhoff.com/BusTerminal)





## **i** Multi-functional I/O box

The EP8309 EtherCAT Box combines eight digital inputs/outputs, two digital tachometer inputs, two analog inputs, one analog output and a 1.2 A PWMi output in an IP 67 box. The tachometer outputs supply a speed-dependent velocity or frequency value via digital 24 V sensors. With its combination of inputs and outputs, the EP8309 offers a compact solution for the most diverse units that are to be integrated into the EtherCAT network.

► [www.beckhoff.com/EP8309](http://www.beckhoff.com/EP8309)

## News | I/O

### **i** EtherCAT Box series extended

The series of extremely compact and robust IP 67 I/O modules has also been extended:

- EP2816 | 16-channel digital output 24 V DC,  $I_{MAX} = 0,5 \text{ A}$  ( $\Sigma 4 \text{ A}$ )
- EP2817 | 24-channel digital output 24 V DC,  $I_{MAX} = 0,5 \text{ A}$  ( $\Sigma 4 \text{ A}$ )
- EP6001 | 1-channel serial interface, RS232, RS422/RS485
- EP9128 | EtherCAT hub

► [www.beckhoff.com/EtherCAT-Box](http://www.beckhoff.com/EtherCAT-Box)



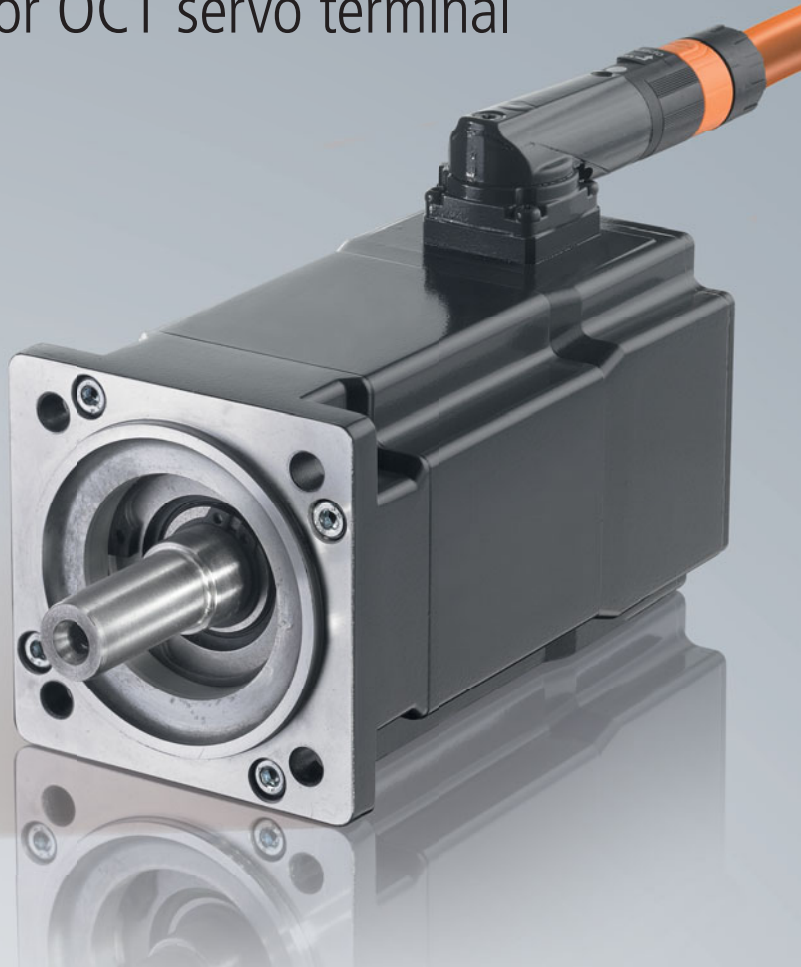
# AM8100 Servomotors for OCT servo terminal

The servomotors from the AM81xx series are suitable for operation on the EL7201-0010 servo terminal.

The motors can be equipped with the One Cable Technology (OCT). Homing is no longer necessary thanks to the integrated absolute encoder. The encoder data are transferred fully digitally to the servo terminal via the motor cable, allowing the encoder cable to be dispensed with.

Options such as a backlash-free permanent magnet holding brake, a rotary shaft seal or a feather key groove are available on request. The motors are equipped with a sturdy rotary resolver encoder and have been developed with a generously dimensioned bearing for general mechanical engineering.

► [www.beckhoff.com/AM8100](http://www.beckhoff.com/AM8100)



## News | Motion

### AM8000/AM8500 Synchronous Servomotors with forced cooling

The servomotor series offer high torques in the forced cooling version even at high speeds. Cooling takes place with a 24 V DC fan, which is actuated independently of the motor. Thanks to the external axial ventilation of the servomotors, the power density is thus increased further: the standstill torques can be increased by about 30 %; the rated torques at

the rated speed even by up to 150 %. The forced cooling option is available for the following sizes:

- AM8000 | AM805x, AM806x, AM807x
- AM8500 | AM855x, AM856x





# AM8500: Servomotors with increased rotor moment of inertia

The new AM8500 series extends the servomotor range by a complete series with increased rotor moment of inertia. The AM8500 series covers a wide performance range with four sizes and three lengths with standstill torques from 1.38 to 29 Nm. Due to the high rotor inertia the control of the AM8500 is simplified in areas where a high external inertia has to be moved, because the servomotors tend less to vibrate and can

be adjusted much more easily on the servo controller. Typical areas of application for the AM8500 servomotors are in woodworking machines, printing machines and machine tools as well as in film winders and feeding drive units.

► [www.beckhoff.com/AM8500](http://www.beckhoff.com/AM8500)



## Complete drive axis: Planetary gears supplement stainless steel motor series

The new stainless steel planetary gears from the AG2800 series supplement the AM8800 servomotors to form a complete drive axis in Hygienic Design. Features:

- corrosion-resistant implementation
- resistant to aggressive cleaning agents
- stainless steel screw plug
- stainless steel output shaft
- food-compatible NSF-H1 lubrication
- use of special seals
- high protection class IP 67
- laser-etched identification plate
- dead-space-free design and smooth, electro-polished surfaces

► [www.beckhoff.com/AG2800](http://www.beckhoff.com/AG2800)



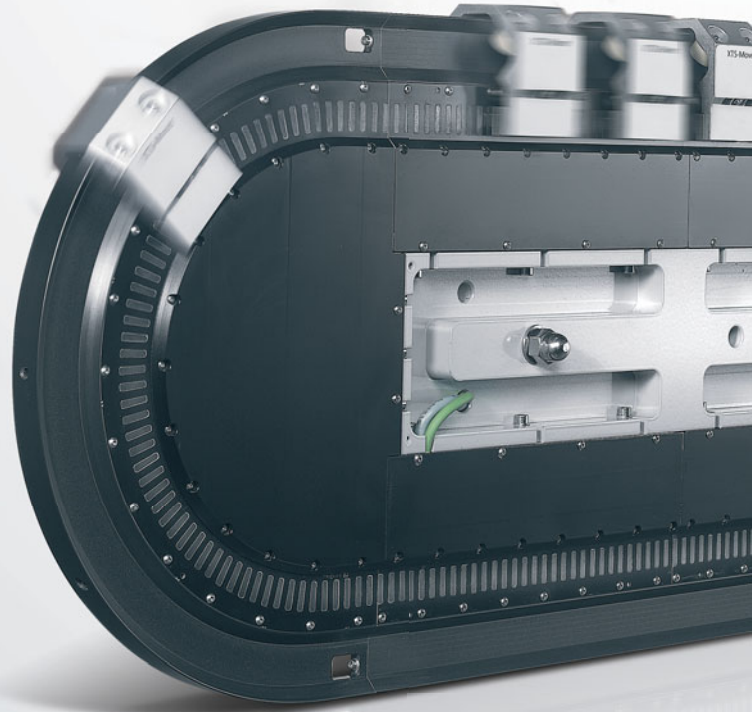
# XTS: Software replaces complex mechanisms

The new XTS drive system (eXtended Transport System) from Beckhoff offers completely new freedom for mechanical engineering.

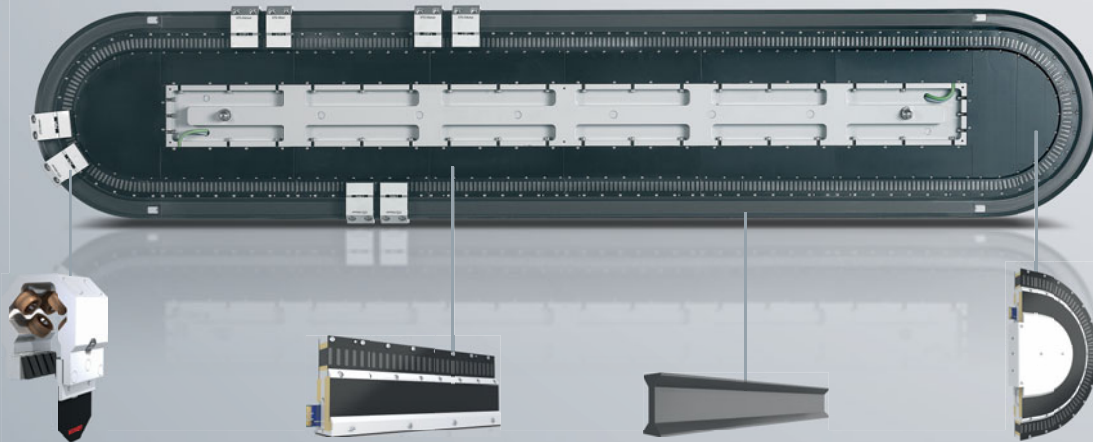
XTS is a mechatronic system containing all functions necessary for operation. A modular, fully integrated linear motor with power electronics and displacement measurement in one device. A mover as the moved part. A mechanical guide rail. The most diverse applications can be realised with these few coordinated components. The desired geometries, lengths and radii are formed by the number and choice of the components. One or more wireless movers can be moved highly dynamically at up to 4 m/s on an almost arbitrary and flexible path.

XTS offers increased flexibility for machine construction. XTS can be used as standard hardware; new or additional functions – for example, in the case of a change of product – are implemented on a software basis.

► [www.beckhoff.com/XTS](http://www.beckhoff.com/XTS)



## News | Motion



The XTS components:

- 2 curve sections
- 2 or more straight sections | NEW: straight section with lock for removal of the movers
- 1 or more movers | NEW: encoder flag with electronic marking for identification of a specific mover
- Beckhoff IPC
- TwinCAT NC PTP
- TwinCAT XTS extension
- power supply unit

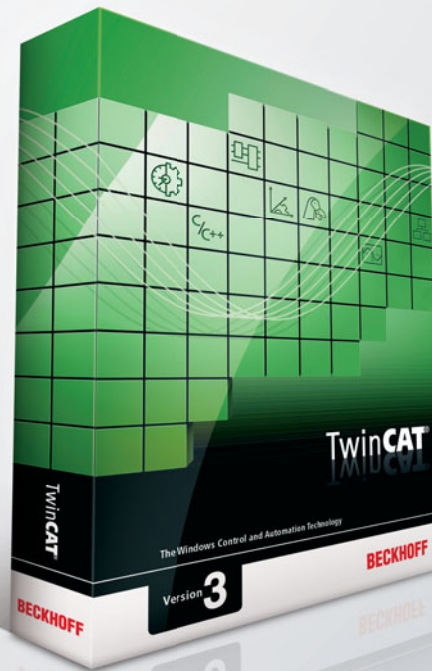
## i Pre-release TwinCAT 3.1: New features for eXtended Automation

The pre-release of TwinCAT 3.1 provides the world of automation with new and extended functions. A major new item is support for 64-bit operating systems, which can now also be used for the runtime. Further new

items are PLC runtime for Windows CE, improved integration of source code control databases, automatic code generation with the automation interface and integration into the new Visual Studio® 2012.

- TwinCAT 3.1 (pre-release)
  - runtime also for 64-bit operating systems
  - PLC runtime for Windows CE (x86)
  - improved integration of source code control databases (such as Team Foundation Server)
  - automation interface (automatic code generation)
  - open CNC interfaces (transformations)
  - Scope configuration in Visual Studio®
  - integration in Visual Studio® 2012
- Condition Monitoring release
- TwinCAT Scope Professional
  - long-term recording
  - integration in the user HMI
  - reporting/print functions
- OPC UA
  - PLCopen-compliant function blocks

► [www.beckhoff.com/TwinCAT3](http://www.beckhoff.com/TwinCAT3)

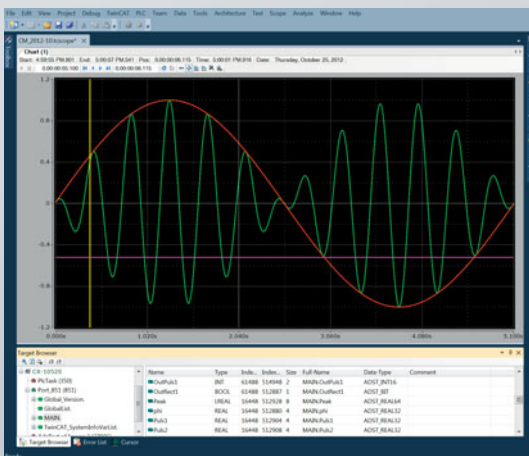


64 bit support

Source code control support

Automation interface

## News | Automation



### TwinCAT 3 Scope

The basic version of TwinCAT 3 Scope has been delivered as standard with the TwinCAT 3 Engineering Setup ever since the release of TwinCAT 3. The basic version is particularly suitable for the commissioning of plants and machines. TwinCAT 3 Scope Professional is available for users who wish to track and monitor processes over a longer period of time. The Scope Professional can be integrated in the user's own .NET-based visualisation.

Like TwinCAT itself, the TwinCAT 3 Scope is integrated into Microsoft Visual Studio®. Variables can be transferred to the scope configuration from the System Manager or directly from the PLC. The docking windows function in Visual Studio® facilitates project-spanning work.

► [www.beckhoff.com/TwinCAT3](http://www.beckhoff.com/TwinCAT3)



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This flyer gives a short overview of the new products; for further information see the Beckhoff News catalog 01'2013 or

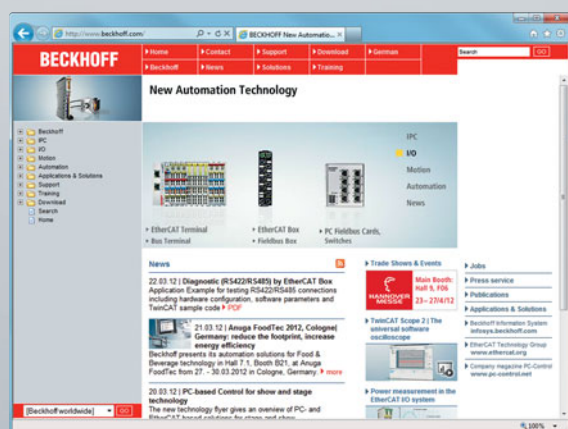
[www.beckhoff.com/news](http://www.beckhoff.com/news)



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Main catalog



PC Control magazine

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