

The EL6692 EtherCAT bridge terminal achieves distributed clock calibration between EtherCAT masters

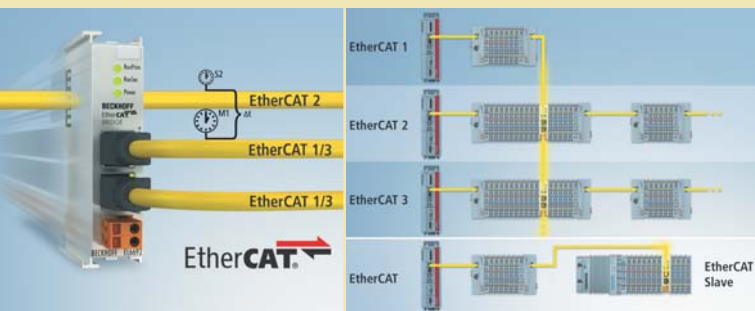
EtherCAT master synchronization via I/O system

The EtherCAT Industrial Ethernet system offers industry leading performance and highly flexible topology characteristics. In complex machines and systems with several EtherCAT masters, data may have to be exchanged between individual EtherCAT systems or the distributed clocks of different systems may have to be synchronized. An ideal solution for these applications, the new EL6692 bridge terminal for the Beckhoff EtherCAT terminal system implements these tasks directly in the I/O system.

EtherCAT masters such as the TwinCAT automation software suite from Beckhoff can exchange data in real-time via network variables. The EL6692 EtherCAT bridge terminal optionally provides this functionality directly in the I/O system. In addition to "normal" data exchange, the EtherCAT bridge permits distributed clock synchronization (exact calibration of distributed clocks) between several EtherCAT masters, for example, in exact drive synchronization in spatially distributed machines.

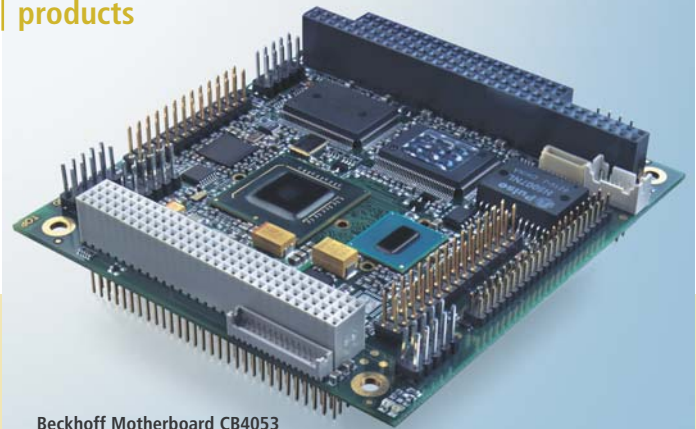
In addition, the EtherCAT bridge terminal can integrate subordinate PCs – e.g. Beckhoff Embedded PCs from the CX series – as EtherCAT slaves in an EtherCAT network. In this case, the bridge terminal of the CX system is coupled with the higher-level EtherCAT system.

The EL6692 bridge terminals have a separate power supply for both EtherCAT networks in order to prevent an interruption of data communication due to power loss in one of the systems.



EtherCAT bridge terminals enable data exchange and distributed clock synchronization between several EtherCAT masters.

products



Beckhoff Motherboard CB4053
in PC/104 format produced by Intel® in 45 nm technology

CB4053 extends Beckhoff Motherboard series

Intel® Atom™ platform opens up new opportunities for the PC/104 form factor

With the CB4053, Beckhoff complements its comprehensive product range of Industrial Motherboards and presents a PC/104plus board for the first time. The platform consists of the Atom™ processor produced by Intel® in 45 nm technology and the Intel® system controller hub with integrated graphics. Both components are characterized by low power consumption and enable system configurations without active cooling and with advanced processor clock frequencies up to 1.6 GHz.

The Beckhoff in-house motherboard and BIOS development facilities enable the company to respond rapidly to new trends in PC technology. This means that customers have access to state-of-the-art products at an early stage. The CB4053, a fully fledged PC/104plus motherboard with single-board design, is a good example.

The Atom™ platform is consistently optimized for low power consumption and therefore ideal for mobile and embedded applications. In typical application scenarios the processor and chipset together consume less than 5 W, which means that no fans are required. While the focus is on power saving, the processor and chipset nevertheless offer advanced performance and comprehensive features.

The Atom™ processors are single-core CPUs with 512 kB L2 cache. They communicate with 400 or 533 MHz FSB frequency. The clock frequencies of the models announced so far range between 1.1 and 1.6 GHz. On the CB4053 board DDR2RAM modules with 400 or 533 MHz memory frequency are inserted in the existing SoDIMM200 slot.

The CB4053 offers a comprehensive set of interfaces. An area of only 90 x 96 mm features the PC/104 and PC/104plus connector (ISA and PCI) plus a wide range of other interfaces, including CRT and LCD connection options (the latter via LVDS 18/24), IDE, Gigabit LAN, HDA sound, 8 x USB 2.0 (including 1 x device option), 2 x COM, LPT and PS/2 keyboard/mouse.