

EtherCAT: Sample Code for Drives Simplifies Development

In order to provide ideal support to drive vendors within the EtherCAT Technology Group (ETG), the EtherCAT Slave Sample Code now includes the CANopen drive profile according to the ETG implementation guideline. With this new update, the sample code becomes even simpler for drive vendors to utilize EtherCAT. The common code basis leads to unified interfaces and simplified setup, especially considering that the drive parameters have also been integrated into the EtherCAT conformance test tool.

The EtherCAT specifications cover not only the “How” to communicate, but also the “What”: Device profiles define the functionality and their parameters as well as the content and formatting of the process data. IEC 61800-7 specifies the drive profiles that EtherCAT uses: part 201 of the standard is the CANopen drive profile CiA402, while part 204 is the SERCOS drive profile.

The implementation guideline of the EtherCAT Technology Group for CiA 402 selects the cyclic synchronous communication modes among the various drive operation modes: they are not only the ones with the best performance, but also have the fewest parameters and provide the simplest interface as a result.

These operation modes have been covered by the EtherCAT conformance test tool for some time. The new development is their implementation in the sample code for slave devices, which is shipping with the EtherCAT slave evaluation kits. So far Beckhoff Automation has shipped over 700 of these kits and the kit purchasers get the enhanced code as a free update.

Rainer Hoffmann, who is in charge of the code within the ETG Team, says: “Even though we do not consider the Slave Sample Code to be the official reference slave application code, it has gained this de-facto status due to its wide distribution. Many EtherCAT drives support the CANopen device profile, but so far some of them only support

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ETG022010

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the classic operation modes, which were developed with CAN performance in mind. Now it is easier to also integrate the new, faster and yet simpler CAN operation modes in EtherCAT devices. Drive vendors who are just starting with EtherCAT can base their development on this software right away. Enhancing the code with this drive functionality facilitates the unification of the interfaces and will support the further adoption of EtherCAT industry-wide.”

EtherCAT sets new standards for real-time performance and topology flexibility, while meeting or undercutting traditional fieldbus cost levels. EtherCAT features include high precision device synchronization, cable redundancy options, and a functional safety protocol (SIL3). EtherCAT is an international standard (IEC, ISO and SEMI).

The **EtherCAT Technology Group (ETG)** is an organization in which key user companies from various industries and leading automation suppliers join forces to support, promote and advance EtherCAT technology. With over 1300 members from 49 countries, the EtherCAT Technology Group has become the largest organization in the world that is exclusively focused on Industrial Ethernet technologies. Founded in November 2003, it is also currently the fastest growing fieldbus organization.

➔ For further information please also see www.ethercat.org